

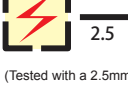
PROTECTION CLASS (IP RATING)

IP67
is

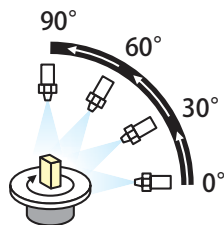
● IEC60529 standard is a system for classifying the degrees of protection provided by the enclosures of electrical equipment, such as against dust and water.

IP

First digit : Solid particle protection

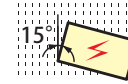
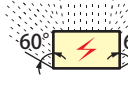
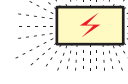
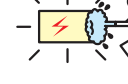
No.	Protection against ingress of solid foreign objects	Protection against access to hazardous parts
0	No Protection	No Protection
1	 Protected against solid objects over 50mm.	 Protected against accidental touch by a large surface of the body, such as by hands. (Tested with a 50mm diameter steel ball.)
2	 Protected against solid objects over 12.5mm.	 Protected against accidental touch by fingers or similar objects (Tested with a 12mm diameter, 80mm long articulated finger)
3	 Protected against solid objects over 2.5mm.	 Protected against accidental touch by tools or thick wires. (Tested with a 2.5mm diameter, 100mm long bar)
4	 Protected against solid objects over 1.0mm.	 1.0 Protected against accidental touch by most wires and screws. (Tested with a 1.0mm diameter, 100mm long wire)
5	 Protected against dust; limited ingress, no harmful deposits.	
6	 Complete protection against dust.	

69K



80 to 100 barrel steam jets at 80°C (±5°C) from a 0°, 30°, 60°, and 90° angle, at a distance of 100 ~ 150mm for 30 sec x 5 sets

Second digit: Liquid ingress protection

No.	Protection against ingress of liquid
0	No Protection
1	 Dripping water (vertically falling drops) for 10 minutes.
2	 Vertically dripping water when tilted at 15° for 10 minutes (2.5 minutes per position).
3	 Spraying water (at any angle) of 0.07l/min up to 60° from the vertical for 10 minutes.
4	 Spraying water of 0.07l/min from all directions for 10 minutes.
5	 Jets of water projected by a φ6.3 nozzle of 12.5l / min from all directions at 1 min / 1m for at least 3 minutes.
6	 Powerful jets of water projected by a φ12.3 nozzle of 100l / min from all directions at 1 min / 1m for at least 3 minutes.
7	 Immersion, up to 1 meter depth (for 30 mins).
8	 Immersion (test depth and duration beyond IPX7 requirements)

A point of note for Waterproof Boxes

- For outdoor use, direct sunlight will accelerate the degradation of the box. For more information, please see page Outdoor Use - 1.
- For customers planning to attach their own original mounting brackets onto the waterproof boxes, it is recommended to mill larger holes with enough clearance to attach the bracket. If the milled hole and clearance is too small, it may cause irreparable damage to the box.
- Waterproof boxes made of Polycarbonate or ABS plastic material may be damaged if certain types of washing chemicals, solvents, oils, or thread locking adhesives are present on the box. Furthermore, paint not suitable to be used on plastic materials may also cause damage.

IP68

HIGH PERFORMANCE

Outdoor Waterproof Box
for 5G Technology!

WG series

WGPC 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



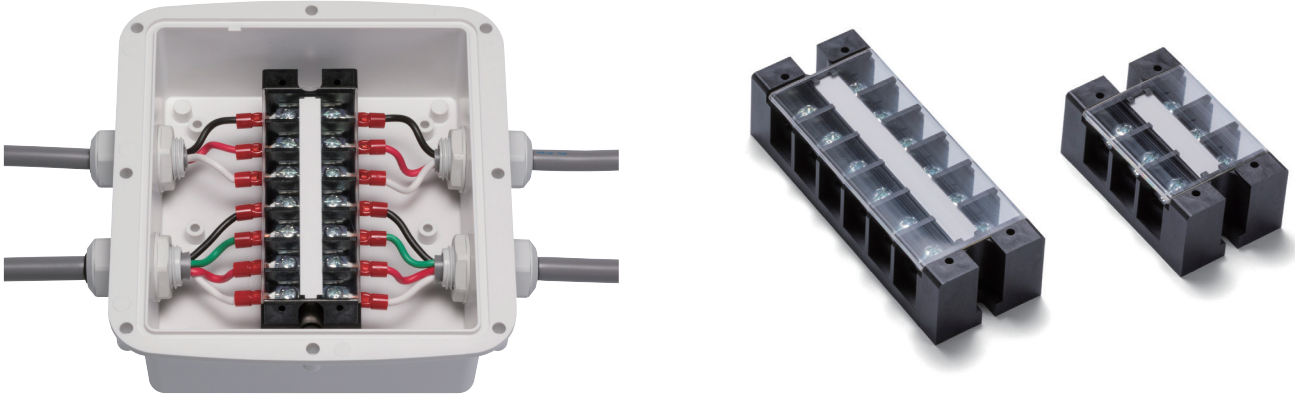
ASA material is resistant to deterioration and discoloration due to ultraviolet rays. Perfect for outdoor communication or network devices.

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.

Optional terminal blocks compatible



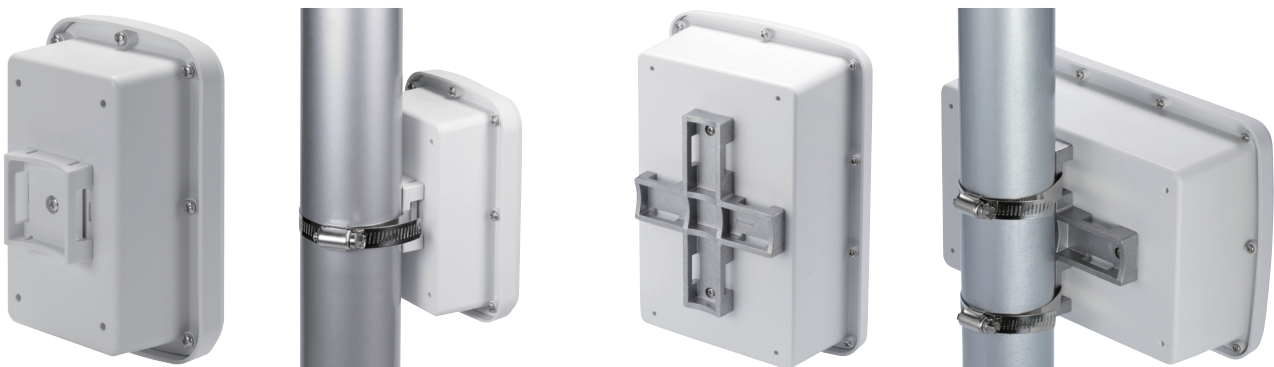
Optional terminal blocks, WTB series can be installed onto the existing bosses inside the WG • WGPC and WGV series box without additional processing or customization, hence can also function as a terminal junction box. (See page 115~116 for WTB terminal blocks.)

Easy installation on walls & poles

WALL MOUNTING BRACKET



POLE MOUNTING BRACKET



POLE MOUNTING STRAP



WG series

IP68 WATERPROOF ASA BOX



WGPC series

IP68 WATERPROOF PC+ASA BOX



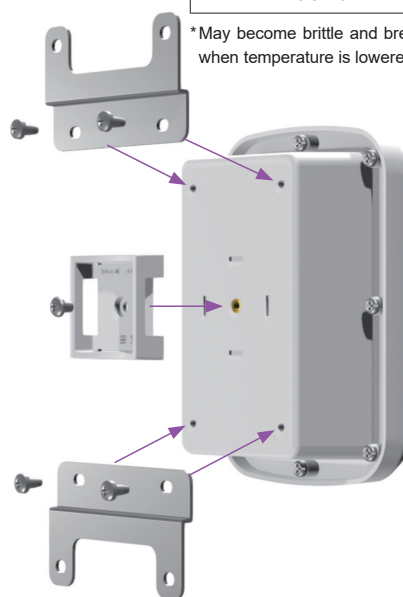
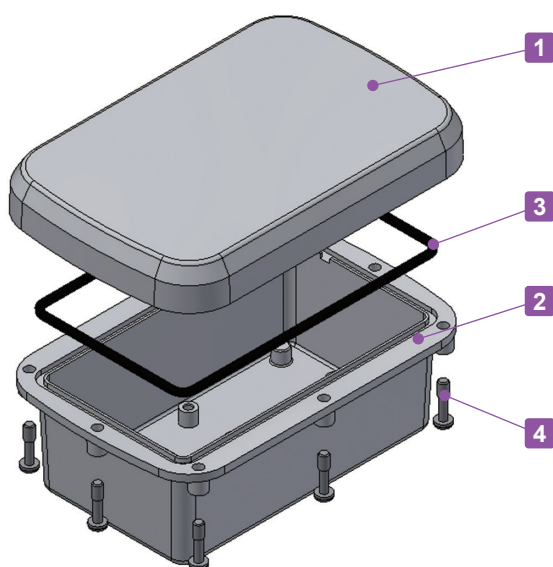
- IP68 high performance plastic box protected from immersion as long as 24 hours at 1m depth.
- ASA material is resistant to deterioration and discoloration from ultraviolet rays. PC/ASA material provides superior heat resistance and flame retardancy. Perfect for use as outdoor communication or network 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 the cover and body can be secured together properly.



Technical Data

Protection class :	IP68 (24-hours/1m-depth)
Operating temperature :	WG : -30°C ~ +60°C WGPC : -30°C ~ +75°C
Recommended torque :	0.5 ~ 0.7N • 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.

WG 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

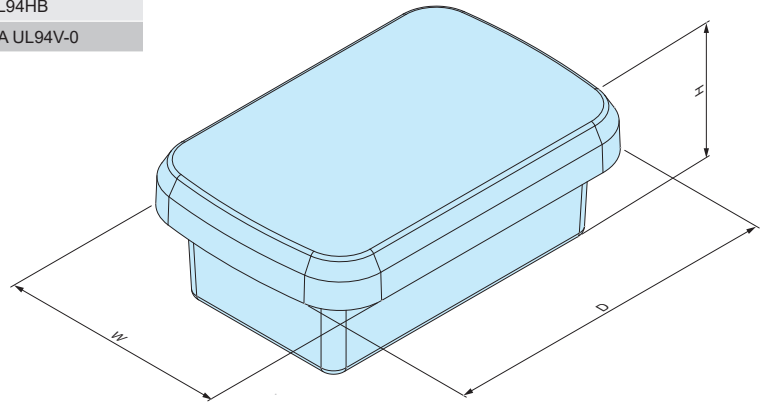
WGPC Components

No.	Part name	Pcs	Material / Color
1	Cover	1	PC/ASA UL94V-0 / Light gray
2	Body	1	PC/ASA UL94V-0 / Light gray
3	Gasket	1	Silicone / Black
4	Self-tapping captive screw	8 ~ 10	Stainless steel / Unfinished

Color

Series	Code	Color	Material
WG	W	Off-White	ASA UL94HB
WGPC	G	Light gray	PC/ASA UL94V-0

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



Product no. / Details

Product no.	External dimensions			Weight (g)
	W	D	H	
WG10-15- 6W	100	150	55	169.5
WG10-15- 8W	100	150	75	192
WG15-16- 6W	145	155	55	232
WG15-16- 8W	145	155	80	266.5
WG15-21- 6W	145	210	60	314
WG15-21- 9W	145	210	90	367
WG17-25- 8W	170	250	80	470
WG17-25-11W	170	250	110	534
WG23-25- 8W	225	245	80	570
WG23-25-11W	225	245	110	645
NEW WG25-33- 9W	245	325	90	965
NEW WG25-33-12W	245	325	120	1,073
NEW WG30-33- 9W	300	325	90	1,151
NEW WG30-33-13W	300	325	130	1,285.5
NEW WG28-40-10W	280	400	100	1,332.5
NEW WG28-40-15W	280	400	150	1,529.5

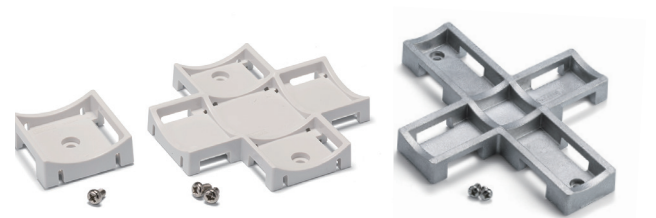
Product no. / Details

Product no.	External dimensions			Weight (g)
	W	D	H	
NEW WGPC10-15- 6G	100	150	55	188.5
NEW WGPC10-15- 8G	100	150	75	213.5
NEW WGPC15-16- 6G	145	155	55	258
NEW WGPC15-16- 8G	145	155	80	296.5
NEW WGPC15-21- 6G	145	210	60	349.5
NEW WGPC15-21- 9G	145	210	90	408.5
NEW WGPC17-25- 8G	170	250	80	523
NEW WGPC17-25-11G	170	250	110	594
NEW WGPC23-25- 8G	225	245	80	634
NEW WGPC23-25-11G	225	245	110	717.5
NEW WGPC25-33- 9G	245	325	90	1,073.5
NEW WGPC25-33-12G	245	325	120	1,193.5
NEW WGPC30-33- 9G	300	325	90	1,280
NEW WGPC30-33-13G	300	325	130	1,430
NEW WGPC28-40-10G	280	400	100	1,482
NEW WGPC28-40-15G	280	400	150	1,701

Accessories (Optional parts)



Wall mounting bracket WGF series
See page 112



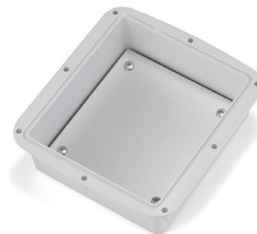
Pole mounting bracket WGMB • WPMB • SSK series
See page 113 ~ 114 and 205 ~ 206



Pole mounting strap • belt SNB • PKB series
See page 207 ~ 208



Tapping Standoff TPS series
See page 397



Mounting plate WGP series
See page 111



PCB mounting screw MT4-8T
See page 112



Terminal block WTB series
See page 115



DIN Rail FDR series
See page 97



Protective vent PMF series
See page 197 ~ 198



Cable gland
See page 181 ~ 193



- 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 the cover and body can be secured together properly.

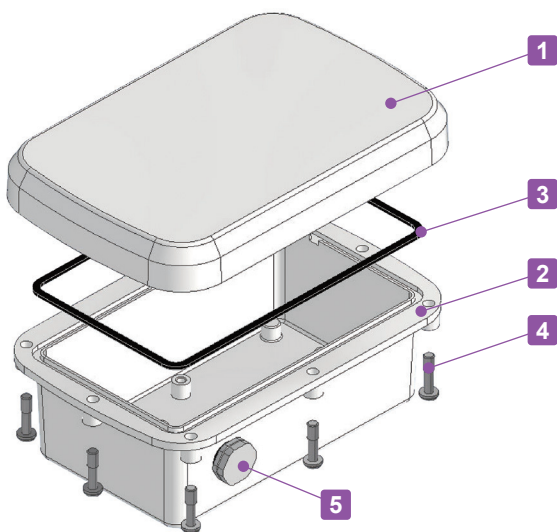


Technical Data

Protection class :	IP68 (24-hours/1m-depth)
Operating temperature :	-30°C ~ +60°C
Recommended torque :	0.5 ~ 0.7N • 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.

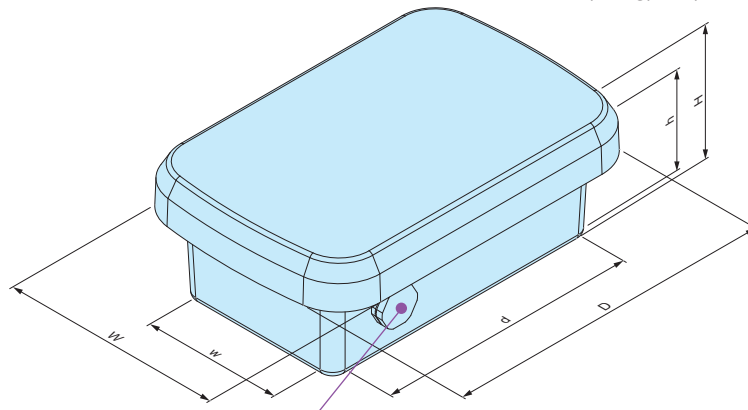


Components

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.

