IP68
HIGH PERFORMANCE
Outdoor Waterproof Box for 5G Technology!
WG series

IP68 High performance at 24-hours/1m-depth immersion



*Do not use underwater/underground.



With a silicone waterproof gasket, and supported by multiple enclosing screws from the rear side, it allows the enclosure to maintain a stable high waterproofing capability.

Weather-resistant ASA material



ASA material is resistant to deterioration and discoloration due to ultraviolet rays. Perfect for outdoor communication or network devices.

Captive screws for easy maintenance



There is no risk of screws dropping out and lost during maintenance. Captive screw is able to lock into a pre-drilled hole to provide a secure hold.

Easy installation on walls & poles

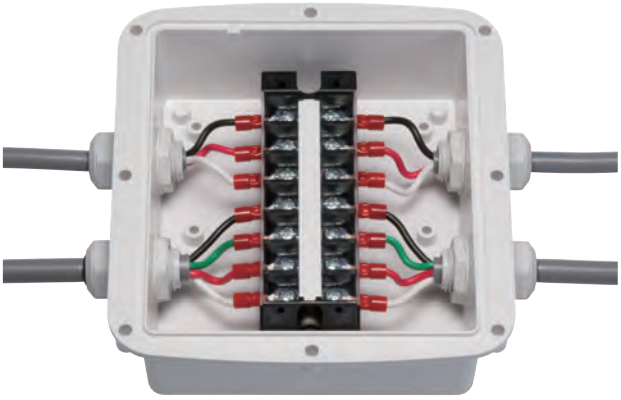


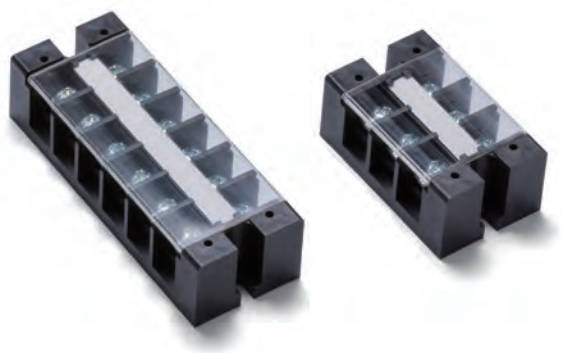




By using the optional mounting accessories, it can be installed on walls and poles with ease.

Optional terminal blocks compatible





Optional terminal blocks, WTB series can be installed onto the existing bosses inside the WG series box without additional processing or customization, hence can also function as a terminal junction box. (See page 8 for WTB terminal blocks.)

WGV series - Pressure equalization models with ventilation plug



Ventilation plug protects the enclosure from deformation by equalizing pressure in environments where there are differences between strong daytime and low nighttime temperatures, as well as venting the gas generated within.
See page 5 ~ 6 for WGV series equipped with built-in ventilation plug.

Ventilation plugs are also available separately.
See page 325 ~ 326 for ventilation plugs.



WG series IP68 HIGH PERFORMANCE WATERPROOF BOX

NEW





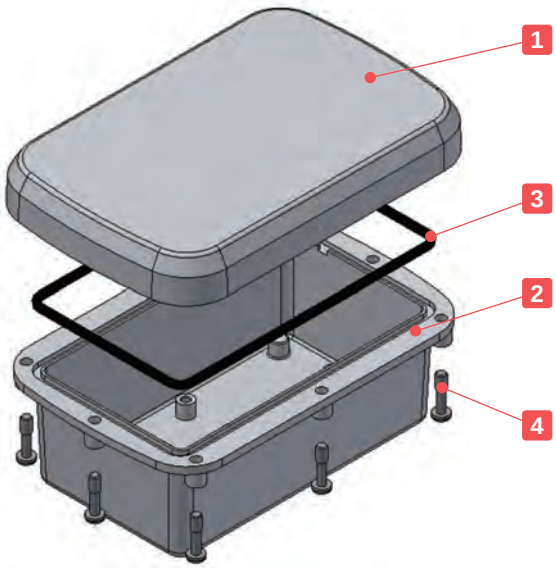
- IP68 high performance plastic box protected from immersion as long as 24 hours at 1m depth.
- ASA material is resistant to deterioration and discoloration from ultraviolet rays.
  Perfect for use as outdoor communication or network devices.
- Self-tapping captive screws which are able to lock into a pre-drilled hole and provide a secure hold for fastening the cover. Please drive the self-tapping captive screws for cutting a thread into the holes at first so that securing the cover and body together properly.

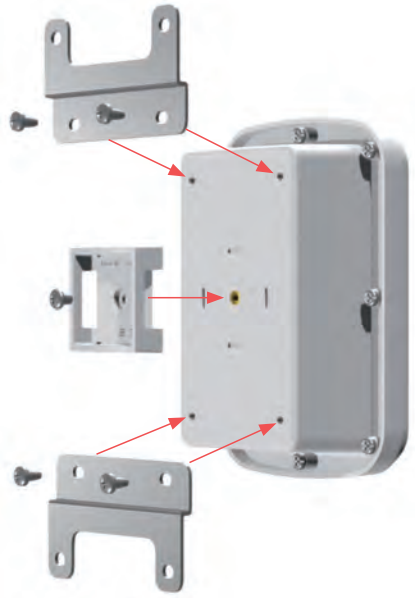
IP68

Technical Data

Protection class :
IP68 (24-hours/1m-depth)
Operating temperature :
-30°C ~ +60°C
Recommended torque :
0.5 ~ 0.6N • m

*May become brittle and break under impact when temperature is lowered close to -30°C.





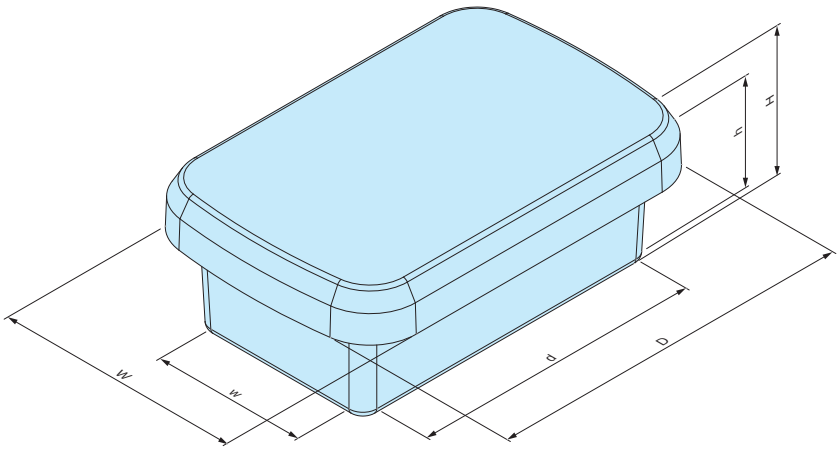
There are 5 holes on the backside of the body (4 at each corner, 1 in center). 4 corner holes are for wall mounting bracket, and 1 center hole is for pole mounting bracket.

Components

No.	Part name	Pcs	Material / Color
1	Cover	1	ASA UL94HB / Off-white
2	Body	1	ASA UL94HB / Off-white
3	Gasket	1	Silicone / Black
4	Self-tapping captive screw	8 ~ 10	Stainless steel / Unfinished

WG dimensions

■ DXF/DWG/PDF/STP drawings available on our website.



Product no. / Dimensions

Product no.	External dimensions			Internal dimensions			Screw	Weight (g)
	W	D	H	w	d	h		
WG10-15-6W	100	150	55	63	115	43	M4 × 8 pcs	169.5
WG10-15-8W	100	150	75	62	114	63	M4 × 8 pcs	192
WG15-16-6W	145	155	55	107	120	43	M4 × 8 pcs	232
WG15-16-8W	145	155	80	105	118	68	M4 × 8 pcs	266.5
WG15-21-6W	145	210	60	107	174	48	M4 × 10 pcs	314
WG15-21-9W	145	210	90	105	172	78	M4 × 10 pcs	367

Accessories (Optional parts)



Wall mounting bracket WGF series
See page 9



Pole mount bracket WGMB • WPMB series
See page 9 ~ 10



Pole mounting belt SNB • PKB series
See page 323 ~ 324



PCB mounting screw MT4-8T
See page 7



Tapping standoff TPS series
See page 122



Protective vent PMF series
See page 325 ~ 326



Cable gland
See page 333 ~ 340



Mounting plate WGP series
See page 7



DIN rail FDR series
See website



Terminal block WTB series
See page 8

WGV series IP68 PLASTIC ENCLOSURE with VENTILATION PLUG

NEW



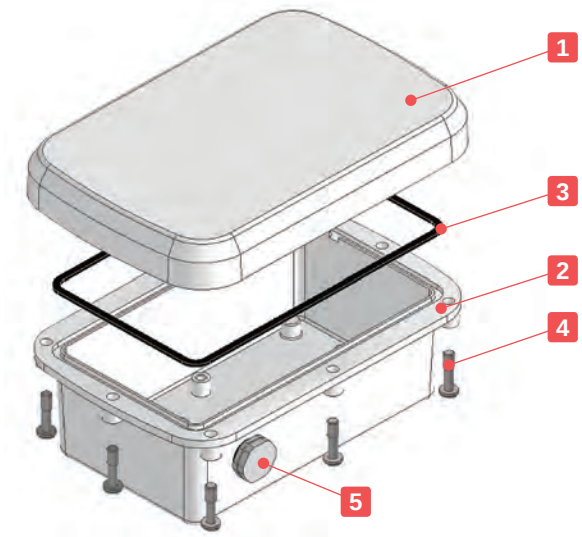
- IP68 high performance plastic box protected from immersion as long as 24 hours at 1m depth where external (surroundings) and internal (inside box) pressure are different.
- ASA material is resistant to deterioration and discoloration from ultraviolet rays. Perfect for use as outdoor communication or network devices.
- Self-tapping captive screws which are able to lock into a pre-drilled hole and provide a secure hold for fastening the cover. Please drive the self-tapping captive screws for cutting a thread into the holes at first so that securing the cover and body together properly.

IP68

Technical Data

Protection class :
IP68 (24-hours/1m-depth)
Operating temperature :
-30°C ~ +60°C
Recommended torque :
0.5 ~ 0.6N • m
Ventilation plug recommended torque :
0.6 ~ 0.8N • m

*May become brittle and break under impact when temperature is lowered close to -30°C.



Ventilation plug protects the enclosure from deformation by equalizing pressure in environments where there are differences between strong daytime and low nighttime temperatures, as well as venting the gas generated within.

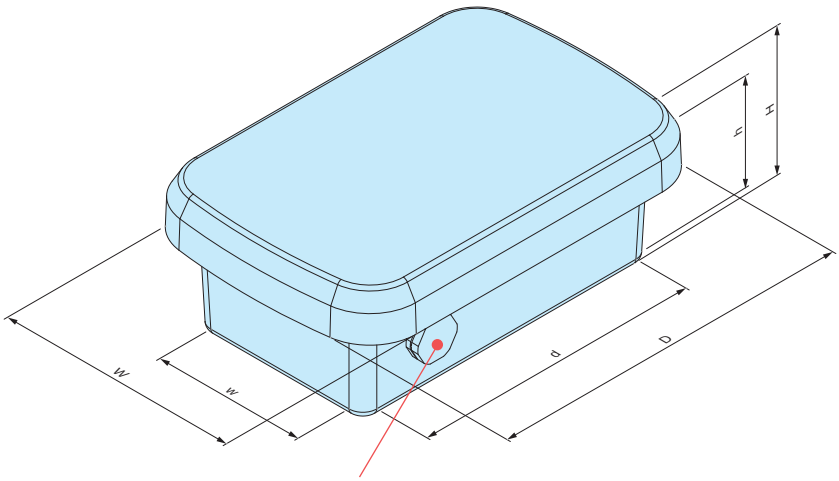


Components

No.	Part name	Pcs	Material / Color
1	Cover	1	ASA UL94HB / Off-white
2	Body	1	ASA UL94HB / Off-white
3	Gasket	1	Silicone / Black
4	Self-tapping captive screw	8 ~ 10	Stainless steel / Unfinished
5	Ventilation plug	1	PA66 + PA6 • PTFE / Light gray

WGV dimensions

■ DXF/DWG/PDF/STP drawings available on our website.



The location of the ventilation plug is pre-fixed.
*Customization for location change possible.

Product no. / Dimensions

Product no.	External dimensions			Internal dimensions			Screw	Weight (g)
	W	D	H	w	d	h		
WGV10-15-6W	100	150	55	58	115	43	M4 × 8 pcs	171
WGV10-15-8W	100	150	75	57	114	63	M4 × 8 pcs	193.5
WGV15-16-6W	145	155	55	102	120	43	M4 × 8 pcs	233.5
WGV15-16-8W	145	155	80	100	118	68	M4 × 8 pcs	268
WGV15-21-6W	145	210	60	102	174	48	M4 × 10 pcs	315.5
WGV15-21-9W	145	210	90	100	172	78	M4 × 10 pcs	368.5

Accessories (Optional parts)



Wall mounting bracket WGF series
See page 9



Pole mount bracket WGMB • WPMB series
See page 9 ~ 10



Pole mounting belt SNB • PKB series
See page 323 ~ 324



PCB mounting screw MT4-8T
See page 7



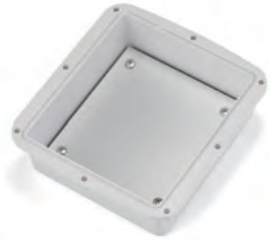
Tapping standoff TPS series
See page 122



Cable gland
See page 333 ~ 340



Terminal block WTB series
See page 8



Mounting plate WGP series
See page 7



DIN rail FDR series
See website

WGP series MOUNTING PLATE for WG • WGV

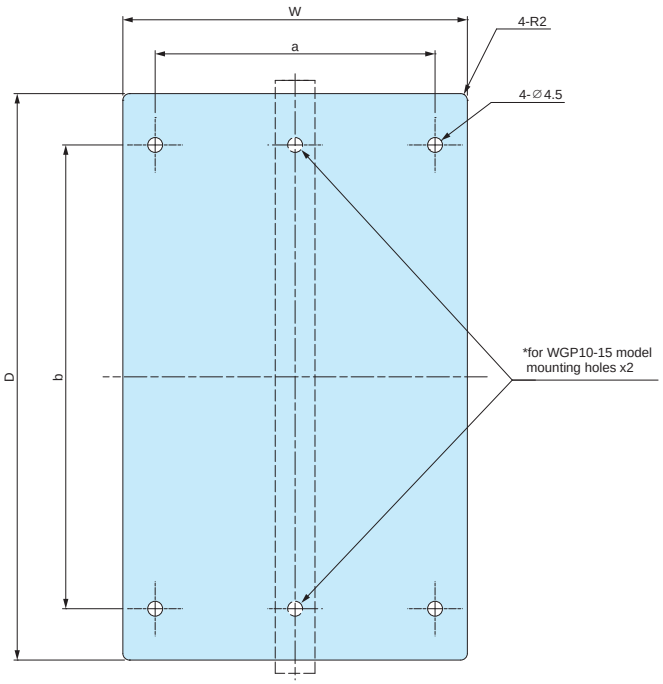
NEW

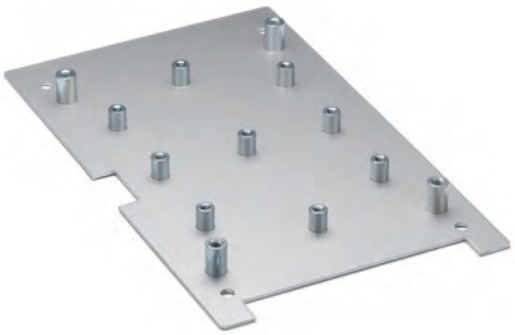




WGP dimensions

■ DXF/DWG/PDF/STP drawings available on our website.





■ Hole milling, clinching spacer customizations are available.
See page Custom-7 ~ Custom-10 and our website for more details.

■ Material / Finish : A1100P (t=1.5mm) / Silver anodized

Product no. / Dimensions

■ Mounting screws included.

Product no.	W	D	a	b	Suitable models	Weight (g)
WGP10-15	60	112	–	97	WG • WGV10-15-6, WG • WGV10-15-8	30
WGP15-16	105	117	84.5	90	WG • WGV15-16-6, WG • WGV15-16-8	54
WGP15-21	104	171	84.5	140	WG • WGV15-21-6, WG • WGV15-21-9	76

MT4-8T PCB MOUNTING SCREW



■ Self-tapping screws for board mounting on bosses inside WG and WGV series enclosures.

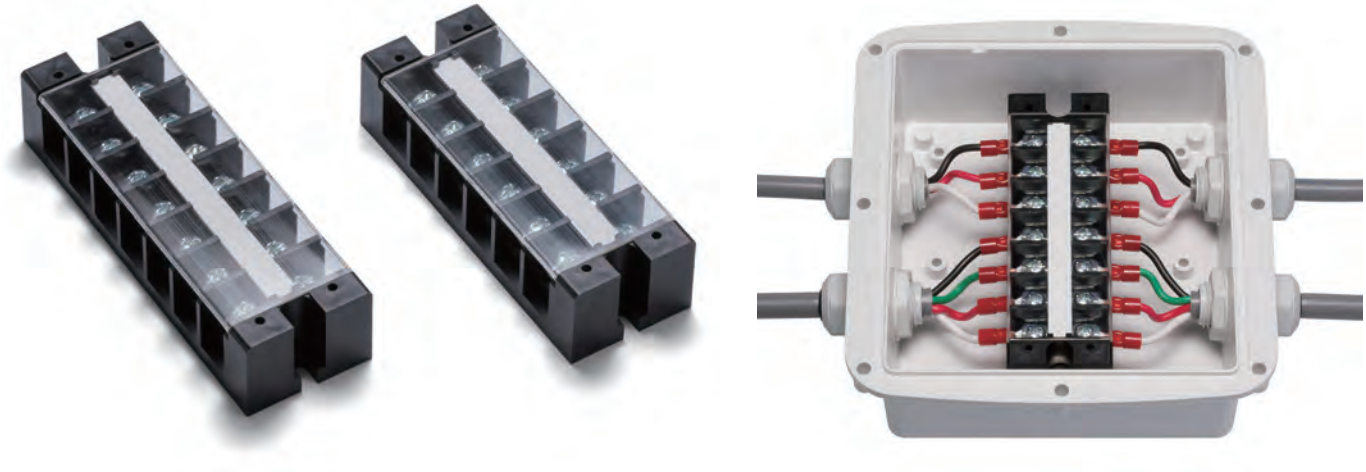
Product no. / Dimensions

Product no.	Material	Finish	Pack of
MT4-8T (Bind tapping M4-8)	Steel	Trivalent chromate	20

WTB series TERMINAL BLOCK for WG • WGV

NEW

(FW2)



■ Compatible terminal blocks for WG • WGV series.

Components

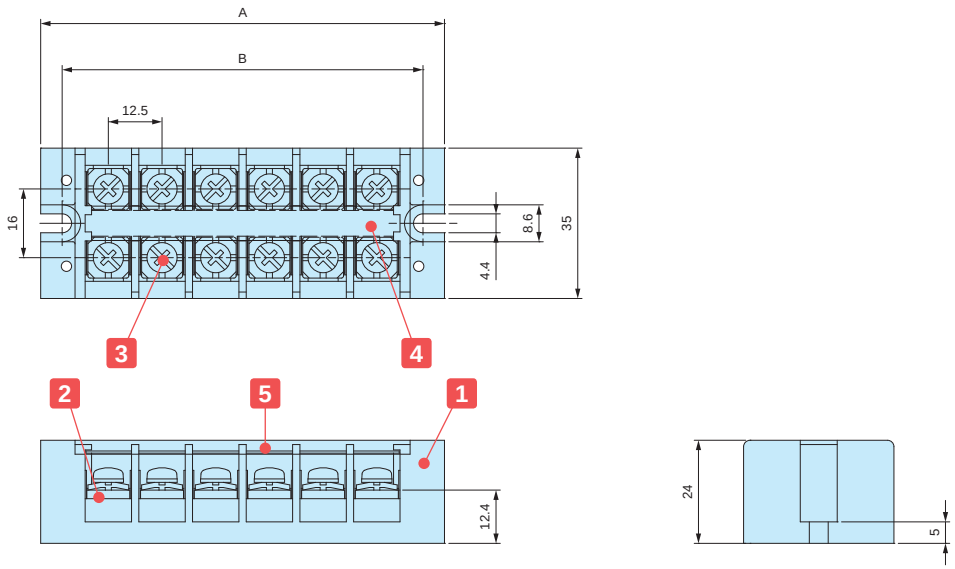
No.	Part name	Pcs	Material	Color or Finish
1	Base	1	PBT UL94V-0	Black
2	Conductive plate	1	Brass	Nickel plated
3	Terminal screw (M4-10)	2 x P	Steel	Trivalent chromate
4	Symbol board	1	PET	White
5	Cover	1	Polycarbonate UL94V-0	Transparent
—	Screw (Bind tapping M4-10)	2	Steel	Trivalent chromate

Specification

1. Electrical Rating 600V • 35A
2. Insulation Resistance DC500V 1000MΩ ~
3. Withstand Voltage AC2500V (Tested for 1 min.)
4. Rising Temp. 30°C or less
5. Operating Temp. Range -40°C ~ +90°C
6. Storage Temp. Range -40°C ~ +90°C

WTB dimensions

■ DXF/DWG/PDF drawings available on our website.



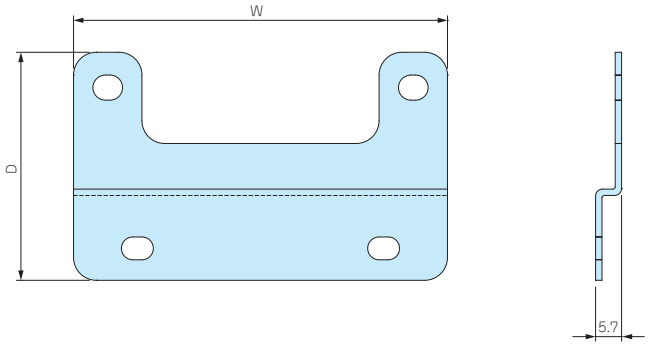
Product no. / Dimensions

Product no.	P (Number of poles)	A	B	Suitable models
WTB-240- 3P-FB	3	56.5	46.5	WG • WGV10-15-☐ (W direction)
WTB-240- 6P-FB	6	94.0	84.0	WG • WGV15-16-☐, WG • WGV15-21-☐ (W direction)
WTB-240- 7P-FB	7	106.5	96.5	WG • WGV10-15-☐, WG • WGV15-16-☐ (D direction)
WTB-240-10P-FB	10	144.0	134.0	WG • WGV15-21-☐ (D direction)

WGF series WALL MOUNTING BRACKET for WG • WGV



WGF dimensions



■ DXF/DWG/PDF/STP drawings available on our website.

Product no. / Dimensions

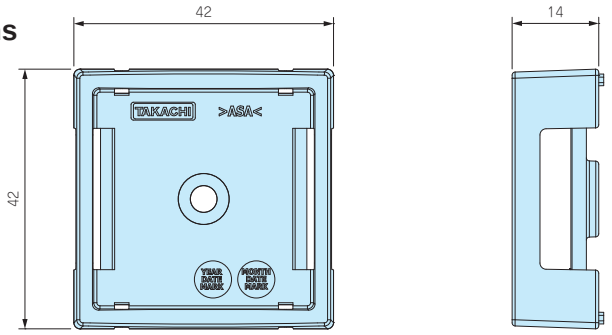
■ Stainless steel mounting screws included.

Product no.	W	D	Suitable models	Material / Finish	Pack of
WGF-10	82	50	WG • WGV10-15-□ (W direction)	Stainless steel t=1.5mm / Barrel finish	2
WGF-15	132	50	WG • WGV10-15-□ (D direction) WG • WGV15-21-□ (W direction) WG • WGV15-16-□ (W • D direction)		2

WGMB series POLE MOUNTING BRACKET for WG • WGV



WGMB dimensions



■ Pole mount bracket made from weather resistant ASA material.

■ DXF/DWG/PDF/STP drawings available on our website.

■ Hole milling is not required when installing the mount bracket, thus allowing the enclosure to maintain its IP rating.

■ WG • WGV10-15-□ and 15-16-□ can be installed in both the W or D direction.

■ Pole mount is possible with the use of SNB or PKB series mounting belt. (See page 323 ~ 324)

Product no. / Dimensions

Product no.	Suitable models	Material / Color	Weight (g)	Pack of
WGMB-1W	WG • WGV10-15-□ WG • WGV15-16-□- (1 pc required) WG • WGV15-21-□- (2 pcs required)	ASA UL94-HB / Off-white	9	1

Installation example

Installation (1 pc)



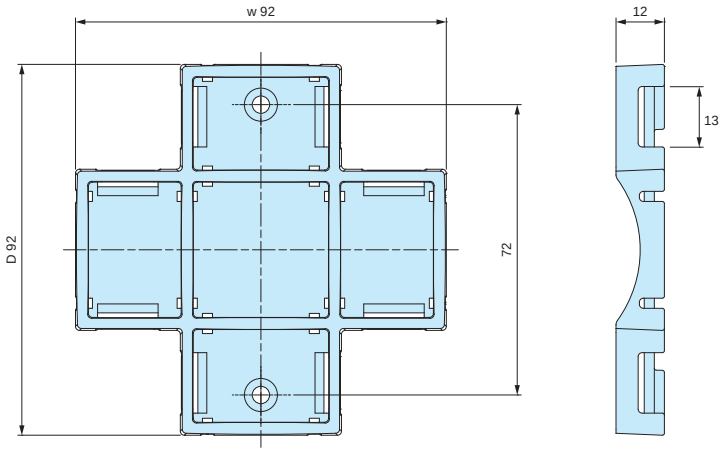
Installation (2 pcs)



WPMB-M4-2 POLE MOUNTING BRACKET



WPMB-M4-2 dimensions



■ DXF/DWG/PDF/STP drawings available on our website.

- Pole mount bracket made from weather resistant ASA material.
- Pole mounting belt can be installed either W or D direction.
- Pole mount is possible with the use of PKB series mounting belt. (See page 324)
- Hole milling is not required when installing the mount bracket, thus allowing the enclosure to maintain its protection class.

*Stainless steel screw belt SNB series is not usable on WPMB-M4-2 series.

Color
White gray

Product no. / Dimensions

Product no.	Suitable models	Recommended torque (N • m)	Weight (g)	Pack of
WPMB-M4-2G	WG • WGV15-21-6, WG • WGV15-21-9	0.45 ~ 0.5	24	1

■ Recommended torque listed is for reference only; actual may differ. Assemble after testing torque.

Installation example



Vertical mounting



Horizontal mounting



ECONOMICAL OUTDOOR NETWORK BOX

Unique construction rainproof box

OB series

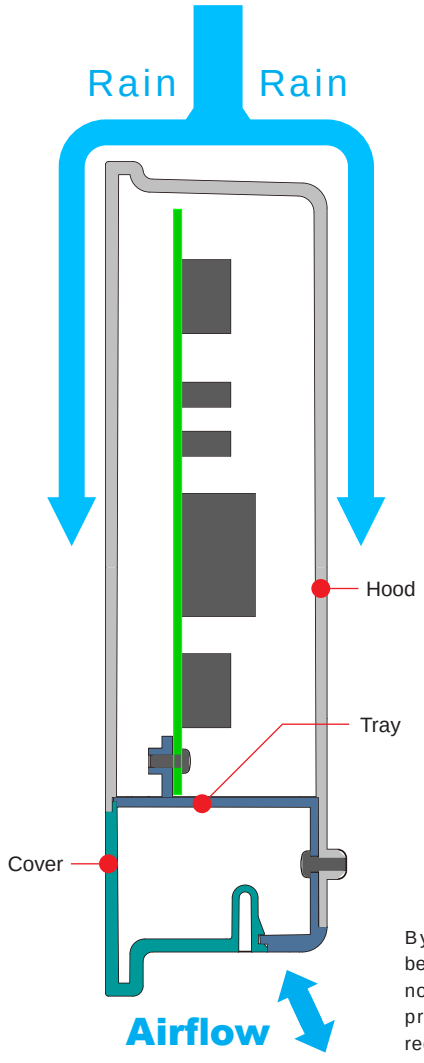
REASONS for ECONOMICAL

1. No Gasket required by the unique construction

2. Wall/Pole bracket integrated

Unique seamless construction

No rain entry by the seamless construction without gasket nor joint.



By having a slight gap between the cover and tray, no ventilation plug for the pressure equalization is required.

Wall • Pole mounting bracket integrated

The slit of the integrated bracket in the backside can hold the pole mounting belts. And the hanging holes can be utilize for wall mounting.





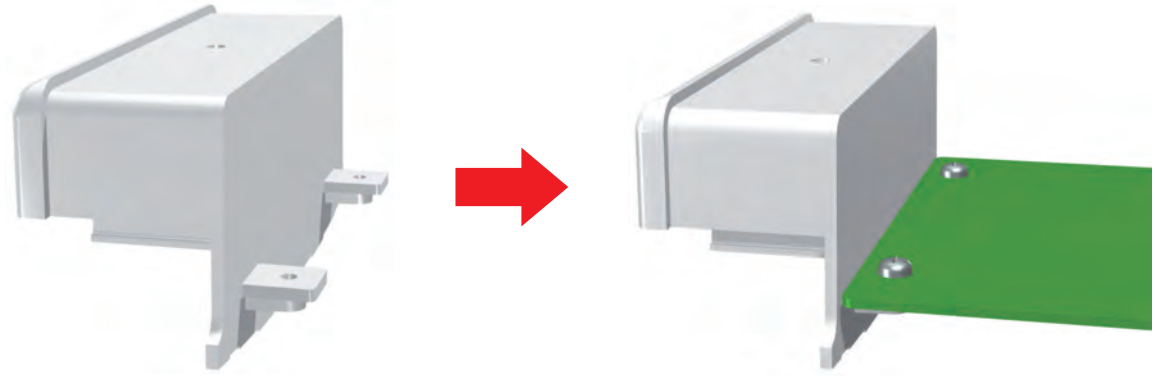
Weather-resistant ASA material

ASA material is resistant to deterioration and discoloration from ultraviolet rays. Perfect for use as outdoor communication or network devices.

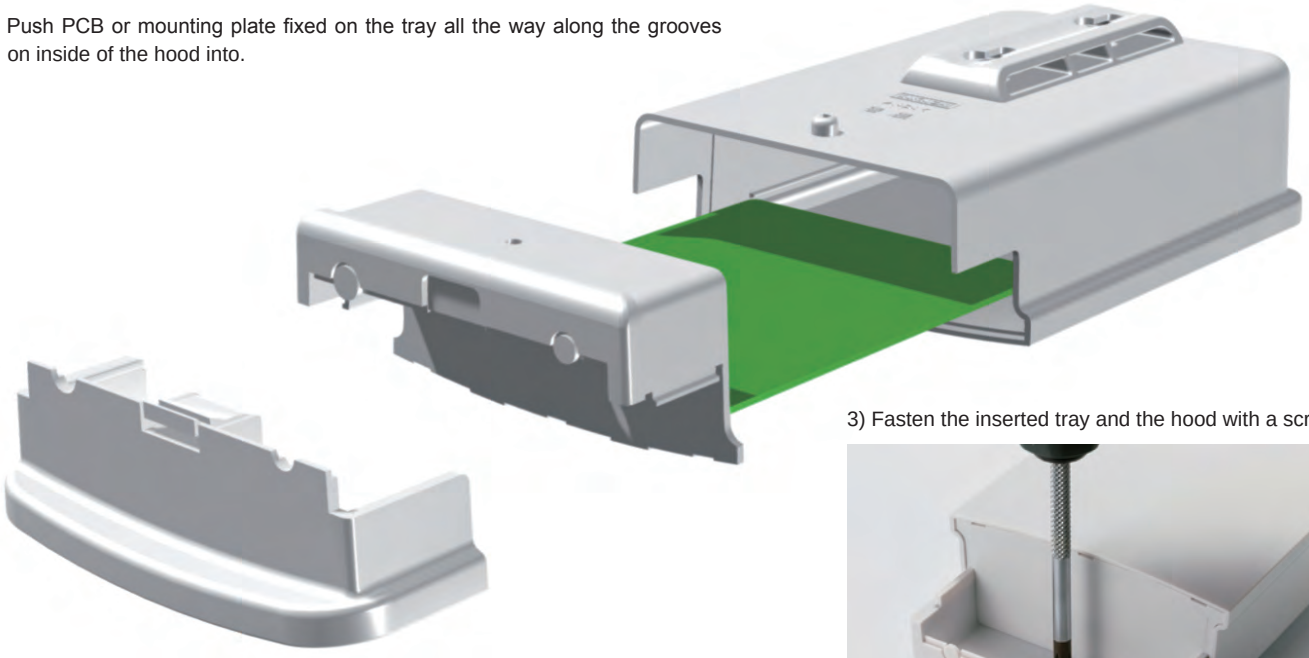


How to install PCB • Mounting plate

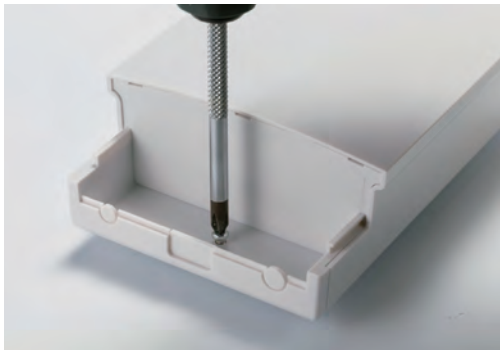
1) Fix PCB or mounting plate on the tray with screws.



2) Push PCB or mounting plate fixed on the tray all the way along the grooves on inside of the hood into.



3) Fasten the inserted tray and the hood with a screw.

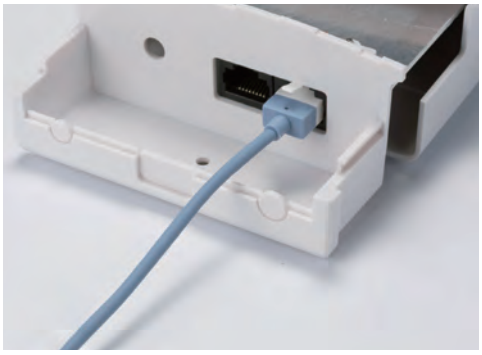


Easy knock-out hole punching & cover replacement

Tray comes with knock-out holes for wiring. Knock-out holes can easily be punched out through with a plier or a nipper.
The cover can be easily removed with one touch, hence it is a excellent structure for performing maintenance.
For wiring, please machine cutout/hole on the side-wall of the tray as shown in the installation example below.



Connecter installation example



OB series ECONOMICAL OUTDOOR NETWORK BOX NEW

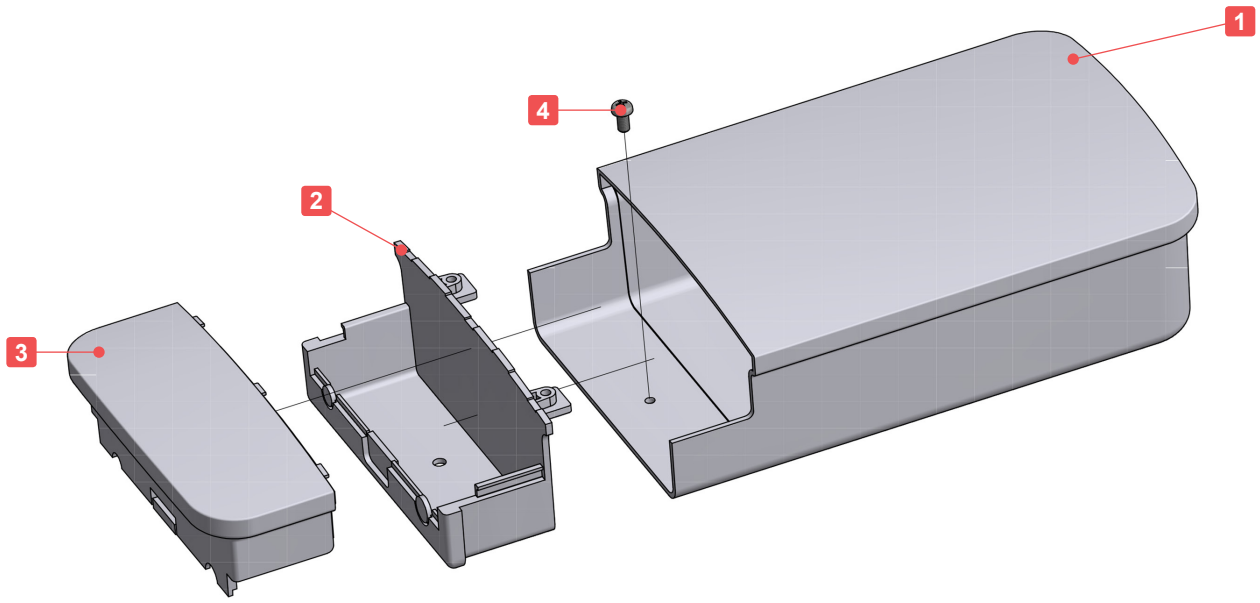


- Unique seamless construction and rainproof outdoor network box.
  Although it is IP44, it can completely protect the internal components against rain when installed vertically.
- ASA material is resistant to deterioration and discoloration from ultraviolet rays.
  Perfect for use as outdoor communication devices.
- Bracket integrated in the backside equipped with the slits allows for pole mounting belt to be passed through the slit for pole mounting, while the hanging holes enable it to be secured onto wall hooks or brackets.
- Tray comes with knock-out holes for wiring. Knock-out holes can easily be punched out through with a plier or a nipper.

IP44

Technical Data
Protection class : IP44 Operating temperature : -30°C ~ +60°C

*May become brittle and break under impact when temperature is lowered close to -30°C.

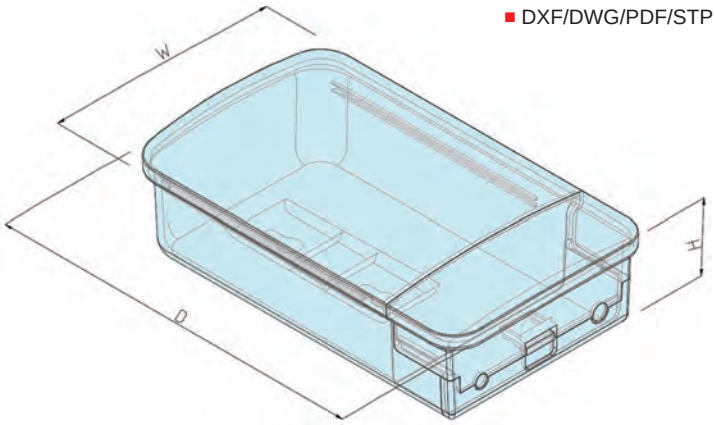


Components

No.	Part name	Pcs	Material / Color
1	Hood	1	ASA UL94HB / Off-white
2	Tray	1	ASA UL94HB / Off-white
3	Cover	1	ASA UL94HB / Off-white
4	Screw (Tray/PCB installation)	3	Stainless steel / Unfinished

OB dimensions

■ DXF/DWG/PDF/STP drawings available on our website.



Product no. / Dimensions

Product no.	External dimensions			Knock-out holes
	W	D	H	
OB 8-14-4W	75	140	35	5.6Φ x1 • 7.2Φ x1
OB10-17-5W	100	170	45	5.6Φ x1 • 7.2Φ x1
OB13-21-6W	125	210	55	7Φ x1 • 10Φ x1

Accessories (Optional parts)



Pole mounting belt SNB • PKB series
See page 323 ~ 324

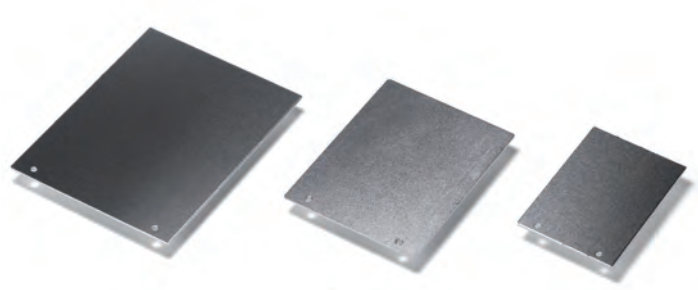


Mounting plate OBP series
See page 14

Accessories (Optional parts)

OBP series MOUNTING PLATE for OB

NEW



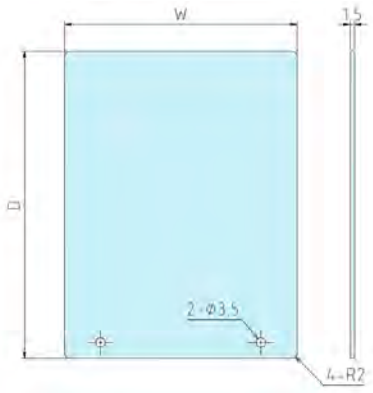


■ Material / Finish : A1050P / Unfinished

■ Aluminium mounting plate for OB series outdoor network box.

■ Recommended to be used for installing network module, sensor, terminal block, etc.

OBP dimensions



Product no. / Dimensions

Product no.	W	D	Suitable models	Weight (g)
OBP8-14	61.2	92	OB 8-14-4W	22.5
OBP10-17	87.1	115	OB10-17-5W	40
OBP13-21	110	137	OB13-21-6W	61

■ DXF/DWG/PDF drawings available on our website.

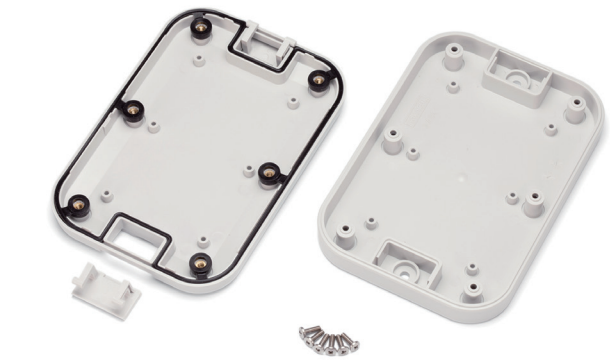
IP67 UV-PROTECT NETWORK PLASTIC BOX

WP series



Waterproofing ability by using silicone gasket

Highly elastic and durable silicone gasket for high waterproof ability. The use of insert nuts allows the unit to retain its waterproof ability even after multiple opening and closing.



Weather-resistant ASA material

The white gray "G" type utilize a UV resistant, durable ASA material. Recommended for outdoor usage as a communication device type equipment.



Outdoor use example
Agriculture weather station

Easy installation on walls

Easy mounting onto walls by opening the blind lids. A clean and sleek appearance can be maintained as screws are hidden away by the blind lids.



Easy installation on electrical poles

By using a pole mounting accessory, it can be attached to poles with ease.



Information on waterproofing after hole milling for switches

The waterproof performance will be lost once hole or cutout is milling on IP rated enclosure.
To ensure it remains waterproof after hole/cutout milling, IP rated membrane pad or overlay is required.







Product by Arrow7 (Japan)









WP series APPLICATION EXAMPLE

Outdoor Lighting Remote Controller

Product by GrowFlux (USA)



Leak Guard - Home Water Leak Detector

Product by Veimart (Finland)



Clay Pigeon Shooting Controller

Product by Viktor Gajadacs (Hungary)



Wireless Temperature / Humidity Transmitter

Product by Masibus (India)



WP series APPLICATION EXAMPLE



LoRaWAN Gateway



Product by Miromico AG (Switzerland)







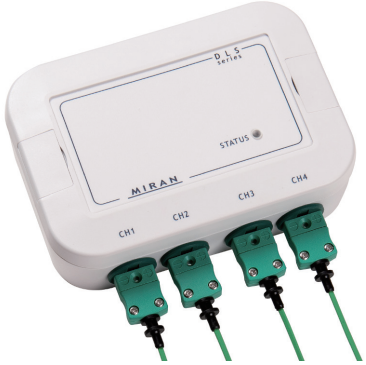
Detection Sensor for Bird/Beast Trap

Product by MASPRO (Japan)



Wireless Indoor Air Monitoring System

Product by Pietiko (Finland)



LoRa WAN Pressure Transmitter

Product by ellenex (Australia)



Sigfox Multi Sensor

Product by OMICRON (Columbia)



Network Sensor for Agriculture

Product by Demand Side Instruments (France)





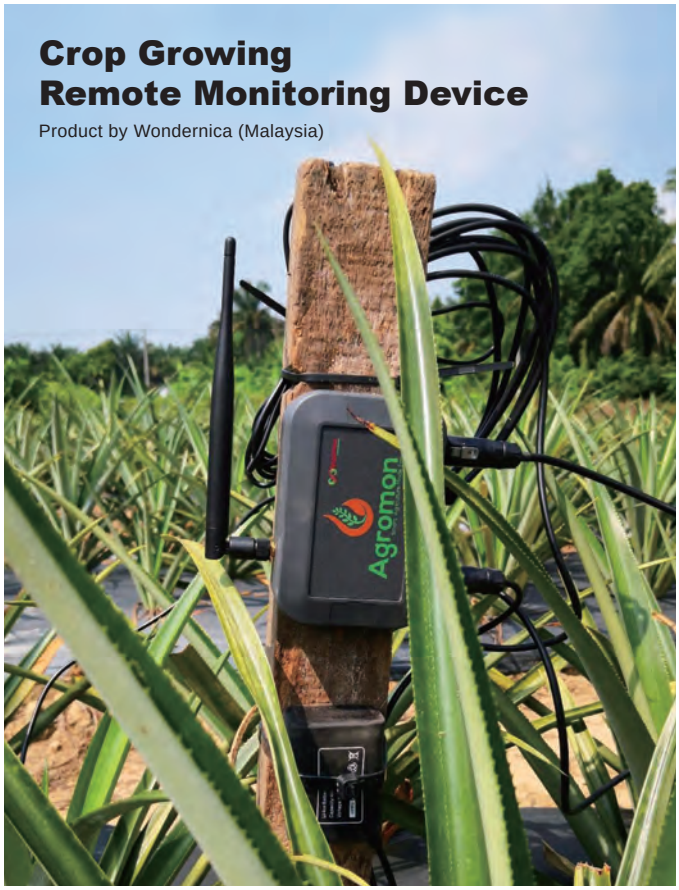
Argonomic Parameter Surveillance Unit



Product by Argotec (Spain)

Crop Growing Remote Monitoring Device

Product by Wondernica (Malaysia)



Bird/Beast Damage Control Sensor

Product by Kyowa Techno (Japan)



WP series IP67 / IP68 NETWORK PLASTIC BOX



- IP68 (IP67 for WP20-28-◯) high performance plastic box protected from immersion as long as 24 hours at 1m depth.
- 24 different sizes available in white gray UV-resistant ASA and charcoal gray flame-resistant ABS. Recommended for use as outdoor communication or network devices.
- Mount on walls or brackets by simply opening the blind lids.
- Pole mounting is possible via an optional pole mounting bracket accessory.

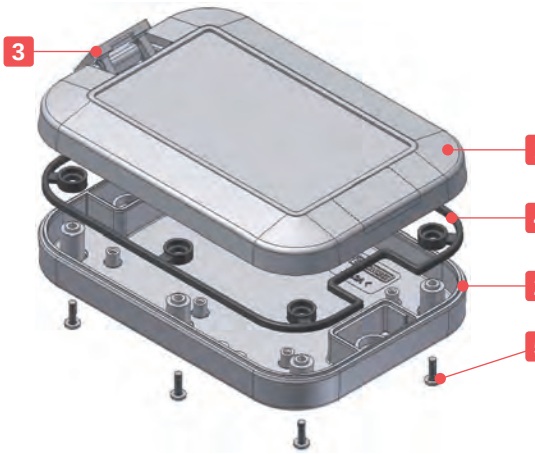
IP67 IP68

Technical Data

Protection class :
IP68 (24-hours/1m-depth)
WP20-28-5□ } IP67
WP20-28-7□ }
Operating temperature :
Models = 5-7-□ ~ 20-20-□:
ASA[1] -20 ~ +60°C
ABS -10 ~ +50°C
Models = 20-28-□[2] :
ASA[1] -20 ~ +55°C
ABS -10 ~ +45°C

[1] May become brittle and break under impact when temperature is lowered close to -20°C.
[2] Usage of the PMF series protective vent will raise the temperature limit for ASA and ABS to +60°C and +50°C respectively.
※Refer to page 23 for more information.

WP5-7-2 ~ WP13-18-5



WP15-15-4 ~ WP20-28-7

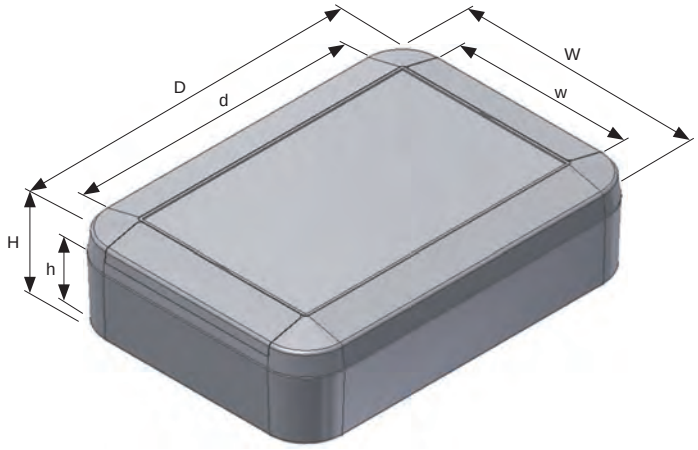


Components

No.	Part name	Pcs	Material / Color
1	Top cover	1	ASA UL94HB / White gray : Flame-resistant ABS UL94V-0 / Charcoal gray
2	Bottom base	1	ASA UL94HB / White gray : Flame-resistant ABS UL94V-0 / Charcoal gray
3	Blind lids	2	ASA UL94HB / White gray : Flame-resistant ABS UL94V-0 / Charcoal gray
4	Gasket	1	Silicone / Black
5	Screw	4 ~ 8	Stainless steel binding head screw / Unfinished

WP dimensions

■ DXF/DWG/PDF/STP drawings available on our website.



Product no. / Dimensions

Product no.		IP Code	External dimensions			Internal dimensions			Screw	Recommended torque (N • m)	Weight (g)
● White gray (ASA)	● Charcoal gray (ABS)		W	D	H	w	d	h			
WP 5- 7-2G	WP 5- 7-2C	IP68	52	65	18	46	37	13	M2-8 × 4pcs	0.2 ~ 0.25	31.5
WP 5- 7-3G	WP 5- 7-3C	IP68	52	65	27	45	36.5	22	M2-8 × 4pcs	0.2 ~ 0.25	39.5
WP 6- 8-2G	WP 6- 8-2C	IP68	60	80	20	53.5	52	14.7	M2-8 × 4pcs	0.25 ~ 0.3	41.5
WP 6- 8-3G	WP 6- 8-3C	IP68	60	80	30	53	51	24.7	M2-8 × 4pcs	0.25 ~ 0.3	49
WP 8- 8-2G	WP 8- 8-2C	IP68	75	75	22	67	42	16.4	M2.5-8 × 4pcs	0.25 ~ 0.35	57.5
WP 8- 8-4G	WP 8- 8-4C	IP68	75	75	35	66	42	29.4	M2.5-16 × 4pcs	0.25 ~ 0.35	88.5
WP 8-10-2G	WP 8-10-2C	IP68	75	100	22	67	67	16	M2.5-8 × 4pcs	0.25 ~ 0.35	74
WP 8-10-4G	WP 8-10-4C	IP68	75	100	35	66	67	29	M2.5-16 × 4pcs	0.25 ~ 0.35	95
WP 9-13-3G	WP 9-13-3C	IP68	90	130	25	81	91	18	M2.5-8 × 6pcs	0.25 ~ 0.35	113
WP 9-13-4G	WP 9-13-4C	IP68	90	130	40	81	91	33	M2.5-16 × 6pcs	0.25 ~ 0.35	141
WP10-10-3G	WP10-10-3C	IP68	100	100	25	90	61	18	M2.5-8 × 4pcs	0.25 ~ 0.35	96
WP10-10-4G	WP10-10-4C	IP68	100	100	40	90	61	33	M2.5-16 × 4pcs	0.25 ~ 0.35	121
WP11-15-3G	WP11-15-3C	IP68	110	150	27	100	110	20	M2.5-8 × 6pcs	0.25 ~ 0.35	153
WP11-15-4G	WP11-15-4C	IP68	110	150	40	100	110	33	M2.5-16 × 6pcs	0.25 ~ 0.35	181
WP13-18-3G	WP13-18-3C	IP68	130	175	30	120	135	23	M2.5-8 × 6pcs	0.25 ~ 0.35	225
WP13-18-5G	WP13-18-5C	IP68	130	175	45	120	135	38	M2.5-16 × 6pcs	0.25 ~ 0.35	266
WP15-15-4G	WP15-15-4C	IP68	150	150	40	141	100	33.5	M3-8 × 4pcs	0.35 ~ 0.45	239
WP15-15-6G	WP15-15-6C	IP68	150	150	55	140	100	48.5	M3-8 × 4pcs	0.35 ~ 0.45	282.5
WP15-21-4G	WP15-21-4C	IP68	150	210	40	141	160	33.5	M3-8 × 6pcs	0.35 ~ 0.45	323
WP15-21-6G	WP15-21-6C	IP68	150	210	55	140	160	48.5	M3-8 × 6pcs	0.35 ~ 0.45	367.5
WP20-20-5G	WP20-20-5C	IP68	200	200	45	190	150	38.5	M3-8 × 8pcs	0.45 ~ 0.55	446
WP20-20-7G	WP20-20-7C	IP68	200	200	65	189	149	58.5	M3-8 × 8pcs	0.45 ~ 0.55	524.5
WP20-28-5G	WP20-28-5C	IP67	200	280	45	190	230	38.5	M3-8 × 8pcs	0.45 ~ 0.55	557.5
WP20-28-7G	WP20-28-7C	IP67	200	280	65	189	229	58.5	M3-8 × 8pcs	0.45 ~ 0.55	646

■ Recommended torque listed is for reference only; actual may differ. Assemble after testing torque.

Accessories (Optional parts)



Pole mount bracket WPMB series
See page 21





Rubber feet PFRF series
See page 22



TORX screw MR series
See page 22



PCB mounting screw EM series
See page 123



Protective vent PMF series
See page 325 ~ 326



Cable gland
See page 333 ~ 340

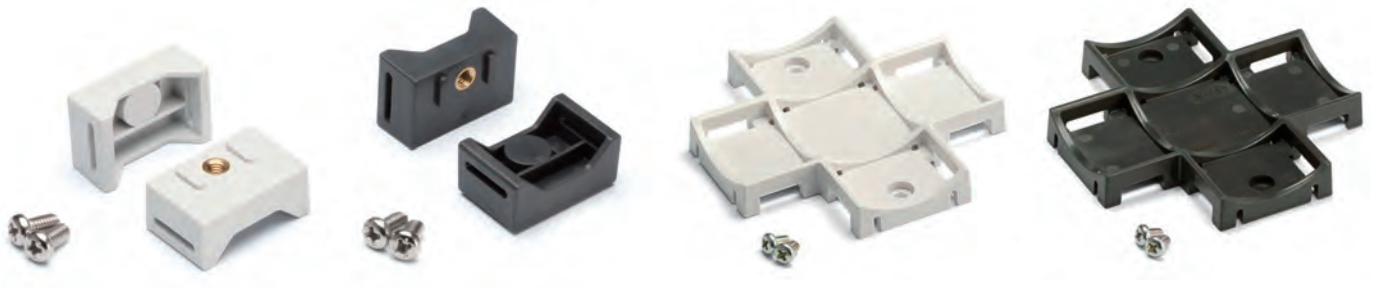


Pole mounting belt PKB-10 series
See page 324



Tapping standoff TPS series
See page 122

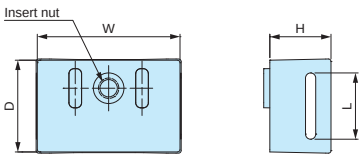
WPMB series POLE MOUNTING BRACKET for WP



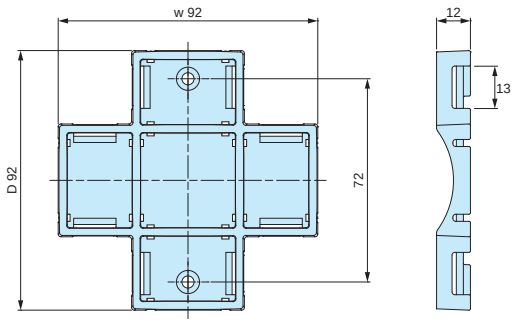
- Pole mount bracket made from weather resistant ASA material.
- Hole milling is not required when installing the mount bracket, thus allowing the enclosure to maintain its IP67 protection.
- WPMB-M4-2 can be used for both vertical and horizontal installation.
- Together with WPMB series, the PKB series mounting belt allows the unit to be mounted onto a pole.

WPMB dimensions

- DXF/DWG/PDF/STP drawings available on our website.



WPMB-M3 • WPMB-M4



WPMB-M4-2

Color Type

Code	Color
G	White gray
D	Dark gray

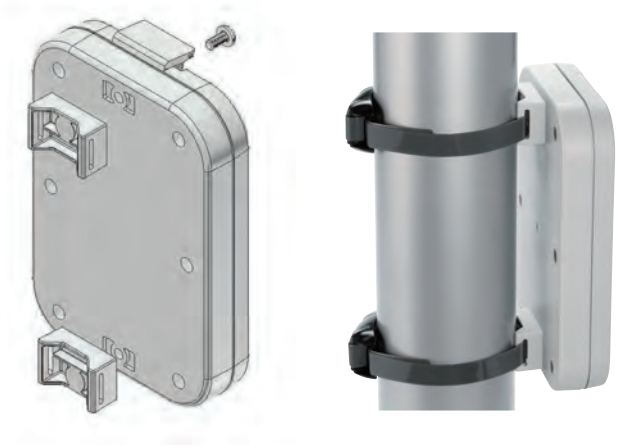
Product no. / Dimensions

- Please suffix color code at the end of the product number.

Product no.	Dimensions				Screw	Suitable models	Recommended torque (N • m)	Weight (g)	Pack of
	W	D	H	L					
WPMB-M3□	18	14	9.5	11	Stainless steel M3-6 x 2 pcs	WP5-7-2 • 5-7-3 • 6-8-2 • 6-8-3 • 8-8-2 • 8-8-4 • 8-10-2 • 8-10-4	0.4 ~ 0.45	3	2
WPMB-M4□	28	18	12	13	Stainless steel M4-8 x 2 pcs	WP9-13-3 • 9-13-4 • 10-10-3 • 10-10-4 • 11-15-3 • 11-15-4 • 13-18-3 • 13-18-5	0.45 ~ 0.5	10	2
WPMB-M4-2□	92	92	12	13	Stainless steel M4-6 x 2 pcs	WP15-15-4 • 15-15-6 • 15-21-4 • 15-21-6 • 20-20-5 • 20-20-7 • 20-28-5 • 20-28-7	0.45 ~ 0.5	24	1

- Recommended torque listed is for reference only; actual may differ. Assemble after testing torque.

WPMB-M3 / WPMB-M4



WPMB-M4-2

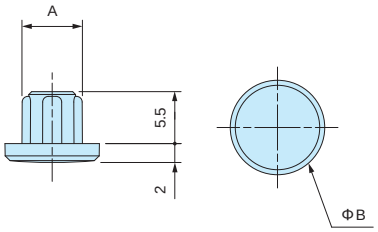


PFRF series RUBBER FEET





PFRF dimensions



■ STP drawings available on our website.

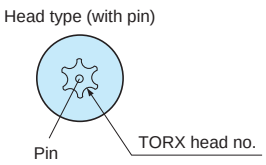
■ Recommended to be used with WP series as a desktop-type unit.
■ No additional hole milling is required as the rubber feet fits snuggly into the screw holes.
■ Made from elastomer material.
■ Unavailable for use with WP5-7-2, 5-7-3, 6-8-2, and 6-8-3 models.

Product no. / Dimensions

Product no.	Dimensions		Material	Color	Suitable models	Pack of
	A	B				
PFRF-M2.5D	6.4	10	Elastomer UL94HB	Dark gray	WP8-8-2 • 8-8-4 • 8-10-2 • 8-10-4 • 9-13-3 • 9-13-4 • 10-10-3 • 10-10-4 • 11-15-3 • 11-15-4 • 13-18-3 • 13-18-5	4
PFRF-M3D	7.2	11	Elastomer UL94HB	Dark gray	WP15-15-4 • 15-15-6 • 15-21-4 • 15-21-6 • 20-20-5 • 20-20-7 • 20-28-5 • 20-28-7	4

MR series TORX SCREW





■ Recommended to be used for tamper resistance, or for an elegant look and feel.
■ Requires the use of a specialized screwdriver.
■ Unavailable for use with WP5-7-2, 5-7-3, 6-8-2, and 6-8-3 models.

Product no. / Dimensions

Product no.	Dimensions		TORX head no.	Material	Finish	Suitable models	Pack of
	M	L					
MR2.5-8ST	2.5	8	T 8 (with pin)	Stainless steel	Unfinished	WP8-8-2 • 8-10-2 • 9-13-3 • 10-10-3 • 11-15-3 • 13-18-3/WSC series	20
MR2.5-16ST	2.5	16	T 8 (with pin)	Stainless steel	Unfinished	WP8-8-4 • 8-10-4 • 9-13-4 • 10-10-4 • 11-15-4 • 13-18-5	20
MR3-8ST	3	8	T 10 (with pin)	Stainless steel	Unfinished	WP15-15-4 • 15-15-6 • 15-21-4 • 15-21-6 • 20-20-5 • 20-20-7 • 20-28-5 • 20-28-7	20

Effect of PMF protective vent on WP series box

WP series enclosure comes with a silicone gasket, which allows the enclosure to be airtight when assembled.

When used in environments where there are large temperature fluctuations or differences, the internal and external pressure will become uneven.
If this pressure within is unable to be properly vented, it may cause the enclosure to deform and warp.
By installing the PMF series protective vent, it will assist in equalizing the air pressure, and prevent potential deformation.

Evaluation Target

1. WP20-28-7G - 2 pcs / 2. WP20-28-7G with PMF-12HAS - 2 pcs

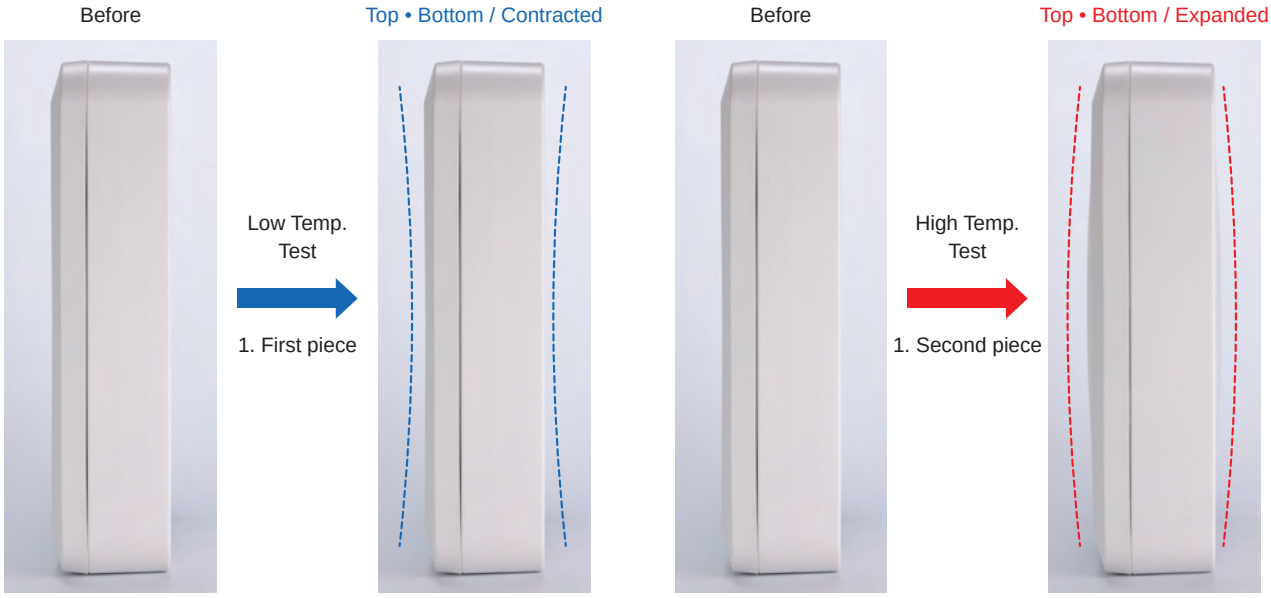
Test Conditions

Device : Constant temperature/humidity test chamber - LH43-W14P
Make : NAGANO SCIENCE CO., LTD.
Testing in -20ºC ~ +60ºC (Operating temperature for WP series)
Low Temperature : -20ºC / 96 hours • High Temperature : +60ºC / 96 hours

Test Result

1. WP20-28-7G - 2 pcs

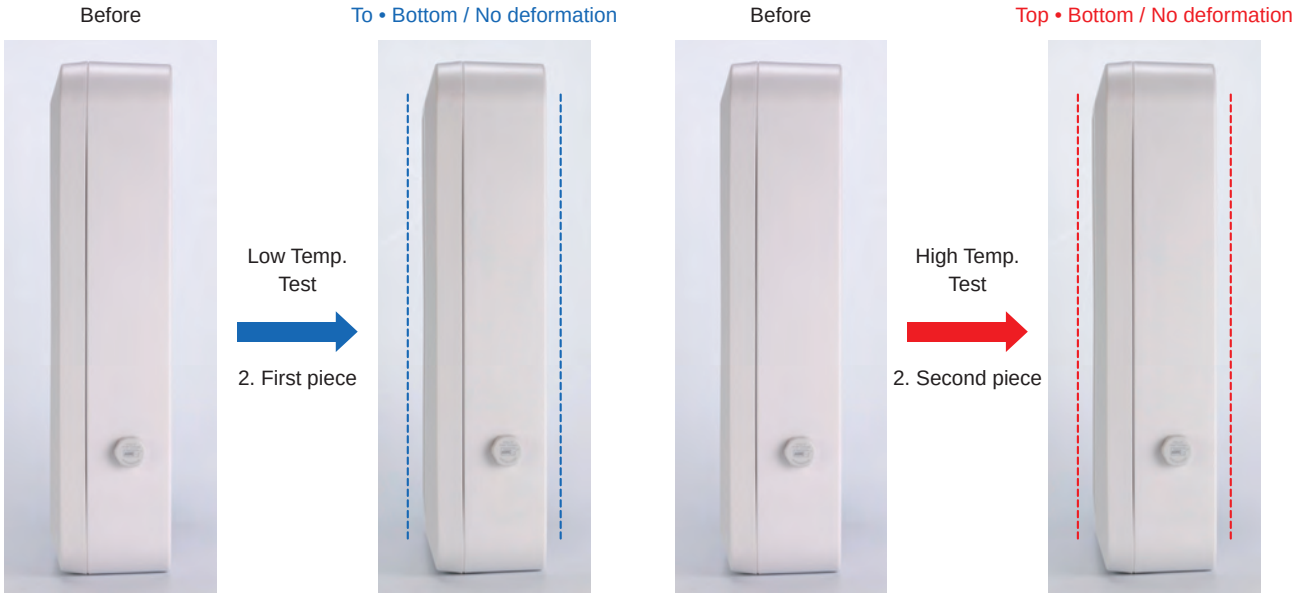
Uneven internal and external pressure causes deformation of the enclosure.



Test Result

2. WP20-28-7G with PMF-12HAS - 2 pcs

Equalized pressure from the usage of a protective vent prevents deformation of the enclosure.

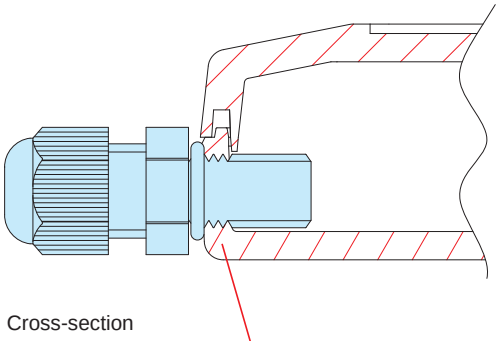


Information on installation of cable glands

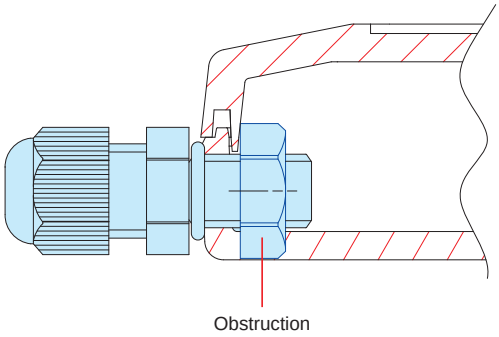




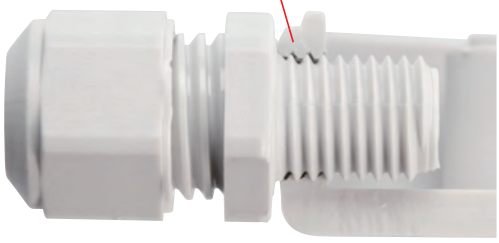
■ When affixing on cable glands to areas without sufficient space, the nut may not be able to be properly secured on.
For such instances, a thread-hole should be made for the cable gland to be directly screwed into without utilizing the nut.



Cross-section



Obstruction



■ Thread-hole sizes from M6~M32, and PG7~PG21 are possible with our customization services



■ Please utilize a cable gland from our available range of cable gland accessories.
Refer to page 333 ~ 340 for more information.



NEW COMPACT PLASTIC CASE for NEXT GENERATION IoT

Stylish and elegant plastic case for use with all your IoT related devices

SIC•SIM series





Sleek & Glossy Finish High Performance Case



Multipurpose & Wall Mount Models Available

Multipurpose Model
SIC series





Wall Mount Model
SIM series



COMPACT PLASTIC CASE for IoT DEVICES

SIC • SIM series are snap-in type compact-sized plastic case without screws.
Despite the small size, ample internal space is achieved by a snap-in assembly construction.
A rounded design yet having flat surfaces enables easy customization such as hole milling or printing.
Ideal for small IoT appliances such as LoRa WAN or Sigfox power-saving communication devices, RFID or GPS gadgets, or network sensors.

Wall Mount Communication Network Device





RFID Reader



Remote Controller



Security Sensor



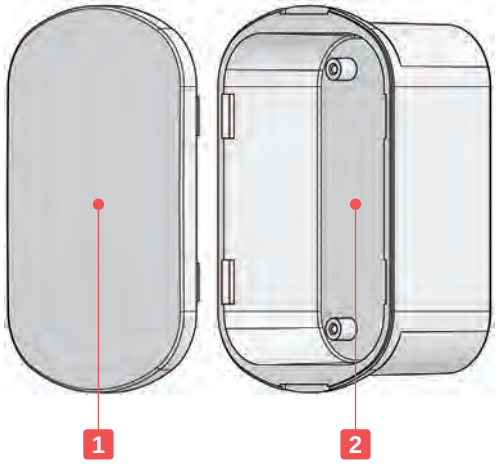
USB Data Logger



SIC series IoT SMALL PLASTIC CASE

NEW





Technical Data
Protection class : IP40 Operating temperature Black (ABS) : -10°C ~ +60°C Off-white (ASA) : -30°C ~ +60°C

*May become brittle and break under impact when temperature is lowered close to -30°C.

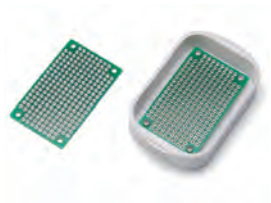
- Small rounded design plastic case ideal for use as IoT devices.
- Easy and tool-less assembly snap-in case.
- While being small in size, there is ample internal space by utilization of the snap-in structure.
- The polished surface also provides a high-end finish and gives off a superior quality and feel while having superb cost performance.
- Off-white models are made of weather-resistant ASA material.
  Suitable for devices intending to be used under direct sunlight.

- Optional universal PCB, PCB32-53 is compatible with SIC5-7-2 and 5-7-3 models.
  See PCB series on our website for more details.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Cover	1	ABS UL94HB	Black / Polished
			Weather-resistant ASA UL94HB	Off-white / Polished
2	Base	1	ABS UL94HB	Black / Polished
			Weather-resistant ASA UL94HB	Off-white / Polished

Accessories (Optional parts)



Universal PCB PCB series
See website



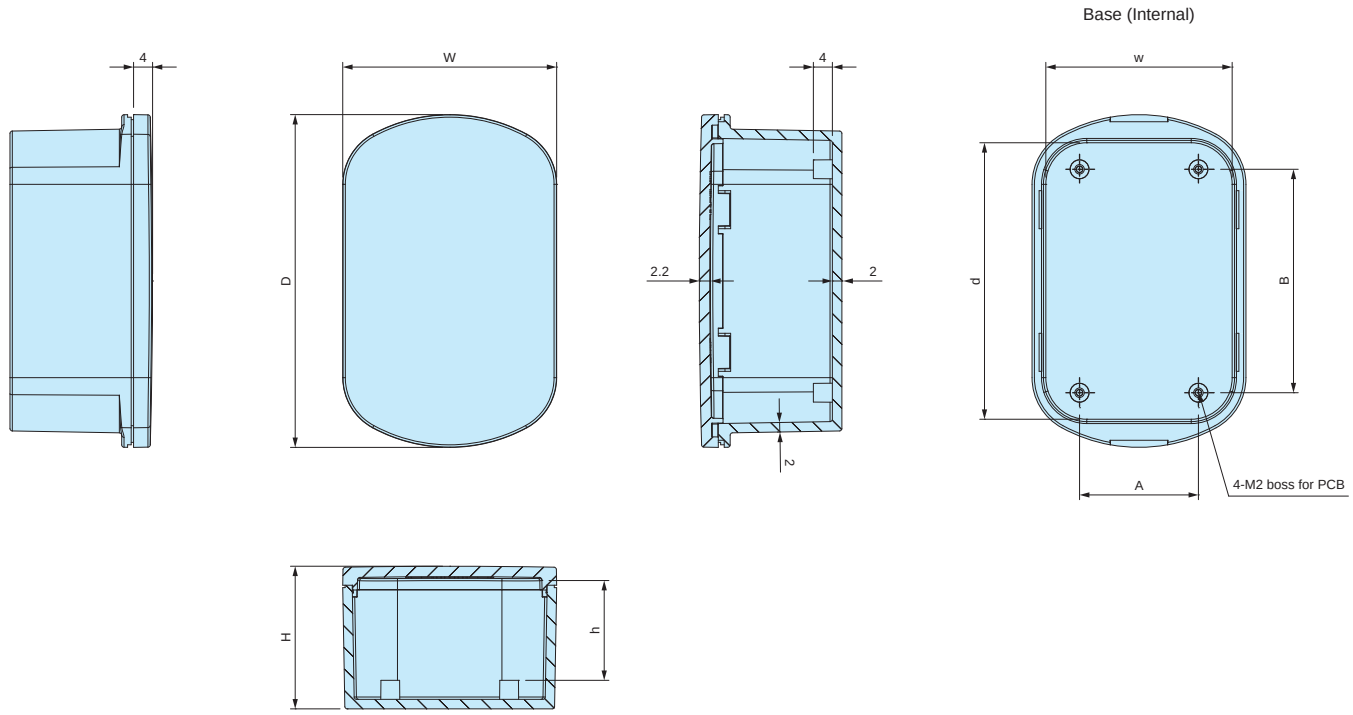
PCB mounting screw EM-2
See page 123



Neodymium magnet NMG series
See page 117

SIC dimensions

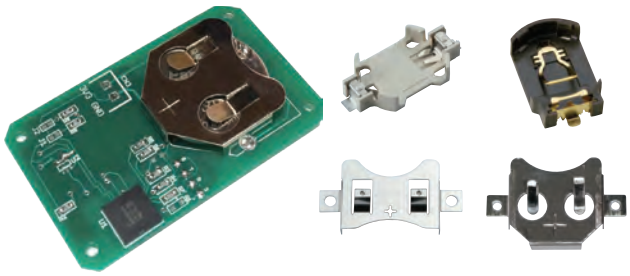
■ DXF/DWG/PDF/STP drawings available on our website.



Product no. / Dimensions

Product no.		External dimensions			Internal dimensions			Boss pitch		Weight (g)
● Black	● Off-white	W	D	H	w	d	h	A	B	
SIC5-7-2B	SIC5-7-2W	45	70	20	39.5	58.5	10.9	25	47	20.1
SIC5-7-3B	SIC5-7-3W	45	70	30	39.1	58.1	20.9	25	47	24.1
SIC5-9-2B	SIC5-9-2W	45	90	20	39.5	78.5	10.9	25	67	24.9
SIC5-9-3B	SIC5-9-3W	45	90	30	39.1	78.1	20.9	25	67	29.4

Accessories (Optional parts) COIN CELL BATTERY HOLDERS



■ Various coin cell battery holders can be utilized.
See coin cell battery holders on our website for more details.
Refer to the chart for compatible holders.

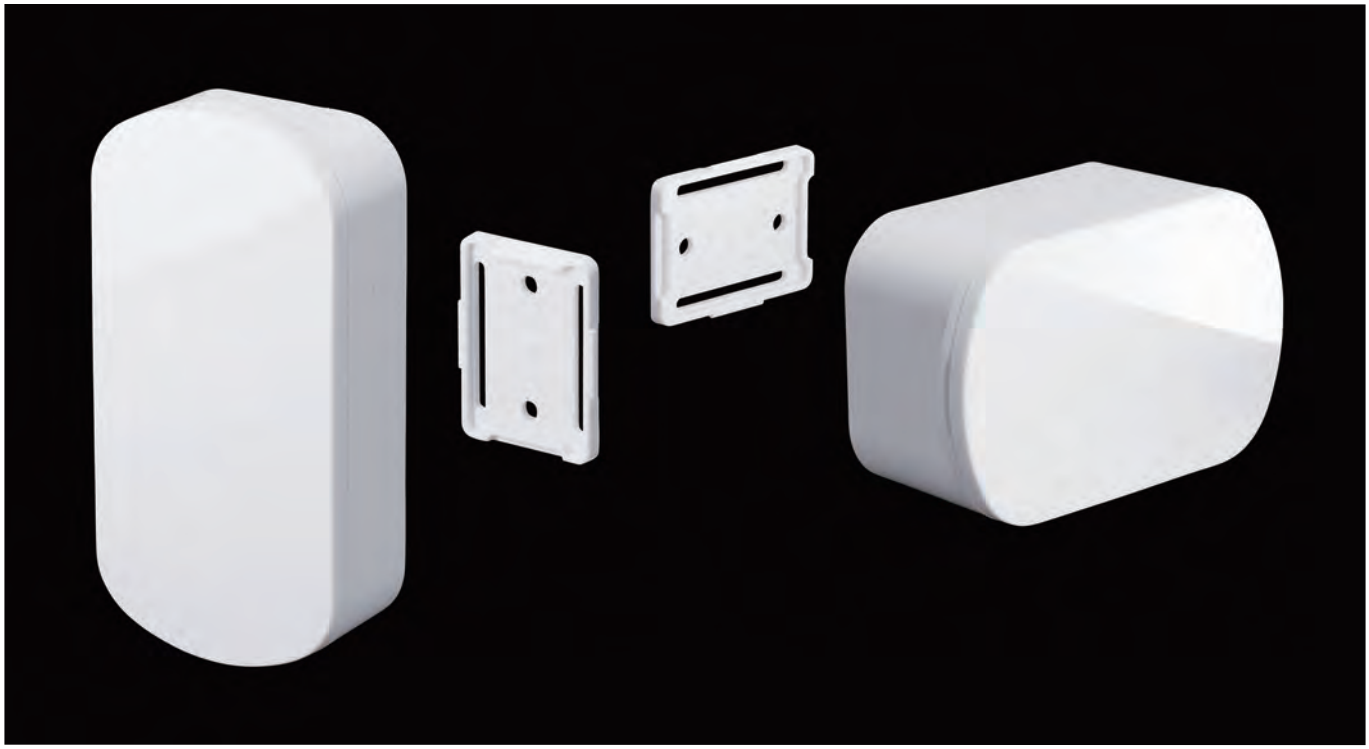
■ Chart on the right is based upon mounting onto a 1.2mm thick PCB.

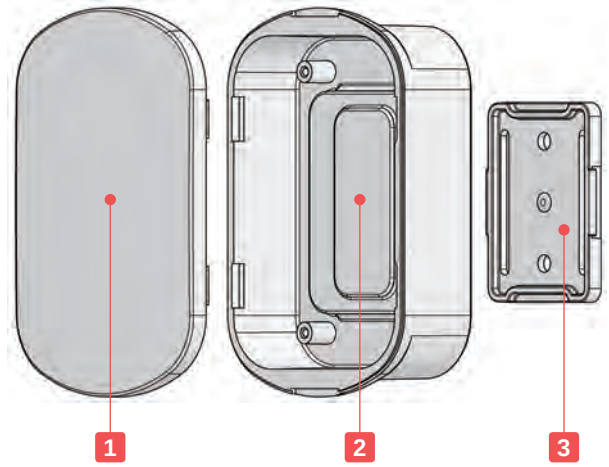
■ Please note that depending on the mounting location, PCB may not be able to be properly affixed on.

COMPATIBLE COIN CELL BATTERY HOLDERS CHART

Product no.	Compatible coin cell battery holders
SIC5-7-2□ SIC5-9-2□	SMTU357 • 1220 (G) • 1225 • 1632 (G) • 2-2016 SMTU2032 (G) • 2430 • 2450 HU357 • 1220 • 1225 • 1632 • 2032 • 2430 • 2450 PB621, PD23, BCR20H4, BCR20H5, CH7410 BK-879, 5091, 5067, 888 SMTM1632, 2032
SIC5-7-3□ SIC5-9-3□	SMTU357 • 1220 (G) • 1225 • 1632 (G) • 2-2016 SMTU2032 (G) • 2430 • 2450 • 2477 HU357 • 1220 • 1225 • 1632 • 2032 • 2430 • 2450 • 2477 PB621, PD23, BCR20H4 • 20H5, BH-50N, CH7410 BK-879, 5091, 5067, 888 SMTM1632 • 2032

SIM series WALL MOUNT IoT SMALL PLASTIC CASE NEW





Technical Data
Protection class: IP40 Operating temperature: -30°C ~ +60°C

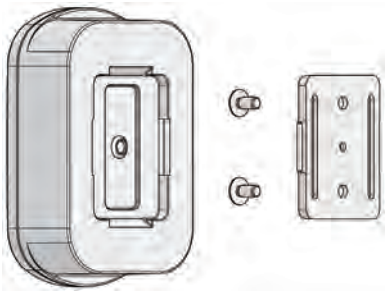
*May become brittle and break under impact when temperature is lowered close to -30°C.

- Small rounded design plastic case ideal for use as IoT devices.
- Easily attached to, or detached from the wall by using the wall mounting bracket.
- Made of weather-resistant ASA material.
  Suitable for devices intending to be used under direct sunlight.
- Optional universal PCB, PCB32-53 is compatible with SIM5-7-2 and 5-7-3 models. See PCB series on our website for more details.

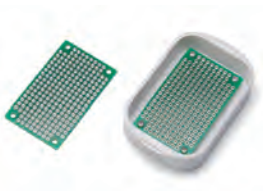
Components

No.	Part name	Pcs	Material	Color / Finish
1	Cover	1	Weather-resistant ASA UL94HB	Off-white / Polished
2	Base	1	Weather-resistant ASA UL94HB	Off-white / Polished
3	Wall mounting bracket	1	Weather-resistant ASA UL94HB	Off-white / Polished

Bracket installation



Accessories (Optional parts)



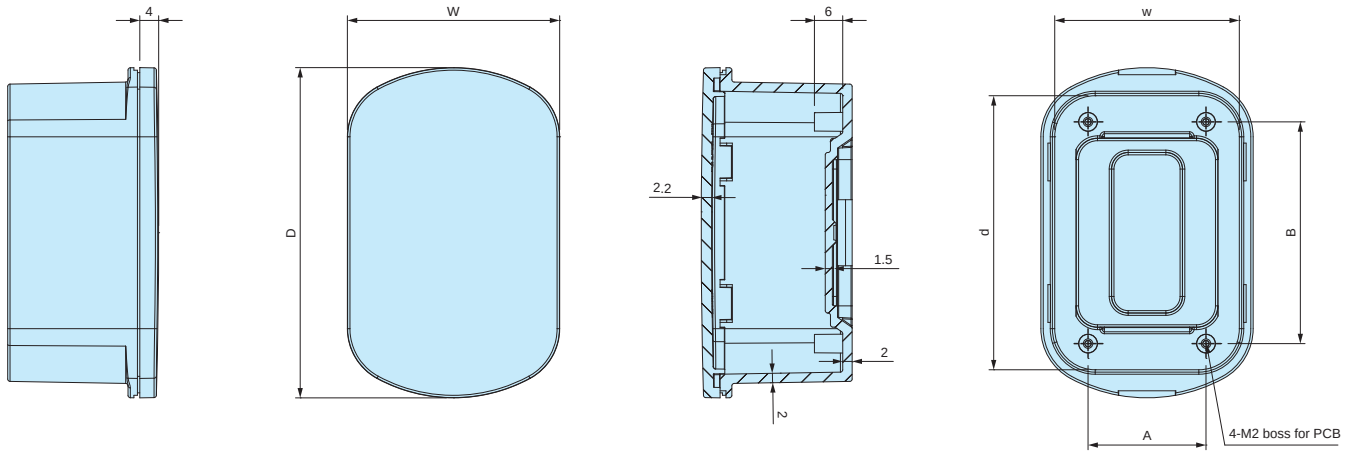
Universal PCB PCB series
See website



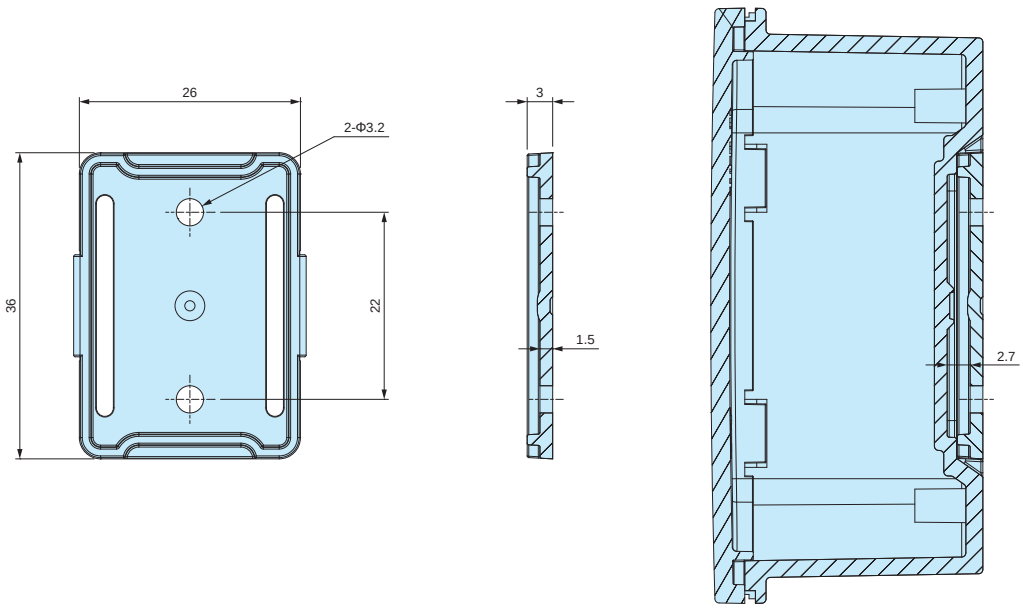
PCB mounting screw EM-2
See page 123

SIM dimensions

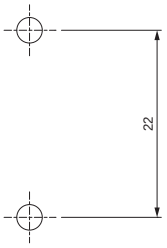
■ DXF/DWG/PDF/STP drawings available on our website.



*No changes to external height (H) when affixed onto the wall mounting bracket.



Hole layout for wall mount



■ M3 screws for installation of bracket on walls are not included.

Product no. / Dimensions

Product no.	External dimensions			Internal dimensions			Boss pitch		Weight (g)
	W	D	H	w	d	h	A	B	
SIM5-7-2W	45	70	22	39.4	58.4	10.9	25	47	22.8
SIM5-7-3W	45	70	32	39.1	58	20.9	25	47	25.9
SIM5-9-2W	45	90	22	39.4	78.4	10.9	25	67	27,7
SIM5-9-3W	45	90	32	39.1	78	20.9	25	67	32.3

SHOCKPROOF PLASTIC ENCLOSURE

Ensure your industrial tablet, measuring equipment and controller is protected with the silicone corner guards.

PFG series



6 DIFFERENT COLOR COMBINATIONS AVAILABLE

3 corner guard colors and 2 plastic box colors available for a total of 6 color combinations to choose from.
Different color combinations can be freely chosen depending on your environment.

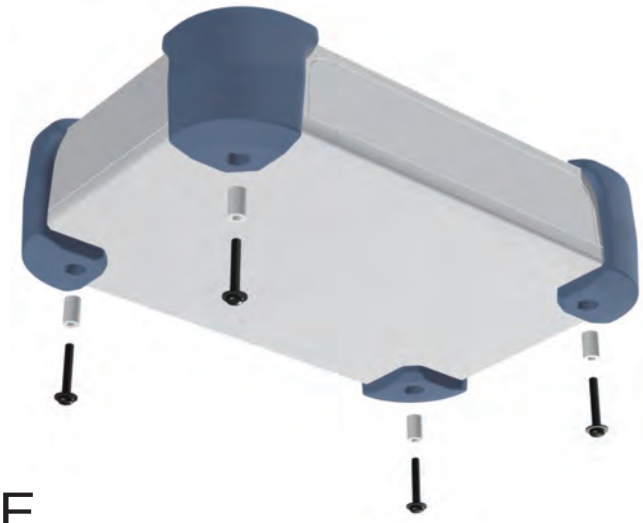


HOW TO ASSEMBLE CORNER GUARD

1. Insert corner guards into designated holes on the top corners.



2. Insert spacers into the holes on the bottom of corner guards. Fasten bottom base and corner guards together with screws.