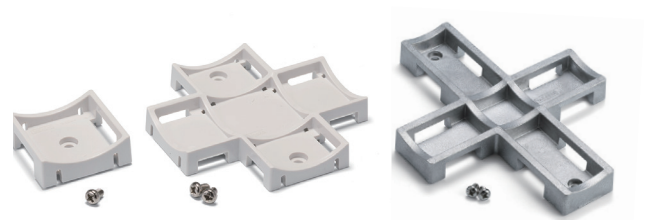
Product no. / Details

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× 8pcs	171
WGV10-15- 8W	100	150	75	57	114	63	M4× 8pcs	193.5
WGV15-16- 6W	145	155	55	102	120	43	M4× 8pcs	233.5
WGV15-16- 8W	145	155	80	100	118	68	M4× 8pcs	268
WGV15-21- 6W	145	210	60	102	174	48	M4×10pcs	315.5
WGV15-21- 9W	145	210	90	100	172	78	M4×10pcs	368.5
WGV17-25- 8W	170	250	80	125	209	67.5	M4×10pcs	471.5
WGV17-25-11W	170	250	110	122	206	97.5	M4×10pcs	535.5
WGV23-25- 8W	225	245	80	180	194	67.5	M4×10pcs	571.5
WGV23-25-11W	225	245	110	177	191	97.5	M4×10pcs	646.5
NEW WGV25-33- 9W	245	325	90	189	268	74	M4×10pcs	966.5
NEW WGV25-33-12W	245	325	120	186	265	104	M4×10pcs	1,075.5
NEW WGV30-33- 9W	300	325	90	244	268	74	M4×10pcs	1,152.5
NEW WGV30-33-13W	300	325	130	240	264	114	M4×10pcs	1,288
NEW WGV28-40-10W	280	400	100	223	338	84	M4×10pcs	1,335
NEW WGV28-40-15W	280	400	150	218	333	134	M4×10pcs	1,532

Accessories (Optional parts)



Wall mounting bracket WGF series
See page 112



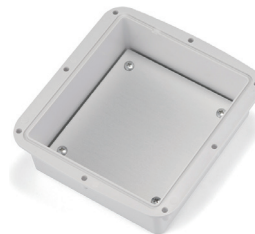
Pole mounting bracket WGMB • WPMB • SSK series
See page 113 ~ 114 and 205 ~ 206



Pole mounting strap • belt SNB • PKB series
See page 207 ~ 208



Tapping Standoff TPS series
See page 397



Mounting plate WGP series
See page 111



PCB mounting screw MT4-8T
See page 112



Terminal block WTB series
See page 115



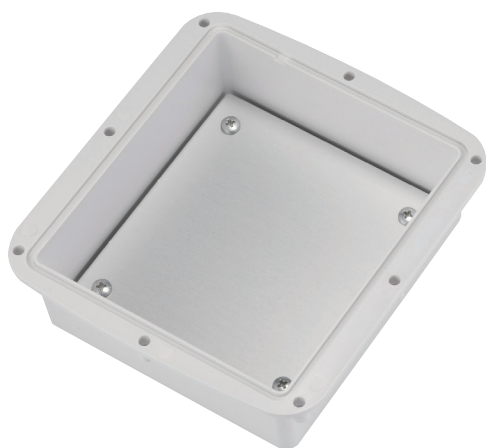
DIN Rail FDR series
See page 97



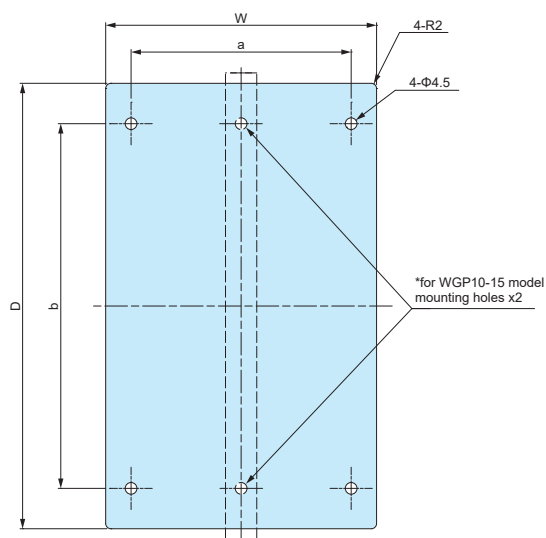
Protective vent PMF series
See page 197 ~ 198



Cable gland
See page 181 ~ 193

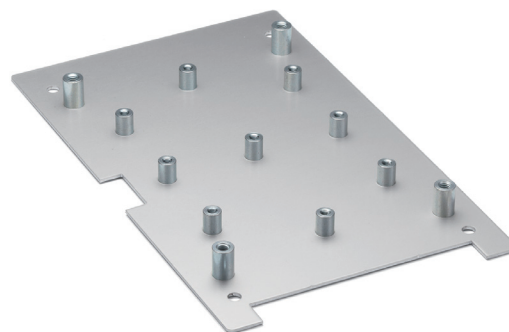
WGP series**MOUNTING PLATE for WG • WGPC • WGV****WGP dimensions**

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



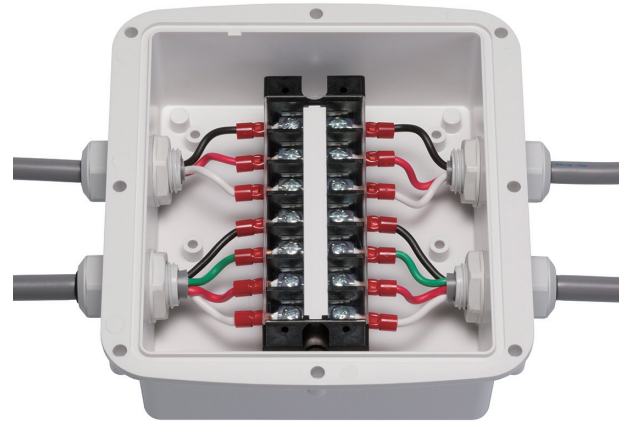
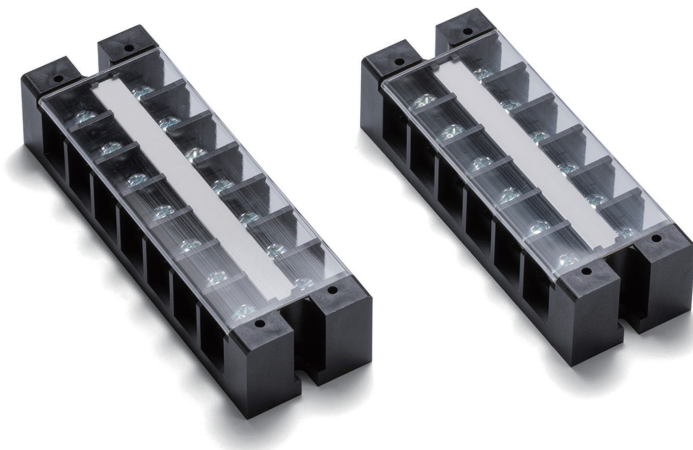
■ Material / Finish : A1100P (t=1.5mm) / Silver anodized

■ Hole milling, clinching spacer customizations are available.
See page Custom-6 and our website for more details.

**Product no. / Details**

■ Mounting screws included.

Product no.	W	D	a	b	Suitable models	Weight (g)
WGP10-15	60	112	—	97	WG • WGPC • WGV10-15-□	30
WGP15-16	105	117	84.5	90	WG • WGPC • WGV15-16-□	54
WGP15-21	104	171	84.5	140	WG • WGPC • WGV15-21-□	76
WGP17-25	120	200	100	176	WG • WGPC • WGV17-25-□	100
WGP23-25	175	185	152	168	WG • WGPC • WGV23-25-□	133
NEW WGP25-33	178	254	154	230	WG • WGPC • WGV25-33-□	190
NEW WGP30-33	232	254	208	230	WG • WGPC • WGV30-33-□	247.5
NEW WGP28-40	210	322	184	298	WG • WGPC • WGV28-40-□	283

WTB series**TERMINAL BLOCK for WG • WGPC • WGV****FW2**

- Compatible terminal blocks for WG • WGPC • WGV series.
- Not suitable for WG • WGPC • WGV25-33-□ ~ 28-40-□.

Components

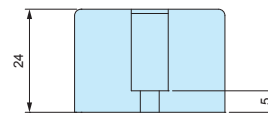
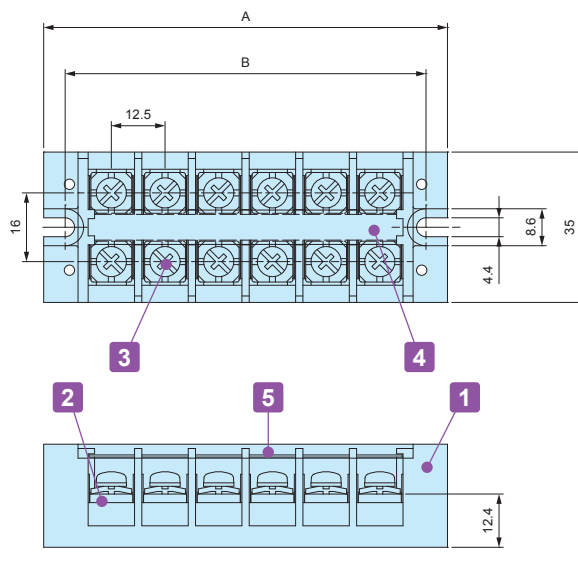
No.	Part name	Pcs	Material	Color or Finish
1	Base	1	PBT UL94V-0	Black
2	Conductive plate	1	Brass	Nickel plated
3	Terminal screw (M4-10)	2 x P	Steel	Trivalent chromate
4	Symbol board	1	PET	White
5	Cover	1	Polycarbonate UL94V-0	Transparent
—	Screw (Bind tapping M4-10)	2	Steel	Trivalent chromate

Specification

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

WTB dimensions

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

**Product no. / Details**

Product no.	P (Number of poles)	A	B	Suitable models
WTB-240- 3P-FB	3	56.5	46.5	WG • WGPC • WGV10-15-□ (W direction)
WTB-240- 6P-FB	6	94.0	84.0	WG • WGPC • WGV15-16-□, WG • WGPC • WGV15-21-□ (W direction)
WTB-240- 7P-FB	7	106.5	96.5	WG • WGPC • WGV10-15-□, WG • WGPC • WGV15-16-□ (D direction)
WTB-240-10P-FB	10	144.0	134.0	WG • WGPC • WGV17-25-□ (W direction)
WTB-240-12P-FB	12	169.0	159.0	WG • WGPC • WGV15-21-□ (D direction)
				WG • WGPC • WGV23-25-□ (W direction)
				WG • WGPC • WGV17-25-□, WG • WGPC • WGV23-25-□ (D direction)

MT4-8T**PCB MOUNTING SCREW**

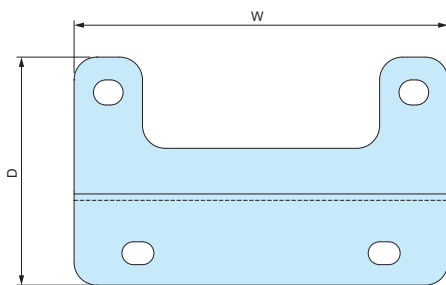
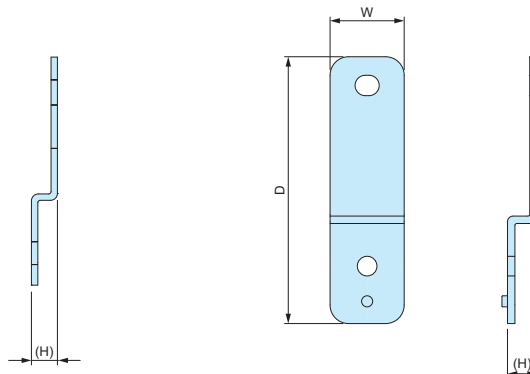
- Self-tapping screws for board mounting on bosses inside WG, WGPC and WGV series enclosures.

Product no. / Details

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

WGF series**WALL MOUNTING BRACKET for WG • WGPC • WGV****WGF dimensions**

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

WGF-10 ~ WGF-25**WGF-L****Product no. / Details**

- Stainless steel mounting screws included.

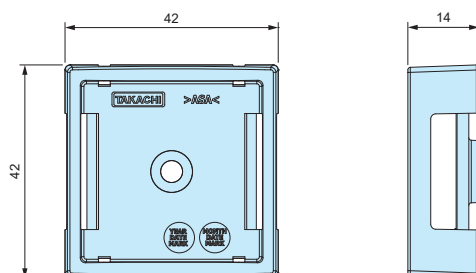
Product no.	W	D	(H)	Suitable models	Material / Finish	Pack of
WGF-10	82	50	(5.8)	WG • WGPC • WGV10-15-□ (W direction)	Stainless steel t=1.5mm / Barrel finish	2
WGF-15	132	50	(5.8)	WG • WGPC • WGV10-15-□ (D direction)		2
				WG • WGPC • WGV15-16-□ (W • D direction)		
				WG • WGPC • WGV15-21-□ (W direction)		
				WG • WGPC • WGV17-25-□ (W direction)		
WGF-23	184	55	(8.0)	WG • WGPC • WGV15-21-□ (D direction)	Stainless steel t=2.0mm / Barrel finish	2
WGF-25	210	55	(8.0)	WG • WGPC • WGV23-25-□ (W direction)		2
				WG • WGPC • WGV17-25-□ (D direction)		
NEW WGF-L	20	72	(8.0)	WG • WGPC • WGV23-25-□ (D direction)		4
				WG • WGPC • WGV25-33-□ (W • D direction)		
				WG • WGPC • WGV30-33-□ (W • D direction)		
				WG • WGPC • WGV28-40-□ (W • D direction)		

WGMB-1W POLE MOUNTING BRACKET for WG • WGPC • WGV



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

WGMB dimensions



- 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 IP rating.
- WG • WGPC • 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 website)

* Operating temperature : -30°C ~ +60°C

Product no. / Details

■ Mounting stainless steel screw included.

Product no.	Suitable models	Material / Color	Weight (g)	Pack of
WGMB-1W	WG • WGPC • WGV10-15-□ / 1 pc required WG • WGPC • WGV15-16-□ / 1 pc required WG • WGPC • WGV15-21-□ / 2 pcs required	ASA UL94HB / Off-white	9	1

Installation example

Installation (1 pc)

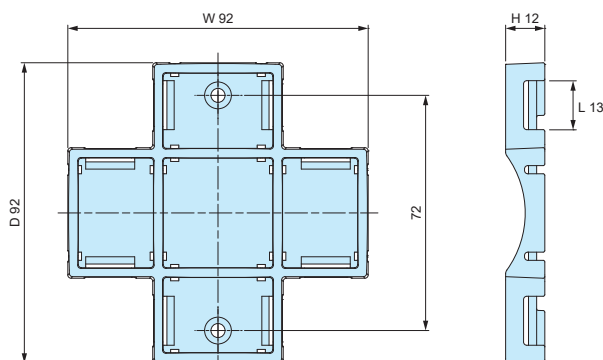
Installation (2 pcs)



WPMB-M4-2G POLE MOUNTING BRACKET

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

WPMB-M4-2 dimensions



- Pole mount bracket made from weather resistant ASA material.
- Pole mounting belt can be installed in either W or D direction.
- Pole mount is possible with the use of PKB series mounting belt. (See page 208)
- 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.

* Operating temperature : -30°C ~ +60°C

Color

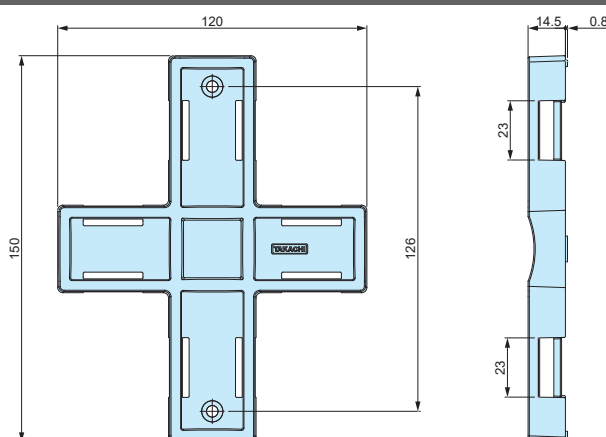
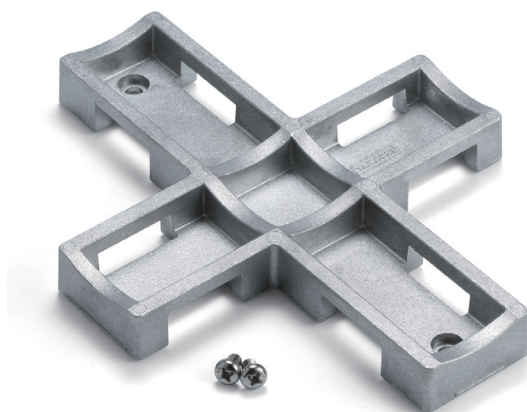
White gray

Product no. / Details

■ Mounting stainless steel screw included.

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

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

WGMB-2N**DIECAST ALUMINIUM POLE MOUNTING BRACKET for WG • WGPC • WGV**

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

- Pole mount bracket made from robust diecast aluminium.
- Hole milling is not required when installing the mount bracket, thus allowing the enclosure to maintain its protection class.
- Can be used for WG • WGPC • WGV17-25-□ and 23-25-□ models.
- Pole mounting belt can be installed in either W or D direction.
- Pole mount is possible with the use of SNB or PKB series mounting belt. (See page 207 ~ 208)

Product no. / Details

■ Stainless steel mounting screws included.

Product no.	Suitable models	Material / Finish	Weight (g)	Pack of
WGMB-2N	WG • WGPC • WGV17-25-□ WG • WGPC • WGV23-25-□	Diecast aluminium ADC12 / Shot blast	126	1

Installation example

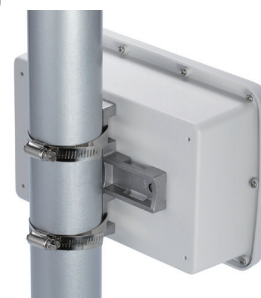
WGMB-2N



Vertical mounting



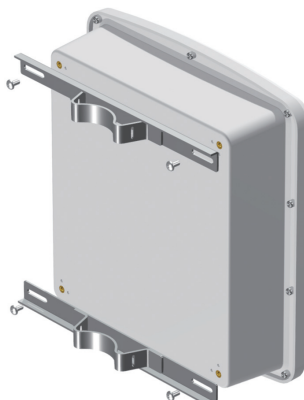
Horizontal mounting



SSK series (Pole mounting bracket for WG • WGPC • WGV25-33-9 ~ 28-40-15)

SSK series

Vertical mounting



Suitable model

Product no.		Pole mounting bracket product no.		Screw type
		For vertical	For horizontal	
WG WGPC WGV	25-33- 9 25-33-12	SSK-250	SSK-300	Use included screw
	30-33- 9 30-33-13	SSK-300	SSK-300	
	28-40-10 28-40-15	SSK-280	SSK-400	

* See page 205 for details.

ECONOMICAL OUTDOOR NETWORK BOX

Unique construction rainproof box

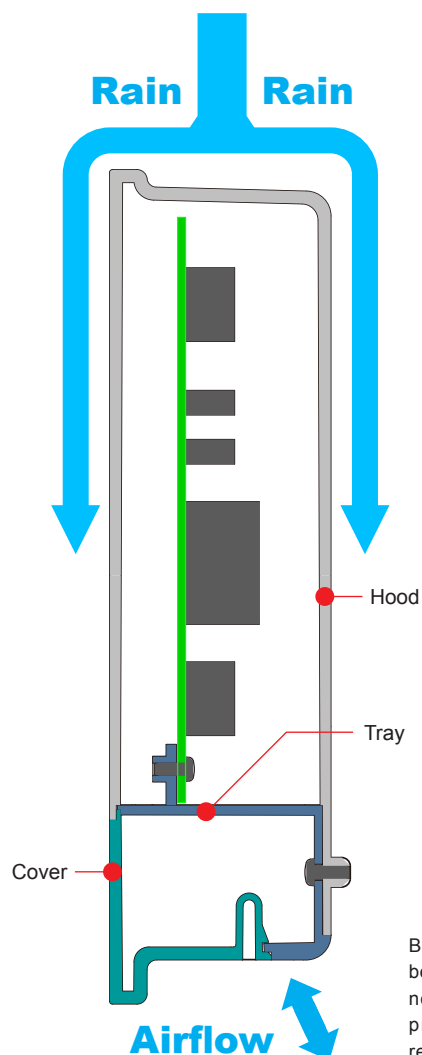
OB series

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.



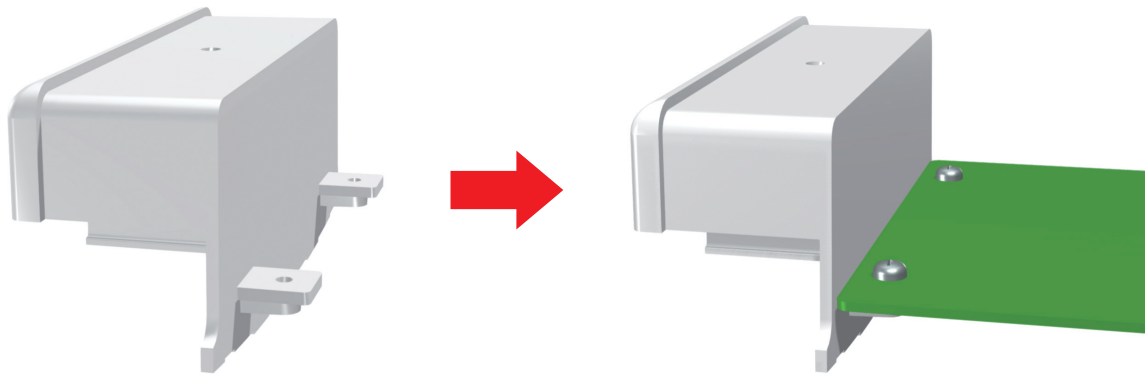
Weather-resistant ASA material

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

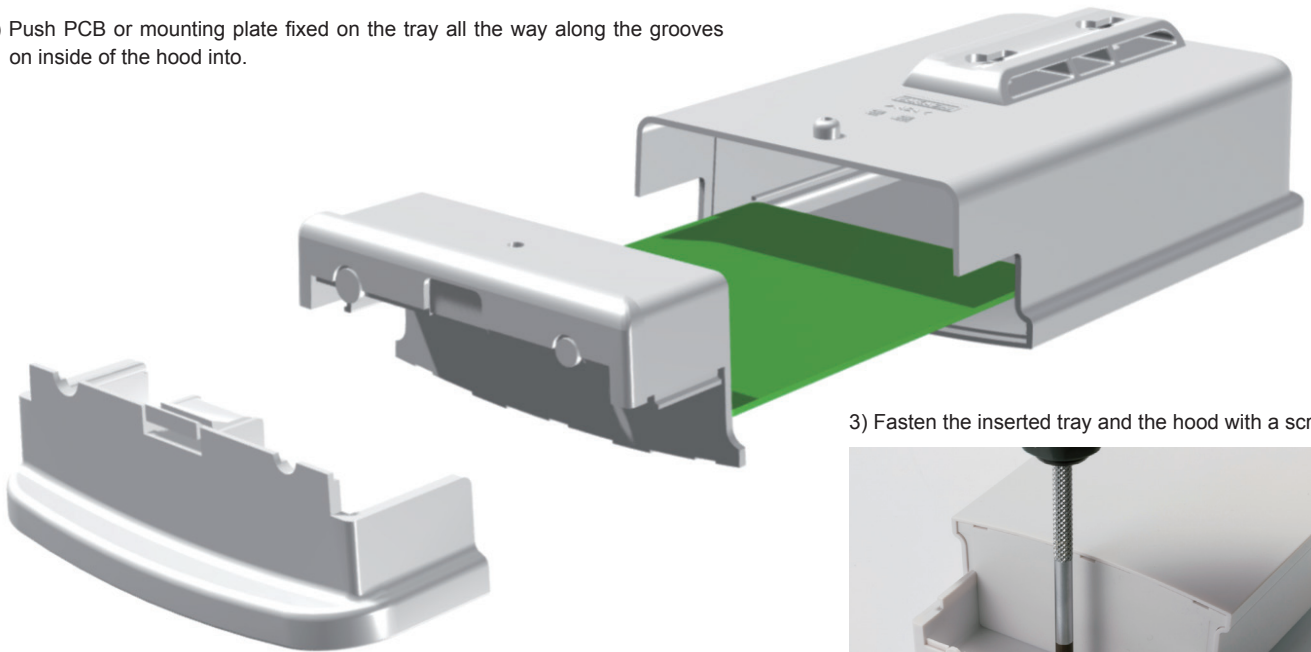


How to install PCB • Mounting plate

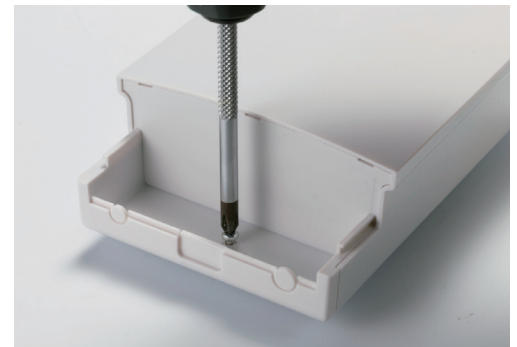
1) Fix PCB or mounting plate on the tray with screws.



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.

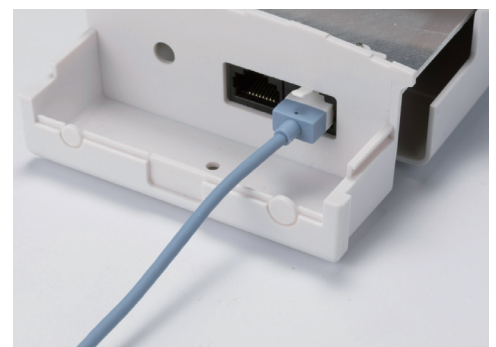


Easy knock-out hole punching & cover replacement

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 an 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.



Connector installation example





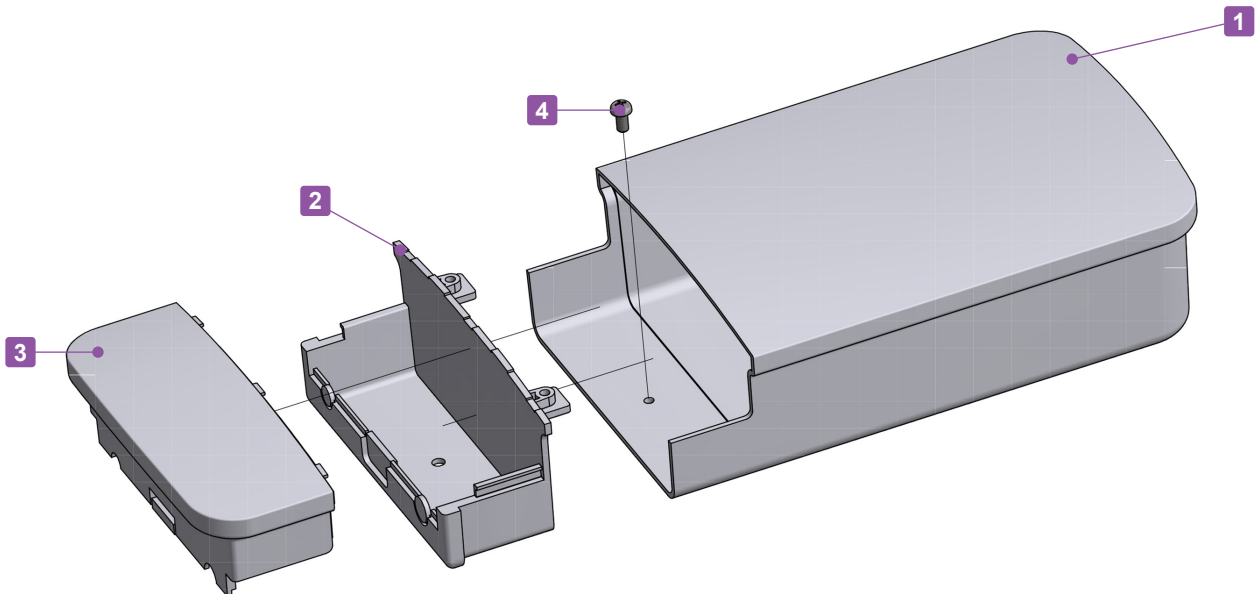
- Unique seamless construction and rainproof outdoor network box.
Although it is IP44, it can completely protect the internal components against rain when installed vertically.
- ASA material is resistant to deterioration and discoloration from ultraviolet rays.
Perfect for use as outdoor communication 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.



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.

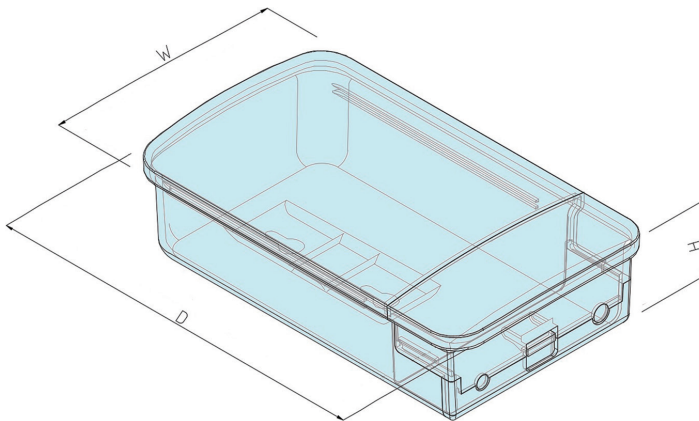


Components

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.

APPLICATION EXAMPLE
Network Device

Product no. / Details

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)

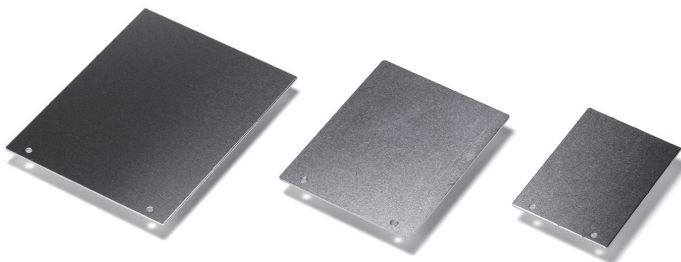


Pole mounting belt SNB • PKB series
See page 207 ~ 208

Accessories (Optional parts)

OBP series

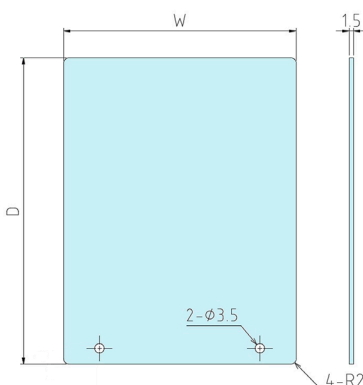
MOUNTING PLATE for OB



- 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

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



Product no. / Details

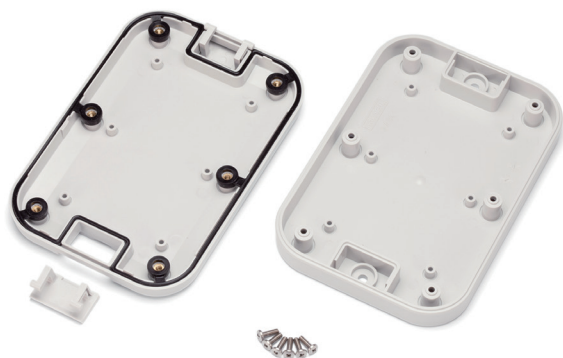
Product no.	W	D	Suitable models	Weight (g)
OBP 8-14	61.8	85	OB 8-14-4W	22.5
OBP10-17	87.1	115	OB10-17-5W	40
OBP13-21	110.5	135	OB13-21-6W	61

IP68 / 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.



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.



WP series APPLICATION EXAMPLE

Outdoor Lighting Remote Controller

Leak Guard - Home Water Leak Detector



Clay Pigeon Shooting Controller

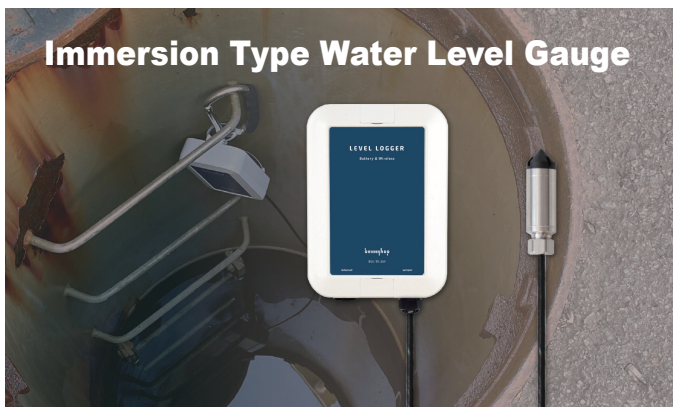
Wireless Temperature / Humidity Transmitter



WP series APPLICATION EXAMPLE



LoRaWAN Gateway



Outdoor Cloud Data Logger



Wireless Indoor Air Monitoring System



LoRa WAN Pressure Transmitter



Sigfox Multi Sensor



Network Sensor for Agriculture



Argonomic Parameter Surveillance Unit



Crop Growing Remote Monitoring Device



Bird/Beast Damage Control Sensor





- 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.



Technical Data

Protection class :

IP68 (24-hours/1m-depth)
 WP20-28-5□ } IP67
 WP20-28-7□ }

Operating temperature :

Models = 5-7-□ ~ 20-20-□:
 ASA¹-20 ~ +60°C
 ABS -10 ~ +50°C

Models = 20-28-□² :
 ASA¹-20 ~ +55°C
 ABS -10 ~ +45°C

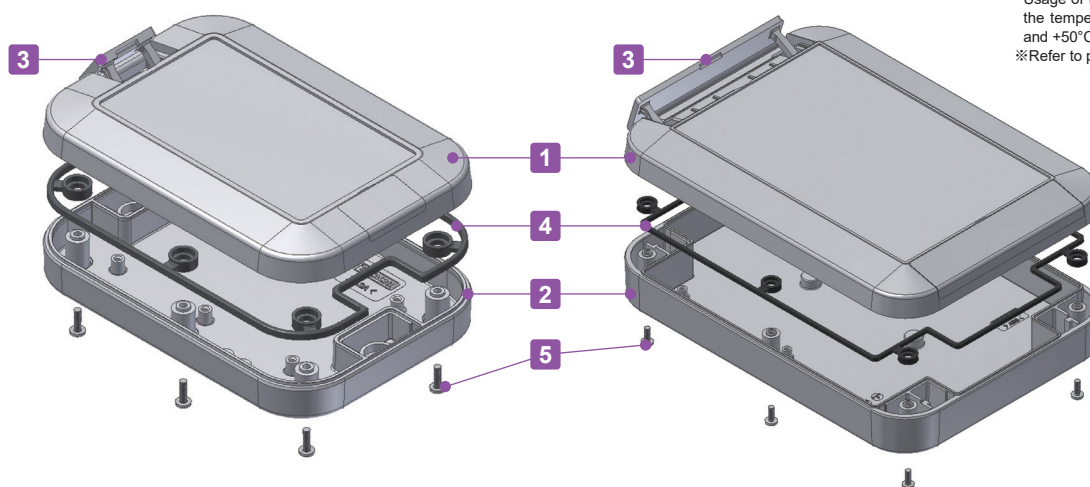
¹ May become brittle and break under impact when temperature is lowered close to -20°C.

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 125 for more information.

WP5-7-2 ~ WP13-18-5

WP15-15-4 ~ WP20-28-7

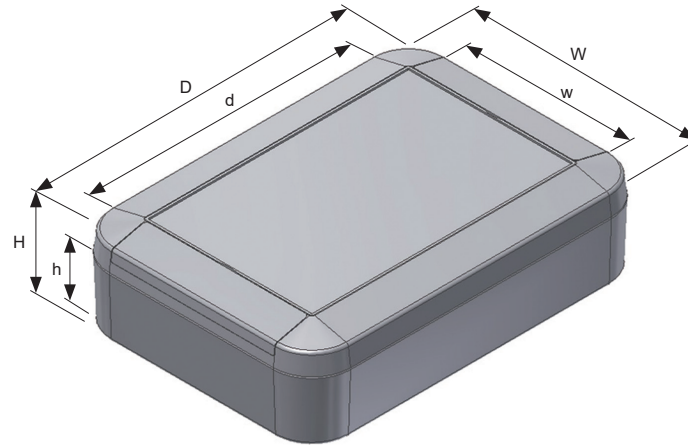


Components

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/3D PDF/STP drawings available on our website.



Product no. / Details

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

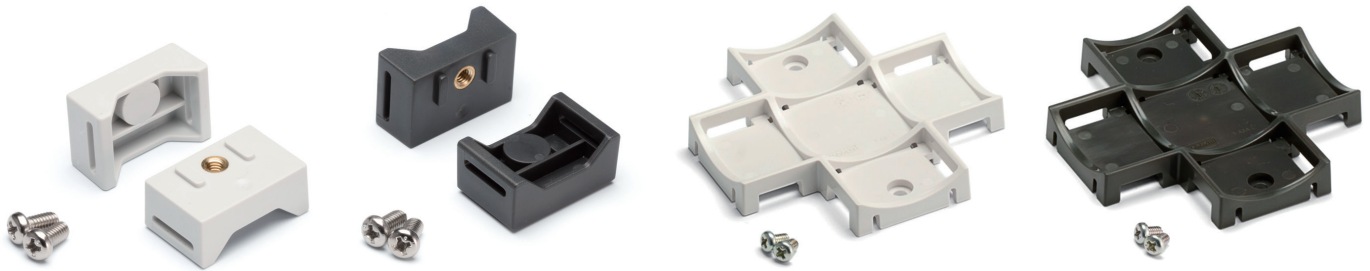
■ Recommended torque listed is for reference only; actual may differ. Assemble after testing torque.

Accessories (Optional parts)

Pole mount bracket WPMB series
See page 123

Rubber feet PFRF series

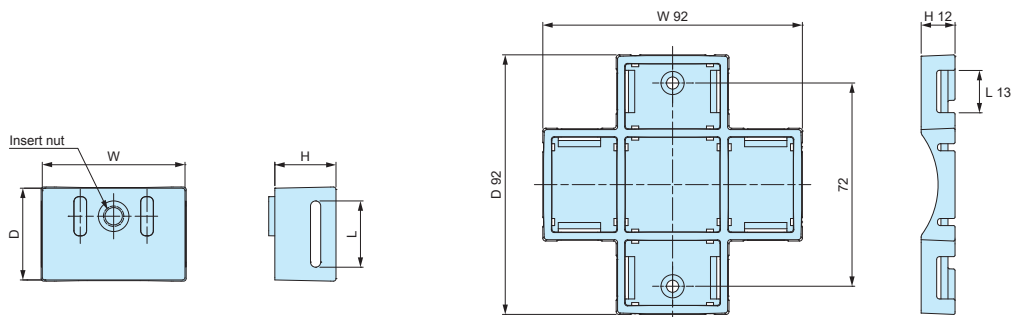
TORX screw MR series
See page 124PCB mounting screw EM series
See page 398Protective vent PMF • CVP series
See page 197 ~ 200Cable gland
See page 181 ~ 193Pole mounting belt PKB-10 series
See page 208Tapping standoff TPS series
See page 397

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. / Details

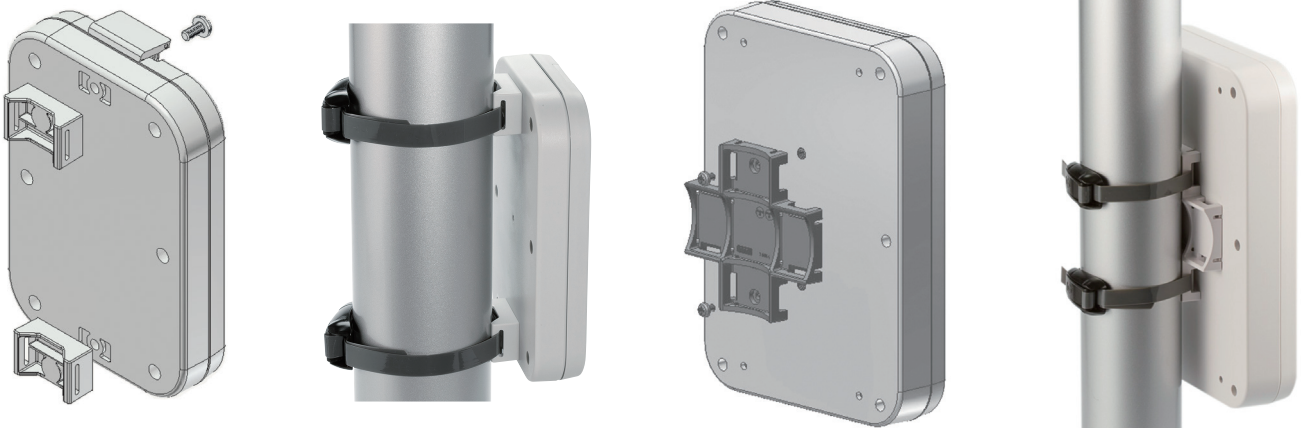
■ Please suffix color code at the end of the product number.