APPLICATION EXAMPLE

Industrial Tablet



Medical Equipment



Network Device

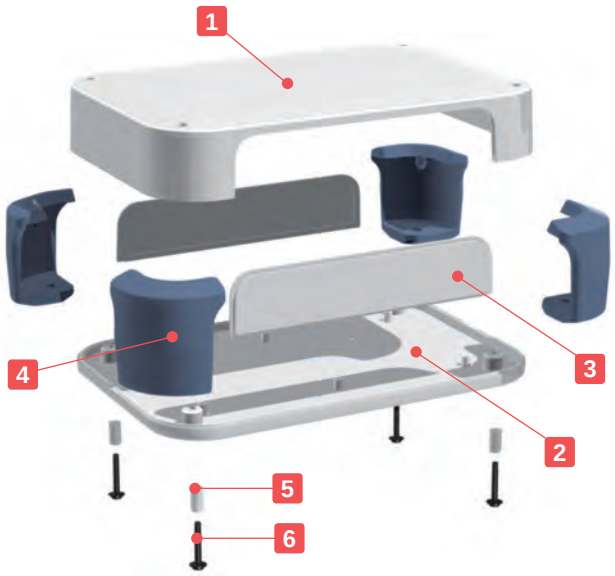


PFG series SHOCKPROOF PLASTIC ENCLOSURE

NEW



Technical Data
Protection class: IP40 Operating temperature: -10°C ~ +60°C

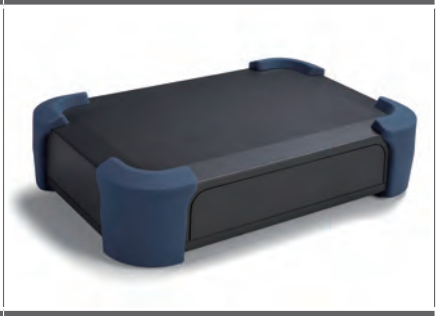


- Network plastic box attached with shockproof silicone corner guards.
- Suitable for industrial tablet, measuring equipment, controller or various other applications.
- A total of 6 color combinations available with 3 corner guard colors - Dark gray, Emerald, Indigo - and 2 plastic box colors - Dark gray and Off-white.

Components

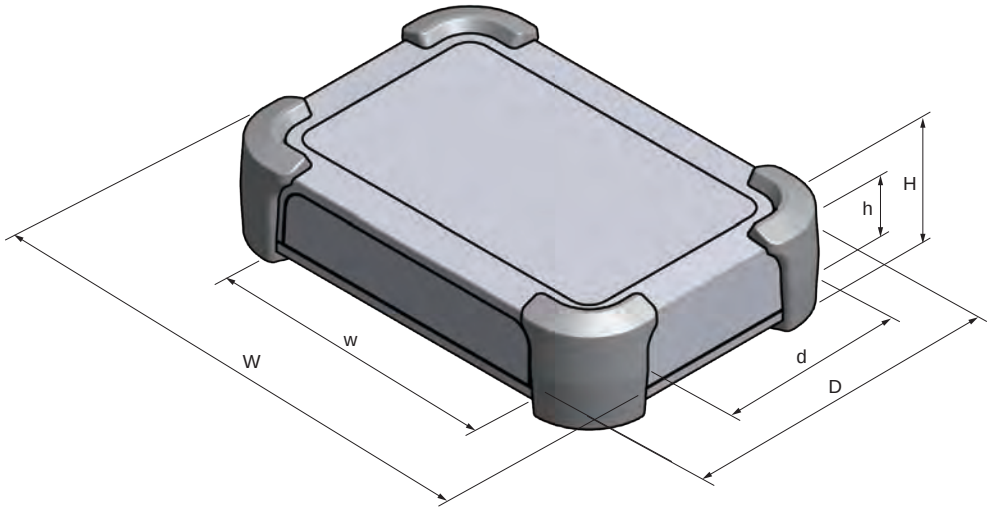
No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	ABS UL94V-0	Off-white • Dark gray
2	Bottom base	1	ABS UL94V-0	Off-white • Dark gray
3	Panel	2	ABS UL94V-0	Off-white • Dark gray
4	Corner guard	4	Silicone	Dark gray • Emerald • Indigo
5	Spacer	4	PA	White
6	Self-tapping screw	4	Steel	Nickel plated

Color Type

Code	DD Dark gray / Dark gray	DE Dark gray / Emerald	DI Dark gray / Indigo
Color			
Code	**WD Off-white / Dark gray**	**WE Off-white / Emerald**	**WI Off-white / Indigo**
Color			

PFG dimensions

■ DXF/DWG/PDF/STP drawings available on our website.



Product no. / Dimensions

■ Please suffix color code at the end of the product number.

Product no.	External dimensions			Internal dimensions			Weight (g)
	W	H	D	w	h	d	
PFG20-4-13 □□	208 (200)	51 (40)	143 (135)	151.6	27.3	124.4	346
PFG20-4-20 □□	208 (200)	51 (40)	208 (200)	151.6	27.3	189.4	450
PFG24-6-17 □□	248 (240)	71.5 (60)	173 (165)	187.6	47	153.2	520
PFG24-6-24 □□	248 (240)	71.5 (60)	248 (240)	187.6	47	228.2	696.5

■ ( ) value = enclosure dimension.

Accessories (Optional parts)



Embedded battery box BC series
See page 125 ~ 128



Tapping standoff TPS series
See page 122



PCB mounting screw EM series
See page 123



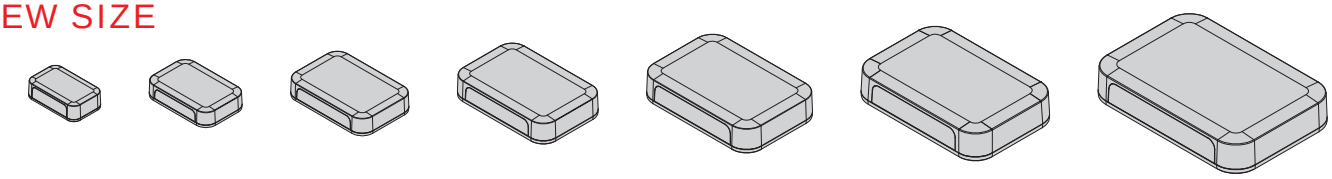
Tilt leg TLW series
See page 222

PF series FLAT NETWORK CASE

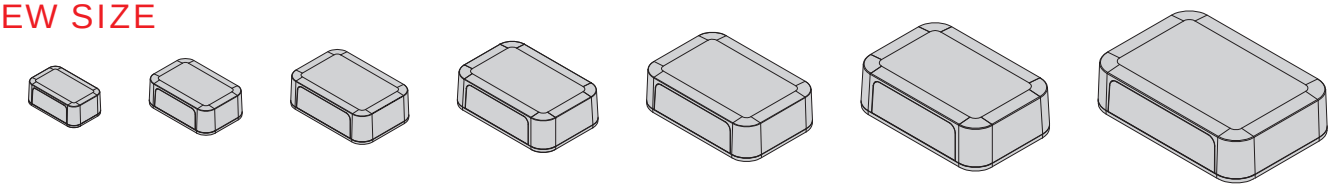
Huge selection, 41 different sizes are now available.
Suitable for IOT device, data transmitter/receiver, and access point.

From 80 x 50 x 22.5 to 320 x 225 x 100 mm.

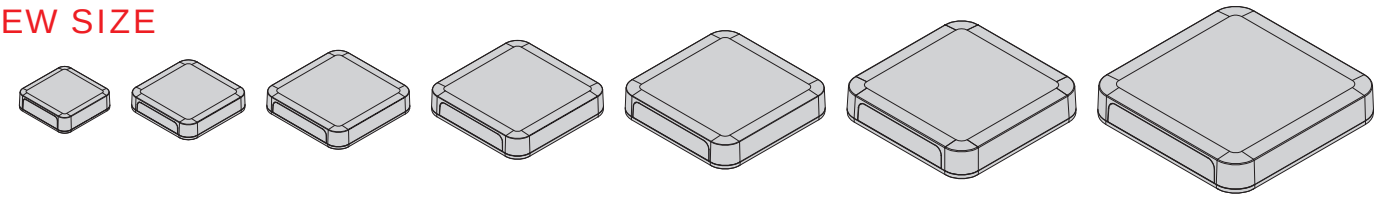
NEW SIZE



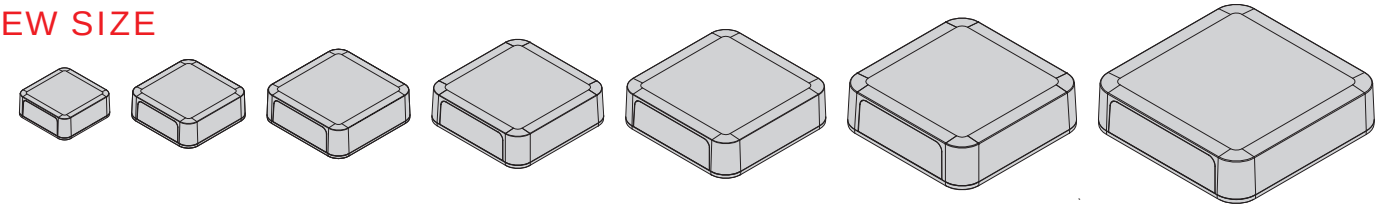
NEW SIZE



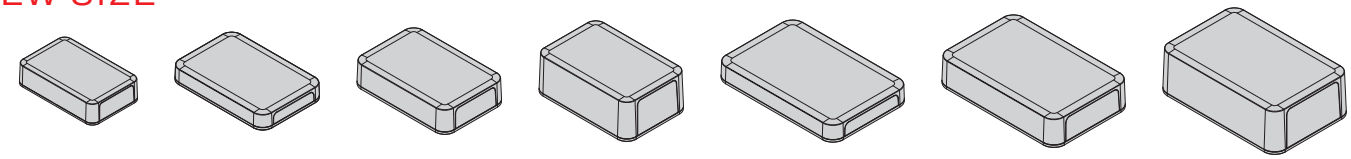
NEW SIZE

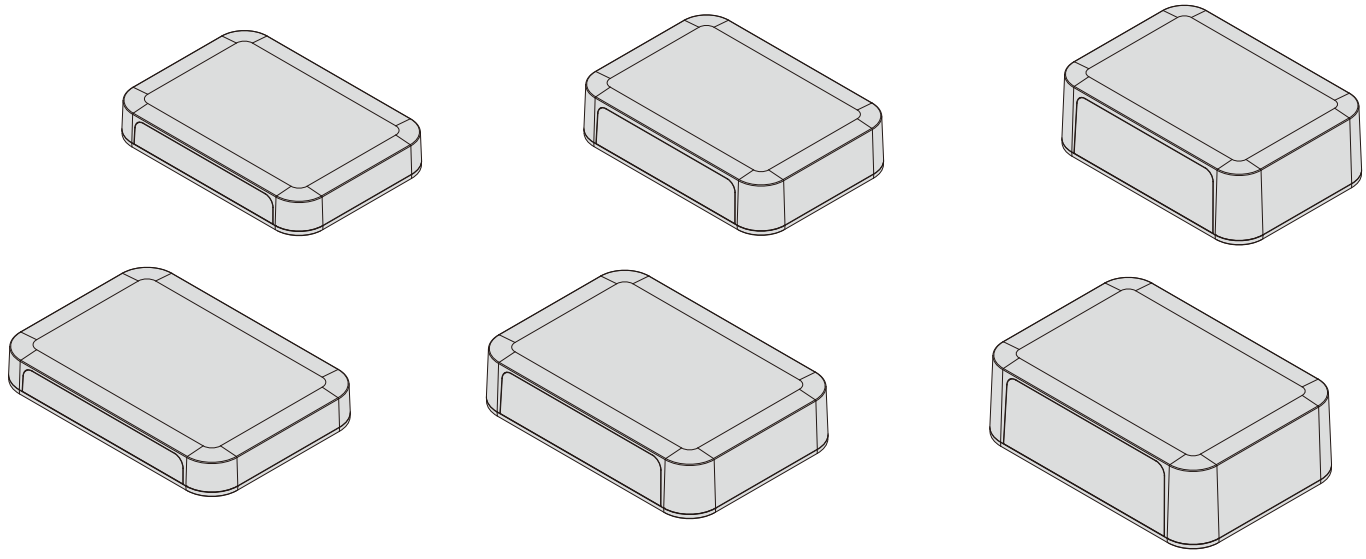


NEW SIZE



NEW SIZE





APPLICATION EXAMPLE

WiFi Access Point

Product by VNPT Technology (Vietnam)



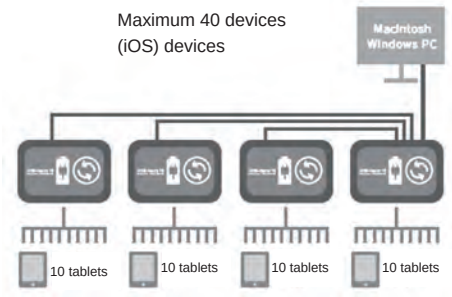


USB Power Charging Hub + Data Hub

Product by MT-planning (Japan)







Possible to power charging while transferring data.

Front Door Electric Opener System Controller

Product by LIXIL (Japan)



USB Hemodynamic Research Device

Product by Cardiovascular Engineering (USA)



Multi Channel Data Logger

Product by LUMEL (Poland)



Storage Battery Monitoring System

Product by GS YUASA (Japan)

Wireless CO_2 Monitoring System

Product by Pietiko (Finland)





Wireless Home Electronics Controller

Product by AR SMART (Colombia)



Wireless Safety Confirmation System

Product by BEPREVENT (Spain)



G4 Flight Tracker

Product by Guardian Mobility (Canada)



Advanced Trigger Station

Product by BrainTrends (Italy)



iCONSE-T IoT and Sensor Network Training System

Product by Benchmark Electronic Systems (India)



Wireless Network Data Logger

Product by SensingWinTech (Japan)



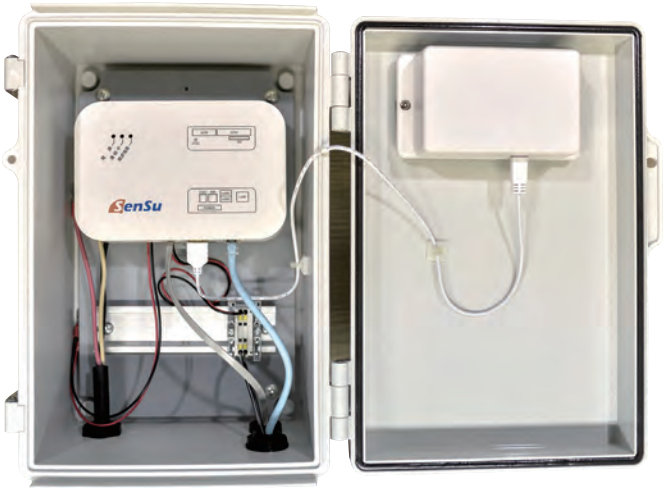
Analog Serial Converter

Product by DATATECHNO (Japan)



"SenSu" Communication Unit with Sensor

Product by ITbook Technology (Japan)



Modbus Converter

Product by DATATECHNO (Japan)

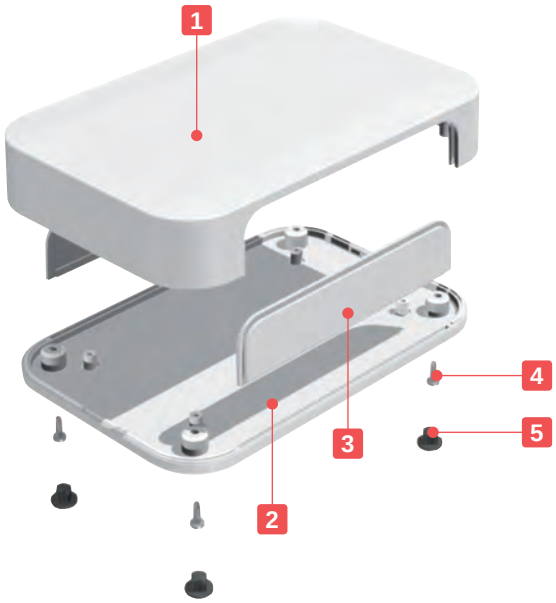


PF series NETWORK PLASTIC BOX

NEW SIZE



Technical Data
Protection class: IP40 Operating temperature: -10°C ~ +60°C



- 5 new sizes added for a total of 41 different sizes available for selection.
- Flat designed plastic case with detachable panels.
- Made of flame-resistant ABS UL94V-0 and available in Off-white and Dark gray colors.
- Equipped with built-in bosses for PCB mounting.
- Suitable for Wi-Fi access point, measuring equipment, controller or various other applications.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	ABS UL94V-0	Off-white • Dark gray
2	Bottom base	1	ABS UL94V-0	Off-white • Dark gray
3	Panel	2	ABS UL94V-0	Off-white • Dark gray
4	Self-tapping screw	4	Steel	Nickel plated
5	Rubber feet※	4	Elastomer UL94HB	Dark gray

※Rubber feet are not included in PF8-□-5, PF8-□-8, PF8-3-13 models.

Accessories (Optional parts)



Embedded battery box BC series
See page 125 ~ 128



Tapping standoff TPS series
See page 122



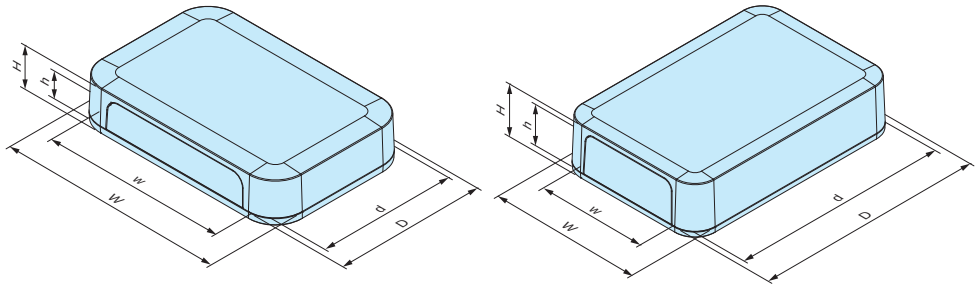
PCB mounting screw EM series
See page 123



Suspension bracket WM series
See page 116

PF dimensions

■ DXF/DWG/PDF/STP drawings available on our website.



Product no. / Dimensions

Product no.		External dimensions			Internal dimensions			Weight (g)
● Off-white	● Dark gray	W	H	D	w	h	d	
NEW PF 8- 2- 5W	NEW PF 8- 2- 5D	80	22.5	50	55.5	13.5	42.8	36.2
NEW PF 8- 2- 8W	NEW PF 8- 2- 8D	80	22.5	80	55.5	13.5	72.8	53.3
NEW PF 8- 3- 5W	NEW PF 8- 3- 5D	80	30	50	55.5	21	42.3	41.6
NEW PF 8- 3- 8W	NEW PF 8- 3- 8D	80	30	80	55.5	21	72.3	60.1
NEW PF 8- 3-13W	NEW PF 8- 3-13D	80	30	125	55.5	21	117.3	87.3
PF10- 2- 7W	PF10- 2- 7D	100	22.5	67	67.4	11.1	58.4	60
PF10- 2-10W	PF10- 2-10D	100	22.5	100	67.4	11.1	91.4	82.9
PF10- 2-15W	PF10- 2-15D	100	22.5	150	67.4	11.1	141.4	120.2
PF10- 4- 7W	PF10- 4- 7D	100	35	67	67.4	23.6	57.5	65
PF10- 4-10W	PF10- 4-10D	100	35	100	67.4	23.6	90.5	97.1
PF10- 4-15W	PF10- 4-15D	100	35	150	67.4	23.6	140.5	132.6
PF10- 6-15W	PF10- 6-15D	100	55	150	67.4	43.6	139.1	169.1
PF13- 3- 9W	PF13- 3- 9D	125	25	85	92.4	13.5	76.2	90.8
PF13- 3-13W	PF13- 3-13D	125	25	125	92.4	13.5	116.2	127.5
PF13- 3-19W	PF13- 3-19D	125	25	190	92.4	13.5	181.2	186.8
PF13- 4- 9W	PF13- 4- 9D	125	40	85	92.4	28.5	75.2	108.4
PF13- 4-13W	PF13- 4-13D	125	40	125	92.4	28.5	115.2	151.4
PF13- 4-19W	PF13- 4-19D	125	40	190	92.4	28.5	180.2	214.9
PF13- 6-19W	PF13- 6-19D	125	60	190	92.4	48.5	178.8	250.4
PF15- 3-10W	PF15- 3-10D	150	30	100	112.4	17.8	90	145.5
PF15- 3-15W	PF15- 3-15D	150	30	150	112.4	17.8	140	207.5
PF15- 5-10W	PF15- 5-10D	150	45	100	112.4	32.8	88.9	166
PF15- 5-15W	PF15- 5-15D	150	45	150	112.4	32.8	138.9	233.5
PF18- 4-12W	PF18- 4-12D	175	35	120	132.4	22.4	110.3	188.7
PF18- 4-18W	PF18- 4-18D	175	35	175	132.4	22.4	165.3	266.8
PF18- 5-12W	PF18- 5-12D	175	50	120	132.4	37.4	109.3	213.6
PF18- 5-18W	PF18- 5-18D	175	50	175	132.4	37.4	164.3	302.1
PF20- 4-13W	PF20- 4-13D	200	40	135	151.6	27.3	124.4	264
PF20- 4-20W	PF20- 4-20D	200	40	200	151.6	27.3	189.4	368.5
PF20- 6-13W	PF20- 6-13D	200	60	135	151.6	47.3	123	302.5
PF20- 6-20W	PF20- 6-20D	200	60	200	151.6	47.3	188	417
PF24- 4-17W	PF24- 4-17D	240	42.5	165	187.6	29.5	154.5	370.4
PF24- 4-24W	PF24- 4-24D	240	42.5	240	187.6	29.5	229.5	521.4
PF24- 6-17W	PF24- 6-17D	240	60	165	187.6	47	153.2	408.8
PF24- 6-24W	PF24- 6-24D	240	60	240	187.6	47	228.2	568.7
PF28- 5-20W	PF28- 5-20D	280	45	200	223.6	31.4	189.3	564.1
PF28- 7-20W	PF28- 7-20D	280	65	200	223.6	51.4	187.9	618.4
PF28- 9-20W	PF28- 9-20D	280	90	200	223.6	76.4	186.2	709.2
PF32- 5-23W	PF32- 5-23D	320	45	225	259.6	31.3	214.3	697.1
PF32- 7-23W	PF32- 7-23D	320	70	225	259.6	56.3	212.6	782.1
PF32-10-23W	PF32-10-23D	320	100	225	259.6	86.3	210.5	899.8

* H dimension does not include the height of rubber feet.(Rubber feet height = +2mm)

PFE series EMC SHIELDED PLASTIC BOX

EMC Shielding Effects







- PFE series is an EMC shielded version of the PF series network plastic box coated internally with DOTITE conductive paint (acrylic paint mixed with nickel filler).
- Flat designed plastic case with detachable panels.
- Made of flame-resistant ABS UL94V-0.
- Equipped with built-in bosses for PCB mounting.
- Suitable for Wi-Fi access point, measuring equipment, controller or various other applications for desktop, wall mounting use and so on.

Technical Data
Protection class: IP40 Operating temperature: -10°C ~ +60°C

Components

No.	Part name	Pcs	Material	Color / Finish	Conductive paint
1	Top cover	1	ABS UL94V-0	Off-white	DOTITE
2	Bottom base	1	ABS UL94V-0	Off-white	DOTITE
3	Panel	2	ABS UL94V-0	Off-white	DOTITE
4	Self-tapping screw	4	Steel	Nickel plated	—
5	Rubber feet	4	Elastomer	Dark gray	—

Accessories (Optional parts)



Tapping standoff TPS series
See page 122



PCB mounting screw EM series
See page 123



TORX screw MR series
See page 123



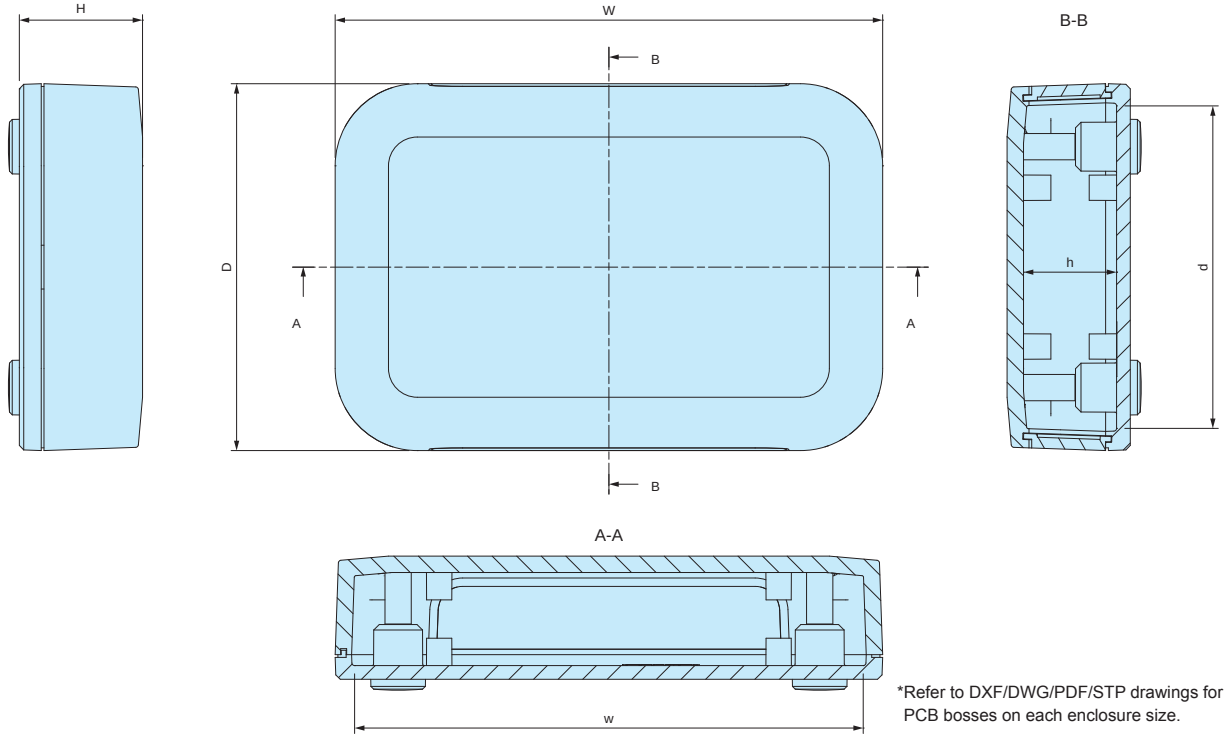
Suspension bracket WM series
See page 116



Embedded battery box BC series
See page 125 ~ 128

PFE dimensions

■ DXF/DWG/PDF/STP drawings available on our website.



*Refer to DXF/DWG/PDF/STP drawings for number of PCB bosses on each enclosure size.

Product no. / Dimensions

*H dimension does not include the height of rubber feet. (Rubber feet height = +2mm)

Product no.	External dimensions			Internal dimensions			Screw	Weight (g)
	W	H	D	w	h	d		
PFE13-4- 9W	125	40	85	116	75	34.5	M2.5-8 x 4 pcs	114
PFE15-3-10W	150	30	100	142	90	24	M2.5-8 x 4 pcs	152
PFE15-5-15W	150	45	150	141	139	39	M2.5-8 x 4 pcs	244.5
PFE20-4-13W	200	40	135	191.5	124.5	34	M3-8 x 4 pcs	274.5

Accessories (Optional parts)

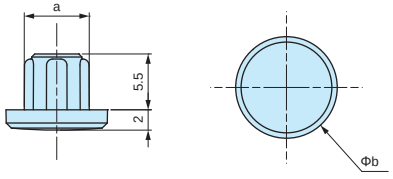
PFRF series RUBBER FEET for PF • PFE



- Rubber feet for PF • PFE series.
- Inserted into the screw holes on the underside of box.
- Elastomer material is resistant against color migration.
- PF • PFE boxes comes with PFRF rubber feet. Utilize PFRF as spare or replacement.

PFRF dimensions

■ STP drawings available on our website.



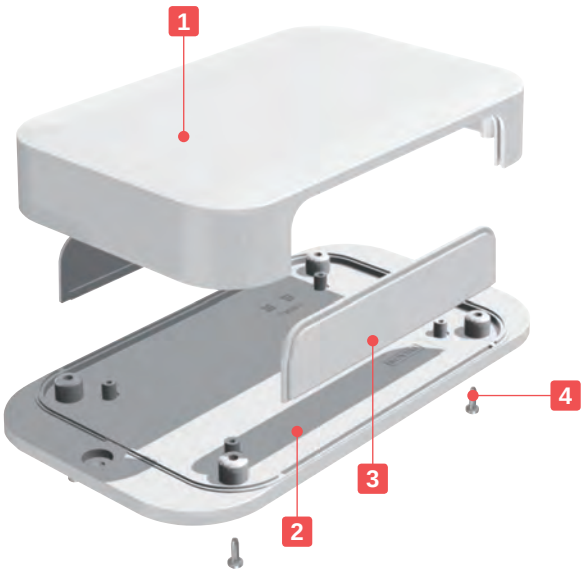
Product no. / Dimensions

Product no.	Dimensions		Suitable models	Material	Color	Pack of
	a	b				
PFRF-M2.5D	6.4	10	PF10-2-7,10-2-10,10-2-15,10-4-7,10-4-10,10-4-15 PF10-6-15,13-3-9,13-3-13,13-3-19,13-4-9,13-4-13 PF13-4-19,13-6-19,15-3-10,15-3-15,15-5-10,15-5-15 PF18-4-12,18-4-18,18-5-12,18-5-18 PFE13-4-9,15-3-10,15-5-15	Elastomer	Dark gray	4
PFRF-M3D	7.2	11	PF20-4-13,20-4-20,20-6-13,20-6-20,24-4-17 PF24-4-24,24-6-17,24-6-24,28-5-20,28-7-20 PF28-9-20,32-5-23,32-7-23,32-10-23 PFE20-4-13	Elastomer	Dark gray	4

PFF series FLANGED NETWORK PLASTIC BOX



Technical Data
Protection class: IP40 Operating temperature: -10°C ~ +60°C



- PF plastic case with wall mounting flange bottom design.
- Made of flame-resistant ABS UL94V-0 and available in Off-white color.
- Flat designed plastic case with detachable panels.
- Total of 30 different sizes available for selection.
- Suitable for wireless LAN, Wi-Fi access point, HUB, controller or other applications.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	ABS UL94V-0	Off-white
2	Flanged base	1	ABS UL94V-0	Off-white
3	Panel	2	ABS UL94V-0	Off-white
4	Self-tapping screw	4	Steel	Nickel plated

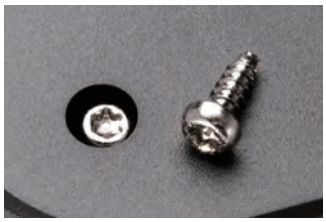
Accessories (Optional parts)



Tapping standoff TPS series
See page 122



PCB mounting screw EM series
See page 123



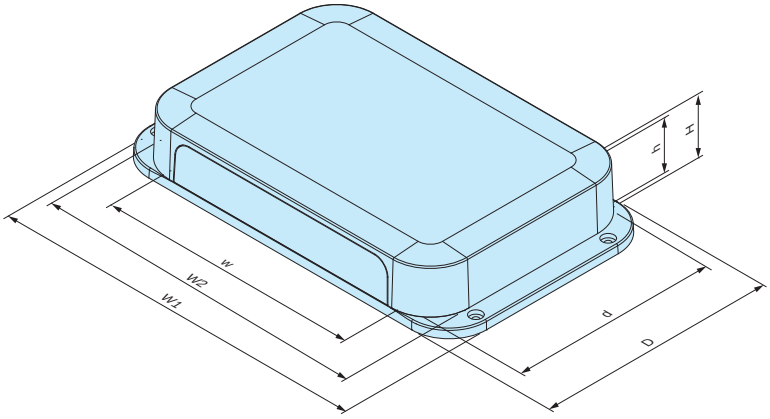
TORX screw MR series
See page 123



Adhesive standoff AST series
See page 121

PFF dimensions

■ DXF/DWG/PDF/STP drawings available on our website.



Product no. / Dimensions

Product no.	External dimensions				Internal dimensions			Weight (g)
	W1	W2	H	D	w	h	d	
PFF10- 2- 7W	124.3	100	22.5	67.3	67.4	11.1	58.4	60.8
PFF10- 2-10W	124.3	100	22.5	100.3	67.4	11.1	91.4	84.6
PFF10- 4- 7W	124.3	100	35	67.3	67.4	23.6	57.5	72
PFF10- 4-10W	124.3	100	35	100.3	67.4	23.6	90.5	99.1
PFF13- 3- 9W	149.3	125	25	85.3	92.4	13.5	76.2	90.8
PFF13- 3-13W	155.3	125	25	125.3	92.4	13.5	116.2	128.6
PFF13- 4- 9W	149.3	125	40	85.3	92.4	28.5	75.2	108.4
PFF13- 4-13W	155.3	125	40	125.3	92.4	28.5	115.2	152.3
PFF15- 3-10W	180.4	150	30	100.4	112.4	17.8	90	145.2
PFF15- 3-15W	180.4	150	30	150.4	112.4	17.8	140	211.3
PFF15- 5-10W	180.4	150	45	100.4	112.4	32.8	88.9	168.6
PFF15- 5-15W	180.4	150	45	150.4	112.4	32.8	138.9	235
PFF18- 4-12W	205.4	175	35	120.4	132.4	22.4	110.3	192.1
PFF18- 4-18W	205.4	175	35	175.4	132.4	22.4	165.3	209.8
PFF18- 5-12W	205.4	175	50	120.4	132.4	37.4	109.3	215.8
PFF18- 5-18W	205.4	175	50	175.4	132.4	37.4	164.3	299.7
PFF20- 4-13W	230.5	200	40	135.5	151.6	27.3	124.4	267.7
PFF20- 4-20W	230.5	200	40	200.5	151.6	27.3	189.4	376
PFF20- 6-13W	230.5	200	60	135.5	151.6	47.3	123	309.7
PFF20- 6-20W	230.5	200	60	200.5	151.6	47.3	188	422.9
PFF24- 4-17W	270.5	240	42.5	165.5	187.6	29.5	154.5	366.9
PFF24- 4-24W	270.5	240	42.5	240.5	187.6	29.5	229.5	513.5
PFF24- 6-17W	270.5	240	60	165.5	187.6	47	153.2	403.8
PFF24- 6-24W	270.5	240	60	240.5	187.6	47	228.2	560.8
PFF28- 5-20W	310.5	280	45	200.5	223.2	31.4	189.3	547.5
PFF28- 7-20W	310.5	280	65	200.5	223.2	51.4	187.9	606.6
PFF28- 9-20W	310.5	280	90	200.5	223.2	76.4	186.2	694.1
PFF32- 5-23W	350.5	320	45	225.5	259.2	31.3	214.3	679.9
PFF32- 7-23W	350.5	320	70	225.5	259.2	56.3	212.6	767.4
PFF32-10-23W	350.5	320	100	225.5	259.2	86.3	210.5	887.4

TWF series
FLANGED PLASTIC ENCLOSURE

Multi-purpose flanged enclosure designed for use as a wall-mounted device/terminal.
23 different sizes in 2 colors available.
Recommended to be used as measurement instruments, wireless communication gadgets, controller devices and so on.

APPLICATION EXAMPLE

Solar Power System Remote Controller

Product by Wave Energy (Japan)



Solar Panel Charge Controller

Product by SunWorks (UK)



Wireless RFID Tag Search Device



RFID Tag

Utilization of TAKACHI PS-65W portable plastic case.



Product by MULTILUX (Slovenia)

CO_2 Sensor



Temperature • Humidity Sensor



Product by HANERON (Japan)

Remote Power Control Unit



Product by M.C.S (Japan)

Communication Converter



Roof Sprinkler Controller

Product by ES-Waternet (Japan)



LED Lighting RGB Controller

Product by TRi TERASU (Japan)





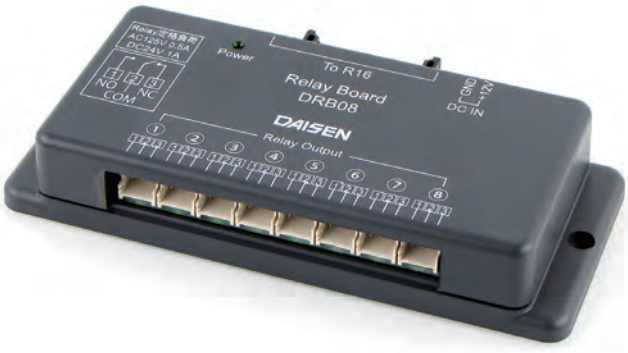
Private LoRA Gateway

Product by Bunnyhop (Japan)



Contact Relay Output Converter

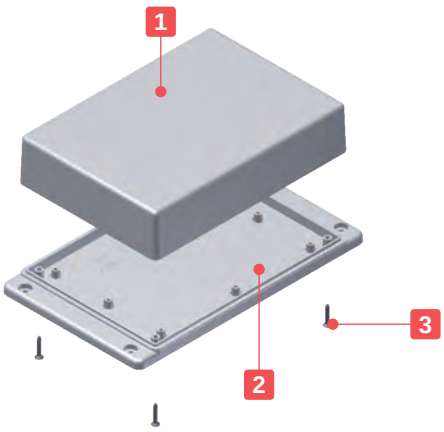
Product by DAISEN Electronics Industrial (Japan)



TWF series FLANGED PLASTIC ENCLOSURE



Technical Data
Protection class: IP40 Operating temperature: -10°C ~ +60°C



- Multi-purpose flanged enclosure designed for use as a wall-mounted device/ terminal.
- 23 different sizes in 2 colors. Made of ABS UL94V-0.
- Equipped with screwing bosses for PCB.
- Recommended to be used as measurement instruments, wireless communication gadgets, controller devices and so on.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Cover	1	ABS UL94V-0	Off-white • Dark gray
2	Flanged base	1	ABS UL94V-0	Off-white • Dark gray
3	Self-tapping screw	2 / 4	Steel	Nickel plated • Black trivalent chromate

Accessories (Optional parts)



Tapping standoff TPS series
See page 122



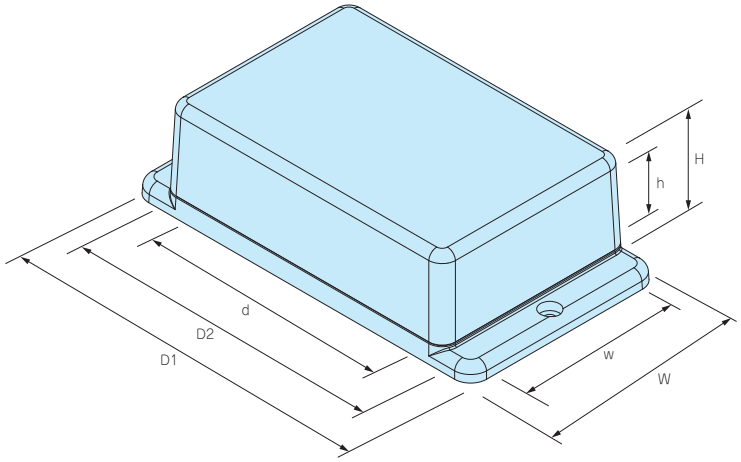
PCB mounting screw EM-2.3
See page 123



TORX screw MR series
See page 123

TWF dimensions

■ DXF/DWG/PDF/STP drawings available on our website.



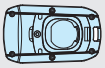
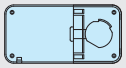
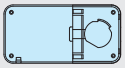
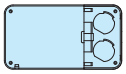
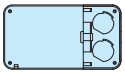
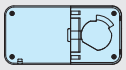
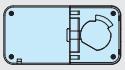
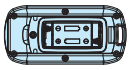
Color Type

Code	Cover	Flanged base	Screw
W	Off-white	Off-white	Nickel plated
D	Dark gray	Dark gray	Black trivalent chromate

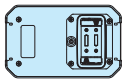
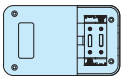
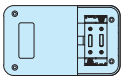
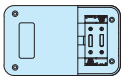
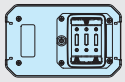
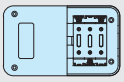
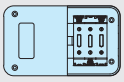
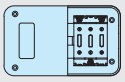
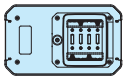
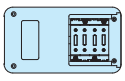
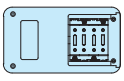
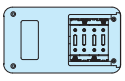
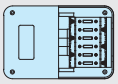
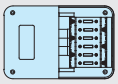
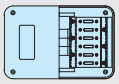
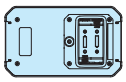
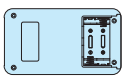
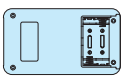
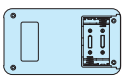
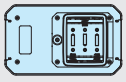
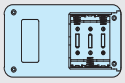
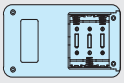
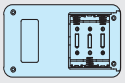
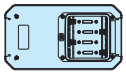
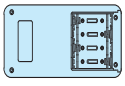
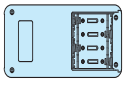
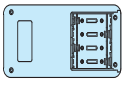
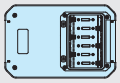
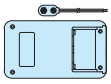
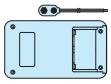
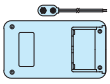
Product no. / Dimensions

Product no.		External dimensions				Internal dimensions			Screw	Weight (g)
● Off-white	● Dark gray	W	H	D1	D2	w	h	d		
TWF 4-2- 5W	TWF 4-2- 5D	35.4	22	70.4	50	27.2	13.2	32.4	M2.6-12 x 2 pcs	19.7
TWF 5-2- 5W	TWF 5-2- 5D	50.4	17	70.4	50	42.7	8	31.9	M2.6-12 x 4 pcs	21.5
TWF 5-2- 7W	TWF 5-2- 7D	50.4	17	90.4	70	43.1	8	52.9	M2.6-12 x 4 pcs	29
TWF 5-3- 5W	TWF 5-3- 5D	50.4	27	70.4	50	42.7	18	31.9	M2.6-12 x 4 pcs	26.5
TWF 5-3- 7W	TWF 5-3- 7D	50.4	29.5	90.4	70	43.1	20.5	52.9	M2.6-12 x 4 pcs	36
TWF 5-3- 9W	TWF 5-3- 9D	45.6	27.5	111	90	37.2	17.5	70.4	M2.6-12 x 4 pcs	43
TWF 5-4- 7W	TWF 5-4- 7D	50.4	42	90.4	70	42.5	33	52.9	M2.6-12 x 4 pcs	43.5
TWF 7-2-11W	TWF 7-2-11D	70.6	20.5	127	105	61.4	10.5	83	M2.6-12 x 4 pcs	66.5
TWF 7-3-13W	TWF 7-3-13D	65.5	25.5	150	130	57.7	14.2	105	M3 -16 x 4 pcs	87
TWF 7-4-11W	TWF 7-4-11D	70.6	35.5	127	105	61.4	25.5	83	M2.6-12 x 4 pcs	82
TWF 7-5-11W	TWF 7-5-11D	70.6	50.5	127	105	61.1	40.5	83	M2.6-12 x 4 pcs	96.5
TWF 7-5-13W	TWF 7-5-13D	65.5	50	150	130	55.9	38.7	105	M3 -16 x 4 pcs	114
TWF 8-2- 8W	TWF 8-2- 8D	80.6	23.5	100.6	80	71.5	13.5	59	M2.6-12 x 4 pcs	62
TWF 8-4- 8W	TWF 8-4- 8D	80.6	43.5	100.6	80	71.5	33.5	59	M2.6-12 x 4 pcs	82
TWF 9-4-17W	TWF 9-4-17D	86	35	190	170	76.5	23.7	143	M3 -16 x 4 pcs	150
TWF 9-6-17W	TWF 9-6-17D	86	60	190	170	75.7	48.7	143	M3 -16 x 4 pcs	184
TWF11-5-22W	TWF11-5-22D	110.3	45	250.6	220	100.8	33.7	191	M3 -16 x 4 pcs	250
TWF11-8-22W	TWF11-8-22D	110.3	75	250.6	220	99.3	63.7	191	M3 -16 x 4 pcs	303
TWF13-3-13W	TWF13-3-13D	125.6	25	155.6	125	114.5	13.7	100	M3 -16 x 4 pcs	155
TWF13-3-18W	TWF13-3-18D	125.6	25	205.6	175	114.5	13.7	148	M3 -16 x 4 pcs	199
TWF13-5-13W	TWF13-5-13D	125.6	45	155.6	125	114.5	33.7	100	M3 -16 x 4 pcs	189
TWF13-5-18W	TWF13-5-18D	125.6	45	205.6	175	114.5	33.7	148	M3 -16 x 4 pcs	242
TWF13-7-18W	TWF13-7-18D	125.6	65	205.6	175	114.2	53.7	148	M3 -16 x 4 pcs	281

BUILT-IN BATTERY COMPARTMENT MODEL CHART

Series / Battery Compartment	WC series Page 51 ~ 54	CS series Page 87 ~ 88	CSS series Page 85 ~ 86
	 IP67		
CR2032 x 1	 WC72-15(43×15.5×72) WC72-21(43×21.5×72) WC90-15(44.2×15.7×90)	 CS75 (35×12×75) CS90 (45×12×90)	 CSS75 (38.6×15.5×78.6) CSS90 (48.6×15.5×93.6)
CR2032 x 2		 CS115 (63×12×115)	 CSS115 (67.1×16×119.1)
CR2450 / CR2477 ×1		 CS100 (50×16.8×100)	 CSS100 (54.1×20.8×104.1)
AAA x 2	 WC105-28-F2(50.5×28.2×105)		
AAA x 3			
AAA x 4			
AAA x 6			
AA x 2			
AA x 3			
AA x 4			
AA x 6			
9V x 1			

■ Enclosure shape, model number, and dimensions (W x H x D) are listed.

WH series Page 57 ~ 62	LC series Page 75 ~ 76	LCS series Page 71 ~ 74	LCT series Page 67 ~ 70
			
 WH125-20-F2 (79×20×126) WH125-28-F2 (79×28×126)	 LC115-F2 (69×19.5×115) LC115H-F2(69×28×115)	 LCS115-F2 (74×24×120) LCS115H-F2 (74×32.5×120)	 LCT115-F2 (76×28×121.9) LCT115H-F2 (76×36.5×121.9)
 WH125-20-F3 (79×20×126) WH125-28-F3 (79×28×126)	 LC115-F3 (69×19.5×115) LC115H-F3 (69×28×115)	 LCS115-F3 (74×24×120) LCS115H-F3 (74×32.5×120)	 LCT115-F3 (76×28×121.9) LCT115H-F3 (76×36.5×121.9))
 WH145-20-F4 (88×20×146)	 LC135-F4 (76×27×135) LC135H-F4 (76×35×135)	 LCS135-F4 (81×32×141) LCS135H-F4 (81×40×141)	 LCT135-F4 (85×40×143.9) LCT135H-F4 (85×48×143.9)
	 LC145S-F6 (96×20×145) LC145-F6 (96×27×145) LC145H-F6(96×35×145)	 LCS145-F6 (101×32×151) LCS145H-F6(101×40×151)	 LCT145-F6 (105×40×153.9) LCT145H-F6(105×48×153.9)
 WH145-25-M2 (88×25×146) WH145-33-M2 (88×33×146)	 LC115H-M2 (69×28×115) LC135-M2 (76×27×135) LC135H-M2 (76×35×135) LC145-M2 (96×27×145) LC145H-M2 (96×35×145)	 LCS115H-M2 (74×32.5×120) LCS135-M2 (81×32×141) LCS135H-M2 (81×40×141) LCS145-M2 (101×32×151) LCS145H-M2 (101×40×151)	 LCT115H-M2 (76×36.5×121.9) LCT135-M2 (85×40×143.9) LCT135H-M2 (85×48×143.9) LCT145-M2 (105×40×153.9) LCT145H-M2 (105×48×153.9)
 WH145-25-M3 (88×25×146) WH145-33-M3 (88×33×146)	 LC135-M3 (76×27×135) LC135H-M3 (76×35×135)	 LCS135-M3 (81×32×141) LCS135H-M3 (81×40×141)	 LCT135-M3(85×40×143.9) LCT135H-M3(85×48×143.9)
 WH170-25-M4 (95×25×171) WH170-33-M4 (95×33×171)	 LC145-M4 (96×27×145) LC145H-M4 (96×35×145) LC165-M4 (80×27×165) LC165H-M4 (80×35×165)	 LCS145-M4(101×32×151) LCS145H-M4(101×40×151) LCS165-M4 (85×32×171) LCS165H-M4 (85×40×171)	 LCT145-M4(105×40×153.9) LCT145H-M4(105×48×153.9) LCT165-M4 (89×40×173.9) LCT165H-M4 (89×48×173.9)
 WH190-25-M6 (126×25×191) WH190-33-M6 (126×33×191)			
	 LC115H-9V (69×28×115) LC135-9V (76×27×135) LC135H-9V (76×35×135)	 LCS115H-9V (74×32.5×120) LCS135-9V (81×32×141) LCS135H-9V (81×40×141)	 LCT115H-9V (76×36.5×121.9) LCT135-9V (85×40×143.9) LCT135H-9V (85×48×143.9)

*Dimensions shown for CSS, LCT and LCS series are with silicone cover attached.

IP67 PORTABLE CASE

WC series



IP67 is

●IEC60529 standard is a system for classifying the degrees of protection provided by the enclosures of electrical equipment, such as against dust and water.

IP6x : No ingress of dust; complete protection against contact (dust tight)
IPx7 : No ingress of water when submerged up to a depth of 1 m for 30 min

High waterproof performance with both TPE and silicone gasket

ABS and TPE double-shot molded top & bottom covers allows for a good waterproof seal.
The durable silicone gasket maintains the battery lid seal.
Insert nut and screw allow the battery compartment to remain durable even after repeated opening/closing.



Great protection by TPE sides

Side grips in TPE material provides a comfort -able grip and protection against drop impact.



Available in 3 different color combinations



APPLICATION EXAMPLE

Best for outdoor use as a remote control, RFID tag, compact GPS, wireless device, simplified measurement gadget and so on.

Multi-function Infrared Remote Controller

Product by SIMEX (Poland)



Emergency Call Receiver / Transmitter

Product by Knop Elektronik (Denmark)



Long Range Keyfob Remote Controller

Product by Elsema (Australia)



Structure AI Inspection Noise Detector System

Product by AIST (Japan)



Custom embossed or standard overlay sheets with low initial costs are available

Waterproof performance may be lost by drilling/milling holes or cut-outs for buttons or switches on waterproof enclosures.
Use an IP rated overlay sheet, or membrane keypad in order to allow the milled area to remain waterproof.









Advantage 1 Reduce initial cost with digital inkjet printing.

Advantage 2 Reduce initial tooling cost for cutting die with digital cutting plotter.

Advantage 3 Reduce initial tooling cost for embossing with in-house mold processing.

Advantage 4 Shorter lead-time made possible by having all production be in-house.

*applicable to small quantity orders

WC series IP67 PORTABLE PLASTIC CASE

NEW SIZE



IP67

- Double shot injection molded TPE Grip and ABS Body.
- New AAA x 2 battery compartment model added. Case with a CR2032 coin battery, and no battery compartment types are also available. Solder battery contacts on PCB for CR2032 models.
- TPE side grip provides not only a comfortable grip, but also protects from drop impact.
- Suitable to be used as a remote controller, key fob, wireless device, RFID tag, and so on.
- See page 54 for coin battery contact installation steps.

Technical Data

Protection class : IP67
Operating temperature : -10°C ~ +50°C
Recommended torque :
WC72 • WC90 : 0.06 ~ 0.08N • m
WC105 : 0.13 ~ 0.15N • m

WC72-□, WC90-□



WC105-28

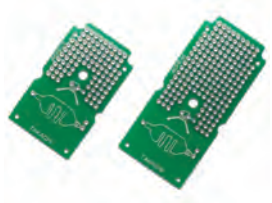


Components

No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	ABS UL94HB : Elastomer	Black & Black • Black & Marine • White & Light gray
2	Bottom cover	1	ABS UL94HB : Elastomer	Black & Black • Black & Marine • White & Light gray
3	Battery lid*	1	ABS UL94HB	Black • White
4	Battery contact*	1 set	WC72 • WC90 : Stainless steel SUS304 WC105 : Brass • Hard steel wire	Nickel plated
5	O-ring*	1	Silicone	Black
6	Screw	7	Stainless steel SUS304	Unfinished

*Not applicable to the N (no battery compartment type) models.

Accessories (Optional parts)



Exclusive PCB WCPB series
See page 56



Strap STPS series
See page 95



PCB mounting screw EM-1.6
See page 123



Neodymium magnet NMG series
See page 117

Coin Battery Contact Installation Steps



Solder the contacts onto the PCB

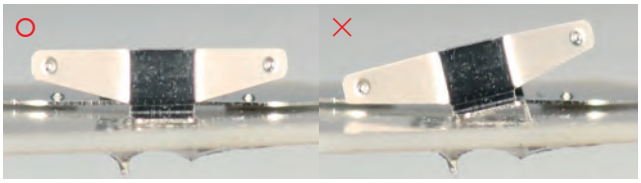
Install the PCB in the top cover

All set!

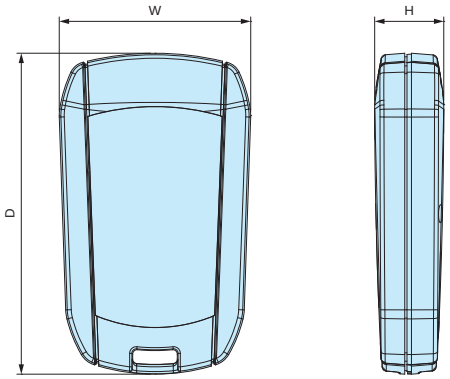
CAUTION ■ Use caution when mounting battery contacts.



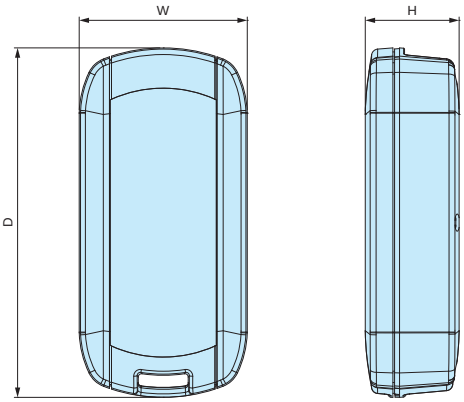
■ Battery direction is incused on the inner side of the battery lid.



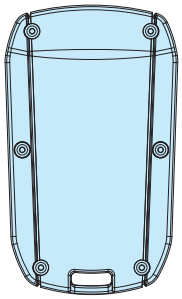
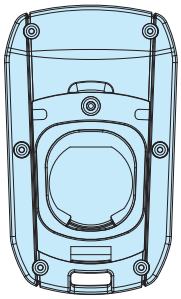
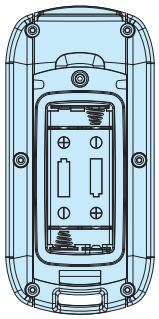
WC72-□, WC90-□



WC105-28



Battery Compartment Types

Type	N	C	F2
	None	CR2032 x 1	AAA x 2
Battery Compartment			

Color Type

Code	B B	B M	W L
Body	Black	Black	White
Grip	Black	Marine	Light gray
Color			

Product no. / Dimensions

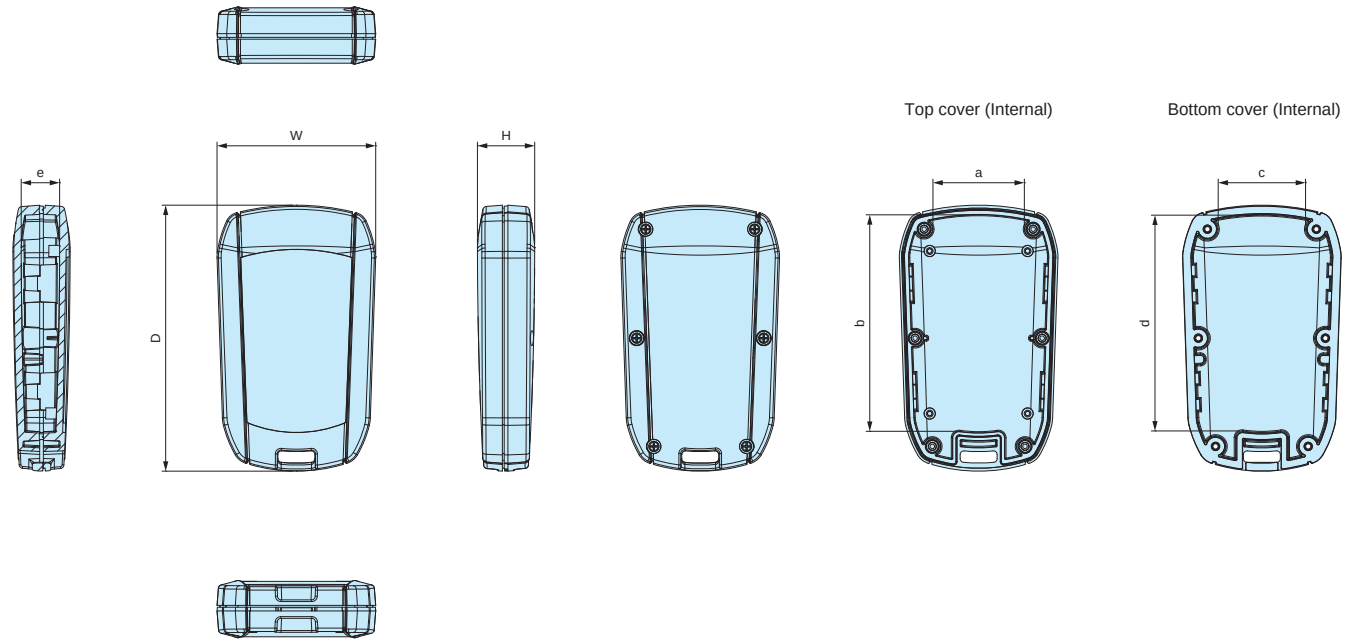
■ Please suffix color code at the end of the product number.

Product no.	W	H	D	Battery Compartment	Weight (g)
WC 72-15-N -□□	43	15.5	72	None	18.5
WC 72-15-C -□□	43	15.5	72	CR2032	22
WC 72-21-N -□□	43	21.5	72	None	22
WC 72-21-C -□□	43	21.5	72	CR2032	25.5
WC 90-15-N -□□	44.2	15.7	90	None	23
WC 90-15-C -□□	44.2	15.7	90	CR2032	26.5
WC 90-21-N -□□	44.2	21.7	90	None	27
NEW WC105-28-N -□□	50.5	28.2	105	None	47
NEW WC105-28-F2-□□	50.5	28.2	105	AAA x 2	58.5

WC dimensions

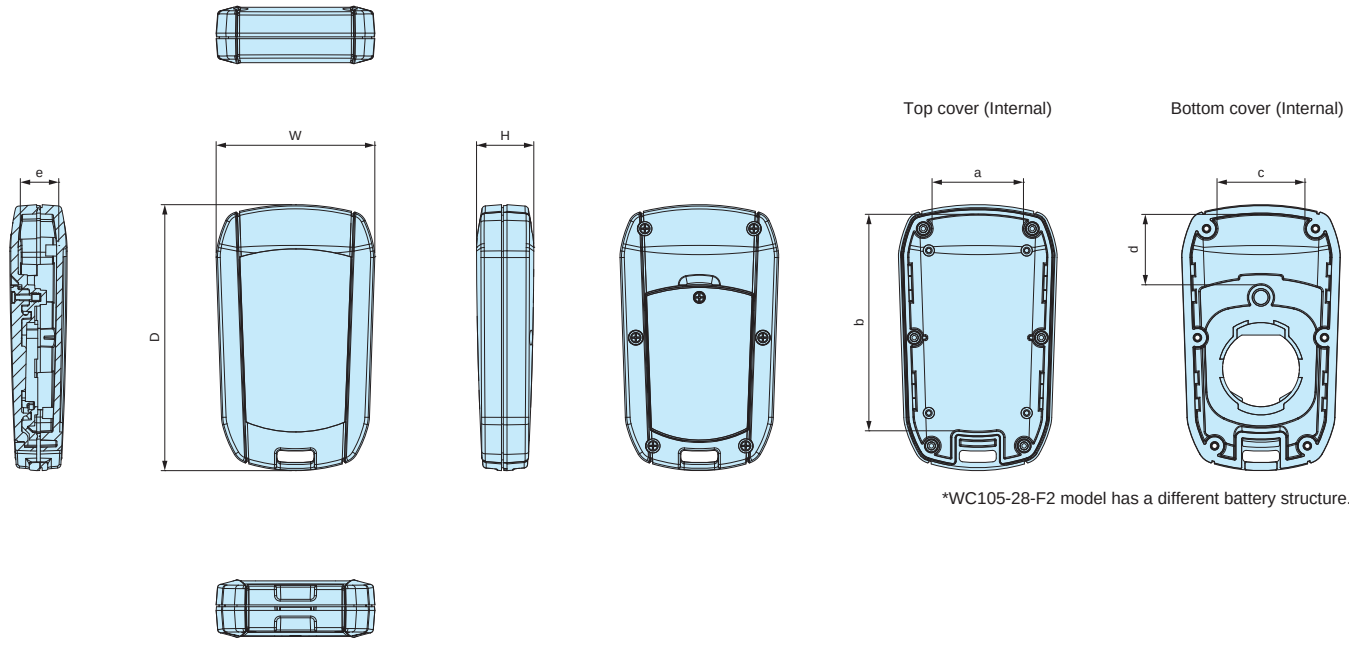
■ DXF/DWG/PDF/STP drawings available on our website.

WC72-15-N / WC72-21-N
WC90-15-N / WC90-21-N
WC105-28-N



Product no.	W	H	D	a	b	c	d	e
WC 72-15-N-□□	43	15.5	72	24.7	58.6	23.6	58.4	10.4
WC 72-21-N-□□	43	21.5	72	24.7	58.6	23	56.3	16.3
WC 90-15-N-□□	44.2	15.7	90	26.1	76.6	25	76.4	10.4
WC 90-21-N-□□	44.2	21.7	90	26.1	76.6	24.4	74.3	16.4
WC105-28-N-□□	50.5	28.2	105	26.4	87.9	24.2	84.1	22.4

WC72-15-C / WC72-21-C
WC90-15-C
WC105-28-F2

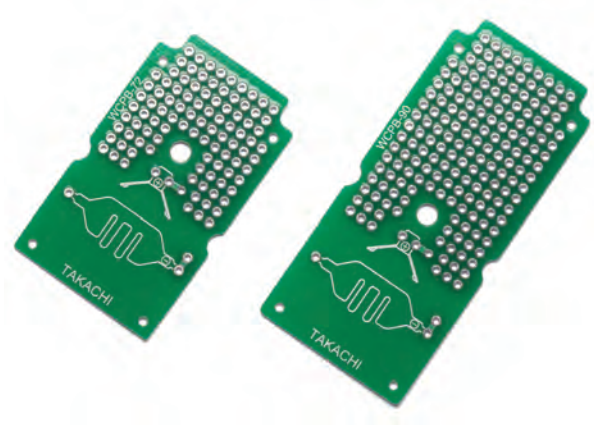


*WC105-28-F2 model has a different battery structure.

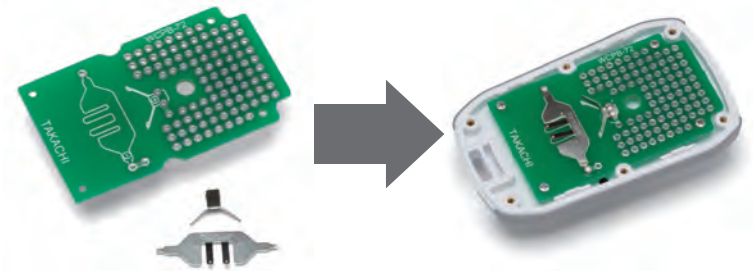
Product no.	W	H	D	a	b	c	d	e
WC 72-15-C-□□	43	15.5	72	24.7	58.6	23.8	19	10.4
WC 72-21-C-□□	43	21.5	72	24.7	58.6	23	17.3	16.3
WC 90-15-C-□□	44.2	15.7	90	26.1	76.6	25	36.9	10.4
WC105-28-F2-□□	50.5	28.2	105	26.4	87.9	24.2	14	22.4

WCPB series EXCLUSIVE PCB for WC

- Exclusive PCB for C-type of CR2032 models.
- Glass epoxy board (FR-4), through-holes on both sides, 2.54mm hold pitch.
- Designed with a battery contact hole. Battery contact position and direction are printed onto the PCB.



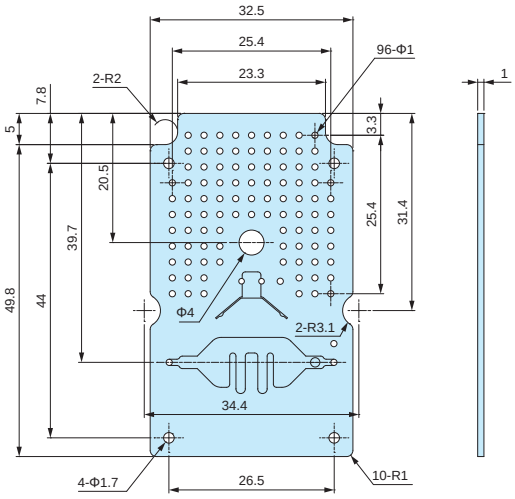
Please use battery contacts included with WC C-type of CR2032 models



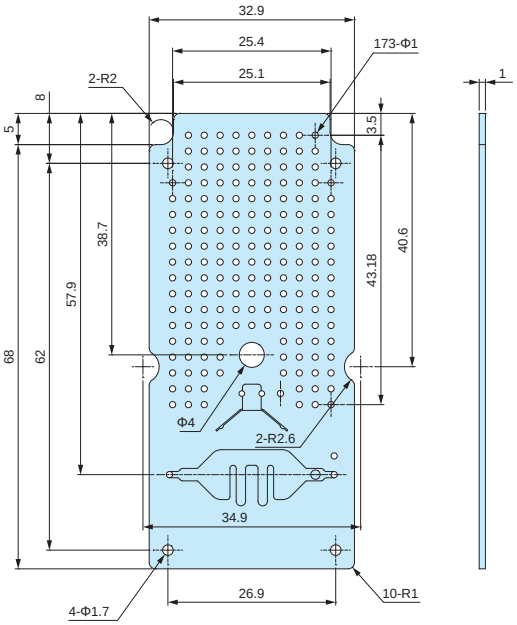
WCPB dimensions

- DXF/DWG/PDF/STP drawings available on our website.

WCPB-72



WCPB-90



Note : Holes (4-Φ1.7) for PCB mounting bosses are un-soldered.

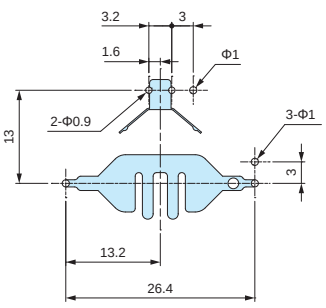
Components

Part name	Pcs	Material	Color / Finish
PCB	1	Glass epoxy (FR-4) t=1.0	Through-hole • Lead-free Solder • resist
Screw	4	Steel (Tapping M1.6-4)	Trivalent chromate

Product no. / Dimensions

Product no.	Suitable case
WCPB-72	WC72-15-C
	WC72-21-C
WCPB-90	WC90-15-C

Battery contact position details



WH series



IP67 WATERPROOF HAND-HELD ENCLOSURE

IP67 is

●IEC60529 standard is a system for classifying the degrees of protection provided by the enclosures of electrical equipment, such as against dust and water.

IP6x : No ingress of dust; complete protection against contact (dust tight).
IPx7 : No ingress of water when submerged up to a depth of 1 m for 30 min

High waterproof performance with a silicone gasket

High elasticity and good durability for maintaining waterproofing capability.
Built-in insert nut use for great long lasting water protection even after frequent opening and closing. Battery compartment is also waterproofed.
Various battery compartment types are available, ranging from AAA x2, to AA x6.

Side grip provides great protection

Elastic TPE grips provides for a more secured hold. Side grips are designed to be on the sides and corners of the enclosure to minimize drop impact.







Available in 10 different color combinations





Information on waterproofing overlay sheets

APPLICATION EXAMPLE





Note that waterproofing will be invalidated if a hole is made for button or switch on waterproof enclosures.
Please utilize a waterproof (IP67 rated equivalent) membrane keypad or switch, or overlay sheet for maintaining IP67.
See page Custom-1 ~ Custom-2 for further details of digital printed overlay.







APPLICATION EXAMPLE

Suitable for industrial measuring instruments, transceivers, controllers, medical equipment and so on.

Portable Signal Generator

Product by Candox Systems (Japan)



Wireless CO_2 Microclimate Sensor

Product by GrowFlux (USA)



Wireless Food Probe Sensor

Product by Monnit (USA)



Wireless Temperature Detector

Product by BRESIMAR AUTOMAÇÃO (Portugal)



Sigfox Network Measurement Device

Product by Simple Hardware (Czech Republic)



IoT Temperature Monitoring Sensor for HACCP

Product by RATOC Systems (Japan)



*See page 91 for further details of Sigfox.

Competition Time Measurement System

Photo by TRAC (Japan)
Product by NIKKEN SOGYO (Japan)



Portable Airflow Meter

Product by KENEK (Japan)



Honey Bee Tracker

Product by APiS Technology (Portugal)



Digital X-ray System

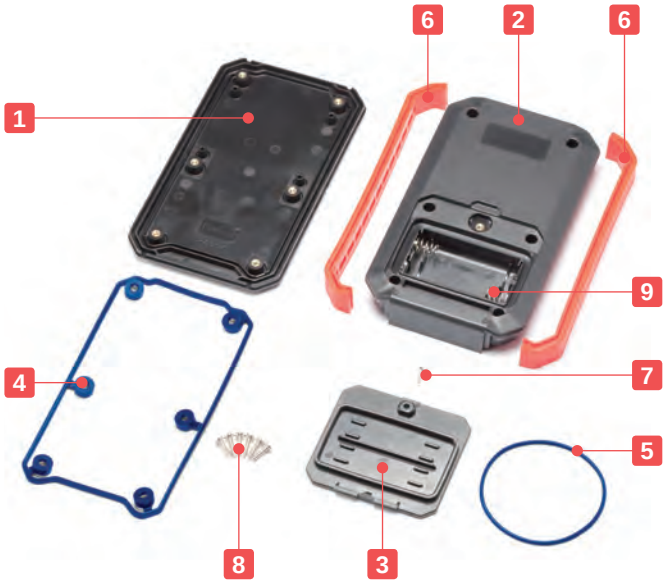
Product by SmartRayVision (USA)



WH series IP67 HAND-HELD ENCLOSURE



Technical Data
Protection class : IP67
Operating temperature : -10°C ~ +60°C
Recommended torque:
0.2N • m ~ 0.3N • m
(2kgf • cm ~ 3kgf • cm)



- Stylish and elegantly designed with chamfered edge construction.
- IP67 protection class enclosure.
- Manufactured from flame-resistant ABS UL94V-0 material.
- 8 different internal compartment types are available: AAA x 2, AAA x 3, AAA x 4, AA x 2, AA x 3, AA x 4, AA x 6 and no battery type. Battery compartments have positive (+) / negative (-) pole mark to prevent incorrect insertion.
- The TPE side grips are available in 5 unique colors, and functions as an anti-slip grip pad and drop impact protection.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	ABS UL94V-0	Off-white • Black
2	Bottom cover	1	ABS UL94V-0	Off-white • Black
3	Battery cover *	1	ABS UL94V-0	Off-white • Black
4	Gasket	1	Silicone	N • F2 • F3 • M4 type : Black M2 • M6 type : Blue M3 • F4 • type : Light gray
5	O-ring *	1	Silicone	
6	Side grip	2	TPE	Black • Light gray • Navy • Red • Yellow
7	Battery cover screw *	1	Stainless steel M2.5-8	Unfinished
8	Screw	6	Stainless steel M2.5-10	Unfinished
9	Battery contact *	1 set	Brass	Nickel plated

*Not applicable to the N (no battery compartment type) models.

Accessories (Optional parts)



PCB mounting screw EM-2.3
See page 123



Tapping standoff TPS series
See page 122

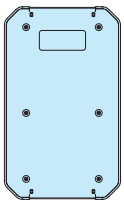
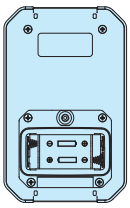
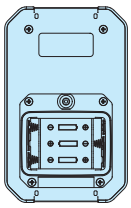
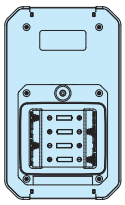
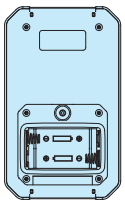
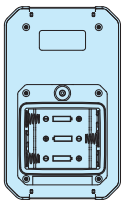
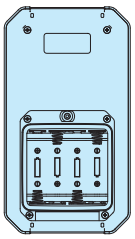
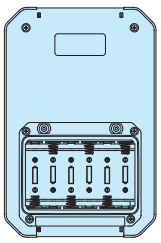


Cable gland
See page 333 ~ 340



Neodymium magnet NMG series
See page 117

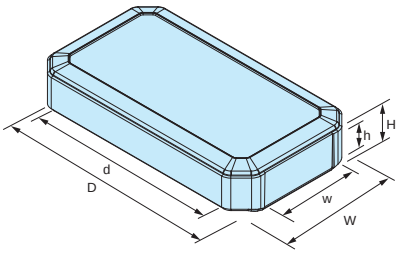
Battery Compartment Types

Type	N None	F2 AAA x 2	F3 AAA x 3	F4 AAA x 4	M2 AA x 2	M3 AA x 3	M4 AA x 4	M6 AA x 6
Battery Compartment								

Color Type

Code	B B Black / Black	B L Black / Light gray	B N Black / Navy	B R Black / Red	B Y Black / Yellow
Color					
Code	**W B Off-white / Black**	**W L Off-white / Light gray**	**W N Off-white / Navy**	**W R Off-white / Red**	**W Y Off-white / Yellow**
Color					

WH dimensions



■ DXF/DWG/PDF/STP drawings available on our website.

Product no. / Dimensions

Product no.	External dimensions			Internal dimensions			Battery compartment	Weight (g)
	W	H	D	w	h	d		
WH125-20-N -□□	79	20	126	39	9	107.7	None	101.0
WH125-20-F2 -□□	79	20	126	60	9	46.4	AAA x 2	102.0
WH125-20-F3 -□□	79	20	126	60	9	35.9	AAA x 3	109.0
WH125-28-N -□□	79	28	126	39	17	106.3	None	119.0
WH125-28-F2 -□□	79	28	126	60	17	46.4	AAA x 2	121.0
WH125-28-F3 -□□	79	28	126	60	17	35.9	AAA x 3	127.0
WH145-20-N -□□	88	20	146	45	8	129.6	None	125.5
WH145-20-F4 -□□	88	20	146	69.4	8	36.5	AAA x 4	129.5
WH145-25-N -□□	88	25	146	45	13	129.6	None	137.5
WH145-25-M2 -□□	88	25	146	69.2	13	51.5	AA x 2	161.5
WH145-25-M3 -□□	88	25	146	69.2	13	36.5	AA x 3	159.5
WH145-33-N -□□	88	33	146	45	21	129.6	None	162.0
WH145-33-M2 -□□	88	33	146	69.2	21	51.5	AA x 2	180.5
WH145-33-M3 -□□	88	33	146	69.2	21	36.5	AA x 3	181.5
WH170-25-N -□□	95	25	171	51	13	154.4	None	169.0
WH170-25-M4 -□□	95	25	171	73.2	13	54.8	AA x 4	195.0
WH170-33-N -□□	95	33	171	50.9	21	150.7	None	191.0
WH170-33-M4 -□□	95	33	171	73.2	21	54.8	AA x 4	220.0
WH190-25-N -□□	126	25	191	81	13	170.3	None	226.0
WH190-25-M6 -□□	126	25	191	107.6	13	72.6	AA x 6	276.0
WH190-33-N -□□	126	33	191	81	21	170.3	None	252.0
WH190-33-M6 -□□	126	33	191	107	21	72.3	AA x 6	307.0

LCT•LCS•LC•LCE HAND-HELD PLASTIC CASE

Hand-held case suitable for industrial measuring equipment, wireless communication devices and medical equipment.
9 different sizes with 8 different battery compartment types line-up available.
Consisting of a line-up of 4 different series: LC - plastic case, LCT - case with shockproof silicone cover, LCS - case with silicone cover, and LCE - EMC shielded plastic case.

LCT Plastic Case with Shockproof Silicone Cover - 4 Rugged Shockproof Silicone Cover Colors

Orange



Green



Navy Blue



Dark Gray



LCS Plastic Case with Silicone Cover - 5 Silicone Cover Colors

Red



Green



Blue



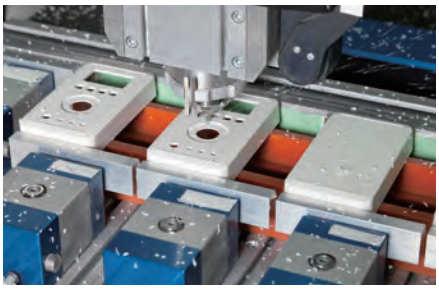
Dark Gray



Light Gray



CUSTOMIZATION



Machining



Custom cut on silicone cover



Custom color, custom shaped silicone cover



Digital printed overlay





APPLICATION EXAMPLE

Metal Coating Thickness Gauge

Product by NOVOTEST (Ukraine)



Solar Panel Trouble Checker

Product by ITES (Japan)





Solar Cell Connection Checker

Product by Shinei Electronic Measuring (Japan)





Digital Pressure Gauge Setter

Product by NAGANO KEIKI (Japan)



Fluorescent Portable Dissolved Oxygen Meter

Product by Automatic system Research (Japan)



Distribution Transformer Tester

Product by ndb Technologies (Canada)



Network Partial Discharge Checker

Product by ndb Technologies (Canada)



Radiation Survey Meter

Product by HISAKI Sekkei (Japan)



Mini Radiation Survey Meter

Product by Techno AP (Japan)



Wireless Voltage Probe

Product by Enertronics (Switzerland)



Portable Anemometer

Product by FieldPro (Japan)



Ultrasonic Thickness Gauge

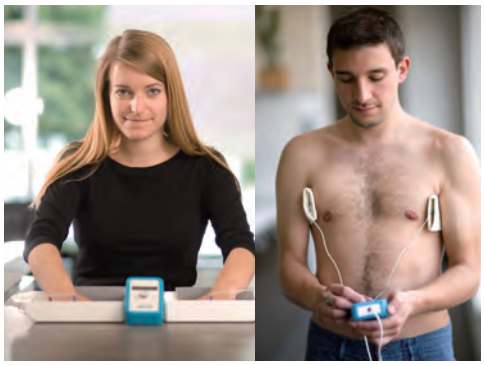
Product by DEMEQ (Argentina)



Hyperhidrosis Treatment Device

Product by Merebit (Czech Republic)





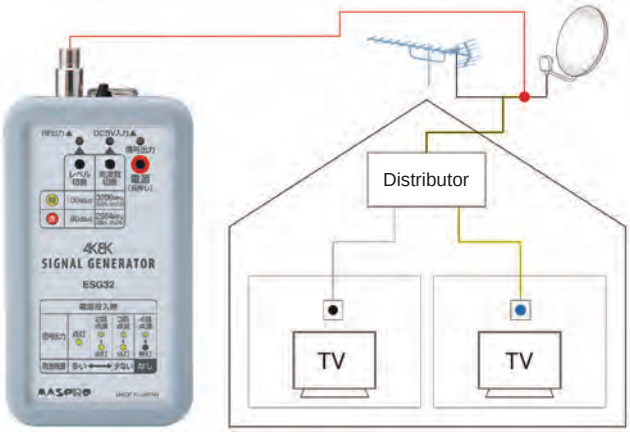
RF Scope

Product by Arrow7 Corporation (Japan)



Satellite Broadcasting Signal Generator

Product by MASPRO (Japan)



Onboard Programmer

Product by Hokuto Electronic (Japan)



Code Debugger

Product by BITRAN (Japan)



LCT series HAND-HELD CASE with SHOCKPROOF SILICONE COVER



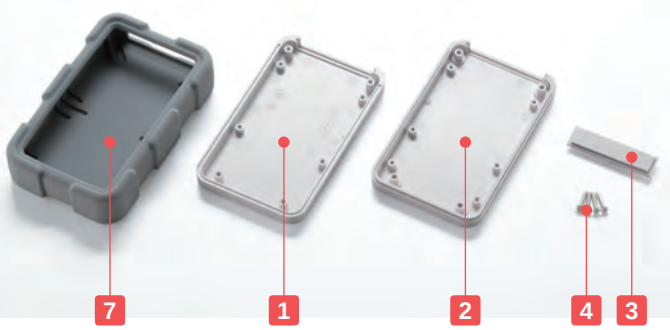
Technical Data
Protection class: IP40 Operating temperature: -10°C ~ +60°C

- Plastic case with shockproof silicone cover. Protects the device from various impact.
- Manufactured with flame-resistant ABS UL94V-0 material. Selectable from a range of battery compartment types.
- Positive (+) / Negative (-) pole marks are incused on the inside of the battery compartments.
- Suitable for measuring instruments, test devices, wireless communication devices, medical devices and so on.

Battery compartment type



No battery compartment type



Components

No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	ABS UL94V-0	Off-white • Dark gray
2	Bottom cover	1	ABS UL94V-0	Off-white • Dark gray
3	Panel	1	ABS UL94V-0	Off-white • Dark gray
4	Self-tapping screw	4	Steel M2.6	Nickel plated • Black trivalent chromate
5	Battery cover	1	ABS UL94V-0	Off-white • Dark gray
6	Battery contact • Battery snap	1 set	Brass • Brass : PVC	Nickel plated • Nickel plated : Black
7	Silicone cover	1	Silicone	Orange • Green • Navy • Dark gray

Accessories (Optional parts)



Tapping standoff TPS series
See page 122



PCB mounting screw EM-2.3
See page 123



TORX screw MR series
See page 123

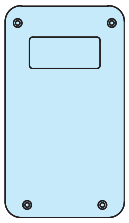
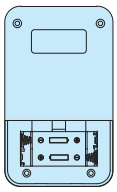
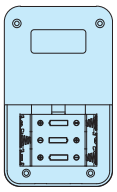
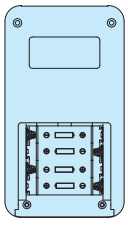
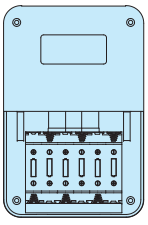
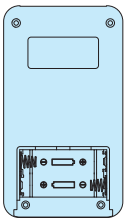
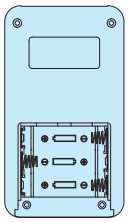
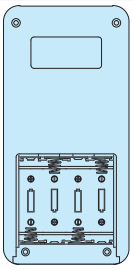
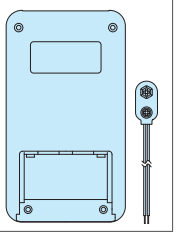


Key ring CR-20
See page 96



Strap STP series
See page 96

Battery Compartment Type

Type	N None	F2 AAA x 2	F3 AAA x 3	F4 AAA x 4	F6 AAA x 6	M2 AA x 2	M3 AA x 3	M4 AA x 4	9V 9V x 1
Battery compartment									

Color Type

Code	DO Dark gray / Orange	DG Dark gray / Green	DN Dark gray / Navy	DD Dark gray / Dark gray
Color				
Code	**WO Off-white / Orange**	**WG Off-white / Green**	**WN Off-white / Navy**	**WD Off-white / Dark gray**
Color				

Product no. / Dimensions

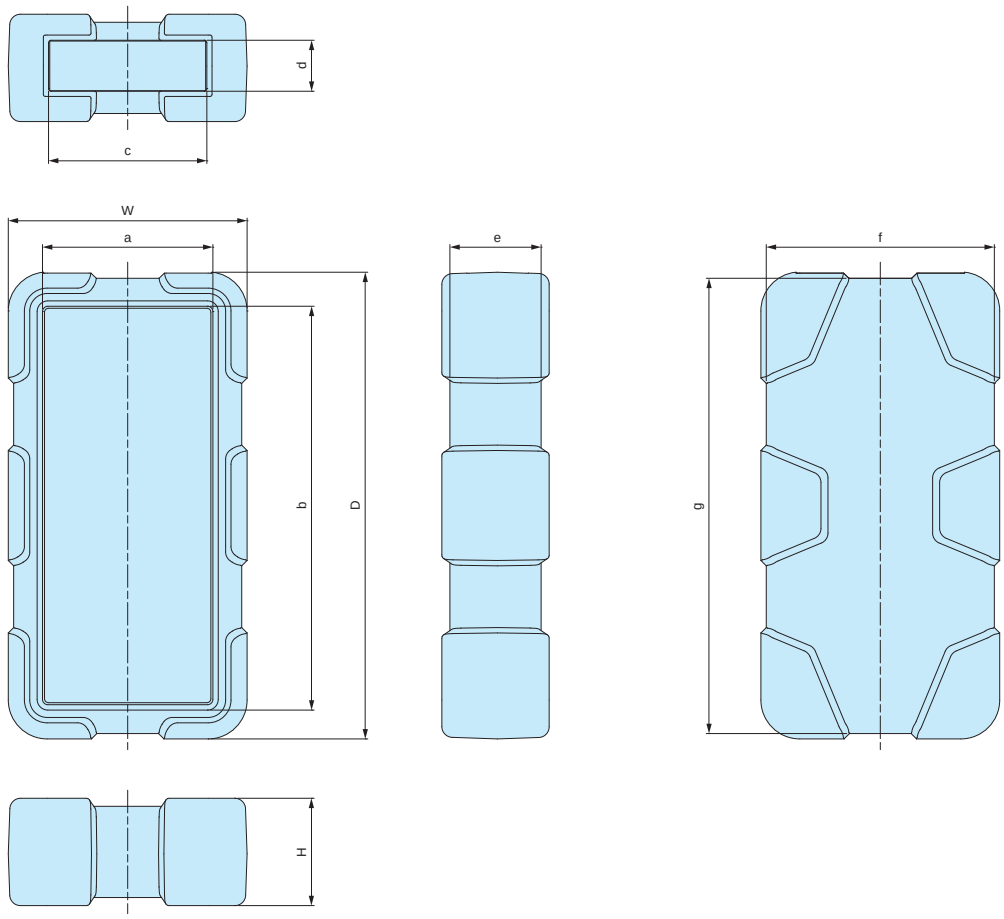
■ Please suffix color code at the end of the product number.

Product no.	W	H	D	Battery compartment	Weight (g)
LCT115 -N -□□	76(69)	28(19.5)	121.9(115)	None	123.5
LCT115 -F2 -□□	76(69)	28(19.5)	121.9(115)	AAA x 2	128
LCT115 -F3 -□□	76(69)	28(19.5)	121.9(115)	AAA x 3	130
LCT115H-N -□□	76(69)	36.5(28)	121.9(115)	None	141
LCT115H-F2 -□□	76(69)	36.5(28)	121.9(115)	AAA x 2	145.5
LCT115H-F3 -□□	76(69)	36.5(28)	121.9(115)	AAA x 3	147
LCT115H-M2-□□	76(69)	36.5(28)	121.9(115)	AA x 2	149.5
LCT115H-9V -□□	76(69)	36.5(28)	121.9(115)	9V x 1	149
LCT135 -N -□□	85(76)	40(27)	143.9(135)	None	210.5
LCT135 -F4 -□□	85(76)	40(27)	143.9(135)	AAA x 4	225.5
LCT135 -M2-□□	85(76)	40(27)	143.9(135)	AA x 2	223.5
LCT135 -M3-□□	85(76)	40(27)	143.9(135)	AA x 3	229
LCT135 -9V -□□	85(76)	40(27)	143.9(135)	9V x 1	227
LCT135H-N -□□	85(76)	48(35)	143.9(135)	None	231.5
LCT135H-F4 -□□	85(76)	48(35)	143.9(135)	AAA x 4	246
LCT135H-M2-□□	85(76)	48(35)	143.9(135)	AA x 2	245
LCT135H-M3-□□	85(76)	48(35)	143.9(135)	AA x 3	250
LCT135H-9V -□□	85(76)	48(35)	143.9(135)	9V x 1	247.5
LCT145 -N -□□	105(96)	40(27)	153.9(145)	None	258.5
LCT145 -F6 -□□	105(96)	40(27)	153.9(145)	AAA x 6	278.5
LCT145 -M2-□□	105(96)	40(27)	153.9(145)	AA x 2	272.5
LCT145 -M4-□□	105(96)	40(27)	153.9(145)	AA x 4	279.5
LCT145H-N -□□	105(96)	48(35)	153.9(145)	None	282
LCT145H-F6 -□□	105(96)	48(35)	153.9(145)	AAA x 6	302.5
LCT145H-M2-□□	105(96)	48(35)	153.9(145)	AA x 2	296
LCT145H-M4-□□	105(96)	48(35)	153.9(145)	AA x 4	303
LCT165 -N -□□	89(80)	40(27)	173.9(165)	None	263.5
LCT165 -M4-□□	89(80)	40(27)	173.9(165)	AA x 4	283
LCT165H-N -□□	89(80)	48(35)	173.9(165)	None	286
LCT165H-M4-□□	89(80)	48(35)	173.9(165)	AA x 4	305

■ ( ) value = enclosure dimension.