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

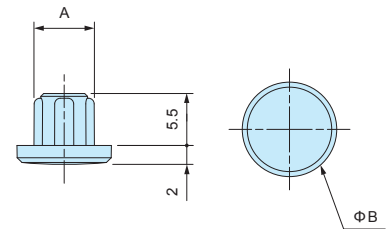


PFRF series

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 snugly 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. / Details

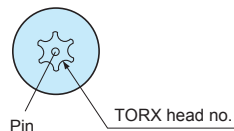
Product no.	Dimensions		Material	Color	Suitable models	Pack of
	A	B				
PFRF-M2.5D	6.4	10	Elastomer UL94HB	Dark gray	WP8-8-2 • 8-8-4 • 8-10-2 • 8-10-4 • 9-13-3 • 9-13-4 • 10-10-3 • 10-10-4 • 11-15-3 • 11-15-4 • 13-18-3 • 13-18-5	4
PFRF-M3D	7.2	11	Elastomer UL94HB	Dark gray	WP15-15-4 • 15-15-6 • 15-21-4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

MR series

TORX SCREW



Head type (with pin)



- 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. / Details

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.

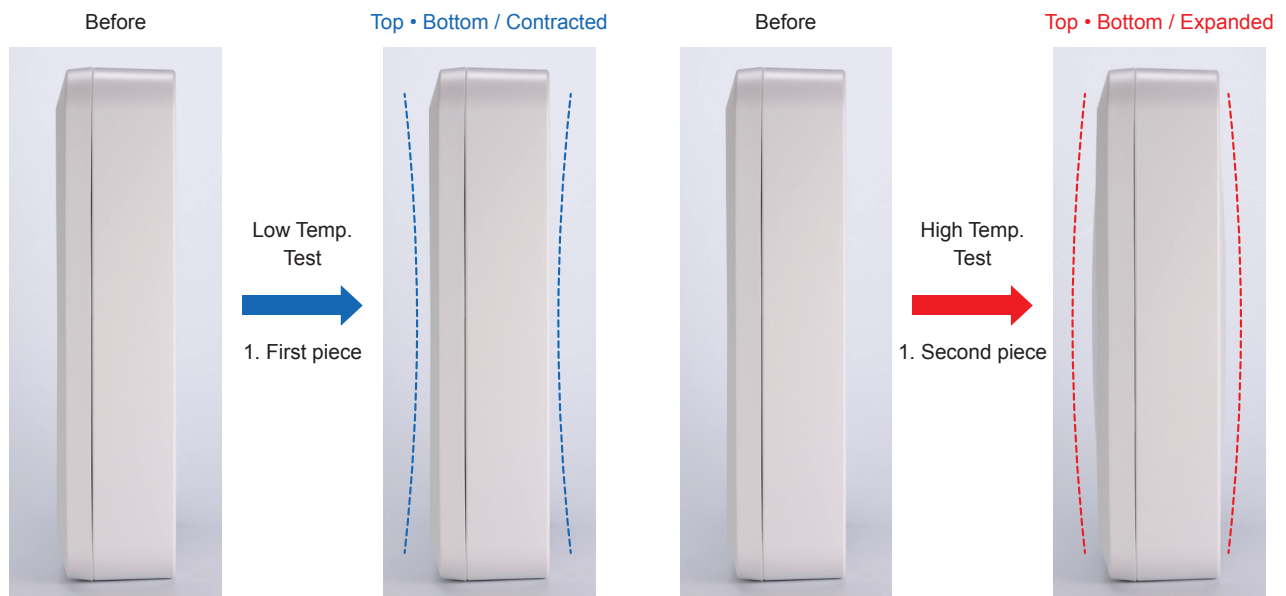
Testing in -20°C ~ +60°C (Operating temperature for WP series)

Low Temperature : -20°C / 96 hours • High Temperature : +60°C / 96 hours

Test Result

1. WP20-28-7G - 2 pcs

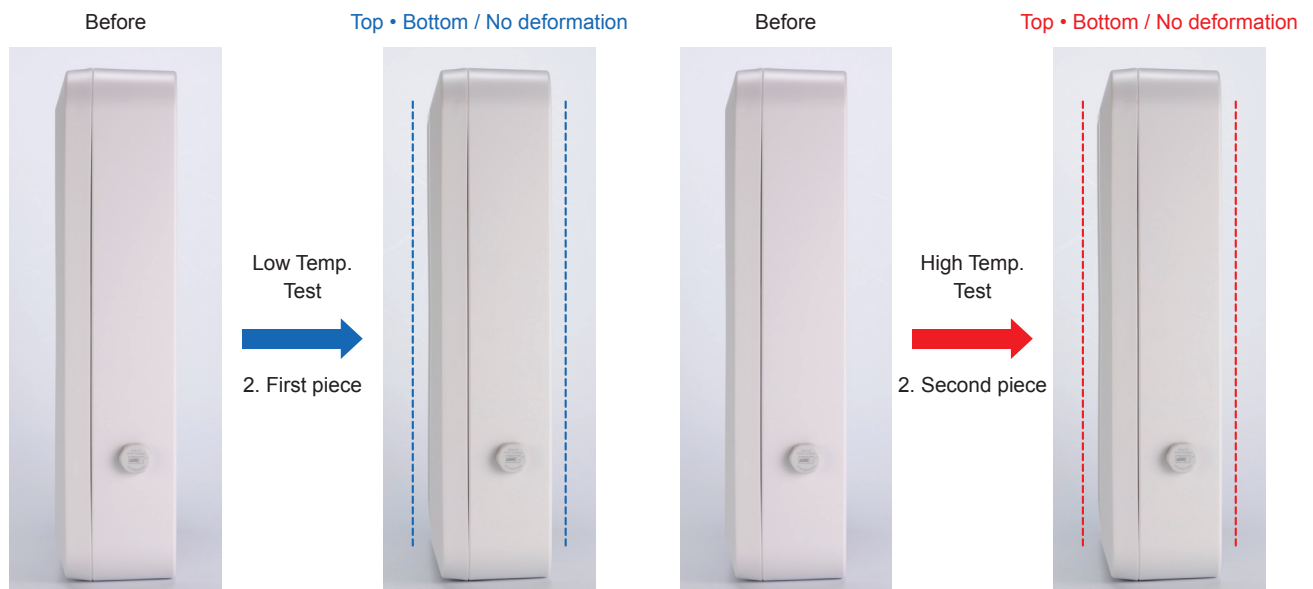
Uneven internal and external pressure causes deformation of the enclosure.



Test Result

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

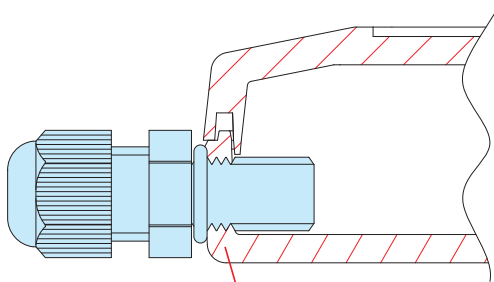
Equalized pressure from the usage of a protective vent prevents deformation of the enclosure.



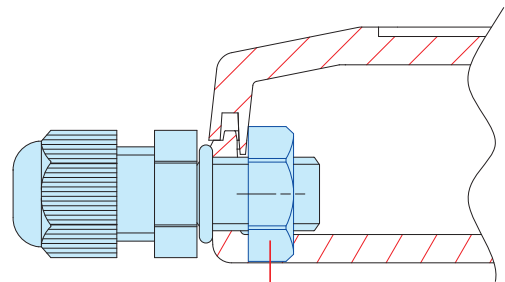
Information on installation of cable glands



- 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.

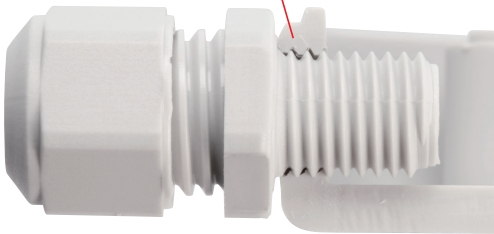


Cross-section



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 181 ~ 193 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

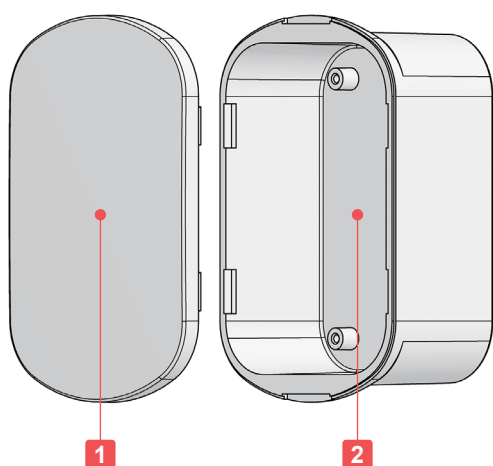


Security Sensor



USB Data Logger





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.

- 8 new sizes added for a total of 19 different sizes available for selection.
- 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 intended 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)



Rubber strain relief cord protector
 CBS series
 See page 385

Double-sided mounting tape DST series
 See page 393

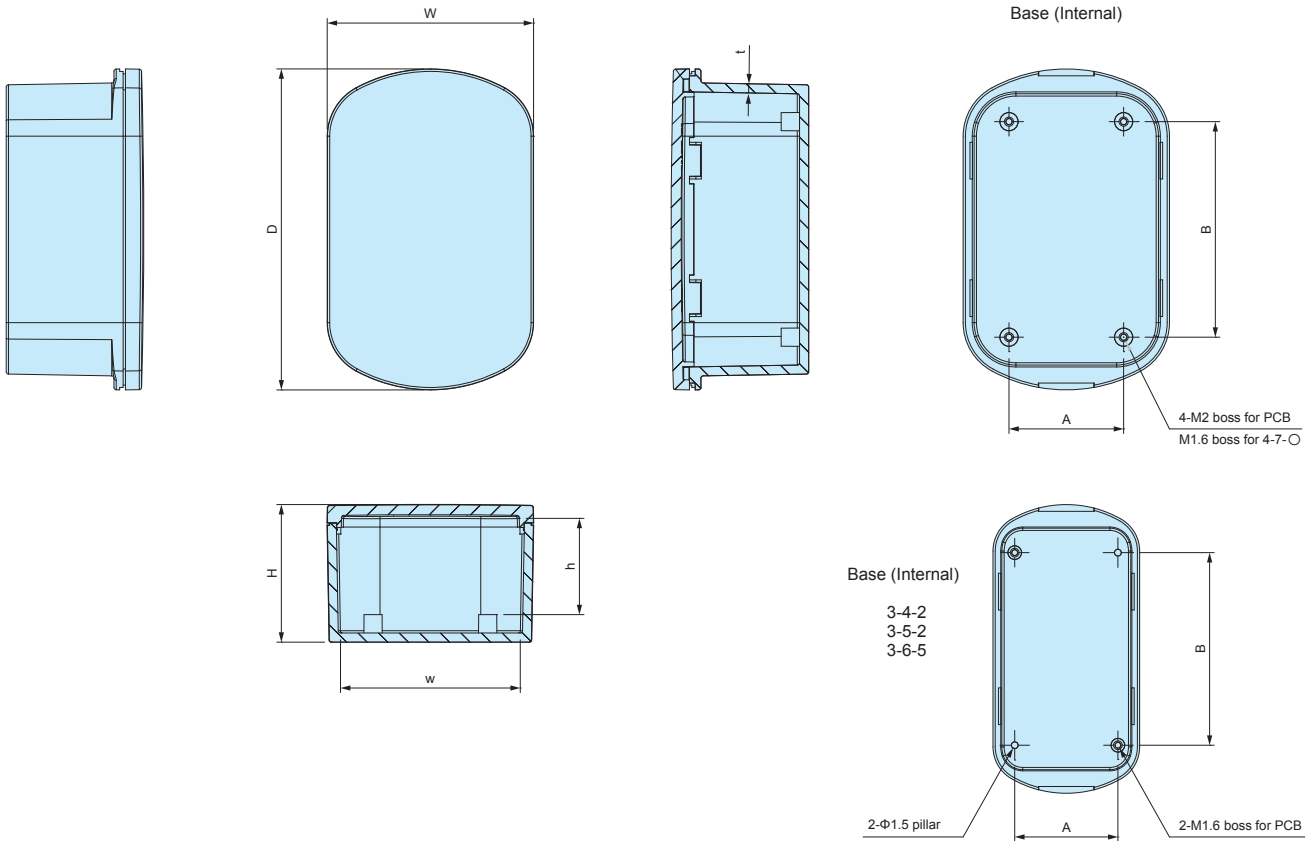
Neodymium magnet NMG series
 See page 392

PCB mounting screw EM-2
 See page 398

Universal PCB PCB series
 See website

SIC dimensions

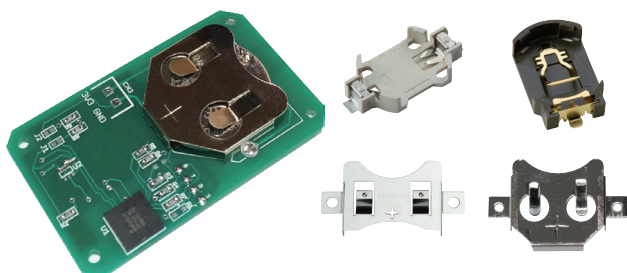
■ DXF/DWG/PDF/STP drawings available on our website.



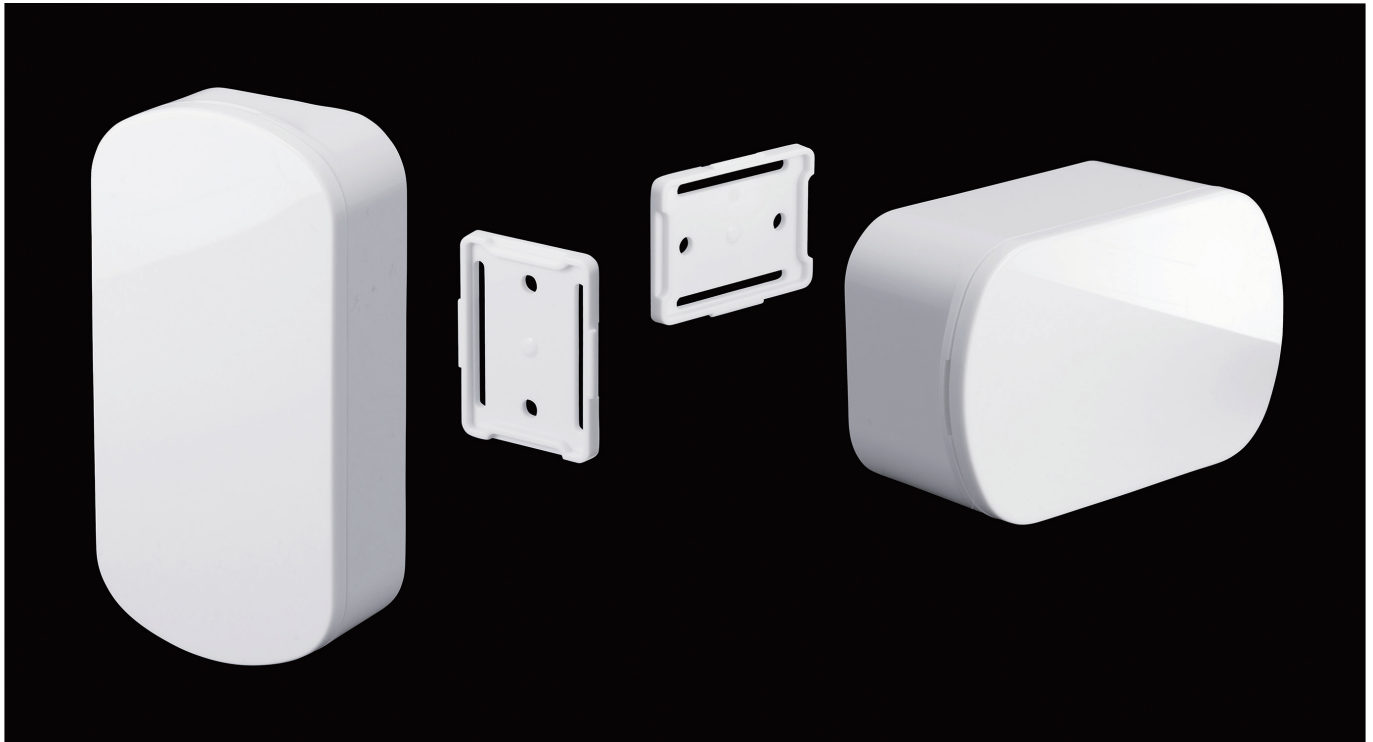
Product no. / Details

Product no.		External dimensions			Internal dimensions			Boss pitch		t	Weight (g)
● Black	● Off-white	W	D	H	w	d	h	A	B		
NEW SIC2- 4-1B	NEW SIC2- 4-1W	20	35	13	15.3	23.6	8.7	—	—	1.7	4.4
NEW SIC2- 5-1B	NEW SIC2- 5-1W	20	50	13	15.3	38.6	8.6	—	—	1.7	6.2
SIC3- 4-2B	SIC3- 4-2W	30	40	18	25.1	28.6	11.1	16.5	24	1.7	7.8
SIC3- 5-2B	SIC3- 5-2W	25	54	18	20.1	42.6	11.1	15.5	35	1.7	9.2
SIC3- 6-2B	SIC3- 6-2W	32	63	20	27.1	51.6	13	22.5	42	1.7	13.2
SIC4- 7-1B	SIC4- 7-1W	38	65	14	32.7	53.3	6.4	24	45.5	2	14.8
SIC4- 7-2B	SIC4- 7-2W	38	65	22	32.4	53	14.4	24	45.5	2	17.7
SIC5- 5-2B	SIC5- 5-2W	45	50	20	39.5	38.5	10.9	25	27	2	14.9
SIC5- 5-3B	SIC5- 5-3W	45	50	30	39.1	38.1	20.9	25	27	2	18.1
SIC5- 7-2B	SIC5- 7-2W	45	70	20	39.5	58.5	10.9	25	47	2	20.1
SIC5- 7-3B	SIC5- 7-3W	45	70	30	39.1	58.1	20.9	25	47	2	24.1
SIC5- 9-2B	SIC5- 9-2W	45	90	20	39.5	78.5	10.9	25	67	2	24.9
SIC5- 9-3B	SIC5- 9-3W	45	90	30	39.1	78.1	20.9	25	67	2	29.4
NEW SIC6- 7-3B	NEW SIC6- 7-3W	60	65	25	54.3	53.6	15.9	40	40	2	26.8
NEW SIC6- 7-4B	NEW SIC6- 7-4W	60	65	38	53.9	53.1	28.9	40	40	2	32.6
NEW SIC6- 9-3B	NEW SIC6- 9-3W	60	90	25	54.3	78.6	15.9	40	65	2	36.3
NEW SIC6- 9-4B	NEW SIC6- 9-4W	60	90	38	53.9	78.1	28.9	40	65	2	43.6
NEW SIC6-12-3B	NEW SIC6-12-3W	60	120	25	54.3	108.6	15.9	40	95	2	46.9
NEW SIC6-12-4B	NEW SIC6-12-4W	60	120	38	53.9	108.1	28.9	40	95	2	55.9

Accessories (Optional parts) COIN CELL BATTERY HOLDERS



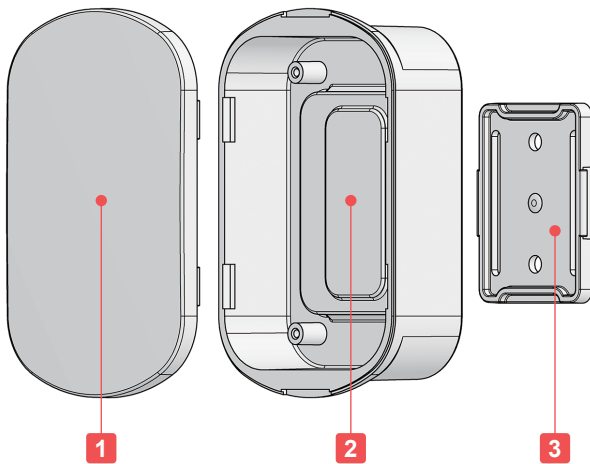
- Various coin cell battery holders can be utilized.
See coin cell battery holders on our website for more details.
- Please note that depending on the mounting location, PCB may not be able to be properly affixed on.