Silicone cover dimensions

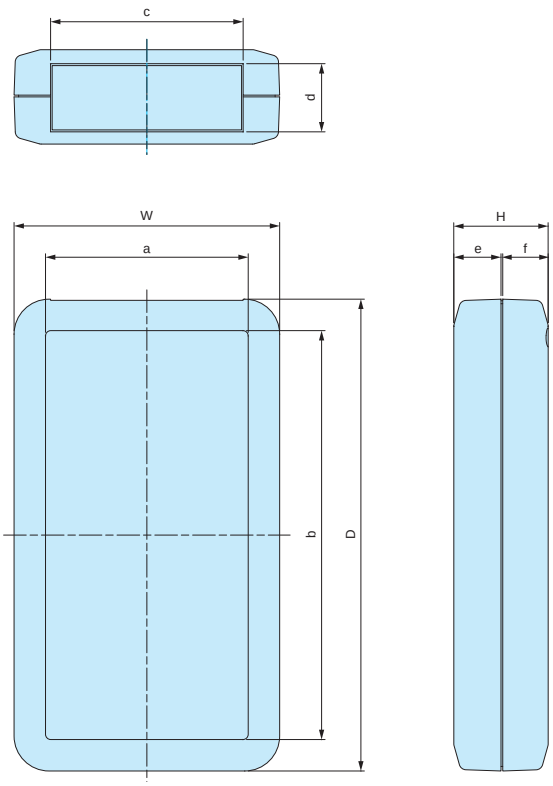
■ DXF/DWG/PDF drawings available on our website.



Product no.	W	H	D	a	b	c	d	e	f	g
LCT115 -N -□□	76	28	121.9	55.5	101.5	48.3	12	24	72	117.8
LCT115 -F2 -□□	76	28	121.9	55.5	101.5	48.3	12	24	72	117.8
LCT115 -F3 -□□	76	28	121.9	55.5	101.5	48.3	12	24	72	117.8
LCT115H -N -□□	76	36.5	121.9	55.5	101.5	48.3	20.5	32.5	72	117.8
LCT115H -F2 -□□	76	36.5	121.9	55.5	101.5	48.3	20.5	32.5	72	117.8
LCT115H -F3 -□□	76	36.5	121.9	55.5	101.5	48.3	20.5	32.5	72	117.8
LCT115H -M2 -□□	76	36.5	121.9	55.5	101.5	48.3	20.5	32.5	72	117.8
LCT115H -9V -□□	76	36.5	121.9	55.5	101.5	48.3	20.5	32.5	72	117.8
LCT135 -N -□□	85	40	143.9	59.5	118.5	55	19	34	81	139.7
LCT135 -F4 -□□	85	40	143.9	59.5	118.5	55	19	34	81	139.7
LCT135 -M2 -□□	85	40	143.9	59.5	118.5	55	19	34	81	139.7
LCT135 -M3 -□□	85	40	143.9	59.5	118.5	55	19	34	81	139.7
LCT135 -9V -□□	85	40	143.9	59.5	118.5	55	19	34	81	139.7
LCT135H -N -□□	85	48	143.9	59.5	118.5	55	27	42	81	139.6
LCT135H -F4 -□□	85	48	143.9	59.5	118.5	55	27	42	81	139.6
LCT135H -M2 -□□	85	48	143.9	59.5	118.5	55	27	42	81	139.6
LCT135H -M3 -□□	85	48	143.9	59.5	118.5	55	27	42	81	139.6
LCT135H -9V -□□	85	48	143.9	59.5	118.5	55	27	42	81	139.6
LCT145 -N -□□	105	40	153.9	76.5	125.5	71	19	34	101	149.7
LCT145 -F6 -□□	105	40	153.9	76.5	125.5	71	19	34	101	149.7
LCT145 -M2 -□□	105	40	153.9	76.5	125.5	71	19	34	101	149.7
LCT145 -M4 -□□	105	40	153.9	76.5	125.5	71	19	34	101	149.7
LCT145H -N -□□	105	48	153.9	76.5	125.5	71	27	42	101	149.7
LCT145H -F6 -□□	105	48	153.9	76.5	125.5	71	27	42	101	149.7
LCT145H -M2 -□□	105	48	153.9	76.5	125.5	71	27	42	101	149.7
LCT145H -M4 -□□	105	48	153.9	76.5	125.5	71	27	42	101	149.7
LCT165 -N -□□	89	40	173.9	63.5	148.5	59	19	34	85	169.7
LCT165 -M4 -□□	89	40	173.9	63.5	148.5	59	19	34	85	169.7
LCT165H -N -□□	89	48	173.9	63.5	148.5	59	27	42	85	169.6
LCT165H -M4 -□□	89	48	173.9	63.5	148.5	59	27	42	85	169.6

Enclosure dimensions

■ DXF/DWG/PDF/STP drawings available on our website.



■ Please suffix color code at the end of the product number.

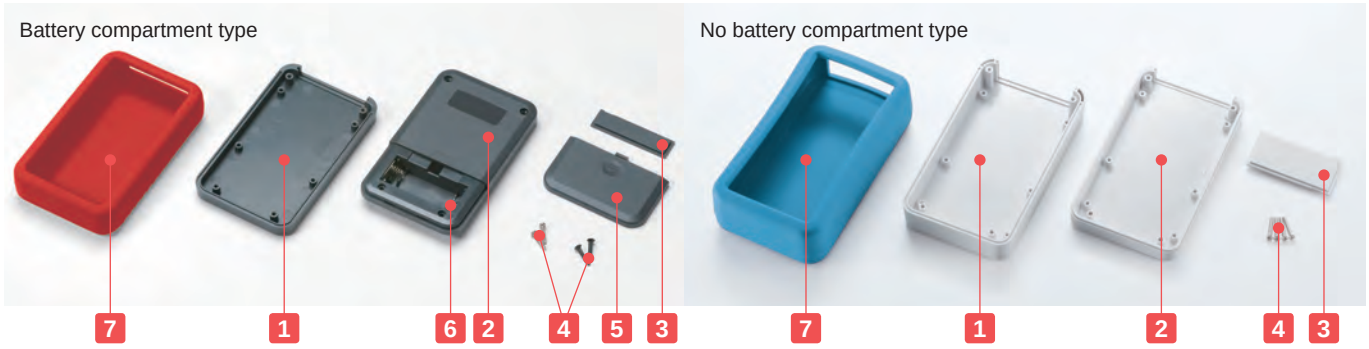
Product no.	W	H	D	a	b	c	d	e	f	Battery compartment
LCT115 -N -□□	69	19.5	115	54	100	48.1	12	10	9	None
LCT115 -F2 -□□	69	19.5	115	54	100	48.1	12	10	9	AAA x 2
LCT115 -F3 -□□	69	19.5	115	54	100	48.1	12	10	9	AAA x 3
LCT115H -N -□□	69	28	115	54	100	48.1	20.5	18.5	9	None
LCT115H -F2 -□□	69	28	115	54	100	48.1	20.5	18.5	9	AAA x 2
LCT115H -F3 -□□	69	28	115	54	100	48.1	20.5	18.5	9	AAA x 3
LCT115H -M2 -□□	69	28	115	54	100	48.1	20.5	18.5	9	AA x 2
LCT115H -9V -□□	69	28	115	54	100	48.1	20.5	18.5	9	9V x 1
LCT135 -N -□□	76	27	135	58	117	55.1	19.5	13.5	13	None
LCT135 -F4 -□□	76	27	135	58	117	55.1	19.5	13.5	13	AAA x 4
LCT135 -M2 -□□	76	27	135	58	117	55.1	19.5	13.5	13	AA x 2
LCT135 -M3 -□□	76	27	135	58	117	55.1	19.5	13.5	13	AA x 3
LCT135 -9V -□□	76	27	135	58	117	55.1	19.5	13.5	13	9V x 1
LCT135H -N -□□	76	35	135	58	117	55.1	27.5	21.5	13	None
LCT135H -F4 -□□	76	35	135	58	117	55.1	27.5	21.5	13	AAA x 4
LCT135H -M2 -□□	76	35	135	58	117	55.1	27.5	21.5	13	AA x 2
LCT135H -M3 -□□	76	35	135	58	117	55.1	27.5	21.5	13	AA x 3
LCT135H -9V -□□	76	35	135	58	117	55.1	27.5	21.5	13	9V x 1
LCT145 -N -□□	96	27	145	75	124	71.1	19.5	14.5	12	None
LCT145 -F6 -□□	96	27	145	75	124	71.1	19.5	14.5	12	AAA x 6
LCT145 -M2 -□□	96	27	145	75	124	71.1	19.5	14.5	12	AA x 2
LCT145 -M4 -□□	96	27	145	75	124	71.1	19.5	14.5	12	AA x 4
LCT145H -N -□□	96	35	145	75	124	71.1	27.5	22.5	12	None
LCT145H -F6 -□□	96	35	145	75	124	71.1	27.5	22.5	12	AAA x 6
LCT145H -M2 -□□	96	35	145	75	124	71.1	27.5	22.5	12	AA x 2
LCT145H -M4 -□□	96	35	145	75	124	71.1	27.5	22.5	12	AA x 4
LCT165 -N -□□	80	27	165	62	147	59.1	19.5	13.5	13	None
LCT165 -M4 -□□	80	27	165	62	147	59.1	19.5	13.5	13	AA x 4
LCT165H -N -□□	80	35	165	62	147	59.1	27.5	21.5	13	None
LCT165H -M4 -□□	80	35	165	62	147	59.1	27.5	21.5	13	AA x 4

LCS series HAND-HELD CASE with SILICONE COVER



Technical Data
Protection class: IP40 Operating temperature: -10°C ~ +60°C

- Plastic case with silicone cover providing not only comfortable and anti-slip grip, but also protection from drop impact.
- Manufactured with flame-resistant ABS UL94V-0. Several battery compartment types are available.
- Positive (+) / negative (-) pole mark are incused on the inside of the battery compartments.
- Suitable for measuring instruments, test devices, wireless communication devices, medical devices and so on.



Components

No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	ABS UL94V-0	Off-white • Dark gray
2	Bottom cover	1	ABS UL94V-0	Off-white • Dark gray
3	Panel	1	ABS UL94V-0	Off-white • Dark gray
4	Self-tapping screw	4	Steel M2.6	Nickel plated • Black trivalent chromate
5	Battery cover	1	ABS UL94V-0	Off-white • Dark gray
6	Battery contact • Battery snap	1 set	Brass • Brass : PVC	Nickel plated • Nickel plated : Black
7	Silicone cover	1	Silicone	Red • Green • Blue • Light gray • Dark gray

Accessories (Optional parts)



Tapping standoff TPS series
See page 122



PCB mounting screw EM-2.3
See page 123



TORX screw MR series
See page 123

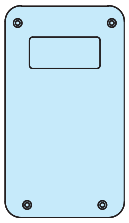
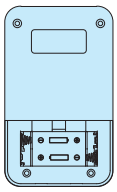
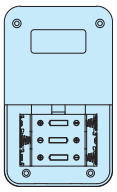
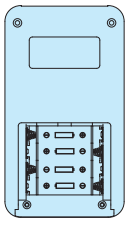
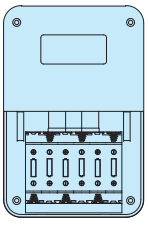
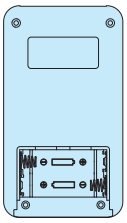
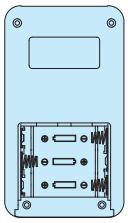
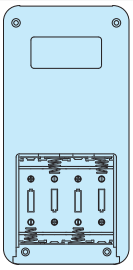
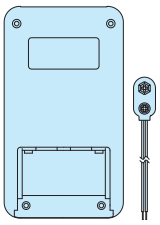


Key ring CR-20
See page 96



Strap STP series
See page 96

Battery Compartment Type

Type	N None	F2 AAA x 2	F3 AAA x 3	F4 AAA x 4	F6 AAA x 6	M2 AA x 2	M3 AA x 3	M4 AA x 4	9V 9V x 1
Battery compartment									

Color Type

Code	D R Dark gray / Red	D G Dark gray / Green	D B Dark gray / Blue	D D Dark gray / Dark gray	D L Dark gray / Light gray
Color					
Code	**W R Off-white / Red**	**W G Off-white / Green**	**W B Off-white / Blue**	**W D Off-white / Dark gray**	**W L Off-white / Light gray**
Color					

Product no. / Dimensions

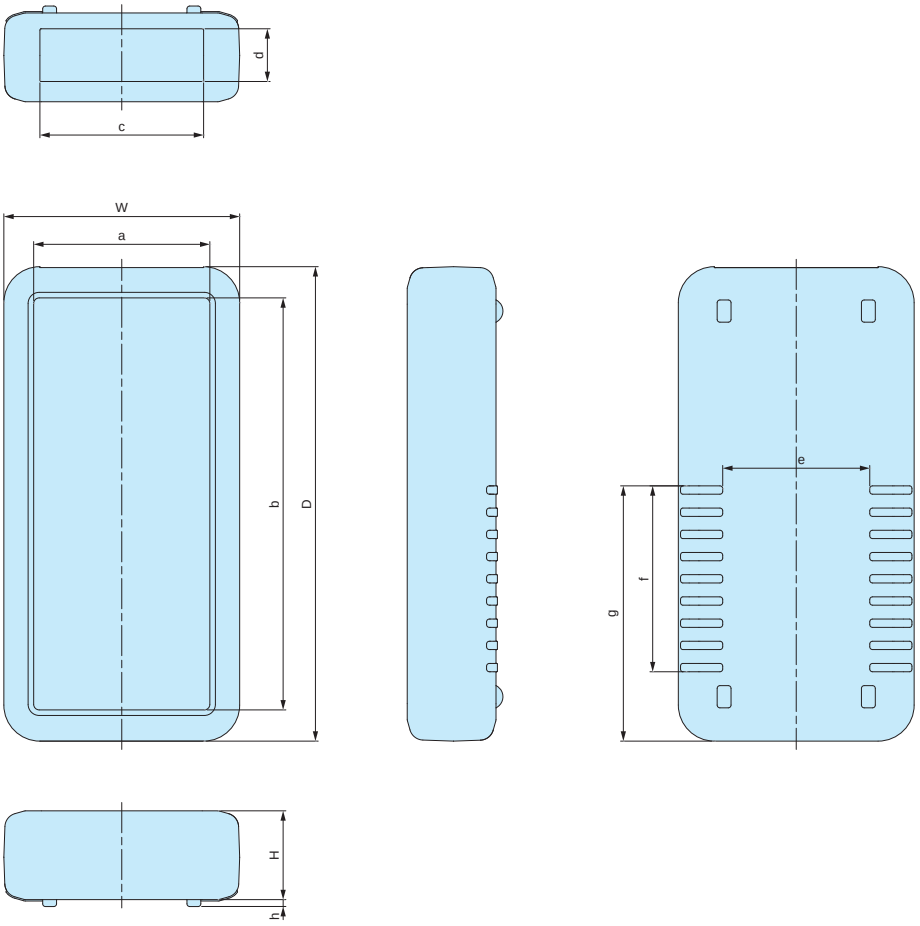
■ Please suffix color code at the end of the product number.

Product no.	W	H	D	Battery compartment	Weight (g)
LCS115 -N -□□	74(69)	24(19.5)	120(115)	None	113
LCS115 -F2 -□□	74(69)	24(19.5)	120(115)	AAA x 2	117.5
LCS115 -F3 -□□	74(69)	24(19.5)	120(115)	AAA x 3	119.5
LCS115H-N -□□	74(69)	32.5(28)	120(115)	None	130
LCS115H-F2 -□□	74(69)	32.5(28)	120(115)	AAA x 2	134.5
LCS115H-F3 -□□	74(69)	32.5(28)	120(115)	AAA x 3	136
LCS115H-M2 -□□	74(69)	32.5(28)	120(115)	AA x 2	138.5
LCS115H-9V -□□	74(69)	32.5(28)	120(115)	9V x 1	138
LCS135 -N -□□	81(76)	32(27)	141(135)	None	165
LCS135 -F4 -□□	81(76)	32(27)	141(135)	AAA x 4	180
LCS135 -M2 -□□	81(76)	32(27)	141(135)	AA x 2	178
LCS135 -M3 -□□	81(76)	32(27)	141(135)	AA x 3	183.5
LCS135 -9V -□□	81(76)	32(27)	141(135)	9V x 1	181.5
LCS135H-N -□□	81(76)	40(35)	141(135)	None	183
LCS135H-F4 -□□	81(76)	40(35)	141(135)	AAA x 4	197.5
LCS135H-M2 -□□	81(76)	40(35)	141(135)	AA x 2	196.5
LCS135H-M3 -□□	81(76)	40(35)	141(135)	AA x 3	201.5
LCS135H-9V -□□	81(76)	40(35)	141(135)	9V x 1	199
LCS145 -N -□□	101(96)	32(27)	151(145)	None	202
LCS145 -F6 -□□	101(96)	32(27)	151(145)	AAA x 6	222
LCS145 -M2 -□□	101(96)	32(27)	151(145)	AA x 2	216
LCS145 -M4 -□□	101(96)	32(27)	151(145)	AA x 4	223
LCS145H-N -□□	101(96)	40(35)	151(145)	None	224
LCS145H-F6 -□□	101(96)	40(35)	151(145)	AAA x 6	244.5
LCS145H-M2 -□□	101(96)	40(35)	151(145)	AA x 2	238
LCS145H-M4 -□□	101(96)	40(35)	151(145)	AA x 4	245
LCS165 -N -□□	85(80)	32(27)	171(165)	None	203
LCS165 -M4 -□□	85(80)	32(27)	171(165)	AA x 4	222.5
LCS165H-N -□□	85(80)	40(35)	171(165)	None	220.5
LCS165H-M4 -□□	85(80)	40(35)	171(165)	AA x 4	239.5

■ ( ) value = enclosure dimension.

Silicone cover dimensions

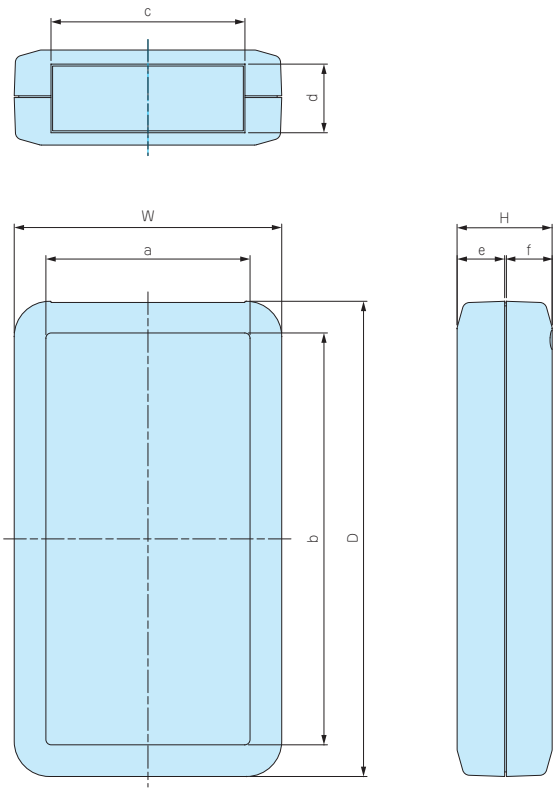
■ DXF/DWG/PDF drawings available on our website.



Product no.	W	H	D	a	b	c	d	e	f	g	h
LCS115 -N -□□	74	24	120	55.5	101.5	48.3	12	46	44.5	60.5	2
LCS115 -F2 -□□	74	24	120	55.5	101.5	48.3	12	46	44.5	60.5	2
LCS115 -F3 -□□	74	24	120	55.5	101.5	48.3	12	46	44.5	60.5	2
LCS115H-N -□□	74	32.5	120	55.5	101.5	48.3	20.5	46	44.5	60.5	2
LCS115H-F2 -□□	74	32.5	120	55.5	101.5	48.3	20.5	46	44.5	60.5	2
LCS115H-F3 -□□	74	32.5	120	55.5	101.5	48.3	20.5	46	44.5	60.5	2
LCS115H-M2 -□□	74	32.5	120	55.5	101.5	48.3	20.5	46	44.5	60.5	2
LCS115H-9V -□□	74	32.5	120	55.5	101.5	48.3	20.5	46	44.5	60.5	2
LCS135 -N -□□	81	32	141	59.5	118.5	55	19	53	59	79	2.5
LCS135 -F4 -□□	81	32	141	59.5	118.5	55	19	53	59	79	2.5
LCS135 -M2 -□□	81	32	141	59.5	118.5	55	19	53	59	79	2.5
LCS135 -M3 -□□	81	32	141	59.5	118.5	55	19	53	59	79	2.5
LCS135 -9V -□□	81	32	141	59.5	118.5	55	19	53	59	79	2.5
LCS135H-N -□□	81	40	141	59.5	118.5	55	27	53	59	79	2.5
LCS135H-F4 -□□	81	40	141	59.5	118.5	55	27	53	59	79	2.5
LCS135H-M2 -□□	81	40	141	59.5	118.5	55	27	53	59	79	2.5
LCS135H-M3 -□□	81	40	141	59.5	118.5	55	27	53	59	79	2.5
LCS135H-9V -□□	81	40	141	59.5	118.5	55	27	53	59	79	2.5
LCS145 -N -□□	101	32	151	76.5	125.5	71	19	71	59	81	2.5
LCS145 -F6 -□□	101	32	151	76.5	125.5	71	19	71	59	81	2.5
LCS145 -M2 -□□	101	32	151	76.5	125.5	71	19	71	59	81	2.5
LCS145 -M4 -□□	101	32	151	76.5	125.5	71	19	71	59	81	2.5
LCS145H-N -□□	101	40	151	76.5	125.5	71	27	71	59	81	2.5
LCS145H-F6 -□□	101	40	151	76.5	125.5	71	27	71	59	81	2.5
LCS145H-M2 -□□	101	40	151	76.5	125.5	71	27	71	59	81	2.5
LCS145H-M4 -□□	101	40	151	76.5	125.5	71	27	71	59	81	2.5
LCS165 -N -□□	85	32	171	63.5	148.5	59	19	53	67	92	2.5
LCS165 -M4 -□□	85	32	171	63.5	148.5	59	19	53	67	92	2.5
LCS165H-N -□□	85	40	171	63.5	148.5	59	27	53	67	92	2.5
LCS165H-M4 -□□	85	40	171	63.5	148.5	59	27	53	67	92	2.5

Enclosure dimensions

■ DXF/DWG/PDF/STP drawings available on our website.



■ Please suffix color code at the end of the product number.

Product no.	W	H	D	a	b	c	d	e	f	Battery compartment
LCS115 -N -□□	69	19.5	115	54	100	48.1	12	10	9	None
LCS115 -F2 -□□	69	19.5	115	54	100	48.1	12	10	9	AAA x 2
LCS115 -F3 -□□	69	19.5	115	54	100	48.1	12	10	9	AAA x 3
LCS115H-N -□□	69	28	115	54	100	48.1	20.5	18.5	9	None
LCS115H-F2 -□□	69	28	115	54	100	48.1	20.5	18.5	9	AAA x 2
LCS115H-F3 -□□	69	28	115	54	100	48.1	20.5	18.5	9	AAA x 3
LCS115H-M2-□□	69	28	115	54	100	48.1	20.5	18.5	9	AA x 2
LCS115H-9V -□□	69	28	115	54	100	48.1	20.5	18.5	9	9V x 1
LCS135 -N -□□	76	27	135	58	117	55.1	19.5	13.5	13	None
LCS135 -F4 -□□	76	27	135	58	117	55.1	19.5	13.5	13	AAA x 4
LCS135 -M2-□□	76	27	135	58	117	55.1	19.5	13.5	13	AA x 2
LCS135 -M3-□□	76	27	135	58	117	55.1	19.5	13.5	13	AA x 3
LCS135 -9V -□□	76	27	135	58	117	55.1	19.5	13.5	13	9V x 1
LCS135H-N -□□	76	35	135	58	117	55.1	27.5	21.5	13	None
LCS135H-F4 -□□	76	35	135	58	117	55.1	27.5	21.5	13	AAA x 4
LCS135H-M2-□□	76	35	135	58	117	55.1	27.5	21.5	13	AA x 2
LCS135H-M3-□□	76	35	135	58	117	55.1	27.5	21.5	13	AA x 3
LCS135H-9V -□□	76	35	135	58	117	55.1	27.5	21.5	13	9V x 1
LCS145 -N -□□	96	27	145	75	124	71.1	19.5	14.5	12	None
LCS145 -F6 -□□	96	27	145	75	124	71.1	19.5	14.5	12	AAA x 6
LCS145 -M2-□□	96	27	145	75	124	71.1	19.5	14.5	12	AA x 2
LCS145 -M4-□□	96	27	145	75	124	71.1	19.5	14.5	12	AA x 4
LCS145H-N -□□	96	35	145	75	124	71.1	27.5	22.5	12	None
LCS145H-F6 -□□	96	35	145	75	124	71.1	27.5	22.5	12	AAA x 6
LCS145H-M2-□□	96	35	145	75	124	71.1	27.5	22.5	12	AA x 2
LCS145H-M4-□□	96	35	145	75	124	71.1	27.5	22.5	12	AA x 4
LCS165 -N -□□	80	27	165	62	147	59.1	19.5	13.5	13	None
LCS165 -M4-□□	80	27	165	62	147	59.1	19.5	13.5	13	AA x 4
LCS165H-N -□□	80	35	165	62	147	59.1	27.5	21.5	13	None
LCS165H-M4-□□	80	35	165	62	147	59.1	27.5	21.5	13	AA x 4

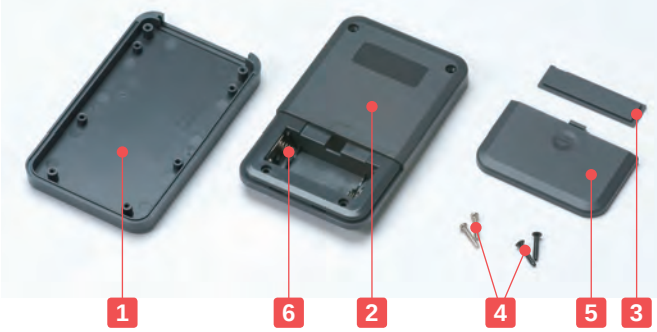
LC series HAND-HELD PLASTIC CASE



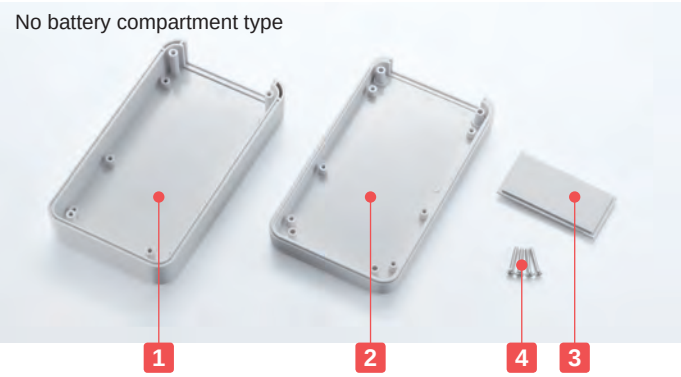
Technical Data
Protection class: IP40 Operating temperature: -10°C ~ +60°C

- Designed with beveled edges and rounded corners, and manufactured from flame-retardant ABS UL94V-0 material.
- Available in 9 different compartment types: AAx2, AAx3, AAx4, AAAx2, AAAx3, AAAx4, AAAx6, 9Vx1, and no battery compartment type.
- Positive (+) / negative (-) pole mark are incused within each battery compartment.
- Recommended to be used as measurement instruments, testing devices, wireless communication gadgets, medical equipment, and so on.

Battery compartment type



No battery compartment type



Components

No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	ABS UL94V-0	Off-white • Dark gray
2	Bottom cover	1	ABS UL94V-0	Off-white • Dark gray
3	Panel	1	ABS UL94V-0	Off-white • Dark gray
4	Self-tapping screw	4	Steel M2.6	Nickel plated • Black trivalent chromate
5	Battery cover	1	ABS UL94V-0	Off-white • Dark gray
6	Battery contact • Battery snap	1 set	Brass • Brass : PVC	Nickel plated

Accessories (Optional parts)



Tapping standoff TPS series
See page 122



PCB mounting screw EM-2.3
See page 123



Belt clip GDH series
See page 118



Key ring • Strap CR-20 • STP series
See page 96



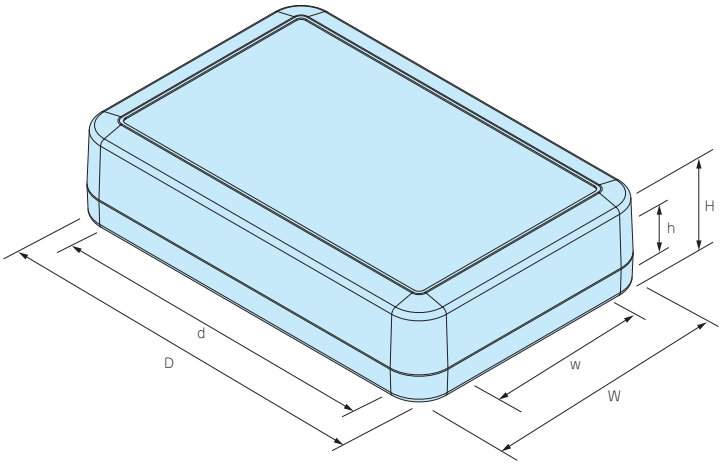
Suspension bracket WM series
See page 116



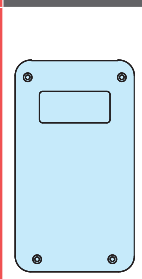
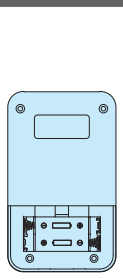
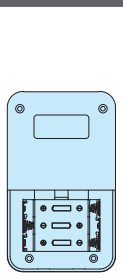
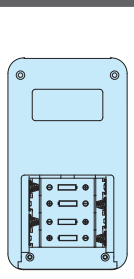
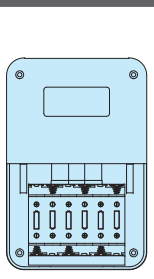
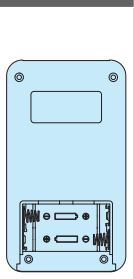
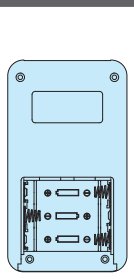
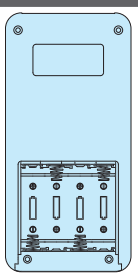
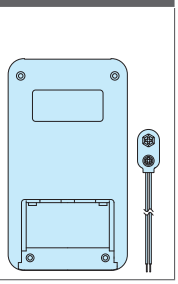
Neodymium magnet NMG series
See page 117

LC dimensions

■ DXF/DWG/PDF/STP drawings available on our website.



Battery Compartment Type

Type	N None	F2 AAAx2	F3 AAAx3	F4 AAAx4	F6 AAAx6	M2 AAx2	M3 AAx3	M4 AAx4	9V 9Vx1
Battery compartment									

Product no. / Dimensions

■ Please suffix color code at the end of the product number.

Product no.		External dimensions			Internal dimensions			Screw	Battery compartment	Weight (g)
● Dark gray	● Off-white	W	H	D	w	h	d			
LC115 -N -D	LC115 -N -W	69	19.5	115	61.5	9.5	86.5	M2.6-14 flat head x 4 pcs	None	70
LC115 -F2 -D	LC115 -F2 -W	69	19.5	115	61.5	9.5	63	M2.6-14 flat head x 2 pcs / M2.6-12 pan head x 2 pcs	AAA x 2	74.5
LC115 -F3 -D	LC115 -F3 -W	69	19.5	115	61.5	9.5	52	M2.6-14 flat head x 2 pcs / M2.6-12 pan head x 2 pcs	AAA x 3	76.5
LC115H -N -D	LC115H -N -W	69	28	115	60.9	18	86.5	M2.6-18 flat head x 4 pcs	None	80
LC115H -F2 -D	LC115H -F2 -W	69	28	115	60.9	18	63	M2.6-18 flat head x 2 pcs / M2.6-14 pan head x 2 pcs	AAA x 2	84.5
LC115H -F3 -D	LC115H -F3 -W	69	28	115	60.9	18	52	M2.6-18 flat head x 2 pcs / M2.6-14 pan head x 2 pcs	AAA x 3	86
LC115H -M2-D	LC115H -M2-W	69	28	115	60.9	18	54.8	M2.6-18 flat head x 2 pcs / M2.6-14 pan head x 2 pcs	AA x 2	88.5
LC115H -9V -D	LC115H -9V -W	69	28	115	60.9	18	55.7	M2.6-18 flat head x 2 pcs / M2.6-14 pan head x 2 pcs	9V x 1	88
LC135 -N -D	LC135 -N -W	76	27	135	68.2	16	107	M2.6-18 flat head x 4 pcs	None	95
LC135 -F4 -D	LC135 -F4 -W	76	27	135	68.2	16	59.2	M2.6-18 flat head x 2 pcs / M2.6-14 pan head x 2 pcs	AAA x 4	110
LC135 -M2-D	LC135 -M2-W	76	27	135	68.2	16	74.3	M2.6-18 flat head x 2 pcs / M2.6-14 pan head x 2 pcs	AA x 2	108
LC135 -M3-D	LC135 -M3-W	76	27	135	68.2	16	59.2	M2.6-18 flat head x 2 pcs / M2.6-14 pan head x 2 pcs	AA x 3	113.5
LC135 -9V -D	LC135 -9V -W	76	27	135	68.2	16	74.3	M2.6-18 flat head x 2 pcs / M2.6-14 pan head x 2 pcs	9V x 1	111.5
LC135H -N -D	LC135H -N -W	76	35	135	67.7	24	107	M2.6-18 flat head x 4 pcs	None	107.5
LC135H -F4 -D	LC135H -F4 -W	76	35	135	67.7	24	59.2	M2.6-18 flat head x 2 pcs / M2.6-14 pan head x 2 pcs	AAA x 4	122
LC135H -M2-D	LC135H -M2-W	76	35	135	67.7	24	74.3	M2.6-18 flat head x 2 pcs / M2.6-14 pan head x 2 pcs	AA x 2	121
LC135H -M3-D	LC135H -M3-W	76	35	135	67.7	24	59.2	M2.6-18 flat head x 2 pcs / M2.6-14 pan head x 2 pcs	AA x 3	126
LC135H -9V -D	LC135H -9V -W	76	35	135	67.7	24	74.3	M2.6-18 flat head x 2 pcs / M2.6-14 pan head x 2 pcs	9V x 1	123.5
LC145S -N -D	LC145S -N -W	96	20	145	87.9	9.5	112.9	M2.6-14 flat head x 4 pcs	None	110
LC145S -F6 -D	LC145S -F6 -W	96	20	145	88.1	9.2	67.8	M2.6-14 flat head x 2 pcs / M2.6-12 pan head x 2 pcs	AAA x 6	130
LC145 -N -D	LC145 -N -W	96	27	145	87.8	16.5	112.9	M2.6-18 flat head x 4 pcs	None	121
LC145 -F6 -D	LC145 -F6 -W	96	27	145	87.8	16.5	67.8	M2.6-18 flat head x 2 pcs / M2.6-14 pan head x 2 pcs	AAA x 6	141
LC145 -M2-D	LC145 -M2-W	96	27	145	87.8	16.5	86.8	M2.6-18 flat head x 2 pcs / M2.6-14 pan head x 2 pcs	AA x 2	135
LC145 -M4-D	LC145 -M4-W	96	27	145	87.8	16.5	63.4	M2.6-18 flat head x 2 pcs / M2.6-14 pan head x 2 pcs	AA x 4	142
LC145H -N -D	LC145H -N -W	96	35	145	87.2	24.5	112.9	M2.6-18 flat head x 4 pcs	None	135
LC145H -F6 -D	LC145H -F6 -W	96	35	145	87.2	24.5	67.8	M2.6-18 flat head x 2 pcs / M2.6-14 pan head x 2 pcs	AAA x 6	155.5
LC145H -M2-D	LC145H -M2-W	96	35	145	87.2	24.5	86.8	M2.6-18 flat head x 2 pcs / M2.6-14 pan head x 2 pcs	AA x 2	149
LC145H -M4-D	LC145H -M4-W	96	35	145	87.2	24.5	63.4	M2.6-18 flat head x 2 pcs / M2.6-14 pan head x 2 pcs	AA x 4	156
LC165 -N -D	LC165 -N -W	80	27	165	72.2	16	137	M2.6-18 flat head x 4 pcs	None	120.5
LC165 -M4-D	LC165 -M4-W	80	27	165	72.2	16	79	M2.6-18 flat head x 2 pcs / M2.6-14 pan head x 2 pcs	AA x 4	140
LC165H -N -D	LC165H -N -W	80	35	165	71.7	24	137	M2.6-18 flat head x 4 pcs	None	134.5
LC165H -M4-D	LC165H -M4-W	80	35	165	71.7	24	79	M2.6-18 flat head x 2 pcs / M2.6-14 pan head x 2 pcs	AA x 4	153.5

LCE series EMC SHIELDED HAND-HELD PLASTIC CASE

EMC Shielding Effects



Technical Data
Protection class: IP40 Operating temperature: -10°C ~ +60°C

- LCE series is an EMC shielded version of LC hand-held plastic case coated internally with DOTITE conductive paint (acrylic paint mixed with nickel filler).
- Designed with beveled edges and rounded corners, and manufactured from flame-resistant ABS UL94V-0 material.
- Recommended to be used as measurement instruments, testing devices, wireless communication gadgets, medical equipment, and so on.

Components

No.	Part name	Pcs	Material	Color / Finish	Conductive paint
1	Top cover	1	ABS UL94V-0	Dark gray	DOTITE
2	Bottom cover	1	ABS UL94V-0	Dark gray	DOTITE
3	Panel	1	ABS UL94V-0	Dark gray	DOTITE
4	Self-tapping screw	4	Steel M2.6	Black trivalent chromate	–

Accessories (Optional parts)



Silicone cover LCTP • LCSC series
See page 79 ~ 80



Tapping standoff TPS series
See page 122



PCB mounting screw EM-2.3
See page 123



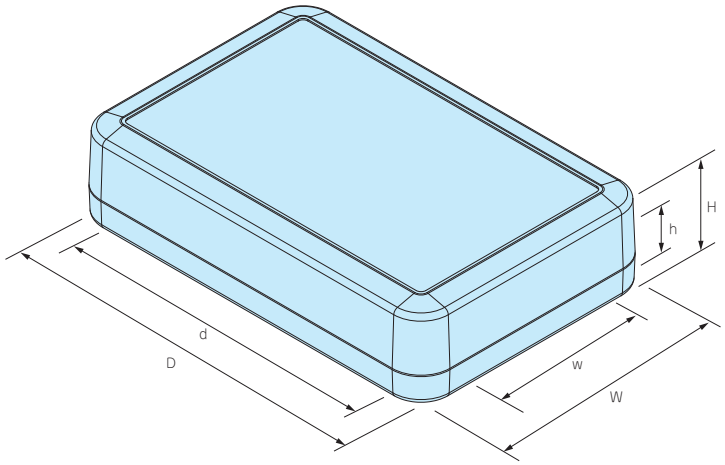
TORX screw MR series
See page 123



Suspension bracket WM series
See page 116

LCE dimensions

■ DXF/DWG/PDF/STP drawings available on our website.



Product no. / Dimensions

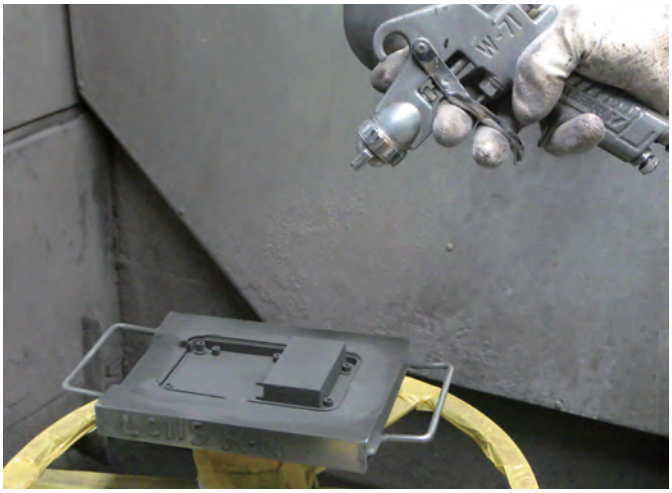
Product no.	External dimensions			Internal dimensions			Screw	Weight (g)
	W	H	D	w	h	d		
LCE115 -N -D	69	19.5	115	61.5	9.5	86.5	M2.6-18 flat head x 4 pcs	72.5
LCE115H -N -D	69	28	115	60.9	18	86.5	M2.6-18 flat head x 4 pcs	84
LCE135 -N -D	76	27	135	68.2	16	107	M2.6-18 flat head x 4 pcs	97
LCE145H -N -D	96	35	145	87.2	24.5	112.9	M2.6-18 flat head x 4 pcs	137
LCE165H -N -D	80	35	165	71.7	24	137	M2.6-18 flat head x 4 pcs	139

CONDUCTIVE PAINT CUSTOMIZATION AVAILABLE for LC series.

The LCE series are a selected few models of the LC series, customized with conductive paint.
Other LC series enclosures not listed can also be customized with conductive paint.

Contact us for more details.
E-mail : sales@takachi-el.co.jp





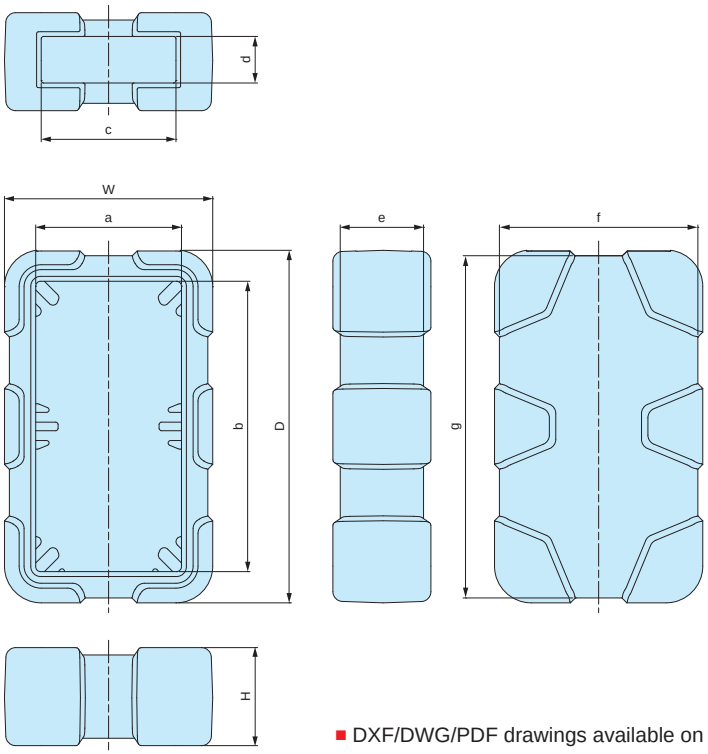
LCTP series SHOCKPROOF SILICONE COVER for LC • LCE

Color Type

Code	O Orange	G Green	N Navy	D Dark gray
Color				

- Shock-proof silicone cover for LC and LCE series.
- Custom color is available from just 1 pc. For 500 pcs or more, manufacture costs will be similar to a standard color. Please inquire for more details. For custom color order, please specify **PANTONE**® color code.

LCTP dimensions



- DXF/DWG/PDF drawings available on our website.

APPLICATION EXAMPLE

Ultrasonic Hardness Tester
Product by NOVOTEST (Ukraine)







Components

Part name	Material	Color
Silicone cover	Silicone	Orange • Green • Navy • Dark gray

Product no. / Dimensions

- Please suffix color code at the end of the product number.

Product no.	W	H	D	a	b	c	d	e	f	g	Suitable models	Weight (g)
LCTP115 -☐	76	28	121.9	55.5	101.5	48.3	12	24	72	117.8	LC • LCE115	53.5
LCTP115H -☐	76	36.5	121.9	55.5	101.5	48.3	20.5	32.5	72	117.8	LC • LCE115H	61
LCTP135 -☐	85	40	143.9	59.5	118.5	55	19	34	81	139.7	LC • LCE135	115.5
LCTP135H -☐	85	48	143.9	59.5	118.5	55	27	42	81	139.6	LC135H	124
LCTP145 -☐	105	40	153.9	76.5	125.5	71	19	34	101	149.7	LC145	137.5
LCTP145H -☐	105	48	153.9	76.5	125.5	71	27	42	101	149.7	LC • LCE145H	147
LCTP165 -☐	89	40	173.9	63.5	148.5	59	19	34	85	169.7	LC165	143
LCTP165H -☐	89	48	173.9	63.5	148.5	59	27	42	85	169.6	LC • LCE165H	151.5

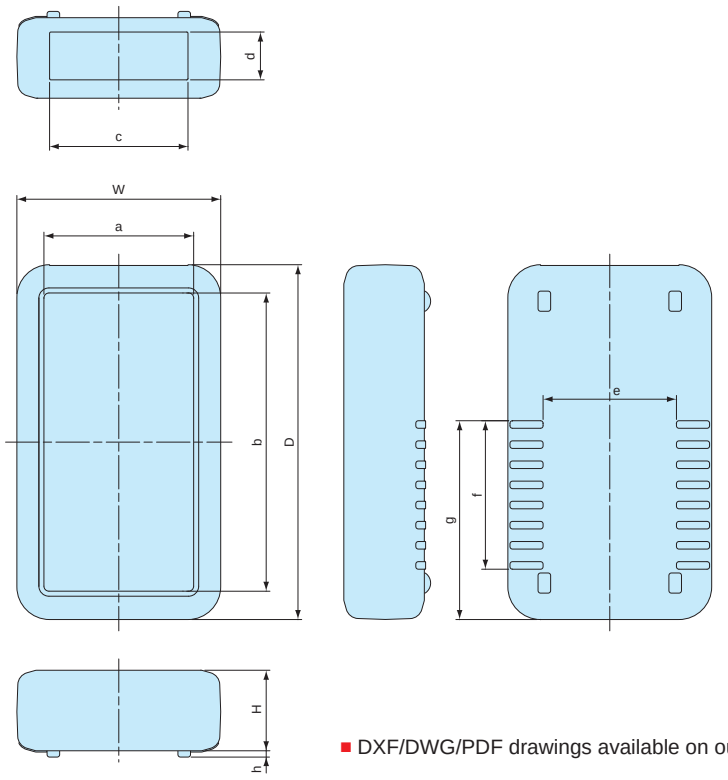
LCSC series SILICONE COVER for LC • LCE

Color Type

Code	R Red	G Green	B Blue	D Dark gray	L Light gray
Color					

- Silicone cover for LC and LCE series.
- Custom color is available from just 1 pc. For 500pcs or more, manufacture costs will be similar to a standard color. Please inquire for more details. For custom color order, please specify PANTONE® color code.

LCSC dimensions



- DXF/DWG/PDF drawings available on our website.

APPLICATION EXAMPLE

Temperature Surveillance Sensor

Product by SENFIO (Brazil)



Components

Part name	Material	Color
Silicone cover	Silicone	Red • Green • Blue • Light gray • Dark gray

Product no. / Dimensions

- Please suffix color code at the end of the product number.

Product no.	W	H	D	a	b	c	d	e	f	g	h	Suitable models	Weight (g)
LCSC115 -☐	74	24	120	55.5	101.5	48.3	12	46	44.5	60.5	2	LC • LCE115	43
LCSC115H-☐	74	32.5	120	55.5	101.5	48.3	20.5	46	44.5	60.5	2	LC • LCE115H	50
LCSC135 -☐	81	32	141	59.5	118.5	55	19	53	59	79	2.5	LC • LCE135	70
LCSC135H-☐	81	40	141	59.5	118.5	55	27	53	59	79	2.5	LC135H	75.5
LCSC145 -☐	101	32	151	76.5	125.5	71	19	71	59	81	2.5	LC145	81
LCSC145H-☐	101	40	151	76.5	125.5	71	27	71	59	81	2.5	LC • LCE145H	89
LCSC165 -☐	85	32	171	63.5	148.5	59	19	53	67	92	2.5	LC165	82.5
LCSC165H-☐	85	40	171	63.5	148.5	59	27	53	67	92	2.5	LC • LCE165H	86

TAKACHI

CSS·CS series

Slim designed small type handheld enclosures
with built-in coin cell battery compartment.
Suitable for IOT device, Remote controller, Portable GPS,
Wireless key-fob, RFID tag, small device, and so on.
4 different sizes with 10 color variations each are available.



●Built-in battery compartment

NEW SIZE

for CR2450/CR2477



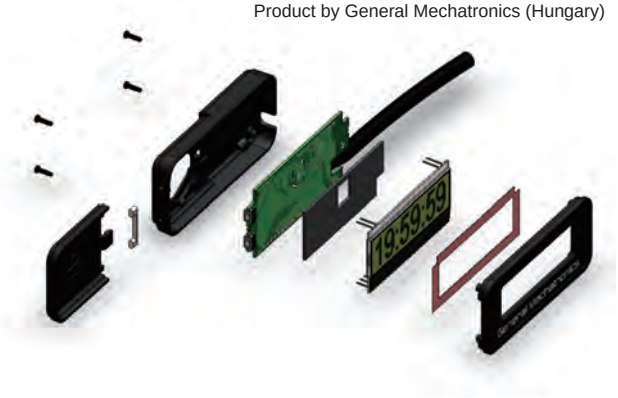
Black　Light gray　Orange　Green　Cyan

APPLICATION EXAMPLE

Motor Sport Infrared Laptimer (Bluetooth 4.0 & Android Application)

Product by General Mechatronics (Hungary)





Bluetooth Temperature Data Logger

Product by Almendo Technologies (Germany)





Impact Detection Sensor for Relay Tester

Product by MUSASHI INTECH (Japan)



Wireless Remote Control Switch

Product by HERUTU ELECTRONICS (Japan)



Handi Quilter Easy-Set Tension™ Kit

Product by Handi Quilter (USA)





Wireless Microphone for Hearing Aid

Product by Audinor (Norway)



USB Noise Remover

Product by SPEC (Japan)



High Frequency Preamplifier

Product by NATEC (Japan)



Indoor Environment Sensor

Product by Bunnyhop (Japan)



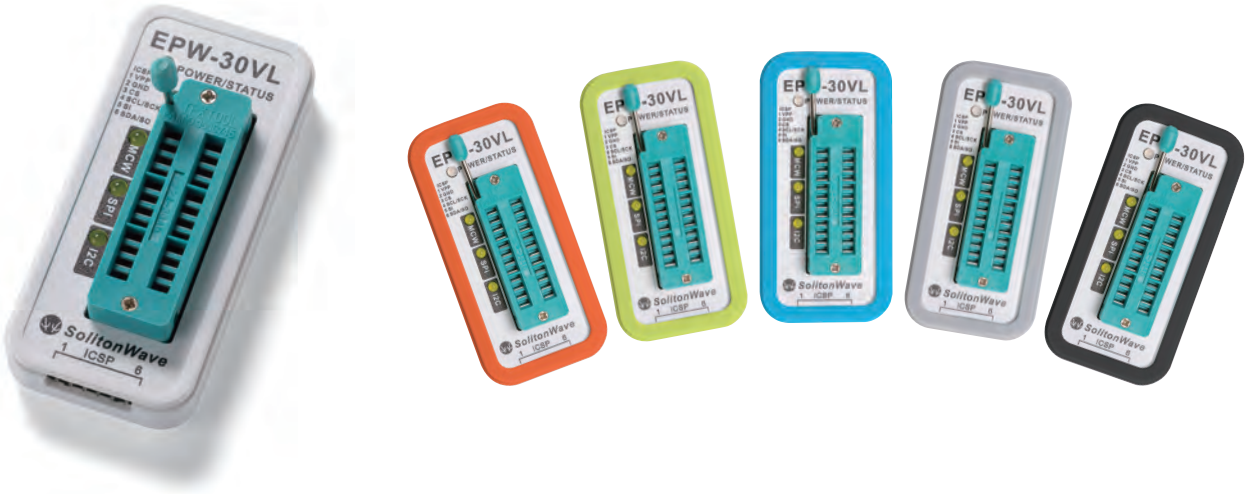
Detection Sensor for Wandering Behavior

Product by Tecnos Japan (Japan)



Serial EEPROM Programmers

Product by SolitonWave (Japan)



RFID Reader

Product by e-Tech (Japan)



HoneyBee Proximity Switch

Product by ADAPTIVATION (USA)



Restroom Monitoring System

Product by KYOHRITSU ELECTRONIC INDUSTRY (Japan)



HID RFID Reader/Writer

Product by ART Finex (Japan)

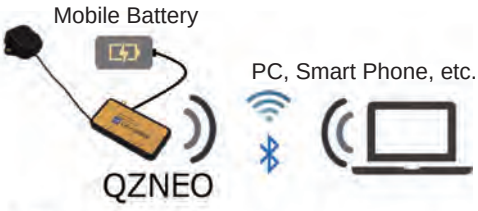


Dual-frequency GNSS Receiver

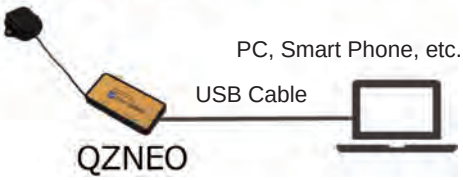
Product by CORE (Japan)



Wireless Connection



Wired Connection



CSS series PORTABLE PLASTIC CASE with SILICONE COVER

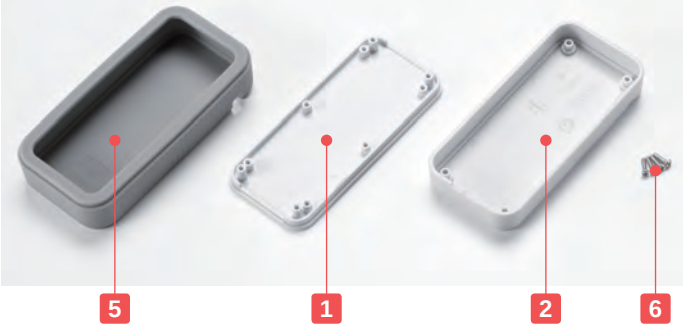
NEW SIZE



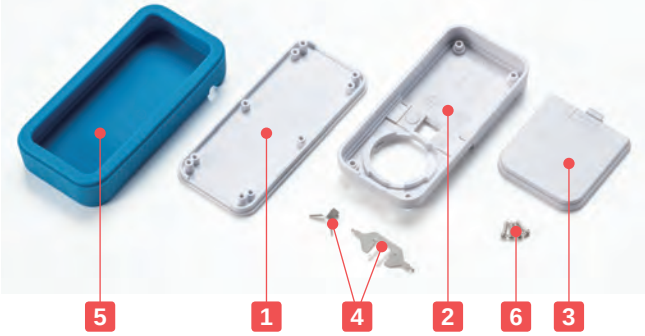
- Small plastic case with silicone cover. Strong against drop impact while providing a secure grip.
- New CSS100 models compatible with CR2450/CR2477 batteries now available.
- Select proper models by enclosure dimensions and capacity of the batteries.
  Typical Capacity : CR2032 : 225mAh / CR2450 : 620mAh / CR2477 : 1000mAh
- Suitable for remote controller, wireless key fob, small tester/device and so on.
- Available in 4 sizes with 16 models and selectable in 10 different color combinations.
- 2 types of silicone cover available with (Open) and without (Closed) rectangular cutout on the top side.

Technical Data
Protection class: IP40 Operating temperature: -10°C ~ +60°C

No battery compartment type



Battery compartment type



Components

No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	ABS UL94HB	White • Black
2	Bottom cover	1	ABS UL94HB	White • Black
3	Battery cover	1	ABS UL94HB	White • Black
4	Battery contact	1 set / 2 sets (CSS115)	Stainless steel SUS304	Nickel plated
5	Silicone cover	1	Silicone	Orange • Green • Cyan • Light gray • Black
6	Self-tapping screw	4	Steel M1.6-6	Nickel plated • Black trivalent chromate

Accessories (Optional parts)



Exclusive PCB CSPB series
See page 90



Strap STPS series
See page 95



PCB mounting screw EM-1.6
See page 123



TORX screw MR1.6-6S
See page 123

Silicone Cover Type

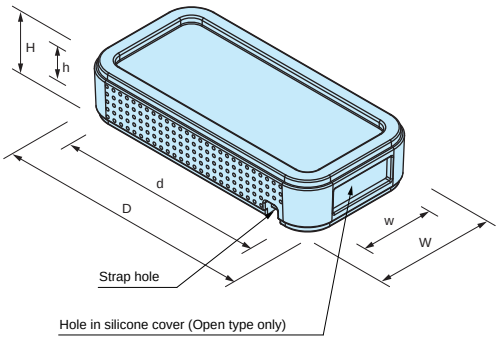
Code	CL Closed	OP Open
Shape		

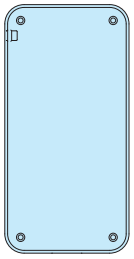
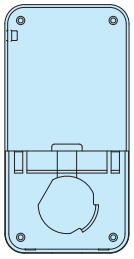
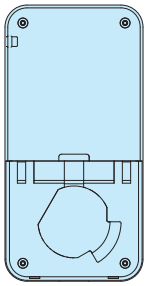
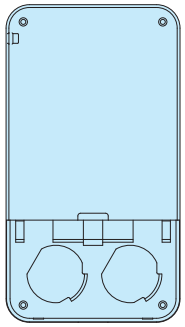
Color Type

Code	BO Black / Orange	BG Black / Green	BC Black / Cyan	BL Black / Light gray	BB Black / Black
Color					
Code	**WO White / Orange**	**WG White / Green**	**WC White / Cyan**	**WL White / Light gray**	**WB White / Black**
Color					

CSS dimensions

■ DXF/DWG/PDF/STP drawings available on our website.



Type	CSS N Type	CSS75/90	NEW CSS100 *1	CSS115
Battery compartment	None	CR2032 × 1	CR2450 × 1 or CR2477 *2 × 1	CR2032 × 2
				

*1 CSS100 battery type varies by PCB placement: CR2450 with PCB on bottom cover, or CR2477 with PCB on top cover. See page CS-2 for the details.

*2 Not compatible with Renata CR2477N battery.

Product no. / Dimensions

■ Please suffix color code at the end of the product number.

Product no.	External dimensions			Internal dimensions			Battery compartment	Weight (g)
	W	H	D	w	h	d		
CSS 75N -CL -□□	38.6 (35)	15.5 (12)	78.6 (75)	26.6	5.3	59	None	24
CSS 75N -OP-□□	38.6 (35)	15.5 (12)	78.6 (75)	26.6	5.3	59	None	24
CSS 75 -CL -□□	38.6 (35)	15.5 (12)	78.6 (75)	26.6	5.3	25.4	CR2032×1	25
CSS 75 -OP-□□	38.6 (35)	15.5 (12)	78.6 (75)	26.6	5.3	25.4	CR2032×1	25
CSS 90N -CL -□□	48.6 (45)	15.5 (12)	93.6 (90)	36.6	5.3	74	None	36
CSS 90N -OP-□□	48.6 (45)	15.5 (12)	93.6 (90)	36.6	5.3	74	None	35
CSS 90 -CL -□□	48.6 (45)	15.5 (12)	93.6 (90)	36.6	5.3	40.4	CR2032×1	38
CSS 90 -OP-□□	48.6 (45)	15.5 (12)	93.6 (90)	36.6	5.3	40.4	CR2032×1	37
NEW CSS100N -CL -□□	54.1 (50)	20.8 (16.8)	104.1 (100)	41.6	10.1	82	None	52
NEW CSS100N -OP-□□	54.1 (50)	20.8 (16.8)	104.1 (100)	41.6	10.1	82	None	51
NEW CSS100 -CL -□□	54.1 (50)	20.8 (16.8)	104.1 (100)	44.1	6.8	46	CR2450×1 / CR2477×1	54
NEW CSS100 -OP-□□	54.1 (50)	20.8 (16.8)	104.1 (100)	44.1	6.8	46	CR2450×1 / CR2477×1	53
CSS115N -CL -□□	67.1 (63)	16 (12)	119.1 (115)	54.6	5.3	98	None	62
CSS115N -OP-□□	67.1 (63)	16 (12)	119.1 (115)	54.6	5.3	98	None	61
CSS115 -CL -□□	67.1 (63)	16 (12)	119.1 (115)	54.6	5.3	64.9	CR2032×2	65
CSS115 -OP-□□	67.1 (63)	16 (12)	119.1 (115)	54.6	5.3	64.9	CR2032×2	64

■ ( ) value = enclosure dimension.

CS series PORTABLE PLASTIC CASE

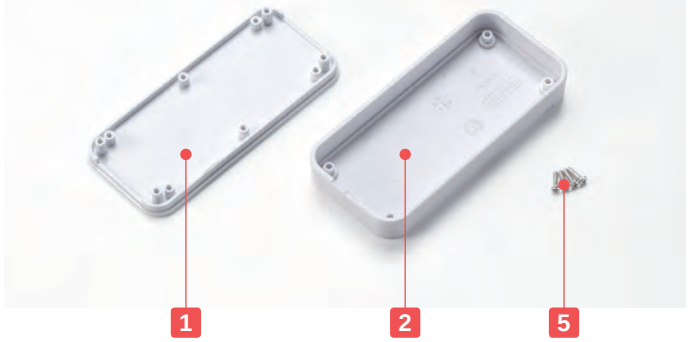
NEW SIZE



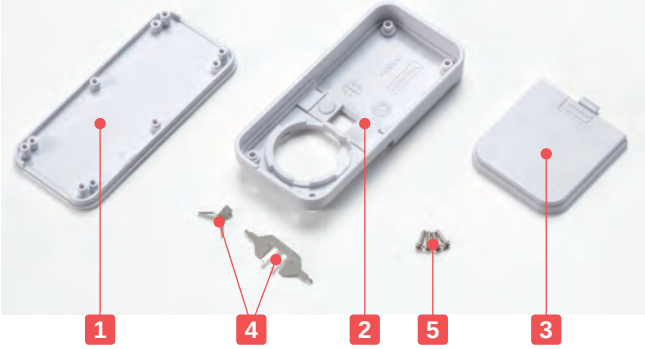
- New CS100 model compatible with CR2450/CR2477 batteries is now available.
- Easy replacement of batteries. Battery contact included in each case (except for N type).
- Select proper models by enclosure dimensions and capacity of the batteries.
  Typical Capacity : CR2032 : 225mAh / CR2450 : 620mAh / CR2477 : 1000mAh
- Suitable for remote controller, wireless key fob, or small tester/device, and so on.
- Available in 4 sizes with 8 models and selectable in 2 different color types (Black or White).

Technical Data
Protection class: IP40 Operating temperature: -10°C ~ +60°C

No battery compartment type



Battery compartment type



Components

No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	ABS UL94HB	White • Black
2	Bottom cover	1	ABS UL94HB	White • Black
3	Battery cover	1	ABS UL94HB	White • Black
4	Battery contact	1 set / 2 sets (CS115)	Stainless steel SUS304	Nickel plated
5	Self-tapping screw	4	Steel M1.6-6	Nickel plated • Black trivalent chromate

Accessories (Optional parts)



Exclusive PCB CSPB series
See page 90



Strap STPS series
See page 95



PCB mounting screw EM-1.6
See page 123



TORX screw MR1.6-6S
See page 123

Coin Battery Contact Installation Steps



Soldering the contacts on PCB



Installing PCB on top cover

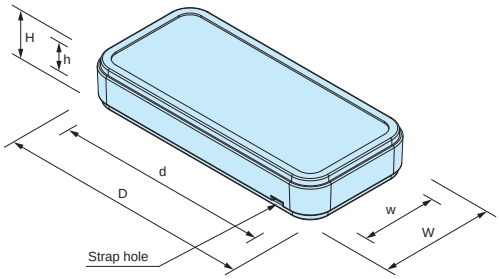


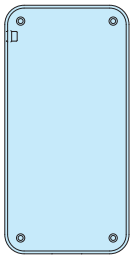
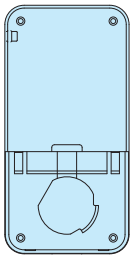
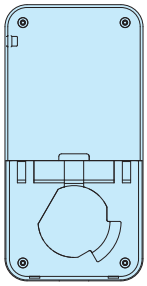
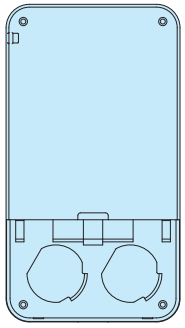
All set

■ Exclusive PCB is available as an optional part. See page CSPB-1 for more details.Refer to drawings on page CSPB-1 for suitable PCB dimensions and screw hole layout.

CS dimensions

■ DXF/DWG/PDF/STP drawings available on our website.

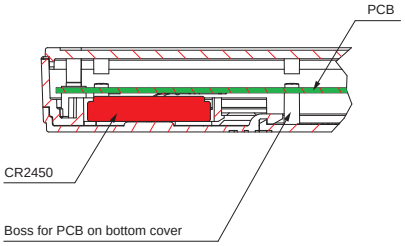


Type	CS N Type	CS75/90	NEW CS100 *1	CS115
Battery compartment	None	CR2032 × 1	CR2450 × 1 or CR2477 *2 × 1	CR2032 × 2
				

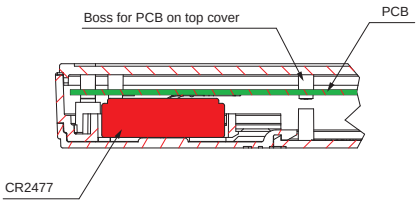
*1 CS100 battery type varies by PCB placement: CR2450 with PCB on bottom cover, or CR2477 with PCB on top cover. See below for the details.

*2 Not compatible with Renata CR2477N battery.

CR2450 × 1 on CS100 (PCB on bottom cover)



CR2477 x 1 on CS100 (PCB on top cover)



*Not compatible with Renata CR2477N battery

Product no. / Dimensions

Product no.		External dimensions			Internal dimensions			Battery compartment	Weight (g)
● Black	● White	W	H	D	w	h	d		
CS 75N-B	CS 75N-W	35	12	75	26.6	5.3	59	None	12
CS 75 -B	CS 75 -W	35	12	75	26.6	5.3	25.4	CR2032×1	13
CS 90N-B	CS 90N-W	45	12	90	36.6	5.3	74	None	18
CS 90 -B	CS 90 -W	45	12	90	36.6	5.3	40.4	CR2032×1	20
NEW CS100N-B	NEW CS100N-W	50	16.8	100	41.6	10.1	82	None	24
NEW CS100 -B	NEW CS100 -W	50	16.8	100	44.1	6.8	46	CR2450×1 / CR2477×1	26
CS115N-B	CS115N-W	63	12	115	54.6	5.3	98	None	30
CS115 -B	CS115 -W	63	12	115	54.6	5.3	64.9	CR2032×2	33

CSSC series SILICONE COVER for CS

Silicone Cover Type

Code	CL Closed	OP Open
Shape		

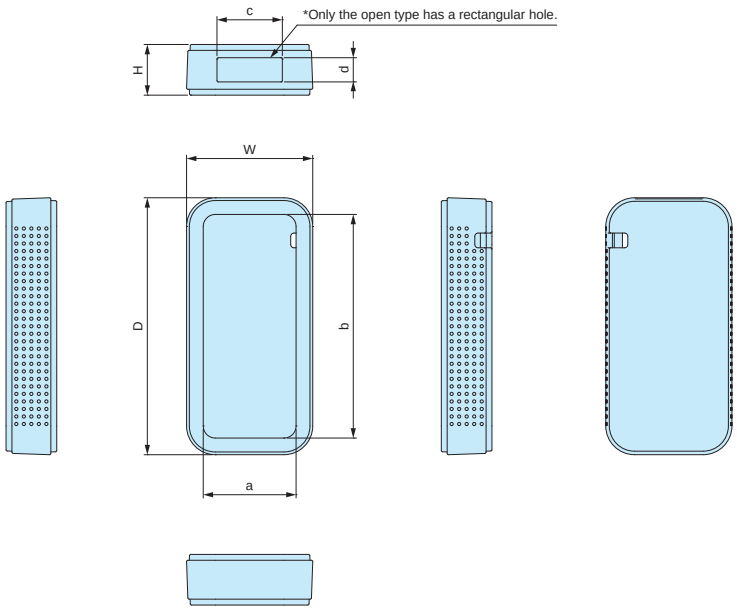
- 2 types of silicone cover which have with (Open) and without (Closed) rectangular cutout on the front side; selectable in 5 different colors.
- Custom color is available from just 1 pc. For 500 pcs or more, manufacture costs will be similar to a standard color. Please inquire for more details. For custom color order, please specify **PANTONE**® color code.

Color Type

Code	O Orange	G Green	C Cyan	L Light gray	B Black
Color					

CSSC dimensions

- DXF/DWG/PDF drawings available on our website.



Components

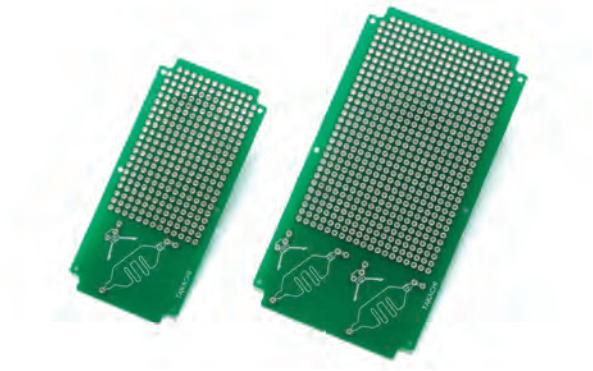
Part name	Material	Color
Silicone cover	Silicone	Orange • Green • Cyan • Light gray • Black

Product no. / Dimensions

- Please suffix color code at the end of the product number.

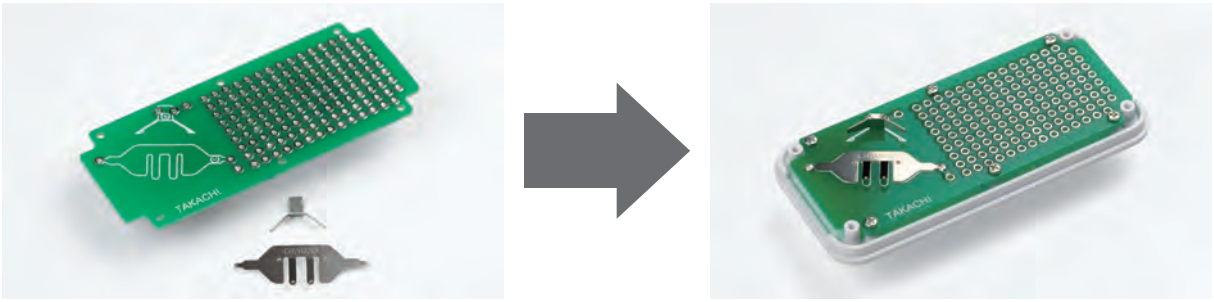
Product no.	W	H	D	a	b	c	d	Suitable models	Weight (g)
CSSC 75-CL-☐	38.6	15.5	78.6	28.4	68.4	–	–	CS 75	12
CSSC 75-OP-☐	38.6	15.5	78.6	28.4	68.4	20	7.4	CS 75	12
CSSC 90-CL-☐	48.6	15.5	93.6	37.4	82.4	–	–	CS 90	18
CSSC 90-OP-☐	48.6	15.5	93.6	37.4	82.4	30	7.4	CS 90	17
NEW CSSC100-CL-☐	54.1	20.8	104.1	42.4	92.4	–	–	CS100	28
NEW CSSC100-OP-☐	54.1	20.8	104.1	42.4	92.4	33	12.2	CS100	27
CSSC115-CL-☐	67.1	16	119.1	55.4	107.4	–	–	CS115	32
CSSC115-OP-☐	67.1	16	119.1	55.4	107.4	45	7.4	CS115	31

CSPB series EXCLUSIVE PCB for CS • CSS



- Exclusive PCB for CS and CSS series.
- Glass epoxy board (FR-4), through-hole on both sides and 2.54mm hole distance.
- Prefabricated holes for battery contact use with CS • CSS case. The contact directions are printed on the PCB.

Soldering the battery contacts (included with each case) onto the PCB



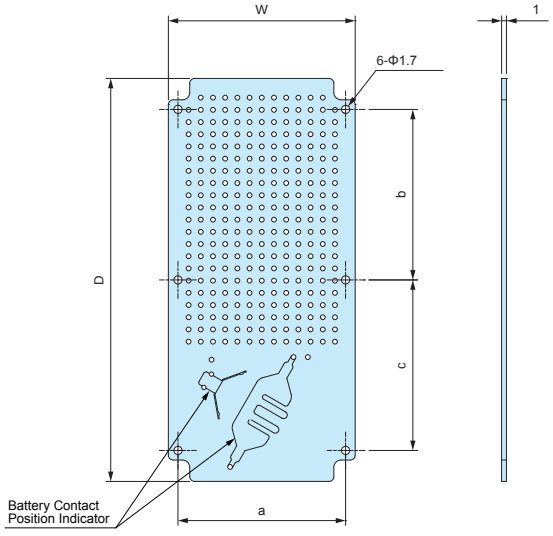
Components

Part name	Pcs	Material	Color / Finish
PCB	1	Glass epoxy (FR-4) t=1.0	Through-hole • Lead-free solder • Solder resist
Self-tapping screw	6	Steel M1.6	Trivalent chromate

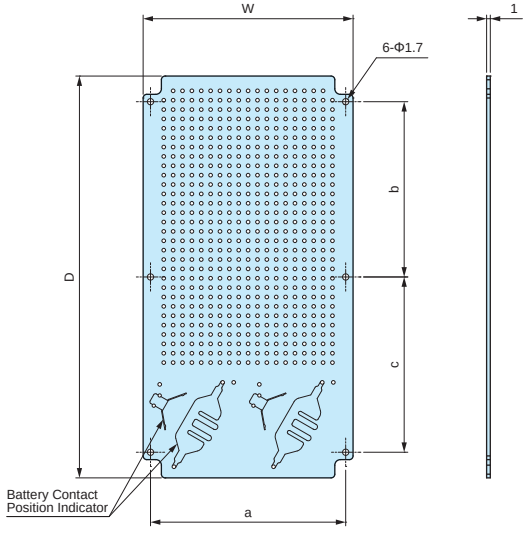
CSPB dimensions

■ DXF/DWG/PDF drawings available on our website.

CSPB-75 • 90 • 100



CSPB-115



Note : Holes (6-Φ1.7) for PCB mount bosses are un-soldered.

Product no. / Dimensions

Product no.	W	D	a	b	c	Suitable models
CSPB- 75	28.9	68.9	24.9	28	28	CSS 75 • CS 75
CSPB- 90	38.9	83.9	34.9	35.5	35.5	CSS 90 • CS 90
NEW CSPB-100	45	94	38	31	38	CSS100 • CS100
CSPB-115	56.9	108.9	52.9	47.5	47.5	CSS115 • CS115

PS series PORTABLE PLASTIC CASE

Suitable for wireless device, remote controller, key fob, and so on.
Available in 4 different sizes with 5 selectable colors.

Portable SIGFOX Multi-Sensor System

Product by Axible Technologies (France)



Multi-sensor system which detects motion, temperature, humidity and sound. Warnings are sent to the owner, or 3rd parties via SMS, Twitter or Facebook when events such as a home invasion, or when a fire occurs.



SIGFOX is:

A French company that builds wireless ultra-narrow band (UNB) networks, for the connection of low-energy consumption devices such as electricity meters, smart-watches, and washing machines, which needs to be continuously on and emitting small amounts of data. This wireless network technology, which is aimed at the Internet of Things (IoT), is starting to gain popularity and rolling out in the fields such as housing, automobiles, transportation and logistics, smart city connectivity, healthcare, and so on.

GPS Tracker Tag (via SIGFOX Network)

Product by HidnSeek (France)





Example: Locating your car in a large parking area

APPLICATION EXAMPLE

Remote Controller for Undercover Investigation

Product by CopTech (Germany)



Re-Mote Suite-IoT Development Platform

Product by Zolertia (Spain)



Beacon Receiver

Product by GP Shopper (USA)



GPS Tracker with Temperature Data Logger

Product by HidnSeek (France)



Portable Radiation Detector

Product by Yamagata Kyodo (Japan)



Remote Controller for Metal Sensor Reel

Product by HATAYA (Japan)



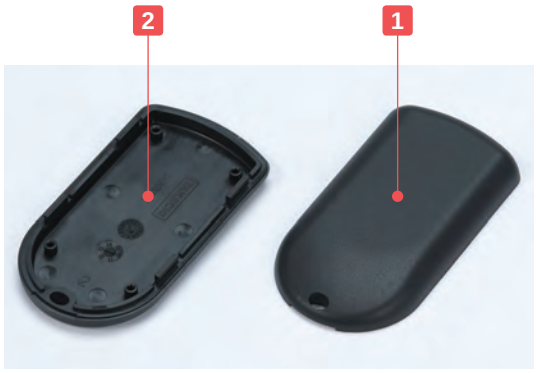
LPWA Receiver



PS series PORTABLE PLASTIC CASE



Technical Data
Protection class: IP40 Operating temperature: -10°C ~ +60°C



- Simple snap-in case without screws.
- Comfortable shape and hold.
- 5 different colors are available for selection.
- Suitable for use as a wireless device, remote control, key fob etc.
- Designed with an easily accessible hole for strap attachment.

Components

No.	Part name	Material	Color / Finish
1	Rounded cover	ABS UL94HB	White • Black • Cobalt • Green • Pink
2	Flat cover	ABS UL94HB	White • Black • Cobalt • Green • Pink

Product no. / Dimensions

Product no.					Dimensions			Weight (g)
● White	● Black	● Cobalt	● Green	○ Pink	W	H	D	
PS- 50W	PS- 50B	PS- 50C	PS- 50G	PS- 50P	50	14	50	9
PS- 65W	PS- 65B	PS- 65C	PS- 65G	PS- 65P	35	11	65	9
PS- 85W	PS- 85B	PS- 85C	PS- 85G	PS- 85P	48	15	85	20
PS-100W	PS-100B	PS-100C	PS-100G	PS-100P	58	18	100	27

Accessories (Optional parts)



PCB mounting screw EM-1.6
See page 123



Strap STPS series
See page 95

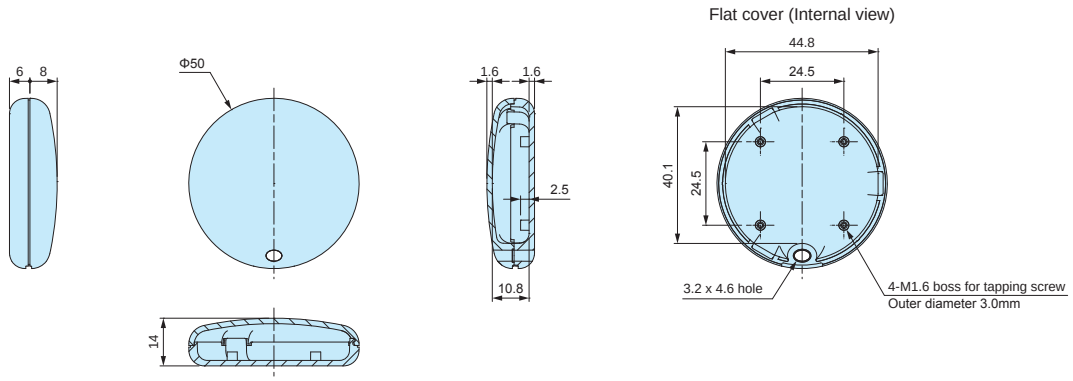


Neodymium magnet NMG series
See page 116

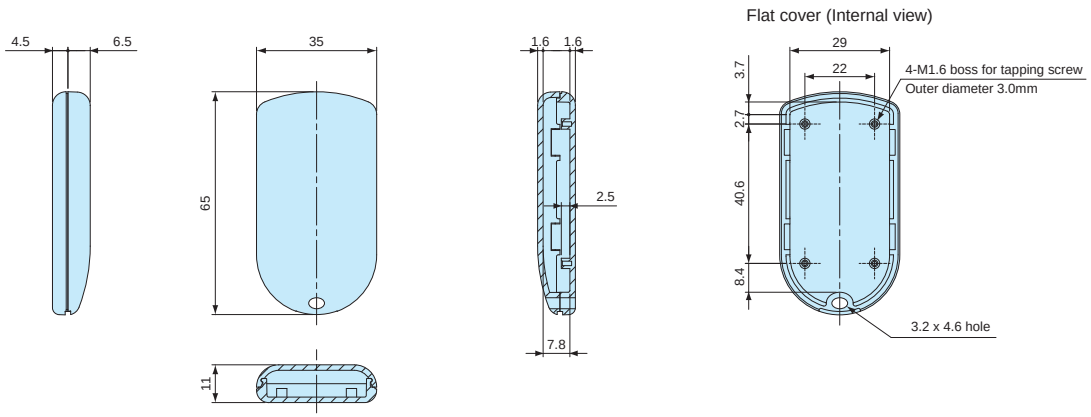
PS dimensions

■ DXF/DWG/PDF/STP drawings available on our website.

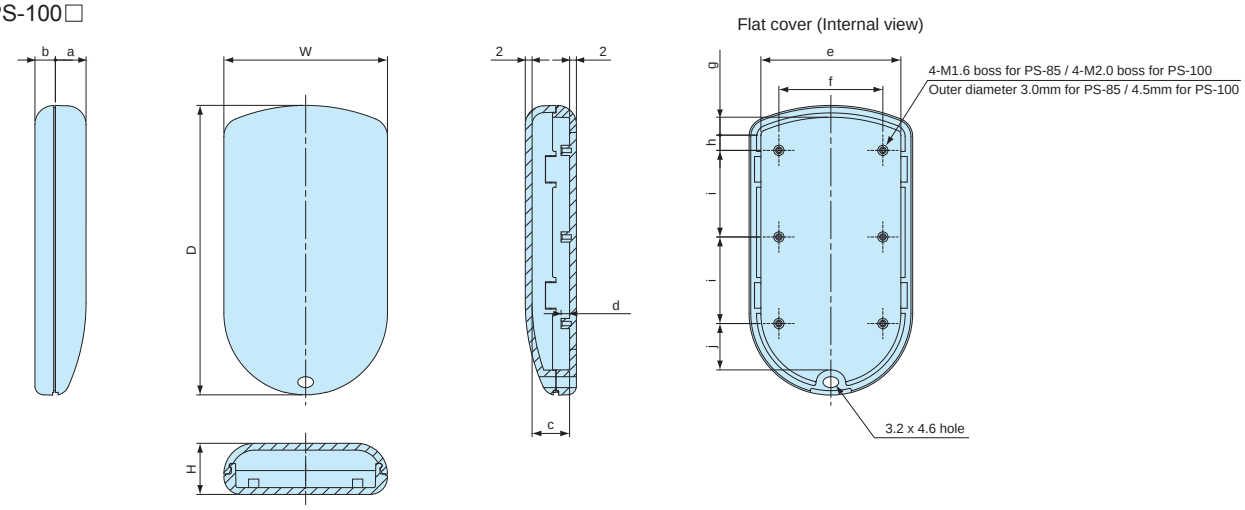
PS-50□



PS-65□

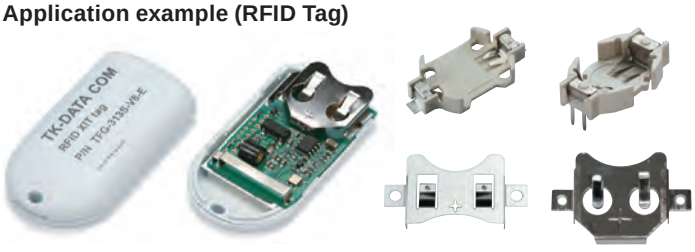


PS-85□ / PS-100□



Product no.	W	H	D	a	b	c	d	e	f	g	h	i	j
PS- 85□	48	11	85	9	6	11	2.5	41.1	33	5.3	4.5	25.4	13.6
PS-100□	58	18	100	11.5	6.5	14	4	51.2	40	6.4	4.2	29	20.4

Application example (RFID Tag)



■ Various coin cell battery holders can be utilized.
See coin cell battery holders on our website for more details.
Refer to the chart for compatible holders.

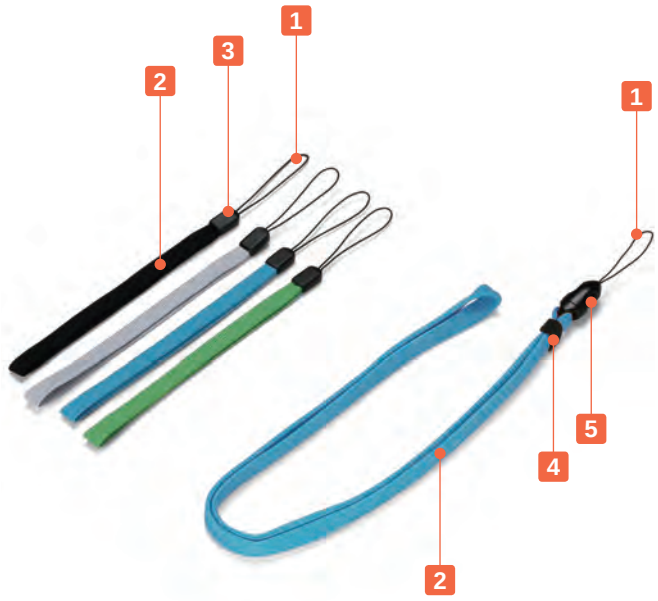
■ Chart on the right is based upon mounting onto a 1.0mm thick PCB.

■ Please note that depending on the mounting location, PCB may not be able to be properly affixed on.

COMPATIBLE COIN CELL BATTERY HOLDERS CHART

Product no.	Compatible coin cell battery holders
PS- 50□	SMTU1220(G) / 1225 / 1362(G) / 2-2016 / 2032(G) PB-621 / SMTM1632 / 2032 BK-879 / 5091 / 5067 / 888
PS- 65□	BK-879 / 5091 / 5067 / 888 PB621 / SMTM1225 / 1632 / 2032
PS- 85□	PB621 / SMTM1632 / 2032 BK-879 / 5091 / 5067 / 888 SMTU1220(G) / 1225 / 1632(G) / 2-2016 / 2032(G) / 2430
PS-100□	PB621 / SMTM1632 / 2032 BK-879 / 5091 / 5067 / 888 SMTU1220(G) / 1225 / 1632(G) / 2-2016 / 2032(G) / 2430 / 2450 BCR20H4 / BCR20H5

STPS series STRAP



APPLICATION EXAMPLE

Wrist strap (STPS-140G)

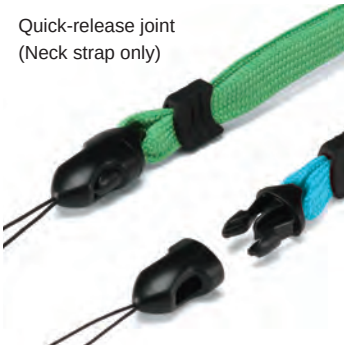


Neck strap (STPS-450C)



- Colorful and sturdy straps best used with CSS, CS and PS series.
- Wrist and Neck straps are available in 4 unique colors.
- Neck strap comes with a quick-release joint, making removal or attachment quick and easy.

Quick-release joint
(Neck strap only)



Color Type

Code	G Green	C Cyan	L Light gray	B Black
Color				

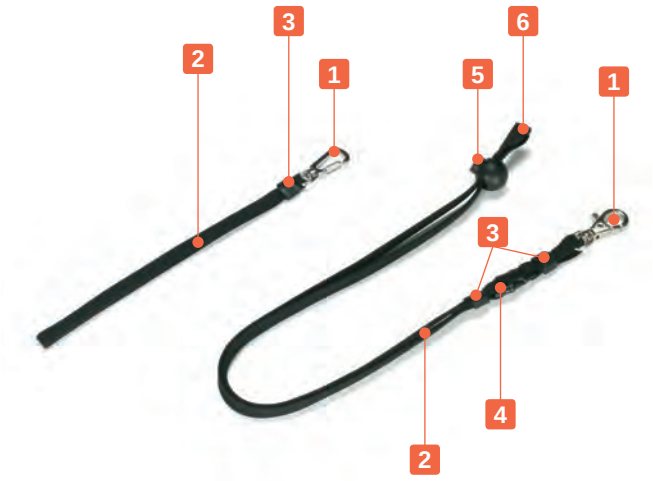
Components

No.	Part name	Material	Color
1	String	Polyester	Black
2	Strap	Polyester	Green • Cyan • Light gray • Black
3	Cap (wrist strap only)	Nylon	Black
4	Clamp (neck strap only)	Elastomer	Black
5	Joint (neck strap only)	Polyacetal	Black

Product no. / Dimensions

Product no.				Strap width	Strap length
Green	Cyan	Light gray	Black		
STPS-140G	STPS-140C	STPS-140L	STPS-140B	8	140
STPS-450G	STPS-450C	STPS-450L	STPS-450B	10	450

STP series STRAP



Wrist strap (STP-200)

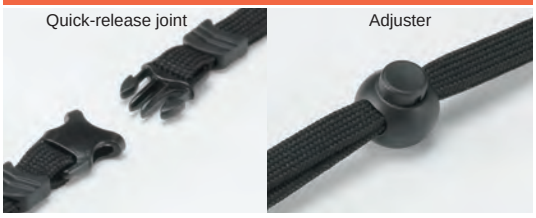


Neck strap (STP-450)



- Strap with a metal hook
- Recommended to be used with CR key ring.

Neck strap detail



- Only the neck strap has a joint and an adjuster.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Metal hook	1	Diecast zinc & steel	Nickel plated
2	Strap	1	Nylon / Polyester	Black
3	Cap	1 / 2	Polyurethane / Elastomer	Black
4	Joint (Neck strap only)	1	Polyacetal	Black
5	Adjuster (Neck strap only)	1	Nylon	Black
6	Clamp (Neck strap only)	1	PE	Black

Product no. / Dimensions

Product no.	Strap width	Strap length	Strap material	Cap material
STP-200	8	200	Nylon	Polyurethane x 1
STP-450	10	450	Polyester	Elastomer x 2

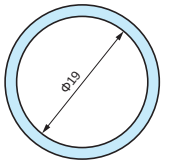
CR-20 KEY RING

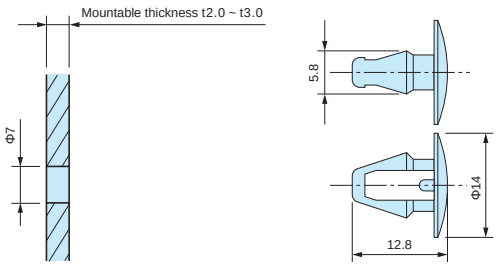


- Hole milling is required for case installation.

CR-20 dimensions

- DXF/DWG/PDF drawings available on our website.





Components

Part name	Material	Color / Finish
Ring	SWRM 6 Steel	Nickel plated
Insert clip	Nylon	Black

Product no. / Dimensions

Product no.	Ring Φ	Installation hole	Mounting thickness
CR-20	Φ19	Φ7	t2.0 ~ t3.0

WSC series

IP67 SLOPED PLASTIC CASE



Ergonomic design and streamlined shape

Best suited for desktop operation with its sloped surface.
2 different inclined angles, 13° and 18° are available to select for various operating environments.
Streamlined shape enables the unit to be gripped better when used as a handheld instrument.



Photo : 13° type



Best suited for desktop operation with its sloped surface

High elasticity and good durability for maintaining waterproofing capability.
Built-in insert nut use for long-lasting protection even after frequent opening and closing.





APPLICATION EXAMPLE

Medical Measurement Device • Medical Controller



Transmitter • Network Equipment



RFID Card Reader



RFID Reader for ICT Entry/Exit System "KIDSNA connect" for Daycare/Preschool



Product by nextbeat (Japan)

Information on waterproofing after hole milling for switches

The waterproof performance will be lost once hole or cutout is machined on an IP rated enclosure.
To ensure it remains waterproof after hole/cutout machining, IP rated membrane pad or overlay is required.



Information on affixing of cables into waterproof enclosures

Please utilize a cable gland from our available range of cable gland accessories.





WSC series IP67 SLOPED PLASTIC CASE





Technical Data

Protection class : IP67
Operating temperature : -10°C ~ +60°C
Recommended torque : 0.2 ~ 0.3N • m

- Suitable as a desktop controller or measurement instrument with its ergonomic design.
- Streamlined shape enables the unit to be gripped better when used as a handheld instrument.
- IP67 protection class allows the unit to be used outdoors or under environments with water splashes, such as medical, research or measurement equipment.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Top Cover	1	Flame-resistant ABS UL94V-0	Off-white • Black
2	Bottom base	1	Flame-resistant ABS UL94V-0	Off-white • Black
3	Gasket	1	Silicone	Black
4	Screw	4	Stainless steel binding head M2.5-8	Unfinished
5	Rubber feet	4	Polyurethane	Transparent

Accessories (Optional parts)



PCB mounting screw EM series
See page 123



Adhesive standoff AST series
See page 121



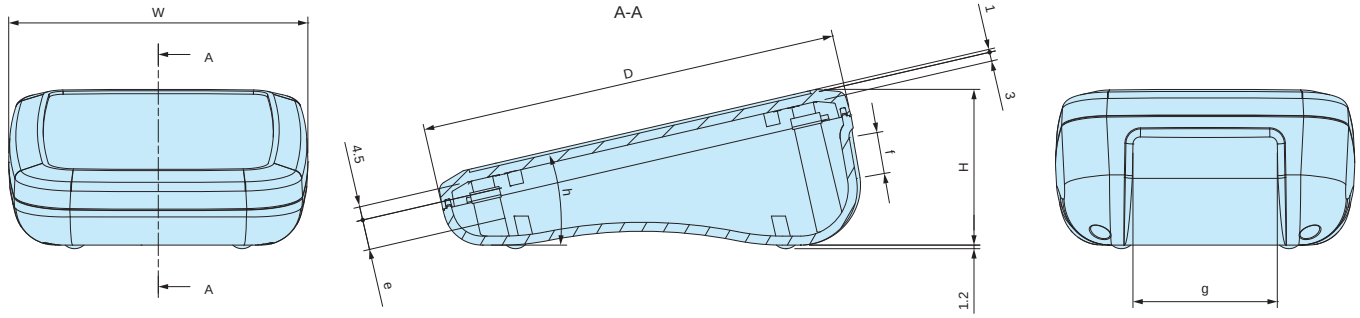
TORX screw MR series
See page 123



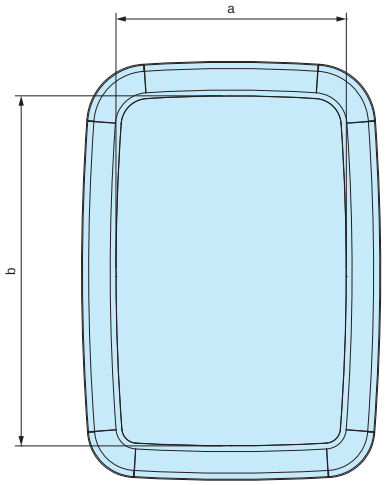
Cable gland
See page 333 ~ 340

WSC dimensions

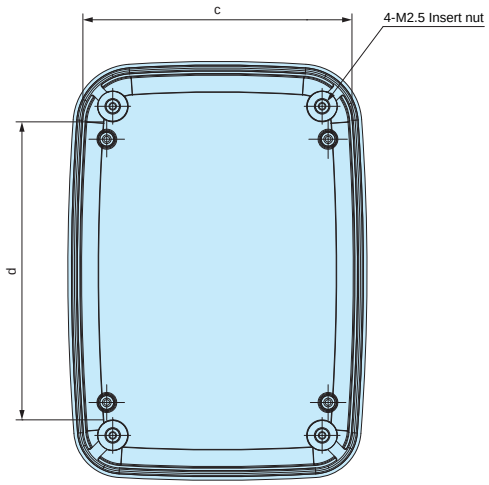
■ DXF/DWG/PDF/STP drawings available on our website.



Top Cover (External)



Top Cover (Internal)

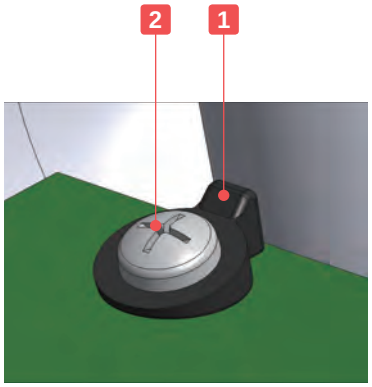


Product no. / Dimensions

Product no.		Dimensions										Face angle	Weight (g)
● Off-white	● Black	W	D	H	a	b	c	d	e	f	g	h	
WSC10-14-5W	WSC10-14-5B	100	140	52	77	117	87	100	10	13.9	48.2	13°	145
WSC10-14-7W	WSC10-14-7B	100	140	72	77	117	87	100	22	27.4	48.2	18°	168
WSC14-14-5W	WSC14-14-5B	140	140	52	117	117	128	100	10	13.8	80.5	13°	190
WSC14-14-7W	WSC14-14-7B	140	140	72	117	117	128	100	22	27.4	80.5	18°	218
WSC18-14-5W	WSC18-14-5B	175	140	52	152	117	163	95	11.3	13.8	103.5	13°	234
WSC18-14-7W	WSC18-14-7B	175	140	72	152	117	163	95	23.7	27.4	103.5	18°	262

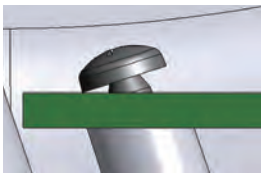
Accessories (Optional parts)

WSP-M2.3 INCLINED SPACER for WSC



■ Due to the sloped shape of the WSC series, boss-tops are also angled. So when mounting PCB on, some gap between the screw head and PCB surface will be generated as shown the diagram. WSP-M2.3 helps to fill the gap.

■ EM-2.3-8 as PCB mounting screws are available for bosses in bottom base. (See page 123)



Components

No.	Part name	Pcs	Material	Color / Finish
1	Inclined spacer	4	POM	Black
2	Screw (Tapping M2.3-8)	4	Steel	Trivalent chromate

■ **Torque 0.1N • m**

Product no. / Details

Product no.	Suitable models	Pack of
WSP-M2.3	WSC (for bottom base PCB boss)	4

TWS series

PLASTIC ENCLOSURE with SILICONE PROTECTOR

Universal plastic enclosure with protective silicone protectors which functions both as an anti-slip grip and impact protection. Available in 9 sizes and selectable in 8 different color combinations. Suitable for measuring instruments, wireless communication devices, portable controller, data logger, and so on.

APPLICATION EXAMPLE

Digital Power Amplifier

Product by Dream (Japan)



GPS Data Logger

Product by Reds Fixit Shop (USA)





6 Channel Data Logger

Product by Irisense (UK)



Wireless Gateway

Product by Bresimar Automação (Portugal)



Tester for Photovoltaic System

Product by System JD (Japan)







Solar Cell Bypass Diode Checker

Product by Nippon Kernel System (Japan)





PV Insulation Resistance Checker for Solar Cell

Product by Shin-ei Electronic Measuring (Japan)





Vibration Monitor

Product by SIGMA Electronics (Japan)

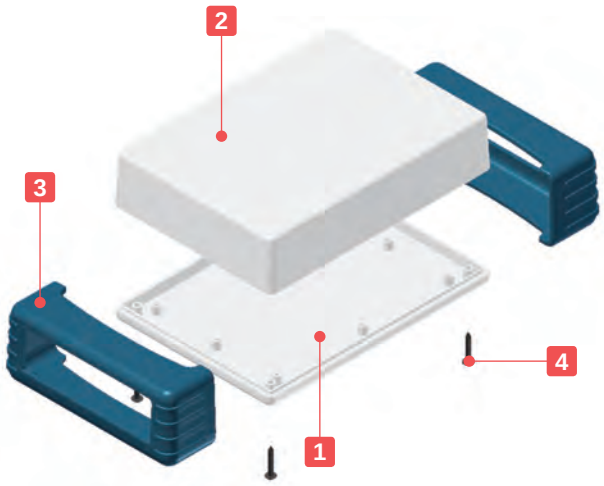




TWS series PLASTIC ENCLOSURE with SILICONE PROTECTOR



Green and Pink shown above are custom colors.



Technical Data
Protection class: IP40 Operating temperature: -10°C ~ +60°C

- Universal plastic enclosure with protective silicone protectors which functions both as an anti-slip grip and impact protection.
- Available in 9 sizes and selectable in 8 different color combinations.
- Enclosure is in B (Black - ABS UL94HB) and W (Off-white - ABS UL94V-0) model.
- Plastic case and protective silicone with screw fastening.
  *Note: utilize screws packaged with the silicone protectors for assembly.
- Use caution when assembling. Overtightening may damage the enclosure and silicone protectors.
- Custom color silicone protector is available from just 1 set. For 500 sets or more, manufacture costs will be similar to a standard color.
  Please inquire for more details.

Components

No.	Part name	Pcs	Material : Color / Finish
1	Cover	1	ABS UL94HB : Black • ABS UL94V-0 : Off-white
2	Bottom base	1	ABS UL94HB : Black • ABS UL94V-0 : Off-white
3	Silicone protector	2	Silicone : Yellow • Navy • Light gray • Black
4	Self-tapping screw	4	Steel M3-20 / Black trivalent chromate

Accessories (Optional parts)



Embedded battery box BC series
See page 125 ~ 128



Adhesive standoff AST series
See page 121



Tapping standoff TPS series
See page 122



PCB mounting screw EM series
See page 123

Color Type

Code	BY Black / Yellow	BN Black / Navy	BL Black / Light gray	BB Black / Black
Color				
Code	**WY Off-white / Yellow**	**WN Off-white / Navy**	**WL Off-white / Light gray**	**WB Off-white / Black**
Color				

ABS UL94HB (Black enclosure)

Product no. / Dimensions

■ Please suffix color code at the end of the product number.

Product no.	W	H	D	Weight (g)
TWS 7-3-13B□	71 (65)	32 (25.6)	136 (130)	117
TWS 7-5-13B□	71 (65)	56 (50.1)	136 (130)	147.5
TWS 9-4-17B□	91.5 (85.5)	41.5 (35.5)	176 (170)	193
TWS 9-6-17B□	91.5 (85.5)	66.5 (60.5)	176 (170)	243
TWS11-5-22B□	116 (110)	51.5 (45.3)	226 (220)	325.5
TWS11-8-22B□	116 (110)	81.5 (75.3)	226 (220)	399
TWS13-5-13B□	131 (125)	51 (45)	131 (125)	269.5
TWS13-5-18B□	131 (125)	51 (45)	181 (175)	322
TWS13-7-18B□	131 (125)	71 (65)	181 (175)	371

■ ( ) value = enclosure dimension.

ABS UL94V-0 (Off-white enclosure)

Product no. / Dimensions

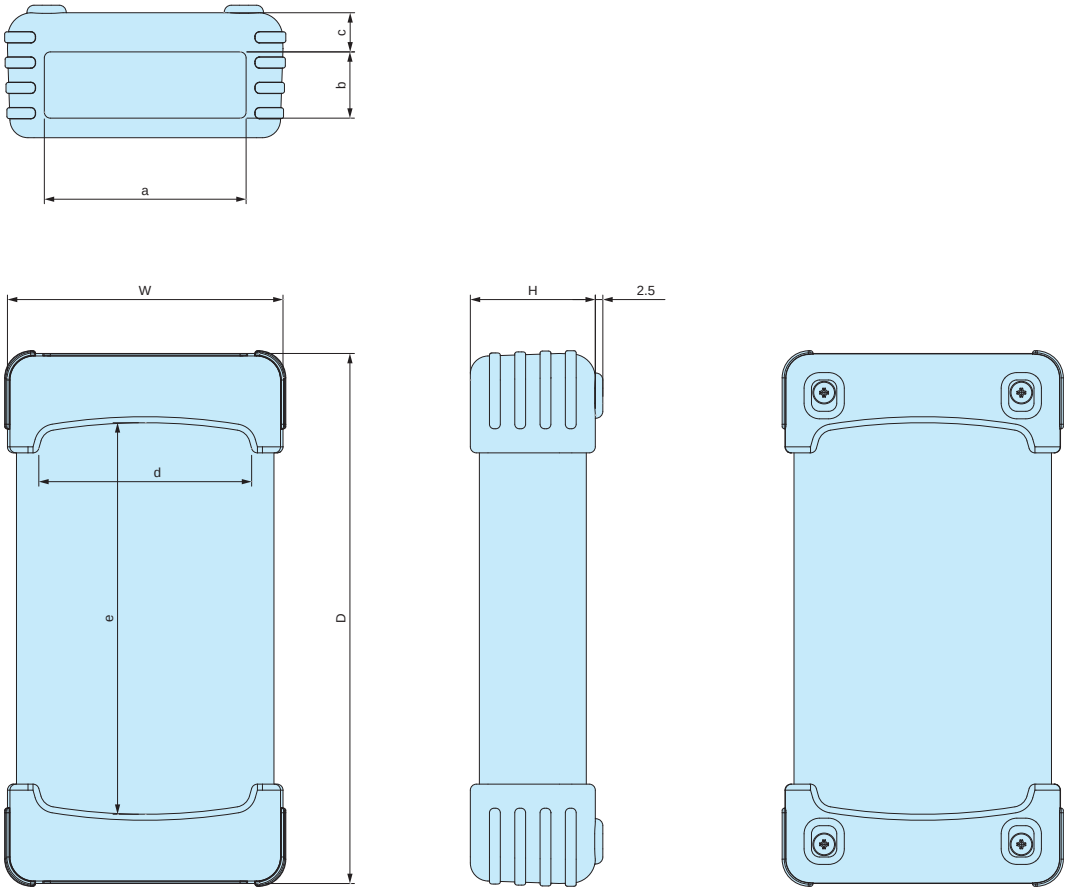
■ Please suffix color code at the end of the product number.

Product no.	W	H	D	Weight (g)
TWS 7-3-13W□	71 (65)	32 (25.6)	136 (130)	126
TWS 7-5-13W□	71 (65)	56 (50.1)	136 (130)	163
TWS 9-4-17W□	91.5 (85.5)	41.5 (35.5)	176 (170)	211
TWS 9-6-17W□	91.5 (85.5)	66.5 (60.5)	176 (170)	266
TWS11-5-22W□	116 (110)	51.5 (45.3)	226 (220)	356.5
TWS11-8-22W□	116 (110)	81.5 (75.3)	226 (220)	438
TWS13-5-13W□	131 (125)	51 (45)	131 (125)	294
TWS13-5-18W□	131 (125)	51 (45)	181 (175)	353
TWS13-7-18W□	131 (125)	71 (65)	181 (175)	407.5

■ ( ) value = enclosure dimension.

TWS dimensions

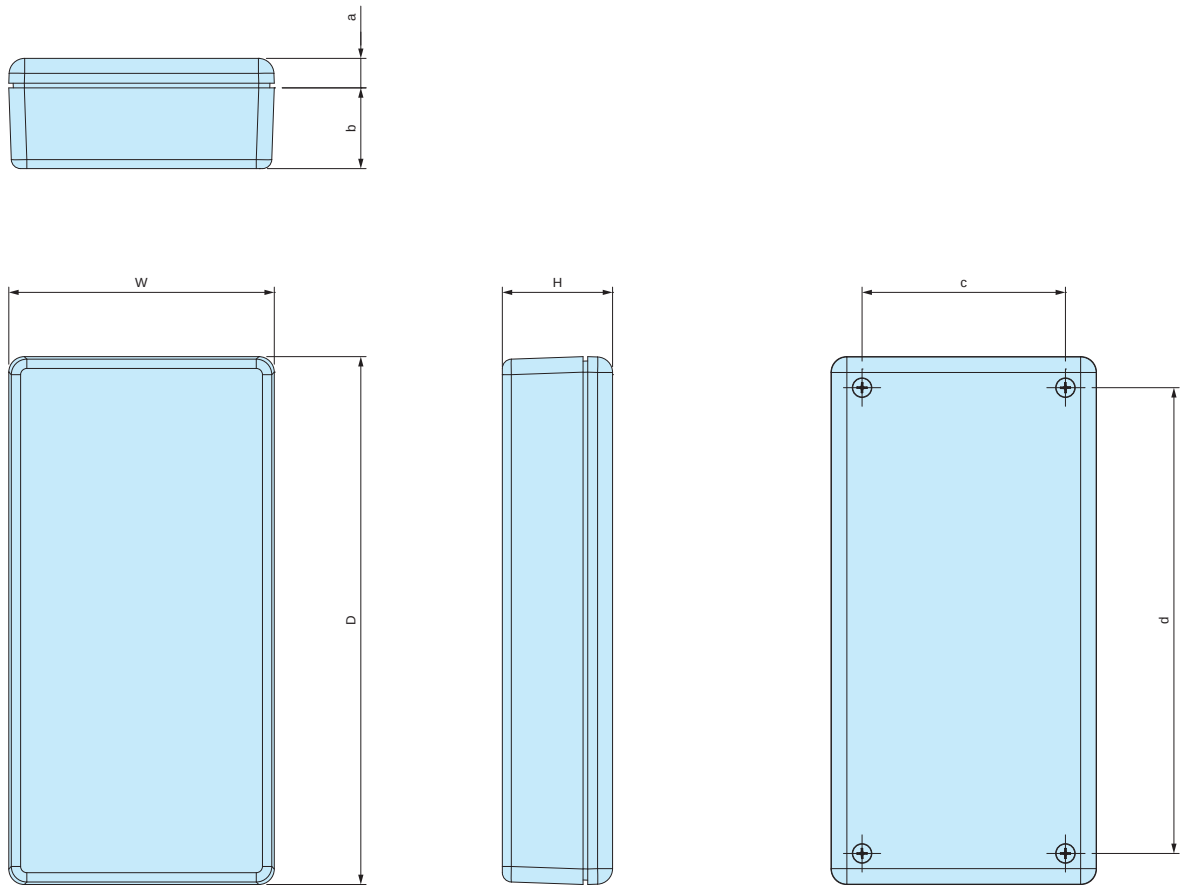
■ DXF/DWG/PDF/STP drawings available on our website.



■ Please suffix color code at the end of the product number.

Product no.	W	H	D	a	b	c	d	e
TWS 7-3-13□□	71	32	136	52	13.5	11.8	54	98
TWS 7-5-13□□	71	56	136	52	37.5	11.9	54	98
TWS 9-4-17□□	91.5	41.5	176	67	22	13	71	130
TWS 9-6-17□□	91.5	66.5	176	67	46.5	13.3	71	130
TWS11-5-22□□	116	51.5	226	80	29	14.3	89	166
TWS11-8-22□□	116	81.5	226	80	58	14.5	89	166
TWS13-5-13□□	131	51	131	101	29.5	13.5	104	76
TWS13-5-18□□	131	51	181	101	29.5	13.5	104	126
TWS13-7-18□□	131	71	181	101	48.5	14	104	126

Enclosure dimensions



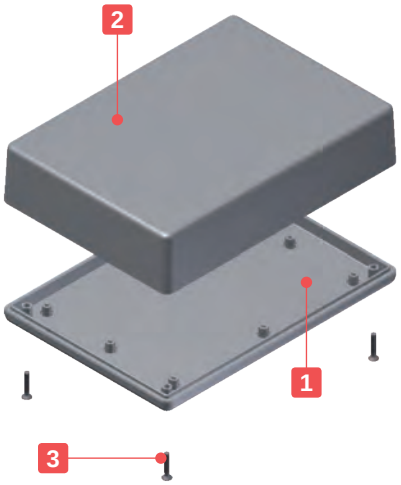
■ Please suffix color code at the end of the product number.

Product no.	W	H	D	a	b	c	d
TWS 7-3-13□□	65	25.6	130	8.1	17.5	47	112
TWS 7-5-13□□	65	50.1	130	8.1	42	47	112
TWS 9-4-17□□	85.5	35.5	170	9.5	26	65.5	150
TWS 9-6-17□□	85.5	60.5	170	9.5	51	65.5	150
TWS11-5-22□□	110	45.3	220	10.3	35	88	198
TWS11-8-22□□	110	75.3	220	10.3	65	88	198
TWS13-5-13□□	125	45	125	8.5	36.5	107	107
TWS13-5-18□□	125	45	175	8.5	36.5	105	155
TWS13-7-18□□	125	65	175	8.5	56.5	105	155

TW•TWN series MULTIPURPOSE PLASTIC ENCLOSURE



Technical Data
Protection class: IP40 Operating temperature: -10°C ~ +60°C



- Universal plastic enclosure with screw fastening.
- 26 sizes are available in 2 colors; Black (ABS UL94HB) and Off-white (ABS UL94V-0).
- Suitable for measuring instruments, testing devices, wireless communication devices, medical devices, and so on.

Components

No.	Part name	Pcs	Material : Color / Finish
1	Cover	1	TW : ABSUL94HB / Black
			TWN : ABS UL94V-0 / Off-white
2	Bottom base	1	TW : ABSUL94HB / Black
			TWN : ABS UL94V-0 / Off-white
3	Self-tapping screw	2 or 4	TW : Steel / Black trivalent chromate
			TWN : Steel / Nickel plated

Accessories (Optional parts)



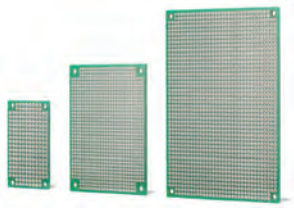
Silicone band SIB series
See page 110



Suspension bracket WM series
See page 116



Embedded battery box BC series
See page 125 ~ 128



Universal PCB PCB series
See website



Adhesive standoff AST series
See page 121



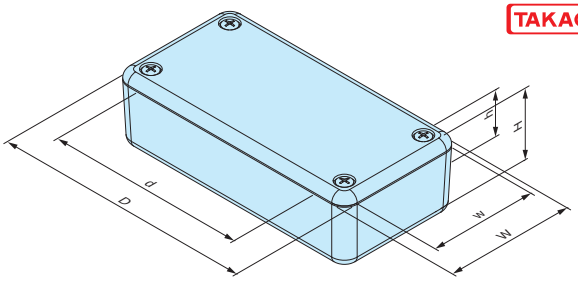
PCB mounting screw EM series
See page 123



Tapping standoff TPS series
See page 122

Color Type

Series	Code	Color	Screw
TW	B	Black	Black trivalent chromate
TWN	W	Off-white	Nickel plated



TW series (ABS UL94HB)

■ DXF/DWG/PDF/STP drawings available on our website.

Product no. / Dimensions

Product no.	External dimensions			Internal dimensions			Screw (Self-tapping flat head)	Weight (g)
	W	H	D	w	h	d		
TW 4-2- 5B	35	20	50	28.2	12	32.6	M2.6-12 x 2 pcs	13.5
TW 4-2- 6B	35	20	60	28.2	12	42.6	M2.6-12 x 2 pcs	15.5
TW 4-2- 8B	40.3	20	80.3	33.5	12	62.5	M2.6-12 x 2 pcs	22
TW 5-2- 5B	50	15	50	42.8	7	31.9	M2.6-12 x 4 pcs	18
TW 5-2- 7B	50	15	70	43.2	7	52.9	M2.6-12 x 4 pcs	22
TW 5-3- 5B	50	25	50	42.8	17	31.9	M2.6-12 x 4 pcs	22
TW 5-3- 7B	50	27.5	70	43.2	19.5	52.9	M2.6-12 x 4 pcs	29
TW 5-3- 9B	45	25	90	37.7	16	69.4	M3-12 x 4 pcs	30.5
TW 5-3-10B	50	30	100	42.4	20.8	80.8	M2.6-12 x 4 pcs	41.5
TW 5-4- 7B	50	40	70	42.5	32	52.9	M2.6-12 x 4 pcs	35
TW 7-2-11B	70	20	105	61.2	10.5	83	M2.6-14 x 4 pcs	56.5
TW 7-3-13B	65	25.6	130	55.3	14.3	105	M3-16 x 4 pcs	76
TW 7-4-11B	70	35	105	61.2	25.5	83	M2.6-14 x 4 pcs	70
TW 7-5-11B	70	50	105	61.1	40.5	83	M2.6-14 x 4 pcs	83
TW 7-5-13B	65	50.1	130	55.3	38.8	105	M3-16 x 4 pcs	100
TW 8-2- 8B	80	20	80	71.6	10.5	59	M2.6-12 x 4 pcs	49
TW 8-4- 8B	80	40	80	71.6	30.5	59	M2.6-12 x 4 pcs	65
TW 9-4-17B	85.5	35.5	170	75.7	24	143	M3-16 x 4 pcs	133
TW 9-6-17B	85.5	60.5	170	75.7	49	143	M3-16 x 4 pcs	168
TW11-5-22B	110	45.3	220	100.1	33.8	191	M3-16 x 4 pcs	223
TW11-8-22B	110	75.3	220	99.3	63.8	191	M3-16 x 4 pcs	277
TW13-3-13B	125	25	125	114.5	13.7	100	M3-16 x 4 pcs	135
TW13-3-18B	125	25	175	114.5	13.7	148	M3-16 x 4 pcs	184.5
TW13-5-13B	125	45	125	114.5	33.7	100	M3-16 x 4 pcs	165.5
TW13-5-18B	125	45	175	114.5	33.7	148	M3-16 x 4 pcs	218
TW13-7-18B	125	65	175	114.2	53.7	148	M3-16 x 4 pcs	254

TWN series (ABS UL94V-0)

Product no. / Dimensions

Product no.	External dimensions			Internal dimensions			Screw (Self-tapping flat head)	Weight (g)
	W	H	D	w	h	d		
TWN 4-2- 5W	35	20	50	28.2	12	32.6	M2.6-12 x 2 pcs	16.5
TWN 4-2- 6W	35	20	60	28.2	12	42.6	M2.6-12 x 2 pcs	18
TWN 4-2- 8W	40.3	20	80.3	33.5	12	62.5	M2.6-12 x 2 pcs	26
NEW TWN 5-2- 5W	50	15	50	42.8	7	31.9	M2.6-12 x 4 pcs	20
TWN 5-2- 7W	50	15	70	43.2	7	52.9	M2.6-12 x 4 pcs	24.5
NEW TWN 5-3- 5W	50	25	50	42.8	17	31.9	M2.6-12 x 4 pcs	26
TWN 5-3- 7W	50	27.5	70	43.2	19.5	52.9	M2.6-12 x 4 pcs	33
TWN 5-3- 9W	45	25	90	37.7	16	69.4	M3-16 x 4 pcs	35
NEW TWN 5-3-10W	50	30	100	42.4	20.8	80.8	M2.6-12 x 4 pcs	46.5
TWN 5-4- 7W	50	40	70	42.5	32	52.9	M2.6-12 x 4 pcs	39.5
TWN 7-2-11W	70	20	105	61.2	10.5	83	M2.6-14 x 4 pcs	64.5
TWN 7-3-13W	65	25.6	130	55.3	14.3	105	M3-16 x 4 pcs	85
TWN 7-4-11W	70	35	105	61.2	25.5	83	M2.6-14 x 4 pcs	80
TWN 7-5-11W	70	50	105	61.1	40.5	83	M2.6-14 x 4 pcs	94.5
TWN 7-5-13W	65	50.1	130	55.3	38.8	105	M3-16 x 4 pcs	115.5
TWN 8-2- 8W	80	20	80	71.6	10.5	59	M2.6-12 x 4 pcs	55.5
TWN 8-4- 8W	80	40	80	71.6	30.5	59	M2.6-12 x 4 pcs	75
TWN 9-4-17W	85.5	35.5	170	75.7	24	143	M3-16 x 4 pcs	151
TWN 9-6-17W	85.5	60.5	170	75.7	49	143	M3-16 x 4 pcs	191
TWN11-5-22W	110	45.3	220	100.1	33.8	191	M3-16 x 4 pcs	254
TWN11-8-22W	110	75.3	220	99.3	63.8	191	M3-16 x 4 pcs	316
TWN13-3-13W	125	25	125	114.5	13.7	100	M3-16 x 4 pcs	156.5
TWN13-3-18W	125	25	175	114.5	13.7	148	M3-16 x 4 pcs	206.5
TWN13-5-13W	125	45	125	114.5	33.7	100	M3-16 x 4 pcs	190
TWN13-5-18W	125	45	175	114.5	33.7	148	M3-16 x 4 pcs	249
TWN13-7-18W	125	65	175	114.2	53.7	148	M3-16 x 4 pcs	290.5

TWSC series SILICONE PROTECTOR for TW•TWN

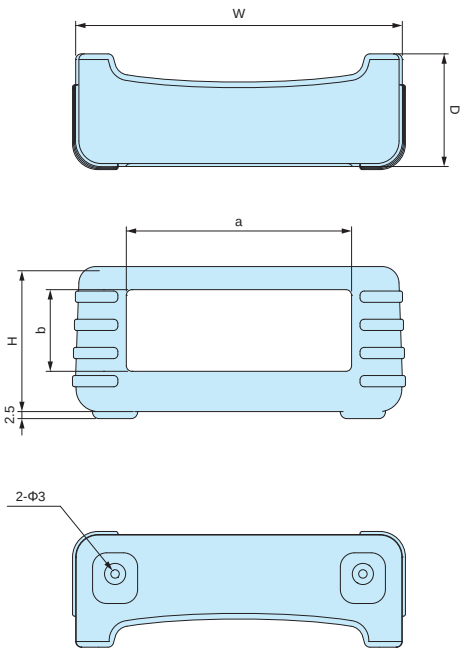
Color Type

Code	Y Yellow	N Navy	L Light gray	B Black
Color				

- Silicone Protector for TW and TWN series. Selectable in 4 colors.
- Available as a set of 2 pcs.
- Custom color is available from just 1 set. For 500 sets or more, manufacture costs will be similar to a standard color. Please inquire for more details. For custom color order, please specify **PANTONE**® color code.
- Use caution when assembling. Overtightening may damage the enclosure and silicone protectors.

TWSC dimensions

- DXF/DWG/PDF drawings available on our website.

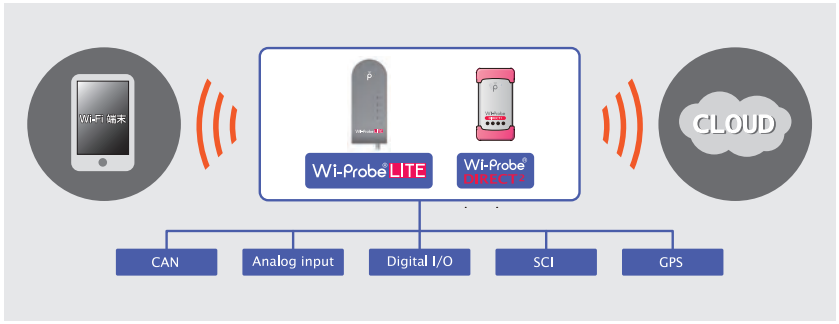


APPLICATION EXAMPLE

Wi-Probe DIRECT2 Monitoring Device

Product by TAKASAKI KYODO COMPUTING CENTER (Japan)





*Pink shown above is custom color.

Components

Part name	Pcs	Material	Color / Finish
Silicone protector	1 set (2 pcs)	Silicone	Yellow • Navy • Light gray • Black
Self-tapping screw	4	Steel M3-20	Black trivalent chromate

Product no. / Dimensions

- Please suffix color code at the end of the product number.

Product no.	W	H	D	a	b	Suitable models	Weight (g)
TWSC 7-3□	71	32	27	52	13.5	TW • TWN 7-3-13	41
TWSC 7-5□	71	56	27	52	37.5	TW • TWN 7-5-13	47.5
TWSC 9-4□	91.5	41.5	33	67	22	TW • TWN 9-4-17	60
TWSC 9-6□	91.5	66.5	33	67	46.5	TW • TWN 9-6-17	75
TWSC11-5□	116	51.5	40	80	29	TW • TWN11-5-22	102.5
TWSC11-8□	116	81.5	40	80	58	TW • TWN11-8-22	122
TWSC13-5□	131	51	38	101	29.5	TW • TWN13-5-13 TW • TWN13-5-18	104
TWSC13-7□	131	71	38	101	48.5	TW • TWN13-7-18	117

SIB series SILICONE BAND



Utilization example

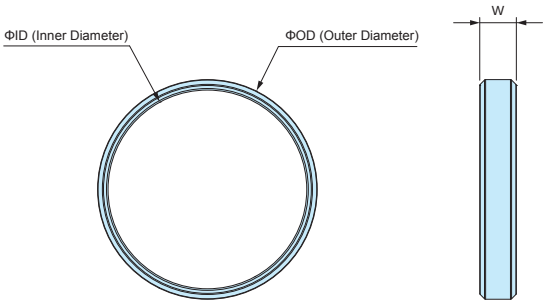


- Silicone band designed to fit TW and TWN series.
  Refer to the table below for size suitability.
- Silicone band provides both shock resistance and non-slip grips for the TW & TWN enclosure.

Color Type

Code	R Red	O Orange	Y Yellow	G Green	C Cyan	N Navy	L Light gray	B Black
Color								

SIB dimensions



Components

Part name	Pcs	Material	Color
Silicone band	Pair (2 pcs)	Silicone	Red • Orange • Yellow • Green • Cyan • Navy • Light gray • Black

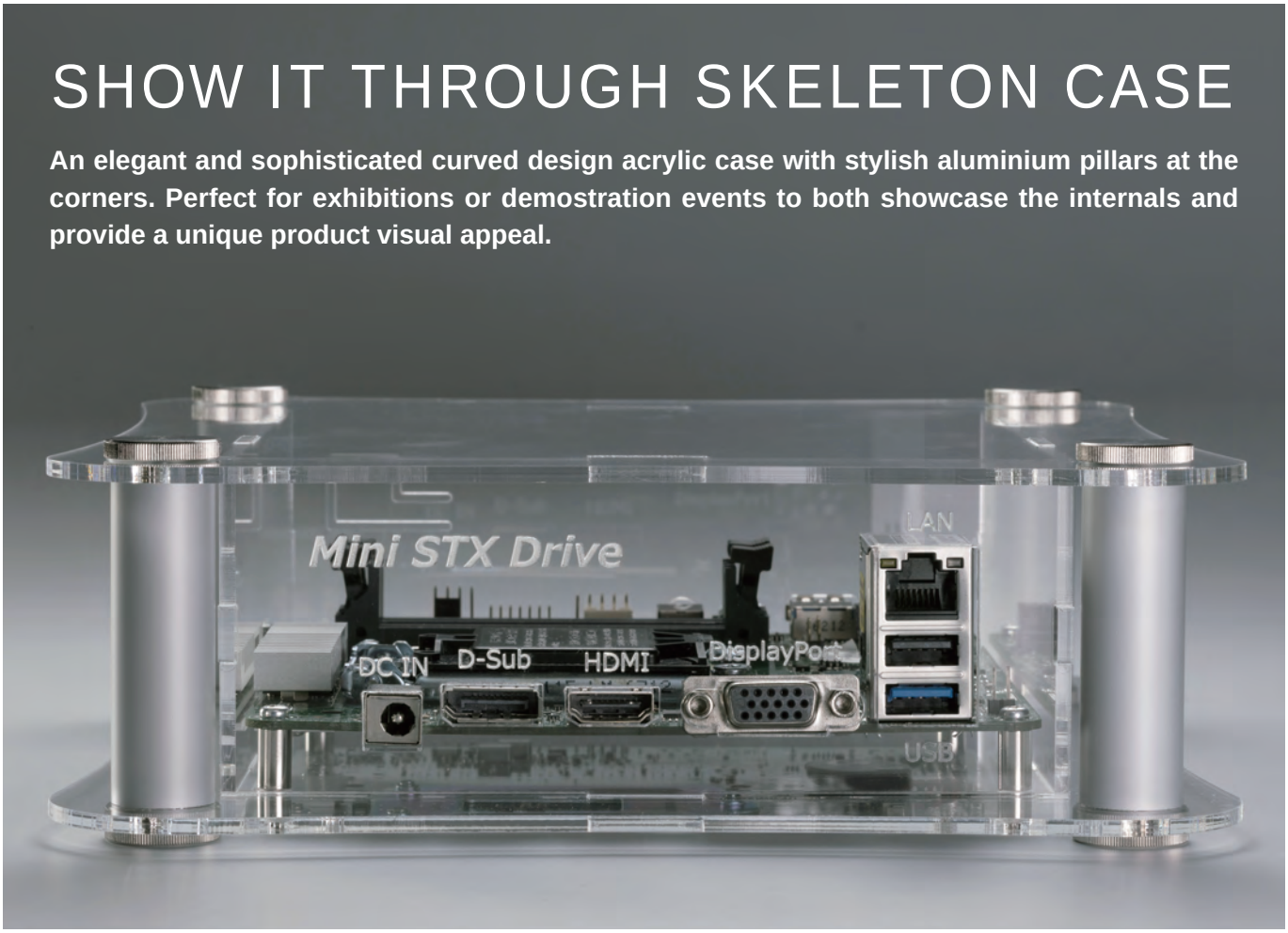
Product no. / Dimensions

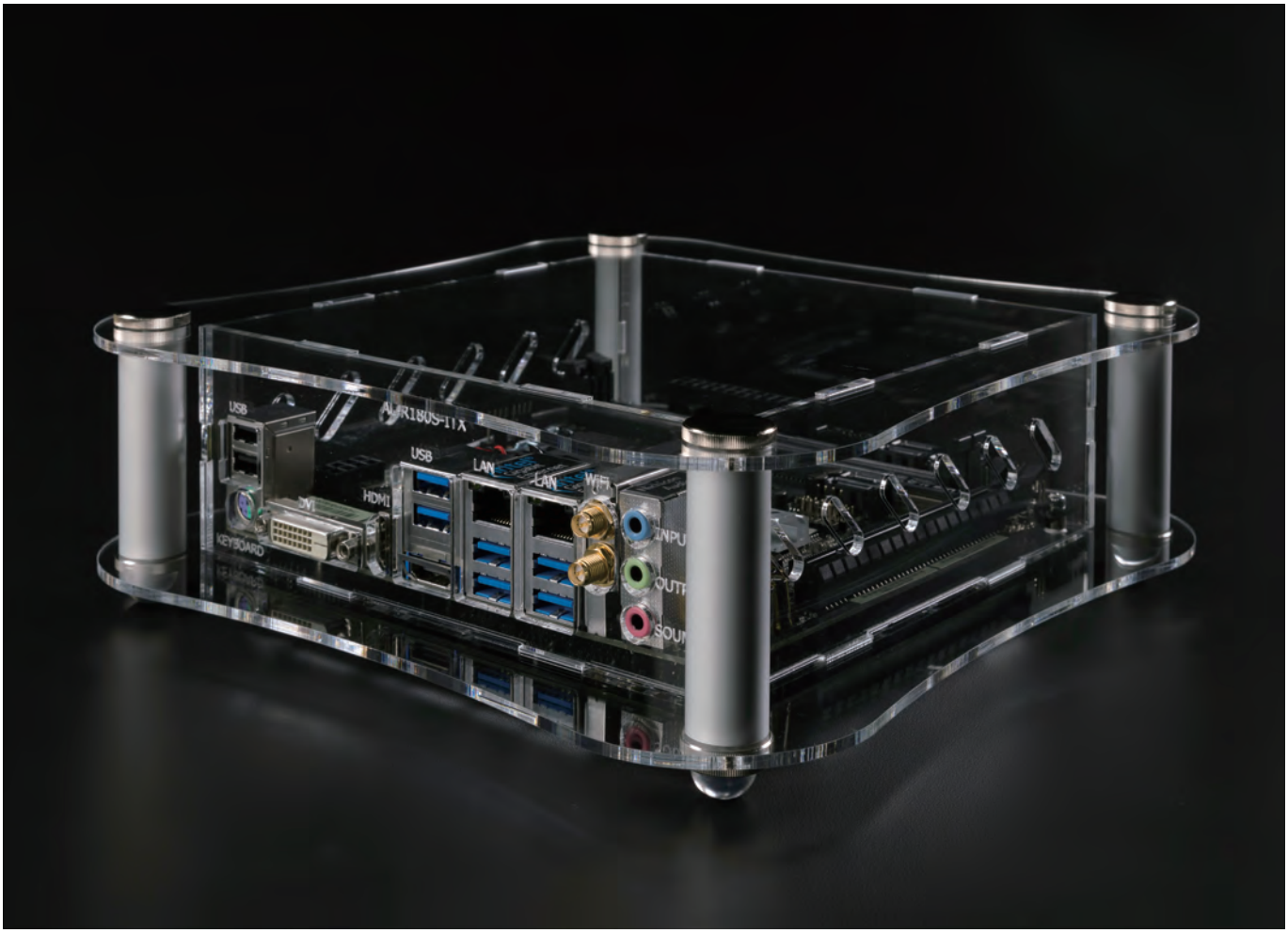
■ Please suffix color code at the end of the product number.

Product no.	W	ID	OD	Suitable models	Weight (g)
SIB-21□	6	21	25	TW • TWN4-2-5 • 4-2-6 • 4-2-8 • 5-2-5 • 5-2-7 • 5-3-9	2
SIB-38□	7	38	42	TW • TWN5-3-5 • 5-3-7 • 5-4-7 • 5-3-10 • 7-2-11 • 7-4-11 7-3-13 • 8-2-8	4
SIB-58□	8	58	63	TW • TWN7-5-11 • 7-5-13 • 8-4-8 • 9-4-17	10
SIB-72□	10	72	77	TW • TWN9 -6-17 • 11-5-22 • 11-8-22 • 13-3-13 • 13-5-13 13-3-18 • 13-5-18 • 13-7-18	14

SHOW IT THROUGH SKELETON CASE

An elegant and sophisticated curved design acrylic case with stylish aluminium pillars at the corners. Perfect for exhibitions or demostration events to both showcase the internals and provide a unique product visual appeal.





Easy Assembly Curved Design Case



Custom Sized Cases Available

Custom sized cases are available 50 ~ 500 width / length(depth) and 30 ~ 500 height in 1mm intervals.
See SKLF series on our website for further details.



CUSTOMIZATION POSSIBILITIES

Printing

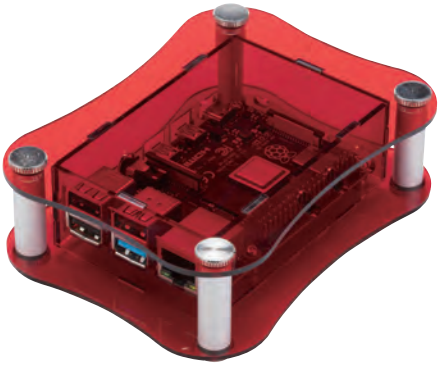
Print your logo, text and more using our customization services, such as inkjet printing.

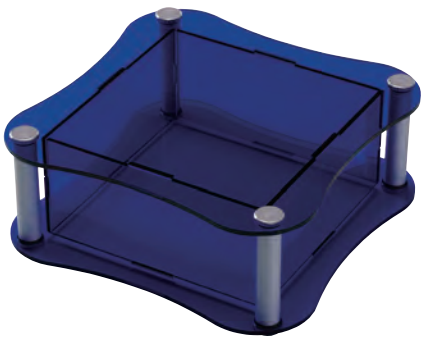


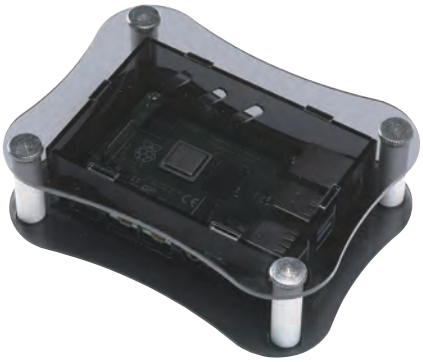


Color Variation

Available in different color types, as well as smoked / tinted shades.



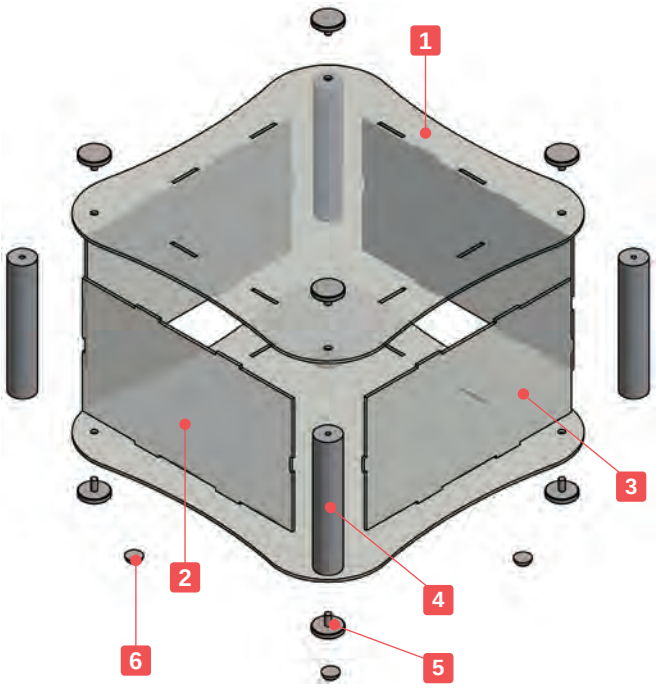




SKL series SKELETON ACRYLIC CASE

NEW





- Curved transparent acrylic case with corner support columns.
- 5 different sizes are available.
- Usable as a display enclosure for a unique and luxurious outlook.
- SKL11-5-17 and 11-8-17 models are compatible with the Euro Board.

  SKL18-7-18 and 18-10-18 models are compatible with the Mini ITX board.
- Possible to be used in a flat layout, or a standing layout.
- Knurled thumb screws for easy hand assembly.

- Custom sized cases are available. See SKLF series on our website for further details.

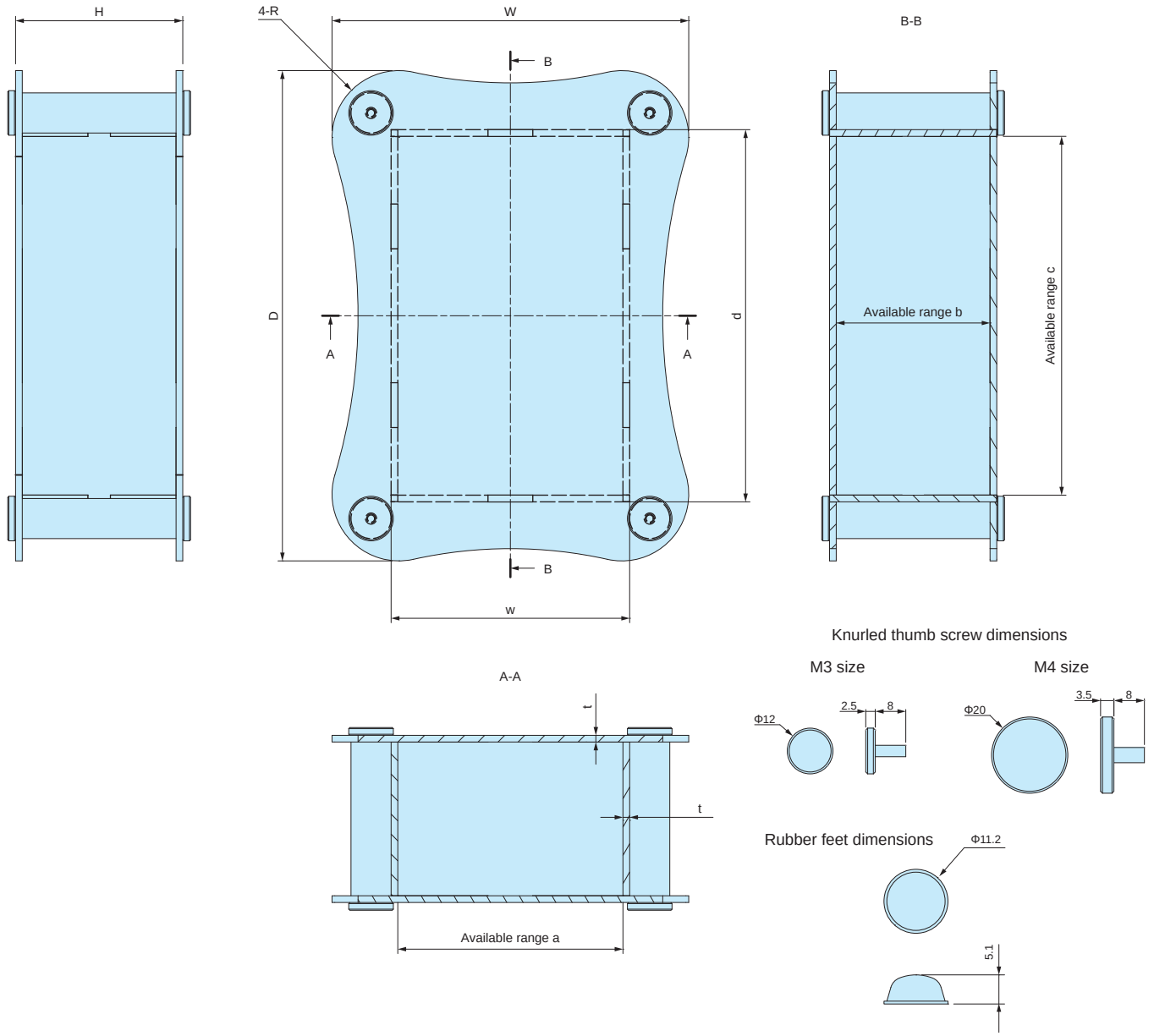
※Ethanol or other alcoholic solvents may cause the acrylic panel to crack. Use a neutral cleaner or specialized acrylic cleaning solvent for cleaning.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Top · Bottom cover	1 each	Acrylic	Transparent
2	W panel	2	Acrylic	Transparent
3	D panel	2	Acrylic	Transparent
4	Pillar	4	Extruded aluminium A6063S-T5	Silver / Anodized
5	Knurled thumb screw	8	Brass	Nickel plated
6	Rubber feet	4	Polyurethane	Transparent

SKL dimensions

■ DXF/DWG/PDF/STP drawings available on our website.



Product no. / Dimensions

Product no.	External dimensions			Case dimensions		Available range			R	t	Screw size	Weight (g)
	W	H	D	w	d	a	b	c				
SKL10- 5-10	141	51	141	105	105	101	47	101	25	2	M3	191.5
SKL11- 5-17	165	47	225	107	167	101	41	161	25	3	M4	507
SKL11- 8-17	165	77	225	107	167	101	71	161	25	3	M4	643
SKL18- 7-18	239	67	239	177	177	171	61	171	40	3	M4	762
SKL18-10-18	239	102	239	177	177	171	96	171	40	3	M4	940.5

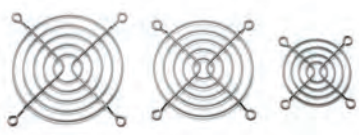
Accessories (Optional parts)



Adhesive standoff AST series
See page 121



Cooling fan AGE • IGE series
See website



Finger guard HF-G series
See website

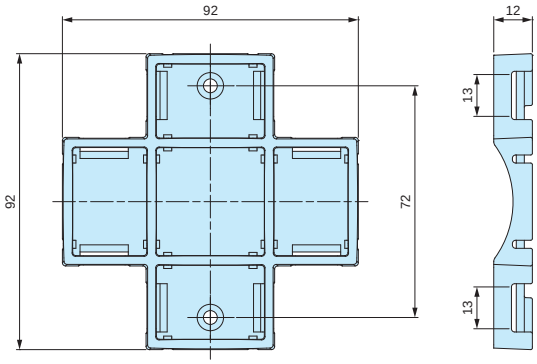
WPMB-M4-3 series POLE MOUNTING BRACKET



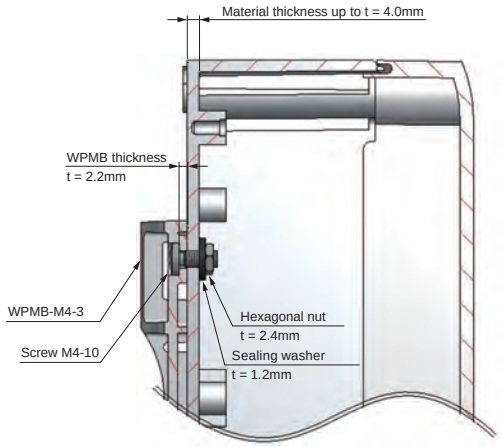
- Pole mount bracket made from weather resistant ASA material.
- Suitable for both vertical and horizontal mounting.
- IPX7 protection can be maintained through the use of sealing washers.
- Hole milling is required for bracket installation.
- Pole mount is possible with the use of PKB series mounting belt. (see page 324 for PKB series)

WPMB-M4-3 dimensions

- DXF/DWG/PDF/STP drawings available on our website.



Installation



Components

No.	Part name	Pcs	Material	Color / Finish
1	Bracket	1	ASA UL94HB	White gray • Dark gray
2	Sealing washer	2	NBR, SPCC	Black
3	Screw (M4-10 Pan head)	2	Stainless steel	Unfinished
4	Hexagonal nut (M4 - JIS Type 3)	2	Stainless steel	Unfinished

Product no. / Dimensions

Product no.		Material thickness to install	Recommended torque	Max load (kg)	Weight (g)
White gray	Dark gray				
WPMB-M4-3G	WPMB-M4-3D	Up to t = 4.0mm	0.45N • m	5	26.5

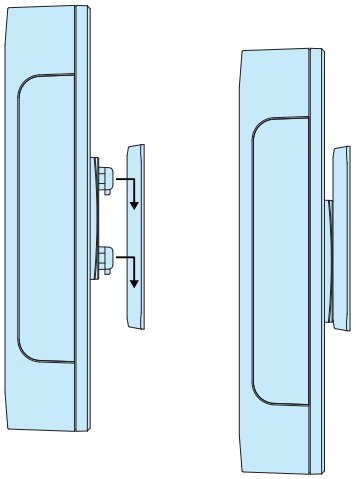
- Recommended torque listed is for reference only; actual may differ. Assemble after testing torque.

WM series SUSPENSION BRACKET





How to install



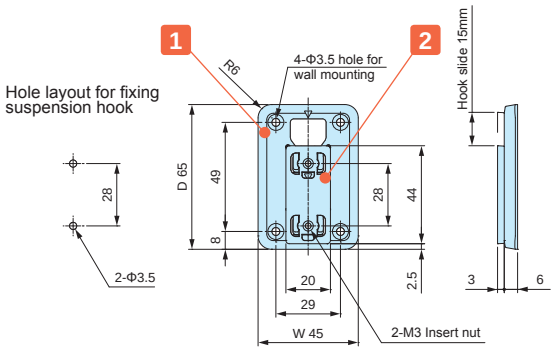
- Plastic wall mounting bracket. Easy attachment and removal.
- Large and small bracket types are available.
- Applicable to be used on plastic or metallic enclosures with a panel thickness of 0.8 ~ 3.5mm.
- To attach the suspension hook onto the enclosure, hole milling is required.
- Please be aware of the insertion direction of the suspension hook against the mounting base when attaching.

Technical Data
Max load : 2 kg - WM-1 5 kg - WM-2

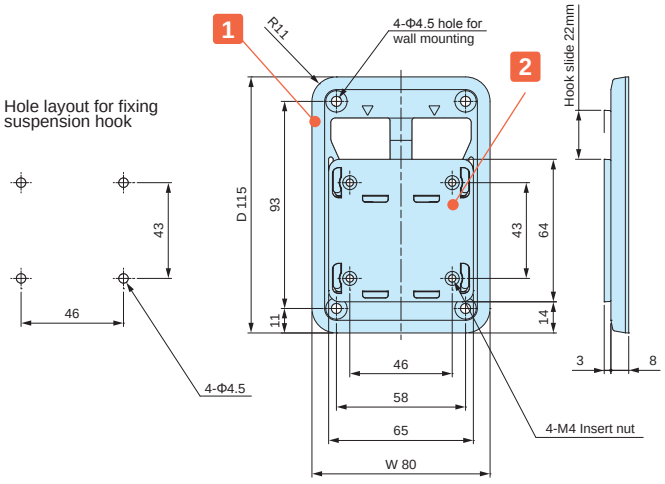
*The max load values listed are static load values only. Use caution when handling.

WM dimensions

WM-1



WM-2



- DXF/DWG/PDF/STP drawings available on our website.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Mounting base	1	PC + ABS UL94HB	Off-white • Dark gray
2	Suspension hook	1	PC + ABS UL94HB	Off-white • Dark gray
–	Screw	2 (WM-1) 4 (WM-2)	Steel	Nickel plated

Included Screw WM-1☐ : Bind M3-8
WM-2☐ : Bind M4-8

Product no. / Dimensions

Product no.		W	D	Mountable thickness	Weight (g)
● Off-white	● Dark gray				
WM-1W	WM-1D	45	65	t0.8 ~ t3.5	11.5
WM-2W	WM-2D	80	115	t0.8 ~ t3.5	48

NMG series NEODYMIUM MAGNET

Round magnet

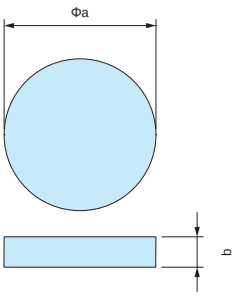
■ DXF/DWG/PDF drawings available on our website.



■ Material / Finish: Neodymium / Nickel plated

■ Please attach using a strong adhesive.

NMG dimensions



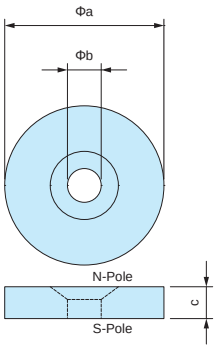
Components

Product no.	a	b	Weight (g)	Flux Density	Absorption
NMG3-15N	15	3	4	214.4 mT	2.44 kgf
NMG3-20N	20	3	7.1	170.7 mT	3.26 kgf
NMG5-22N	22	5	11.4	247.2 mT	5.91 kgf
NMG5-25N	25	5	18.4	221.9 mT	6.89 kgf

Round magnet with countersunk hole



■ Please fasten with a screw.



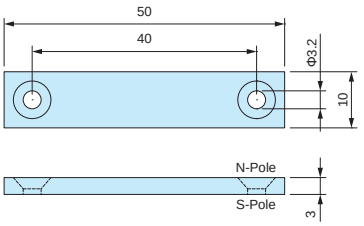
Components

Product no.	a	b	c	Countersunk size	Weight (g)	Flux Density	Absorption
NMG3-15M3	15	3.2	3	M3	3.8	214.3 mT	2.33 kgf
NMG3-20M3	20	3.2	3	M3	6.9	170.6 mT	3.17 kgf
NMG5-22M4	22	4.3	5	M4	13.7	247.2 mT	5.68 kgf
NMG5-25M5	25	5.3	5	M5	17.6	221.9 mT	6.58 kgf

Rectangular magnet with countersunk holes



■ Please fasten with a screw.



Components

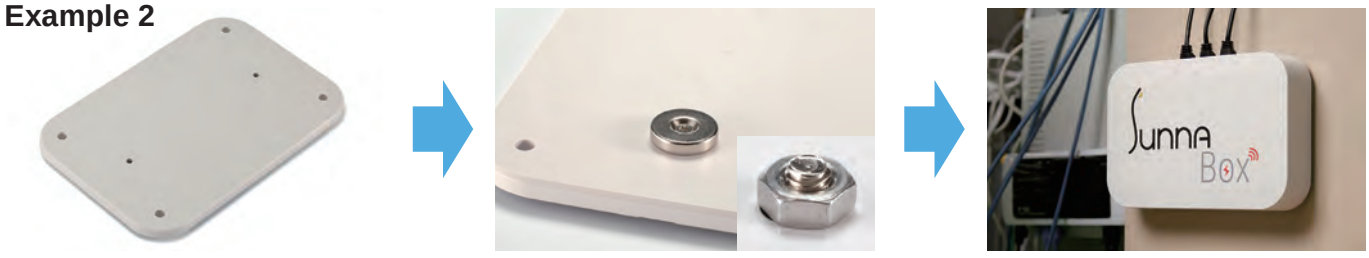
Product no.	a	b	c	Countersunk size	Weight (g)	Flux Density	Absorption
NMG3-50M3	50	10	3	M3	11.3	210.0 mT	9.1 kgf

Example 1 The magnetic force remains strong even through plastic.



Make recessed pocket on the inside wall. Glue on. Attach onto a metallic surface.

Example 2



Make holes Fasten with a screw and nut. Attach onto a metallic surface.

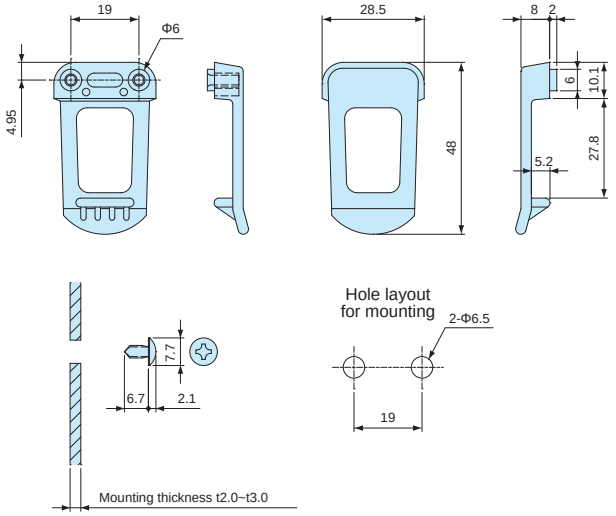
CAUTION: Handle with care to avoid personal injury or damage to the magnet.

GDH series PLASTIC BELT CLIP



GDH dimensions

■ DXF/DWG/PDF drawings available on our website.



Components

No.	Part name	Pcs	Material	Color / Finish
1	Clip	1	ABS UL94HB	White • Black
2	Screw	2	Steel M3.5-6	Zinc plated

Product no. / Dimensions

Product no.		W	H	D
● White	● Black			
GDH-1W	GDH-1B	28.5	10	48

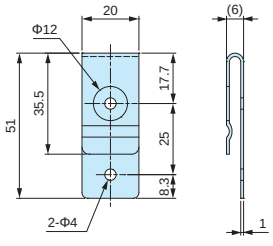
DK series STEEL BELT CLIP



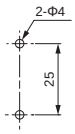
DK dimensions

■ DXF/DWG/PDF drawings available on our website.

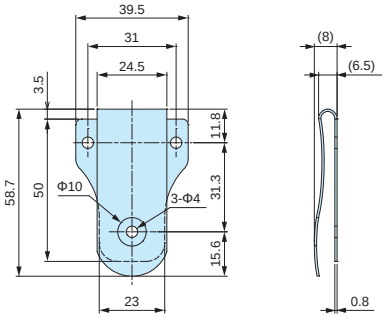
DK-1



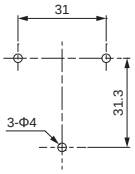
Hole layout
for mounting



DK-2



Hole layout
for mounting



Product no. / Dimensions

Product no.	Material	Finish
DK-1	Steel SPCC t=1.0	Chrome plated
DK-2	Steel SPCC t=0.8	Chrome plated

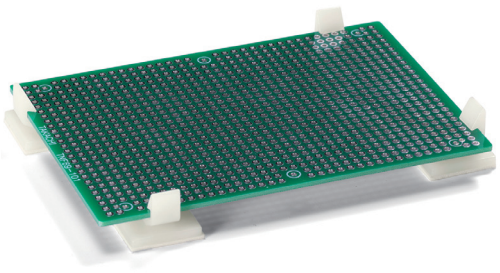
ULCK series SCREWLESS PCB ADHESIVE STANDOFF

NEW

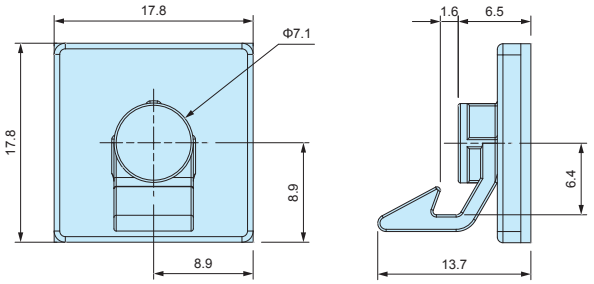
Product photo



Application example



ULCK dimensions



■ DXF/DWG/PDF drawings available on our website.

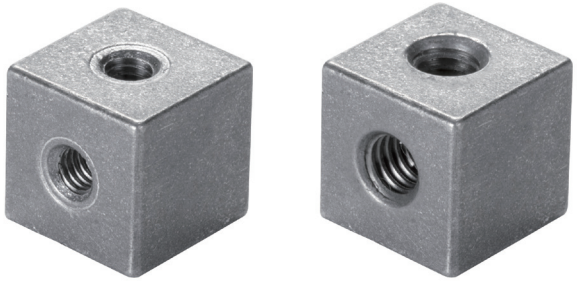
■ Securing of a 1.6mm thick PCB made easy by simply snapping it in.
■ Adhesive standoff can be freely and easily affixed on.
■ Once removed, it cannot be adhered on again.

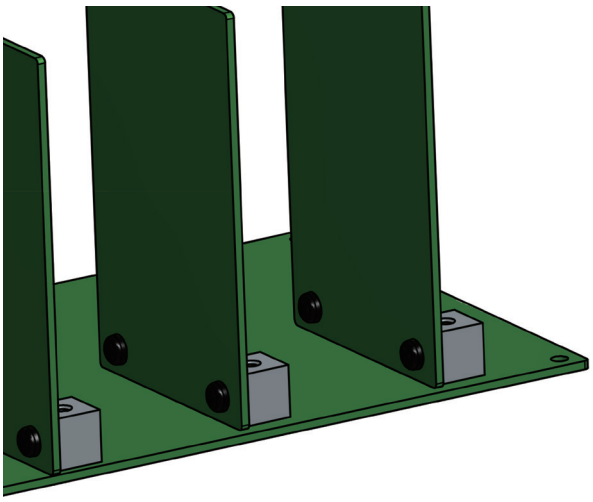
Product no. ■ Material / Finish : PA66 UL94V-2 / Natural

Product no.	Pack of
ULCK-6.4	4

CUBE series CUBE STANDOFF

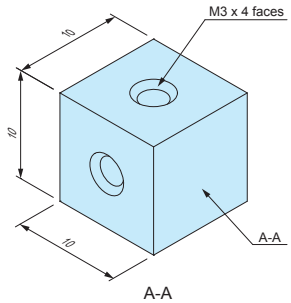
NEW



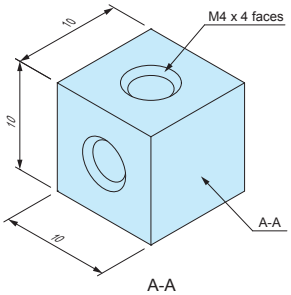


CUBE dimensions

CUBE10-M3



CUBE10-M4



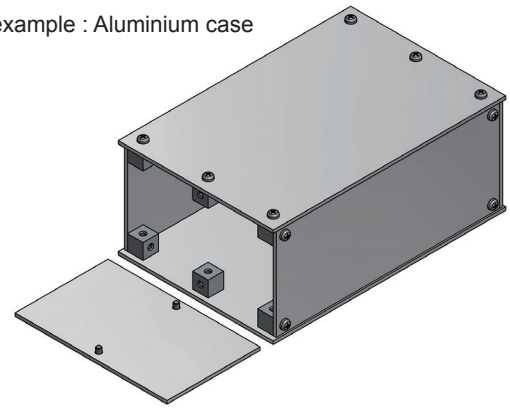
■ DXF/DWG/PDF/STP drawings available on our website.

■ 10mm threaded cube shape standoff with a thread on 4 faces.
■ M3 and M4 thread models available.
■ Coveniently usable when installing PCB or metal plate upright.
■ CUBE can also be used to make a simple housing by vertically aligning the plates.

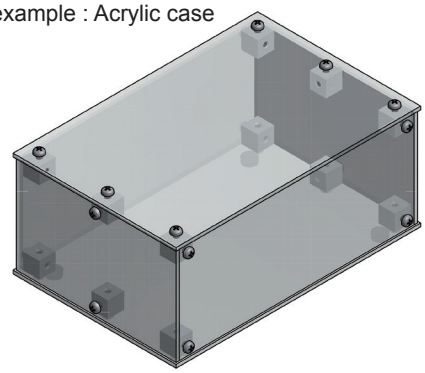
Product no. ■ Zinc diecast : Glossy barrel finish

Product no.	Pack of
CUBE10-M3	2
CUBE10-M4	2
CUBE10-M3-P	20
CUBE10-M4-P	20

Production example : Aluminium case



Production example : Acrylic case



AST series INSERT NUT ADHESIVE STANDOFF

NEW

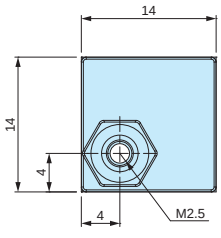


- Double-sided adhesive tape allows the standoff to be mounted quickly and easily; allows PCB mounting in non-boss enclosures.
- Convenient for installing PCBs into enclosures without the need for customization.
- Please ensure that surface is cleaned and grease-free before adhering.
- Once removed, it cannot be adhered on again.

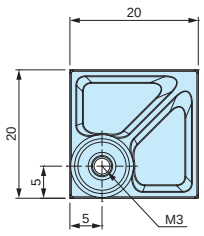
AST dimensions

- DXF/DWG/PDF/STP drawings available on our website.

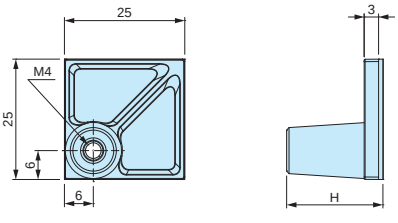
AST2.5-□



AST3-□



AST4-□



Product no. / Dimensions

Product no	H dimension	Included screw	Recommended PCB Thickness (mm)	Recommended torque (N • m)	Weight (g)	Pack of
AST2.5-5B	5	M2.5-5 pan head	1.0 ~ 2.0	0.3	0.6 (1 piece)	4
AST2.5-10B	10	M2.5-5 pan head	1.0 ~ 2.0	0.3	0.8 (1 piece)	4
AST3-6B	6	M3-6 pan head	1.0 ~ 3.0	0.4	1.5 (1 piece)	4
AST3-10B	10	M3-6 pan head	1.0 ~ 3.0	0.4	1.6 (1 piece)	4
AST3-15B	15	M3-6 pan head	1.0 ~ 3.0	0.4	1.8 (1 piece)	4
AST3-20B	20	M3-6 pan head	1.0 ~ 3.0	0.4	2.1 (1 piece)	4
AST4-10.5B	10.5	M4-8 pan head	1.0 ~ 3.5	0.8	2.6 (1 piece)	4
AST4-20B	20	M4-8 pan head	1.0 ~ 3.5	0.8	3.2 (1 piece)	4

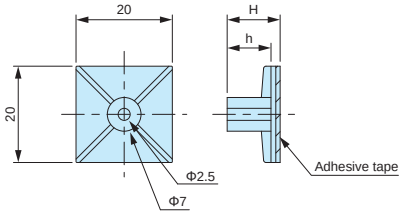
Bulk package

Product no	Pack of
AST2.5-5B-P	100
AST2.5-10B-P	100
AST3-6B-P	100
AST3-10B-P	100
AST3-15B-P	100
AST3-20B-P	100
AST4-10.5B-P	50
AST4-20B-P	50

- Base material / color : Nylon 66 (UL94V-2) / Black
- Nut • screw material / finish : Steel / Trivalent chromate
- Bulk packaging is available. See "Bulk package" column above.
- Screws are not included for bulk packages.

ASR series ADHESIVE PCB STANDOFF

ASR dimensions





- DXF/DWG/PDF drawings available on our website.

Technical Data
Recommended torque : 0.4N • m

- M3 tapping screw use adhesive standoff. Recommended to be used with EM-3 or EM-3-6 self-tapping screws (See page 123).
- Please ensure that surface is cleaned and grease-free before adhering.
- Once removed, it cannot be adhered on again.

Product no. / Dimensions

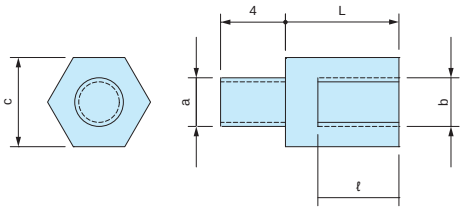
Product no	H	h	Weight (g)	Pack of
ASR- 5	5.1	3.1	0.9 (1 piece)	10
ASR- 6	6.4	4.4	1.0 (1 piece)	10
ASR- 7	7.2	5.1	0.9 (1 piece)	10
ASR- 8	8.1	6.3	0.9 (1 piece)	10
ASR- 9	9	7	1.0 (1 piece)	10
ASR-11	11	9	1.0 (1 piece)	10
ASR-13	12.7	10.7	1.2 (1 piece)	10
ASR-14.5	14.7	12.8	1.1 (1 piece)	10
ASR-16	15.9	13.9	1.3 (1 piece)	10
ASR-19	19.1	17.1	1.4 (1 piece)	10

TPS series TAPPING STANDOFF





TPS dimensions



■ DXF/DWG/PDF drawings available on our website.

■ Tapping screw head allows for easy installation onto existing enclosure boss mount.

■ 4 different sizes available : M2.3, M2.6, M3 and M4 size.

Product no. / Dimensions

■ Material / Finish : Brass / Unfinished

Product no.	Screw size (a)	Screw size (b)	c	L	ℓ	Pack of	Suitable models
TPS-M2.3-4	M2.3	M2.3	5	4	3	4	WH series • PFE series LC • LCE • LCS • LCT series PF • PFF series (M2.3 boss models) TW • TWN • TWF series (M2.3 boss models) WP series (M2.3 boss models)
TPS-M2.3-5	M2.3	M2.3	5	5	3	4	
TPS-M2.3-6	M2.3	M2.3	5	6	4	4	
TPS-M2.3-7	M2.3	M2.3	5	7	5	4	
TPS-M2.3-8	M2.3	M2.3	5	8	6	4	
TPS-M2.3-10	M2.3	M2.3	5	10	6	4	
TPS-M2.3-12	M2.3	M2.3	5	12	6	4	
TPS-M2.6-4	M2.6	M2.6	5	4	3	4	PF • PFF series (M2.6 boss models) WP series (M2.6 boss models)
TPS-M2.6-5	M2.6	M2.6	5	5	3	4	
TPS-M2.6-7	M2.6	M2.6	5	7	5	4	
TPS-M2.6-10	M2.6	M2.6	5	10	6	4	
TPS-M2.6-12	M2.6	M2.6	5	12	6	4	
TPS-M3-4	M3	M3	5.5	4	3	4	TWS • TW • TWN • TWF series (M3 boss models)
TPS-M3-5	M3	M3	5.5	5	3	4	
TPS-M3-6	M3	M3	5.5	6	4	4	
TPS-M3-7	M3	M3	5.5	7	5	4	
TPS-M3-8	M3	M3	5.5	8	5	4	
TPS-M3-10	M3	M3	5.5	10	6	4	
TPS-M3-12	M3	M3	5.5	12	6	4	
NEW TPS-M4-6	M4	M4	7	6	4	4	BCAP • BCPC • BCPK • BCAR • BCPR series (M4 boss models)
NEW TPS-M4-10	M4	M4	7	10	6	4	
NEW TPS-M4-15	M4	M4	7	15	8	4	
NEW TPS-M4-20	M4	M4	7	20	10	4	



■ Please use a suitable sized socket driver to both secure and loosen the tapping standoff.



MT series PCB MOUNTING SCREWS for TPS

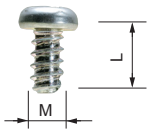


■ PCB mounting Screws for TPS tapping standoffs

Product no. / Dimensions

Product no.	M	L	Head style	Material	Finish	Pack of
MT2.3-4	2.3	4	Pan	Steel	Trivalent chromate	20
MT2.3-6	2.3	6		Steel	Trivalent chromate	20
MT2.6-4	2.6	4		Steel	Trivalent chromate	20
MT3-4	3	4		Steel	Trivalent chromate	20

EM series PCB MOUNTING SCREW



- Self-tapping screws for mounting PCB on bosses or standoffs.
- EM-3-6 self-tapping screws are suitable for mounting 1.6mm or thicker PCB.

Product no. / Dimensions

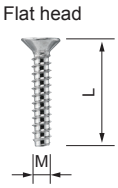
Product no.	M	L	Material	Finish	Suitable models	Pack of
EM-1.6	1.6	4	Steel	Trivalent chromate	CSS • CS WC • PS (M1.6 boss models)	50
EM-2	2	5	Steel	Trivalent chromate	SIC • SIM • WC • PS • TW • TWN • TWF PF • WC • WP (M2 boss models)	50
EM-2.3	2.3	6	Steel	Trivalent chromate	WH • LC • LCT • LCS • LCE • PFE WSC (Top cover bosses) PF • PFF (M2.3 boss models) TW • TWN • TWF (M2.3 boss models) WP (M2.3 boss models)	50
EM-2.3-8	2.3	8	Steel	Trivalent chromate	WSC (Bottom base bosses)	50
EM-2.6	2.6	6	Steel	Trivalent chromate	PF • PFF • WP (M2.6 boss models)	50
EM-3	3	5	Steel	Trivalent chromate	TWS • TW • TWN • TWF (M3 boss models)	50
EM-3-6	3	6	Steel	Trivalent chromate		50

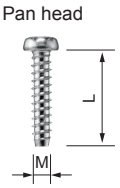
MR series TORX SCREW

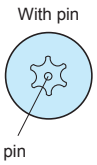




- Self-tapping torx screws for securing of the enclosure.









★ : MR1.6-6S, MR-2S, MR2.6-10□, and MR3-14□ are without pin.

Product no. / Dimensions

★Mark = Without pin

Product no.	M	L	head no.	Head style	Material	Finish	Suitable models	Pack of
MR1.6-6S★	1.6	6	T3	Pan	Steel	Nickel plated	CSS • CS	20
MR2.5-8PS	2.5	8	T8	Pan	Steel	Nickel plated	PF • PFE • PFF (M2.5 size)	20
MR2.6-10S★	2.6	10	T8	Flat	Steel	Nickel plated	TW • TWN (M2.6 size)	20
MR2.6-10B★	2.6	10	T8	Flat	Steel	Black trivalent chromate	TWF (M2.6 size) MX • MXA • MXB • MXF (M2.6 size)	20
MR2.6-12PS	2.6	12	T8	Pan	Steel	Nickel plated	LCT • LCS • LC115-F2 / F3 LCT • LCS • LC145S-F6	20
MR2.6-14PS	2.6	14	T8	Pan	Steel	Nickel plated	LCT • LCS • LC115H-F2 / F3 / M2 / 9V LCT • LCS • LC135-F4 / M2 / M3 / 9V LCT • LCS • LC135H-F4 / M2 / M3 / 9V LCT • LCS • LC145-F6 / M2 / M4 LCT • LCS • LC145H-F6 / M2 / M4 LCT • LCS • LC165-M4 LCT • LCS • LC165H-M4	20
MR2.6-14S	2.6	14	T8	Flat	Steel	Nickel plated	LCT • LCS • LC115-N / F2 / F3 LCT • LCS • LC145S-F6 / 145S-N LCE115-N TW • TWN7-2-11 / 7-4-11 / 7-5-11 TWF7-2-11 / 7-4-11 / 7-5-11 / 8-2-8 / 8-4-8	20
MR2.6-18S	2.6	18	T8	Flat	Steel	Nickel plated	LCT • LCS • LC115H-N / F2 / F3 / M2 / 9V LCT • LCS • LC135-N / F4 / M2 / M3 / 9V LCT • LCS • LC135H-N / F4 / M2 / M3 / 9V LCT • LCS • LC145-N / F6 / M2 / M4 LCT • LCS • LC145H-N / F6 / M2 / M4 LCT • LCS • LC165-N / M4 LCT • LCS • LC165H-N / M4 LCE115H-N • LCE135-N • LCE145H-N • LCE165H-N	20
MR3-8PS	3	8	T10	Pan	Steel	Nickel plated	PF • PFE • PFF (M3 size)	20
MR3-14S★	3	14	T10	Flat	Steel	Nickel plated	TW • TWN (M3 size)	20
MR3-14B★	3	14	T10	Flat	Steel	Black trivalent chromate	TWF (M3 size) MX • MXA • MXB • MXF (M3 size)	20
MR-1S	3	5	T10	Flat	Steel	Nickel plated	UC	20
MR-1B	3	5	T10	Flat	Steel	Black trivalent chromate		20

CR2•CR123A-PC series LITHIUM BATTERY HOLDER

■ DXF/DWG/PDF drawings available on our website.



Technical Data
Operating temperature: -10°C ~ +60°C

Components

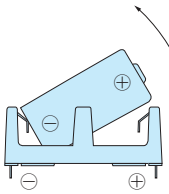
Holder material	Holder color	Contact material	Contact finish
ABS UL94V-0	Black	Phosphor bronze	Nickel plated

Product no. / Feature

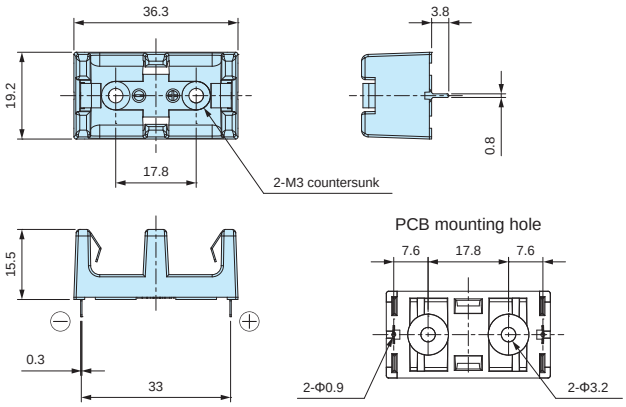
Product no.	Battery	Mounting	Weight (g)
CR2-PC	CR2×1	Through-hole mount pin x 2	4.3
CR123A-PC	CR123A×1	Through-hole mount pin x 2	5.0

Caution

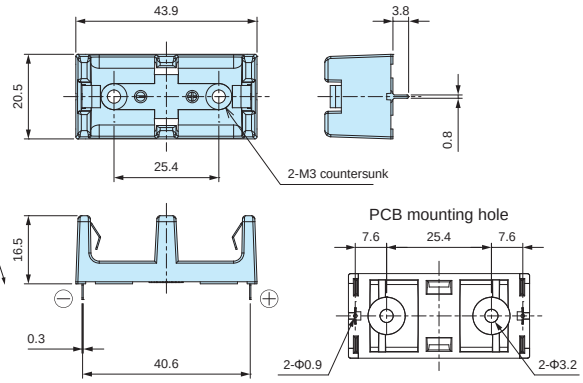
■ Please remove the battery from the positive (+) side. Removing it from the negative (-) side may damage the battery or the battery contacts.



CR2-PC dimensions

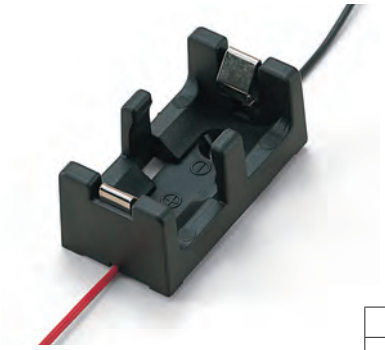


CR123A-PC dimensions



CR2•CR123A-R series LITHIUM BATTERY HOLDER with LEAD WIRE

■ DXF/DWG/PDF drawings available on our website.



Technical Data
Operating temperature: -10°C ~ +60°C

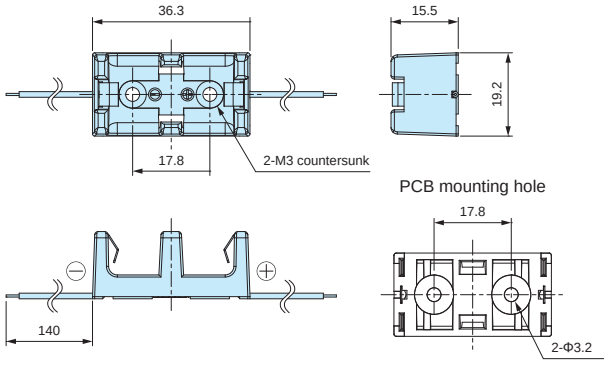
Components

Holder material	Holder color	Contact material	Contact finish
ABS UL94V-0	Black	Phosphor bronze	Nickel plated

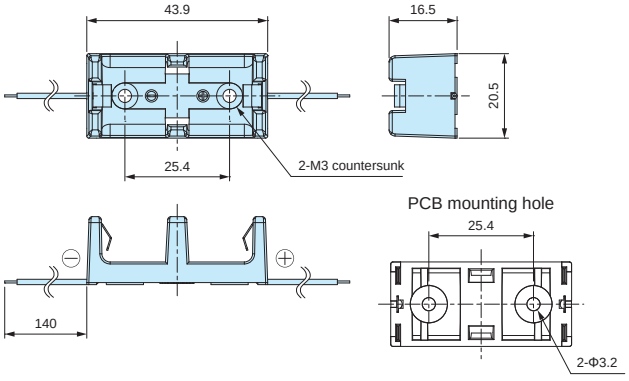
Product no. / Feature

Product no.	Battery	Lead wire	Weight (g)
CR2-R	CR2×1	UL1007 AWG26 L=140	5.3
CR123A-R	CR123A×1	UL1007 AWG26 L=140	6.0

CR2-R dimensions



CR123A-R dimensions



BC series EMBEDDED BATTERY BOX

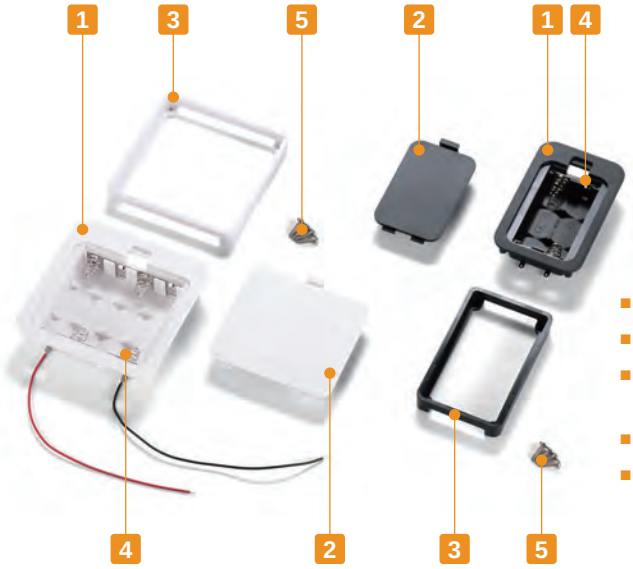
NEW



Technical Data
Operating temperature: -10°C ~ +60°C

Mount Example





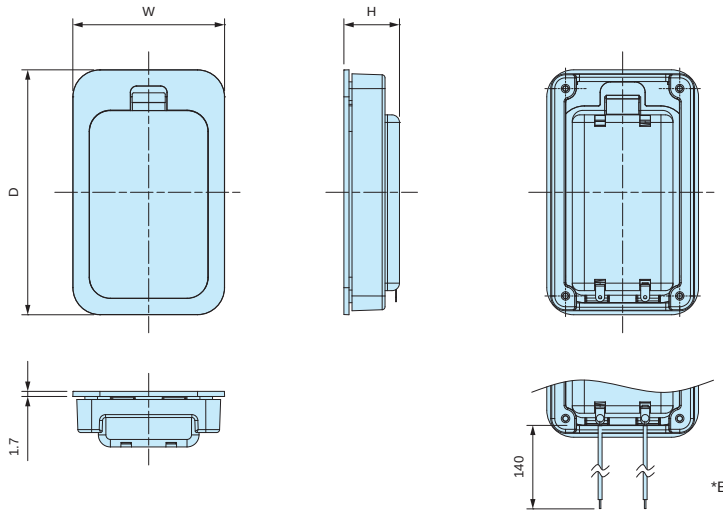
- Suitable to be installed into enclosures with material thickness of 1.0mm to 3.5mm.
- Cover can be opened/closed without any tool for easy battery replacement.
- 5 different battery layouts are available as AA x 2, AA x 3, AA x 4, AAA x 2 and AAA x4. Each layout comes in 2 models: with lead-wire, and without lead-wire.
- ⊕⊖markings prevents incorrect placement of battery.
- The dimensions of alkaline or manganese batteries may vary depending on country and brand. Use optional battery cushion sponge to preventing rattling.