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.

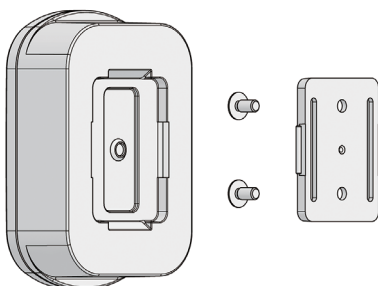


- 6 new sizes added for a total of 14 different sizes available for selection.
- Small rounded design plastic case ideal for use as IoT devices.
- Easily attached to, or detached from the wall by using the wall mounting bracket.
- Made of weather-resistant ASA material.
Suitable for devices intended 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



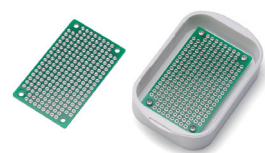
Accessories (Optional parts)



Rubber strain relief cord protector
CBS series
See page 385



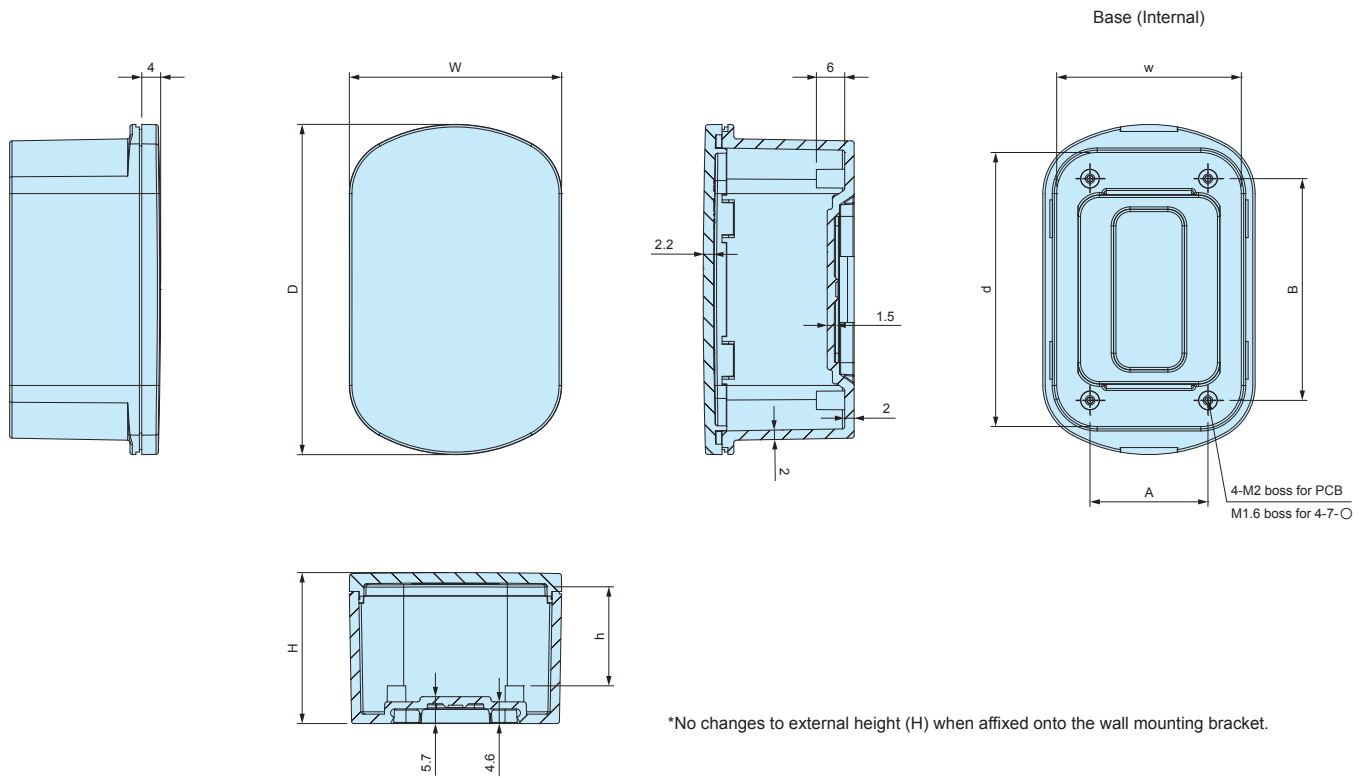
PCB mounting screw EM-2
See page 398



Universal PCB PCB series
See website

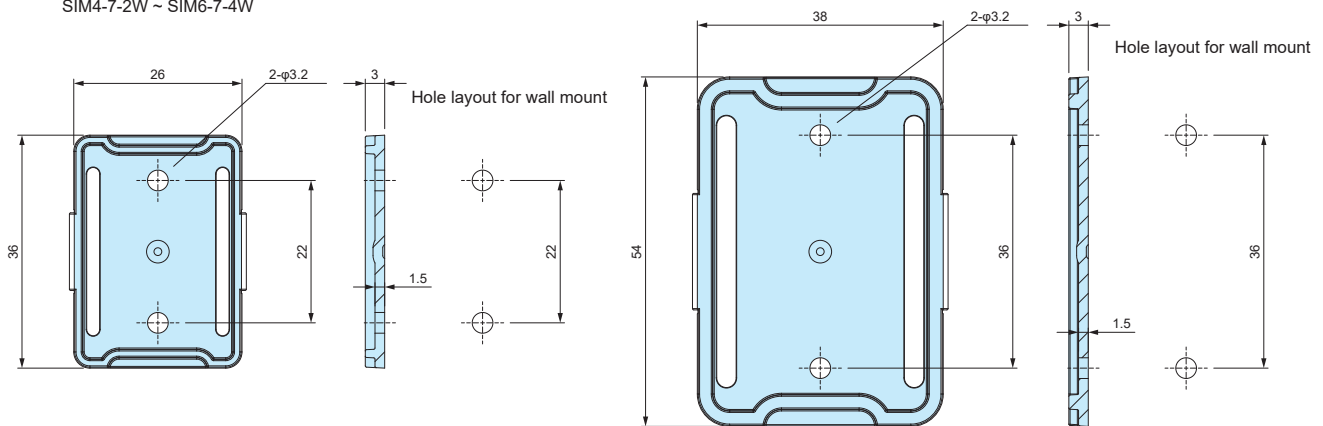
SIM dimensions

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



SIM6-9-3W ~ SIM6-12-4W

SIM4-7-2W ~ SIM6-7-4W



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

Product no. / Details

Product no.	External dimensions			Internal dimensions			Boss pitch		Weight (g)
	W	D	H	w	d	h	A	B	
SIM4- 7-2W	38	65	17	32.7	53.2	6.4	24	45.5	17.8
SIM4- 7-3W	38	65	25	32.4	52.9	14.4	24	45.5	20.7
SIM5- 5-2W	45	50	23	39.4	38.5	10.9	25	27	17.8
SIM5- 5-3W	45	50	33	39	38.1	20.9	25	27	20.9
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
NEW SIM6- 7-3W	60	65	27	54.2	53.5	15.9	40	40	29.3
NEW SIM6- 7-4W	60	65	40	53.8	53	28.9	40	40	34.9
NEW SIM6- 9-3W	60	90	27	54.2	78.5	15.9	40	65	40.9
NEW SIM6- 9-4W	60	90	40	53.8	78	28.9	40	65	47.9
NEW SIM6-12-3W	60	120	27	54.2	108.5	15.9	40	95	53.1
NEW SIM6-12-4W	60	120	40	53.8	108	28.9	40	95	62.1

CBS series**RUBBER STRAIN RELIEF CORD PROTECTOR****Application example**

Installed onto SIC series

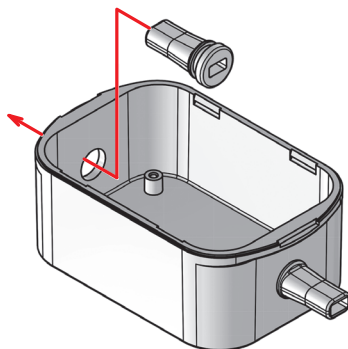


Installed onto EX series

- A total of 8 different sizes available for selection.
- Strain relief cord protector helps relieve flex stress and prevents damage to cables.
※ Does not prevent cables from being dislodged.
- 2 types - round and flat - are available.
- Insert from the inner side of the case / panel of the enclosure.
- Made from high heat resistant silicone material.

Technical Data

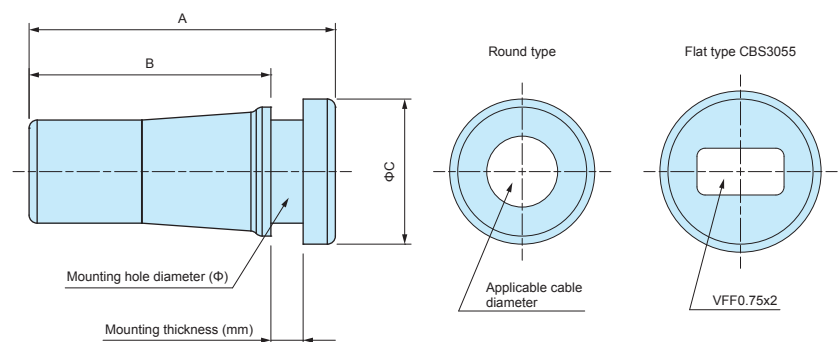
Operating temperature:
-40°C ~ +100°C

Installation steps

- ① Insert into the mounting hole from the inside.
 - ② Thread the cable through the protector.
- ※ Protector must be installed first.

CBS dimensions

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

**Product no. / Details**

Product no.		A	B	C	Applicable cable diameter / type	Mounting hole diameter (Φ)	Mounting thickness (mm)	Material	Pack of
● Black	● Off-white								
CBS3055-15B	CBS3055-15W	18.5	15	10	VFF0.75x2	7.6 ~ 7.8	1.5 ~ 2.0	Silicone	10
CBS3055-20B	CBS3055-20W	19	15	10	VFF0.75x2	7.6 ~ 7.8	2.0 ~ 2.5	Silicone	10
CBS35-15B	CBS35-15W	16.5	13	8	Φ3.5	5.6 ~ 5.8	1.5 ~ 2.0	Silicone	10
CBS35-20B	CBS35-20W	17	13	8	Φ3.5	5.6 ~ 5.8	2.0 ~ 2.5	Silicone	10
CBS45-15B	CBS45-15W	18.5	15	9	Φ4.5	6.6 ~ 6.8	1.5 ~ 2.0	Silicone	10
CBS45-20B	CBS45-20W	19	15	9	Φ4.5	6.6 ~ 6.8	2.0 ~ 2.5	Silicone	10
CBS60-15B	CBS60-15W	20.5	17	10.5	Φ6.0	8.1 ~ 8.3	1.5 ~ 2.0	Silicone	10
CBS60-20B	CBS60-20W	21	17	10.5	Φ6.0	8.1 ~ 8.3	2.0 ~ 2.5	Silicone	10

DST series**DOUBLE-SIDED MOUNTING TAPE**

- Super strong double-sided mounting tape with excellent cold and heat resistance.
- Allow cases to be attached onto any place.
- Easily attached onto walls where holes cannot be drilled.
- Can be used with a range of products, such as small IoT type enclosures.

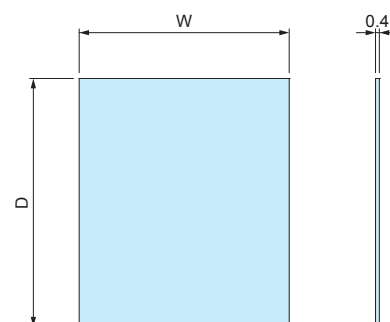
- Please ensure that surface is cleaned and grease-free before adhering.
- Once removed, it cannot be adhered on again.

Notes:

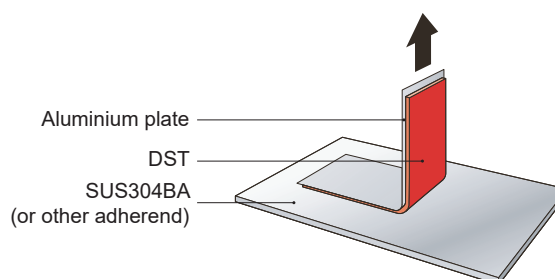
Due to the strong adhesive strength,
do ensure that the surface or product is suitable to be adhered onto.

Technical Data

Operating temperature:
-30°C ~ +200°C

**Adhesion Performance (90° peel adhesion)**

90° direction peel force N/cm	Stainless steel (SUS304BA)	24
	Aluminium (A1050P)	21
	Bonded steel plate (SECC)	30
	ABS	10
	Acrylic (PMMA)	16
	Polypropylene	6
	Polyethylene (HDPE)	3
	Glass	27

**[Test Method]**

Backed with specially treated Aluminium foil (130 μ m), crimped with a 10kg steel roller back and forth twice, cured at room temperature for 72 hours, tensile speed 300mm/min.

*Data values listed are test results based on the test conditions, and are to be used as reference only.

*Adhesive strength and other physical properties vary depending on the adherend, bonding and curing conditions, and other factors.

Product no. / Details

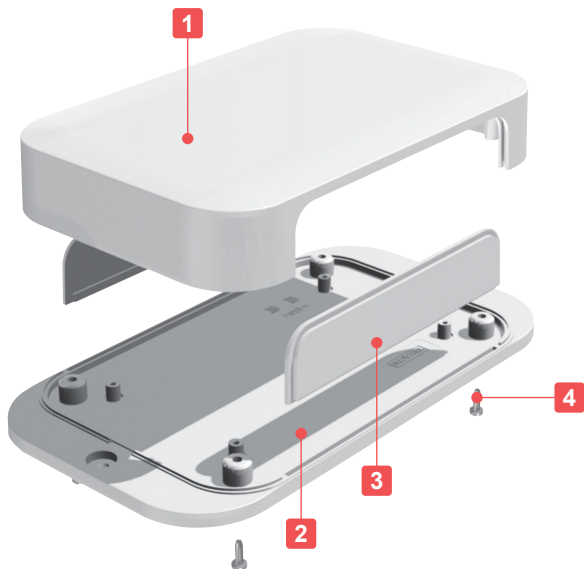
■ Material / Color: Acrylic foam base, acrylic adhesive / gray

Product no.	W	D	Suitable models	Weight (g)	Pack of
NEW DST14-22	14	22	SIC2-4-1 SW-30	0.3 / pc	5
NEW DST14-36	14	36	SIC2-5-1	0.4 / pc	5
DST18-40	18	40	SIC3-5-2 SW-(T)40 • 60	0.7 / pc	5
DST22-26	22	26	SIC3-4-2 SW-(T)40	0.5 / pc	5
DST24-48	24	48	SIC3-6-2 SW-50 • 53 • (N)(T)55 • (N)65 TW/TWN4-2-5 • 4-2-6 • 4-2-8	0.8 / pc	5



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 and 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

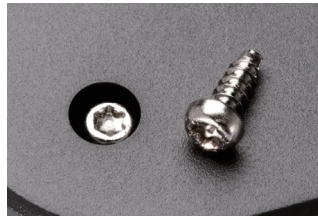
Accessories (Optional parts)