Components

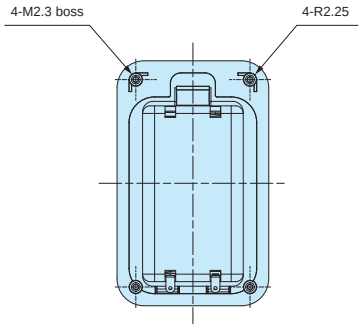
No.	Part name	Pcs	Material	Color / Finish
1	Box	1	ABS UL94V-0	Black • Off-white
2	Cover	1	ABS UL94V-0	Black • Off-white
3	Frame	1	ABS UL94V-0	Black • Off-white
4	Battery contact Lead wire (BC-L models)	1 set	Battery contact : Brass & steel wire Lead wire : PVC + Copper wire (UL1007 AWG26)	Nickel plated Black • Red
5	Self-tapping screw	4	Steel	Nickel plated

BC dimensions

- DXF/DWG/PDF/STP drawings available on our website.
- The shape and position of battery contacts vary by models.

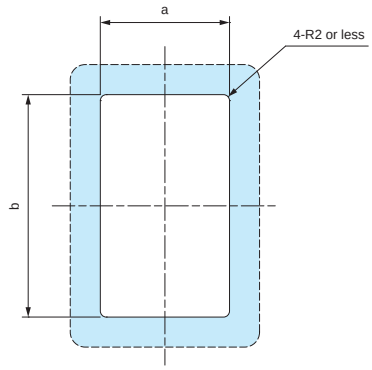


Back side of box



*Battery contact with lead wire for BC4-☐L and BC3-☐L models.

Hole layout for mounting



Suitable to be installed into enclosures with material thickness of 1.0mm to 3.5mm.

Type: Without Lead Wire

Product no. / Dimensions

Product no.		Dimensions					Battery layout	Weight (g)
● Black	● Off-white	W	H	D	a	b		
BC4-2-B	BC4-2-W	40	14.8	78.5	32.5	71	*AAA x 2	24.5
BC4-4-B	BC4-4-W	62	14.8	78.5	54.5	71	*AAA x 4	34.5
BC3-2-B	BC3-2-W	50.5	18.5	81.5	43	74	*AA x 2	31.5
BC3-3-B	BC3-3-W	65.5	18.5	81.5	58	74	*AA x 3	39
BC3-4-B	BC3-4-W	80.5	18.5	81.5	73	74	*AA x 4	46

*Alkaline or manganese batteries

Type: With Lead Wire

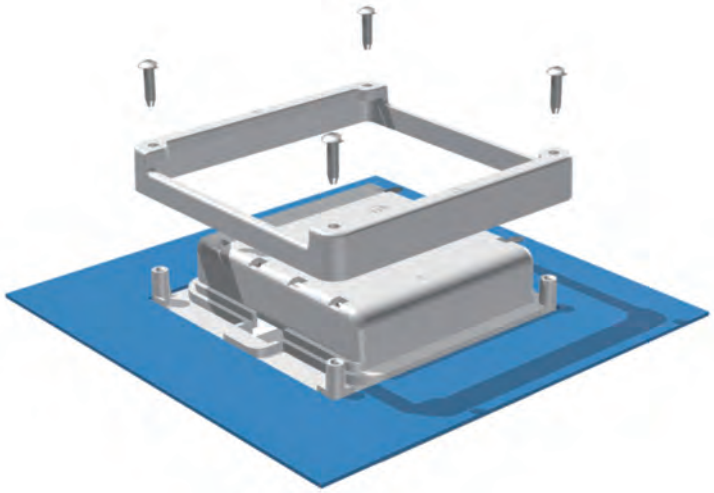
Product no. / Dimensions

Product no.		Dimensions					Battery layout	Weight (g)
● Black	● Off-white	W	H	D	a	b		
BC4-2L-B	BC4-2L-W	40	14.8	78.5	32.5	71	*AAA x 2	25.5
BC4-4L-B	BC4-4L-W	62	14.8	78.5	54.5	71	*AAA x 4	35.5
BC3-2L-B	BC3-2L-W	50.5	18.5	81.5	43	74	*AA x 2	32.5
BC3-3L-B	BC3-3L-W	65.5	18.5	81.5	58	74	*AA x 3	40
BC3-4L-B	BC3-4L-W	80.5	18.5	81.5	73	74	*AA x 4	47

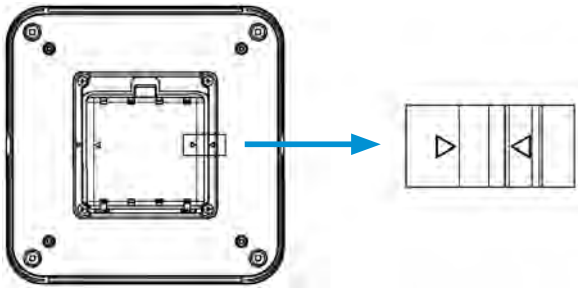
*Alkaline or manganese batteries

How to mount on the enclosures

■ Insert battery box into the milled hole first, and fit the frame on the back side. Once mounted, secure the frame with screws.



■ For BC3-4□ models, ▷ markings are shown on the frame. Install by matching the markings.



Parallel circuit conversion on BC series battery box

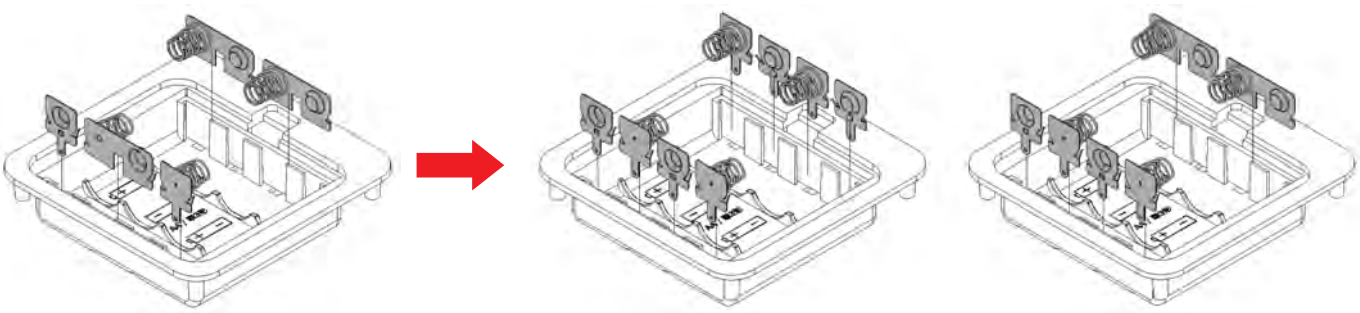
■ BC-3□ models can be converted from a series to a parallel circuit. See below illustration for further details.

■ IT series (IT-3 models) optional battery contacts can be used for parallel circuit conversion. (See website for more information)

■ Use caution when installing or replacing the terminals to avoid the damage to the material.

■ Parallel series conversion is available via our customization services.

Conversion Example

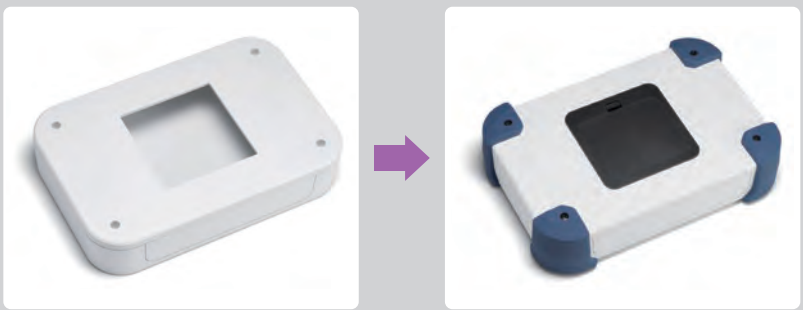


Series Circuit (Standard)

Parallel Circuit (4 batteries)

Parallel Circuit (2 batteries x 2)

Customization Available



For more information, contact us here:

Online form: https://www.takachi-enclosure.com/custom/form_custom
E-mail : sales@takachi-el.co.jp

Mount Example



■ BC series battery boxes can also be mounted on aluminium enclosures.

TLW series TILT LEG





APPLICATION EXAMPLE

- Double shot injection molded feet with soft and well-designed rounded shape.
- Non-slip design with Elastomer (TPE) pad.
- Available in 3 different color patterns (2 color patterns for TLW-70 models).
- TLW-70E models are exclusively for use with width 185mm or larger bottom covers of EXP • EXPE • EXW • EX • EXH • EXHE aluminium enclosures.

Technical Data
Max load : 7kg

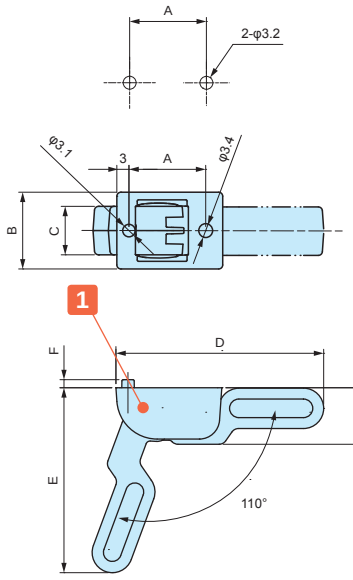
Components

No.	Part name	Pcs	Material	Color / Finish
1	Front foot	2	PC + ABS UL94V-0 • TPE	Black & Black • Navy & Gray • Light gray & Gray
2	Rear foot	2	PC + ABS UL94V-0 • TPE	Black & Black • Navy & Gray • Light gray & Gray
–	Screw	4	Steel M3-8 pan head	Black trivalent chromate
–	Nut	4	Steel M3	Black trivalent chromate

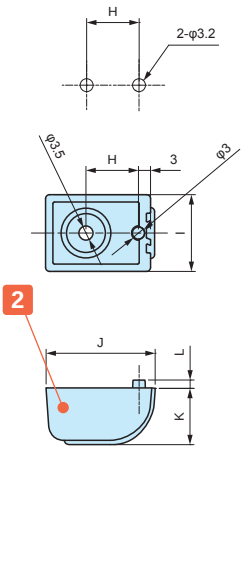
TLW dimensions

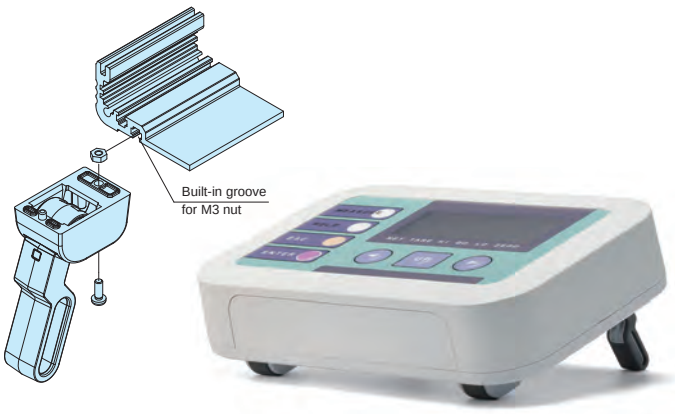
- DXF/DWG/PDF/STP drawings available on our website.
- TLW-70E□□ models are for installation (with M3 nut) into the built-in grooves on bottom-covers of EXP • EXPE 20-6, EXH • EXHE • EX 19-4 or larger models.
- Hole milling is required to install TLW-46□□ and TLW-70□□ models.
- Max installation panel thickness : t = 3.5mm

Mounting hole (Front)



Mounting hole (Rear)





Product no. / Dimensions

Product no.	A	B	C	D	E	F	G	H	I	J	K	L	Color (plastic)	Color (TPE)	Weight (g)
TLW-46BB	19	19	12	51.2	45.9	2	14	13	19	27	14	2	Black	Black	23
TLW46-NG	19	19	12	51.2	45.9	2	14	13	19	27	14	2	Navy	Gray	23
TLW-46LG	19	19	12	51.2	45.9	2	14	13	19	27	14	2	Light gray	Gray	23
TLW-70EBB	–	25	16	75.4	69	3	21.5	–	25	39	21.5	3	Black	Black	59
TLW-70ENG	–	25	16	75.4	69	3	21.5	–	25	39	21.5	3	Navy	Gray	59
TLW-70ELG	–	25	16	75.4	69	3	21.5	–	25	39	21.5	3	Light gray	Gray	59
TLW-70BB	30	25	16	75.4	69	2	21.5	20	25	39	21.5	2	Black	Black	59
TLW-70LG	30	25	16	75.4	69	2	21.5	20	25	39	21.5	2	Light gray	Gray	59

TAKACHI ELECTRONICS ENCLOSURE CO., LTD.
3-21-16 Higashi-ryoke, Kawaguchi-shi, Saitama, 332-0003 JAPAN
Tel. +81-48-222-5409 / Fax. +81-48-222-7652

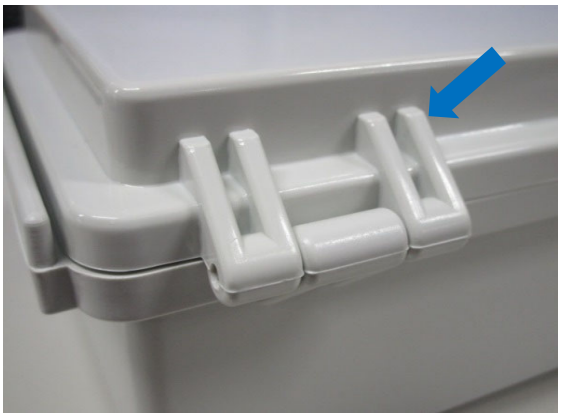
June 11, 2021

NOTICE

BCAP・BCPC・BCPK・BCAR・BCPR Series
Changes to Hinge Design

■ Change : Hinge design.

Current (Old) Hinge Design



New Hinge Design



■ Affected series / models

BCAP Series		BCPC Series	BCPK Series		BCAR Series		BCPR Series
BCAP112107G	BCAP112107T	BCPC112107S	BCPK112107S	BCPK112107T	BCAR112107G	BCAR112107T	BCPR112107S
BCAP112110G	BCAP112110T	BCPC112110S	BCPK112110S	BCPK112110T	BCAR112110G	BCAR112110T	BCPR112110S
BCAP112607G	BCAP112607T	BCPC112607S	BCPK112607S	BCPK112607T	BCAR112607G	BCAR112607T	BCPR112607S
BCAP112610G	BCAP112610T	BCPC112610S	BCPK112610S	BCPK112610T	BCAR112610G	BCAR112610T	BCPR112610S
BCAP406018G	BCAP406018T	BCPC406018S	BCPK406018S	BCPK406018T	BCAR203013G	BCAR203013T	BCPR203013S
BCAP406023G	BCAP406023T	BCPC406023S	BCPK406023S	BCPK406023T	BCAR203015G	BCAR203015T	BCPR203015S
BCAP203013G	BCAP203013T	BCPC203013S	BCPK203013S	BCPK203013T	BCAR203018G	BCAR203018T	BCPR203018S
BCAP203015G	BCAP203015T	BCPC203015S	BCPK203015S	BCPK203015T	BCAR304012G	BCAR304012T	BCPR304012S
BCAP203018G	BCAP203018T	BCPC203018S	BCPK203018S	BCPK203018T	BCAR304015G	BCAR304015T	BCPR304015S
BCAP304012G	BCAP304012T	BCPC304012S	BCPK304012S	BCPK304012T	BCAR304018G	BCAR304018T	BCPR304018S
BCAP304015G	BCAP304015T	BCPC304015S	BCPK304015S	BCPK304015T	BCAR354512G	BCAR354512T	BCPR354512S
BCAP304018G	BCAP304018T	BCPC304018S	BCPK304018S	BCPK304018T	BCAR354516G	BCAR354516T	BCPR354516S
BCAP354512G	BCAP354512T	BCPC354512S	BCPK354512S	BCPK354512T	BCAR354520G	BCAR354520T	BCPR354520S
BCAP354516G	BCAP354516T	BCPC354516S	BCPK354516S	BCPK354516T	BCAR507018G		BCPR507018S
BCAP354520G	BCAP354520T	BCPC354520S	BCPK354520S	BCPK354520T	BCAR507025G		BCPR507025S
BCAP507018G		BCPC507018S	BCPK507018S				
BCAP507025G		BCPC507025S	BCPK507025S				

■ Effective date : Once present inventory has run out / been depleted.

■ Note : No changes to item product number, color, finish, or pricing.

IP65 LATCH-HINGED PLASTIC BOX



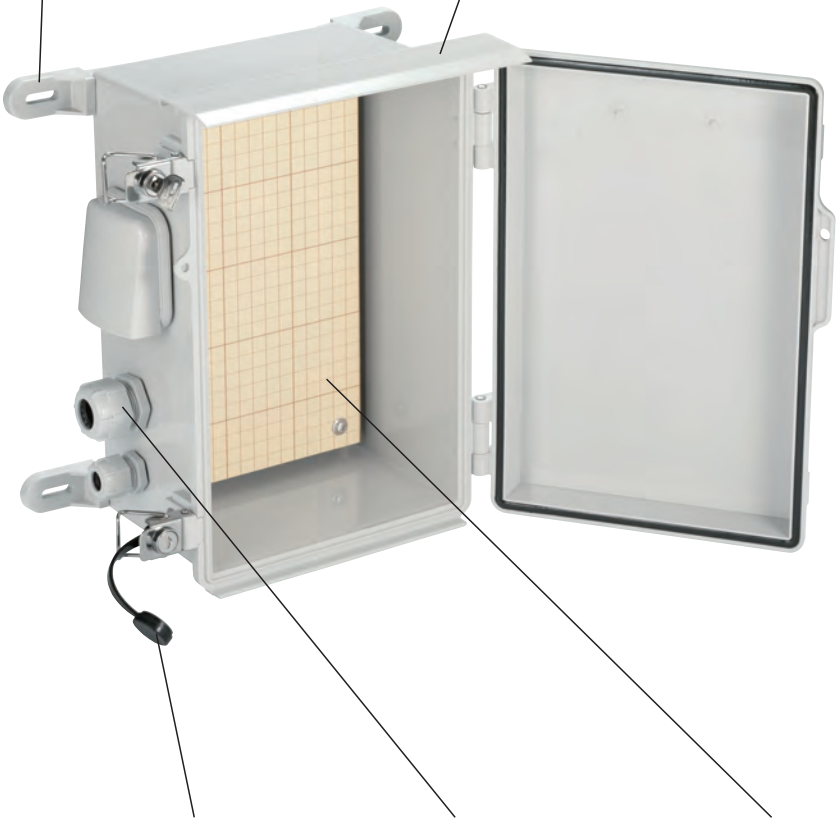
Stainless steel and plastic mounting brackets are available.
See page 320

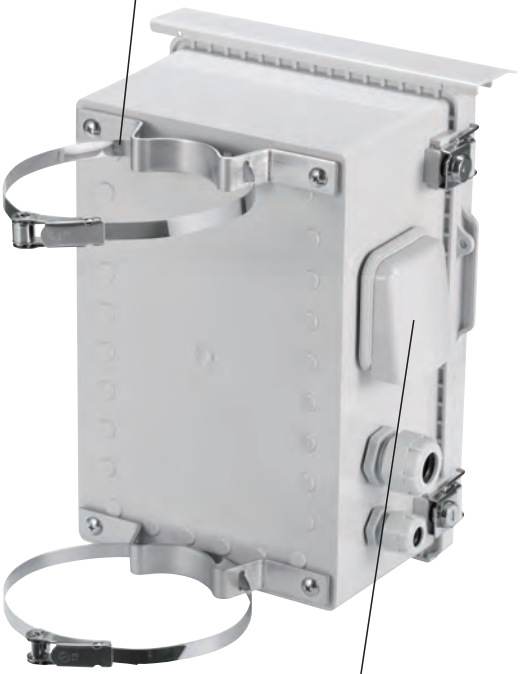


BCAR • BCPR series comes with an attachable BRF series outdoor roof.
See page 309 ~ 310 and 315 ~ 316



Pole mounting bracket for pole installation
See page 321 ~ 324







Dust protection cap (for lock/key type)
See page 316



Cable gland
For waterproofing enclosure openings for cables and wires
See page 333 ~ 340



Mounting plate
3 types of mounting plates are available (plastic / steel / wood)
See page 317 ~ 319



Ventilation cover
For heat dissipation and prevention of condensation build-up
See page 328

APPLICATION EXAMPLE

Universal plastic enclosure series suitable for a wide range of applications such as FA/control, electrical switchboard, network communication and so on.

Outdoor WiFi Spot

Product by Spectra Quest Lab. (Japan)



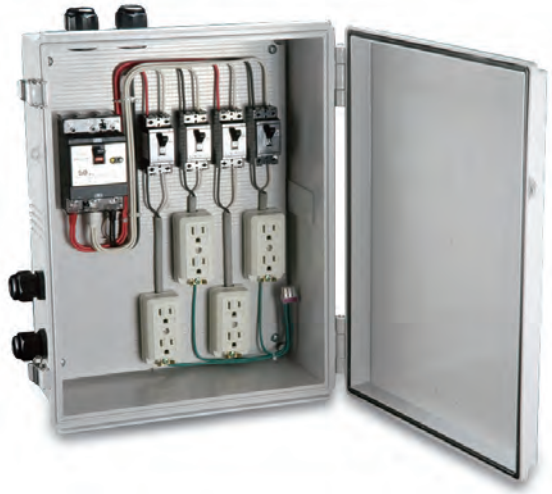
Solar Power Junction Box

Product by Kansai Denki (Japan)





Power Switchboard Box





Agricultural 8-Channel Data Logger

Product by Argotec (Spain)



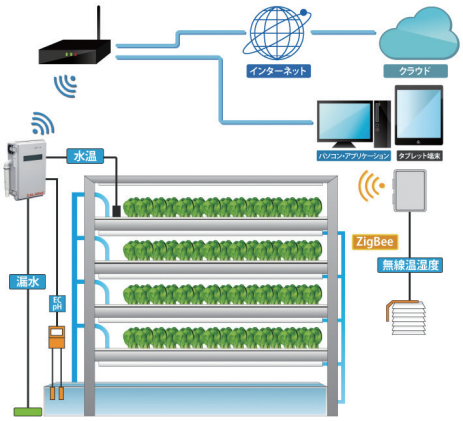


Environmental Data Measurement and Controller Unit

Product by eSOL (Japan)

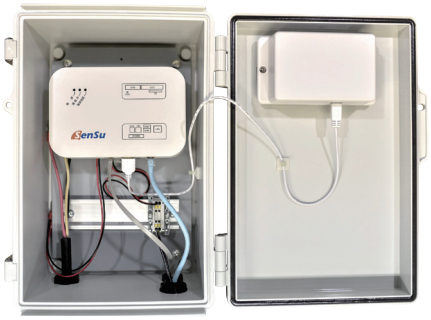






"SenSu" Communication Unit with Sensor

Product by DATA TECHNOLOGY (Japan)





Network Sensor System for Agriculture

Product by CM Engineering (Japan)



Wildlife Damage Monitoring System

Product by CM Engineering (Japan)



Valve Controller

Product by EXEN (Japan)



Building Surveillance Unit

Product by Showa Denki (Japan)



Digital Pressure Gauge

Product by KRONE CORPORATION (Japan)



Radiation Monitor



Power Saver for Air Conditioning



Product by Synapes (Japan)

Anemometer

Product by Fieldpro (Japan)



Water Gauge

Product by Fieldpro (Japan)







Ground Extensometer

Product by GeotechService (Japan)

Monitoring Camera

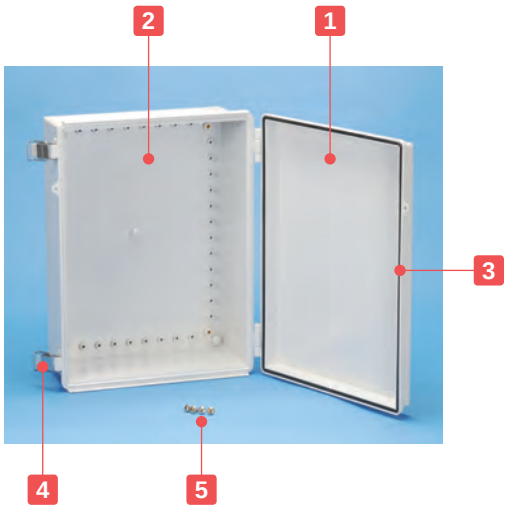
Product by ACE PROMOTION (Japan)



BCAP series IP65 LATCH-HINGED ABS PLASTIC BOX NEW SIZE

BCPC series IP65 LATCH-HINGED POLYCARBONATE PLASTIC BOX NEW SIZE





Technical Data

Protection class: IP65
Operating temperature:
BCAP -10°C ~ +60°C
BCPC -20°C ~ +75°C

- UL mark is only applicable for BCPC series.

- IP65 latch-hinged box for easy opening and closing.
- 50 different sizes available.
- Applicable for various uses in fields such as FA, network communication, power switch controls and so on.
- BCAP series is made of white gray ABS with 2 different cover types (white gray ABS and transparent polycarbonate) available.
- BCPC series is made of light gray UL94V-0 polycarbonate, which has good heat resistant properties.

Components : BCAP series

No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	ABS UL94HB • Polycarbonate UL94V-0	White gray • Transparent
2	Base	1	ABS UL94HB	White gray
3	Gasket	1	Polyurethane	Black
4	Latch	1 ~ 3	Stainless steel	Unfinished
5	Screw for mounting plate	2 ~ 8	Steel	Trivalent chromate

- Stainless steel mounting brackets are included together with the following models : 506018, 506025, 507018, 507025, 608018, and 608028.

Components : BCPC series

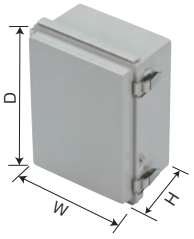
No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	Polycarbonate UL94V-0	Light gray
2	Base	1	Glass fiber filled polycarbonate UL94V-0	Light gray
3	Gasket	1	Polyurethane	Black
4	Latch	1 ~ 3	Stainless steel	Unfinished
5	Screw for mounting plate	2 ~ 8	Steel	Trivalent chromate

- Stainless steel mounting brackets are included together with the following models : 506018, 506025, 507018, 507025, 608018, and 608028.

Color Type

Color code	Top cover color / Material	Base color / Material
BCAP G	White gray / ABS	White gray / ABS
BCAP T	Transparent / Polycarbonate	White gray / ABS
BCPC S	Light gray / Polycarbonate	Light gray / Glass fiber filled polycarbonate

■ Please suffix color code at the end of the product number.



BCAP Product no. / Dimensions

Product no.	W	D	H	Weight (g)	
				G	T
BCAP091207□	90	120	70	196	204
BCAP091208□	90	120	85	212	221
BCAP101507□	100	150	70	272	281
BCAP101508□	100	150	85	291	300
BCAP112107□	110	210	75	359	378
BCAP112110□	110	210	100	422	420
BCAP112607□	110	260	75	431	446
BCAP112610□	110	260	100.5	484	500
BCAP131508□	135	155	85	356	357
BCAP131808□	135	185	85.5	381	410
BCAP131810□	135	185	100.5	396	402
BCAP151509□	150	150	90	343	353
BCAP151512□	150	150	120.5	411	425
BCAP162110□	160	210	100	468	486
BCAP162113□	160	210	130	517	537
BCAP162610□	160	260	100	577	601
BCAP162613□	160	260	130	673	701
NEW BCAP172210□	170	220	105	545	581
BCAP172711□	170	270	110.5	670	680
BCAP192810□	190	280	100.5	722	746
BCAP192814□	190	280	141	877	901
NEW BCAP203013□N	200	300	130	921	954
NEW BCAP203015□N	200	300	150	989	1,022
NEW BCAP203018□N	200	300	180	1,110	1,143
BCAP212110□	210	210	100	630	656
BCAP212113□	210	210	130	704	726
NEW BCAP253515□N	250	350	150	1,278	1,320
NEW BCAP253518□N	250	350	180	1,415	1,456
BCAP282813□	280	280	130.5	1,167	1,200
BCAP283813□	280	380	130	1,455	1,512
BCAP303015□	300	300	151	1,339	1,418
BCAP303018□	300	300	181	1,495	1,576
BCAP304012□	300	400	120	1,508	1,575
BCAP304015□	300	400	150	1,563	1,675
BCAP304018□	300	400	181	1,719	1,853
BCAP353515□	350	350	150	1,693	1,764
BCAP353518□	350	350	181	1,845	1,906
BCAP354512□	350	450	120	2,068	2,167
BCAP354516□	350	450	160	2,382	2,514
BCAP354520□	350	450	201	2,646	2,794
BCAP405016□	400	500	160	2,660	2,839
BCAP405020□	400	500	201	3,119	3,232
BCAP406018□	400	600	181	3,542	3,652
BCAP406023□	400	600	231	3,870	4,044
BCAP506018□	530	630	185	5,438	5,611
BCAP506025□	530	630	255	6,078	6,273
BCAP507018G	530	730	188	6,241	—
BCAP507025G	530	730	255	6,911	—
BCAP608018G	630	830	188	8,131	—
BCAP608028G	630	830	288	9,570	—

■ BCAP507018, 507025, 608018, and 608028 models are only available as G color type.

BCPC Product no. / Dimensions

Product no.	W	D	H	Weight (g)
BCPC091207S	90	120	70	226
BCPC091208S	90	120	85	247
BCPC101507S	100	150	70	312
BCPC101508S	100	150	85	336
BCPC112107S	110	210	75	420
BCPC112110S	110	210	100	473
BCPC112607S	110	260	75	493
BCPC112610S	110	260	100.5	569
BCPC131508S	135	155	85	406
BCPC131808S	135	185	85.5	452
BCPC131810S	135	185	100.5	448
BCPC151509S	150	150	90	395
BCPC151512S	150	150	120.5	482
BCPC162110S	160	210	100	556
BCPC162113S	160	210	130	611
BCPC162610S	160	260	100	671
BCPC162613S	160	260	130	779
NEW BCPC172210S	170	220	105	642
BCPC172711S	170	270	110.5	775
BCPC192810S	190	280	100.5	858
BCPC192814S	190	280	141	1,028
NEW BCPC203013SN	200	300	130	1,070
NEW BCPC203015SN	200	300	150	1,150
NEW BCPC203018SN	200	300	180	1,295
BCPC212110S	210	210	100	742
BCPC212113S	210	210	130	827
NEW BCPC253515SN	250	350	150	1,485
NEW BCPC253518SN	250	350	180	1,648
BCPC282813S	280	280	130.5	1,371
BCPC283813S	280	380	130	1,695
BCPC303015S	300	300	151	1,610
BCPC303018S	300	300	181	1,760
BCPC304012S	300	400	120	1,846
BCPC304015S	300	400	150	1,862
BCPC304018S	300	400	181	2,030
BCPC353515S	350	350	150	2,045
BCPC353518S	350	350	181	2,142
BCPC354512S	350	450	120	2,397
BCPC354516S	350	450	160	2,826
BCPC354520S	350	450	201	3,151
BCPC405016S	400	500	160	3,188
BCPC405020S	400	500	201	3,811
BCPC406018S	400	600	181	4,153
BCPC406023S	400	600	231	4,637
BCPC506018S	530	630	185	6,305
BCPC506025S	530	630	255	7,213
BCPC507018S	530	730	188	7,410
BCPC507025S	530	730	255	8,200
BCPC608018S	630	830	188	9,820
BCPC608028S	630	830	288	11,550

■ Refer to page 311 ~ 314 for detailed dimensions.

Accessories (Optional parts)



Mounting plate BMP series
See page 317 ~ 319



Mounting bracket CK • BFL series
See page 320



Pole mounting bracket SSK series
See page 321 ~ 322



Cable gland
See page 333 ~ 340



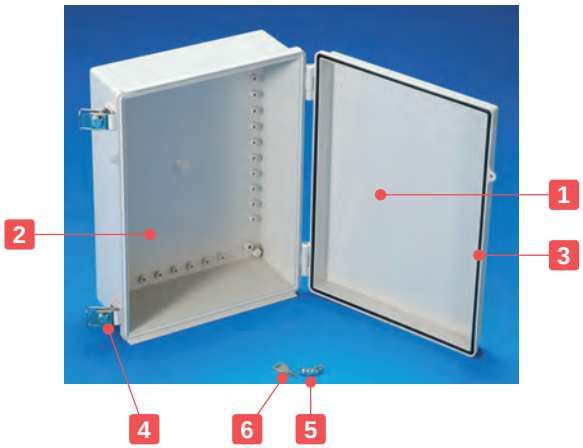
Ventilation parts
See page 325 ~ 328

BCPK series IP65 POLYCARBONATE PLASTIC BOX with LOCK

NEW SIZE



Transparent cover type is available as BTO (Built-to-order) with an estimated lead-time of around 2 months. See website for more details.



IP65

Technical Data
Protection class : IP65 Operating temperature: -20°C ~ +75°C

*Lock types vary according to box size.



Box size
BCPK091207 ~ 172711
BCPK212110, 212113



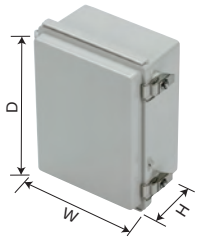
Box size
BCPK192810 ~ 203018
BCPK253515 ~ 608028

- Lockable enclosure best used for tamper prevention in FA, control box, and network communication fields.
- BCPK polycarbonate box is resistant against heat and flames. 50 different sizes available.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	Polycarbonate UL94V-0	Light gray
2	Base	1	Glass fiber filled polycarbonate UL94V-0	Light gray
3	Gasket	1	Polyurethane	Black
4	Latch	1 ~ 3	Stainless steel	Unfinished
5	Screw for mounting plate	2 ~ 8	Steel	Trivalent chromate
6	Key	1 ~ 2	Diecast zinc • Brass	Chrome plated • Nickel plated

- Stainless steel mounting brackets are included together with the following models : 506018, 506025, 507018, 507025, 608018, and 608028.
- Quantity of keys provided vary by the number of locks present.



Product no. / Dimensions

Product no.	W	D	H	Weight (g)
BCPK091207S	90	120	70	242
BCPK091208S	90	120	85	264
BCPK101507S	100	150	70	339
BCPK101508S	100	150	85	360
BCPK112107S	110	210	75	437
BCPK112110S	110	210	100	501
BCPK112607S	110	260	75	520
BCPK112610S	110	260	100.5	585
BCPK131508S	135	155	85	430
BCPK131808S	135	185	85.5	474
BCPK131810S	135	185	100.5	471
BCPK151509S	150	150	90	419
BCPK151512S	150	150	120.5	507
BCPK162110S	160	210	100	563
BCPK162113S	160	210	130	630
BCPK162610S	160	260	100	728
BCPK162613S	160	260	130	805
NEW BCPK172210S	170	220	105	664
BCPK172711S	170	270	110.5	771
BCPK192810S	190	280	100.5	875
BCPK192814S	190	280	141	1,065
BCPK203013S	200	300	130	1,090
NEW BCPK203015SN	200	300	150	1,179
NEW BCPK203018SN	200	300	180	1,324
BCPK212110S	210	210	100	743
BCPK212113S	210	210	130	822
BCPK253515S	250	350	151	1,559
NEW BCPK253518SN	250	350	180	1,670
BCPK282813S	280	280	130.5	1,391
BCPK283813S	280	380	130	1,811
BCPK303015S	300	300	151	1,670
BCPK303018S	300	300	181	1,782
BCPK304012S	300	400	120	1,858
BCPK304015S	300	400	150	1,912
BCPK304018S	300	400	181	2,083
BCPK353515S	350	350	150	2,067
BCPK353518S	350	350	181	2,175
BCPK354512S	350	450	120	2,442
BCPK354516S	350	450	160	2,863
BCPK354520S	350	450	201	3,156
BCPK405016S	400	500	160	3,149
BCPK405020S	400	500	201	3,725
BCPK406018S	400	600	181	4,159
BCPK406023S	400	600	231	4,639
BCPK506018S	530	630	185	5,339
BCPK506025S	530	630	255	7,136
BCPK507018S	530	730	188	7,470
BCPK507025S	530	730	255	8,260
BCPK608018S	630	830	188	9,880
BCPK608028S	630	830	288	11,610

■ Refer to page 311 ~ 314 for detailed dimensions.

Accessories (Optional parts)



Dust protection cap BCC series
See page 316



Mounting plate BMP series
See page 317 ~ 319



Mounting bracket CK • BFL series
See page 320



Cable gland
See page 333 ~ 340

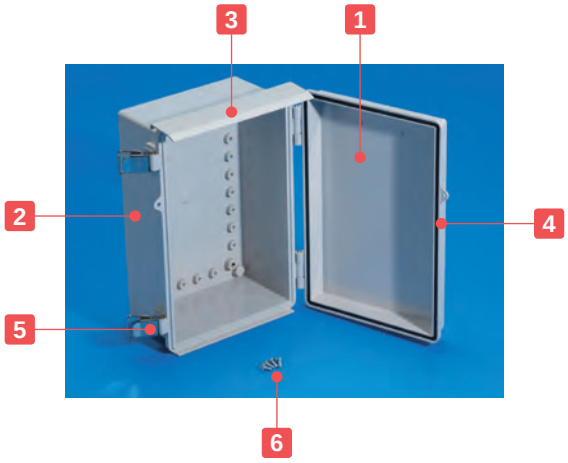


Ventilation parts
See page 325 ~ 328

BCAR series IP65 ABS PLASTIC BOX with OUTDOOR ROOF NEW SIZE

BCPR series IP65 POLYCARBONATE PLASTIC BOX with OUTDOOR ROOF NEW SIZE





IP65

Technical Data

Protection class : IP65
Operating temperature:
BCAR -10°C ~ +60°C
BCPR -20°C ~ +75°C

- Suitable for outdoor use by equipping easy snap-on roof attachment.
- 44 different sizes available.
- Applicable for various uses in fields such as FA, network communication, power switch controls and so on.
- BCAR series is made of white gray ABS with 2 different cover types (white gray ABS and transparent polycarbonate) available.
- BCPR series is made of light gray UL94V-0 polycarbonate , which has good heat resistant properties.
- Transparent cover type is not available for BCAR507018, 507025, 608018, and 608028 models.

Components : BCAR series

No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	ABS UL94HB • Polycarbonate UL94V-0	White gray • Transparent
2	Base	1	ABS UL94HB	White gray
3	Roof	1	PVC	White gray
4	Gasket	1	Polyurethane	Black
5	Latch	1 ~ 3	Stainless steel	Unfinished
6	Screw for mounting plate	2 ~ 8	Steel	Trivalent chromate

- Stainless steel mounting brackets are included together with the following models : 506018, 506025, 507018, 507025, 608018, and 608028.

Components : BCPR series

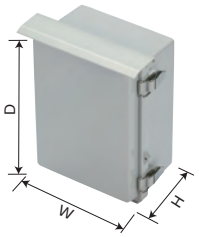
No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	Polycarbonate UL94V-0	Light gray
2	Base	1	Glass fiber filled polycarbonate UL94V-0	Light gray
3	Roof	1	PVC	Light gray
4	Gasket	1	Polyurethane	Black
5	Latch	1 ~ 3	Stainless steel	Unfinished
6	Screw for mounting plate	2 ~ 8	Steel	Trivalent chromate

- Stainless steel mounting brackets are included together with the following models : 506018, 506025, 507018, 507025, 608018, and 608028.

Color Type

Color code	Top cover color / Material	Base color / Material
BCAR G	White gray / ABS	White gray / ABS
BCAR T	Transparent / Polycarbonate	White gray / ABS
BCPR S	Light gray / Polycarbonate	Light gray / Glass fiber filled polycarbonate

■ Please suffix color code at the end of the product number.



BCAR Product no. / Dimensions

Product no.	W	D	H	Weight (g)	
				G	T
BCAR091207☐	90	120	70	213	220
BCAR091208☐	90	120	85	228	237
BCAR101507☐	100	150	70	291	300
BCAR101508☐	100	150	85	309	318
BCAR112107☐	110	210	75	379	398
BCAR112110☐	110	210	100	442	440
BCAR112607☐	110	260	75	451	466
BCAR112610☐	110	260	100.5	504	519
BCAR131508☐	135	155	85	379	381
BCAR131808☐	135	185	85.5	404	434
BCAR131810☐	135	185	100.5	420	426
BCAR162110☐	160	210	100	495	513
BCAR162113☐	160	210	130	544	564
BCAR162610☐	160	260	100	605	629
BCAR162613☐	160	260	130	701	729
NEW BCAR172210☐	170	220	105	570	606
BCAR172711☐	170	270	110.5	700	710
BCAR192810☐	190	280	100.5	755	778
BCAR192814☐	190	280	141	909	933
NEW BCAR203013☐N	200	300	130	959	992
NEW BCAR203015☐N	200	300	150	1,027	1,060
NEW BCAR203018☐N	200	300	180	1,148	1,181
BCAR212110☐	210	210	100	666	692
BCAR212113☐	210	210	130	740	762
NEW BCAR253515☐N	250	350	150	1,324	1,366
NEW BCAR253518☐N	250	350	180	1,461	1,503
BCAR282813☐	280	280	130.5	1,218	1,251
BCAR283813☐	280	380	130	1,506	1,563
BCAR303015☐	300	300	151	1,393	1,472
BCAR303018☐	300	300	181	1,549	1,630
BCAR304012☐	300	400	120	1,562	1,629
BCAR304015☐	300	400	150	1,617	1,729
BCAR304018☐	300	400	181	1,773	1,907
BCAR353515☐	350	350	150	1,757	1,827
BCAR353518☐	350	350	181	1,908	1,970
BCAR354512☐	350	450	120	2,140	2,239
BCAR354516☐	350	450	160	2,454	2,586
BCAR354520☐	350	450	201	2,718	2,866
BCAR506018☐	530	630	185	5,564	5,737
BCAR506025☐	530	630	255	6,203	6,399
BCAR507018G	530	730	188	6,366	–
BCAR507025G	530	730	255	7,037	–
BCAR608018G	630	830	188	8,279	–
BCAR608028G	630	830	288	9,719	–

■ BCAR507018, 507025, 608018, and 608028 models are only available as G color type.

BCPR Product no. / Dimensions

Product no.	W	D	H	Weight (g)
BCPR091207S	90	120	70	242
BCPR091208S	90	120	85	264
BCPR101507S	100	150	70	330
BCPR101508S	100	150	85	354
BCPR112107S	110	210	75	439
BCPR112110S	110	210	100	493
BCPR112607S	110	260	75	513
BCPR112610S	110	260	100.5	589
BCPR131508S	135	155	85	429
BCPR131808S	135	185	85.5	475
BCPR131810S	135	185	100.5	471
BCPR162110S	160	210	100	583
BCPR162113S	160	210	130	638
BCPR162610S	160	260	100	699
BCPR162613S	160	260	130	806
NEW BCPR172210S	170	220	105	667
BCPR172711S	170	270	110.5	803
BCPR192810S	190	280	100.5	889
BCPR192814S	190	280	141	1,060
NEW BCPR203013SN	200	300	130	1,108
NEW BCPR203015SN	200	300	150	1,188
NEW BCPR203018SN	200	300	180	1,333
BCPR212110S	210	210	100	777
BCPR212113S	210	210	130	862
NEW BCPR253515SN	250	350	150	1,531
NEW BCPR253518SN	250	350	150	1,694
BCPR282813S	280	280	130.5	1,422
BCPR283813S	280	380	130	1,747
BCPR303015S	300	300	151	1,665
BCPR303018S	300	300	181	1,814
BCPR304012S	300	400	120	1,901
BCPR304015S	300	400	150	1,917
BCPR304018S	300	400	181	2,084
BCPR353515S	350	350	150	2,109
BCPR353518S	350	350	181	2,206
BCPR354512S	350	450	120	2,471
BCPR354516S	350	450	160	2,899
BCPR354520S	350	450	201	3,224
BCPR506018S	530	630	185	6,431
BCPR506025S	530	630	255	7,339
BCPR507018S	530	730	188	7,630
BCPR507025S	530	730	255	8,420
BCPR608018S	630	830	188	10,040
BCPR608028S	630	830	288	11,770

■ Refer to page 311 ~ 314 for detailed dimensions.

Accessories (Optional parts)



Mounting plate BMP series
See page 317 ~ 319



Mounting bracket CK • BFL series
See page 320



Pole mounting bracket SSK series
See page 321 ~ 322



Cable gland
See page 333 ~ 340

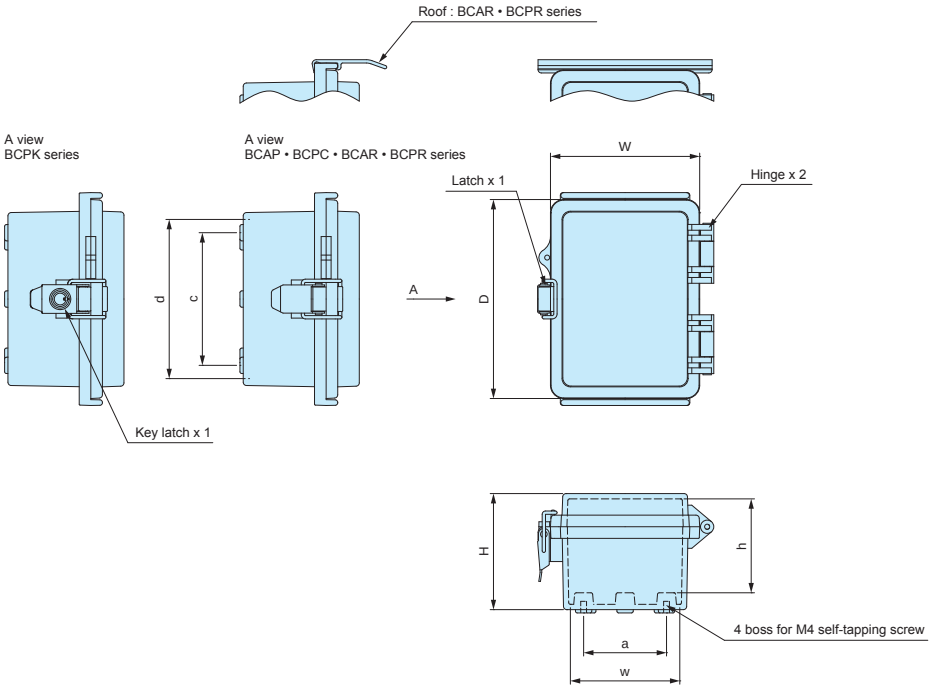


Ventilation parts
See page 325 ~ 328

BCAP • BCPC • BCPK • BCAR • BCPR dimensions

■ DXF/DWG/PDF drawings available on our website.

091207 • 091208

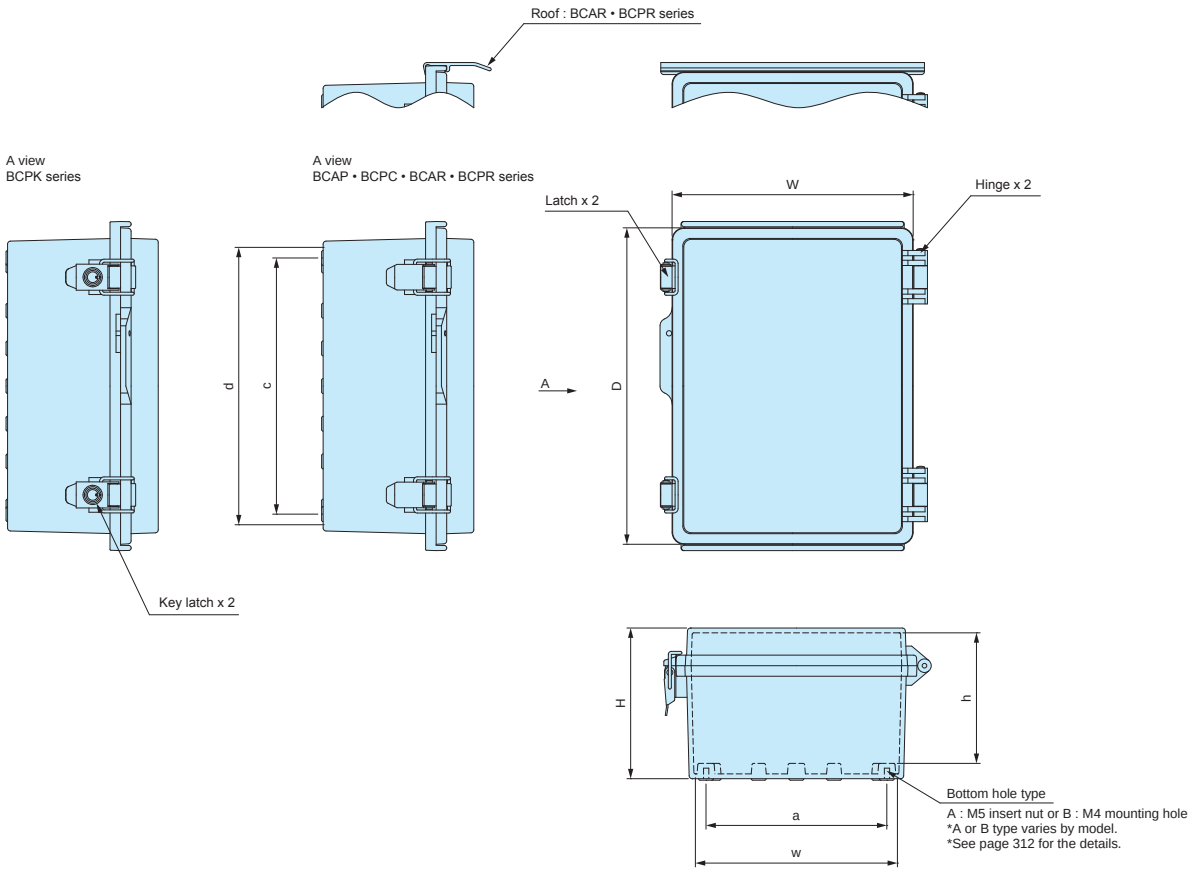


■ K = BCPK series, R = BCAR • BCPR series.

Product no.	W	D	H	Available range			Bottom hole pitch	
				w	d	h	a	c
BCAP • R, BCPC • K • R091207	90	120	70	66	96	56.5	50	80
BCAP • R, BCPC • K • R091208	90	120	85	66	96	71.5	50	80

101507 ~ 405020

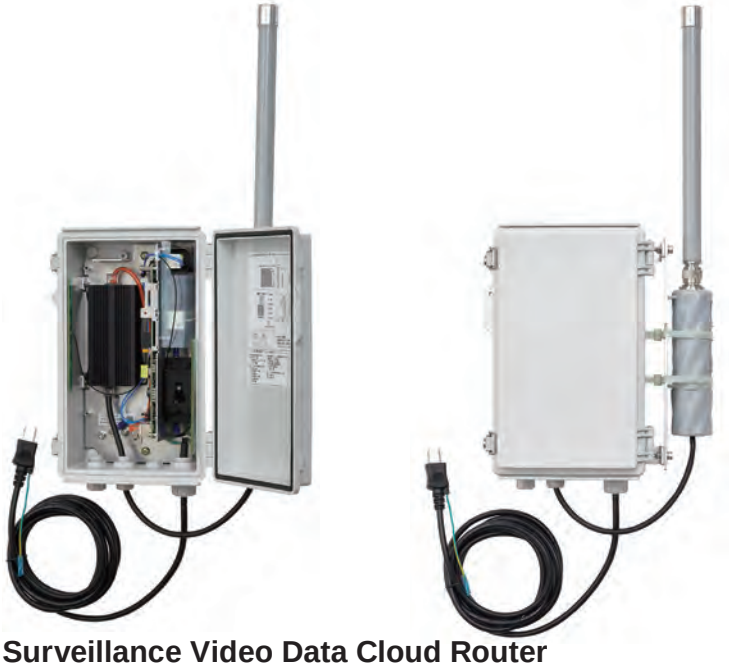
※ Not available for BCAR • BCPR 151509, 151512, 405016, and 405020 models.



APPLICATION EXAMPLE



■ Number of bosses inside vary according to box size.
Refer to DXF/DWG/PDF drawings for more details.



Surveillance Video Data Cloud Router

Product by LIVELOCK TECHNOLOGIES (Japan)

■ K = BCPK series, R = BCAR • BCPR series.

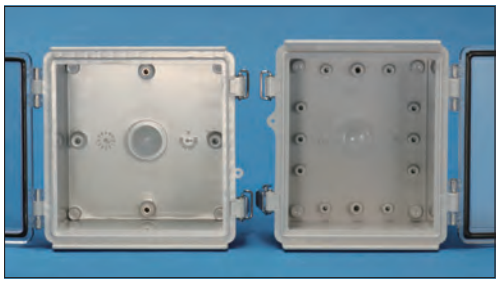
Product no.	W	D	H	Available range			Bottom hole pitch		Bottom hole type
				w	d	h	a	c	
BCAP • R, BCPC • K • R101507	100	150	70	76	126	56.5	60	110	B
BCAP • R, BCPC • K • R101508	100	150	85	75.5	125.5	71.5	60	110	B
BCAP • R, BCPC • K • R112107	110	210	75	85.8	185.8	61.5	70	170	B
BCAP • R, BCPC • K • R112110	110	210	100	84.9	184.9	86.5	70	170	B
BCAP • R, BCPC • K • R112607	110	260	75	85.8	235.8	61.5	70	220	B
BCAP • R, BCPC • K • R112610	110	260	100.5	85.1	234.9	87.2	70	220	B
BCAP • R, BCPC • K • R131508	135	155	85	110.5	130.5	71.5	95	115	B
BCAP • R, BCPC • K • R131808	135	185	85.5	110.4	160.4	72.2	95	145	B
BCAP • R, BCPC • K • R131810	135	185	100.5	110.4	160.4	87.1	95	145	B
BCAP, BCPC • K 151509	150	150	90	125.7	125.7	75.5	120	120	B
BCAP, BCPC • K 151512	150	150	120.5	124	124	106	117	117	B
BCAP • R, BCPC • K • R162110	160	210	100	134	184	86.6	120	170	B
BCAP • R, BCPC • K • R162113	160	210	130	134	184	116.5	120	170	B
BCAP • R, BCPC • K • R162610	160	260	100	135.1	235.1	86.6	120	220	B
BCAP • R, BCPC • K • R162613	160	260	130	134	234	116.6	120	220	B
BCAP • R, BCPC • K • R172210	170	220	105	144.9	194.9	90.8	132	182	B
BCAP • R, BCPC • K • R172711	170	270	110.5	144.9	244.9	96.1	132	232	B
BCAP • R, BCPC • K • R192810	190	280	100.5	165.3	255.3	84.1	148	238	A
BCAP • R, BCPC • K • R192814	190	280	141	164.2	254.2	124.6	148	238	A
BCPK 203013	200	300	130	173.5	273.6	113.6	152	252	A
BCAP • R, BCPC • R203013□N	200	300	130	173.2	273.2	114	152	252	A
BCAP • R, BCPC • K • R203015□N	200	300	150	173.5	273.5	133.8	152	252	A
BCAP • R, BCPC • K • R203018□N	200	300	180	172.5	272.5	163.8	152	252	A
BCAP • R, BCPC • K • R212110	210	210	100	185.1	185.1	86.6	170	170	B
BCAP • R, BCPC • K • R212113	210	210	130	184	184	116.6	170	170	B
BCPK 253515	250	350	150	222.5	322.5	135.3	206	306	A
BCAP • R, BCPC • R253515□N	250	350	150	222.1	322.3	134	206	306	A
BCAP • R, BCPC • K • R253518□N	250	350	180	222.5	322.5	163.8	206	306	A
BCAP • R, BCPC • K • R282813	280	280	130.5	254	254	113.6	238	238	A
BCAP • R, BCPC • K • R283813	280	380	130	254	354	113.6	238	338	A
BCAP • R, BCPC • K • R303015	300	300	151	273	273	134.3	256	256	A
BCAP • R, BCPC • K • R303018	300	300	181	272.5	272.5	164.3	256	256	A
BCAP • R, BCPC • K • R304012	300	400	120	274.5	374.5	103.6	252	352	A
BCAP • R, BCPC • K • R304015	300	400	150	273.5	373.5	133.6	252	352	A
BCAP • R, BCPC • K • R304018	300	400	181	272.5	372.5	164.6	252	352	A
BCAP • R, BCPC • K • R353515	350	350	150	323.6	323.6	133.6	302	302	A
BCAP • R, BCPC • K • R353518	350	350	181	322.5	322.5	164.6	302	302	A
BCAP • R, BCPC • K • R354512	350	450	120	316.7	416.7	103.3	302	402	A
BCAP • R, BCPC • K • R354516	350	450	160	308.7	414.7	142.6	302	402	A
BCAP • R, BCPC • K • R354520	350	450	201	309.3	414.8	183.6	302	402	A
BCAP, BCPC • K 405016	400	500	160	360.4	466.6	144	352	452	A
BCAP, BCPC • K 405020	400	500	201	359.4	465.5	184	352.5	452.5	A

BCAP • BCPC • BCPK • BCAR • BCPR dimensions.

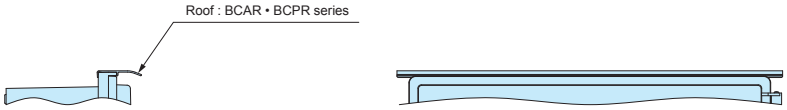
■ DXF/DWG/PDF drawings available on our website.

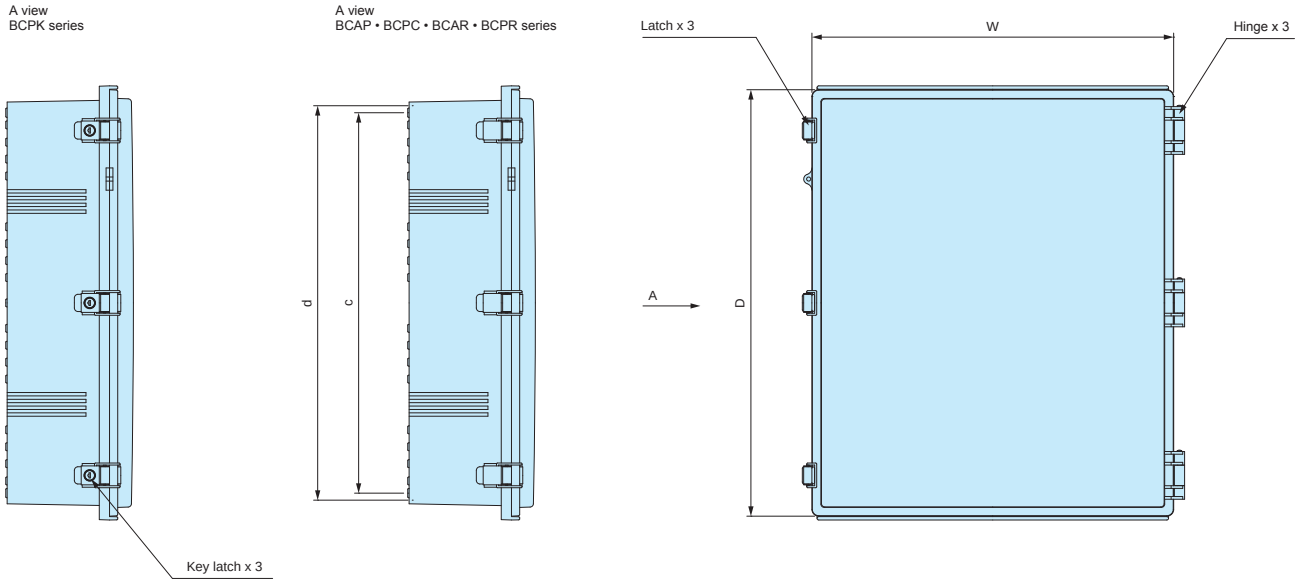
406018 ~ 507025

※ Not available for BCAR • BCPR 406018 and 406023 models.



■ Number of bosses inside vary according to box size.
Refer to DXF/DWG/PDF drawings for more details.



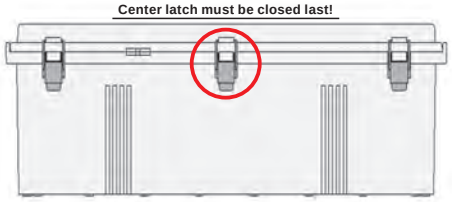


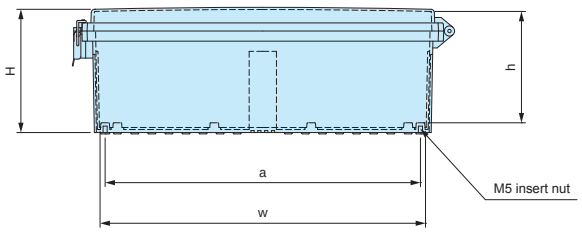
Attention when locking the latch

1. Close latches on both ends first.
2. Close center latch next.

※ Closing center latch first may cause a non-watertight seal.

Center latch must be closed last!

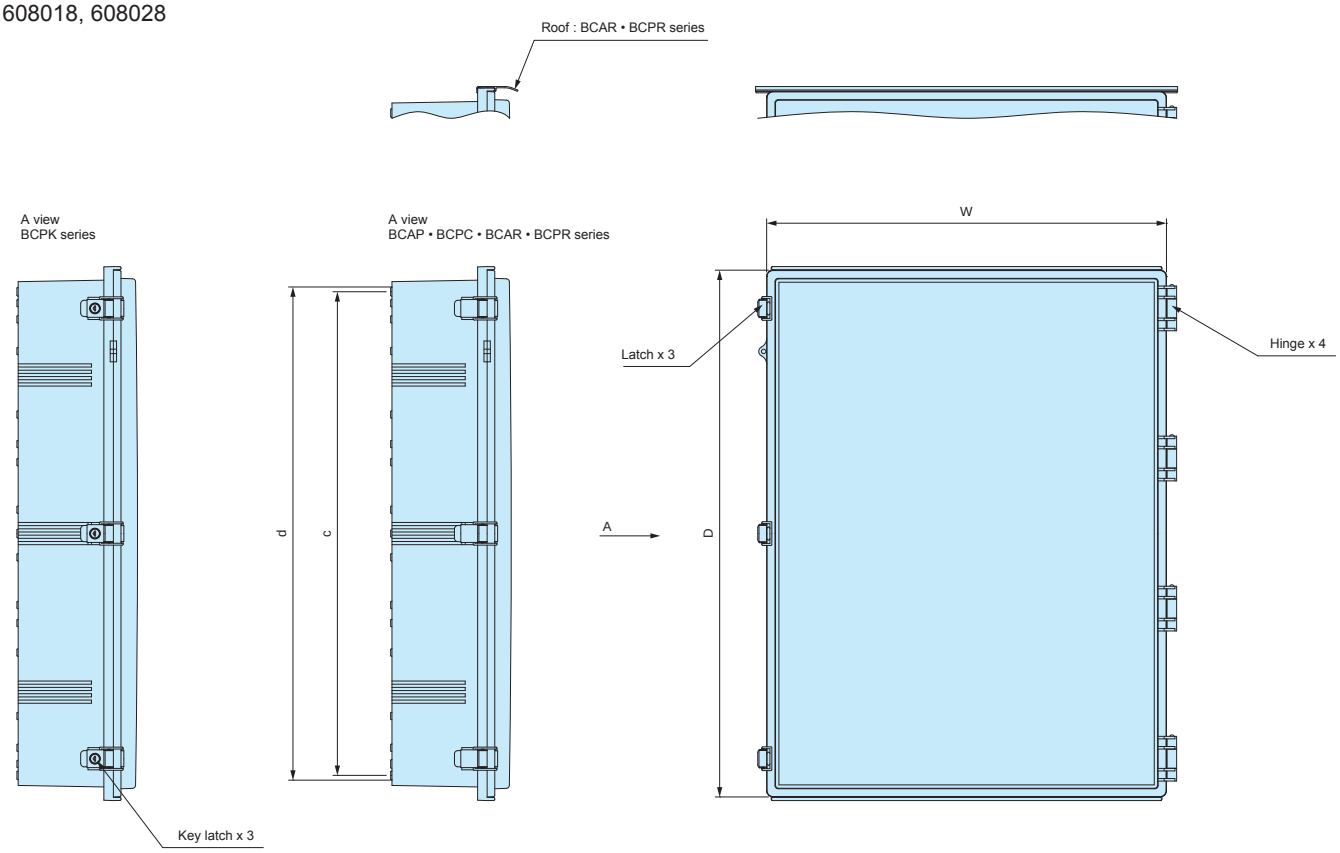




■ K = BCPK series, R = BCAR • BCPR series.

Product no.	W	D	H	Available range			Bottom hole pitch	
				w	d	h	a	c
BCAP, BCPC • K 406018	400	600	181	358.6	565.9	163.8	352.5	552.5
BCAP, BCPC • K 406023	400	600	231	356.9	564.1	213.8	352	552.5
BCAP, R, BCPC • K • R506018	530	630	185	476.8	576.8	163.6	462	562
BCAP, R, BCPC • K • R506025	530	630	255	474.6	574.6	233.6	462	562
BCAP, R, BCPC • K • R507018	530	730	188	477	677	166.1	462	662
BCAP, R, BCPC • K • R507025	530	730	255	475	676.2	236	462	662

608018, 608028

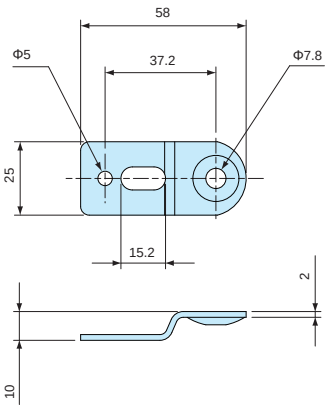


■ K = BCPK series, R = BCAR • BCPR series.

Product no.	W	D	H	Available range			Bottom hole pitch	
				w	d	h	a	c
BCAP • R, BCPC • K • R608018	630	830	188	575	777	165.6	562	762
BCAP • R, BCPC • K • R608028	630	830	288	573.5	773.5	265.8	562	762

Included stainless steel mounting bracket for 506018, 506025, 507018, 507025, 608018, and 608028





Components

Part name	Pcs	Material	Finish
Mounting bracket	6	Stainless steel	Unfinished
Screw	6	Steel	Trivalent chromate

BRF series OUTDOOR ROOF

NEW SIZE



- Recommended to be used for outdoor environments for protection against rain etc.
- Snap-in easy installation.
- Available for use with BCAP, BCPC, and BCPK series' models except 151509, 151512, 405016, 405020, 406018, and 406023 models.

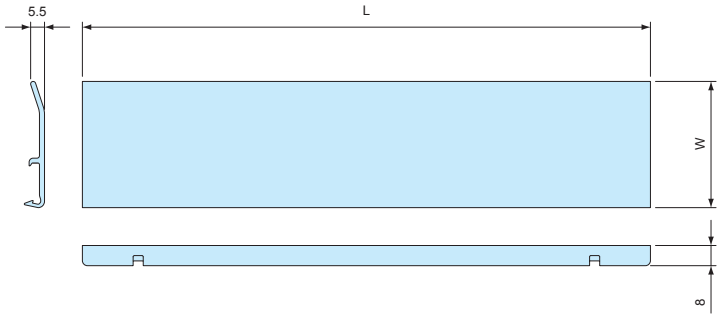
Color Type

Color code	Material	Color / Finish	Suitable models
G	PVC	White gray	BCAP
S	PVC	Light gray	BCPC • BCPK

BRF dimensions

- DXF/DWG/PDF drawings available on our website.

Roof for 091207 ~ 353518

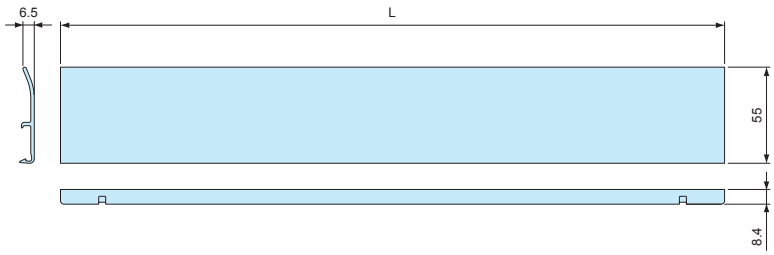


Product no. / Dimensions

- Please suffix the color code at the end of the product number.

Product no.	Suitable models	L	W
BRF- 90□	BCAP • BCPC • BCPK 091207 091208	105	45
BRF-100□	BCAP • BCPC • BCPK 101507 101508	115	45
BRF-110□	BCAP • BCPC • BCPK 112107 112110 112607 112610	125	45
BRF-135□	BCAP • BCPC • BCPK 131508 131808 131810	150	45
BRF-160□	BCAP • BCPC • BCPK 162110 162113 162610 162613	175	45
BRF-170□	BCAP • BCPC • BCPK 172711	185	45
NEW BRF-1722□	BCAP • BCPC • BCPK 172210	180	45
BRF-190□	BCAP • BCPC • BCPK 192810 192814	205	45
BRF-210□	BCAP • BCPC • BCPK 212110 212113	225	45
BRF-200□	BCAP • BCPC • BCPK 203013 203015 203018	225	50
NEW BRF-200□N	BCAP • BCPC • BCPK 203013□N 203015□N 203018□N	225	50
BRF-250□	BCAP • BCPC • BCPK 253515 253518	275	50
NEW BRF-250□N	BCAP • BCPC • BCPK 253515□N 253518□N	275	50
BRF-280□	BCAP • BCPC • BCPK 282813 283813	305	50
BRF-300□	BCAP • BCPC • BCPK 303015 303018 304012 304015 304018	325	50
BRF-350□	BCAP • BCPC • BCPK 353515 353518	375	50

Roof for 354512 ~ 354520



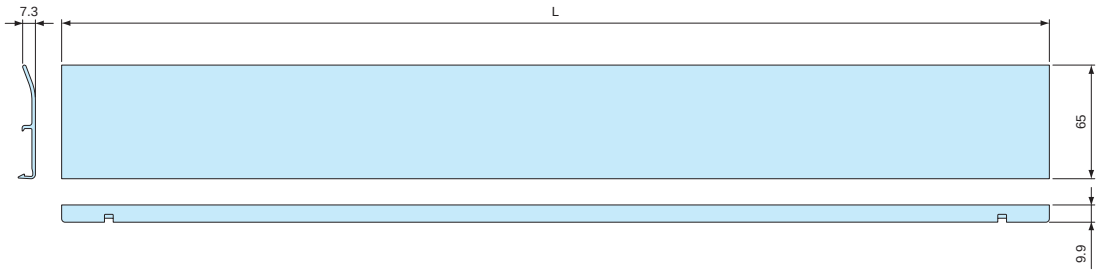
Product no. / Dimensions

- Please suffix the color code at the end of the product number.

Product no.	Suitable models	L
BRF-350L□	BCAP • BCPC • BCPK 354512 354516 354520	380

- S color type is light gray painted.

Roof for 506018 ~ 608028



Product no. / Dimensions

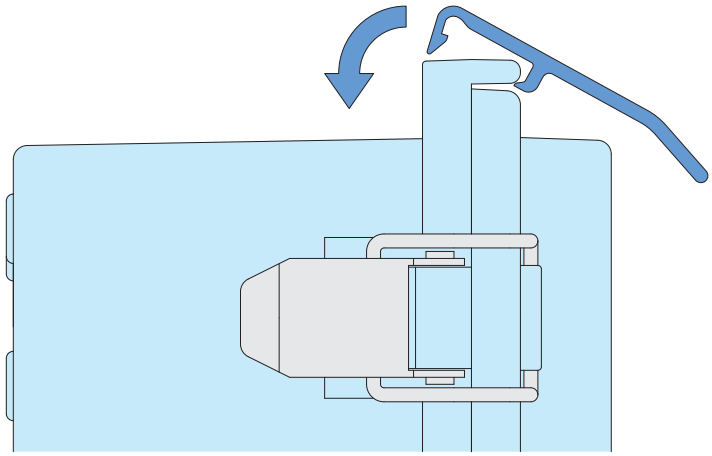
■ Please suffix the color code at the end of the product number.

Product no.	Suitable models	L
BRF-530□	BCAP • BCPC • BCPK 506018 506025 507018 507025	565
BRF-630□	BCAP • BCPC • BCPK 608018 608028	665

■ S color type is light gray painted.

■ How to install BRF outdoor roof

Refer to illustration.



BCC-1 DUST PROTECTION CAP







■ Prevent dust and other foreign material entry.

■ Protection against corrosion on key hole part in environments such as coastal areas.

■ When ordering, please ensure that the quantity required corresponds to the number of latches on your selected model.

Product no. / Dimensions

Product no.	Material	Color	Pack of
BCC-1	Silicone	Black	1

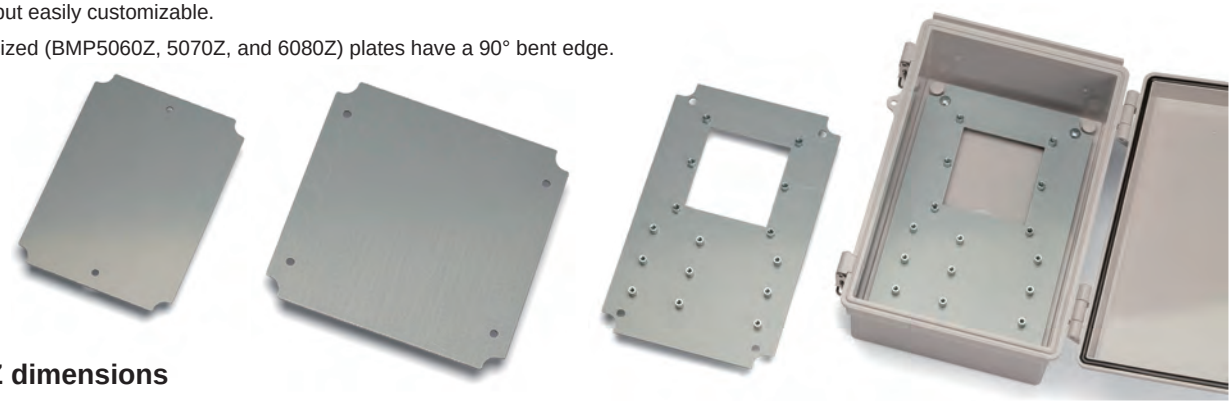
Suitable models

Suitable models	Required
BCPK192810 ~ 203018, 253515 ~ 405020	2
BCPK406018 ~ 608028	3

■ Not suitable for BCPK 212110, 212113, 172711 and smaller models.

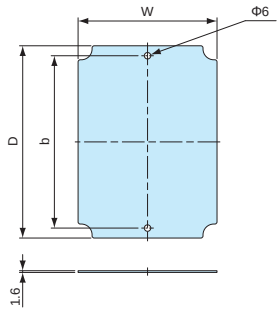
BMP-Z series STEEL MOUNTING PLATE

- Customization services (machining, punch press or clinching nut insertion) are available. See website for more details.
- Tough but easily customizable.
- Large sized (BMP5060Z, 5070Z, and 6080Z) plates have a 90° bent edge.

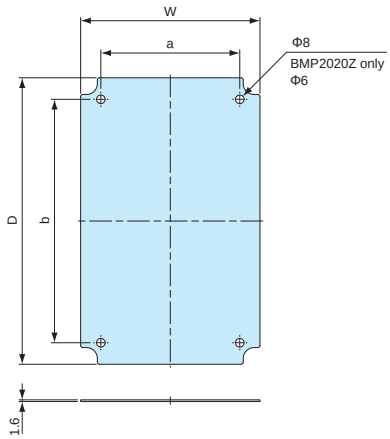


BMP-Z dimensions

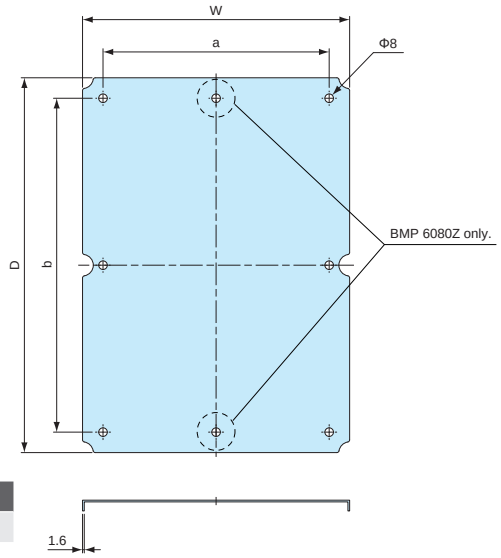
BMP0912Z ~ 1727Z



BMP1928Z ~ 4060Z



BMP5060Z ~ 6080Z



Components

Part name	Material	Finish
Mounting plate	Steel SECC t = 1.6	Zinc coated

- DXF/DWG/PDF drawings available on our website.

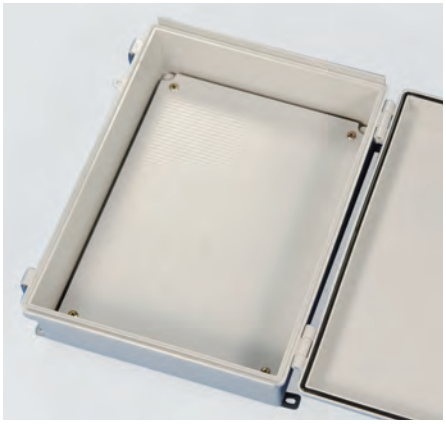
Product no. / Dimensions

Product no.	W	D	a	b	Suitable models	Weight (g)
BMP0912Z	58	88	–	69	BCAP • R, BCPC • K • R 091207, 091208	53
BMP0813Z	68	118	–	100	BCAP • R, BCPC • K • R 101507, 101508	87
BMP1121Z	77	177	–	158	BCAP • R, BCPC • K • R 112107, 112110	159
BMP1126Z	77	227	–	208	BCAP • R, BCPC • K • R 112607, 112610	210
BMP1315Z	102	122	–	110	BCAP • R, BCPC • K • R 131508	141
BMP1217Z	102	152	–	140	BCAP • R, BCPC • K • R 131808, 131810	180
BMP1515Z	121	121	–	110	BCAP BCPC • K 151509, 151512	172
BMP1520Z	126	176	–	160	BCAP • R, BCPC • K • R 162110, 162113	262
BMP1525Z	127	227	–	210	BCAP • R, BCPC • K • R 162610, 162613	346
BMP1722Z	137	187	–	160	BCAP • R, BCPC • K • R 172210	308
BMP1727Z	137	237	–	210	BCAP • R, BCPC • K • R 172711	391
BMP1928Z	157	247	120	210	BCAP • R, BCPC • K • R 192810, 192814	462.5
BMP2020Z	176	176	120	150	BCAP • R, BCPC • K • R 212110, 212113	371
BMP2030Z	165	265	129	226	BCAP • R, BCPC • K • R 203013, 203015, 203018	519
BMP2535Z	215	315	180	270	BCAP • R, BCPC • K • R 253515, 253518	816
BMP2828Z	246	246	210	210	BCAP • R, BCPC • K • R 282813	727.5
BMP2838Z	246	346	210	310	BCAP • R, BCPC • K • R 283813	1,018
BMP3030Z	264	264	219	219	BCAP • R, BCPC • K • R 303015, 303018	826.5
BMP3040Z	265	365	228	325	BCAP • R, BCPC • K • R 304012, 304015, 304018	1,154
BMP3535Z	315	315	270	270	BCAP • R, BCPC • K • R 353515, 353518	1,196.5
BMP3545Z	301	401	274	365	BCAP • R, BCPC • K • R 354512, 354516, 354520	1,443
BMP4050Z	354	454	328	428	BCAP BCPC • K 405016, 405020	1,998
BMP4060Z	354	551	328	525	BCAP BCPC • K 406018, 406023	2,328
BMP5060Z	474	574	426	526	BCAP • R, BCPC • K • R 506018, 506025	3,286
BMP5070Z	472	672	426	626	BCAP • R, BCPC • K • R 507018, 507025	3,864
BMP6080Z	565	765	526	726	BCAP • R, BCPC • K • R 608018, 608028	5,288.5

- K = BCPK series, R = BCAR • BCPR series.

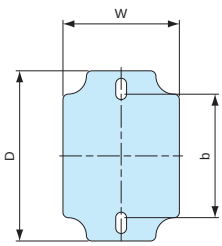
BMP-P series PLASTIC MOUNTING PLATE

■ Light weight ABS plastic mounting plate.

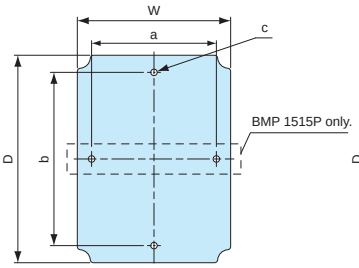


BMP-P dimensions

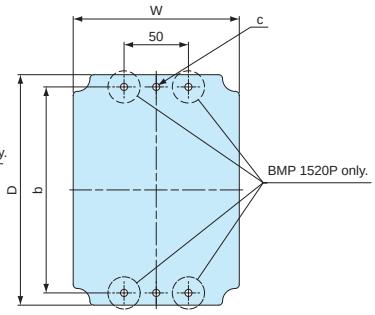
BMP0811P



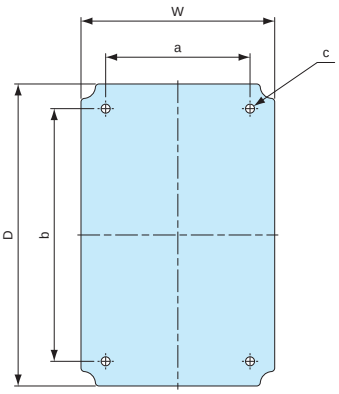
BMP0813P ~ 1515P



BMP1520P, 1525P



BMP1928P ~ 4050P



■ DXF/DWG/PDF drawings available on our website.

Components

Part name	Material	Color
Mounting plate	ABS	White gray

Product no. / Dimensions

Product no.	W	D	a	b	c (Φ)	Thickness	Suitable models	Weight (g)
BMP0811P	64.5	94.3	–	68.4	–	3.5	BCAP • R, BCPC • K • R 091207, 091208	21
BMP0813P	64.6	114.5	–	88.4	–	3.5	BCAP • R, BCPC • K • R 101507, 101508	24
BMP1121P	76.5	176	–	158	6	3	BCAP • R, BCPC • K • R 112107, 112110	40
BMP1126P	76.5	226	–	208	6	3	BCAP • R, BCPC • K • R 112607, 112610	53
BMP1315P	101.5	121.5	–	110	5.5	3.5	BCAP • R, BCPC • K • R 131508	36
BMP1217P	110	160	–	140	6	3.5	BCAP • R, BCPC • K • R 131808, 131810	62
BMP1515P	123	123	110	110	6	3.5	BCAP BCPC • K 151509, 151512	52
BMP1520P	129	179	–	160	5.5	3.5	BCAP • R, BCPC • K • R 162110, 162113, 172210	92
BMP1525P	129	228.5	–	210	6	3.5	BCAP • R, BCPC • K • R 162610, 162613, 172711	112
BMP1928P	158.5	248	120	210	8	3.5	BCAP • R, BCPC • K • R 192810, 192814	162
BMP2020P	178.5	178.5	120	150	5.5	3.5	BCAP • R, BCPC • K • R 212110, 212113	125
BMP2030P	166.5	266	128	225.5	8	4	BCAP • R, BCPC • K • R 203013, 203015, 203018	188
BMP2535P	215.5	315	180	268.5	8	4	BCAP • R, BCPC • K • R 253515, 253518	292
BMP2828P	248.5	248.5	210	210	8	4	BCAP • R, BCPC • K • R 282813	237
BMP2838P	248	347.5	209	309.5	8	4	BCAP • R, BCPC • K • R 283813	368
BMP3030P	262.5	262.5	219	219	7.5	4	BCAP • R, BCPC • K • R 303015, 303018	281
BMP3040P	264	364	228	324	7	3.7	BCAP • R, BCPC • K • R 304012, 304015, 304018	437
BMP3535P	313.5	313.5	269.5	269.5	8	4	BCAP • R, BCPC • K • R 353515, 353518	424.5
BMP3545P	305	405.5	273	364	8	4	BCAP • R, BCPC • K • R 354512, 354516, 354520	539
BMP4050P	357	457	328	428	8.5	4	BCAP BCPC • K 405016, 405020	725.5

■ K = BCPK series, R = BCAR • BCPR series.

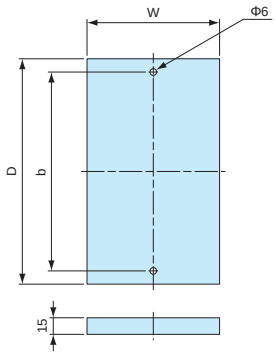
BMP-W series WOODEN MOUNTING PLATE

- Easy installation with self-tapping screws.
- Easily customizable hard wooden plate.
- Plate comes with scales printed on for easy references.

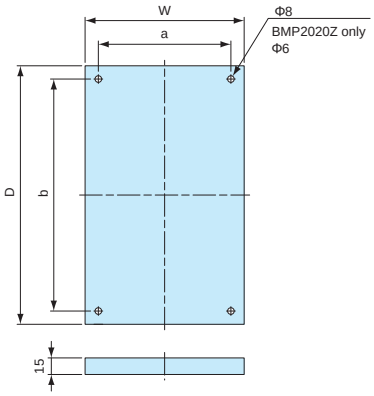


BMP-W dimensions

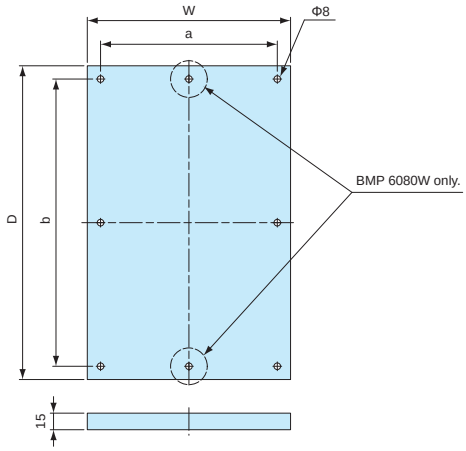
BMP0912W ~ 1727W



BMP1928W ~ 4060W



BMP5060W ~ 6080W



■ DXF/DWG/PDF drawings available on our website.

Components

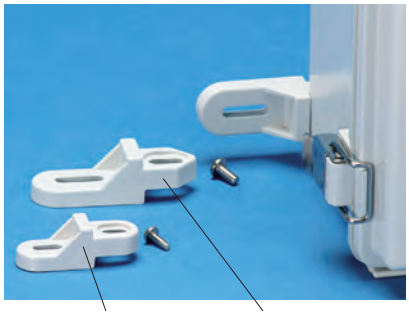
Part name	Pcs	Material	Color / Finish
Mounting plate	1	Wood board t=15	Scaled sheet
Self-tapping screw pan washer head	2 ~ 8	Steel	Trivalent chromate

Product no. / Dimensions

Product no.	W	D	a	b	Suitable models	Screw	Weight (g)
BMP0912W	58	92	–	69	BCAP • R, BCPC • K • R 091207, 091208	M4×20 2 pcs	62
BMP0813W	68	122	–	99	BCAP • R, BCPC • K • R 101507, 101508	M4×20 2 pcs	94
BMP1121W	77	181	–	158	BCAP • R, BCPC • K • R 112107, 112110	M4×20 2 pcs	166
BMP1126W	77	231	–	208	BCAP • R, BCPC • K • R 112607, 112610	M4×20 2 pcs	191
BMP1315W	102	126	–	110	BCAP • R, BCPC • K • R 131508	M4×20 2 pcs	127
BMP1217W	102	156	–	140	BCAP • R, BCPC • K • R 131808, 131810	M4×20 2 pcs	190
BMP1515W	118	125	–	110	BCAP BCPC • K 151509, 151512	M4×20 2 pcs	172
BMP1520W	126	180	–	160	BCAP • R, BCPC • K • R 162110, 162113	M4×20 2 pcs	243
BMP1525W	127	231	–	210	BCAP • R, BCPC • K • R 162610, 162613	M4×20 2 pcs	352
BMP1722W	137	191	–	160	BCAP • R, BCPC • K • R 172210	M4×20 2 pcs	286
BMP1727W	137	241	–	210	BCAP • R, BCPC • K • R 172711	M4×20 2 pcs	212
BMP1928W	150	240	120	210	BCAP • R, BCPC • K • R 192810, 192814	M5×20 4 pcs	350
BMP2020W	170	174	120	150	BCAP • R, BCPC • K • R 212110, 212113	M4×20 4 pcs	336
BMP2030W	159	256	129	226	BCAP • R, BCPC • K • R 203013, 203015, 203018	M5×20 4 pcs	482
BMP2535W	210	300	180	270	BCAP • R, BCPC • K • R 253515, 253518	M5×20 4 pcs	688
BMP2828W	240	240	210	210	BCAP • R, BCPC • K • R 282813	M5×20 4 pcs	565
BMP2838W	240	340	210	310	BCAP • R, BCPC • K • R 283813	M5×20 4 pcs	893
BMP3030W	249	249	219	219	BCAP • R, BCPC • K • R 303015, 303018	M5×20 4 pcs	659
BMP3040W	258	355	228	324	BCAP • R, BCPC • K • R 304012, 304015, 304018	M5×20 4 pcs	965
BMP3535W	300	300	270	270	BCAP • R, BCPC • K • R 353515, 353518	M5×20 4 pcs	964
BMP3545W	301	395	274	365	BCAP • R, BCPC • K • R 354512, 354516, 354520	M5×20 4 pcs	1,314
BMP4050W	355	455	328	428	BCAP BCPC • K 405016, 405020	M5×20 4 pcs	1,754
BMP4060W	355	552	328	525	BCAP BCPC • K 406018, 406023	M5×20 4 pcs	2,015.5
BMP5060W	455	556	426	526	BCAP • R, BCPC • K • R 506018, 506025	M5×20 6 pcs	2,650
BMP5070W	455	656	426	626	BCAP • R, BCPC • K • R 507018, 507025	M5×20 6 pcs	3,152.5
BMP6080W	556	756	526	726	BCAP • R, BCPC • K • R 608018, 608028	M6×20 8 pcs	4,434

■ K = BCPK series, R = BCAR • BCPR series.