Tapping standoff TPS series
See page 397



PCB mounting screw EM series
See page 398



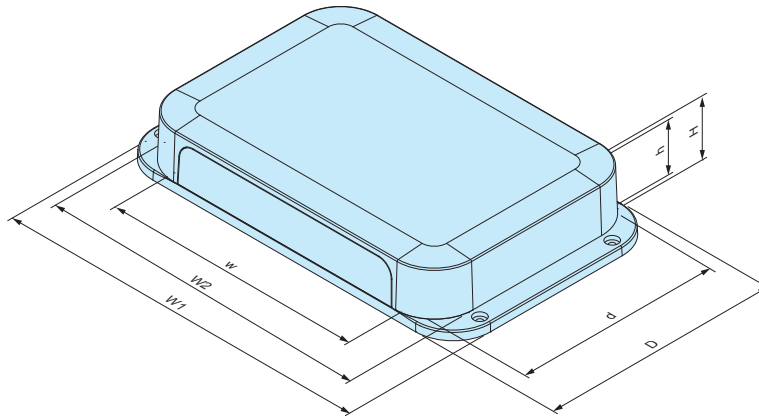
TORX screw MR series
See page 398



Adhesive standoff AST series
See page 394

PFF dimensions

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



Product no. / Details

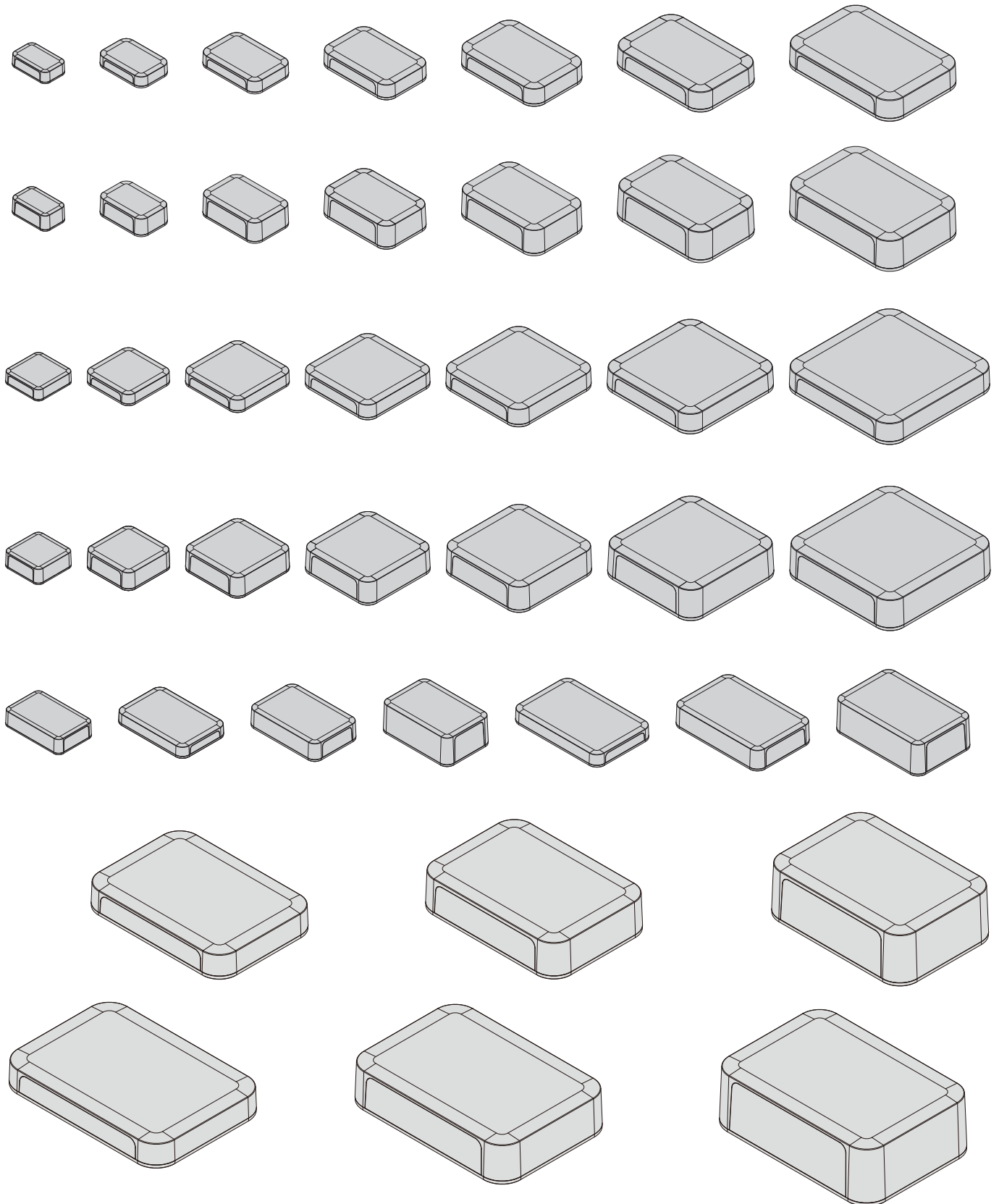
Product no.	External dimensions				Internal dimensions			Weight (g)
	W1	W2	H	D	w	h	d	
PFF10- 2- 7W	124.3	100	22.5	67.3	67.4	11.1	58.4	60.8
PFF10- 2-10W	124.3	100	22.5	100.3	67.4	11.1	91.4	84.6
PFF10- 4- 7W	124.3	100	35	67.3	67.4	23.6	57.5	72
PFF10- 4-10W	124.3	100	35	100.3	67.4	23.6	90.5	99.1
PFF13- 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

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.

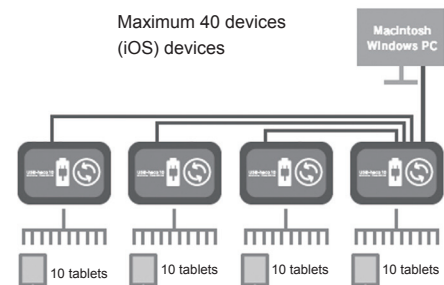


APPLICATION EXAMPLE

WiFi Access Point



USB Power Charging Hub + Data Hub



Simultaneous power charging and data transfer is possible.

Front Door Electric Opener System Controller



USB Hemodynamic Research Device



Multi Channel Data Logger



Storage Battery Monitoring System

Wireless CO₂ Monitoring System



Wireless Home Electronics Controller



Wireless Safety Confirmation System



G4 Flight Tracker



Advanced Trigger Station



iCONSE-T IoT and Sensor Network Training System



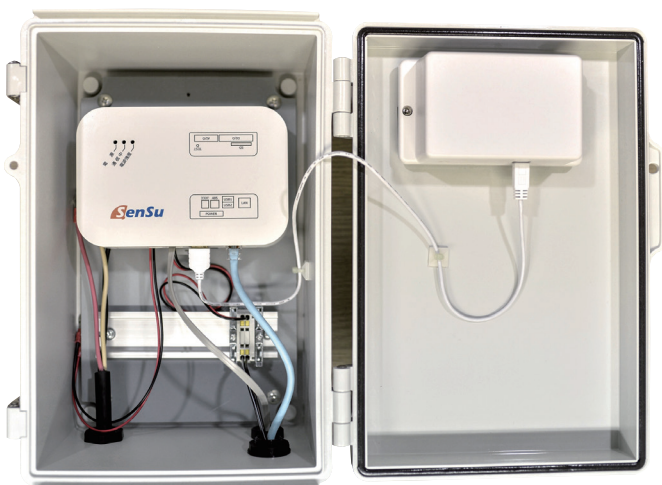
Wireless Network Data Logger



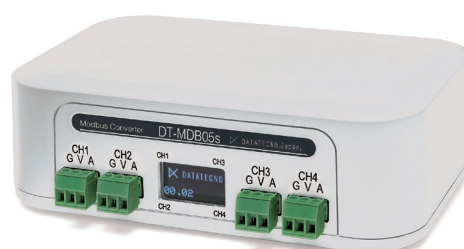
Analog Serial Converter



"SenSu" Communication Unit with Sensor



Modbus Converter

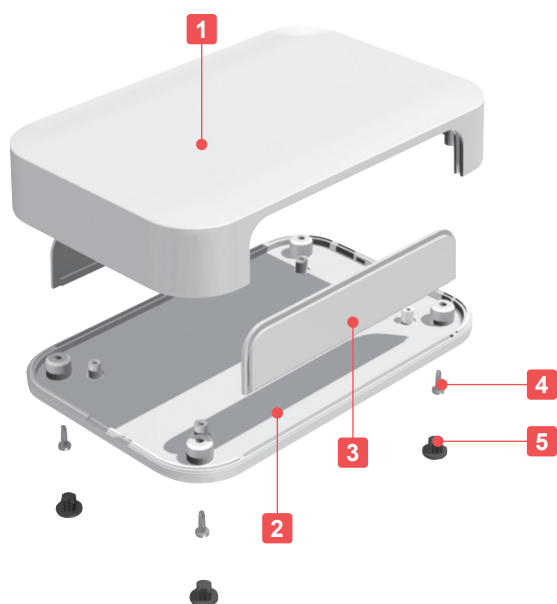




Technical Data

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

- 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 and 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 381 ~ 383



Tapping standoff TPS series
See page 397



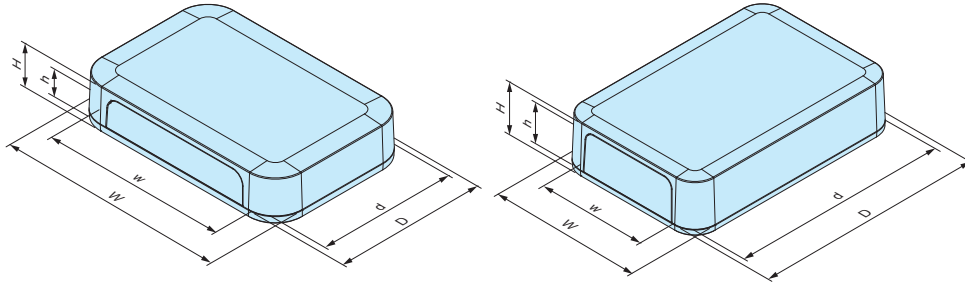
PCB mounting screw EM series
See page 398



Suspension bracket WM series
See page 391

PF dimensions

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



Product no. / Details

Product no.		External dimensions			Internal dimensions			Weight (g)
● Off-white	● Dark gray	W	H	D	w	h	d	
PF 8- 2- 5W	PF 8- 2- 5D	80	22.5	50	55.5	13.5	42.8	36.2
PF 8- 2- 8W	PF 8- 2- 8D	80	22.5	80	55.5	13.5	72.8	53.3
PF 8- 3- 5W	PF 8- 3- 5D	80	30	50	55.5	21	42.3	41.6
PF 8- 3- 8W	PF 8- 3- 8D	80	30	80	55.5	21	72.3	60.1
PF 8- 3-13W	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)

EMC
Shielding

- 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 more.

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 397



PCB mounting screw EM series
See page 398



TORX screw MR series
See page 398



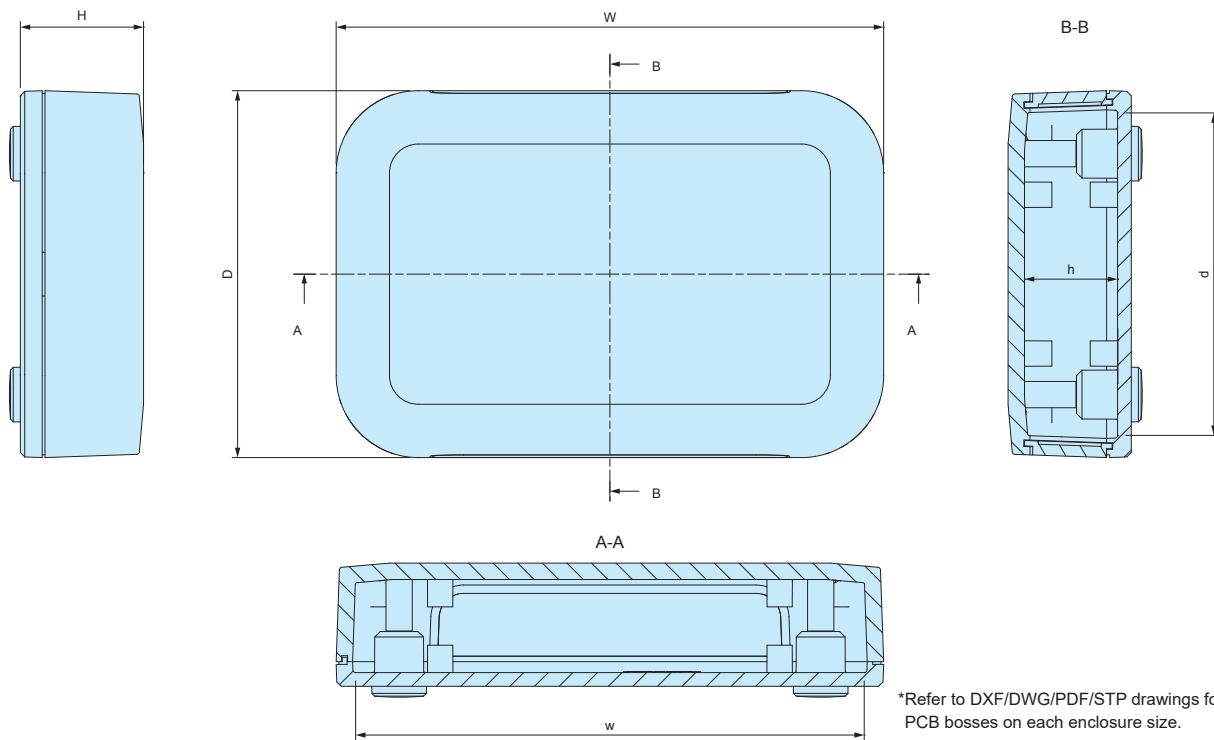
Suspension bracket WM series
See page 391



Embedded battery box BC series
See page 381 ~ 383

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. / Details

*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

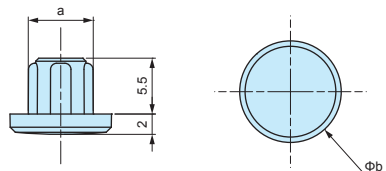
RUBBER FEET for PF • PFE



- 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. / Details

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

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 more.

APPLICATION EXAMPLE

EtherCAT Device



Solar Panel Charge Controller



Wireless RFID Tag Search Device



RFID Tag



CO₂ Sensor



Temperature • Humidity Sensor



Remote Power Control Unit



Communication Converter



Roof Sprinkler Controller



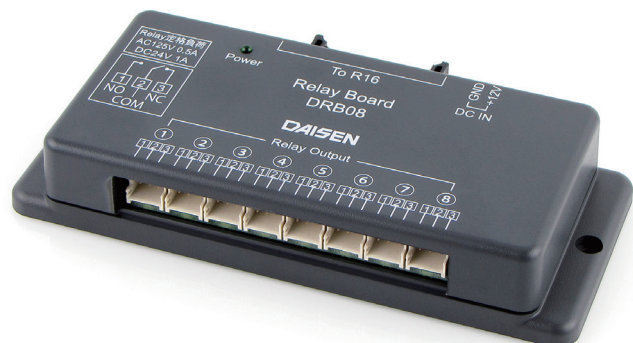
LED Lighting RGB Controller



Private LoRA Gateway



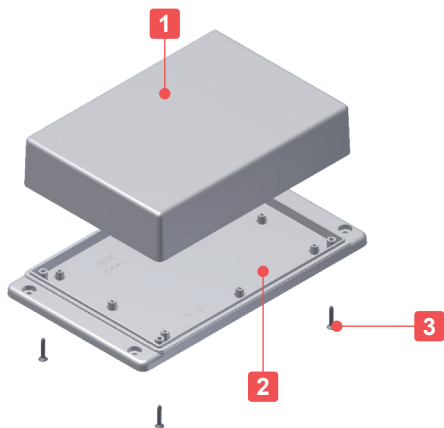
Contact Relay Output Converter





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 more.

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 397



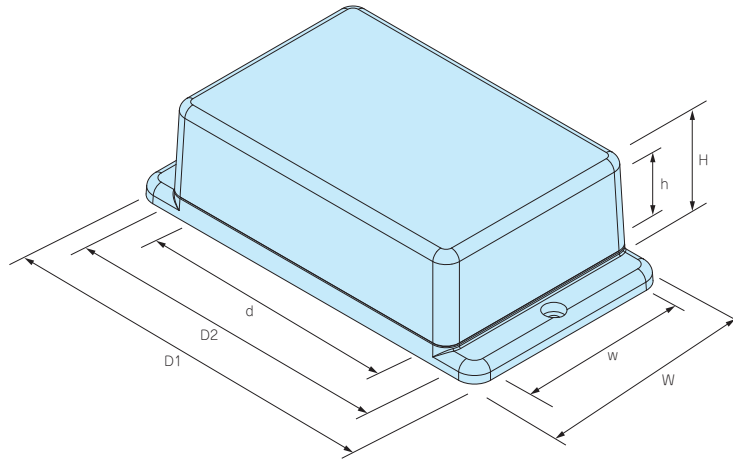
PCB mounting screw EM-2.3
See page 398



TORX screw MR series
See page 398

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

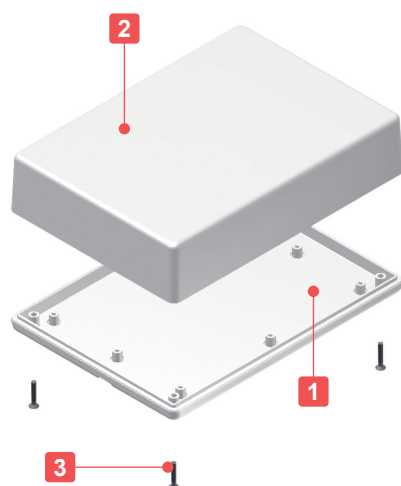
Product no. / Details

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



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 more.

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

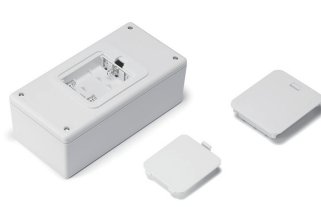
Accessories (Optional parts)



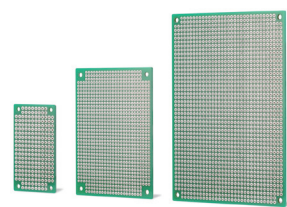
Silicone band SIB series
See page 90



Suspension bracket WM series
See page 391



Embedded battery box BC series
See page 381 ~ 383



Universal PCB PCB series
See website



Adhesive standoff AST series
See page 394



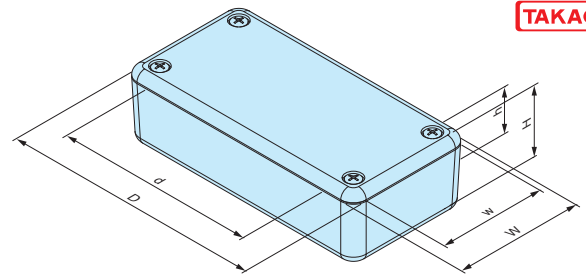
PCB mounting screw EM series
See page 398



Tapping standoff TPS series
See page 397

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.

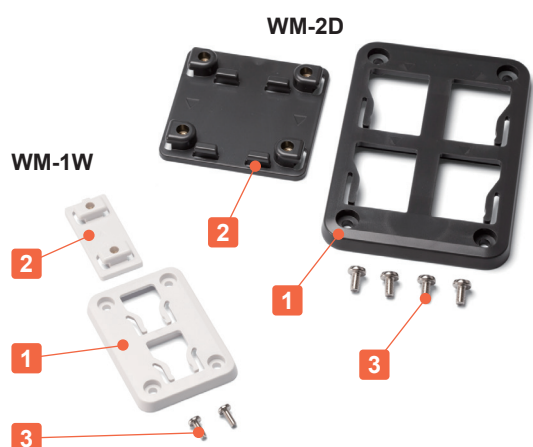
Product no. / Details

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. / Details

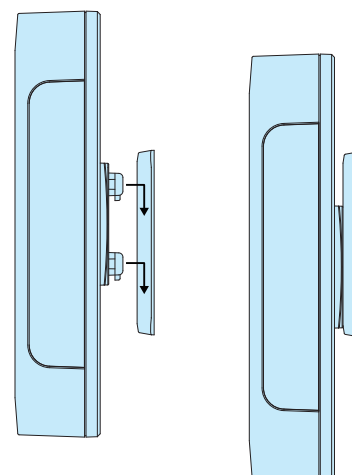
Product no.	External dimensions			Internal dimensions			Screw (Self-tapping flat head)	Weight (g)
	W	H	D	w	h	d		
TWN 4-2- 5W	35	20	50	28.2	12	32.6	M2.6-12 x 2 pcs	16.5
TWN 4-2- 6W	35	20	60	28.2	12	42.6	M2.6-12 x 2 pcs	18
TWN 4-2- 8W	40.3	20	80.3	33.5	12	62.5	M2.6-12 x 2 pcs	26
TWN 5-2- 5W	50	15	50	42.8	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
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
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

WM series**SUSPENSION BRACKET**

Installation example



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

Technical Data

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

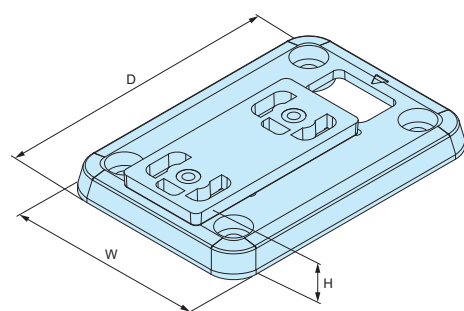
* The max load values listed are static load values only. Use caution when handling.