BFL series PLASTIC MOUNTING PLATE

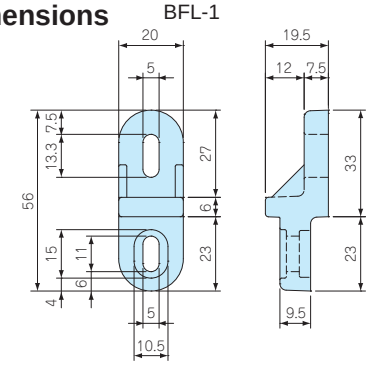


Color G Color S

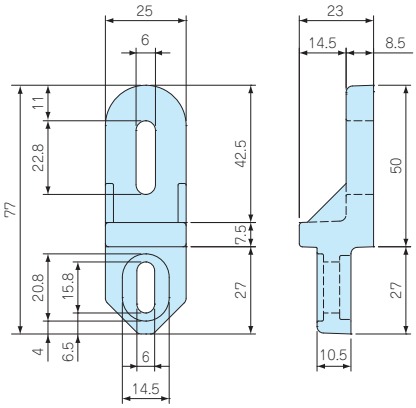
- 2 different colored types to match box colors
- Tough and strong glass fiber filled polycarbonate.

BFL dimensions

BFL-1



BFL-2 / BFL2-21



- DXF/DWG/PDF drawings available on our website.

Color Type

Code	Color	Suitable models
G	White gray	BCAP • BCAR
S	Light gray	BCPC • BCPK • BCPR

Components

Part name	Pcs	Material / Finish
Mounting bracket	4	Glass fiber filled polycarbonate
Screw	4	Stainless steel / Unfinished

Product no. / Dimensions

Product no.	Suitable models	Screw
BFL-1□	BCAP • R, BCPC • K • R 0912, 1015, 1121, 1126, 1315, 1318, 1621, 1626, 1722, 1727, 212113	Self-tapping M4-12 bind head
BFL-2□	BCAP • R, BCPC • K • R 1928, 2030, 2535, 2828, 2838, 3030, 3040, 3535, 3545, 4050, 4060, 5060	M5-12 bind head
BFL-2-21□	BCAP • R, BCPC • K • R 212110	Self-tapping M4-12 bind head

- Please suffix color code at the end of the product number.

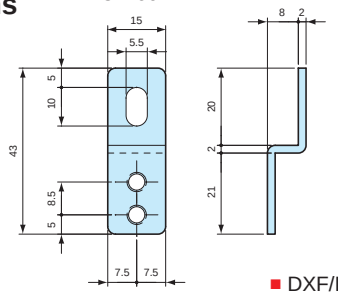
*Not suitable for BCAP1515 models. Use CK-35P (Stainless steel) instead.

CK series STAINLESS STEEL MOUNTING BRACKET

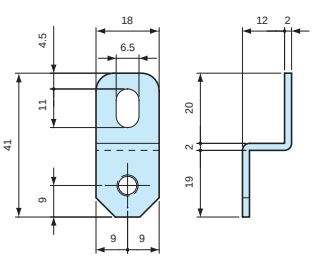


CK dimensions

CK-35P



CK-26P



- DXF/DWG/PDF drawings available on our website.

Components

Part name	Pcs	Material	Finish
Mounting bracket	4	Stainless steel SUS304	Barrel finish
Screw	4	Stainless steel	Unfinished

Product no. / Dimensions

Product no.	Suitable models	Screw
CK-35P	BCAP • R, BCPC • K • R 0912, 1015, 1121, 1126, 1315, 1318, 1515, 1621, 1626, 1722, 1727, 2121	Self-tapping M4-10 pan head
CK-26P	BCAP • R, BCPC • K • R 1928, 2030, 2535, 2828, 2838, 3030, 3040, 3535, 3545, 4050, 4060	M5-10 pan head

MT series PCB MOUNTING SCREW



- PCB mounting screws for inner bosses of BCAP • BCAR • BCPC • BCPK • BCPR series.

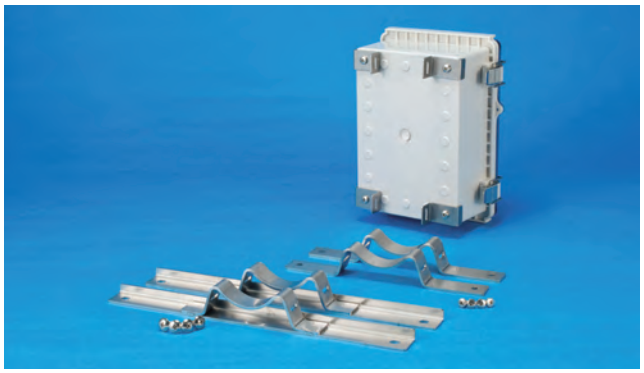
Product no. / Dimensions

Product no.	Screw details	Material	Finish	Pack of
MT4-8T	Self-tapping M4-8 bind head	Steel	Trivalent chromate	20
MT5-8T	Self-tapping M5-8 bind head	Steel	Trivalent chromate	20

Product no. / Dimensions

Product no.	Suitable models	Recommended torque
MT4-8T	BCAP • R, BCPC • K • R 0912, 1015, 1121, 1126, 1315, 1318, 1515, 1621, 1626, 1722, 1727, 1928, 2121	0.7N • m
MT5-8T	BCAP • R, BCPC • K • R 2030, 2535, 2828, 2838, 3030, 3040, 3535, 3545, 4050, 4060, 5060, 5070, 6080	1.4N • m

SSK series POLE MOUNTING BRACKET for BCAP • BCAR • BCPC • BCPK • BCPR

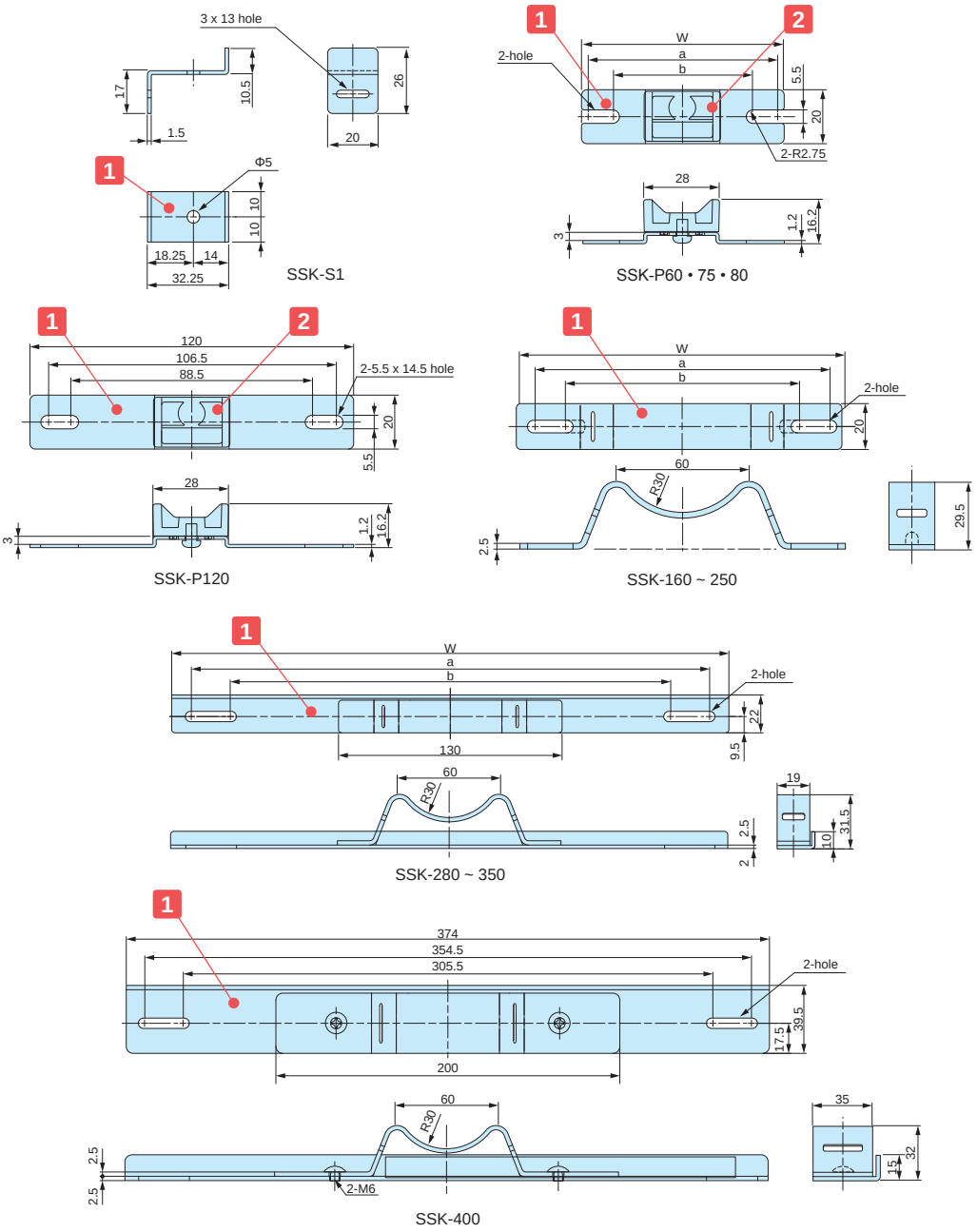




- Stainless steel pole mounting bracket for BCAP • BCAR • BCPC • BCPK • BCPR series.
- No hole milling is required for maintaining the IP rating of the boxes.
- SSK-P models come with plastic brackets.

SSK dimensions

- DXF/DWG/PDF drawings available on our website.



APPLICATION EXAMPLE

Weather Station Data Logger

Product by Sakaki (Japan)

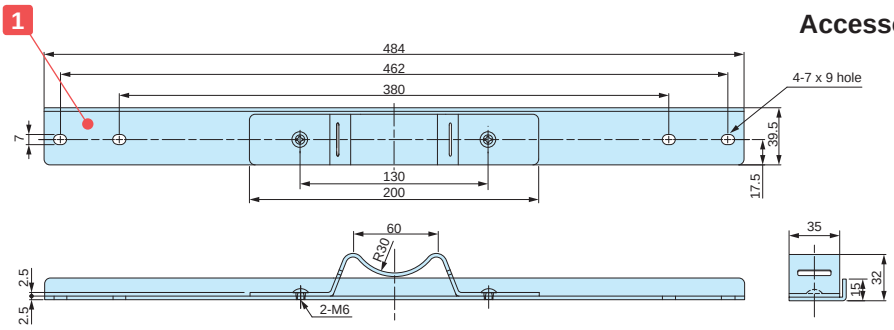


Water Level Detector

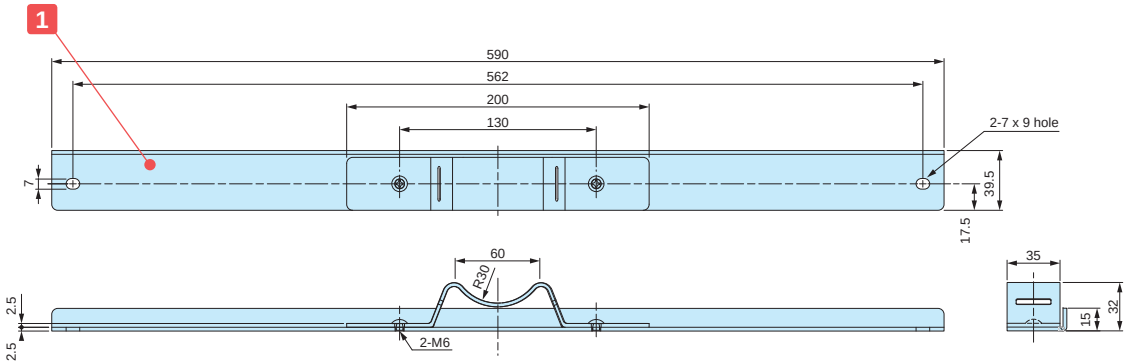
Product by Aspect System (Japan)



Accessories (Optional parts)



SSK-530



SSK-630

■ DXF/DWG/PDF drawings available on our website.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Mounting bracket	2 / 4	Stainless steel SUS304	Barrel finish
2	Plastic bracket (SSK-P only)	2	ASA UL94HB	White gray
–	Screw	4	Stainless steel	Unfinished

Product no. / Dimensions

Product no.	W	a	b	Suitable models BCAP • BCAR • BCPC • BCPK • BCPR	Belt to use with	Pack of
SSK-S1	32.25	18.25	14	0912, 1015, 1121, 1126, 1315, 1318, 1621, 1626, 1722, 1727, 2121	PKB10PM, 10P, PKB10S, SNB series	4
SSK-P60	60	54.5	47.5	0912	PKB10PM, 10P, PKB10S	2
SSK-P75	75	69.5	55.5	1015	PKB10PM, 10P, PKB10S	2
SSK-P80	80	74.5	64.5	1121, 1126	PKB10PM, 10P, PKB10S	2
SSK-P120	120	106.5	88.5	1315, 1318	PKB10PM, 10P, PKB10S	2
SSK-160	142	129.5	106.5	1515, 1621, 1626	PKB10PM, 10P, PKB10S, SNB series	2
SSK-170	152	142.3	101	1722, 1727	PKB10PM, 10P, PKB10S, SNB series	2
SSK-200	174	161.5	112.5	1928, 2030	PKB10PM, 10P, PKB10S, SNB series	2
SSK-210	192	180.5	131.5	2121	PKB10PM, 10P, PKB10S, SNB series	2
SSK-250	230	215.5	166.5	2535	PKB10PM, 10P, PKB10S, SNB series	2
SSK-280	260	244.5	195.5	2828, 2838	PKB10PM, 10P, PKB10S, SNB series	2
SSK-300	280	264.5	215.5	3030, 3040	PKB10PM, 10P, PKB10S, SNB series	2
SSK-350	324	302.5	253.5	3535, 3545	PKB10PM, 10P, PKB10S, SNB series	2
SSK-400	374	354.5	305.5	4050, 4060	PKB20S, SNB series	2
SSK-530	484	462	380	5060, 5070	PKB20S, SNB series	2
SSK-630	590	562	–	6080	PKB20S, SNB series	2



SNB series



PKB−10PM, 10P



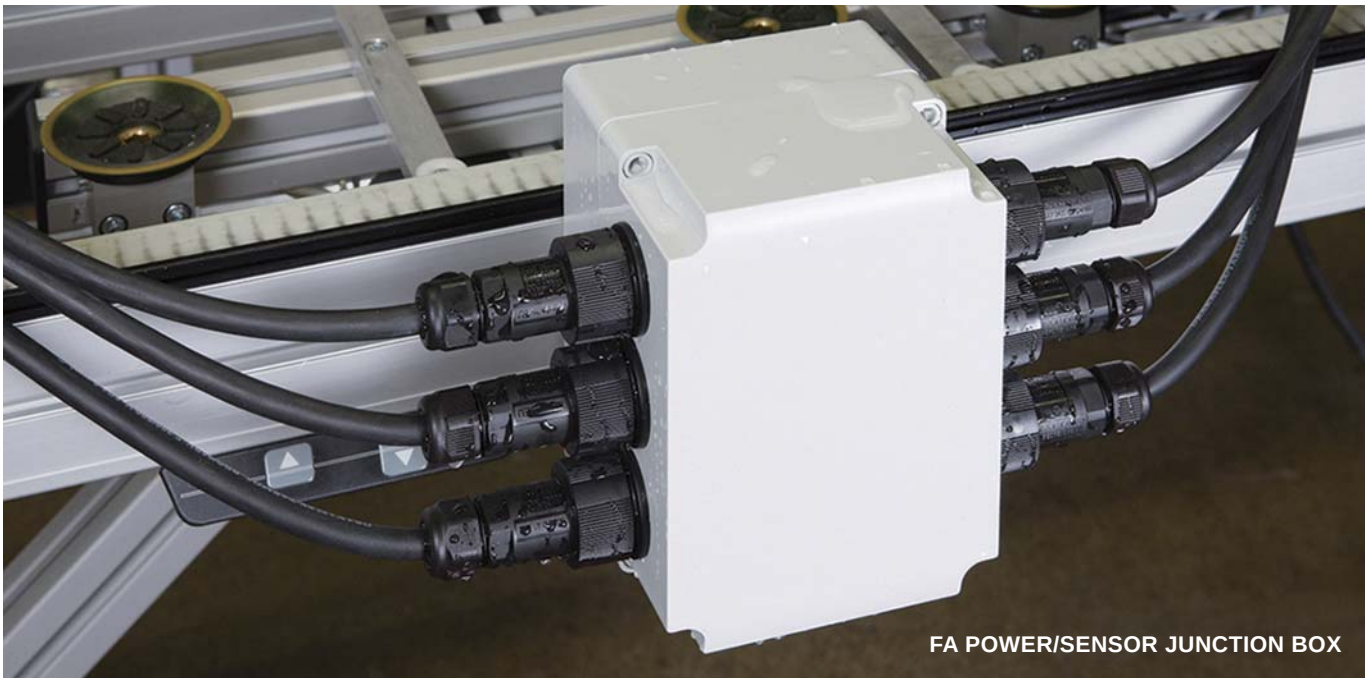
PKB−10S, 20S

■ Pole mounting strap and belt, SNB and PKB series are sold separately. See page 323 ~ 324 for further details.

IP67 POLYCARBONATE BOX

SPCP・SPCM SERIES APPLICATION EXAMPLE

Made from polycarbonate material, the SPCP・SPCM series features not only high durability, but also comes with IP67 protection.
Suitable to be used in a wide range of applications, such as FA/control, measurement equipment, network communication and so on.



FA POWER/SENSOR JUNCTION BOX

INDUSTRIAL MOTOR JUNCTION BOX



AUTOMATIC DOOR OPEN/CLOSE SWITCH



DIGITAL DIFFERENTIAL MANOMETER

Product by KRONE CORPORATION (Japan)



PARTS FEEDER COUNTER



REMOTE GREENHOUSE MONITORING SYSTEM

Product by SERAKU (Japan)



METEOROLOGICAL MONITOR

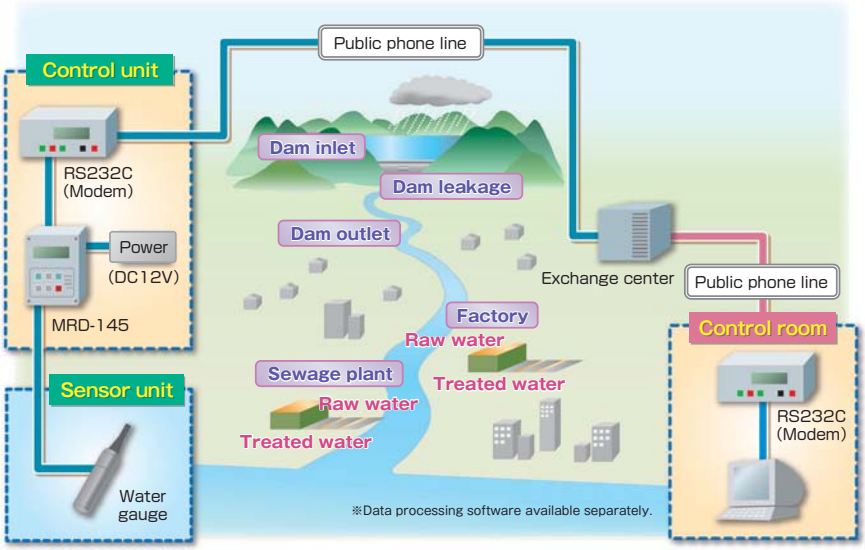
Product by SEC (Japan)



WATER LEVEL METER

Product by HOKUTO RIKEN (Japan)





DIGITAL ANEMOMETER

Product by North One (Japan)



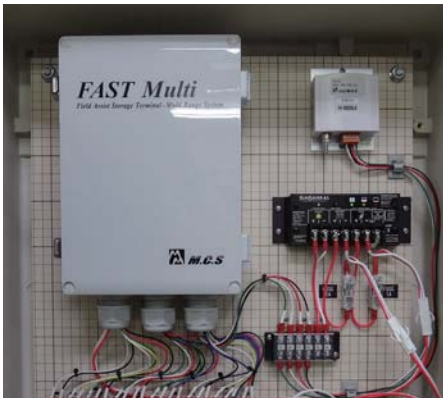
SENSOR NETWORK MONITOR

Product by KYOSAITECHNOS (Japan)



FIELD DATA LOGGER

Product by M.C.S (Japan)



MONITORING CAMERA

Product by ACE PROMOTION (Japan)



TAKACHI

SPCP SERIES IP67 POLYCARBONATE BOX



Technical Data
Protection class: IP67 Operating temperature: -20°C ~ +75°C Recommended torque: 1N • m ~ 1.5N • m



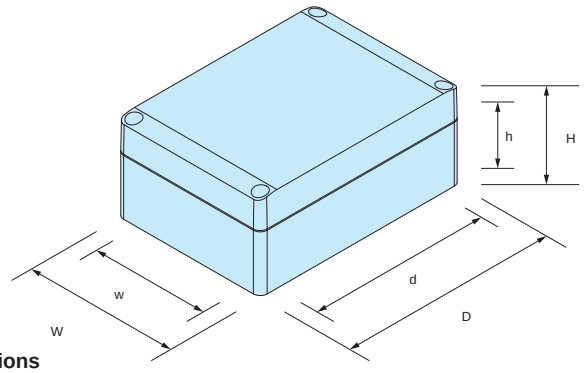
- Tough polycarbonate material for superior impact resistance.
- Available in 28 different sizes, with 2 different cover types (white gray and transparent).
- Suitable to be used as terminal junction box, control box, communication unit and so on.
- Mountable on walls by using the cover holes for fastening.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Cover	1	Polycarbonate UL94V−2	White gray • Transparent
2	Body	1	Glass fiber filled polycarbonate UL94V−0	White gray
3	Gasket	1	Polyurethane	Black
4	Cover screw	4	Polyamide	White gray
5	Tapping screw (for mounting plate)	4	Steel	Unichrome plated

SPCP dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Product no. / Dimensions

Product no.				Dimensions (External)			Dimensions (Internal)			Weight (g)
G type		T type		W	D	H	w	d	h	
Cover	Body	Cover	Body							
● White gray		○ Transparent	● White gray							
SPCP081304G		SPCP081304T		75	125	35	65.5	91	20.5	120
SPCP081305G		SPCP081305T		75	125	50	65.5	91	35.5	150
SPCP081306G		SPCP081306T		75	125	60	65.5	91	45.5	161
SPCP081308G		SPCP081308T		75	125	75	65.5	91	60.5	213
SPCP081310G		SPCP081310T		75	125	100	65	90.5	85.5	278
SPCP081313G		SPCP081313T		75	125	125	64.5	90	110.5	306
SPCP101004G		SPCP101004T		100	100	35	90.5	66	20.5	124
SPCP101006G		SPCP101006T		100	100	60	90.5	66	45.5	165
SPCP131304G		SPCP131304T		125	125	35	115.5	91	20.5	178
SPCP131305G		SPCP131305T		125	125	50	115.5	91	35.5	215
SPCP131306G		SPCP131306T		125	125	60	115.5	91	45.5	243
SPCP131308G		SPCP131308T		125	125	75	115.5	91	60.5	294
SPCP131310G		SPCP131310T		125	125	100	115	90.5	85.5	366
SPCP131313G		SPCP131313T		125	125	125	114.5	90	110.5	405
SPCP131804G		SPCP131804T		125	175	35	115.5	141	20.5	237
SPCP131805G		SPCP131805T		125	175	50	115.5	141	35.5	282
SPCP131806G		SPCP131806T		125	175	60	115.5	141	45.5	297
SPCP131808G		SPCP131808T		125	175	75	115.5	141	60.5	378
SPCP131810G		SPCP131810T		125	175	100	115	140.5	85.5	463
SPCP131813G		SPCP131813T		125	175	125	115	140.5	110.5	531
SPCP131815G		SPCP131815T		125	175	150	114	139.5	135.5	600
SPCP181808G		SPCP181808T		175	175	75	165.5	141	60.5	475
SPCP181810G		SPCP181810T		175	175	100	165	140.5	85.5	584
SPCP181813G		SPCP181813T		175	175	125	164.5	140	110.5	652
SPCP181815G		SPCP181815T		175	175	150	164	139.5	135.5	738
SPCP182508G		SPCP182508T		175	250	75	165.5	216	60.5	637
SPCP182510G		SPCP182510T		175	250	100	165	215.5	85.5	754
SPCP182515G		SPCP182515T		175	250	150	164	214.5	135.5	959

Accessories (Optional parts)



Terminal block • Terminal cover STB • STC series
See page STB • STC-1 ~ STB • STC-4



Mounting bracket SFL-1
See page SPCM • SPCP-ACC-1



Mounting plate SMP series
See page SPCM • SPCP-ACC-1



Cable gland
See cable gland pages



Protective vent PMF series
See PMF pages



DIN-Rail FDR series
See page FDR-1 ~ FDR-2



Terminal block stopper TKR series
See page DIN-ACC-2



DIN-Rail mounting base DRA, DRT, CKD series
See page DIN-ACC-1 ~ DIN-ACC-2



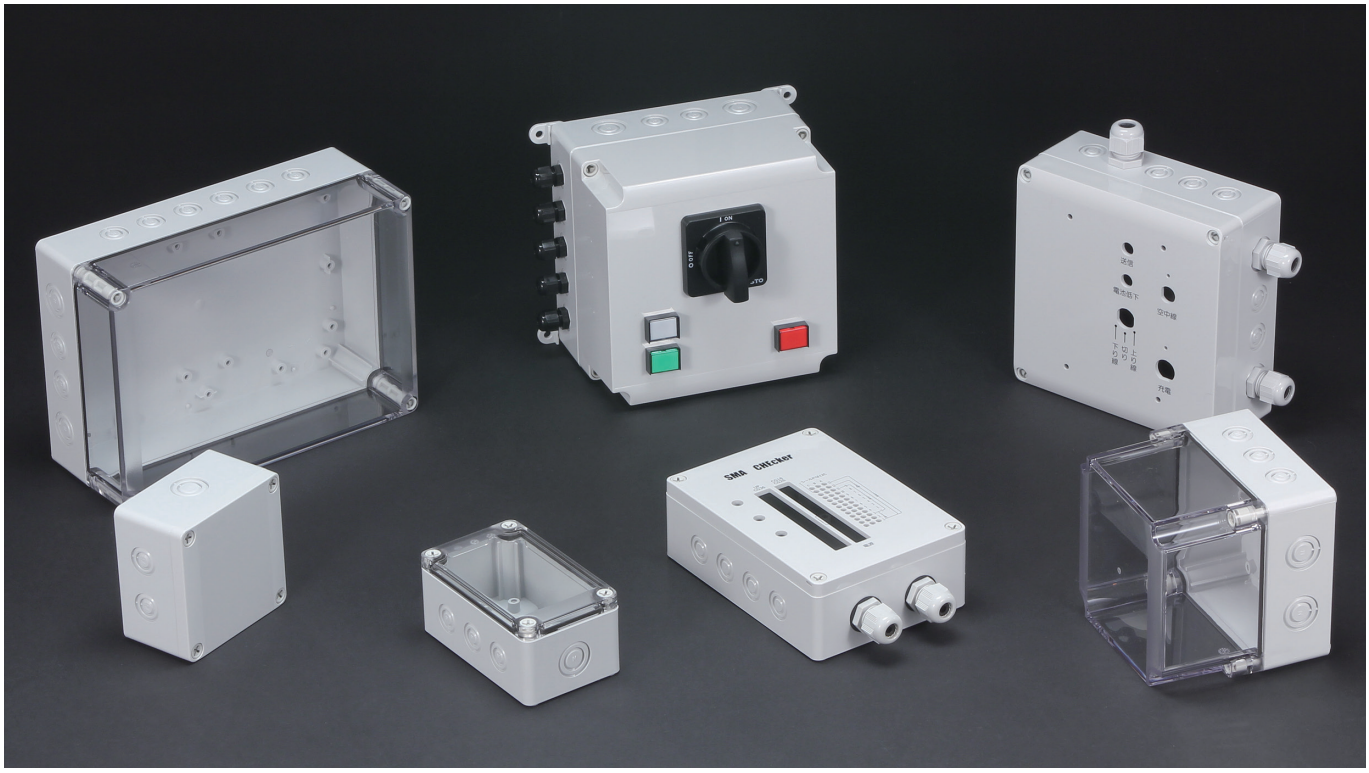
Pole mounting bracket & belt SSK, PKB series
See page SSK-1 ~ SSK-4



Outdoor roof SR series
See page SPCM • SPCP-ACC-2

TAKACHI

SPCM SERIES IP67 POLYCARBONATE BOX with METRIC KNOCK-OUTS



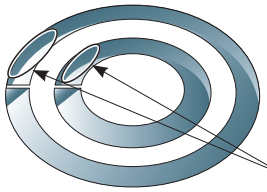


Technical Data
Protection class: IP67 Operating temperature: -20°C ~ +75°C Recommended torque: 1N • m ~ 1.5N • m

- Tough polycarbonate material for superior impact resistance.
- Available in 21 different sizes, with 2 different cover types (white gray and transparent).
- Molded with metric knock-outs for easy removal for cable entry.
- Suitable to be used as terminal junction box, control box, communication unit and so on.
- Mountable on walls by using the cover holes for fastening.







- To knock out the hole covers, rest a flathead screwdriver at the "A" points, and punch out the knock-outs by hammering on the rear end of the screwdriver handle with a hammer.

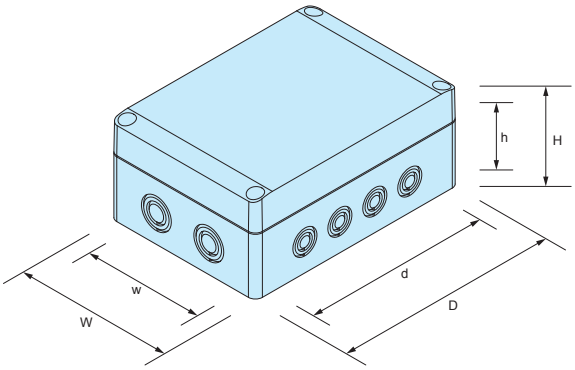
"A" point

Components

No.	Part name	Pcs	Material	Color / Finish
1	Cover	1	Polycarbonate UL94V−2	White gray • Transparent
2	Body	1	Glass fiber filled polycarbonate UL94V−0	White gray
3	Gasket	1	Polyurethane	Black
4	Cover screw	4	Polyamide	White gray
5	Tapping screw (for mounting plate)	4	Steel	Unichrome plated

SPCM dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

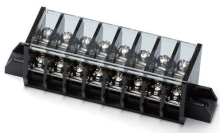


※Metric knock-outs are on all 4 sides.

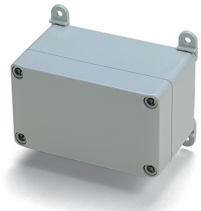
Product no. / Dimensions

Product no.				Dimensions (External)			Dimensions (Internal)			Weight (g)
G type		T type		W	D	H	w	d	h	
Cover	Body	Cover	Body							
● White gray		○ Transparent	● White gray							
SPCM081306G		SPCM081306T		75	125	60	65.5	91	45.5	159
SPCM081308G		SPCM081308T		75	125	75	65.5	91	60.5	208
SPCM081310G		SPCM081310T		75	125	100	65	90.5	85.5	275
SPCM081313G		SPCM081313T		75	125	125	64.5	90	110.5	299
SPCM101006G		SPCM101006T		100	100	60	90.5	66	45.5	164
SPCM131306G		SPCM131306T		125	125	60	115.5	91	45.5	243
SPCM131308G		SPCM131308T		125	125	75	115.5	91	60.5	292
SPCM131310G		SPCM131310T		125	125	100	115	90.5	85.5	366
SPCM131313G		SPCM131313T		125	125	125	114.5	90	110.5	401
SPCM131806G		SPCM131806T		125	175	60	115.5	141	45.5	294
SPCM131808G		SPCM131808T		125	175	75	115.5	141	60.5	373
SPCM131810G		SPCM131810T		125	175	100	115	140.5	85.5	450
SPCM131813G		SPCM131813T		125	175	125	115	140.5	110.5	519
SPCM131815G		SPCM131815T		125	175	150	114	139.5	135.5	588
SPCM181808G		SPCM181808T		175	175	75	165.5	141	60.5	468
SPCM181810G		SPCM181810T		175	175	100	165	140.5	85.5	569
SPCM181813G		SPCM181813T		175	175	125	164.5	140	110.5	639
SPCM181815G		SPCM181815T		175	175	150	164	139.5	135.5	723
SPCM182508G		SPCM182508T		175	250	75	165.5	216	60.5	633
SPCM182510G		SPCM182510T		175	250	100	165	215.5	85.5	745
SPCM182515G		SPCM182515T		175	250	150	164	214.5	135.5	946

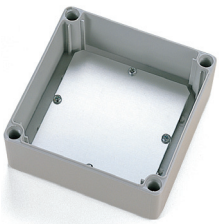
Accessories (Optional parts)



Terminal block • Terminal cover STB • STC series
See page STB • STC-1 ~ STB • STC-4



Mounting bracket SFL-1
See page SPCM • SPCP-ACC-1



Mounting plate SMP series
See page SPCM • SPCP-ACC-1



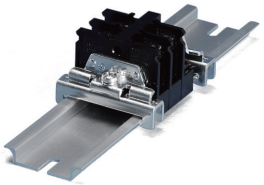
Cable gland
See cable gland pages



Protective vent PMF series
See PMF pages



DIN-Rail FDR series
See page FDR-1 ~ FDR-2



Terminal block stopper TKR series
See page DIN-ACC-2



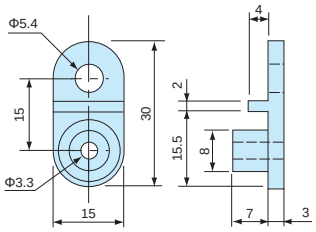
Pole mounting bracket & belt SSK, PKB series
See page SSK-1 ~ SSK-4



Outdoor roof SR series
See page SPCM • SPCP-ACC-2

SFL-1 PLASTIC MOUNTING BRACKET





Product no. / Feature

Product no.	Material	Screw	Pcs
SFL-1	Polycarbonate	M4 Tapping	4

SMS4-8 MOUNTING SCREW



- Mounting screws for PCB mounting on SPCP • SPCM series.
  ※1 set included with each SPCP • SPCM enclosure.

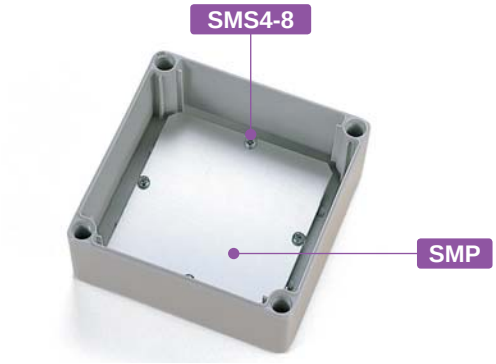
Product no. / Feature

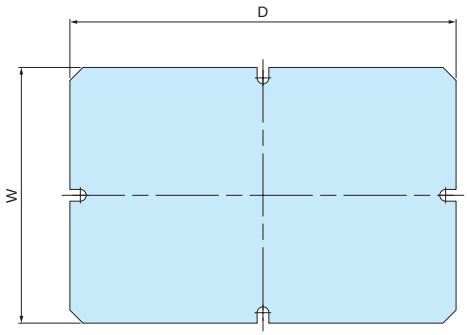
Product no.	Material	Screw	Pcs
SMS4-8 (M4-8 Pan head tapping)	Steel	Trivalent chromate	4

SMP SERIES ALUMINIUM MOUNTING PLATE

SMP dimensions

- Drawings below are reference examples only.
  DXF/DWG/PDF drawings available on our website.





Product no. / Dimensions

Product no.	Suitable box	W	D	Weight (g)
SMP0813	SPCM • SPCP0813	48	98	18
SMP1010	SPCM • SPCP1010	78	78	24
SMP1313	SPCM • SPCP1313	98	98	40.5
SMP1318	SPCM • SPCP1318	98	148	61
SMP1818	SPCM • SPCP1818	148	148	93
SMP1825	SPCM • SPCP1825	148	223	140.5

- Customization services (clinching standoffs, hole milling, and others) available.
  See website for more details.



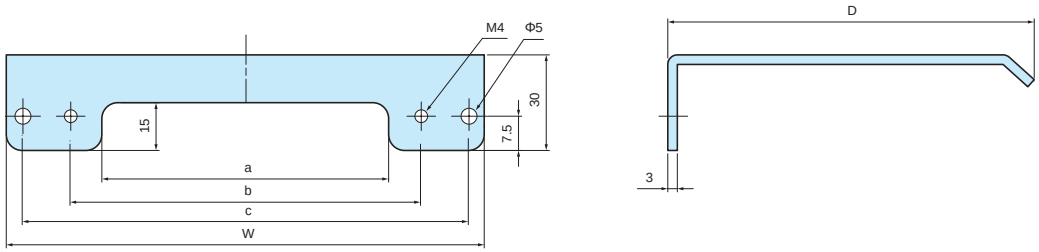


SR SERIES OUTDOOR ROOF for SPCM • SPCP

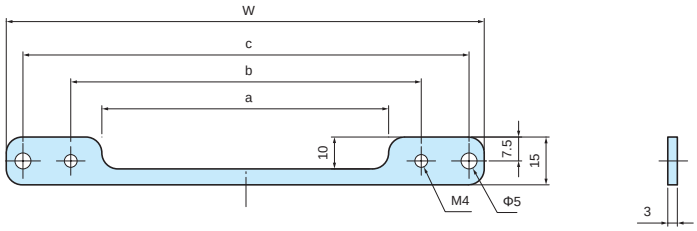


- Roof and spacer attachments are easily attached onto the enclosure using existing cover fastening holes.
- Recommended for outdoor environments for protection against rain, etc.

Roof



Spacer



Components

No.	Part name	Pcs	Material	Color / Finish
1	Roof	1	Aluminium A1050P t = 3.0mm	Light gray / Painted
2	Spacer	1	Aluminium A1050P t = 3.0mm	Light gray / Painted
-	Screw	4	Stainless steel	Unfinished
-	O-ring	4	NBR	Black

Product no. / Dimensions

Product no.	W	D	a	b	c	Suitable box
SR0808	100	90	50	60	90	SPCM • SPCP 081308
SR0810	100	115	50	60	90	SPCM • SPCP 081310
SR0813	100	140	50	60	90	SPCM • SPCP 081313
SR1308	150	90	90	110	140	SPCM • SPCP 131308 131808
SR1310	150	115	90	110	140	SPCM • SPCP 131310 131810
SR1313	150	140	90	110	140	SPCM • SPCP 131313 131813
SR1315	150	165	90	110	140	SPCM • SPCP 131815
SR1808	200	90	140	160	190	SPCM • SPCP 181808 182508
SR1810	200	115	140	160	190	SPCM • SPCP 181810 182510
SR1813	200	140	140	160	190	SPCM • SPCP 181813
SR1815	200	165	140	160	190	SPCM • SPCP 181815 182515

STB SERIES TERMINAL BLOCK



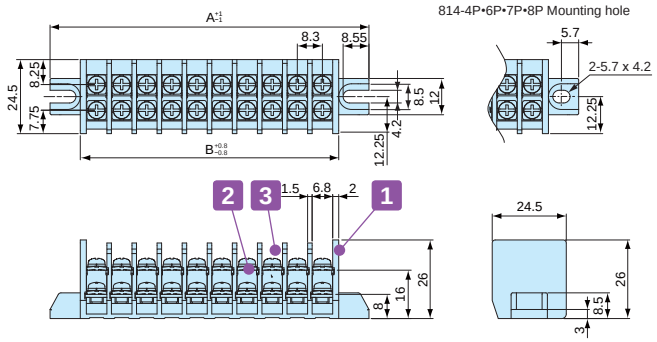
(FW2)

■ Terminal block for SPCM • SPCP series.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Base	1	PBT (UL94V-0)	Black
2	Terminal	1	Brass	Nickel plated
3	Terminal screw	2 x P	Steel	Nickel plated
—	Mounting screw	4	Steel	Trivalent chromate

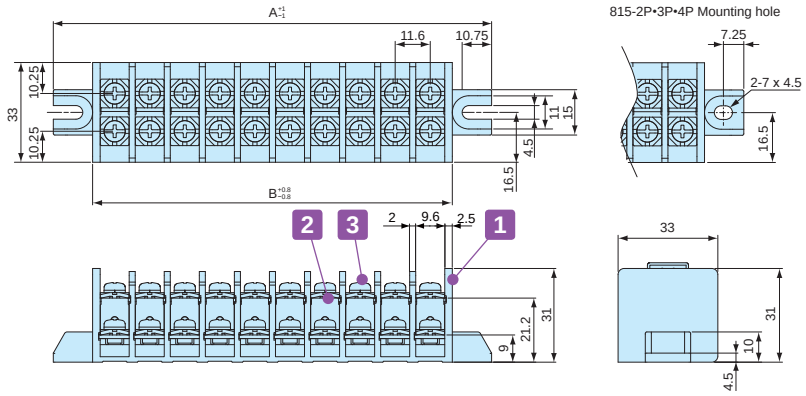
STB-814



Specification

1. Electrical Rating 300V 30A
2. Insulation Resistance DC500V 1000MΩ ~
3. Withstand Voltage AC2500V (Tested for 1 min.)
4. Operating Temp. Range -25°C ~ +80°C
5. Storage Temp. Range -25°C ~ +80°C

STB-815



Specification

1. Electrical Rating 300V 30A
   (600V 30A JIS IEC compliant)
2. Insulation Resistance DC500V 1000MΩ ~
3. Withstand Voltage AC2500V (Tested for 1 min.)
4. Operating Temp. Range -25°C ~ +80°C
5. Storage Temp. Range -25°C ~ +80°C

Product no. / Dimensions

Product no.	P (Number of poles)	A	B	Suitable SPCM • SPCP box W x D dimensions
STB814- 3P	3	47.4	27.4	75×125
STB814- 4P	4	55.7	35.7	100×100
STB814- 6P	6	72.3	52.3	175×175
STB814- 7P	7	80.6	60.6	100×100
STB814- 8P	8	88.9	68.9	75×125, 125×125
STB814- 9P	9	97.2	77.2	125×125, 125×175, 175×250
STB814-10P	10	105.5	85.5	125×175, 175×250
STB815- 2P	2	52.2	26.2	75×125
STB815- 3P	3	63.8	37.8	100×100
STB815- 4P	4	75.4	49.4	125×125
STB815- 6P	6	98.6	72.6	125×125, 125×175, 175×250
STB815-10P	10	145	119	175×175, 175×250

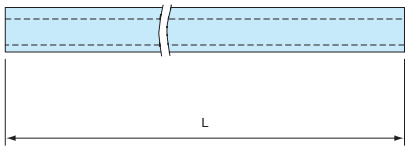
STC SERIES TERMINAL COVER

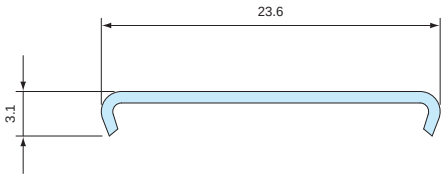




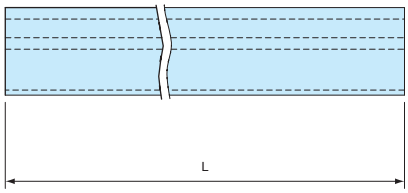
- Terminal cover for STB terminal block.
- Use for protecting terminals.

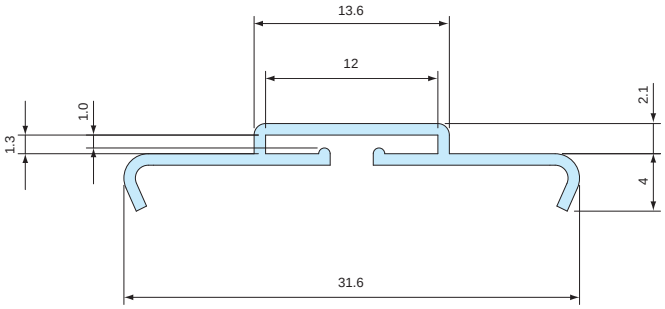
STC814





STC815





- Material / Color : Polycarbonate t=0.8mm / Transparent

Product no. / Dimensions

Product no.	P (Number of poles)	L	Compatible terminal
STC814- 3P	3	22.4	STB814- 3P
STC814- 4P	4	30.7	STB814- 4P
STC814- 6P	6	47.3	STB814- 6P
STC814- 7P	7	55.6	STB814- 7P
STC814- 8P	8	63.9	STB814- 8P
STC814- 9P	9	72.2	STB814- 9P
STC814-10P	10	80.5	STB814-10P
STC815- 2P	2	20.2	STB815- 2P
STC815- 3P	3	31.8	STB815- 3P
STC815- 4P	4	43.4	STB815- 4P
STC815- 6P	6	66.6	STB815- 6P
STC815-10P	10	113.0	STB815-10P

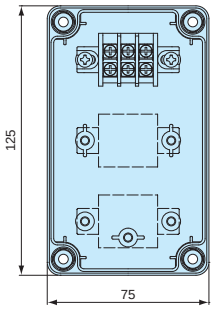
STB TERMINAL BLOCK MOUNTING POSITION

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

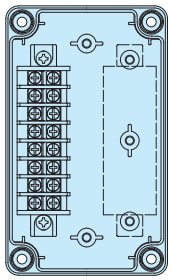
■ Terminals can be installed in the area with dotted lines.

Suitable box SPCM/SPCP 081305 • 081306 • 081308 • 081310 • 081313

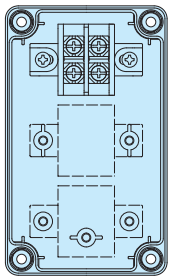
814−3P



814−8P

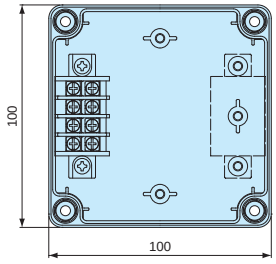


815−2P

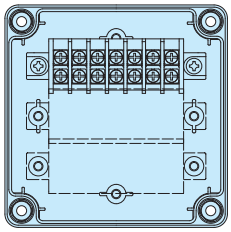


Suitable box SPCM/SPCP 101006

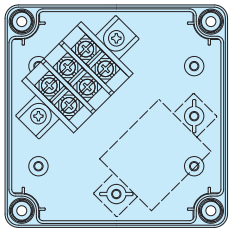
814−4P



814−7P

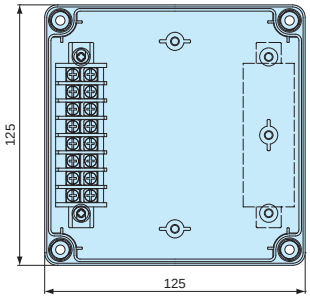


815−3P

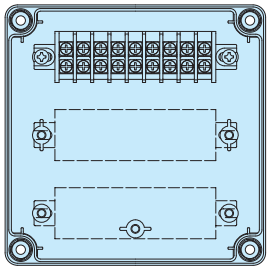


Suitable box SPCM/SPCP 131305 • 131306 • 131308 • 131310 • 131313

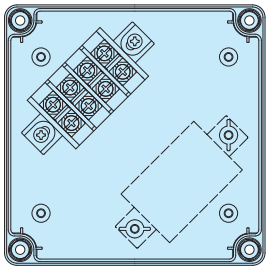
814−8P



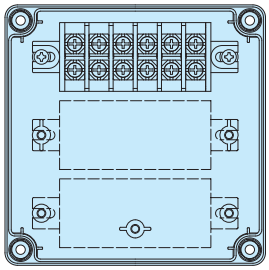
814−9P



815−4P

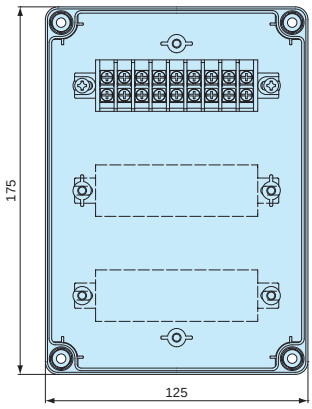


815−6P

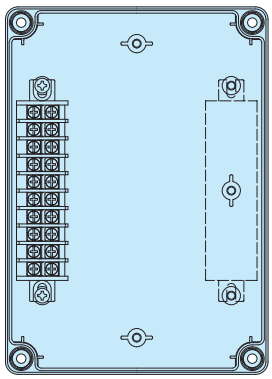


Suitable box SPCM/SPCP 131805 • 131806 • 131808 • 131810 • 131813 • 131815

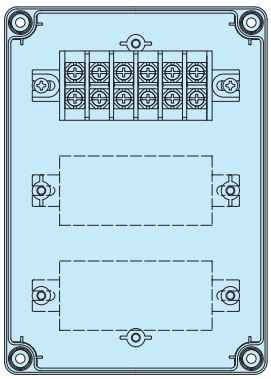
814−9P



814−10P



815−6P



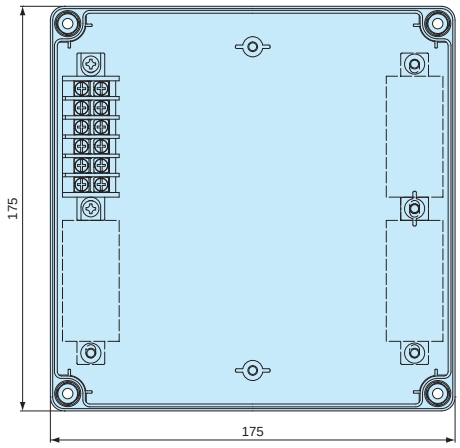
STB TERMINAL BLOCK MOUNTING POSITION

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

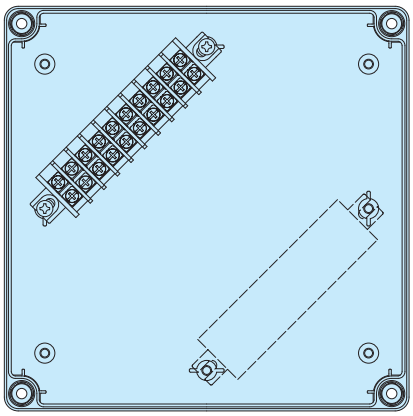
■ Terminals can be installed in the area with dotted lines.

Suitable box SPCM/SPCP 181808 • 181810 • 181813 • 181815

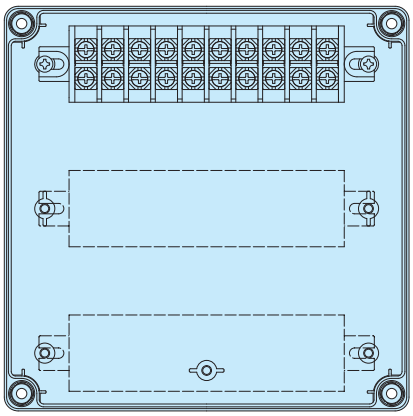
814−6P



814−10P

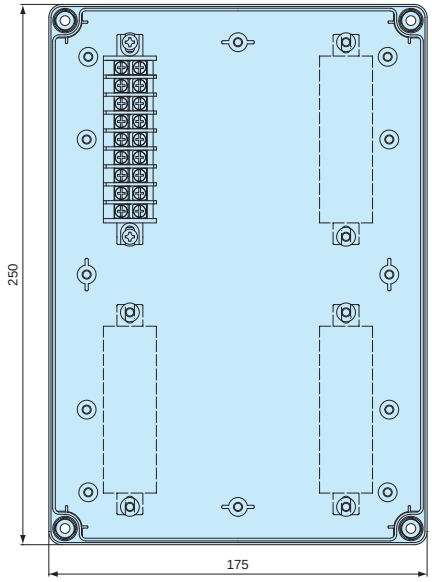


815−10P

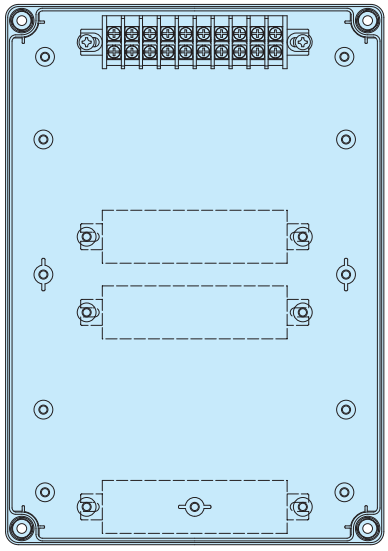


Suitable box SPCM/SPCP 182508 • 182510 • 182515

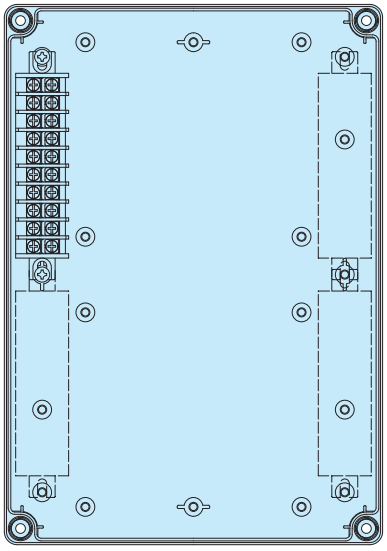
814−9P



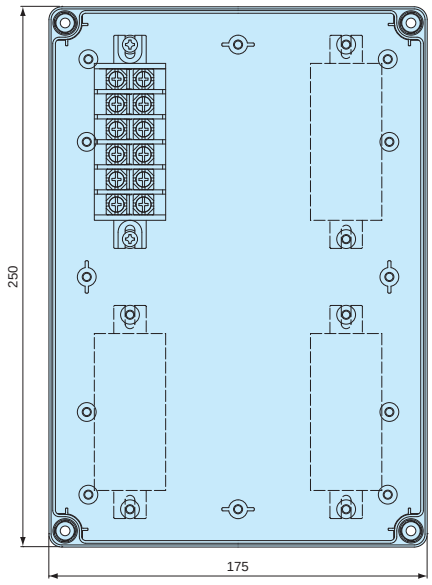
814−10P



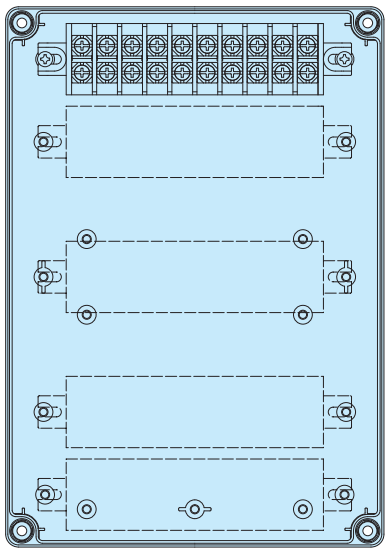
814−10P



815−6P

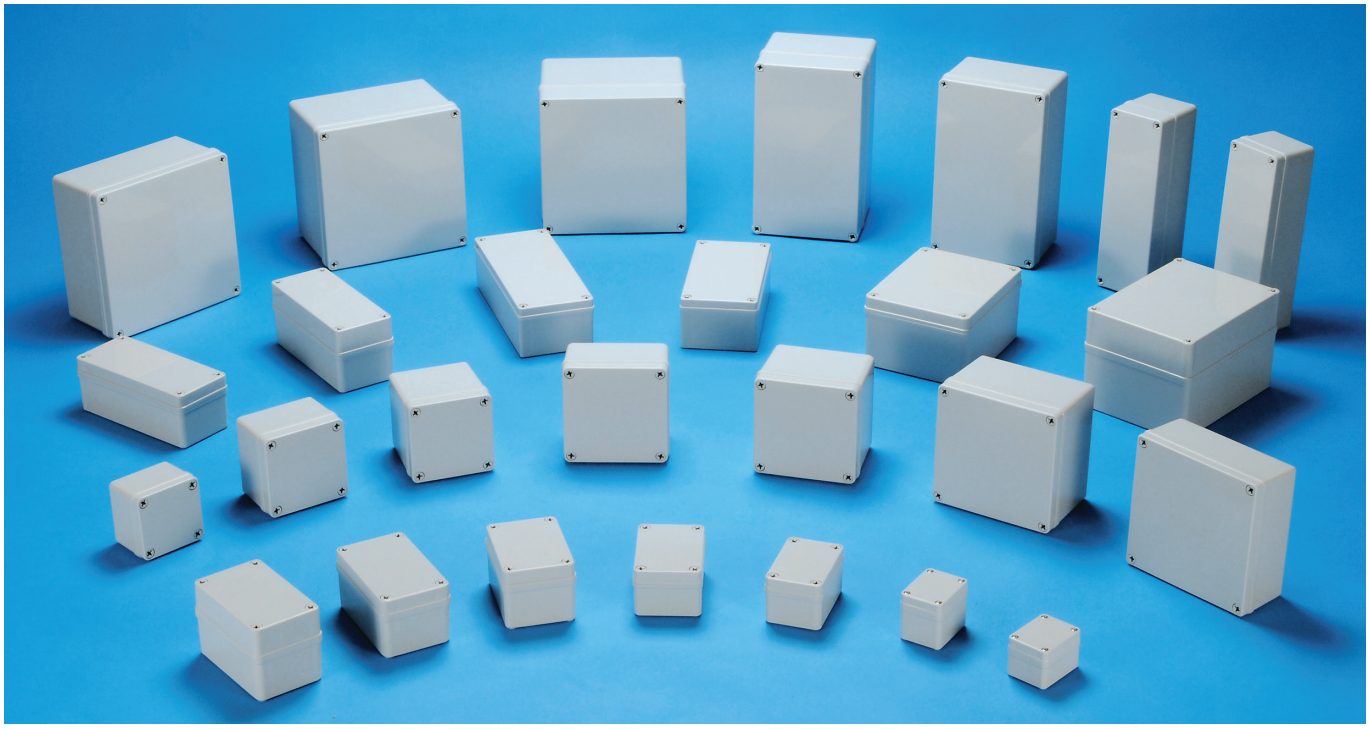


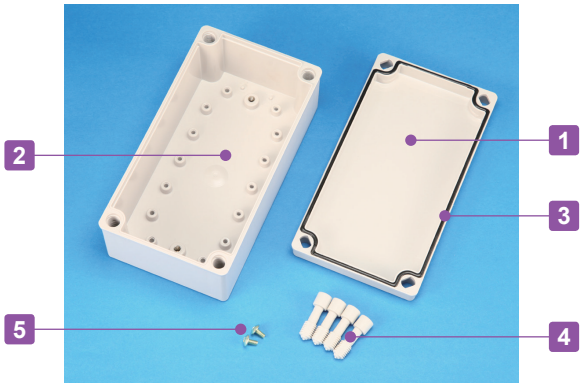
815−10P



TAKACHI

BCAS SERIES IP65 PLASTIC PULL BOX





Technical Data

Protection class: IP65
Operating temperature: -10°C ~ +60°C
Recommended torque:
1N • m ~ 1.5N • m
(1N • m for BCAS050604G, BCAS050605G)

- Small-sized frontal screw fastening type waterproof box.
- Available in 39 different sizes.
- Applicable for various uses as wiring pull box, terminal junction box, switch box and so on.

Components

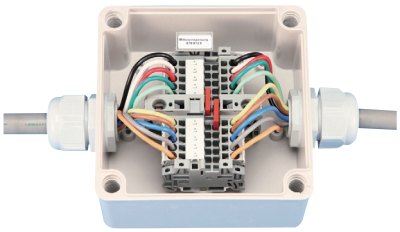
No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	ABS UL94HB	White gray
2	Body	1	ABS UL94HB	White gray
3	Gasket	1	Polyurethane	Black
4	Cover screw	4	Nylon • Stainless steel (BCAS050604G and BCAS050605G only)	White gray • Unfinished
5	Tapping screw (for mounting plate)	2 ~ 4	Steel	Trivalent chromate

APPLICATION EXAMPLE

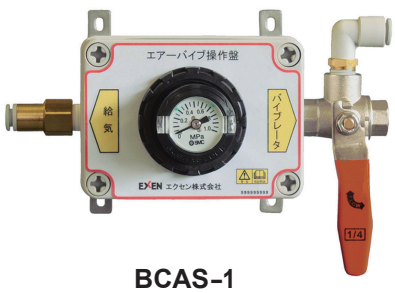
SWITCH BOX



TERMINAL JUNCTION BOX



AIR PIPE CONTROLLER



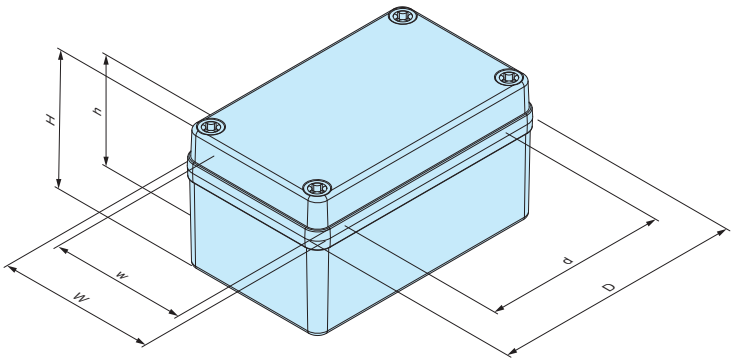
METEOROLOGICAL MONITOR TRANSMITTER



Product by Midori Engineering Laboratory (Japan)

BCAS dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



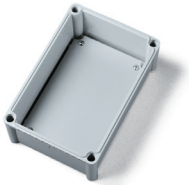
◎ : Guide markings for installation of optional latch/hinge parts.



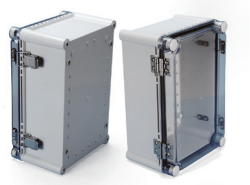
Product no. / Dimensions

Product no.	Dimensions (External)			Dimensions (Internal)			Weight (g)
	W	D	H	w	d	h	
BCAS050604G	50	65	45	43.5	41	33	69
BCAS050605G	50	65	55	43.5	41	43	76
BCAS060905G	65	95	55	55.5	59	41.5	124
BCAS071005G	75	105	55	66	69	41.3	148
BCAS080806G	80	80	60	70.5	44	46.4	133
BCAS081104G	80	110	45	71	74	32.2	138
BCAS081107G	80	110	70	69.5	73.5	57	165
BCAS081108G	80	110	85	70	75	71.8	191
BCAS081110G	80	110	100	70	75	86.2	227
BCAS081307G	80.5	130	70	70.5	94	56.5	188
BCAS081308G	80	130	85	70.5	94	71.5	222
BCAS081807G	80	180	70	70.5	143.5	57	233
BCAS081808G	80	180	85	70.5	143.5	71.5	275
BCAS082507G	80	250	70	70	213.5	56.5	294
BCAS082508G	80	250	85	70	213.5	71.5	348
BCAS101007G	101.5	101.5	75	91	64	61.5	212
BCAS101010G	101.5	101.5	100	90	64	86.5	253
BCAS101807G	100	185	70	90	148.5	56.7	298
BCAS102007G	100	200	70	90.5	163.5	56.5	282
BCAS102307G	100	230	70	90.5	193.5	56.4	336
BCAS121207G	125	125	75	114	88.5	62	252
BCAS121210G	125	125	100	114	87.5	87	311
BCAS141709G	143	173	95	133	134	82	416
BCAS142309G	140	230	95	129	193	81.5	485
BCAS151507G	150	150	75	140	114	61.5	322
BCAS151510G	150	150	100	139	114	86.5	398
BCAS152004G	150	200	46	140	164	32.4	335
BCAS152007G	150	200	75.5	138	164	61.5	423
BCAS152010G	150	200	100.5	139	161.5	86.5	473
BCAS152013G	150	200	130.5	139.5	161	116.5	582
BCAS152016G	150	200	160	139	163	146.5	631
BCAS152510G	150	250	100	139.5	214	86.4	565
BCAS152513G	150	250	130	139.5	214	116.4	687
BCAS161607G	160	160	70	150	123.5	56.5	334
BCAS202010G	200	200	100	189	164.5	86	604
BCAS202013G	200	200	130	189	164.5	117	685
BCAS202016G	201	201	161	187.5	164.5	147	801
BCAS202019G	201	201	190	187.5	164.5	176.3	907.5
BCAS212310G	210	230	100.3	198.8	194.2	87.1	644.5

Accessories (Optional parts)



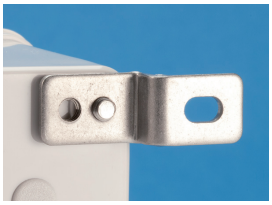
Mounting plate BMP series
See page BCAS-3 ~ BCAS-4



Latch • Hinge BCL55 • BCH55
See page BCAS • BCAL-ACC-1



Spare cover screw CB series
See page BCAS • BCAL-ACC-3

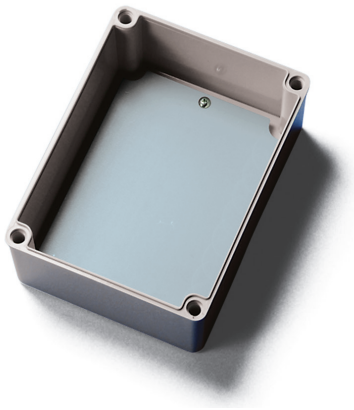


Mounting bracket CK series
See page BCAS • BCAL-ACC-2



Cable gland
See cable gland pages

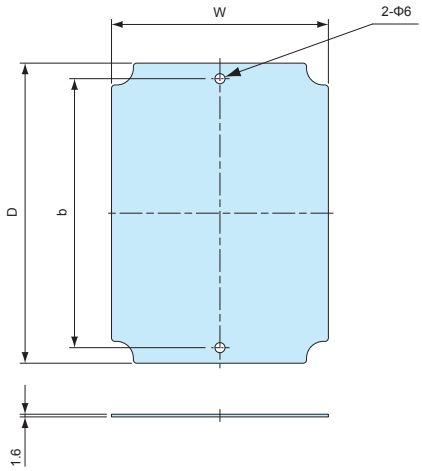
BMP-Z SERIES STEEL MOUNTING PLATE



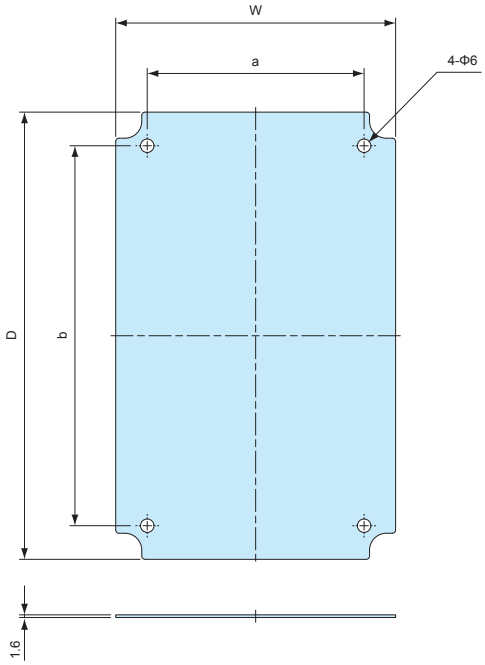
■ Strong but easily customizable.

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

BMP0506Z ~ 1525Z



BMP2020Z, 2123Z



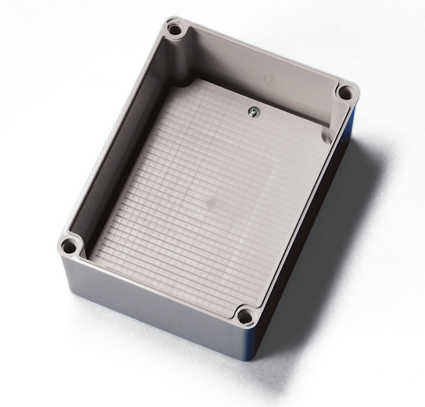
Components

Part name	Material	Color / Finish
Mounting plate	Steel t=1.6	Zinc coated

Product no. / Dimensions

Product no.	W	D	a	b	Suitable box	Weight (g)
BMP0506Z	41	56	–	40	BCAS050604, 050605	23
BMP0609Z	52	82	–	65	BCAS060905	41
BMP0710Z	62	92	–	75	BCAS071005	63
BMP0808Z	67	67	–	50	BCAS080806	47
BMP0811Z	68	98	–	80	BCAS081104, 081107, 081108, 081110	72
BMP0813Z	68	118	–	99	BCAS081307, 081308	87
BMP0818Z	69	169	–	150	BCAS081807, 081808	134
BMP0825Z	69	239	–	220	BCAS082507, 082508	193
BMP1010Z	86	86	–	60	BCAS101007, 101010	80
BMP1018Z	89	173	–	139	BCAS101807	177
BMP1121Z	77	177	–	158	BCAS102007	159
BMP1023Z	88	218	–	184	BCAS102307	226
BMP1212Z	114	114	–	70	BCAS121207, 121210	151
BMP1417Z	132	162	–	130	BCAS141709	251
BMP1423Z	123	213	–	190	BCAS142309	305
BMP1515Z	121	121	–	110	BCAS151507, 151510	172
BMP1616Z	142	142	–	120	BCAS161607	237
BMP1520Z	126	176	–	160	BCAS152004, 152007, 152010, 152013, 152016	262
BMP1525Z	127	227	–	210	BCAS152510, 152513	346
BMP2020Z	176	176	120	150	BCAS202010, 202013, 202016, 202019	371
BMP2123Z	183	203	160	180	BCAS212310	447

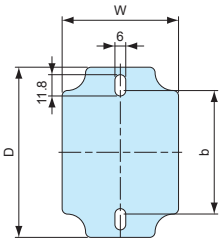
BMP-P SERIES PLASTIC MOUNTING PLATE



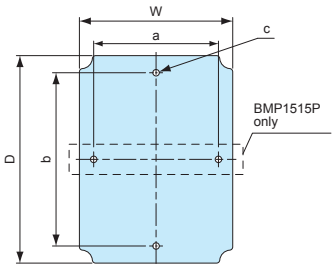
- Lightweight ABS plastic mounting plate.
- Not available for BCAS050604, 050605, 060905, 071005, 080806, 101807, 102307, and 212310 models.

- Drawings below are reference examples only. DXF/DWG/PDF drawings available on our website.

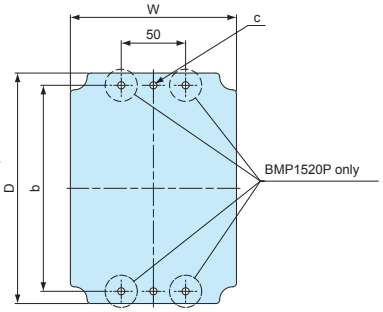
BMP0811P



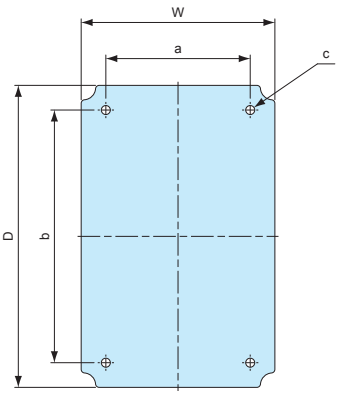
BMP0813P ~ 1616P



BMP0825P, 1423P, 1520P, 1525P



BMP2020P



Components

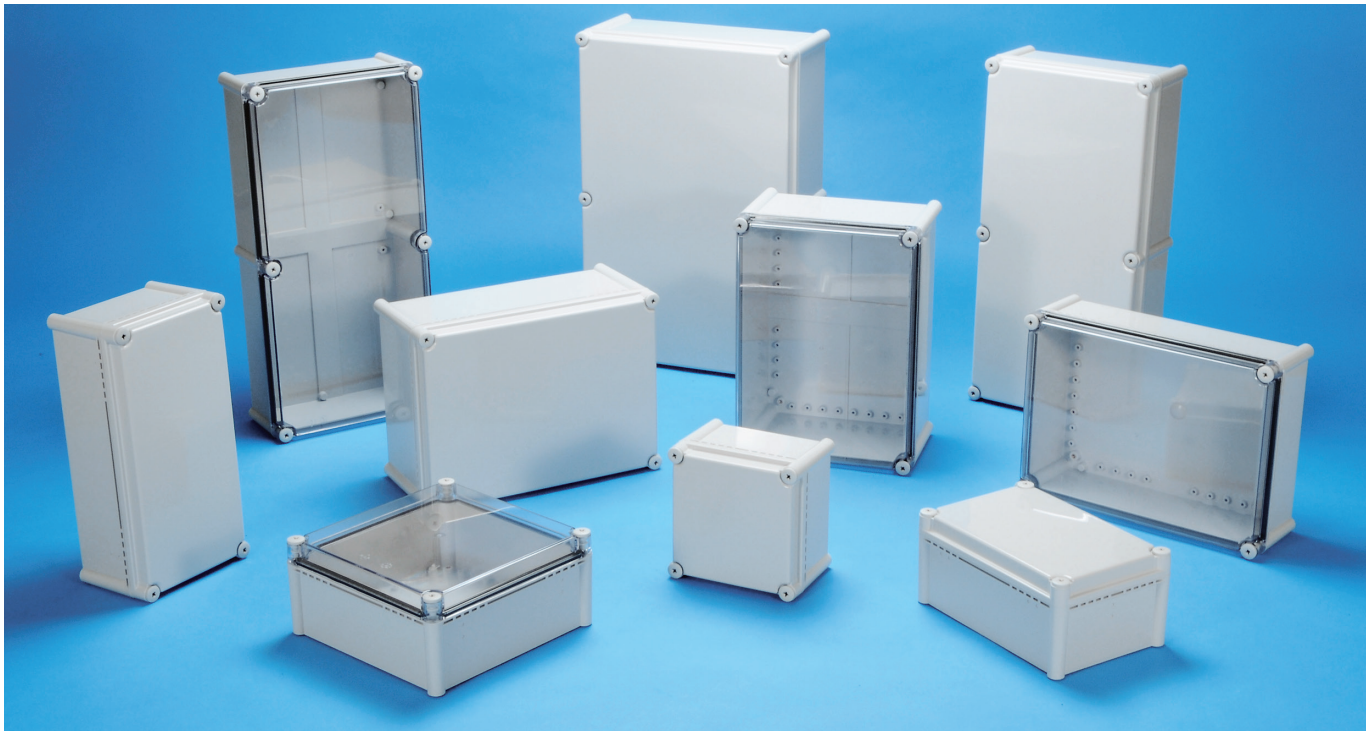
Part name	Material	Color / Finish
Mounting plate	ABS	White gray

Product no. / Dimensions

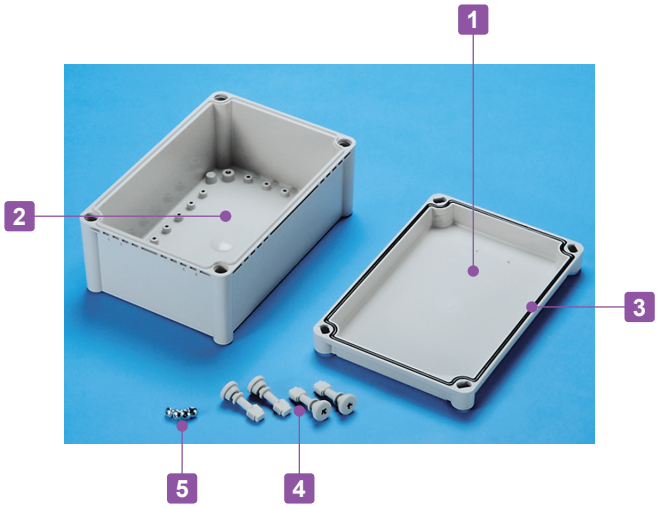
Product no.	W	D	a	b	c(Φ)	Thickness	Suitable box	Weight (g)
BMP0811P	64.5	94.3	–	68.4	–	3.5	BCAS081104, 081107, 081108, 081110	21
BMP0813P	64.5	114.5	–	99	Φ6	3.5	BCAS081307, 081308	24
BMP0818P	64.5	164	–	148.5	Φ6	3.5	BCAS081807, 081808	37
BMP0825P	64.2	234.5	–	219.5	Φ6	3.5	BCAS082507, 082508	59
BMP1010P	81.5	81.2	–	60	Φ6	3.5	BCAS101007, 101010	22
BMP1121P	76.5	175.8	–	157.8	Φ6	3	BCAS102007	40
BMP1212P	107	107	–	70	Φ5.5	3.5	BCAS121207, 121210	39
BMP1417P	125.5	155.5	–	130	Φ6	3.5	BCAS141709	69
BMP1423P	122.6	212.5	–	190	Φ5.5	3.7	BCAS142309	103.5
BMP1515P	123	123	110	110	Φ6	3.5	BCAS151507, 151510	52
BMP1616P	143.5	143.5	–	120	Φ6	3.2	BCAS161607	66
BMP1520P	129	179	–	160	Φ5.5	3.5	BCAS152004, 152007, 152010, 152013, 152016	92
BMP1525P	129	228.5	–	210	Φ6	3.5	BCAS152510, 152513	112
BMP2020P	178.5	178.5	120	150	Φ5.5	3.5	BCAS202010, 202013, 202016, 202019	125

TAKACHI

BCAL SERIES IP65 PLASTIC BOX



Technical Data
Protection class: IP65 Operating temperature: -10°C ~ +60°C Recommended torque: 1N • m ~ 1.5N • m



- Large-sized frontal screw fastening type waterproof box.
- 11 different sizes available.
- Applicable for uses in various fields such as FA, control box, network communication, and so on.
- 2 different top cover models (ABS-White gray • Polycarbonate-Transparent) are available.
- Guide markings are available for installation of optional latch/hinge parts.

◎ : Guide markings

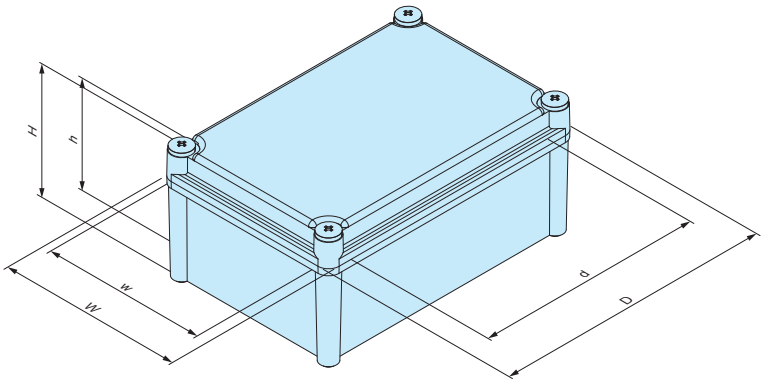


Components

No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	ABS UL94HB • Polycarbonate (UL94V-0)	White gray • Transparent
2	Body	1	ABS UL94HB	White gray
3	Gasket	1	Polyurethane	Black
4	Cover screw	4 ~ 6	Nylon	White gray • Unfinished
5	Tapping screw (for mounting plate)	4	Steel	Trivalent chromate

BCAL dimensions

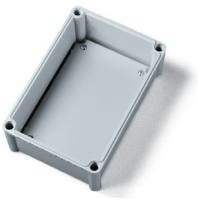
■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



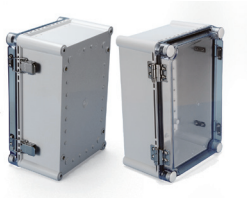
Product no. / Dimensions

Product no.				Dimensions (External)			Dimensions (Internal)			Weight (g)
G type		T type		W	D	H	w	d	h	
Top cover	Body	Top cover	Body							
● White gray		○ Transparent	● White gray							
BCAL191913G		BCAL191913T		190	190	128	167	140	111.5	722
BCAL192813G		BCAL192813T		190	280	128	166	229	111.5	896
BCAL192818G		BCAL192818T		190	280	178	164	230	162	1,009
BCAL193813G		BCAL193813T		190	380	128	167	329	111	1,143
BCAL193818G		BCAL193818T		190	380	178	165	327.5	162	1,258
BCAL282813G		BCAL282813T		280	280	128	256	229	112	1,148
BCAL283413G		BCAL283413T		280	340	128	255.5	287	111.8	1,441
BCAL283813G		BCAL283813T		280	380	128	256	329	111.5	1,423
BCAL283818G		BCAL283818T		280	380	178	254	324	161.5	1,745
BCAL285613G		BCAL285613T		280	560	128	255	507	112	2,272
BCAL385618G		BCAL385618T		380	560	178	354	505	159.7	2,948

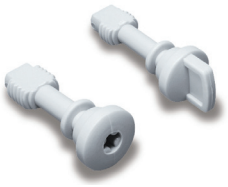
Accessories (Optional parts)



Mounting plate BMP series
See page BCAL-3



Latch • Hinge BCL65 • BCH65
See page BCAS • BCAL-ACC-1



Spare Cover screw CB28 series
See page BCAS • BCAL-ACC-3



Mounting bracket CK-26P
See page BCAS • BCAL-ACC-2



Cable gland
See cable gland pages

APPLICATION EXAMPLE

CONTROL BOX

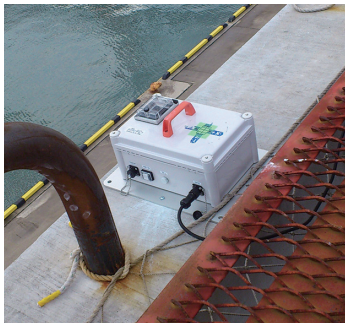




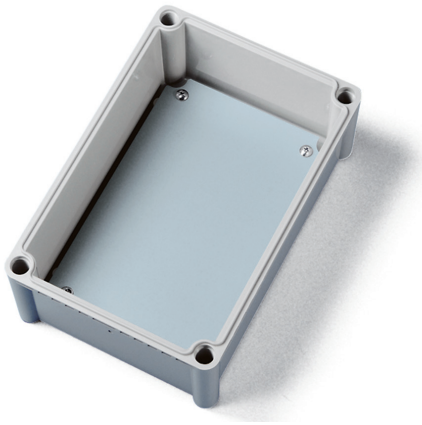


INCLINOMETER for Bridge Construction

Product by Akasakatec Inc. (Japan)

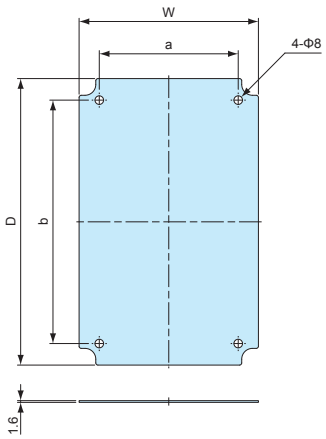


BMP-Z SERIES STEEL MOUNTING PLATE

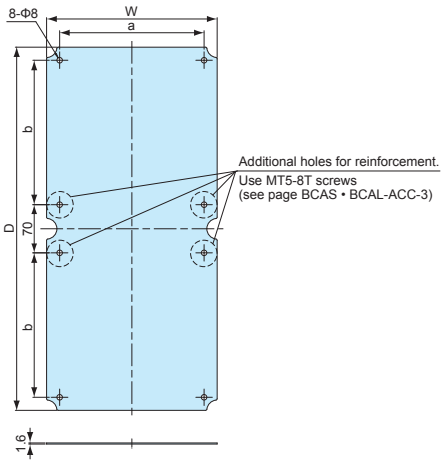


▪ DXF/DWG/PDF drawings available on our website.

BMP1919Z ~ 2838Z



BMP2856Z ~ 3856Z

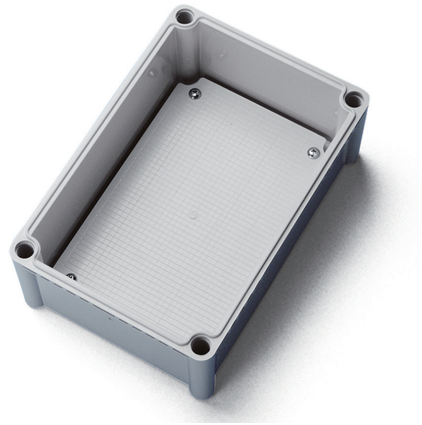


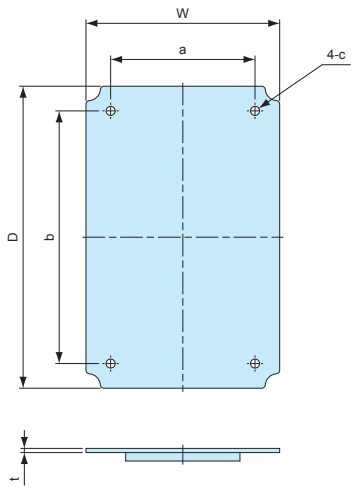
- Strong but easily customizable.
- Material/Finish : Steel t=1.6mm / Zinc coated

Product no. / Dimensions

Product no.	W	D	a	b	Suitable box	Weight (g)
BMP1919Z	159	159	120	120	BCAL191913	303
BMP1928Z	157	247	120	210	BCAL192813, 192818	462.5
BMP1938Z	159	347	120	310	BCAL193813, 193818	676.5
BMP2828Z	246	246	210	210	BCAL282813	727.5
BMP2834Z	246	306	210	270	BCAL283413	920
BMP2838Z	246	346	210	310	BCAL283813, 283818	1,018
BMP2856Z	248	528	210	210	BCAL285613	1,571
BMP3856Z	348	528	310	210	BCAL385618	2,210

BMP-P SERIES PLASTIC MOUNTING PLATE





- Not available for BCAL283413, 285613, and 385618 models.
- Material/Color : ABS / White gray

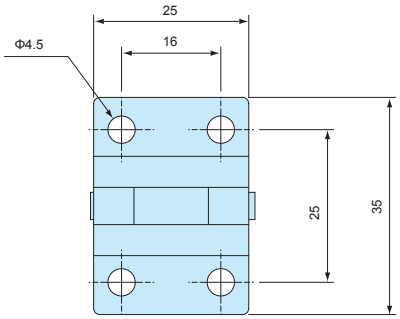
Product no. / Dimensions

Product no.	W	D	a	b	c (Φ)	t	Suitable box	Weight (g)
BMP1919P	159	159	120	120	Φ8	4	BCAL191913	104
BMP1928P	158.5	248	120	210	Φ8	3.5	BCAL192813, 192818	162
BMP1938P	159	348	120	310	Φ8	4.5	BCAL193813, 193818	236
BMP2828P	248.5	248.5	210	210	Φ8	4	BCAL282813	237
BMP2838P	248	347.5	209	309.5	Φ8	4	BCAL283813, 283818	368

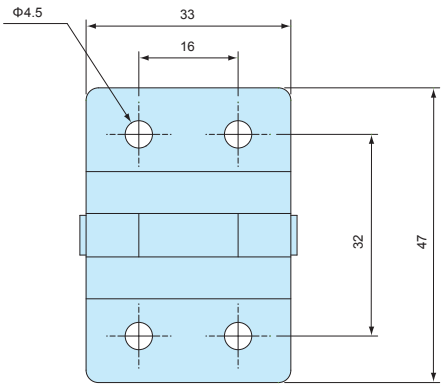
BCH SERIES HINGE for BCAS • BCAL



■ Refer to ◎ guide markings on BCAS • BCAL box when installing.



BCH55



BCH65

Components

Part name	Pcs	Material	Color / Finish
Hinge	1	Stainless steel SUS304	Unfinished
Bracket	2	Stainless steel SUS304	Unfinished
Gasket	2	EPDM	Black

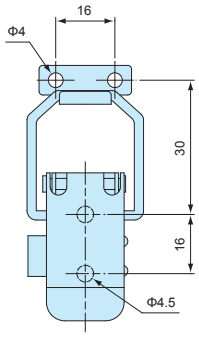
Product no. / Suitable box

Product no.	Suitable box	Included screw
BCH55	BCAS series Not available for BCAS050604, 050605, 060905, 071005, 080806, 081104, 101807, 102007, 102307, 152004, and 161607 models.	Truss head M4-10
BCH65	BCAL series	Truss head M4-10

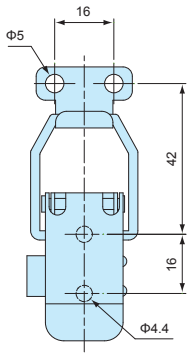
BCL SERIES LATCH for BCAS • BCAL



■ Refer to ◎ guide markings on BCAS • BCAL box when installing.



BCL55



BCL65

Components

Part name	Pcs	Material	Color / Finish
Latch	1	Stainless steel SUS304	Unfinished
Hook	1	Stainless steel SUS304	Unfinished
Bracket	2	Stainless steel SUS304	Unfinished
Gasket	2	EPDM	Black

Product no. / Suitable box

Product no.	Suitable box	Included screw
BCL55	BCAS series Not available for BCAS050604, 050605, 060905, 071005, 080806, 081104, 101807, 102007, 102307, 152004, and 161607 models.	Truss head M4-10
BCL65	BCAL series	Truss head M4-10

BCM SERIES BLIND PLUG for BCAS • BCAL



■ Blind plug for BCAS • BCAL when installing hinges and latches.
Not usable when using cover screws.

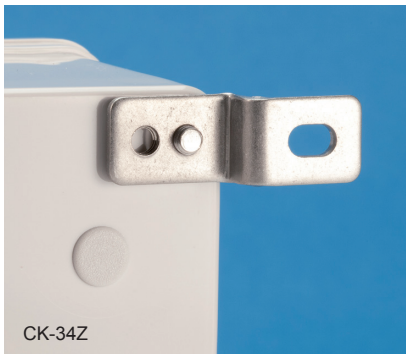
Components

Part name	Material	Color
Blind plug	ABS	White gray

Product no. / Suitable box

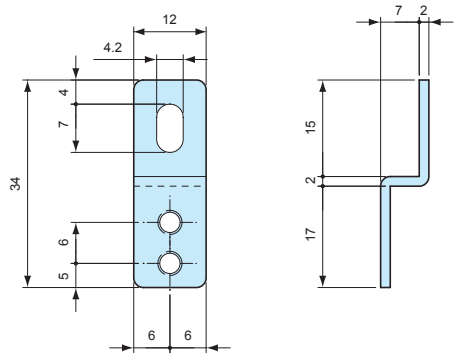
Product no.	Suitable box	Pack of
BCM-1	BCAS series (Not available for BCAS050604, 050605 models)	1
BCM-2	BCAL series	1

CK SERIES STAINLESS STEEL MOUNT BRACKET

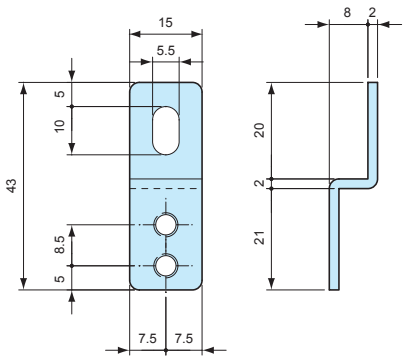




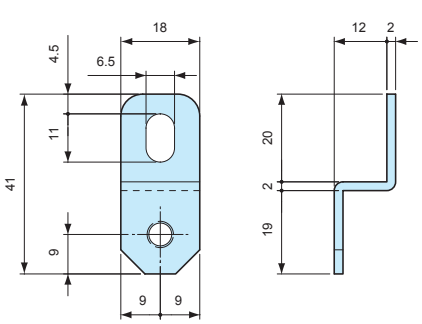
CK-34Z dimensions



CK-35P dimensions



CK-26P dimensions



■ CK-34Z model requires the use of MT4-10 screw.

Product no. / Suitable box

Product no.	Material	Finish	Suitable box	Included screw	Pack of
CK-34Z	Stainless steel SUS304	Barrel finish	BCAS series (Not applicable for BCAS050604, 050605 models)	–	4
CK-35P	Stainless steel SUS304	Barrel finish	BCAS050604G, BCAS050605G	Pan head tapping M4-10	4
CK-26P	Stainless steel SUS304	Barrel finish	BCAL series	Pan head M5-10	4

MT4-10 MOUNTING SCREW

■ Use together with CK-34Z.

Product no. / Feature

Product no.	Material	Finish	Pack of
MT4-10 (Pan head M4-10)	Stainless steel	Unfinished	4

MT SERIES PCB MOUNTING SCREW



■ Mounting screw for the bosses without insert-nut.

Product no. / Feature

Product no.	Material	Finish	Pack of
MT4-8T (Binding head tapping M4-8)	Steel	Trivalent chromate	20
MT5-8T (Binding head tapping M5-8)	Steel	Trivalent chromate	20

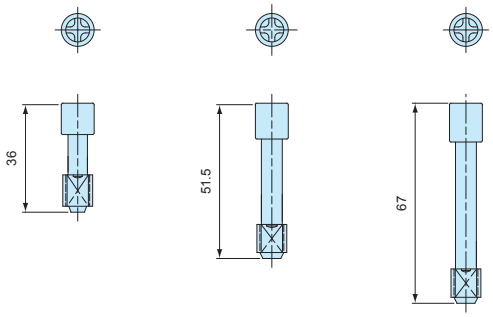
Suitable box chart

Product no.	Suitable box	Tightening torque
MT4-8T	BCAS071005, 081104, 081107, 081108, 081110, 081307, 081308, 081807, 081808, 082507, 082508, 101007, 101010, 101807, 102007, 102307, 121207, 121210, 141709, 142309, 151507, 151510, 152004, 152007, 152010, 152013, 152016, 152510, 152513, 161607, 202010, 202013, 202016, 202019, and 212310 models.	0.7N • m
MT5-8T	BCAL series	1.4N • m

CB SERIES SPARE COVER SCREW for BCAS



CB20 CB35 CB50



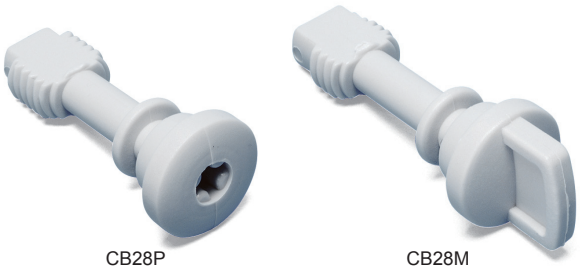
CB20 CB35 CB50

Product no. / Feature / Suitable box

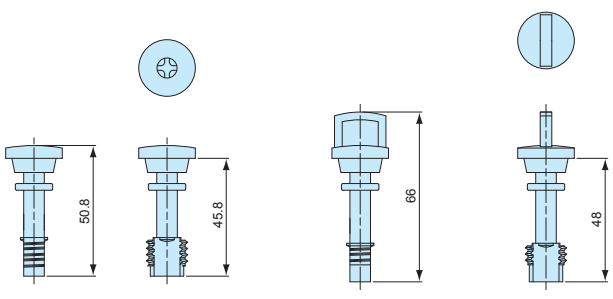
Product no.	Material	Color	Pack of
CB20	Fiblerglass • Nylon	White gray	1
CB35	Fiblerglass • Nylon	White gray	1
CB50	Fiblerglass • Nylon	White gray	1

Product no.	Suitable box
CB20	BCAS060905, 071005, 080806, 081104, 081107, 081108, 081307, 081807, 082507, 101007, 101010, 101807, 102007, 102307, 121207, 121210, 141709, 142309, 151507, 151510, 152004, 152007, 152010, 152013, 152510, 161607, 202010, 202013, 202016, and 212310 models TMB-15PS, 20P, 20PL
CB35	BCAS081110, 081308, 081808, and 082508 models
CB50	BCAS152016, 152513, and 202019 models

CB SERIES SPARE COVER SCREW for BCAL



CB28P CB28M



CB28P CB28M

Product no. / Feature / Suitable box

Product no.	Material	Color	Suitable box	Pack of
CB28P	Fiblerglass • Nylon	White gray	BCAL series	1
CB28M	Fiblerglass • Nylon	White gray	BCAL series	1

SSK SERIES POLE MOUNTING BRACKET



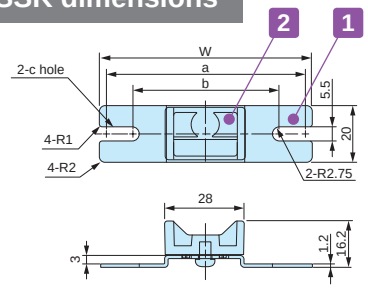


- Stainless steel pole mounting bracket for SPCM • SPCP and BCAL • BCAS series.
- Easy pole mount with the use of SSK-B mounting screw and PKB mounting belt.
- DXF/DWG/PDF drawings available on our website.
- SSK-P models includes plastic mounting brackets.

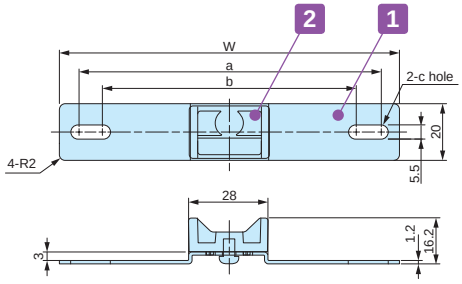


PKB series

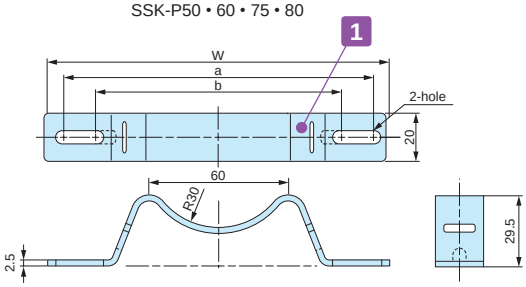
SSK dimensions



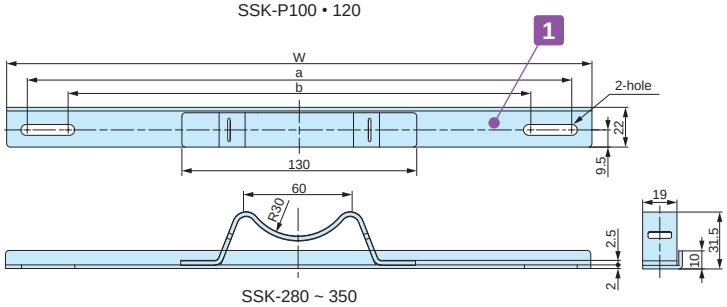
SSK-P50 • 60 • 75 • 80



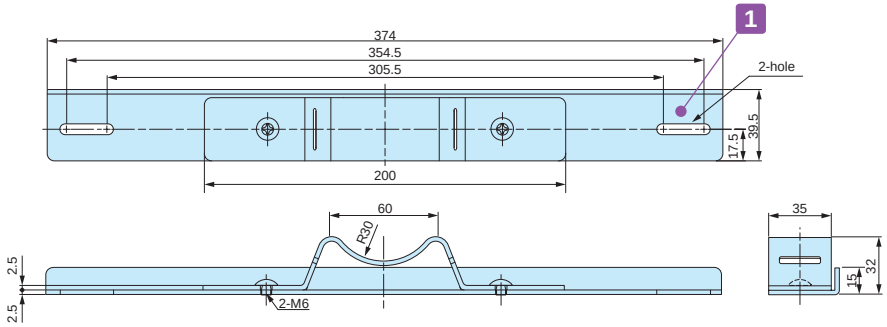
SSK-P100 • 120



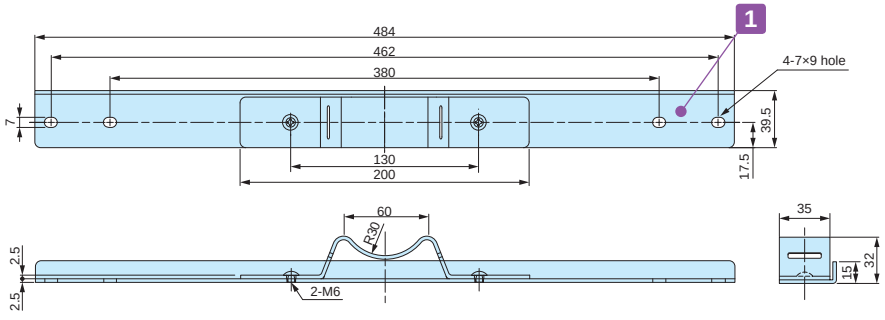
SSK-160 ~ 250



SSK-280 ~ 350



SSK-400



SSK-530

Components

No.	Part name	Pcs	Material	Color / Finish
1	Bracket	2	Stainless steel SUS304	Barrel finish
2	Plastic bracket (SSK-P models only)	2	ASA UL94HB	White gray

■ Screws included with SSK brackets are for BCAP • BCAR • BCPK • BCPR series use only. For other series, please utilize SSK-B screw set.

Product no. / Dimensions

Product no.	W	a	b	c	Suitable mounting belt	Pack of
SSK-P50	50	44.5	37.5	5.5× 9	PKB-10PM, 10P PKB-10S	2
SSK-P60	60	54.5	47.5	5.5× 9	PKB-10PM, 10P PKB-10S	2
SSK-P75	75	69.5	55.5	5.5×12.5	PKB-10PM, 10P PKB-10S	2
SSK-P80	80	74.5	64.5	5.5×10.5	PKB-10PM, 10P PKB-10S	2
SSK-P100	100	88.1	76.5	5.5×11.3	PKB-10PM, 10P PKB-10S	2
SSK-P120	120	106.5	88.5	5.5×14.5	PKB-10PM, 10P PKB-10S	2
SSK-160	142	129.5	106.5	–	PKB-10PM, 10P PKB-10S	2
SSK-170	152	142.3	101	–	PKB-10PM, 10P PKB-10S	2
SSK-200	174	161.5	112.5	–	PKB-10PM, 10P PKB-10S	2
SSK-210	192	180.5	131.5	–	PKB-10PM, 10P PKB-10S	2
SSK-250	230	215.5	166.5	–	PKB-10PM, 10P PKB-10S	2
SSK-280	260	244.5	195.5	–	PKB-10PM, 10P PKB-10S	2
SSK-300	280	264.5	215.5	–	PKB-10PM, 10P PKB-10S	2
SSK-350	324	302.5	253.5	–	PKB-10PM, 10P PKB-10S	2
SSK-400	374	354.5	305.5	–	PKB-20S	2
SSK-530	484	462	380	7×9	PKB-20S	2

SSK-B SERIES MOUNTING SCREW SET for SSK

NEW SIZE

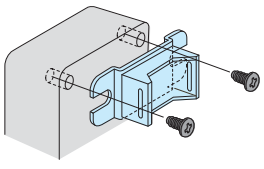
■ Mounting screw set for use with SSK pole mounting bracket.
■ See chart on page SSK-3 for appropriate bracket/screw/box combination.
■ Material / Finish : Stainless steel / Unfinished.

Product no. / Dimensions

Product no.	Included screws	Suitable box	Pcs
SSK-B4-15N	M4-15 Pan head with nut	BCAS060905 ~ 212310	4
SSK-B4-25N	M4-25 Pan head with nut	SPCP • SPCM series	4
SSK-B5-10	M5-10 Pan head	BCAL series	4

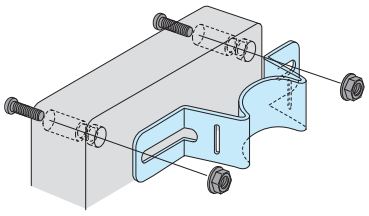
■ Installation Example

BCAS050604, 050605



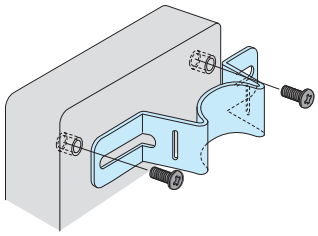
Use screws included with SSK-P

M4 / M5 Pan head with nut fastening



SSK-B4-15N SSK-B4-25N

Pan head screw into insert nut



SSK-B5-10

POLE MOUNTING BRACKET / SCREW SET MATCHING CHART

SPCM • SPCP series

Box Product no.		SSK Product no.		Screw set Product no.
		Vertical mount	Horizontal mount	
SPCP SPCM	081304, 081305 081306, 081308 081310, 081313	SSK-P75	SSK-160	SSK-B4-25N
	101004, 101006	SSK-P100	SSK-P100	SSK-B4-25N
	131304, 131305 131306, 131308 131310, 131313	SSK-160	SSK-160	SSK-B4-25N
	131804, 131805 131806, 131808 131810, 131813, 131815	SSK-160	SSK-200	SSK-B4-25N
	181808, 181810 181813, 181815	SSK-200	SSK-200	SSK-B4-25N
	182508, 182510, 182515	SSK-200	SSK-280	SSK-B4-25N

BCAL series

Box Product no.		SSK Product no.		Screw set Product no.
		Vertical mount	Horizontal mount	
BCAL	191913 ※	SSK-P120	SSK-200	SSK-B5-10
	192813, 192818	SSK-200	SSK-250	SSK-B5-10
	193813, 193818	SSK-200	SSK-350	SSK-B5-10
	282813	SSK-250	SSK-280	SSK-B5-10
	283413	SSK-280	SSK-280	SSK-B5-10
	283813, 283818	SSK-280	SSK-350	SSK-B5-10
	285613	SSK-280	SSK-530	SSK-B5-10
	385618	SSK-400	SSK-530	SSK-B5-10

※Use screws included with SSK bracket for vertical mount

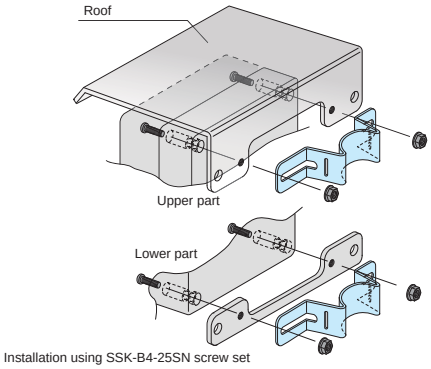
BCAS series

Box Product no.		SSK Product no.		Screw set Product no.
		Vertical mount	Horizontal mount	
BCAS	050604, 050605	SSK-P50	SSK-P60	Use screws included with SSK bracket
	060905	SSK-P60	SSK-P100	SSK-B4-15N
	071005 ※	SSK-P75	SSK-P100	SSK-B4-15N
	080806	SSK-P75	SSK-P75	SSK-B4-15N
	081104, 081107 081108, 081110	SSK-P75	SSK-P120	SSK-B4-15N
	081307, 081308	SSK-P75	SSK-160	SSK-B4-15N
	081807, 081808	SSK-P75	SSK-210	SSK-B4-15N
	082507, 082508	SSK-P75	SSK-280	SSK-B4-15N
	101007, 101010	SSK-P100	SSK-P100	SSK-B4-15N
	101807	SSK-P100	SSK-210	SSK-B4-15N
	102007	SSK-P100	SSK-250	SSK-B4-15N
	102307	SSK-P100	SSK-250	SSK-B4-15N
	121207, 121210	SSK-P120	SSK-200	SSK-B4-15N
	141709	SSK-160	SSK-200	SSK-B4-15N
	142309	SSK-160	SSK-250	SSK-B4-15N
	151507, 151510	SSK-170	SSK-170	SSK-B4-15N
	152004, 152007 152020, 152013, 152016	SSK-170	SSK-250	SSK-B4-15N
	152510, 152513	SSK-170	SSK-280	SSK-B4-15N
	161607	SSK-170	SSK-170	SSK-B4-15N
	202010, 202013 202016, 202019	SSK-250	SSK-250	SSK-B4-15N
	212310	SSK-250	SSK-250	SSK-B4-15N

※Use screws included with SSK bracket for vertical mount

■ **For installation of SR series outdoor roof on SPCM • SPCP series**

SR series (For SPCM • SPCP - see page SPCP • SPCM-ACC-2)

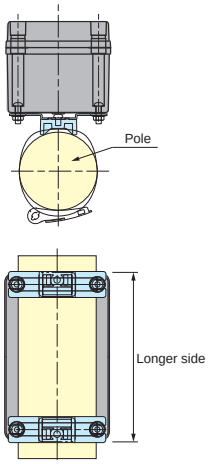


Installation using SSK-B4-25SN screw set

■ **Select SSK bracket depending on mounting type (Vertical or Horizontal).**

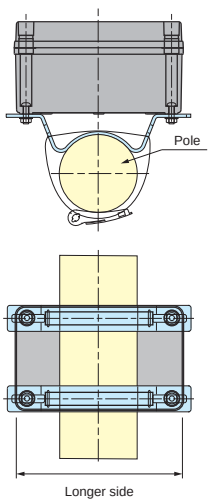
Vertical mount

(Longer vertical side)



Horizontal mount

(Longer horizontal side)



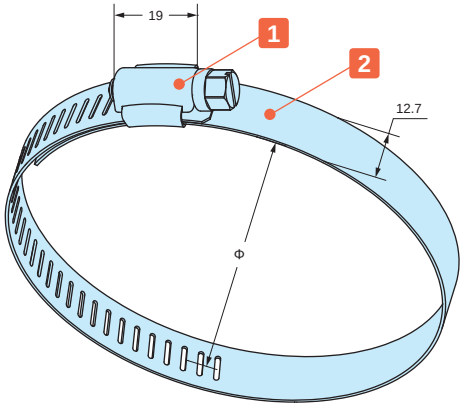
SNB series STAINLESS STEEL POLE MOUNTING STRAP NEW







SNB dimensions



- Corrosion resistant stainless steel (SUS304) belt clamp.
- It can be installed securely by tightening the screw.
- 8 mm nut driver (box driver) is recommended for tightening. Minus screw driver can also be used.

Components

No.	Part name	Pcs	Material	Finish
1	Bracket	1	Stainless steel SUS304	Polished
2	Strap	1	Stainless steel SUS304	Polished

Product no. / Dimensions

Product no.	Applicable diameter (Φ)	Strap width	Strap thickness	Recommended torque N • m	Weight (g)	Pack of
SNB 52- 76	52 ~ 76	12.7	0.6	0.7 ~ 1.0	27.5	1
SNB 72- 95	72 ~ 95	12.7	0.6	0.7 ~ 1.0	30	1
SNB 91-114	91 ~ 114	12.7	0.6	0.7 ~ 1.0	34.5	1
SNB105-127	105 ~ 127	12.7	0.6	0.7 ~ 1.0	37.5	1
SNB117-140	117 ~ 140	12.7	0.6	0.7 ~ 1.0	39.5	1
SNB130-153	130 ~ 153	12.7	0.6	0.7 ~ 1.0	41.5	1
SNB142-165	142 ~ 165	12.7	0.6	0.7 ~ 1.0	43.5	1
SNB155-178	155 ~ 178	12.7	0.6	0.7 ~ 1.0	46.5	1
SNB168-191	168 ~ 191	12.7	0.6	0.7 ~ 1.0	49	1
SNB181-204	181 ~ 204	12.7	0.6	0.7 ~ 1.0	51	1
SNB194-217	194 ~ 217	12.7	0.6	0.7 ~ 1.0	52.5	1
SNB207-230	207 ~ 230	12.7	0.6	0.7 ~ 1.0	57	1
SNB220-243	220 ~ 243	12.7	0.6	0.7 ~ 1.0	59.5	1
SNB233-256	233 ~ 256	12.7	0.6	0.7 ~ 1.0	62.5	1
SNB246-269	246 ~ 269	12.7	0.6	0.7 ~ 1.0	64	1
SNB259-282	259 ~ 282	12.7	0.6	0.7 ~ 1.0	67.5	1
SNB272-295	272 ~ 295	12.7	0.6	0.7 ~ 1.0	70	1
SNB285-308	285 ~ 308	12.7	0.6	0.7 ~ 1.0	71	1

■ Recommended torque listed is for reference only; actual may differ. Assemble after testing torque.

SNB Strap required

Suitable series	Suitable models						Required
SSK series	SSK-S1	SSK-160	SSK-170	SSK-200	SSK-210	SSK-250	2
	SSK-280	SSK-300	SSK-350	SSK-400	SSK-530		
WGMB series	WGMB-1W						1

PKB series POLE MOUNTING BELT



PKB−10PM, 10P



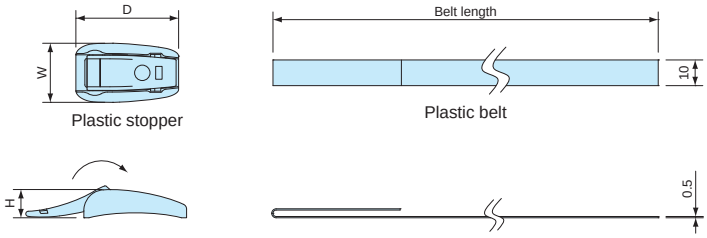
PKB−10S, 20S

- Pole mounting belt for attachment of enclosures with suitable pole mount brackets or construction onto poles.
- Designed for one time use only (not reusable).
- Strong stainless steel clamping type and easy installation plastic type are available.

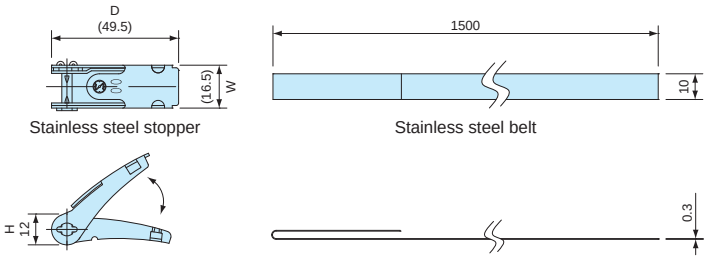
PKB dimensions

- DXF/DWG/PDF drawings available on our website.

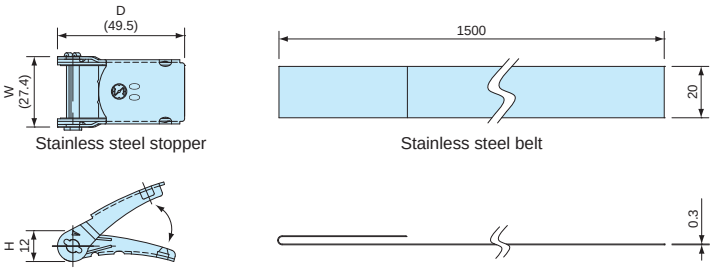
PKB-10PM, 10P



PKB-10S



PKB-20S



Components

No.	Part name	Material	Color / Finish
1	Stopper	Stainless steel SUS304 • POM	Barrel finish • Black
2	Belt	Stainless steel SUS430 • PET	Bright annealed finish • Gray

Product no. / Dimensions

Product no.	W	D	H	Belt length	Belt material	Tensile strength (horizontal)	Weight (g)	Pack of
PKB-10PM	24	23	11	500 mm	PET	0.8kN	14	2
PKB-10PM	23	40	11	1,500 mm	PET	1.3kN	31.8	2
PKB-10S	16.5	49.5	12	1,500 mm	Stainless steel SUS304	1.4kN	101.6	2
PKB-20S	27.4	49.5	12	1,500 mm	Stainless steel SUS430	2.9kN	182.2	2

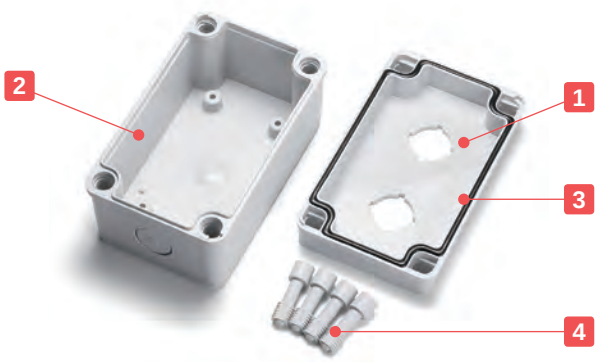
BCSB series IP65 PLASTIC SWITCH BOX

NEW



Technical Data
Protection class : IP65 { Waterproof switch / Exclusive cable gland } required Operating Temperature : -20°C ~ +75°C Recommended torque : 1N • m ~ 1.5N • m

IP65



- IP65 switch box with 1 ~ 4 Φ22 hole(s) on the top cover.
- Made from flame retardant UL94V-0 high heat resistant polycarbonate material.
- Φ22 knock-outs on 2 opposite ends for easy wiring access if required.
- Exclusive cable gland, B131210G for Φ22 knock-outs is available as optional parts.
- IP65 protection class is maintained with waterproof switches and the exclusive cable glands installed.
- Yellow/Black color types available as BTO (built-to-order) at a MOQ of 500 pcs.

  For custom color order, the material would be changed to ABS UL94HB, with an operating temperature of -10°C ~ +60°C.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	Polycarbonate UL94V-0	Light gray
2	Base	1	Glass fiber filled polycarbonate UL94V-0	Light gray
3	Gasket	1	Polyurethane	Black
4	Cover screw	4	Glass fiber filled nylon	White gray

Accessories (Optional parts)



Exclusive cable gland B131210G
See page 330



Stainless steel mounting bracket CK-34Z
See website



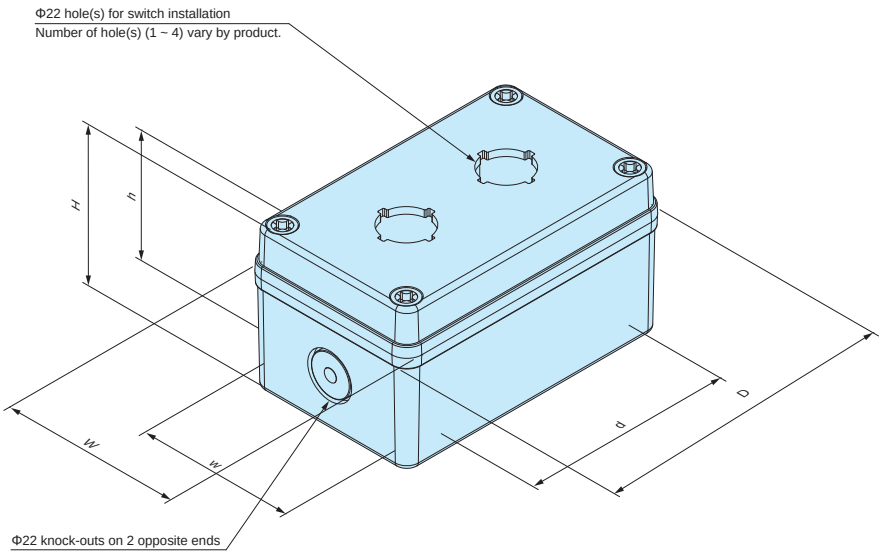
Spare cover screw CB20
See website



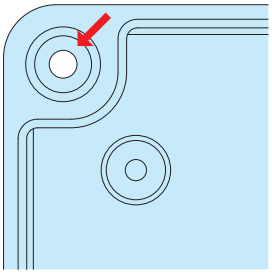
PCB mounting screw MT4-8T
See page 320

BCSB dimensions

■ DXF/DWG/PDF drawings available on our website.



■ Wall mounting without an optional wall mounting bracket is possible through inserting the wall mount screw directly into the cover screw hole on the base part.



Product no. / Dimensions

Product no.	External dimensions			Internal dimensions			Switch hole(s)	Knock-outs	Weight (g)
	W	D	H	w	d	h			
BCSB081107-2201G	80	110.5	70.3	67	67	55.8	Φ22 x 1	Φ22 x 2	204
BCSB081307-2202G	80.5	130.5	70	67	87	55.6	Φ22 x 2	Φ22 x 2	222
BCSB081807-2203G	80	180	70.5	67	137	56.3	Φ22 x 3	Φ22 x 2	278
BCSB082507-2204G	80	250	71	67	207	56.3	Φ22 x 4	Φ22 x 2	364

Accessories (Optional parts)

B131210G EXCLUSIVE CABLE GLAND for BCSB

NEW

■ Exclusive cable gland for Φ22 knock-outs on BCSB series switch box.

Technical Data
Protection class : IP65 Operating temperature : -20°C ~ +75°C

■ The PG13.5 thread (Φ20.5) is a little smaller than Φ22 hole but is compatible for the Φ22 knock-out hole.

■ Install B131210G into the very center of the Φ22 knock-out hole.

■ Cap and connector are made from PA66 material, light gray color type. Sealing insert and O-ring are made from NBR material, black color type.



Product no. / Dimensions

Product no.	Cable range		Suitable models	Weight (g)
	Min	Max		
B131210G	7	11	BCSB series	12.7

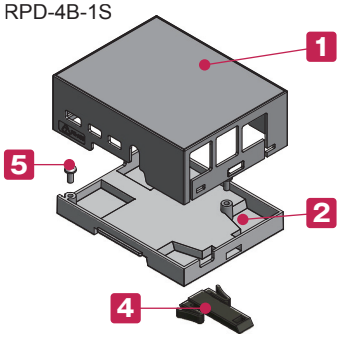
■ DXF/DWG/PDF drawings available on our website.

RPD SERIES Raspberry Pi DIN MODULE BOX

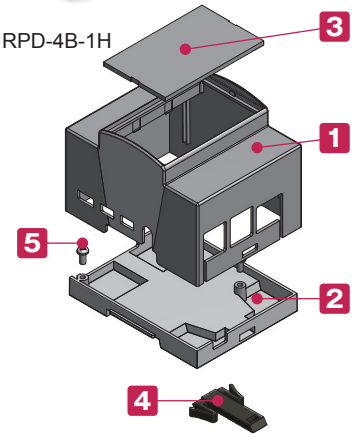
NEW



RPD-4B-1S



RPD-4B-1H



- **Exclusively for use with Raspberry Pi 4B.**
- **Exclusively for use with 35mm DIN rail.**
  Able to assemble easily with a flathead screwdriver; no screws required.
  ***Caution : Material may easily break when assembling.**
- **Raspberry Pi Board is excluded.**

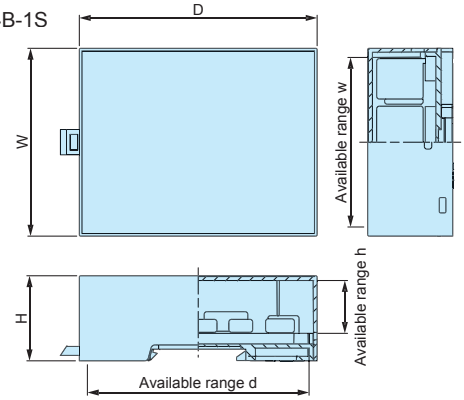
Components

No.	Part name	Pcs	Material	Color / Finish
1	Body	1	PC + ABS	Gray
2	Base	1	PC + ABS	Gray
3	Front panel (RPD-4B-1H only)	1	Polycarbonate t = 2.0	Transparent
4	Hook	1	PPO	Black
5	Screw for Board (M3-6)	2	Stainless steel	Unfinished

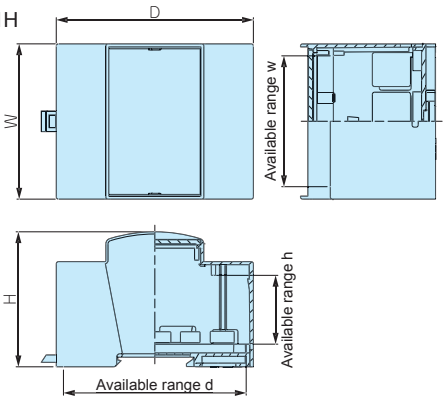
RPD dimensions

- Drawings below are reference examples only.
  DXF/DWG/PDF drawings available on our website.

RPD-4B-1S



RPD-4B-1H



Product no. / Dimensions

Product no.	Dimensions						Weight (g)
	W	H	D	w	h	d	
RPD-4B-1S	71.1	32.2	90	64.1	20.1	83.9	46.8
RPD-4B-1H	71.3	62	90.5	60.3	31.7	83.9	68.1

TAKACHI ELECTRONICS ENCLOSURE CO., LTD.

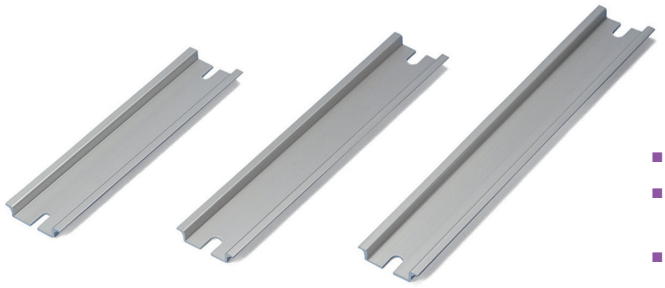
3-21-16 Higashi-ryoke,
Kawaguchi, Saitama 332-0003, JAPAN
Tel. +81-48-222-5409

www.takachi-enclosure.com
sales@takachi-el.co.jp

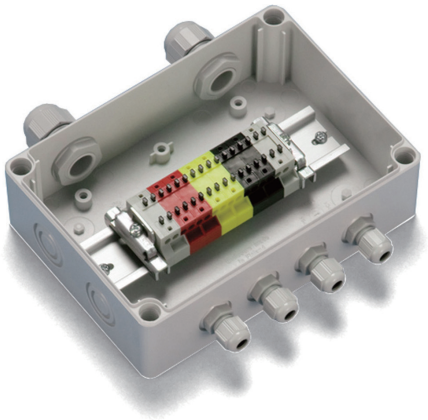
All items listed in this catalogue are compliant with EU RoHS 10 standard.

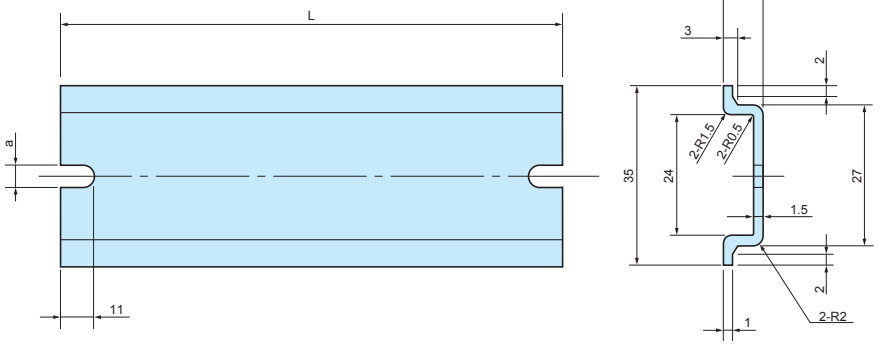
FDR SERIES DIN-RAIL

NEW SIZE



- DIN rail for installation of terminals, relays or switches inside enclosures.
- Available in different models and lengths to fit a wide variety of mounting boss pitch.
- FDR-1000 is available if customized length is required.





Feature

Material	Finish
Extruded Aluminium A6063S-T5	Silver anodized

Product no. / Dimensions

Product no.	L	a	Matching boss pitch
FDR- 50	50	4.2	32 ~ 42
57	57	4.2	39 ~ 49
66	66	4.2	48 ~ 58
77	77	4.2	59 ~ 69
80	80	4.2	62 ~ 72
87	87	4.2	69 ~ 79
92	92	4.2	74 ~ 84
100	100	4.2	82 ~ 92
106	106	4.2	88 ~ 98
110	110	4.2	92 ~ 102
120	120	4.2	102 ~ 112
128	128	4.2	110 ~ 120
137	137	4.2	119 ~ 129
142	142	4.2	124 ~ 134
146	146	4.2	128 ~ 138
150	150	4.2	132 ~ 142
168	168	4.2	150 ~ 160
170	170	4.2	152 ~ 162
186	186	4.2	168 ~ 178
202	202	4.2	184 ~ 194
205	205	4.2	187 ~ 197
223	223	4.2	205 ~ 215
226	226	4.2	208 ~ 218
235	235	4.2	217 ~ 227
242	242	4.2	224 ~ 234
249	249	4.2	231 ~ 241
283	283	4.2	265 ~ 275
300	300	4.2	282 ~ 292
350	350	4.2	332 ~ 342
450	450	4.2	432 ~ 442
550	550	4.2	532 ~ 542

Product no.	L	a	Matching boss pitch
FDR-B102	102	6.5	86 ~ 92
NEW B124	124	6.5	108 ~ 114
B142	142	6.5	126 ~ 132
B160	160	6.5	144 ~ 150
B165	165	6.5	149 ~ 155
B176	176	6.5	160 ~ 166
B183	183	6.5	167 ~ 173
B223	223	6.5	207 ~ 213
B260	260	6.5	244 ~ 250
B283	283	6.5	267 ~ 273
B303	303	6.5	287 ~ 293
B338	338	6.5	322 ~ 328
B360	360	6.5	344 ~ 350
B376	376	6.5	360 ~ 366
B383	383	6.5	367 ~ 373
B463	463	6.5	447 ~ 453
B560	560	6.5	544 ~ 550
B623	623	6.5	607 ~ 613
FDR-1000	1000	–	–

- FDR-1000 does not have mounting holes.

Matching DIN-Rail Chart

BC□□ series

Product no.		Matching DIN-Rail
BCAP BCPC BCPK BCAR BCPR	091207	FDR - 80
	091208	80
	101507	110
	101508	110
	112107	170
	112110	170
	112607	223
	112610	223
	131508	120
	131808	150
	131810	150
	151509	120
	151512	120
	162110	170
	162113	170
	162610	223
	162613	223
	172211	170
	172711	223

BDN series

Product no.		Matching DIN-Rail
BDN	6- 8- 5	FDR - 50
	7-10- 4	–
	9- 9- 6	FDR - 80
	9-13- 5	120
	10-14- 7	128
	11-16- 6	150
	12-22- 8	205
	16-26- 9	242

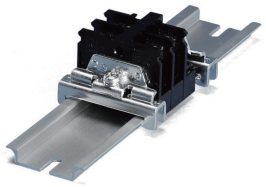
BCAS series

Product no.		Matching DIN-Rail
BCAS	071005	FDR - 92
	080806	66
	081104	92
	081107	92
	081108	92
	081110	92
	081307	110
	081308	110
	081807	168
	081808	168
	082507	235
	082508	235
	101007	77
	101010	77
	101807	150
	102007	170
	102307	202
	121207	80
	121210	80
	141709	146
	142309	205
	151507	120
	151510	120
	152004	170
	152007	170
	152010	170
	152013	170
	152016	170
	152510	226
	152513	226
	161607	137

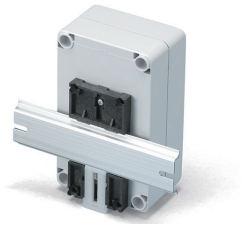
SPCM • SPCP series

Product no.		Matching DIN-Rail
SPCM SPCP	081304	FDR - 50/100
	081305	50/100
	081306	50/100
	081308	50/100
	081310	50/100
	081313	50/100
	101004	80
	101006	80
	131304	100
	131305	100
	131306	100
	131308	100
	131310	100
	131313	100
	131804	100/150
	131805	100/150
	131806	100/150
	131808	100/150
	131810	100/150
	131813	100/150
	131815	100/150
	181808	150
	181810	150
	181813	150
	181815	150
	182508	150/223
	182510	150/223
	182515	150/223

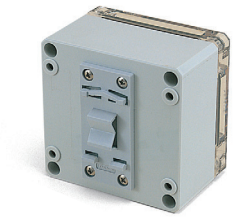
Accessories (Optional parts)



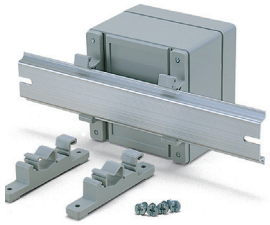
DIN-Rail stopper bracket TKR series
See page DIN-ACC-2



DIN-Rail mounting base DRA series
See page DIN-ACC-1

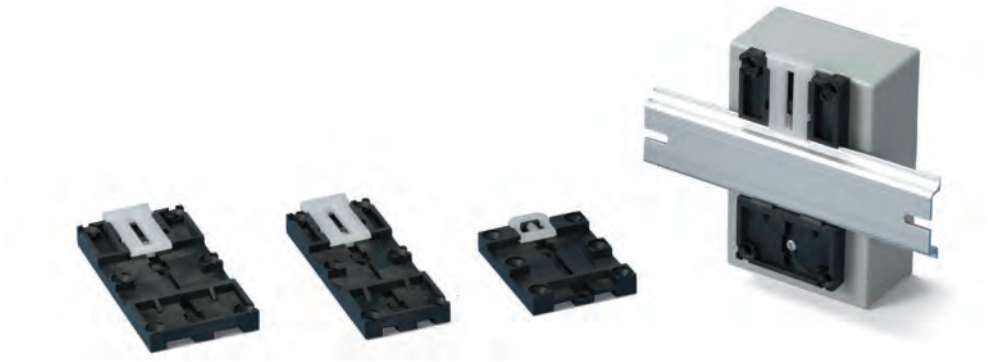


DIN-Rail mounting base DRT series
See page DIN-ACC-1



DIN-Rail mounting feet CKD series
See page DIN-ACC-2

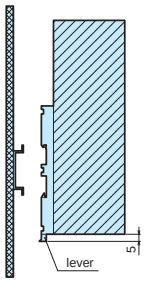
DRA series DIN-RAIL MOUNTING BASE



- For installation of enclosures, PCB and other parts onto a DIN rail.
- Simple installation and removal via the pull lever.

■ **NOTE**

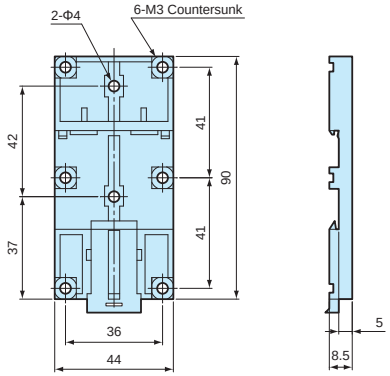
Before installation, please ensure that the lever is not fully hidden behind the enclosure



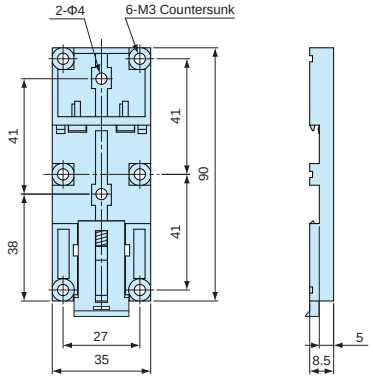
Technical Data
Max load : 5kg

DRA dimensions

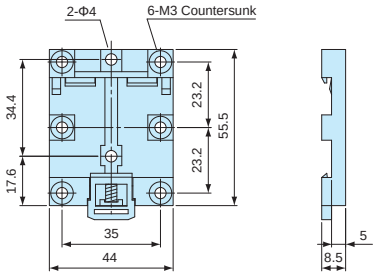
DRA-1



DRA-2



DRA-3



- DXF/DWG/PDF drawings available on our website.

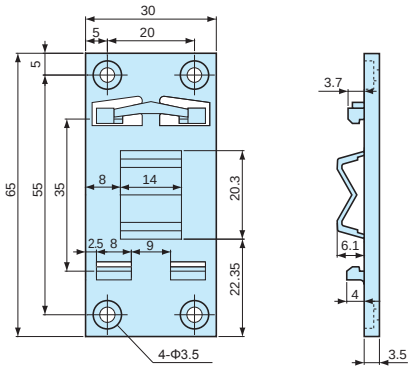
Product no. / Dimensions

Product no.	Material (body)	Material (lever)	Color	Weight (g)
DRA-1	PPE : SB UL94V-1	Nylon 66 UL94V-2	Black : White	16.4
DRA-2	PPE : SB UL94V-1	Nylon 66 UL94V-2	Black : White	14.5
DRA-3	PPE : SB UL94V-1	Nylon 66 UL94V-2	Black : White	10.4

DRT series DIN-RAIL MOUNTING BASE



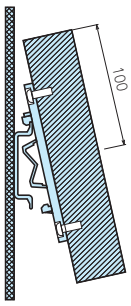
DRT dimensions



- DXF/DWG/PDF drawings available on our website.

■ **NOTE**

Before installation, please ensure that the length (from top) of the enclosure is equal to, or less than 100mm from the center of the mounting base.



- For installation of enclosures, PCB and other parts onto a DIN rail.
- Simple installation and removal by tilting the case at an angle and sliding it in/out.

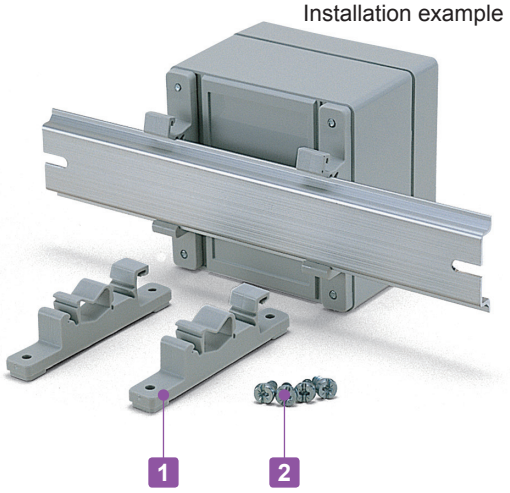
Technical Data
Max load : 1kg Operating temperature: -20°C ~ +70°C

Product no. / Dimensions

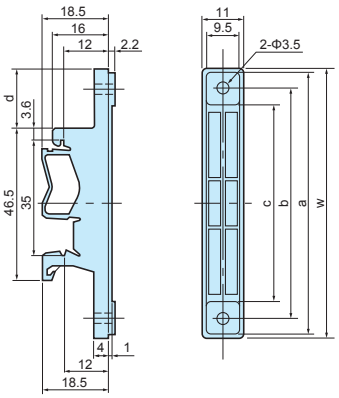
Product no.	Material	Color	Weight (g)
DRT-1	PC/ABS UL94V-0	Light gray	7.3

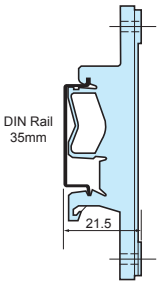
CKD SERIES DIN-RAIL MOUNTING FEET

Installation example

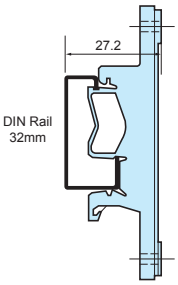


■ DXF/DWG/PDF drawings available on our website.





Installed on 35mm DIN-Rail



Installed on 32mm DIN-Rail

■ Mounting feet for installation of enclosures, PCB and other parts onto a DIN rail. Can be easily detached.

Technical Data
Max load : 3kg

Components

No.	Part name	Pcs	Material	Color / Finish
1	Mounting feet	2	Polyamide	White gray
2	Screw (special type 4.2 x 9.5)	4	Screw	Unichrome plated

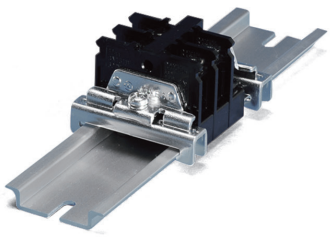
Product no. / Dimensions

Product no.	W	a	b	c	d	Pack of
CKD- 80	77	75	66	56	17	2
CKD-120	117	115	106	96	37	2
CKD-160	157	155	147	136	57	2

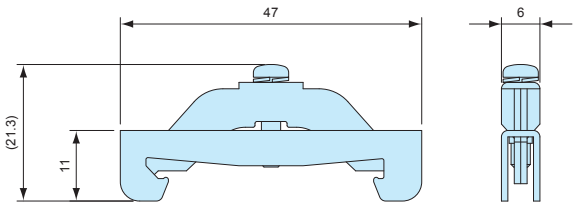
TKR SERIES DIN-RAIL TERMINAL BLOCKS END STOPPER

■ DXF/DWG/PDF drawings available on our website.

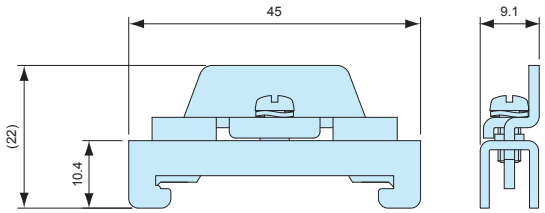




TKR-TWE1



TKR-JTXE3



■ Stopper bracket for use with 35mm DIN-rail to keep an attachment at a fixed location.

■ TKR-TWE1 is used with small DIN rail attachment parts. For larger/ higher attachment parts, TKR-JTXE3 is recommended for providing additional support.

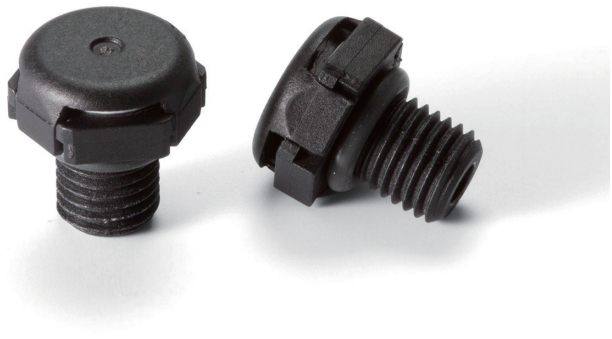
Product no. / Feature

Product no.	Material	Color / Finish	Pack of
TKR-TWE1	Steel sheet	Trivalent chromate	2
TKR-JTXE3	Steel sheet	Trivalent chromate	2

PMF-6B SMALL PROTECTIVE VENT

NEW

IP68

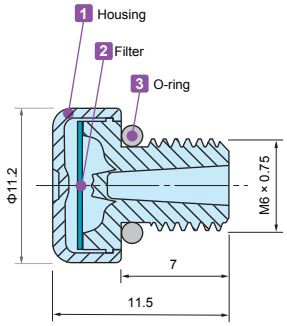




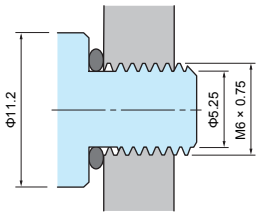
Application example

- Small and screw-in protective vent suitable for compact, and hand-held type devices.
- IP68 protection class (water depth 2 meters / 60 mins) and -40°C ~ +150°C operating temperature range allows it to be used in various environments.
- Suitable for enclosures with capacities of 2.0 litres or under.
- For outdoor use, installation on the side of the enclosure unit is recommended.

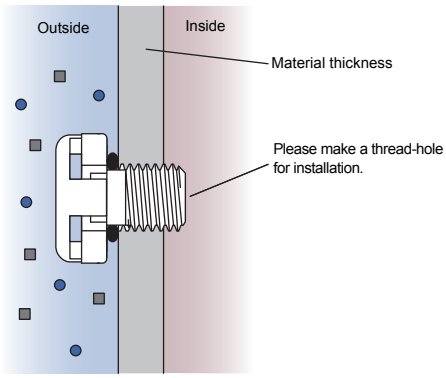
PMF-6B dimensions



Hole milling drawings



Installation drawings



Technical Data

Airflow	300ml / min (dp = 7 kPa)
Recommended Torque	0.2 ~ 0.4 N • m
Certifications	IEC60529 (Protection class test) : IP66 • IP67 • IP68 IEC60068-2-1, 2, 14 (Heat resistance test) : -40°C ~ +150°C IEC60068-2-78 (Humidity test) : 85°C • 85% humidity • 1000 hours IEC60068-2-64 (Vibration test) UL94V-0 (Flame-resistant) • UL746C f1

Product no. / Dimensions

Product no.	Material			G	
● Black	1 Housing	2 Filter	3 O-ring	Thread size	Mount hole
PMF-6B	PA6 (Body) • PA66 (Cap)	PTFE	Silicone	M6 x 0.75	—

PMF-12M STAINLESS STEEL PROTECTIVE VENT

NEW

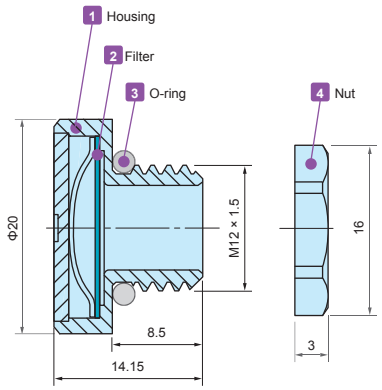
IP68 IP69K



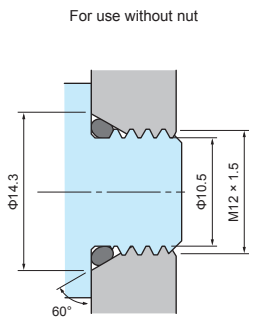


- Stainless steel protective vent for superior durability and chemical resistance.
- IP68 protection class (water depth 2 meters / 60 mins) and -40°C ~ +125°C operating temperature range allows it to be used in various environments.
- Suitable for enclosures with capacities of 20 liters or under.
- For outdoor use, installation on the side of the enclosure unit is recommended.

PMF-12M dimensions

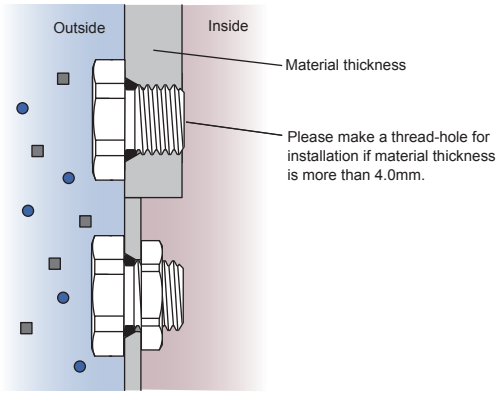


Hole milling drawings



- While Φ12.2mm through-hole is sufficient for installation, 60° angle tapered hole is recommended to prevent deformation of the O-ring.

Installation drawings



- If used with a lock nut, material thickness should not exceed 4.0mm.

Technical Data

Airflow	1600ml / min (dp = 7 kPa)
Recommended Torque	0.6 ~ 1.2 N • m
Certifications	IEC60529 (Protection class test) : IP66 • IP67 • IP68 • IP69K IEC60068-2-1, 2, 14 (Heat resistance test) : -40°C ~ +125°C IEC60068-2-78 (Humidity test) : 85°C • 85% humidity • 1000 hours IEC60068-2-64 (Vibration test)

Product no. / Dimensions

Product no.	Material				G		Nut SW
Metalic	1 Housing	2 Filter	3 O-ring	4 Nut	Thread size	Mount hole	
PMF-12M	Stainless steel	PTFE	Silicone	Brass • Nickel plated	M12 x 1.5	Φ12.2	15

PMF series PROTECTIVE VENT

Pressure Equalization / Ventilation



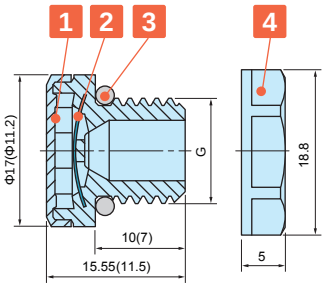


Application Example

- Protective vent protects the enclosure from deformation by equalizing internal and external pressure differences, as well as venting the gas generated within the enclosure.
- IP68 protection class (water depth 2 meters / 60 mins) with an operating temperature range -40°C ~ +125°C allows them to be used in harsh environments.
- PMF-6B model is suitable for enclosures with capacities of up to 2.0 liters. PMF-12 and PMF-12HS models are suitable for up to 5 and 50 liters respectively.
- Recommended to be installed at the sides of the enclosure.
- Use in industrial and electrical / electronic products only; not suitable to be used in medical, food and beverage, and cosmetic industries and related industrial equipment.

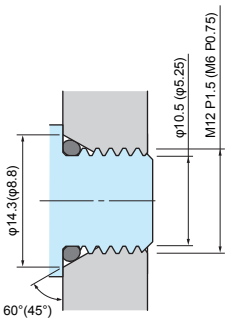
PMF dimensions

- DXF/DWG/PDF drawings available on our website.



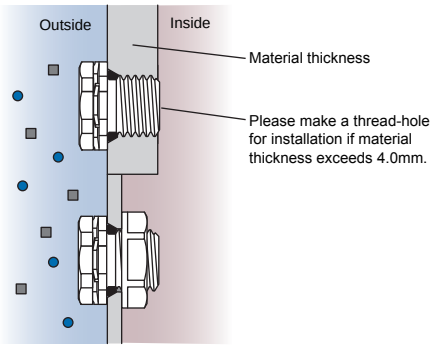
( ) values are for PMF-6B.
Lock nut is not available for PMF-6B

Hole milling drawings



- Recommended for prevention of O-ring deformation during tightening.
  If tightened with a lock nut, a standard through-hole is sufficient for installation.

Installation drawings



- If used with a lock nut, material thickness should not exceed 4.0mm.

Technical Data

Product no.	PMF-6B	PMF-12	PNF-12HA
Airflow	300ml / min (dp = 7kPa)	450ml / min (dp = 7kPa)	4,000ml / min (dp = 7kPa)
Recommended torque	0.2 ~ 0.4N • m	0.6 ~ 0.8N • m	0.6 ~ 0.8N • m
Certifications	IEC60529 (Protection class test) : IP65 • IP66 • IP67 • IP68 • IP69K (Not for PMF-6B) IEC60068-2-1, 2, 14 (Heat resistance test) : - 40°C ~ +125°C (~+150°C for PMF-6B) IEC60068-2-78 (Humidity test) : 85°C • 85% humidity • 1,000 hours IEC60068-2-11, 52 (Salt spray test) IEC60068-2-64 (Vibration test) GR-3108-CORE (Corrosive gas test) UL94V-0 (Flame-resistant) • UL746C f1		

Product no. / Dimensions

Product no.		Material				G		Lock nut SW
● Light gray	● Black	1 Housing	2 Filter	3 O-ring	4 Lock nut	Thread size	Mount hole	
—	PMF- 6B	PA6 / 66	PTFE	Silicone	—	M6 x P0.75	—	—
PMF-12S	PMF-12B	PA66 / 6	PTFE	Silicone	PA66 (UL94V-2)	M12 x P1.5	Φ12.2	17
PMF-12HAS	PMF-12HAB	PA66 / 6	PTFE	Silicone	PA66 (UL94V-2)	M12 x P1.5	Φ12.2	17

PMF-32S LARGE PROTECTIVE VENT

Pressure Equalization / Ventilation

IP68 IP69K



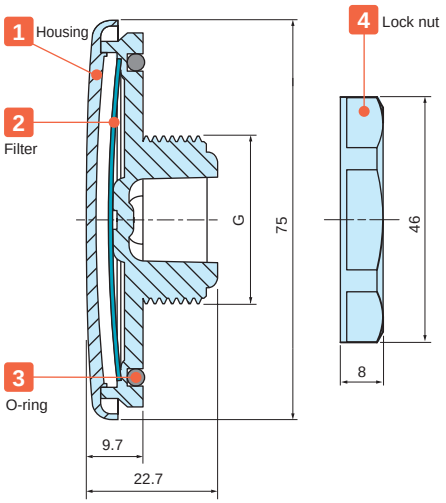


Application Example

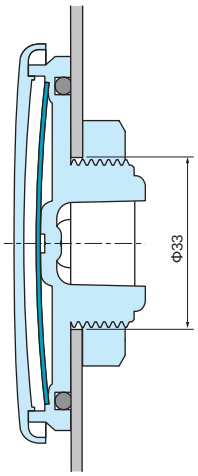
- Maintaining high airflow for large enclosures in an outdoor environment.
- Protective vent protects the enclosure from deformation by equalizing internal and external pressure differences, as well as venting the gas generated within the enclosure.
- Simple and flat design allows it to be used on a wide variety of enclosure types.
- IP68 protection class rated with an operating temperature range of -40°C ~ +125°C allows it to be used in harsh environments.
- Compliant with Solar industry testing IEC62108 standards.
- Recommended to be installed at the sides of the enclosure.
- Use in industrial and electrical / electronic products only; not suitable to be used in medical, food and beverage, and cosmetic industries and related industrial equipment.

PMF-32 dimensions

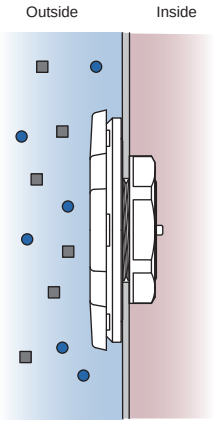
- DXF/DWG/PDF drawings available on our website.



Hole milling drawings



Installation drawings



- If used with a lock nut, material thickness should not exceed 5.0mm.

Technical Data

Airflow	16ℓ / min (dp = 1.2kPa)
Recommended torque	5 N • m
Certifications	IEC529, 2nd (Protection class test) : IP66 • IP67 • IP68 • IP69K IEC60068-2-1, 2, 14 (Heat resistance test) : - 40°C ~ +125°C IEC60068-2-78 (Humidity test) : 85°C • 85% humidity • 1,000 hours IEC60068-2-11, 52 (Salt spray test) IEC60068-2-64 (Vibration test) IEC62108, 10.8 • 9 (Solar industry test) : Freezing • High temperature tes • Hail impact test GR-3108-CORE (Corrosive gas test) UL94V-0 (Flame-resistant) • UL746C f1

Product no. / Dimensions

Product no.	Material				G			Lock nut SW
	1 Housing	2 Filter	3 O-ring	4 Lock nut	Thread size	Thread diameter	Mount hole	
PMF-32S	Polycarbonate	PTFE	Silicone	PA66	M32 x P1.5	Φ32	Φ33	41.5

VE8 series ADHESIVE PROTECTIVE VENT FILTER NEW



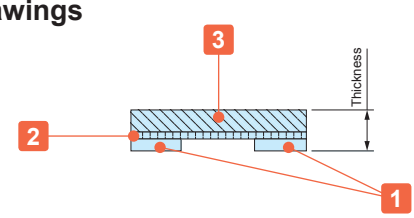
Technical Data
Protection class : Dustproof IP6X Waterproof IPX4, IPX7 Airflow: 3,300ml/min/cm2 (at 7Kpa) Operating temperature: -40°C ~ +100°C

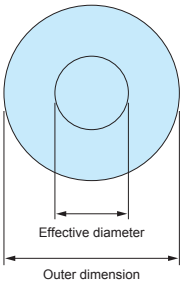
- Improved airflow of 3,300ml/min/cm2 as compared to previous VSC series.
- Vent filter protects the enclosure from deformation by equalizing internal and external pressure differences, as well as venting the gas generated within the enclosure.
- Allows water vapor molecules to diffuse through the microporous membrane.
- Highly water and oil repellent membrane protects electronic components from water, corrosive liquids, salts and dust.
- Easy installation adhesive filter.
- Recommended to be adhered onto flat plastic or metallic surfaces.

CAUTION

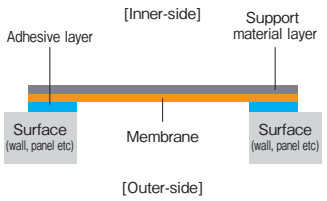
- Install only on the inner surface of the case / box with the membrane and adhesive side facing outwards.
- An initial period of 24 hours is required for the adhesive to properly bond to the surface. Avoid using the vent filter with a heavy load.
- Please do not adhere onto the top-side of enclosures. Rain water etc. will collect on the filter, which will weaken the adhesive seal and prevent proper ventilation.
- After degreasing and cleaning, adhere the filter without touching the center part of the vent filter.
- Use in industrial and electrical / electronic products only; not suitable to be used in medical, food and beverage, and cosmetic industries and related industrial equipment.

VE8 drawings





Installation drawings



Adhesive type protective vent filter can be installed on any flat surface.

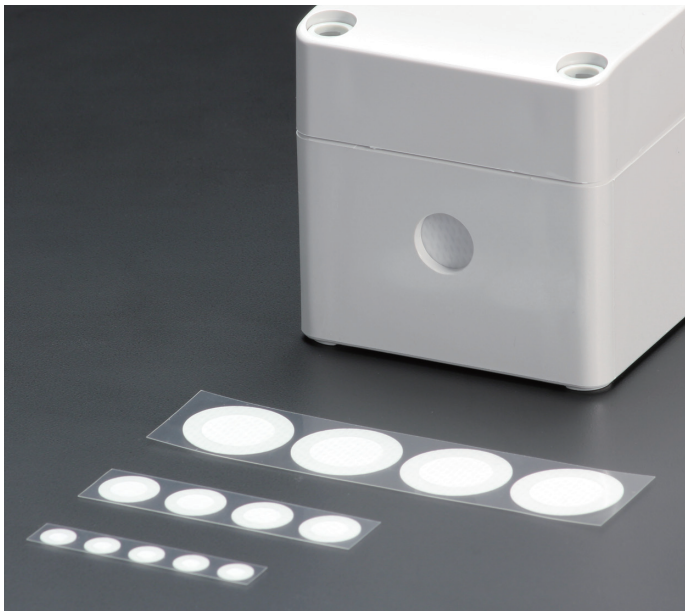
Components

No.	Part name	Material	Color
1	Adhesive	Acrylic adhesive	Transparent
2	Filter	ePTFE (Oil-repellent type)	White
3	Support material	Polyester fabric	White

Product no. / Dimensions

Product no.	Outer dimension (Φ·mm)	Effective diameter (Φ·mm)	Thickness (mm)	Sales unit
VE80308	7.6	3.3	0.26	8 pcs (per pack)
VE80814	14.0	8.0	0.26	4 pcs (per pack)
VE81221	21.5	12.5	0.26	4 pcs (per pack)
NEW VE82029S	29.0	20.0	0.35	2 pcs (per pack)
VE80308-S	7.6	3.3	0.26	96 pcs (per sheet)
VE80814-S	14.0	8.0	0.26	56 pcs (per sheet)
VE81221-S	21.5	12.5	0.26	20 pcs (per sheet)
NEW VE82029S-S	29.0	20.0	0.35	10 pcs (per sheet)

VSC SERIES ADHESIVE PROTECTIVE VENT FILTER



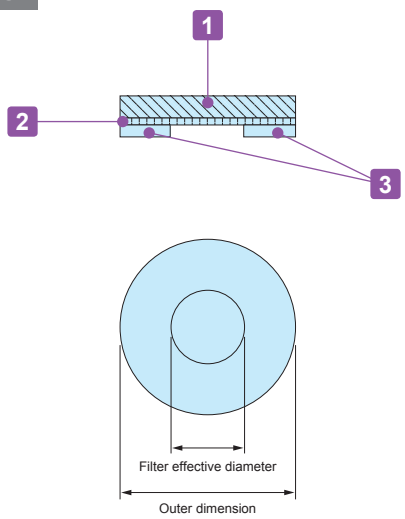
Technical Data
Water Entry Pressure (WEP): ≧ 20.0kPa Airflow: 450cc/cm^2 • min at 1.29Kpa

- Prevents ingression of a variety of contaminants, such as water, dust and other particles.
- Allows water vapor molecules to diffuse through the microporous membrane.
- Recommended to be adhered onto flat plastic or metallic surfaces.

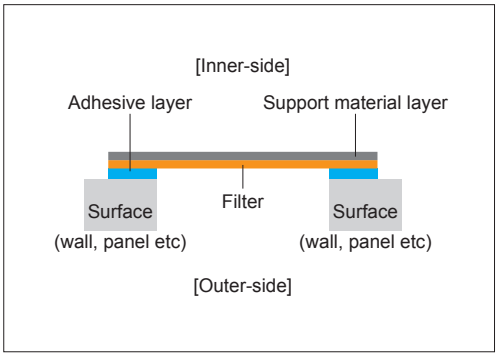
NOTE

- Surface must be wiped dry before adhering.
- An initial period of a few hours is required for the adhesive to properly bond to the surface.
- Please do not adhere onto the top-side of enclosures. Rain water etc will collect on the filter, which will weaken the adhesive seal and prevent ventilation.

Drawing



Installation drawing



Components

No.	Part name	Material	Color
1	Adhesive	Acrylic adhesive	Transparent
2	Filter	PTFE	White
3	Support material	Polyester fabric	White

Product no. / Dimensions

Product no.	Outer dimension (Φ)	Filter effective diameter (Φ)	Thickness	Sales unit
VSC075	7.5	4.0	0.35	5 pcs (per pack)
VSC130	13.0	8.0	0.35	4 pcs (per pack)
VSC240	24.0	16.0	0.35	4 pcs (per pack)
VSC075-S	7.5	4.0	0.35	100 pcs (per sheet)
VSC130-S	13.0	8.0	0.35	56 pcs (per sheet)
VSC240-S	24.0	16.0	0.35	20 pcs (per sheet)

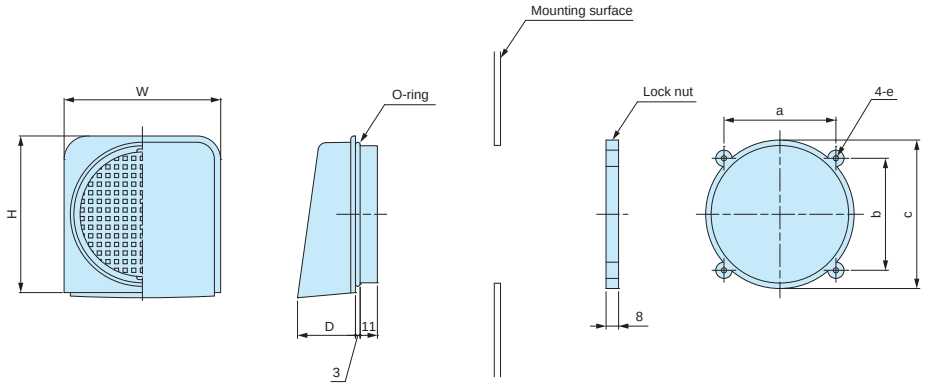
V series VENTILATION LOUVER



- Recommended for condensation prevention and heat dissipation.
- 2 models available : ABS V60, V80 match the color for BCAP and BCAR series, and polycarbonate V60S and V80S match the color for BCPC, BCPK, and BCAR series.
- Suitable to be used on a variety of enclosure types, series and models.

V dimensions

■ DXF/DWG/PDF drawings available on our website.



Product no. / Dimensions

Product no.	Material	Color	Mount hole	W	H	D	a	b	c	e
V60	ABS	White gray	Φ63	74	74	31.8	50.5	50.5	70	Φ3.8
V80	ABS	White gray	Φ88	100	100	37	71.5	71.5	94.8	Φ3.3
V60S	Polycarbonate	Light gray	Φ63	74	74	31.8	50.5	50.5	70	Φ3.8
V80S	Polycarbonate	Light gray	Φ88	100	100	37	71.5	71.5	94.8	Φ3.3

■ O-ring material : NBR / Black

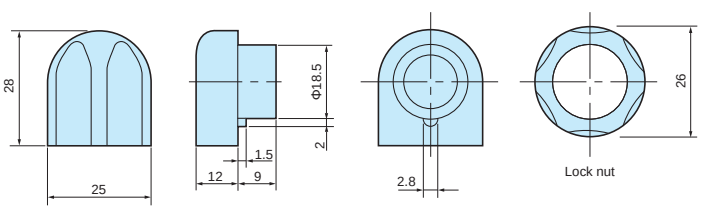
VF series VENTILATION PARTS



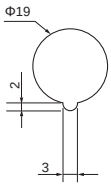
VF dimensions

■ DXF/DWG/PDF drawings available on our website.

VF-1

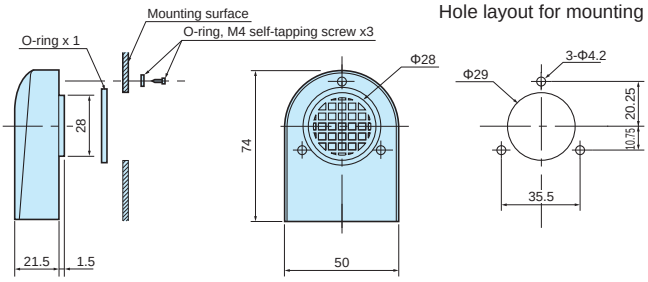


Hole layout for mounting



Technical Data
Protection class : VF-1 IP33 VF-2 IP24

VF-2



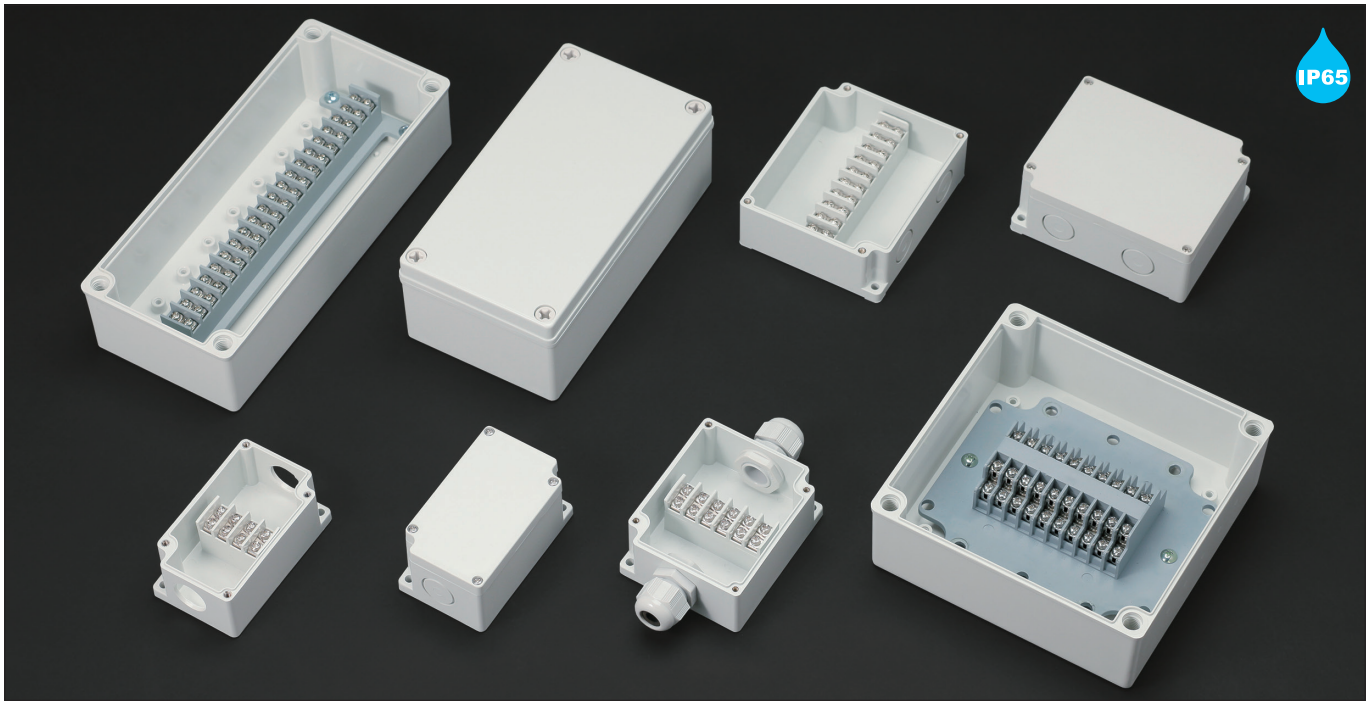
Hole layout for mounting

Product no. / Dimensions

Product no.	Material / Color
VF-1	Polyamide / White gray
VF-2	Polyamide / White gray

TAKACHI

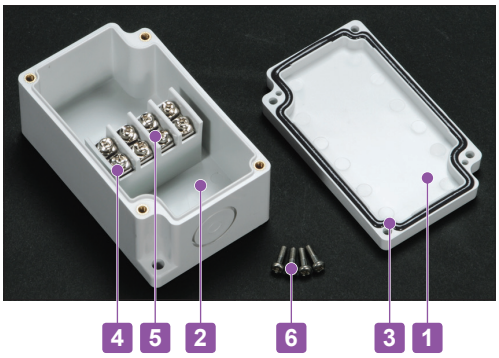
TMB SERIES TERMINAL JUNCTION BOX

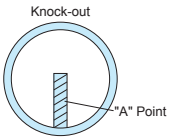


- Terminal junction box with built-in terminal block.
- IP65 protection class.
- Made of flame-resistant ABS plastic (UL94V-0).
- TMB-4P • 6P • 10P is molded with Φ21.0mm metric knock-outs for M20 cable glands.
- To knock out the hole covers, rest a flathead screwdriver at the "A" points, and punch out the knock-outs by hammering on the rear end of the screwdriver handle with a hammer.

Technical Data

Protection class: IP65
Operating temperature: -10°C ~ +60°C
Recommended torque:
TMB-4P • 6P • 10P : 0.6N • m
TMB-15PS • 20P • 20PL : 1N • m

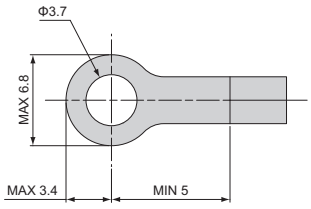




Terminal Block Specification

Rated voltage	400V
Rated current	17.5A
Applicable wire	1.5mm^2
Standard tightening torque	0.8N • m

Applicable crimp terminal R1.25-3.5



Components

No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	ABS UL94V-0	Light gray
2	Body	1	ABS UL94V-0	Light gray
3	Gasket	1	Polyurethane	Black
4	Conductive plate	4 ~ 20	Brass	Nickel plated
5	Terminal screw	8 ~ 40	Steel (M3.5)	Nickel plated
-	Terminal mount screw (15PS, 20P, 20PL models only)	2 ~ 4	Steel	Trivalent chromate
6	Cover screw	4	Stainless steel • Nylon	Unfinished

※Cover screw material : Stainless steel - 4P, 6P, and 10P models • Nylon - 15PS, 20P, and 20PL models.

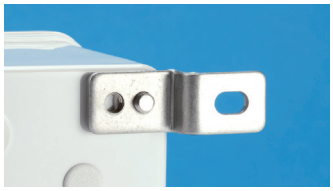
Accessories (Optional parts)



Shorting bar SBR series
See page SBR-1



Cable gland
See cable gland pages



Mounting bracket CK-34Z
See page BCAS • BCAL-ACC-2

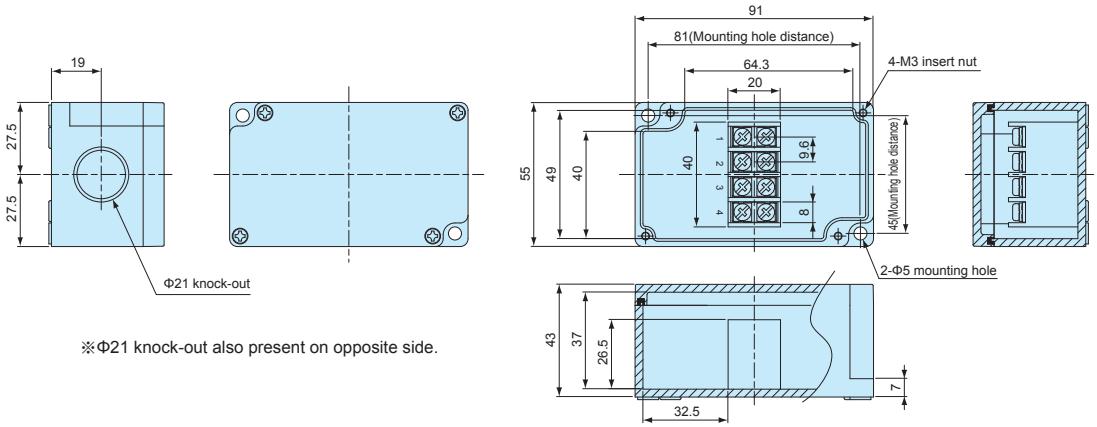
Product no. / Dimensions

Product no.	L	W	H	Number of poles	Weight (g)
TMB- 4P	91	55	43	4P	102
TMB- 6P	91	75	43	6P	134
TMB-10P	91	110	43	10P	190
TMB-15PS	185	100	70	15P	412
TMB-20P	160	160	70	10P x 2	560
TMB-20PL	230	100	70	20P	484

TMB dimensions

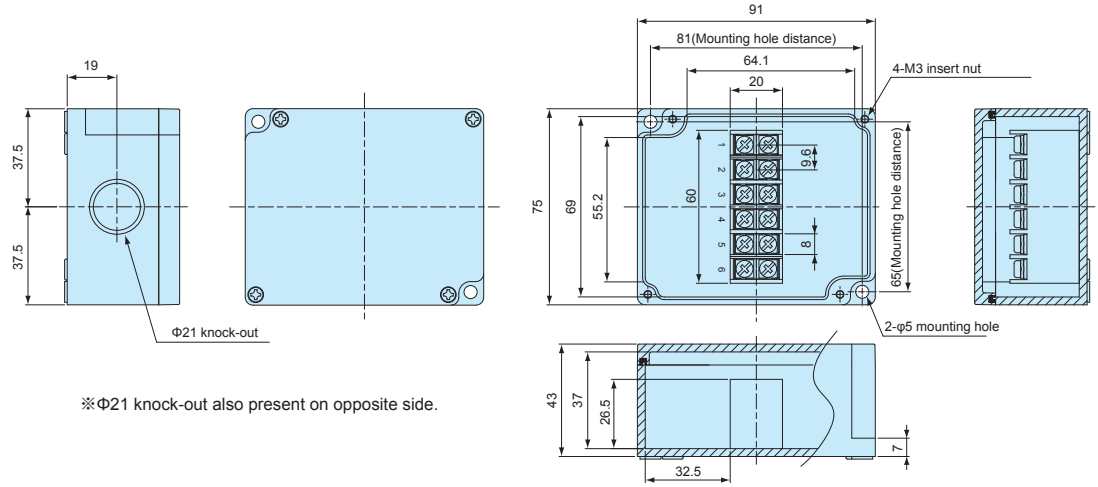
■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

TMB-4P



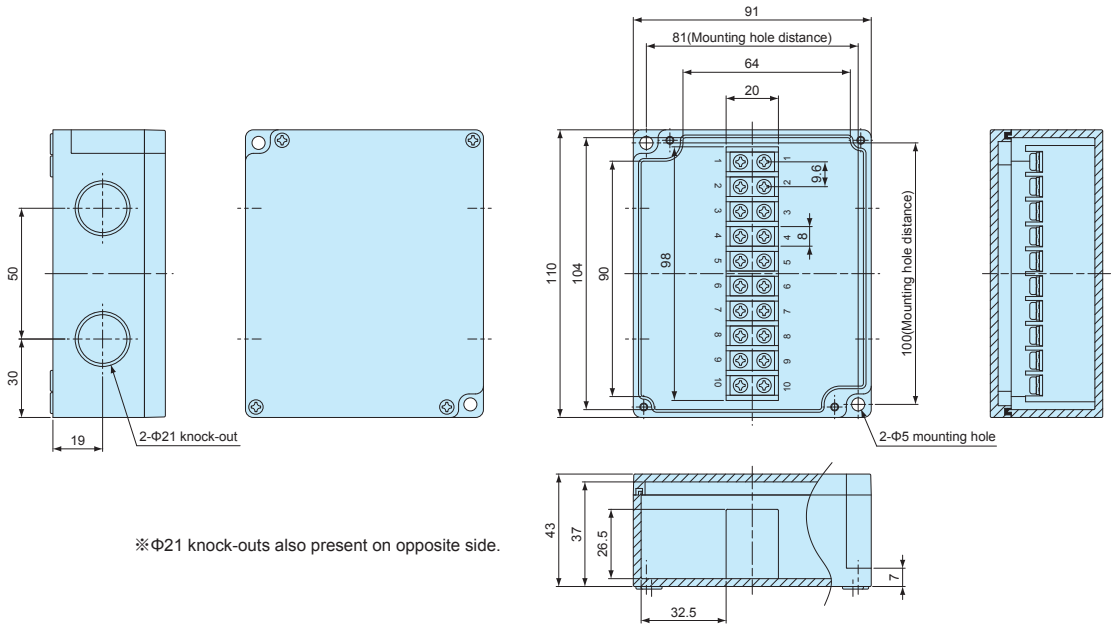
※Φ21 knock-out also present on opposite side.

TMB-6P



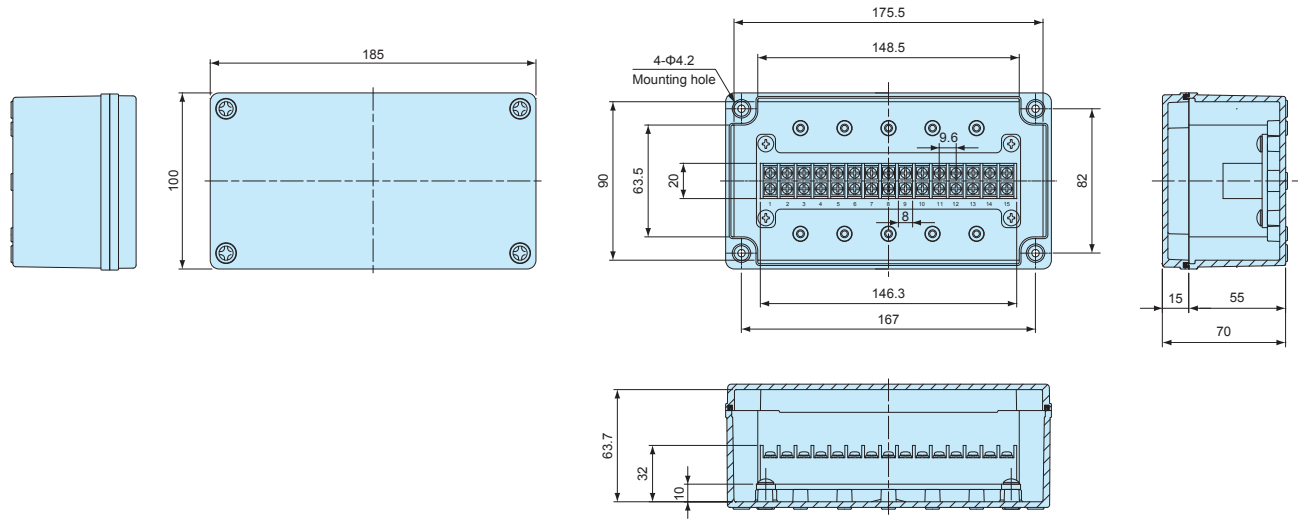
※Φ21 knock-out also present on opposite side.

TMB-10P

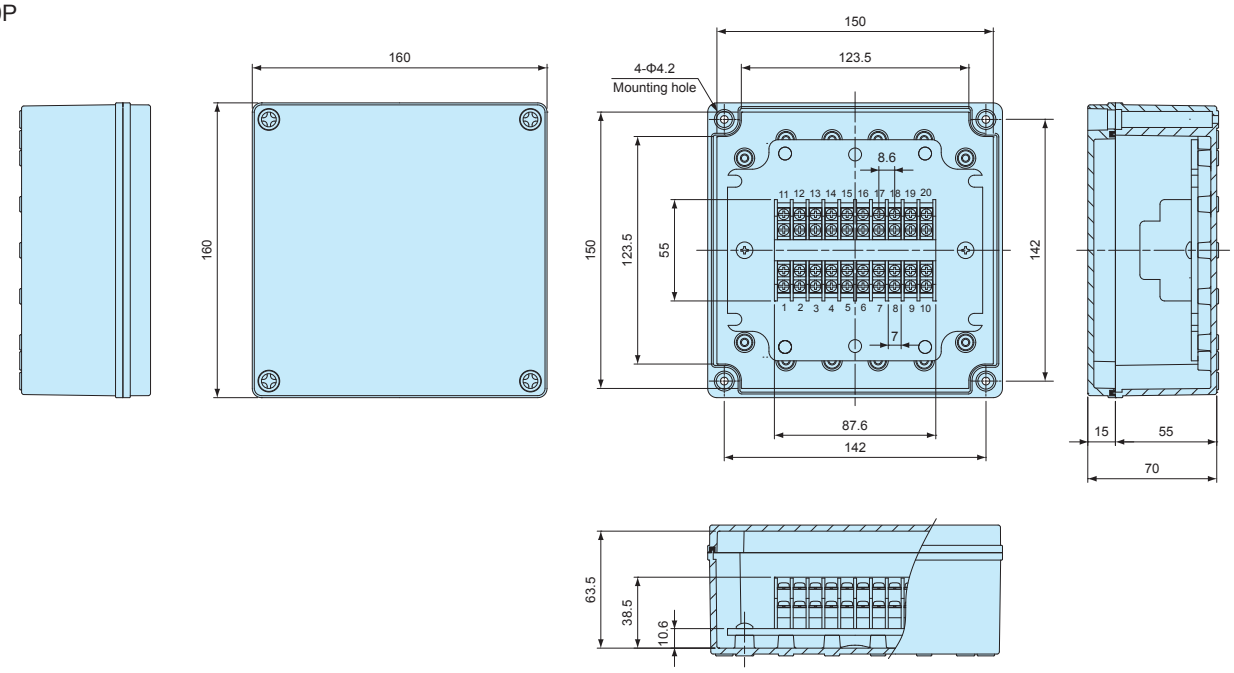


※Φ21 knock-outs also present on opposite side.