Components

No.	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
3	Screw	2 (WM-1) 4 (WM-2)	Steel	Nickel plated

Included Screw

WM-1□ : Bind M3-8
WM-2□ : Bind M4-88

**Product no. / Details**

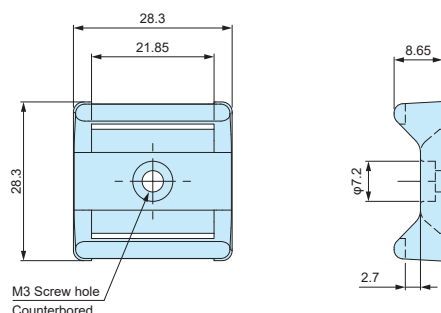
Product no.		W	H	D	Mountable thickness	Weight (g)
● Off-white	● Dark gray					
WM-1W	WM-1D	45	9	65	t0.8~t3.5	11.5
WM-2W	WM-2D	80	11	115	t0.8~t3.5	48

PMB-1**POLE MOUNTING BRACKET**

Installation example



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



- Small size pole mounting bracket suitable for indoor use.
- Installation screws (M3 size) are separately sold. See page HES • HOS • MT for compatible MT3-4 screws.
- Minimum applicable pole diameter is $\Phi 35$.
- Use SNB • PKB • SCT mounting belt to install onto a pole.

Product no. / Details

Material / Color : PA66+GF (UL94HB) / Black

Product no.	Maximum load (kg)	Weight (g)	Pack of
PMB-1	1	3 (1 piece)	2

NMG series**NEODYMIUM MAGNET****Round magnet**

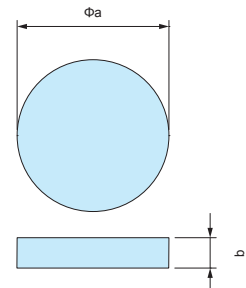
■ DXF/DWG/PDF drawings available on our website.



- Material / Finish: Neodymium / Nickel plated
- Please attach using a strong adhesive.

Product no. / Details

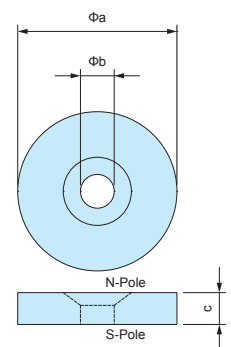
Product no.	a	b	Weight (g)	Flux Density	Absorption
NMG3-15N	15	3	4	214.4 mT	2.44 kgf
NMG3-20N	20	3	7.1	170.7 mT	3.26 kgf
NMG5-22N	22	5	11.4	247.2 mT	5.91 kgf
NMG5-25N	25	5	18.4	221.9 mT	6.89 kgf

NMG dimensions**Round magnet with countersunk hole**

- Please fasten with a screw.

**Product no. / Details**

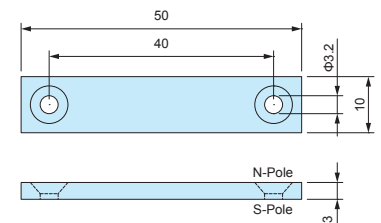
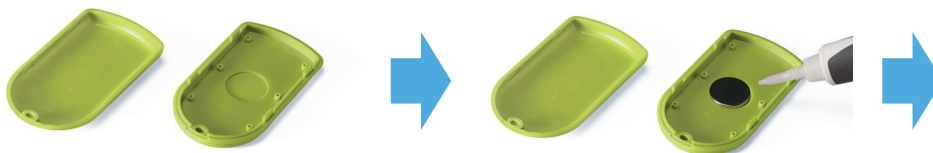
Product no.	a	b	c	Countersunk size	Weight (g)	Flux Density	Absorption
NMG3-15M3	15	3.2	3	M3	3.8	214.3 mT	2.33 kgf
NMG3-20M3	20	3.2	3	M3	6.9	170.6 mT	3.17 kgf
NMG5-22M4	22	4.3	5	M4	13.7	247.2 mT	5.68 kgf
NMG5-25M5	25	5.3	5	M5	17.6	221.9 mT	6.58 kgf

**Rectangular magnet with countersunk holes**

- Please fasten with a screw.

**Product no. / Details**

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

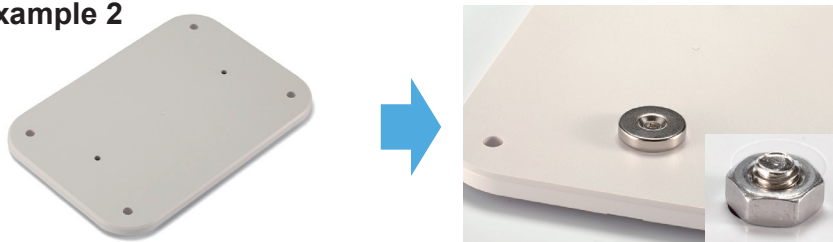
**Example 1** The magnetic force remains strong even through plastic.

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.

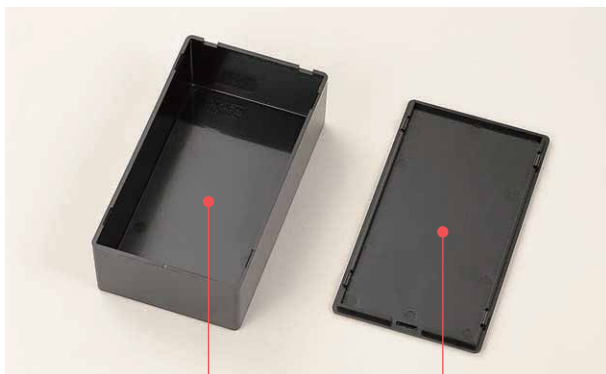
SW•SW-N•SW-T

COMPACT SNAP-IN PLASTIC CASE



Technical Data

Protection class: IP40
 Operating temperature:
 SW•SW-N: -10°C ~ +60°C
 SW-T: -10°C ~ +100°C



1

2

- No screws required; simple snap on / off cover.
- General purpose compact type case.
- Ample interior space.
- Exclusive PCB is available.
- 3 different material types (standard, flame-resistant, and heat-resistant) are available.

Components

No.	Part name	Material / Color
1	Base	SW : ABS UL94HB / Light gray • Black
		SW-N : ABS UL94V-1 : UL94V-0 / Gray
		SW-T : ABS flame-resistant / Black
2	Cover	SW : ABS UL94HB / Light gray • Black
		SW-N : ABS UL94V-1 : UL94V-0 / Gray
		SW-T : ABS flame-resistant / Black

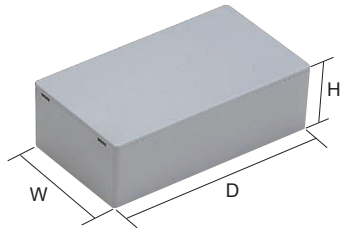
Accessories (Optional parts)



Adhesive standoff T-600, 700, ASR
 See page Standoff-1

Neodymium magnet NMG series
 See page NMG-1

SW•SW-N•SW-T dimensions



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

Color Type

Series	Code	Color
SW	S	Light gray
	B	Black
SW-N	G	Gray
SW-T	B	Black

SW standard (ABS UL94HB)

Product no. / Dimensions

Product no.		Dimensions			Weight (g)
● Light gray	● Black	W	H	D	
SW- 15S	SW- 15B	10	10	15	1
SW- 20S	SW- 20B	15	15	20	2
SW- 30S	SW- 30B	20	18	30	4
SW- 40S	SW- 40B	30	20	40	10
SW- 50S	SW- 50B	35	25	50	14
SW- 53S	SW- 53B	36	11	53	10
SW- 55S	SW- 55B	40	20	55	17
SW- 60S	SW- 60B	18	17	60	9
SW- 65S	SW- 65B	45	25	65	21
SW- 75S	SW- 75B	50	30	75	32
SW- 85S	SW- 85B	60	40	85	43
SW- 90S	SW- 90B	25	21	90	17
SW- 95S	SW- 95B	58	18	95	34
SW-100S	SW-100B	65	35	100	55
SW-120S	SW-120B	60	24	120	50
SW-125S	SW-125B	70	40	125	77
SW-130S	SW-130B	40	25	130	43

SW-N flame-resistant (ABS UL94V-1 : UL94V-0)

Product no. / Dimensions

Product no.	W	H	D	UL class	Weight (g)
SW-N 20G	15	15	20	UL94V-1	3
SW-N 30G	20	18	30	UL94V-1	5
SW-N 40G	30	20	40	UL94V-0	11
SW-N 50C	35	25	50	UL94V-0	17
SW-N 55G	40	20	55	UL94V-0	19
SW-N 65G	45	25	65	UL94V-0	23
SW-N 75G	50	30	75	UL94V-0	35
SW-N 85G	60	40	85	UL94V-0	50
SW-N 95G	58	18	95	UL94V-0	37
SW-N100C	65	35	100	UL94V-0	60
SW-N120G	60	24	120	UL94V-0	56
SW-N125C	70	40	125	UL94V-0	85
SW-N130G	40	25	130	UL94V-0	48

※Cross out products are discontinued.

SW-T heat-resistant (ABS heat distortion temperature 100°C)

Product no. / Dimensions

Product no.	W	H	D	Weight (g)
SW-T 20B	15	15	20	2
SW-T 40B	30	20	40	9
SW-T 55B	40	20	55	16
SW-T 75B	50	30	75	30
SW-T 95B	58	18	95	31
SW-T100B	65	35	100	50

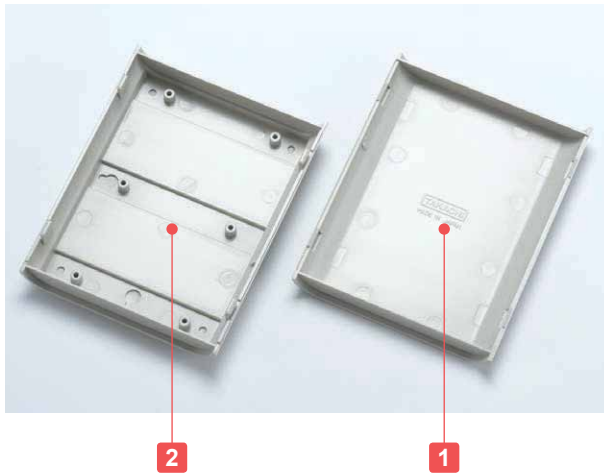
SU SERIES

NETWORK PLASTIC CASE



Technical Data

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



- Rounded shape design.
- Suitable for wall-mount communication device usage.
- Snap on / off cover. No screws are required.

Components

No.	Part name	Material	Color / Finish
1	Cover	ABS UL94HB	Light gray • White
2	Base	ABS UL94HB	Light gray • White

Accessories (Optional parts)



Tapping standoff TPS series
See page TPS • MT-1

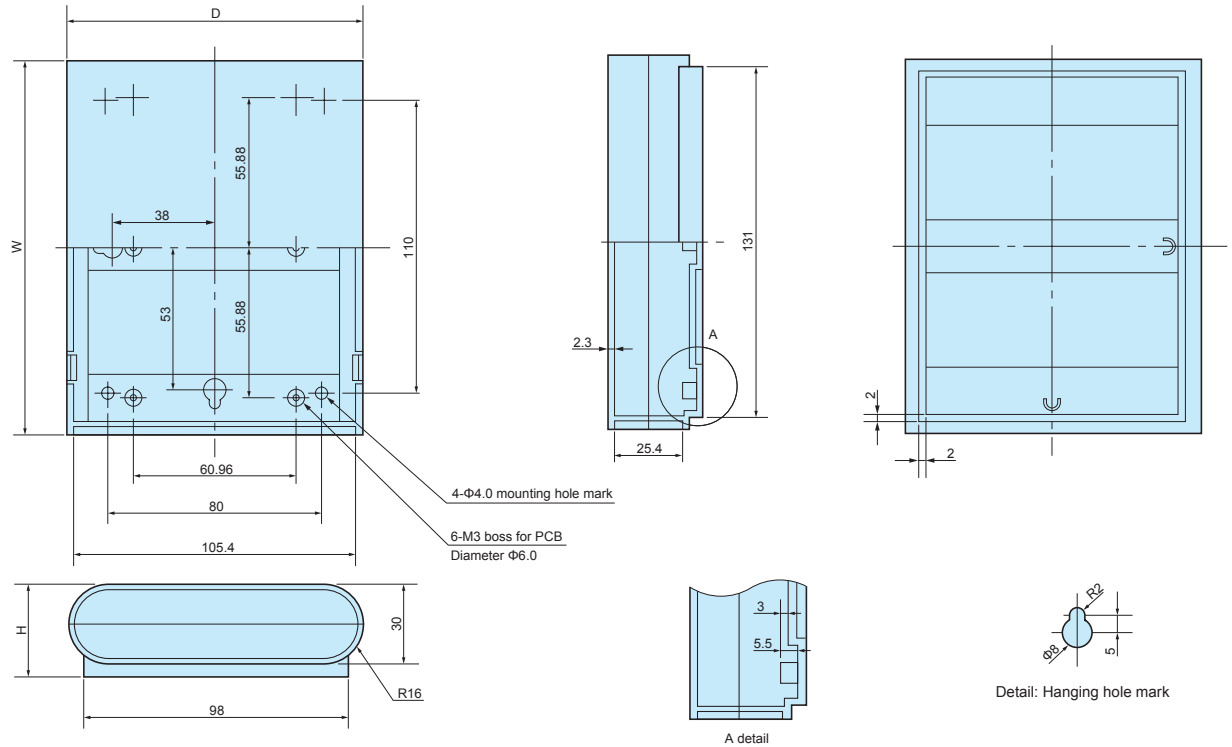


PCB mounting screw EM series
See page EM • MR-1

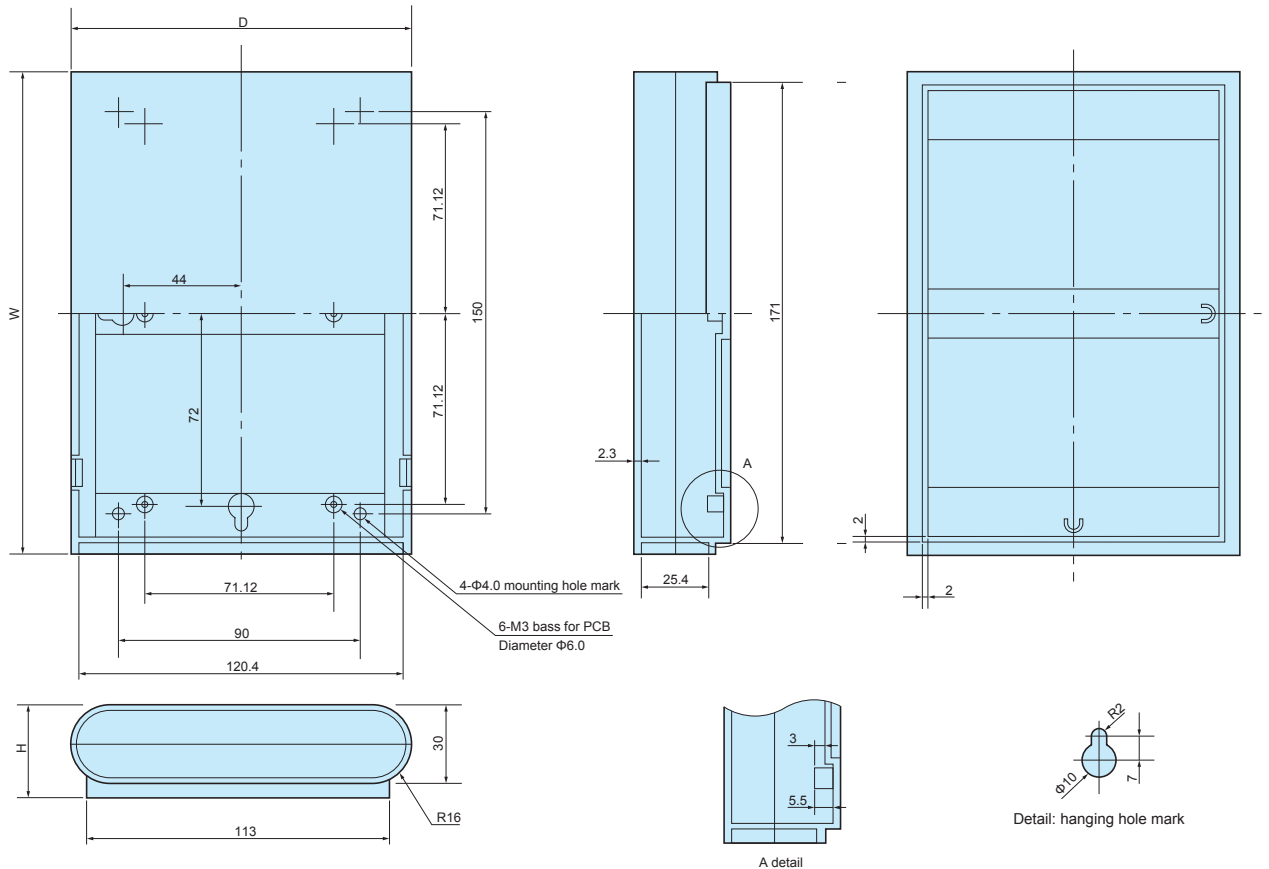
SU dimensions

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

SU-140



SU-180



Product no. / Dimensions

Product no.		Dimensions			Weight (g)
● Light gray	● White	W	H	D	
SU-140G	SU-140W	140	35	110	100
SU-180G	SU-180W	180	35	125	140

OP SERIES

OPEN-CLOSING PLASTIC BOX

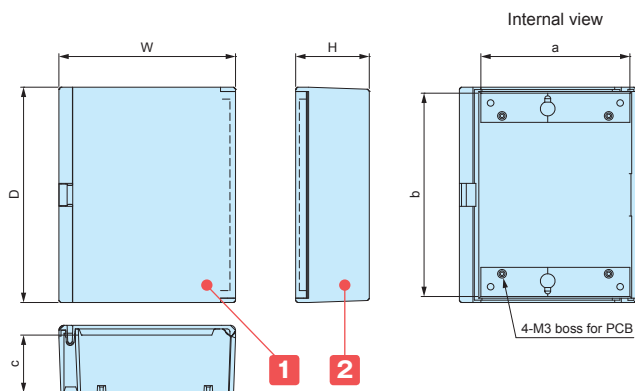


OP dimensions

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

Technical Data

Operating temperature: -10°C ~ +60°C



- Plastic case with hinged door.
- General purpose case for desk-top, wall-mount, and so on.