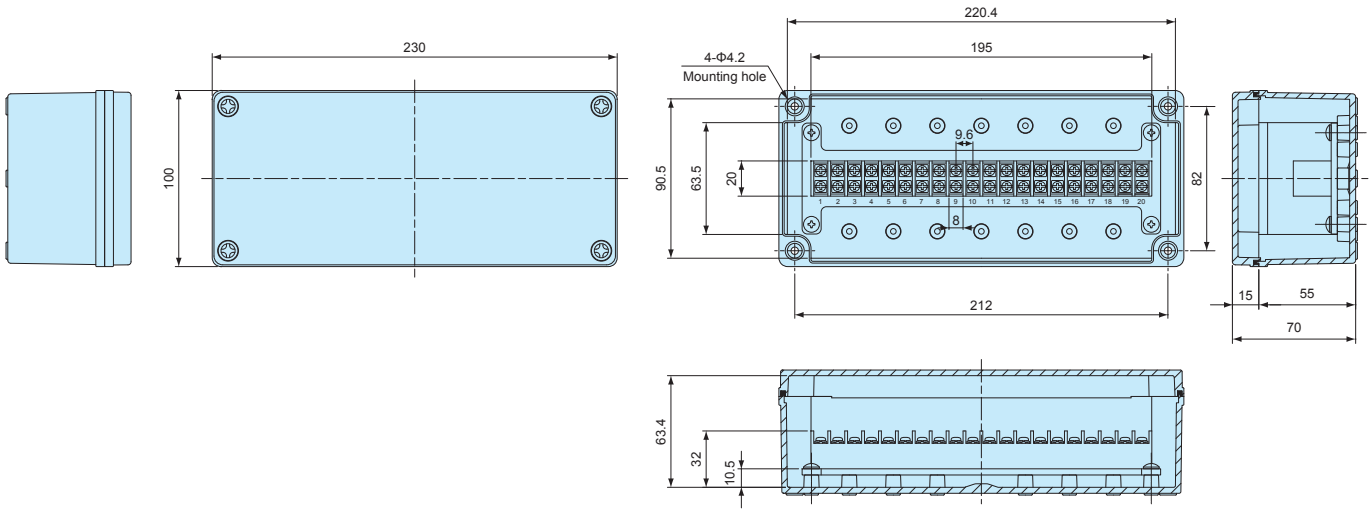
TMB-15PS



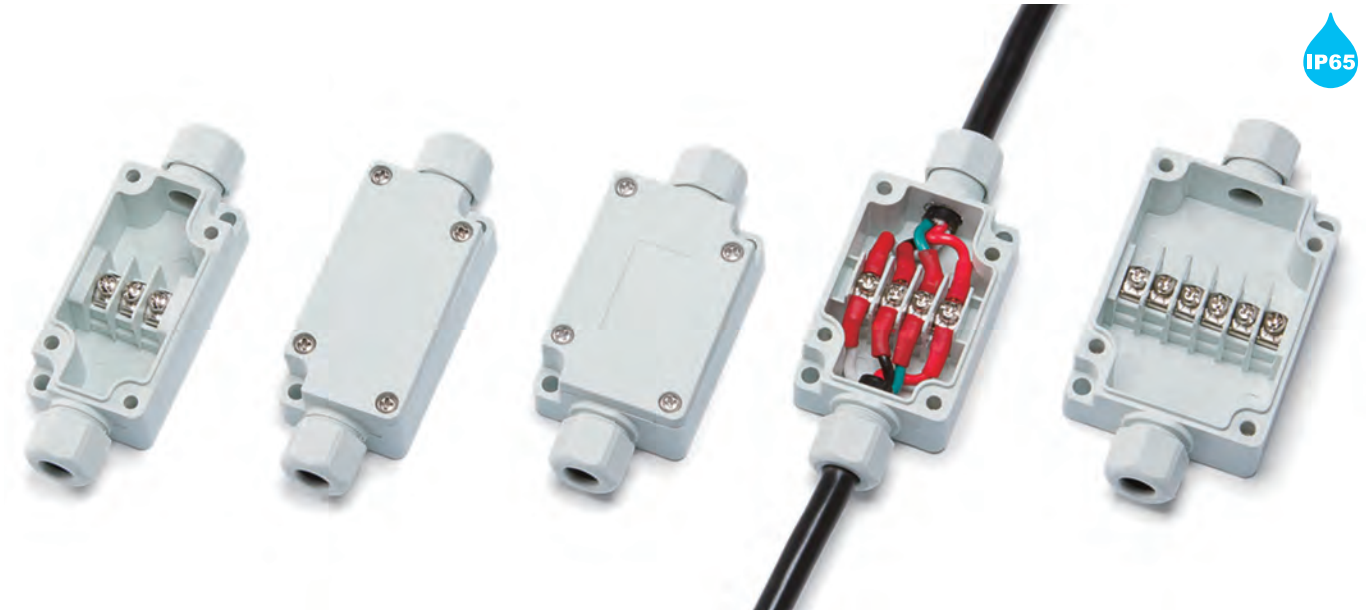
TMB-20P



TMB-20PL



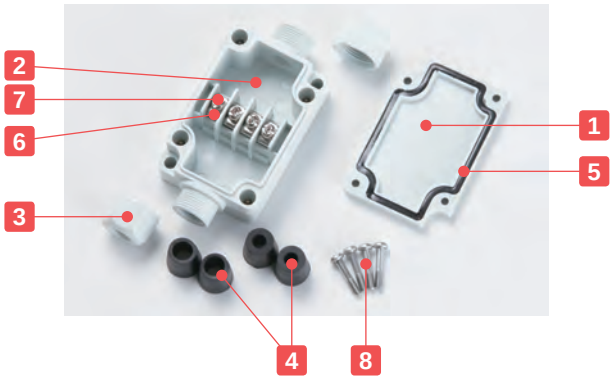
TMC series TERMINAL JUNCTION BOX



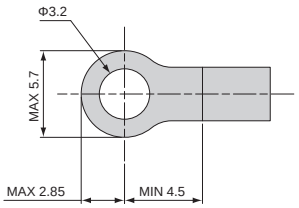
- Integrated junction box consisting of cable glands and a terminal block.
- Suitable for industrial facilities, power cable joints, relay between motors and/or sensors.
- IP65 protection class with high oil resistant PBT material.
- 3, 4, and 6 pole types are available.
- Φ5.0 and Φ7.4 rubber cable bushes (2 pcs each) are included.

Technical Data

Protection class: IP65
Operating temperature: -20°C ~ +75°C
Recommended torque : 0.5N • m



Applicable crimp terminal
R1.25-3



Terminal Block Specification

Rated voltage	250V
Rated current	15A
Applicable wire	1.25mm^2
Standard tightening torque	0.5N • m

Components

No.	Part name	Pcs	Material	Color / Finish
1	Cover	1	PBT UL94V-0	Light gray
2	Base	1	PBT UL94V-0	Light gray
3	Cable cap	2	PBT UL94V-0	Light gray
4	Rubber bush	2 pairs	EPDM	Black
5	Gasket	1	Polyurethane	Black
6	Conductive plate	3~6	Brass	Nickel plated
7	Terminal screw	3~6	Steel M3	Nickel plated
8	Cover screw	4	Stainless steel M3	Unfinished

Accessories (Optional parts)



Shorting Bar SBR series
See website



Rubber Bush RB series
See website

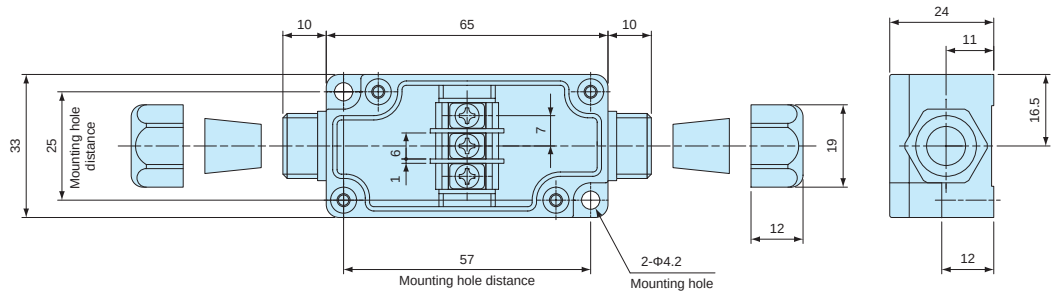
Product no. / Dimensions

Product no. ● Light gray	L	W	H	Number of poles	Weight (g)
TMC-3PG	65	33	24	3P	52
TMC-4PG	60	40	24	4P	58
TMC-6PG	70	50	24	6P	73

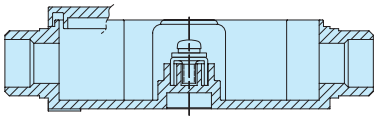
TMC dimensions

■ DXF/DWG/PDF drawings available on our website.

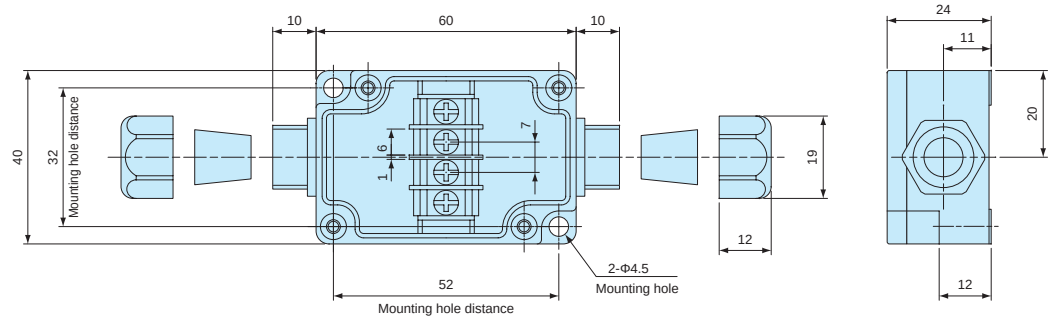
TMC-3PG



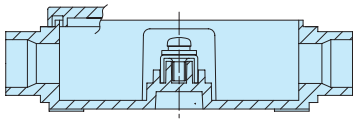
Inner diameter of rubber bush	Cable range
Φ5.0	Φ4 ~ Φ5
Φ7.4	Φ6 ~ Φ7



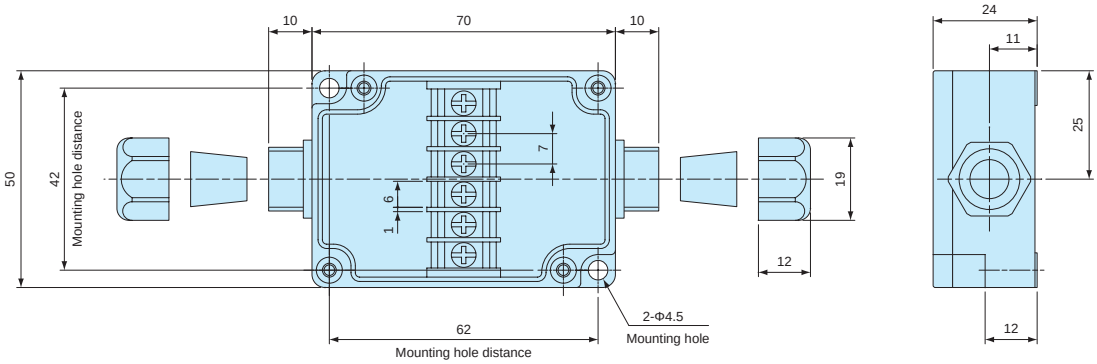
TMC-4PG



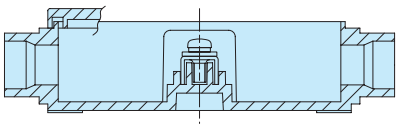
Inner diameter of rubber bush	Cable range
Φ5.0	Φ4 ~ Φ5
Φ7.4	Φ6 ~ Φ7



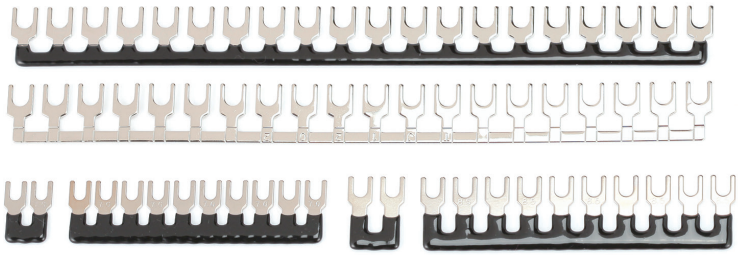
TMC-6PG



Inner diameter of rubber bush	Cable range
Φ5.0	Φ4 ~ Φ5
Φ7.4	Φ6 ~ Φ7



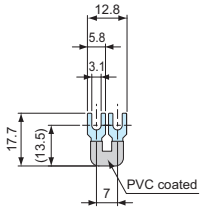
SBR SERIES SHORTING BAR



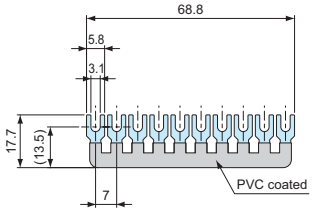


- Shorting bar for common-wiring.
- SBR70-10P, SBR85-10P, SBR95-20P, and SBR95-20N can be cut accordingly into required poles.
- PVC coated. SBR95-20 available in both PVC coated (SBR95-20P) and non PVC coated (SBR95-20N) models.
- See chart below for suitable box.

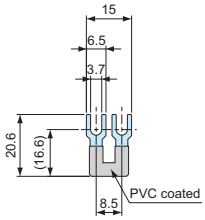
SBR70-2P



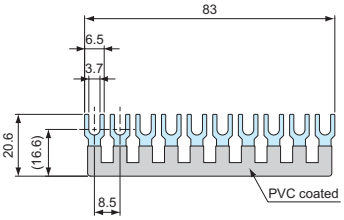
SBR70-10P



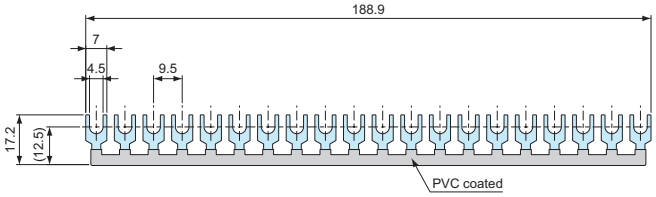
SBR85-2P



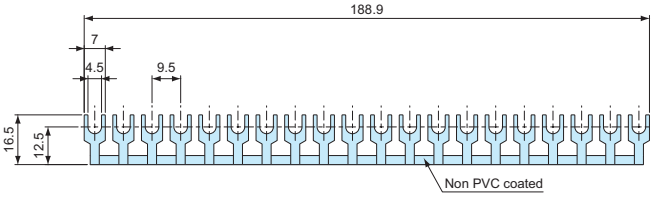
SBR85-10P



SBR95-20P



SBR95-20N



Suitable Box Chart

Product no.	Number of poles	Pole distance	Suitable box
SBR70 - 2P	2P	7.0mm	TMC series
SBR70 -10P	10P	7.0mm	TMC series
SBR85 - 2P	2P	8.6mm	TMB-20P, TMA-20P-AS, TMA30P-AS
SBR85 -10P	10P	8.6mm	TMB-20P, TMA-20P-AS, TMA30P-AS
SBR95 -20P	20P	9.6mm	TMA • TMB series (Not applicable for TMB-20P, TMA20P-AS, and TMA30P-AS models)
SBR95 -20N	20P	9.6mm	TMA • TMB series (Not applicable for TMB-20P, TMA20P-AS, and TMA30P-AS models)

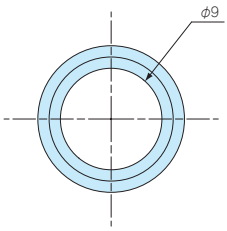
Product no. / Feature

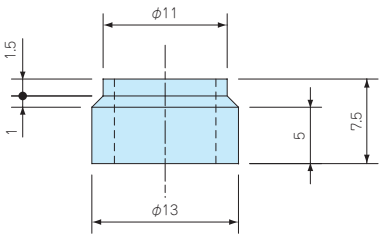
■ Pack quantity differs by models.

Product no.	Number of poles	Material	Finish	PVC coating	Pack of
SBR70 - 2P	2P	Brass	Nickel plated	Yes	10
SBR70 -10P	10P	Brass	Nickel plated	Yes	1
SBR85 - 2P	2P	Brass	Nickel plated	Yes	10
SBR85 -10P	10P	Brass	Nickel plated	Yes	1
SBR95 -20P	20P	Brass	Nickel plated	Yes	1
SBR95 -20N	20P	Brass	Nickel plated	No	1

RB-9 RUBBER BUSH





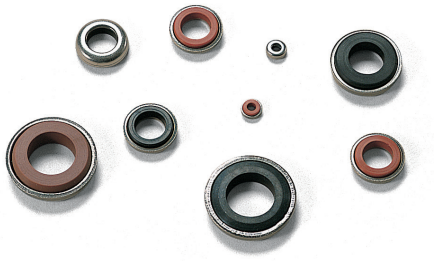


- Rubber bush for TMC series terminal junction box.
- Applicable for Φ8 ~ Φ9mm diameter cable.

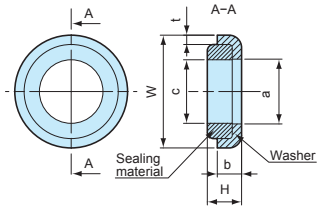
Product no. / Feature

Product no.	Material	Color	Cable range	Pack of
RB-9	NBR	Black	Φ8 ~ Φ9mm	2

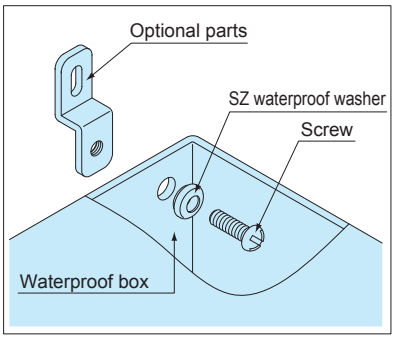
SZ SERIES WATERPROOF WASHER



- Waterproof washer for screwing onto waterproof boxes.
- NBR sealing material has superior oil resistance (N models only) .
- Silicone sealing material has wider operating temperature with superior temperature and water resistance (S models only).



- Shape of the sealing material vary by product.



Technical Data

Water pressure resistance:
M3 ~ M10 : 200kg/cm² 5min
M12 ~ M16 : 100kg/cm² 5min

Product no. / Dimensions

Product no.	W	H	a	b	c	t	Washer material	Sealing material	Color	Screw size	Pack of
SZ- 3N	7	2.7	3.2	2.2	3.1	0.5	SUS304	NBR	Black	M 3	1
SZ- 3S	7	2.7	3.2	2.2	3.1	0.5	SUS304	Silicone	Brown	M 3	1
SZ- 4N	8	2.8	4.2	2.1	4.1	0.5	SUS304	NBR	Black	M 4	1
SZ- 4S	8	2.8	4.2	2.1	4.1	0.5	SUS304	Silicone	Brown	M 4	1
SZ- 5N	9.5	3.6	5.2	2.7	5.1	0.8	SUS304	NBR	Black	M 5	1
SZ- 5S	9.5	3.6	5.2	2.7	5.1	0.8	SUS304	Silicone	Brown	M 5	1
SZ- 6N	11.5	4	6.2	3	6.2	1	SUS304	NBR	Black	M 6	1
SZ- 6S	11.5	4	6.2	3	6.2	1	SUS304	Silicone	Brown	M 6	1
SZ- 8N	15.2	3.8	8.2	3.2	8.2	1	SUS304	NBR	Black	M 8	1
SZ- 8S	15.2	3.8	8.2	3.2	8.2	1	SUS304	Silicone	Brown	M 8	1
SZ-10N	18	5.3	10.2	4	10.2	1.5	SUS304	NBR	Black	M10	1
SZ-10S	18	5.3	10.2	4	10.2	1.5	SUS304	Silicone	Brown	M10	1
SZ-12N	24	6.1	14.2	4.8	12.2	1.5	SUS304	NBR	Black	M12	1
SZ-12S	24	6.1	14.2	4.8	12.2	1.5	SUS304	Silicone	Brown	M12	1
SZ-16N	30	6.8	18.4	5.3	16	1.9	SUS304	NBR	Black	M16	1
SZ-16S	30	6.8	18.4	5.3	16	1.9	SUS304	Silicone	Brown	M16	1

NANUK™

PROFESSIONAL PROTECTIVE CASES

THE FUTURE OF PROTECTION CASES

Tough yet stylish.

Durable and elegant.

Easily customizable.

Endless possibilities abound.





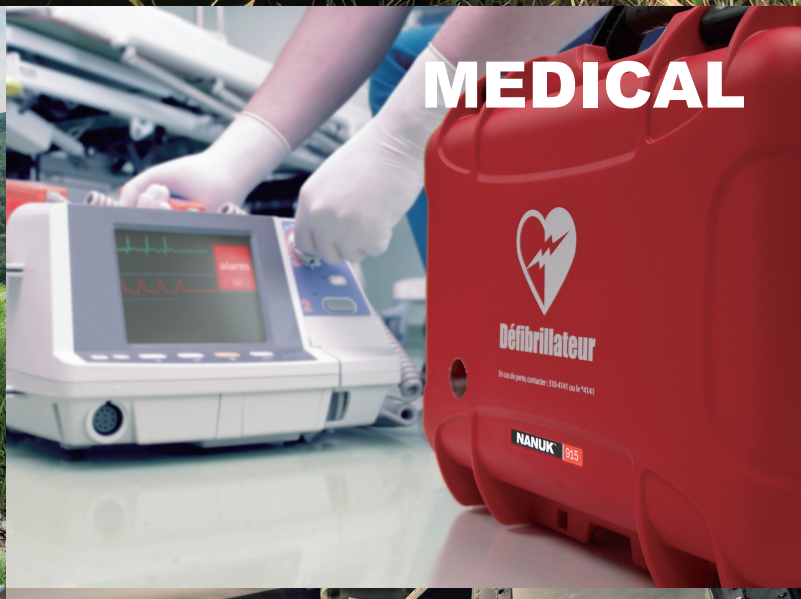


OUTDOOR




MEASUREMENT
KEEPING YOU IN CHARGE


DRONE


MEDICAL
Défibrillateur
NANUK 915


TRANSPORT


DEFENCE

TAKACHI

NANUK™ THE NANUK ADVANTAGE

IP65 PROTECTION CLASS

IP65 protection class for use in various environments.

Equipped with durable and weather resistant EPDM gasket.

Waterproof pressure relief valve enables pressure within the case to be equalized with the surrounding, allowing it to be opened with ease, while keeping it waterproof.



IMPACT RESISTANT-NK-7 RESIN

Impact resistant, lightweight, and armed with reinforced PP, NK-7 resin body.

Keep your items safe from impact damage.



22 DIFFERENT SIZES

A large selection of 22 different sizes, ranging from small (148.5 x 109.5 x 43mm) to large (1,196 x 440 x 168mm) types.

Smallest 3 sizes are available in 5 different colors: black, white, clear, lime and marine colors.

Other sizes are available in either black or yellow.











PROTECTIVE SPONGE FOAM



Nanuk cases are also available with a protective sponge foam.

Sponge foam are fitted to the case, and can also be purchased as separate option (NKSP series).

NKSP sponge foam comes with pre-cubed foam to allow for easy modification by removing the required squares.

(※No pre-cubed foam available for NKSP990).

Sponge customization is also available.

(See page SP-Custom-1～SP-Custom-2)

POWERCLAW LATCHING SYSTEM and SOFT GRIP HANDLE



※Latch with TSA lock on NKK series



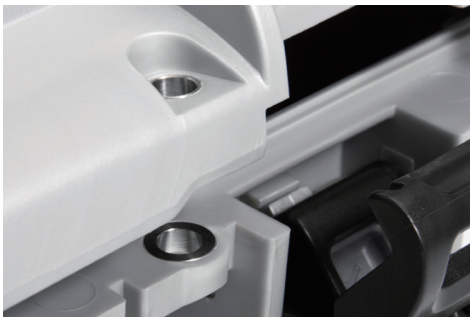
NANUK's patented PowerClaw latching system uses compressive force to keep your case tightly clamped.

Integrated slide lock offers added security, preventing it from accidental opening during transport or when dropped.

NANUK's TPE soft grip handle makes carrying not only comfortable, but also convenient.

Handle can be folded down to be flushed with the case when not in use.

100% STAINLESS STEEL PARTS



Metallic parts are made from SUS304 stainless steel.

Suitable to be used in environments with water splashes and so on.

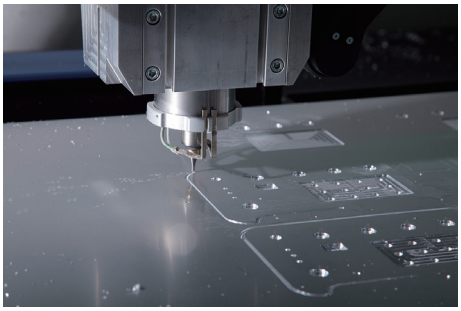
OPTIONAL ALUMINIUM PANEL for YOUR DEVICE

Optional aluminium panel can make NANUK into your original controller, measuring device or transmitter.

See page NKAP-1 for the details of optional aluminium panel.

NKAP panel customization is available. (See NKAP-2 for more details).

●CUSTOMIZATAION on ALUMINIUM PANEL



CUSTOMIZE



TAKACHI

NK SERIES IP65 CARRYING CASE

NEW SIZE





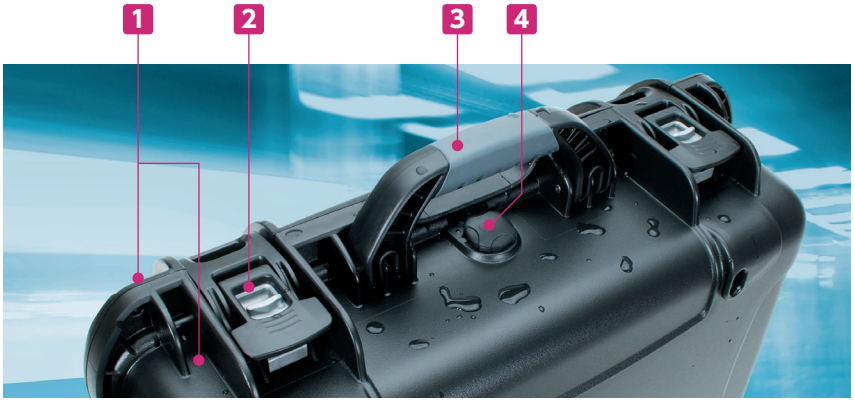




- Durable and stylishly designed waterproof carrying case.
- Selectable in 18 different sizes, with each model available with, and without foam.
- Suitable for storing electronics and delicate devices such as measuring device, camera, broadcasting device, electric tool, medical equipment, and so on.
- Optional aluminium panel can turn the NK series into your own original controller, measuring device or transmitter.

IP65

Technical Data
Protection class : IP65 Operating temperature : -20℃～+60℃





Hinge pin shape varies based on model type

Components

No.	Part name	Material
1	Cover・Base	Reinforced PP (NK-7)
2	Latch	Nylon 66
3	Handle grip	Elastomer
4	Pressure release valve (※1)	Nylon 66・PTFE

No.	Part name	Material
5	Hinge pin	Stainless steel
6	Gasket	EPDM
7	Foam	Polyurethane / 12.7mm Pitch Pre-cut cubed foam (※2)

※1 Automatic pressure release valve enables pressure within the case to be equalized with the surrounding, allowing it to be opened with ease, while keeping it waterproof.

※2 Pitch of Pre-cut cubed foam for NK940, 945, and 950 models is 15mm.

Accessories(Optional parts)



Divider DVI series
See page NANUK-ACC-1



Aluminium panel NKAP series
See page NKAP-1～NKAP-2



Shoulder strap NSTP series
See page NANUK-ACC-3



Padlock AB145S series
See page NANUK-ACC-3



Nameplate sticker NKST series
See page NANUK-ACC-3

■ Standard Type and Foam Type are available.

Standard Type





Foam Type



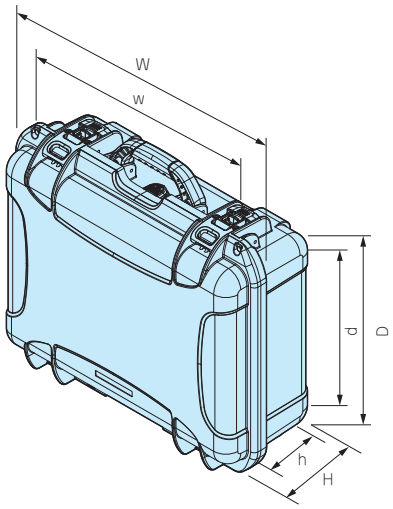


※See page NANUK-ACC-2 pages for optional NKSP foam.

NK dimensions

■ Drawings below are reference examples only.

DXF/DWG/PDF drawings available on our website.



Product no. / Dimensions

■Standard type (without foam)

Product no.		Dimensions (External)			Dimensions (Internal)			Weight (kg)
● Black	● Yellow	W	D	H	w	d	h	
NK903B	NK903Y	231	173	97	180	114	79	0.6
NK904B	NK904Y	259	201	114	200	135	94	0.7
NK905B	NK905Y	318	257	152	220	170	131.5	1.6
NEW NK908B	NEW NK908Y	318	249	203	215	165	181	1.5
NEW NK909B	NEW NK909Y	321	229	111	268	151	86	1.0
NK910B	NK910Y	363	282	120	320	210	95.5	1.4
NK915B	NK915Y	393.5	307	173	320	210	152	2.1
NK918B	NK918Y	427	328	236	350	215	212	2.9
NK920B	NK920Y	424	340	173	360	240	152	2.4
NEW NK923B	NEW NK923Y	472	366	160	391	253	128	2.7
NK925B	NK925Y	475	376	178	410	270	159	2.9
NK930B	NK930Y	503	406	193	430	310	171	3.4
NK933B	NK933Y	503	409	254	430	300	233	3.9
NK935B	NK935Y	559	356	229	415	265	179	5.3
NK940B	NK940Y	557	429	216	480	320	197	3.9
NK945B	NK945Y	638	505	224	530	400	202	5.0
NK950B	NK950Y	579	465	297	420	360	247	7.0
NK960B	—	645	508	368	470	365	316	9.0

■Foam type (with foam)

Product no.		Dimensions (External)			Dimensions (Internal)			Weight (kg)
● Black	● Yellow	W	D	H	w	d	h	
NK903BS	NEW NK903YS	231	173	97	180	114	79	0.63
NK904BS	NEW NK904YS	259	201	114	200	135	94	0.81
NK905BS	NEW NK905YS	318	257	152	220	170	131.5	1.7
NEW NK908BS	NEW NK908YS	318	249	203	215	165	181	1.7
NEW NK909BS	NEW NK909YS	321	229	111	268	151	86	1.2
NK910BS	NEW NK910YS	363	282	120	320	210	95.5	1.5
NK915BS	NEW NK915YS	393.5	307	173	320	210	152	2.4
NK918BS	NEW NK918YS	427	328	236	350	215	212	2.9
NK920BS	NEW NK920YS	424	340	173	360	240	152	2.7
NEW NK923BS	NEW NK923YS	472	366	160	391	253	128	3.1
NK925BS	NEW NK925YS	475	376	178	410	270	159	3.3
NK930BS	NEW NK930YS	503	406	193	430	310	171	3.9
NK933BS	NEW NK933YS	503	409	254	430	300	233	4.6
NK935BS	NEW NK935YS	559	356	229	415	265	179	6.0
NK940BS	NEW NK940YS	557	429	216	480	320	197	4.6
NK945BS	NEW NK945YS	638	505	224	530	400	202	6.0
NK950BS	NEW NK950YS	579	465	297	420	360	247	8.0
NK960BS	—	645	508	368	470	365	316	10.5

TAKACHI

NKK SERIES IP65 CARRYING CASE with LOCK

NEW SIZE



- Equipped with a TSA lock latch for security, or transportation as check-in baggage.
- Available in 15 different sizes, with 2 different types available Without foam and With foam.
- Optional aluminium panel can turn the NKK series into your own original controller, measuring device or transmitter.

IP65

Technical Data
Protection class : IP65 Operating temperature : -20℃～+60℃



Latch with TSA lock



2 Keys included.

What is TSA LOCK?

TSA LOCK is a global security system which allows passengers to lock their luggage, while at the same time, permitting security authorities to inspect them without damage to the lock or luggage.

TRAVEL SENTRY® APPROVED

Accessories(Optional parts)



Divider DVI series
See page NANUK-ACC-1



Aluminium panel NKAP series
See page NKAP-1～NKAP-2



Shoulder strap NSTP series
See page NANUK-ACC-3



Foam NKSP series
See page NANUK-ACC-2



Nameplate sticker NKST series
See page NANUK-ACC-3





Hinge pin shape varies based on model type

Components

No.	Part name	Material
1	Cover・Base	Reinforced PP (NK-7)
2	Latch	Nylon 66・Zinc alloy
3	Handle grip	Elastomer
4	Pressure release valve (※1)	Nylon 66・PTFE
5	Hinge pin	Stainless steel

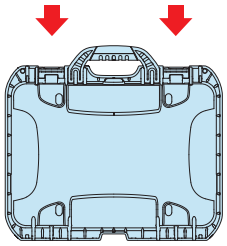
No.	Part name	Material
6	Gasket	EPDM
7	Foam	Polyurethane / 12.7mm Pitch Pre-cut cubed foam (※2)
8	Key	Brass・PP

※1 Automatic pressure release valve enables pressure within the case to be equalized with the surrounding, allowing it to be opened with ease, while keeping it waterproof.

※2 Pitch of Pre-cut cubed foam for NK940, 945, and 950 models is 15mm.

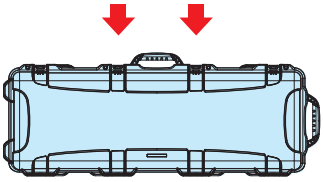
NKK945 and NKK960 models

Only 2 latches (below illustration) are equipped with TSA lock (out of 4 latches).



NKK990 model

Only 2 latches (below illustration) are equipped with TSA lock (out of 4 latches).



Product no. / Dimensions

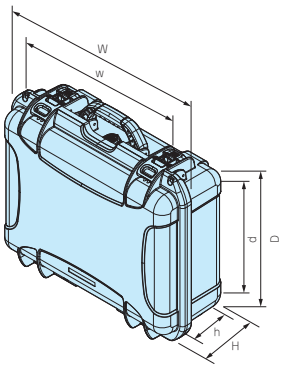
■Standard type (without foam)

Product no.	Dimensions (External)			Dimensions (Internal)			Weight (kg)
● Black	W	D	H	w	d	h	
NKK905B	318	257	152	220	170	131.5	1.6
NEW NKK908B	318	249	203	215	165	181	1.5
NKK915B	393.5	307	173	320	210	152	2.1
NKK918B	427	328	236	350	215	212	2.9
NKK920B	424	340	173	360	240	152	2.4
NEW NKK923B	472	366	160	391	253	128	2.7
NKK925B	475	376	178	410	270	159	2.9
NKK930B	503	406	193	430	310	171	3.4
NKK933B	503	409	254	430	300	233	3.9
NKK935B	559	356	229	415	265	179	5.3
NKK940B	557	429	216	480	320	197	3.9
NKK945B	638	505	224	530	400	202	5.0
NKK950B	579	465	297	420	360	247	7.0
NKK960B	645	508	368	470	365	316	9.0
NEW NKK990B	1,196	440	168	1,070	340	143.5	8.3

■Foam type (with foam)

Product no.	Dimensions (External)			Dimensions (Internal)			Weight (kg)
● Black	W	D	H	w	d	h	
NEW NKK905BS	318	257	152	220	170	131.5	1.7
NEW NKK908BS	318	249	203	215	165	181	1.7
NEW NKK915BS	393.5	307	173	320	210	152	2.4
NEW NKK918BS	427	328	236	350	215	212	2.9
NEW NKK920BS	424	340	173	360	240	152	2.7
NEW NKK923BS	472	366	160	391	253	128	3.1
NEW NKK925BS	475	376	178	410	270	159	3.3
NEW NKK930BS	503	406	193	430	310	171	3.9
NEW NKK933BS	503	409	254	430	300	233	4.6
NEW NKK935BS	559	356	229	415	265	179	6.0
NEW NKK940BS	557	429	216	480	320	197	4.6
NEW NKK945BS	638	505	224	530	400	202	6.0
NEW NKK950BS	579	465	297	420	360	247	8.0
NEW NKK960BS	645	508	368	470	365	316	10.5
NEW NKK990BS	1,196	440	168	1,070	340	143.5	9.8

NKK dimensions



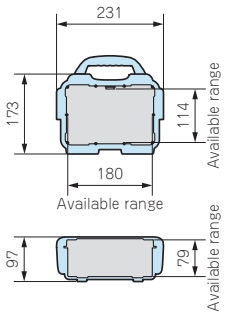
NK • NKK dimensions

■ DXF/DWG/PDF drawings available on our website.

NK 903



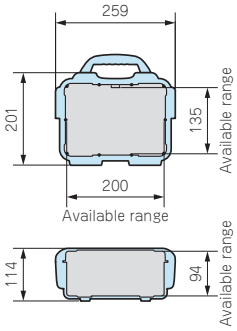




NK 904



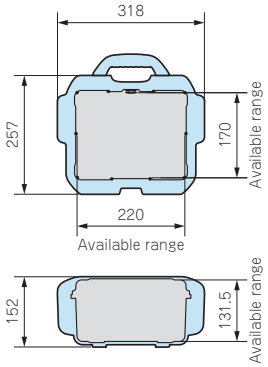




NK/NKK 905



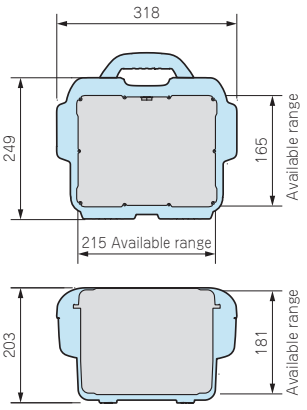




NK/NKK 908 NEW







NK • NKK-1

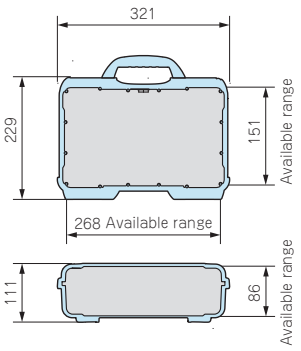
NK • NKK dimensions

■ DXF/DWG/PDF drawings available on our website.

NK 909 NEW





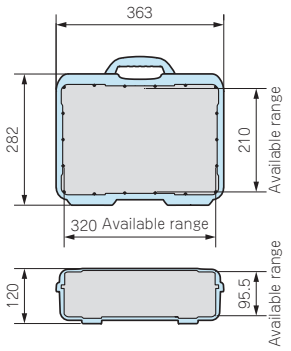


NK 910

NK910 is able to install optional aluminium panels on both the cover and base. (See page NKAP-1～NKAP-2)







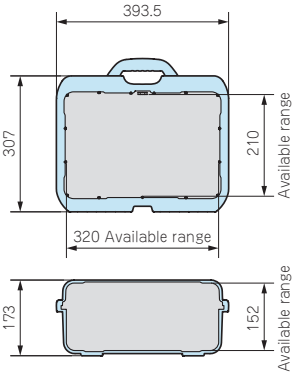
NK/NKK 915





APPLICATION EXAMPLE

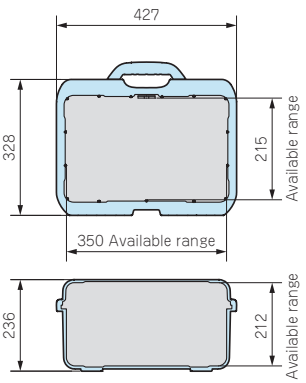
EDUCATIONAL TABLET AID PACK
Product by FUJISOFT (Japan)



NK/NKK 918







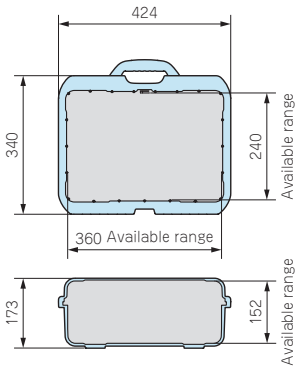
NK • NKK dimensions

■ DXF/DWG/PDF drawings available on our website.

NK/NKK 920



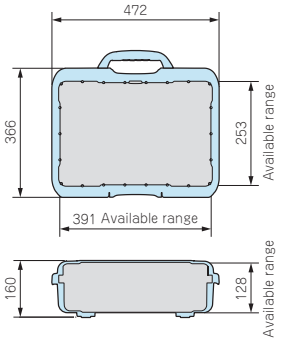




NK/NKK 923 NEW







NK/NKK 925



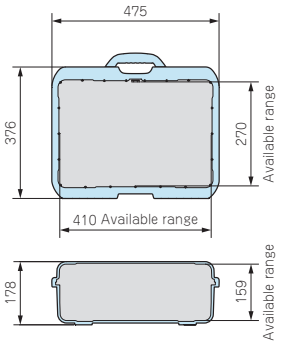






APPLICATION EXAMPLE

ELECTRIC PROSPECTING / LOGGING DEVICE
Product by OYO CORPORATION (Japan)



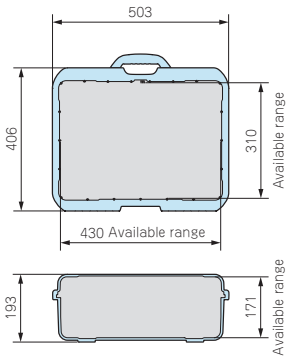
NK • NKK dimensions

■ DXF/DWG/PDF drawings available on our website.

NK/NKK 930







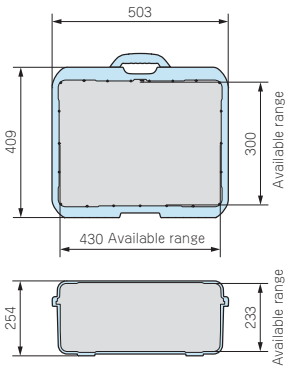
APPLICATION EXAMPLE

PRESS BREAK CHECKER
Product by Shinohara Press Service (Japan)

NK/NKK 933







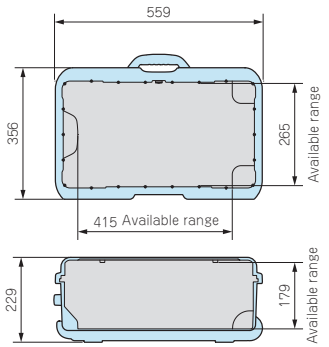
NK/NKK 935

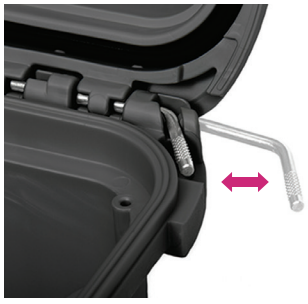






Equipped with a 2 stage retractable handle and polyurethane wheels.





Cover can be detached by pulling out the hinge pin.
※Hinge pin shape varies based by model type.

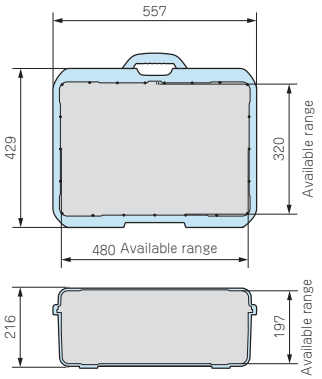
NK • NKK dimensions

■ DXF/DWG/PDF drawings available on our website.

NK/NKK 940



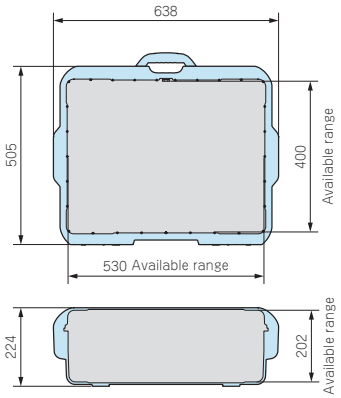




NK/NKK 945





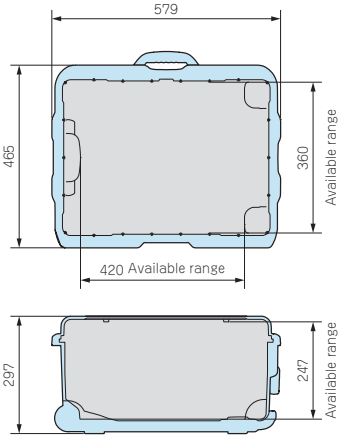


NK/NKK 950





Equipped with a 2 stage retractable handle
and polyurethane wheels.

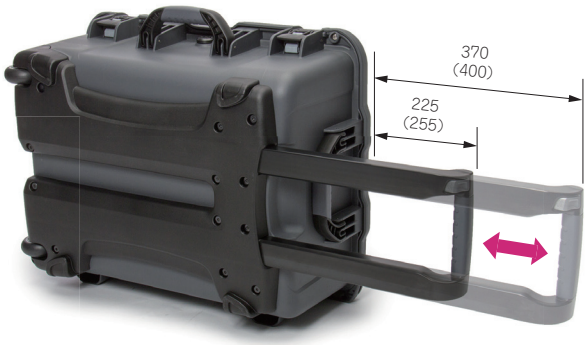


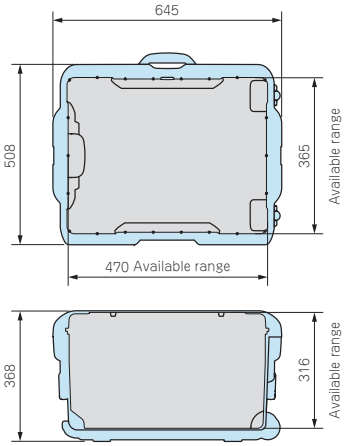
NK • NKK dimensions

■ DXF/DWG/PDF drawings available on our website.

※ ( ) values are for NK・NKK935 and 950 models.

NK/NKK 960







Equipped with a 2 stage retractable handle
and polyurethane wheels.

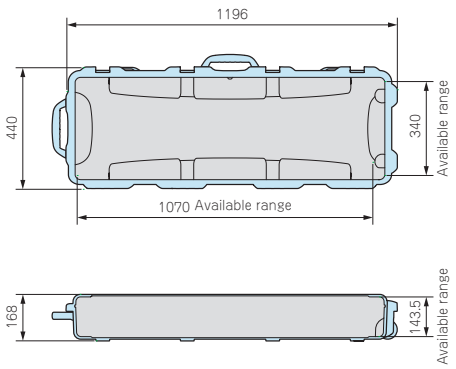


NKK 990





Equipped with polyurethane wheels.







TAKACHI

NANO SERIES WATERPROOF PORTABLE CASE



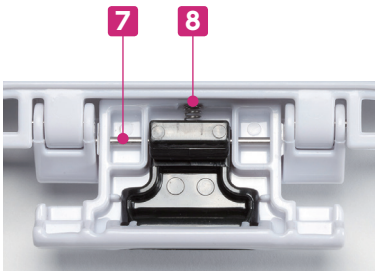


- IP65 waterproof compact and stylish case.
- Slit holes on both sides for strap or belt.
- Suitable for storing small electric devices such as mobile phones, wireless devices, portable radios, and so on.

IP65

Technical Data
Protection class : IP65 Operating temperature : -20℃～+60℃





Latch (lock mechanism) side



Hinge Side

Components

No.	Part name	Material
1	Cover・Base	Polycarbonate
2	Protective net	Silicone
3	Lock lever	Polycarbonate
4	Corner guard	Elastomer
5	Gasket	Elastomer
6	Strap	Nylon・Nylon 66
7	Latch pin	Stainless steel
8	Spring	Stainless steel
9	Pressure relief valve (※)	Nylon 66・PTFE

※ Waterproof pressure relief valve enables pressure within the case to be equalized with the surrounding, allowing it to be opened with ease, while keeping it waterproof.

How To Use Strap



Insertion of clip into the case



Use as handy strap



Insert strap end into the loop after clip insertion.



Fix it to the belt loop, etc.

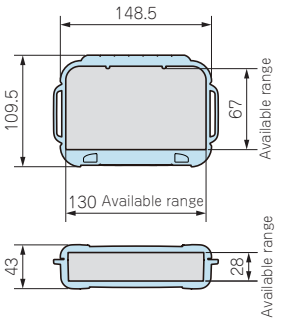
NANO dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

NANO 310



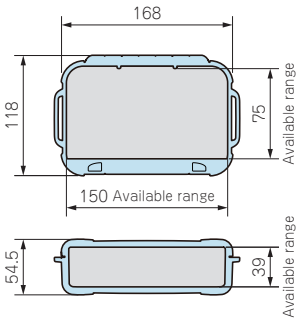




NANO 320



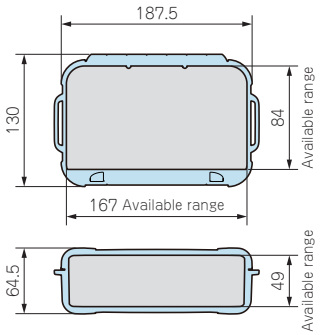




NANO 330







Product no. / Dimensions

Product no.					Dimensions (External)			Dimensions (Internal)			Weight (g)
● Black	● White	▨ Clear	● Lime	● Marine	W	D	H	w	d	h	
NANO310B	NANO310W	NANO310C	NANO310L	NANO310M	148.5	109.5	43	130	67	28	265
NANO320B	NANO320W	NANO320C	NANO320L	NANO320M	168	118	54.5	150	75	39	350
NANO330B	NANO330W	NANO330C	~~NANO330L~~	~~NANO330M~~	187.5	130	64.5	167	84	49	450

※Cross out products are discontinued.

Applicable for use as electronic and communication devices

PCB can be installed with PCB mounting screw MT series.
NANO series can also be used as a pole mounted communication device.





Accessories(Optional parts)



Aluminium panel NKAP series
See page NKAP-1～NKAP-2



PCB mounting screw MT series
See page NKAP-1





Nameplate sticker NKST series
See page NANUK-ACC-3

NKAP SERIES ALUMINIUM PANEL for NANO • NK • NKK

NEW SIZE







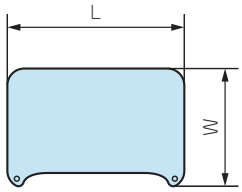
■ Optional aluminium panel can be used as a controller control / display, measuring device, transmitter, and so on.

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

NKAP dimensions

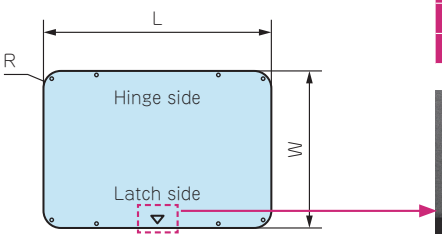
NANO series

Slide insert and screw fastening



NK • NKK series

Required screws vary based on size



※Install panel with ▽marking towards the latch.

Components

No.	Part name	Material
1	Panel	Aluminium (Anodized)
2	Screw	Stainless steel

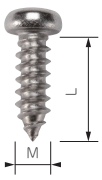


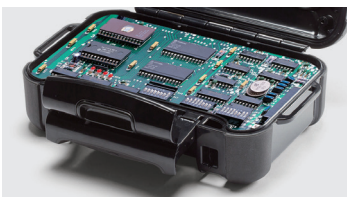
Product no. / Dimensions

Product no.	Suitable case	Thickness	L	W	R	▽ marking	Screw pcs	Weight (g)
NKAP310	NANO310	2	136.2	90.6	13	—	2	59
NKAP320	NANO320	2	156.8	100.4	15.7	—	2	75
NKAP330	NANO330	2	175.9	112.2	17	—	2	94
NKAP903	NK903	1.5	198.5	136.5	15	—	4	109
NKAP904	NK904	1.5	226	163.5	18	—	4	149
NKAP905	NK/NKK905	1.5	257	207	21.5	—	4	214
NEW NKAP908	NK/NKK908	1.5	250.9	200.1	18	—	4	203
NEW NKAP909	NK909	1.5	304.7	190.4	18	—	4	234
NKAP910	NK910 base side	2	346	244.5	17	—	4	452
NKAP910C	NK910 cover side	1.5	339.5	238	14	—	4	329
NKAP915	NK / NKK915	2	368.5	254	28	○	8	496
NKAP918	NK / NKK918	2	397.5	268.5	27	—	8	574
NKAP920	NK / NKK920	2	399.5	285	28	○	8	606
NEW NKAP923	NK / NKK923 base side	2	446.3	309.1	28	—	8	737
NEW NKAP923C	NK / NKK923 cover side	2	438.3	301.1	23.5	—	8	704
NKAP925	NK/NKK925	2	451.5	318	28	○	8	760
NKAP930	NK/NKK930	2	476	350.5	27	○	8	880
NKAP933	NK/NKK933	2	477.5	352	27	—	8	908
NKAP935	NK/NKK935	2	535	301.5	26.5	○	8	855
NKAP940	NK/NKK940	2	526.5	374	27	○	10	1,050
NKAP945	NK/NKK945	2	576.5	450	26.5	○	10	1,395
NEW NKAP950	NK/NKK950	2	540.8	409.1	27	—	10	1,179
NEW NKAP960	NK/NKK960	2	579.7	454.2	27	—	10	1,402

MT SERIES PCB MOUNTING SCREW for NANO











■ PCB should be the same size as NKAP series aluminium panel.

■ Insert PCB into groove (see diagram to the right) and screw into the screw marking.

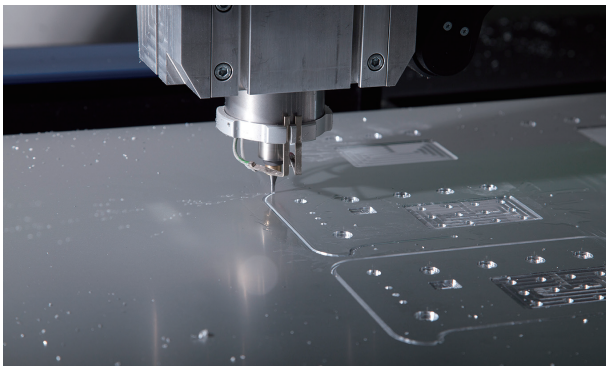
Product no. / Dimensions

Product no.	M	L	Pcs
MT2.6-8T	2.6	8	2

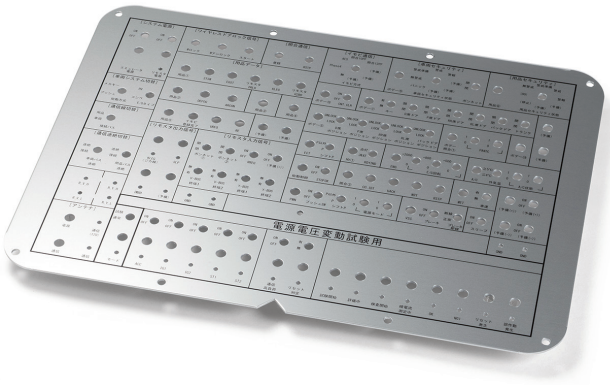
Material : Stainless steel

CUSTOMIZATION on ALUMINIUM PANEL

- Customization services such as CNC milling, punching press, digital inkjet printing, silkscreen printing, and engraving on NKAP panel are available.
- Custom colors can also be performed either through anodization, or painting.

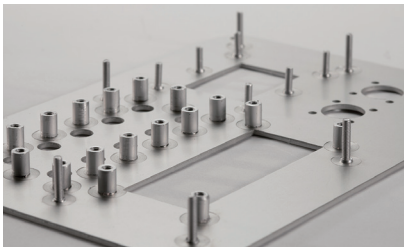








- Self-clinching Standoff/Stud/Nut or Welded Fastener customization is available.



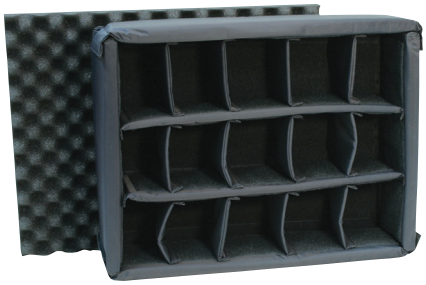
- An original control panel with machined aluminum panel and overlay sheet can be performed.



DVI SERIES DIVIDER for NK • NKK

NEW SIZE





- Divider for organizing your components or equipment. Adjustable hook and loop fasteners allows for easily size adjustments.
- Padded dividers are designed to easily organize and protect your equipment.

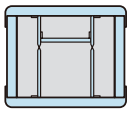
APPLICATION EXAMPLE



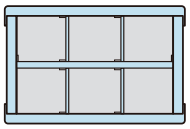

Product no. / Suitable case

Product no.	Suitable case	Weight (g)
DVI905	NK/NKK905	288
NEW DVI908	NK/NKK908	453
DVI915	NK/NKK915	542
DVI918	NK/NKK918	800
DVI920	NK/NKK920	753
NEW DVI923	NK/NKK923	1,025
DVI925	NK/NKK925	968
DVI930	NK/NKK930	1,220
DVI933	NK/NKK933	1,500
DVI935	NK/NKK935	1,190
DVI940	NK/NKK940	1,695
DVI945	NK/NKK945	1,940
DVI950	NK/NKK950	1,810
DVI960	NK/NKK960	3,230

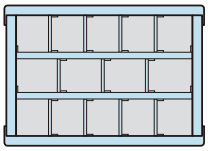
DVI905 / 908



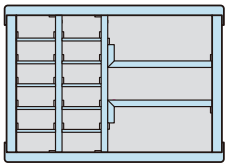
DVI915 / 918



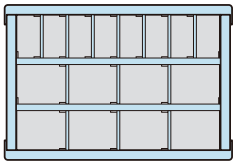
DVI920



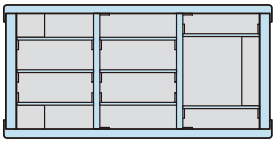
DVI923 / 925



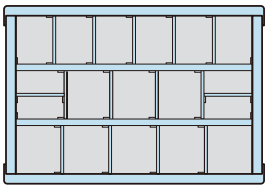
DVI930 / 933



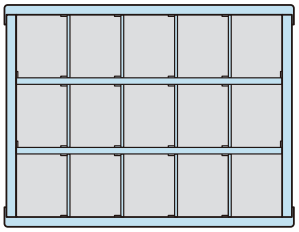
DVI935



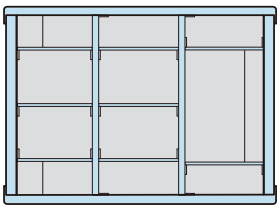
DVI940



DVI945

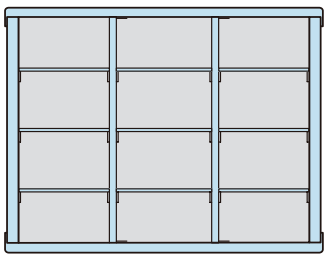


DVI950

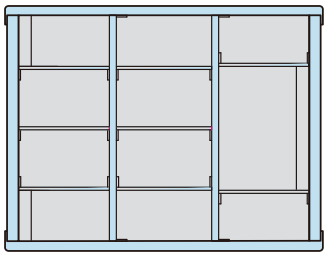


DVI960 ※2 divider layers available.

▼1st layer



▼2nd layer



NKSP SERIES SPONGE FOAM for NK・NKK

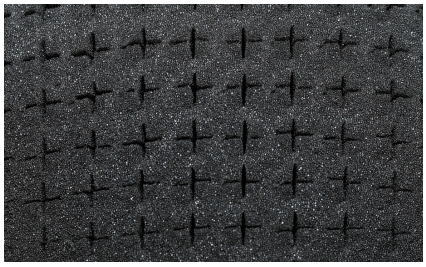
NEW SIZE

- Pre-cubed foam can be easily cut to make a suitable storage space.
- Available as three-layered foam set with waved (for cover side), pre-cubed foam (for base side) and base layer.

※ Pre-cubed foam layer is not available for NKSP990 model.







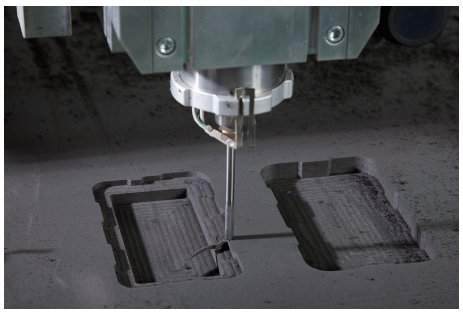




■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

Product no. / Suitable case

Product no.	Suitable case	Foam layer details	Cut-line pitch	Weight (g)
NKSP903	NK903	Waved layer x 1・Pre-cubed foam layer x 1・Base layer x 1	12.7	40
NKSP904	NK904	Waved layer x 1・Pre-cubed foam layer x 1・Base layer x 1	12.7	70
NKSP905	NK/NKK905	Waved layer x 1・Pre-cubed foam layer x 1・Base layer x 1	12.7	120
NEW NKSP908	NK/NKK908	Waved layer x 1・Pre-cubed foam layer x 2・Base layer x 1	12.7	158
NEW NKSP909	NK909	Waved layer x 1・Pre-cubed foam layer x 1・Base layer x 1	12.7	158
NKSP910	NK910	Waved layer x 1・Pre-cubed foam layer x 1・Base layer x 1	12.7	150
NKSP915	NK/NKK915	Waved layer x 1・Pre-cubed foam layer x 2・Base layer x 1	12.7	250
NKSP918	NK/NKK918	Waved layer x 1・Pre-cubed foam layer x 3・Base layer x 1	12.7	390
NKSP920	NK/NKK920	Waved layer x 1・Pre-cubed foam layer x 2・Base layer x 1	12.7	320
NEW NKSP923	NK/NKK923	Waved layer x 1・Pre-cubed foam layer x 2・Base layer x 1	12.7	399
NKSP925	NK/NKK925	Waved layer x 1・Pre-cubed foam layer x 2・Base layer x 1	12.7	430
NKSP930	NK/NKK930	Waved layer x 1・Pre-cubed foam layer x 2・Base layer x 1	12.7	540
NKSP933	NK/NKK933	Waved layer x 1・Pre-cubed foam layer x 3・Base layer x 1	12.7	700
NKSP935	NK/NKK935	Waved layer x 1・Pre-cubed foam layer x 2・Base layer x 1	12.7	710
NKSP940	NK/NKK940	Waved layer x 1・Pre-cubed foam layer x 2・Base layer x 1	15	730
NKSP945	NK/NKK945	Waved layer x 1・Pre-cubed foam layer x 2・Base layer x 1	15	1,000
NKSP950	NK/NKK950	Waved layer x 1・Pre-cubed foam layer x 3・Base layer x 1	15	1,000
NKSP960	NK/NKK960	Waved layer x 1・Pre-cubed foam layer x 4・Base layer x 1	12.7	1,500
NKSP990	NKK990	Waved layer x 1・Plain foam layer x 2・Base layer x 1	—	1,490



CUSTOMIZE



■ Customization on foam is available.
■ Foam customization is also available where your own unique form design and cut-outs can be performed.

CUSTOMIZED EXAMPLE







NSTP SERIES SHOULDER STRAP

■ Nylon shoulder strap with polyurethane pads to reduce fatigue when carrying.







Components

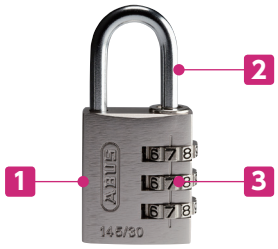
No.	Part name	Material
1	Belt	Nylon
2	Pad	Neoplane・Polyurethane
3	Hook	Steel (Black painted)

Product no. / Feature

Product no.	Weight (g)	Quantity
NSTP810	238	1

※Belt length can be adjustable from 810mm to 1,170mm
※Not applicable for NK903, NK904, NKK990, NK・NKK950 and NK・NKK960 models.

AB145S SERIES PADLOCK





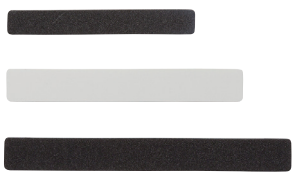
Components

No.	Part name	Material
1	Body	Aluminium
2	Shank	Steel
3	Dial	Zinc alloy

Product no. / Feature

Product no.	Weight (g)	Quantity
AB145S	52	1

NKST SERIES NAMEPLATE STICKER





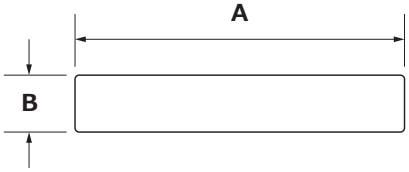
Color nameplate can be performed by digital inkjet printing on a white plate.



■ 0.3mm thick plastic nameplate with double sided tape on the back.
Custom name plate can be made with your company name, logo, product number or lot number with digital inkjet printing.
■ Digital inkjet print or silkscreen is possible from just 1 piece.

Product no. / Dimensions

Product no.		Suitable case	Dimensions		Quantity
● Black	● White		A	B	
NKST-1B	NKST-1W	NANO SERIES	50	6.8	1
NKST-2B	NKST-2W	NK903, 904	62.7	9.1	1
NKST-3B	NKST-3W	NK/NKK905 ～ 960	76.1	9.1	1



UNIQUE COLOR AVAILABLE

NANO SERIES

※See page NANO-1～NANO-2



Orange



Purple



Red

NK SERIES

※See page NK-1～NK-2



Graphite



Orange



Olive



Silver
Only available for
NK903～920
NK925～945 models



Lime
Only available for
NK903, 904, 905
908 and 910 models



Blue
Only available for
NK903 and 904
Models



Red
Only available for
NK903 and 904
Models



●For NKK series, Olive color is only available for NKK990 model.

Handy Carrying Case for Your Everyday Needs



A wide selection to choose from with optional customization services available to suit various designs.

Use as tools storage, precision parts, measurement devices, test samples, medical equipment, and so on.







SNAP-IN LATCH for easy handling

Equipped with a SNAP-IN LATCH for easy to open and close.
Best used at locations where storage of equipment are required.
SNAP-IN LATCH on MAXI series are available in 7 different colors: black, gray, marine, red, orange, yellow and light gray.





Protective sponge foam

MILLING

Optional foam comes with pre-cubed foam to allow for easy modification by removing the required squares.
Foam customization is also available where your own unique form design and cut-outs can be performed.

●CNC Foam Milling

CUSTOMIZE





Digital inkjet printing with low initial tooling cost

PRINTING

Digital inkjet printing on tool cases with low initial tooling cost.
Full color printing is possible with digital inkjet printing.







MAXI · MINI · XTRA-2

MAXI SERIES PLASTIC CARRYING CASE



- Universal storing case with easy opening/closing snap-in latch.
- Available in 25 different sizes.
- Optional foam are available to protect your device or equipment.
- Suitable for storing tools, jigs, precision parts, measurement devices, test samples, medical equipment, and so on.

Technical Data
Operating temperature : -20℃～+60℃

APPLICATION EXAMPLE





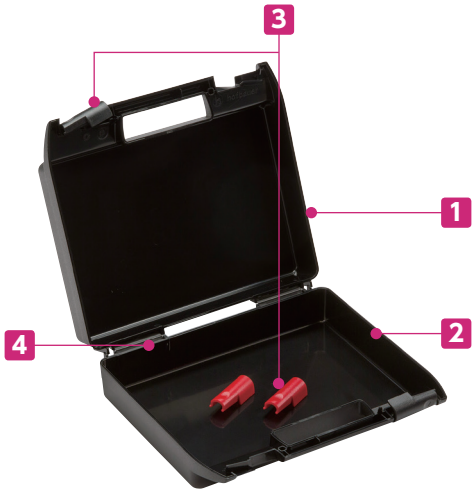






Light gray color is also available.

▶ See page SP-Custom-1～SP-Custom-2 for custom foam and custom inkjet printing.



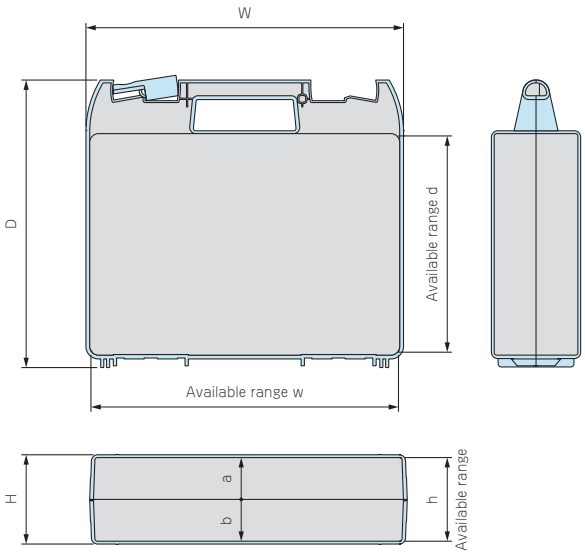
Components

No.	Part name	Material
1	Cover	ABS
2	Base	ABS
3	Snap-in latch	ABS
4	Hinge	PP

MAXI dimensions

■ Drawings below are reference examples only.

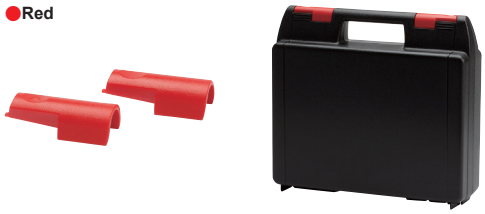
DXF/DWG/PDF drawings available on our website.



■ Red and black snap-in latches are included. You can exchange to your preferred color.

See page MAXI・XTRA-ACC-1 for how to exchange the snap-in latch.

●Red



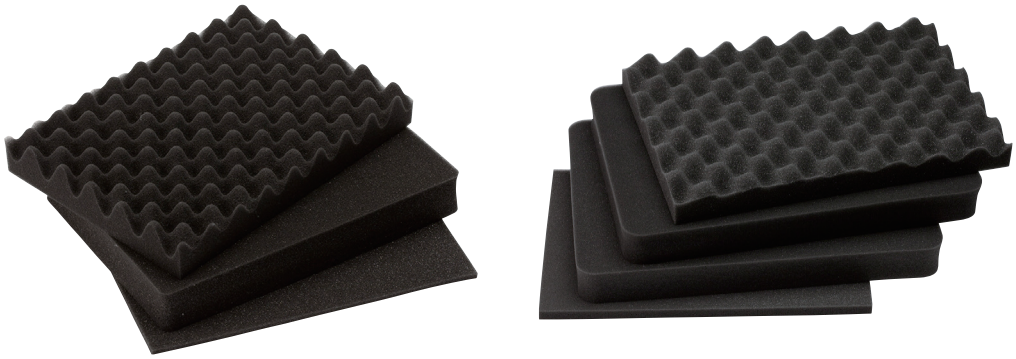
●Black

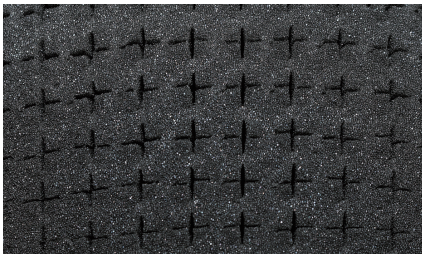


Product no. / Dimensions

Product no.	Dimensions (External)			Dimensions (Internal)					Weight (kg)
● Black	W	D	H	w	d	h	a	b	
MAXI 252307 B	254	230	72	242	169	66	33	33	0.4
MAXI 272408 B	271	241	84	258	180	78	39	39	0.5
MAXI 292610 B	289	256	97	276	194	91	45.5	45.5	0.6
MAXI 292612 B	289	256	117	276	192	111	45.5	65.5	0.65
MAXI 292614 B	289	256	137	274	192	131	65.5	65.5	0.68
MAXI 353106 B	345	308	61	333	242	54	27	27	0.78
MAXI 353107 B	345	308	72	333	242	65	27	38	0.8
MAXI 353108 B	345	308	83	332	242	76	38	38	0.8
MAXI 353111 B	345	308	112.5	328	238	105.5	27	78.5	0.9
MAXI 353112 B	345	308	123.5	328	238	116.5	38	78.5	1.0
MAXI 353116 B	345	308	164	328	238	157	78.5	78.5	1.2
MAXI 393309 B	390	334	88	377	267	80	40	40	1.0
MAXI 393310 B	390	334	103	377	265	95.5	40	55.5	1.1
MAXI 393312 B	390	334	118	377	265	111	55.5	55.5	1.1
MAXI 433614 B	432	363	138	412	290	131	65.5	65.5	1.5
MAXI 433617 B	432	363	174	408	286	166.5	101	65.5	1.6
MAXI 433621 B	432	363	210	408	286	202	101	101	1.74
MAXI 453809 B	452	383	89	438	314	81	40.5	40.5	1.3
MAXI 453811 B	452	383	109	436	312	101	40.5	60.5	1.4
MAXI 453813 B	452	383	129	436	312	121	60.5	60.5	1.5
MAXI 453814 B	452	383	144.5	432	308	136.5	40.5	96	1.6
MAXI 453816 B	452	383	164.5	432	308	156.5	60.5	96	1.7
MAXI 453820 B	452	383	200	432	308	192	96	96	1.8
MAXI 544517 B	539	450	169	516	365	162	81	81	2.4
MAXI 544521 B	539	450	205	516	362	197	81	116	2.7

MASP SERIES FOAM SET for MAXI







- Pre-cubed polyurethane foam can be easily cut to make a suitable storage space.
- Available as a three-layered sponge foam set with waved (for cover side), pre-cubed foam (for base side) and base layer.

- DXF/DWG/PDF drawings available on our website.

Product no. / Suitable case

Product no.	Suitable case	Foam layer details	Cut-line pitch
MASP 252307	MAXI 252307 B	Waved layer x 1 • Pre-cubed foam layer x 1 • Base layer x 1	15mm
MASP 272408	MAXI 272408 B	Waved layer x 1 • Pre-cubed foam layer x 1 • Base layer x 1	15mm
MASP 292610	MAXI 292610 B	Waved layer x 1 • Pre-cubed foam layer x 1 • Base layer x 1	15mm
MASP 292612	MAXI 292612 B	Waved layer x 1 • Pre-cubed foam layer x 2 • Base layer x 1	15mm
MASP 292614	MAXI 292614 B	Waved layer x 1 • Pre-cubed foam layer x 2 • Base layer x 1	15mm
MASP 353106	MAXI 353106 B	Waved layer x 1 • Pre-cubed foam layer x 1 • Base layer x 1	15mm
MASP 353107	MAXI 353107 B	Waved layer x 1 • Pre-cubed foam layer x 1 • Base layer x 1	15mm
MASP 353108	MAXI 353108 B	Waved layer x 1 • Pre-cubed foam layer x 2 • Base layer x 1	15mm
MASP 353111	MAXI 353111 B	Waved layer x 1 • Pre-cubed foam layer x 2 • Base layer x 1	15mm
MASP 353112	MAXI 353112 B	Waved layer x 1 • Pre-cubed foam layer x 4 • Base layer x 1	15mm
MASP 353116	MAXI 353116 B	Waved layer x 1 • Pre-cubed foam layer x 1 • Base layer x 1	15mm
MASP 393309	MAXI 393309 B	Waved layer x 1 • Pre-cubed foam layer x 1 • Base layer x 1	15mm
MASP 393310	MAXI 393310 B	Waved layer x 1 • Pre-cubed foam layer x 1 • Base layer x 1	15mm
MASP 393312	MAXI 393312 B	Waved layer x 1 • Pre-cubed foam layer x 1 • Base layer x 1	15mm
MASP 433614	MAXI 433614 B	Waved layer x 1 • Pre-cubed foam layer x 2 • Base layer x 1	15mm
MASP 433617	MAXI 433617 B	Waved layer x 1 • Pre-cubed foam layer x 4 • Base layer x 1	15mm
MASP 433621	MAXI 433621 B	Waved layer x 1 • Pre-cubed foam layer x 1 • Base layer x 1	15mm
MASP 453809	MAXI 453809 B	Waved layer x 1 • Pre-cubed foam layer x 1 • Base layer x 1	20mm
MASP 453811	MAXI 453811 B	Waved layer x 1 • Pre-cubed foam layer x 1 • Base layer x 1	20mm
MASP 453813	MAXI 453813 B	Waved layer x 1 • Pre-cubed foam layer x 2 • Base layer x 1	20mm
MASP 453814	MAXI 453814 B	Waved layer x 1 • Pre-cubed foam layer x 2 • Base layer x 1	20mm
MASP 453816	MAXI 453816 B	Waved layer x 1 • Pre-cubed foam layer x 4 • Base layer x 1	20mm
MASP 453820	MAXI 453820 B	Waved layer x 1 • Pre-cubed foam layer x 2 • Base layer x 1	20mm
MASP 544517	MAXI 544517 B	Waved layer x 1 • Pre-cubed foam layer x 2 • Base layer x 1	20mm
MASP 544521	MAXI 544521 B	Waved layer x 1 • Pre-cubed foam layer x 3 • Base layer x 1	20mm

MINI SERIES PLASTIC CARRYING CASE



- Light weight and simple tool case.
- Optional foam available to protect your device or equipment.
- Suitable for storing test samples, tools, precision parts, and so on.
- Made from PP plastic, and available in light gray color.

Technical Data
Operating temperature : -20℃～+60℃

APPLICATION EXAMPLE





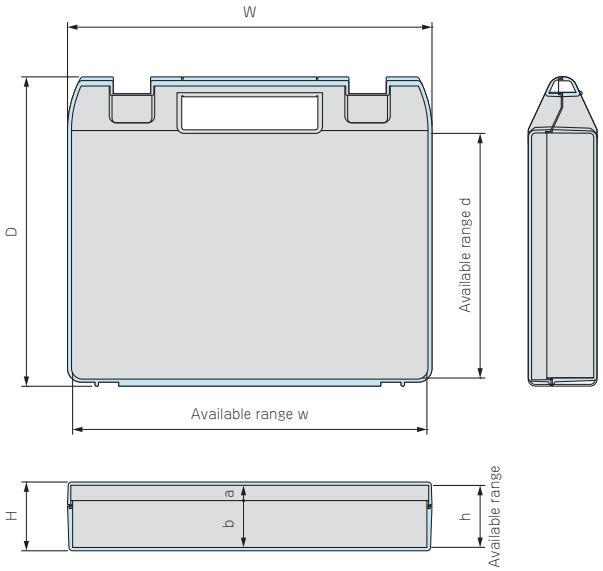




▶ See page SP-Custom-1～SP-Custom-2 for custom foam and custom inkjet printing.

MINI dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Product no. / Dimensions

Product no.	Dimensions (External)			Dimensions (Internal)					Weight (g)
	W	D	H	w	d	h	a	b	
MINI 231905 G	230	187	45	222	140.5	40	9	31	230
MINI 272305 G	265	225	50	258	175	45	11	34	330
MINI 332806 G	327	275	55	319	225	49	13	36	470
MINI 352808 G	345	284	83	336	225	78	22.5	55.5	630

Accessories (Optional parts)

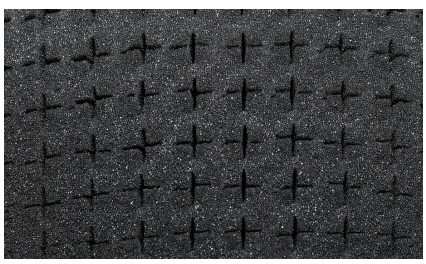
MISP SERIES FOAM SET for MINI





■ Pre-cubed polyurethane foam can be easily cut to make a suitable storage space.
■ Available as a three-layered foam set with waved (for cover side), pre-cubed foam (for base side) and base layer.

■ DXF/DWG/PDF drawings available on our website.



Product no. / Suitable case

Product no.	Suitable case	Foam layer details
MISP 2319	MINI 231905 G	Waved layer x 1・Pre-cubed foam layer x 1・Base layer x 1
MISP 2723	MINI 272305 G	Waved layer x 1・Pre-cubed foam layer x 1・Base layer x 1
MISP 3328	MINI 332806 G	Waved layer x 1・Pre-cubed foam layer x 1・Base layer x 1
MISP 3528	MINI 352808 G	Waved layer x 1・Pre-cubed foam layer x 1・Base layer x 1

XTRA SERIES PLASTIC CARRYING CASE



- Slim and rounded handle tool case.
- Optional foam are available to protect your device or equipment.
- Suitable for storing measuring devices, test samples, tools, precision parts, and so on.

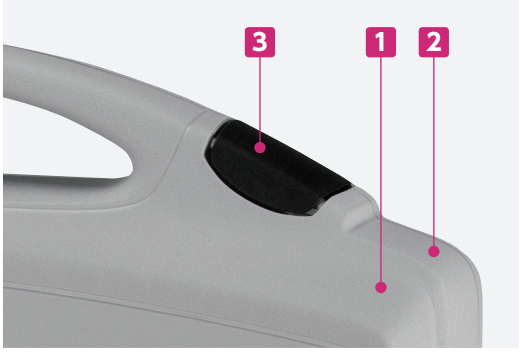
Technical Data
Operating temperature : -20℃～+60℃

APPLICATION EXAMPLE









Components

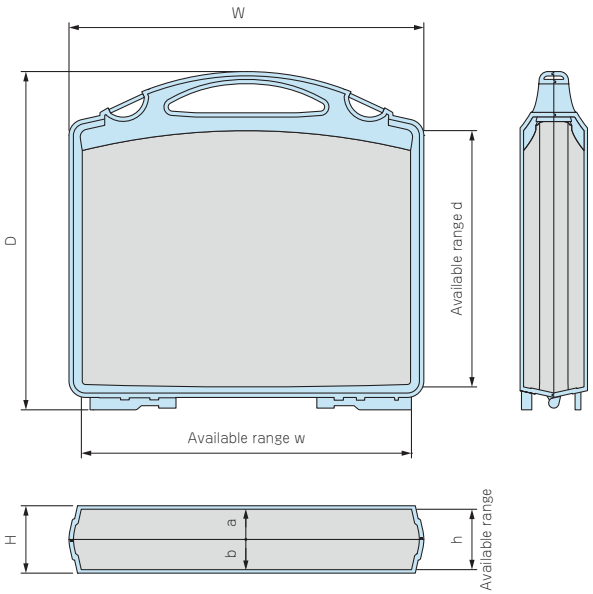
No.	Part name	Material
1	Cover	PP or ABS
2	Base	PP or ABS
3	Latch	PP

※ABS material is used for the Cover and Base of XTRA494614B/G models.

▶ See page SP-Custom-1～SP-Custom-2 for custom foam and custom inkjet printing.

XTRA dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Product no. / Dimensions

Product no.		Dimensions (External)			Dimensions (Internal)					Weight (kg)
● Black	● Light gray	W	D	H	w	d	h	a	b	
XTRA 262505 B	XTRA 262505 G	258	246	49	240	188	42	21	21	0.4
XTRA 323108 B	XTRA 323108 G	320	308	81	296	230	76	38	38	0.6
XTRA 403810 B	XTRA 403810 G	397	377	96	368	290	90	45	45	0.9
XTRA 494614 B	XTRA 494614 G	486	460	136	450	355	131	65.5	65.5	1.66

Accessories (Optional parts)

XTSP SERIES FOAM SET for MINI

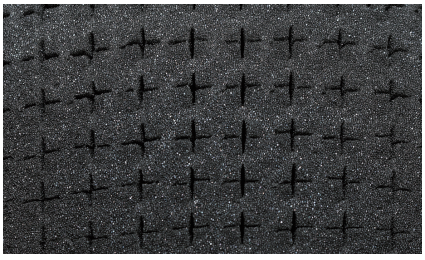


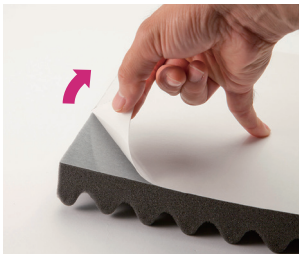


■ Pre-cubed polyurethane foam can be easily cut to make a suitable storage space.

■ Available as a three-layered foam set with waved (for cover side), Pre-cubed foam (for base side) and base layer.

■ DXF/DWG/PDF drawings available on our website.





Both waved and base layer has a double-sided tape attached on the back side. Peel off to adhere onto the inner side of the case.

Product no. / Suitable case

Product no.	Suitable case	Foam layer details	Cut-line pitch
XTSP 2625	XTRA 262505 B/G	Waved layer x 1・Pre-cubed foam layer x 1・Base layer x 1	15mm
XTSP 3231	XTRA 323108 B/G	Waved layer x 1・Pre-cubed foam layer x 1・Base layer x 1	15mm
XTSP 4038	XTRA 403810 B/G	Waved layer x 1・Pre-cubed foam layer x 1・Base layer x 1	15mm
XTSP 4946	XTRA 494614 B/G	Waved layer x 1・Pre-cubed foam layer x 1・Base layer x 1	20mm

HSTP SERIES SHOULDER STRAP







Product no. / Feature

Product no.	Weight (g)	Quantity
HSTP1000	129	1

- Hole milling is required on the case for shoulder strap installation.
- Recommended hole for installation is φ6.2mm.

ML SERIES COLOR LATCH for MAXI

- Replacement latch for MAXI case.



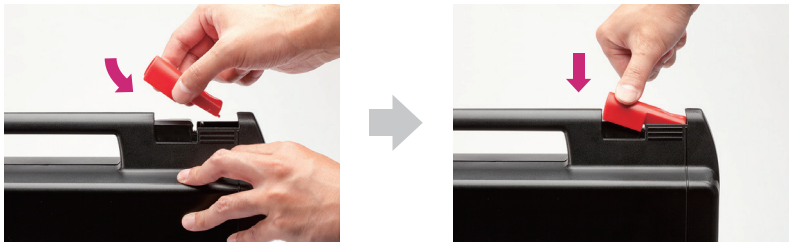
How to remove latch

Hold the case and pull the latch.



How to install latch

Hold the case, insert thinner side first, and push the opposite side in.



Product no. / Suitable case

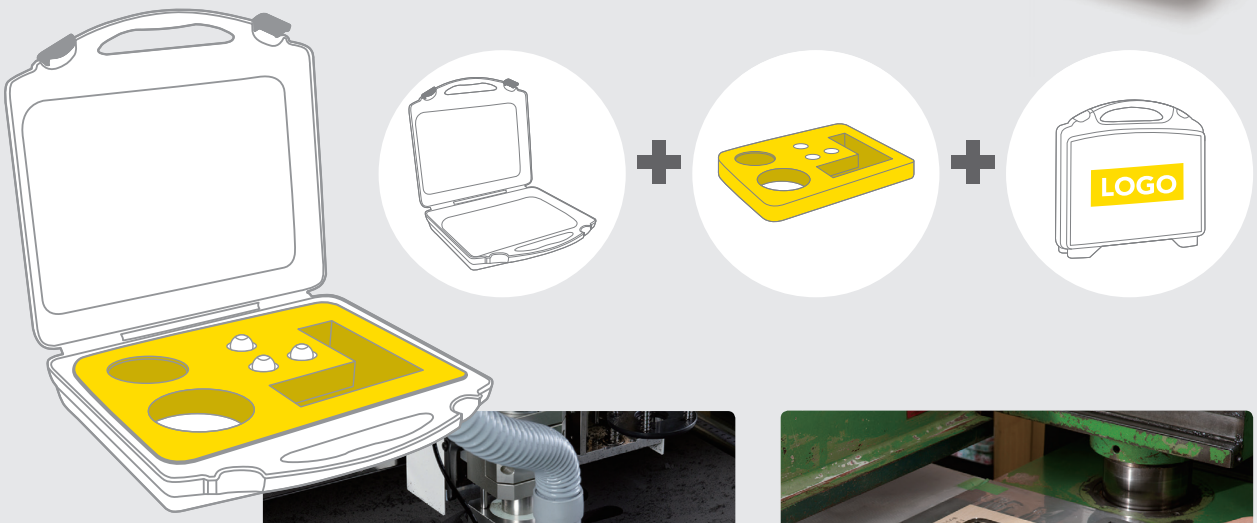
Product no.							Suitable case	Quantity
● Black	● Marine	● Yellow	● Orange	● Red	● Light gray	● Gray		
ML-SB	ML-SM	ML-SY	ML-SO	ML-SR	ML-SL	ML-SG	MAXI 252307 B ～ MAXI 292614 B	2
ML-LB	ML-LM	ML-LY	ML-LO	ML-LR	ML-LL	ML-LG	MAXI 353106 B ～ MAXI 544521 B	2

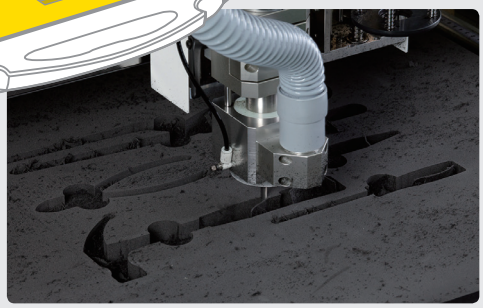
TAKACHI

CNC Foam Milling

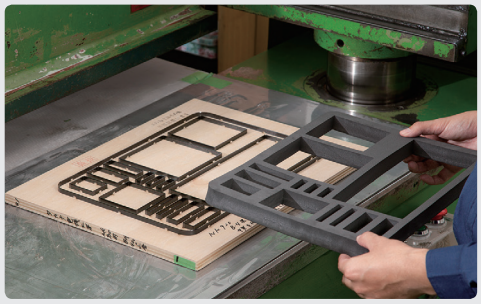


Customize based on how you want it to be!





CNC foam cutting machine enables quick and cost-effective hole milling service.



For mass production, cost-effective mold press cutting is also available.

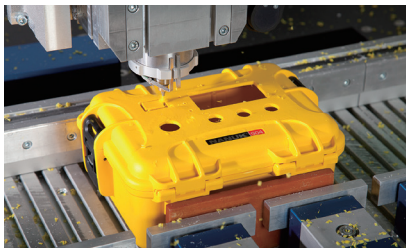
APPLICATION EXAMPLE



CNC Machining • Printing Service for Case

CNC Machining

■ CNC machining for your switch, connector, display and so on is possible from just 1 piece.





Printing Service

■ Digital inkjet printing, silkscreen printing and nameplate sticker printing is possible from just 1 piece.

Low initial cost
No plate processing fee

Inkjet printing

Low printing cost for small quantities.

- Data adjustment fees may be charged again if significant changes are required on your repeat order.
- If the data in recommended format is provided

Data adjustment fees

- Data or images other than recommended formats

Data creation fees + Data adjustment fees

Silk-screen initial tooling

Low printing cost for large quantity single color print.

Silk-screen initial tooling

Plate making | Silk-screen making

Recommended data formats

PDF (.pdf -100%)	Vector file (.ai)	EPS (.eps)

Initial cost can be reduced with the recommended formats.





Able to Inkjet print on rigid urethane foam.



APPLICATION EXAMPLE