Components

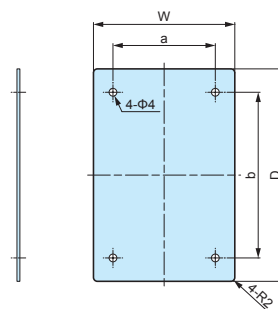
No.	Part name	Material	Color / Finish
1	Top cover	ABS UL94HB	Light gray • Black
2	Base	ABS UL94HB	Light gray • Black

Product no. / Dimensions

Product no.		Dimensions						Weight (g)
● Light gray	● Black	W	H	D	a	b	c	
OP-125G	OP-125B	100	45	125	81.2	116.6	35.7	130
OP-150G	OP-150B	120	50	150	101.2	141.6	40.7	185
OP-180G	OP-180B	145	55	180	128.8	174	43	275

Accessories (Optional parts)

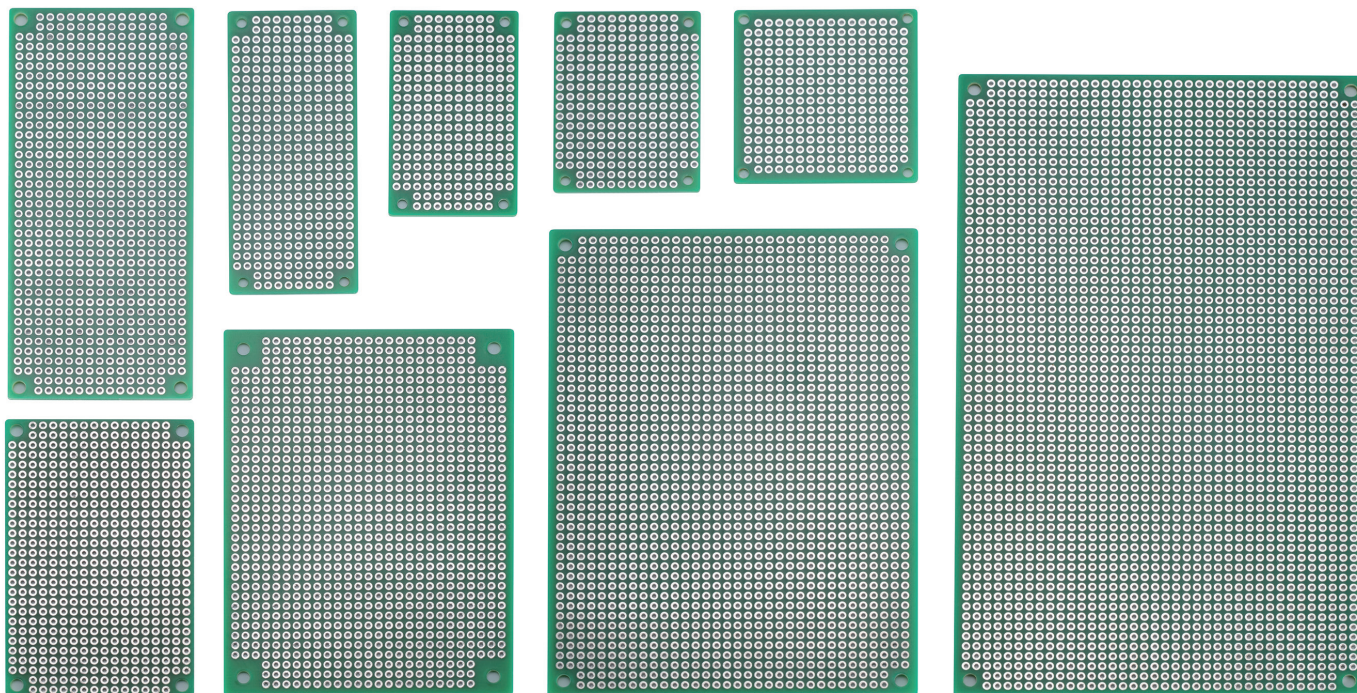
OPP mounting plate



Product no. / Dimensions

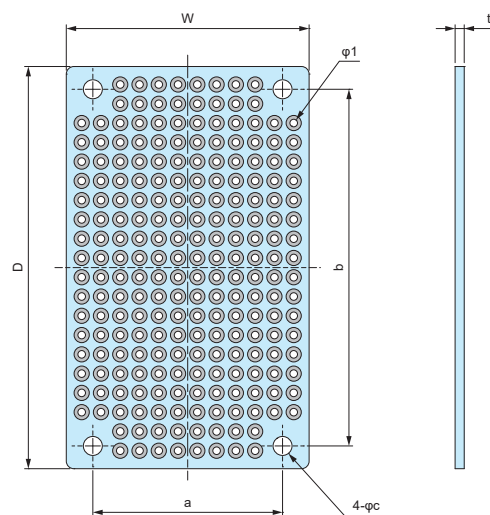
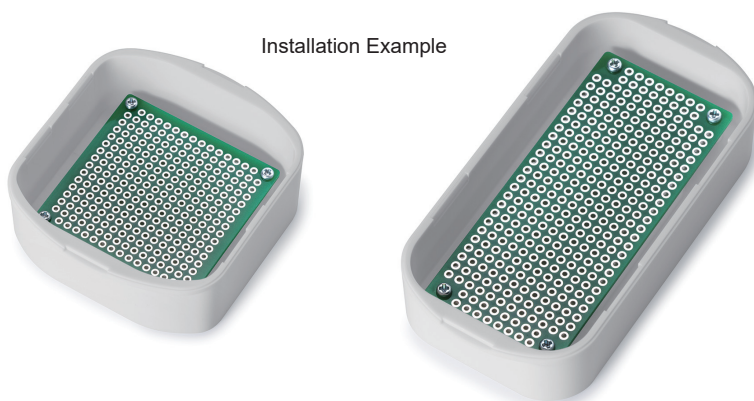
Product no.	W	D	a	b	Material	Color / Finish	Suitable box
OPP-125	72.5	109	52.5	85	Aluminium A1050P t = 1.5	Unfinished	OP-125
OPP-150	92.5	134	72.5	110	Aluminium A1050P t = 1.5	Unfinished	OP-150
OPP-180	115.5	164	98	140	Aluminium A1050P t = 1.5	Unfinished	OP-180

■ Included screw : M3-6 Steel pan head tapping • Trivalent chromate x 4 pcs



- Plated Through Hole (PTH) type PCB with a 2.54mm hole-to-hole pitch.
Inexpensive and economical PCB made with robust, heat-resistant and non-conductive glass epoxy material.
- Easily mounted onto bosses or standoffs with the mounting holes at each corner.
- Made with environmentally friendly lead-free solder. RoHS3 compliant.
- 4 new sizes added to extend the lineup to a total of 9 sizes. PCB100-160 is Eurocard (3U) format size.
- 3 new SIC and SIM plastic case series compatible sizes have been released, now with 4 compatible sizes available.
- DXF/DWG/PDF drawings available on our website.

Installation Example



Material / Finish : Glass epoxy (FR-4) / Through-hole - Lead-free solder resist

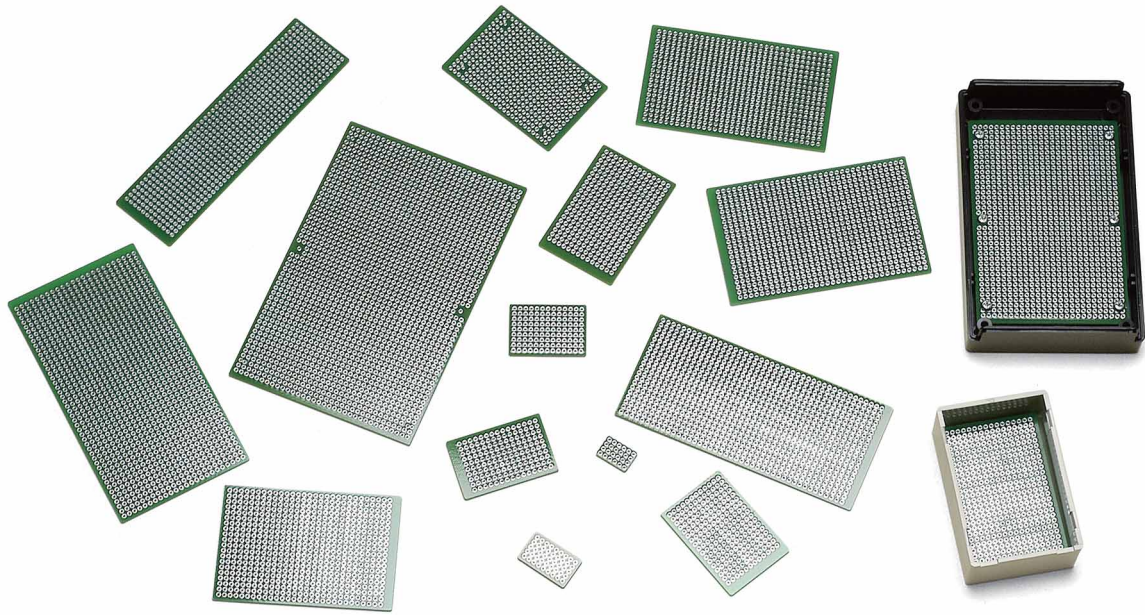
*When installing PCB46-101 with M2 mounting screws, use EM-B2 (see page 398).

Product no. / Details

Product no.	W	D	a	b	c	t	Mounting screw	Weight (g)	Compatible SIC & SIM size
PCB 32- 53	32	53	25	47	2.5	1.2	M2 / M2.5	3.9	SIC • SIM5- 7-□
NEW PCB 32- 73	32	73	25	67	2.5	1.2	M2 / M2.5	5.2	SIC • SIM5- 9-□
NEW PCB 36- 47	36	47	30	41	2.5	1.2	M2 / M2.5	3.7	—
NEW PCB 45- 45	45	45	40	40	2.5	1.2	M2 / M2.5	4.6	SIC • SIM6- 7-□
NEW PCB 46-101	46	101	40	95	3.2	1.6	M2 / M2.5 / M3	13.2	SIC • SIM6-12-□
PCB 47- 72	47	72	41	66	3.2	1.2	M3	7.4	—
PCB 72- 95	72	95	62	85	3.2	1.2	M3	15.7	—
PCB 90-120	90	120	82	112	3.2	1.6	M3	32.5	—
PCB100-160	100	160	92	152	3.2	1.6	M3	49.2	—

TNF SERIES

LEAD-FREE UNIVERSAL PCB



- Material / Finish : Glass epoxy (FR-4) / Through-hole - Lead-free solder resist
- Environmentally friendly lead-free solder.
- 25 different sizes available. See chart on page TNF-2 for suitable cases/boxes.
- TNF160-240 is for multi-size use. Cut it to fit your needs when using.

Accessories (Optional parts)



Tapping standoff TPS series
See page TPS • MT-1



Adhesive standoff T-600, 700 series
See page Standoff-1

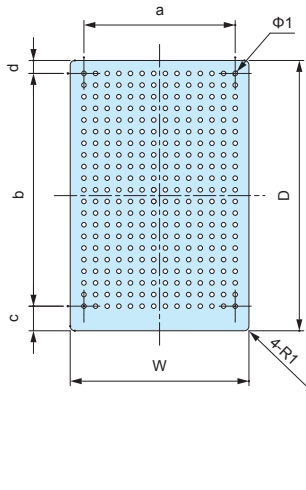


Adhesive standoff ASR series
See page Standoff-1

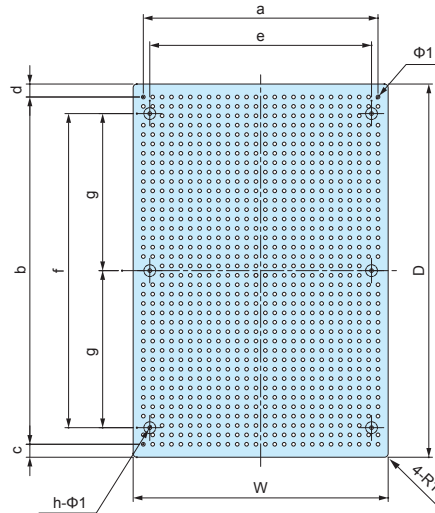


PCB mounting screw EM series
See page EM • MR-1

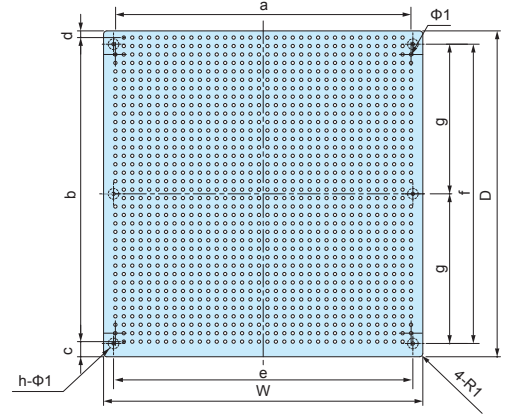
Pattern A



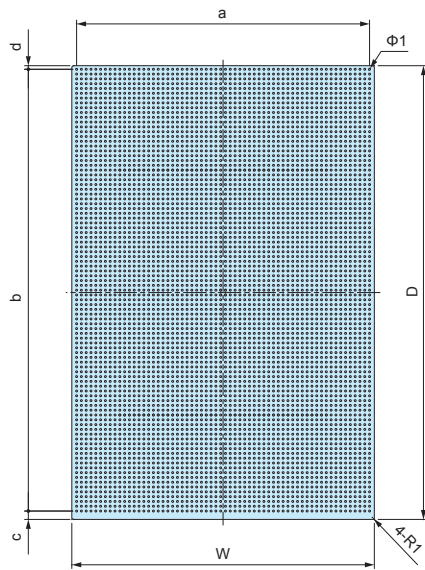
Pattern B



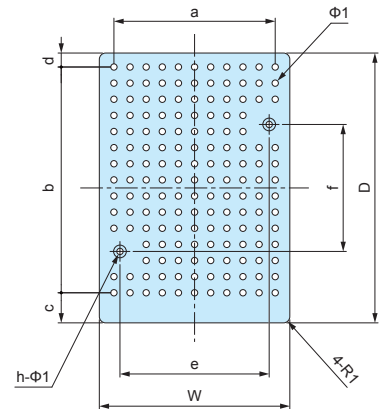
Pattern C



Pattern D



Pattern E



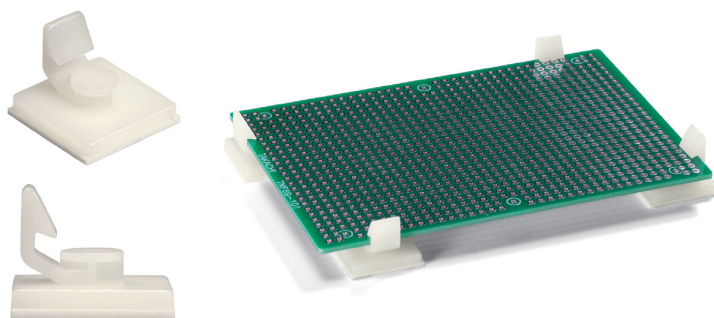
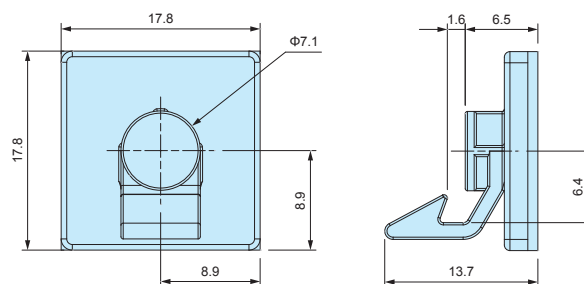
Product no. / Dimensions

■ Pattern B, C, and E PCBs come with holes for boss mounting.

Product no.	W	D	a	b	c	d	e	f	g	h	Holes	Pattern	Suitable case
TNF 11- 16	10.7	15.8	7.62	12.7	1.55	1.55	—	—	—	—	4 x 6	A	SW-20
TNF 15- 25	15	25	10.16	20.32	2.34	2.34	—	—	—	—	5 x 9	A	SW-30
TNF 25- 35	25	35	20.32	30.48	2.26	2.26	—	—	—	—	9 x 13	A	SW-40
TNF 29- 32	29.5	32.5	25.4	25.4	4.82	2.28	23.5	20	—	2	11 x 11 ■	E	TW • TWN4-2-5
TNF 29- 42	29.5	42.5	25.4	35.56	4.74	2.2	23.5	20	—	2	11 x 15 ■	E	TW • TWN4-2-6
TNF 29- 44	29	44	22.86	35.56	5.49	2.95	—	—	—	—	10 x 15	A	SW-50 • 53
TNF 34- 49	34	49	27.94	40.64	5.45	2.91	—	—	—	—	12 x 17	A	SW-55
TNF 34- 62	34.5	62.5	30.48	55.88	4.58	2.04	28.5	40	—	2	13 x 23 ■	E	TW • TWN4-2-8
TNF 34-124	34	124	27.94	116.84	4.85	2.31	—	—	—	—	12 x 47	A	SW-130
TNF 39- 59	39	59	33.02	50.8	5.37	2.83	—	—	—	—	14 x 21	A	
TNF 39- 70	39.5	70	33.02	60.96	5.79	3.25	27.94	58.42	—	4	14 x 25	A	TW • TWN5-3-9
TNF 43- 66	43	66	38.1	58.42	3.79	3.79	30	50	—	4	16 x 24 ■	B	
TNF 43- 79	43.5	79.5	38.1	73.66	2.92	2.92	—	—	—	—	16 x 30	A	TW5-3-10
TNF 44- 69	44	69	38.1	60.96	5.29	2.75	—	—	—	—	16 x 25	A	SW-75
TNF 52- 89	52	89	45.72	81.28	3.86	3.86	—	—	—	—	19 x 33	A	SW-95
TNF 53- 79	53	79	48.26	71.12	5.21	2.67	—	—	—	—	20 x 29	A	SW-85 • TW • TWN7-□-11
TNF 53-114	53	114	48.26	106.68	4.93	2.39	—	—	—	—	20 x 43	A	SW-120
TNF 59- 94	59	94	53.34	86.36	5.09	2.55	—	—	—	—	22 x 35	A	SW-100
TNF 63-119	63	119	58.42	111.76	4.89	2.35	—	—	—	—	24 x 45	A	SW-125
TNF 69-101	69	101	63.5	93.98	3.51	3.51	60	—	42.5	6	26 x 38 ■	B	
TNF 89-136	89	136	83.82	129.54	3.23	3.23	80	—	60	6	34 x 52 ■	B	
TNF 96- 98	96	98	88.9	91.44	4.55	2.01	90	90	45	6	36 x 37 ■	C	
TNF122- 99	122	99	116.84	91.44	3.78	3.78	—	—	—	—	47 x 37	A	
TNF128-136	136	128	129.54	121.92	4.31	1.77	130	120	60	6	52 x 50 ■	C	
TNF160-240	160	240	154.94	233.68	3.93	2.39	—	—	—	—	62 x 93	D	

ULCK series**SCREWLESS PCB ADHESIVE STANDOFF**

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. / Details

■ Material / Color : PA66 UL94V-2 / Natural

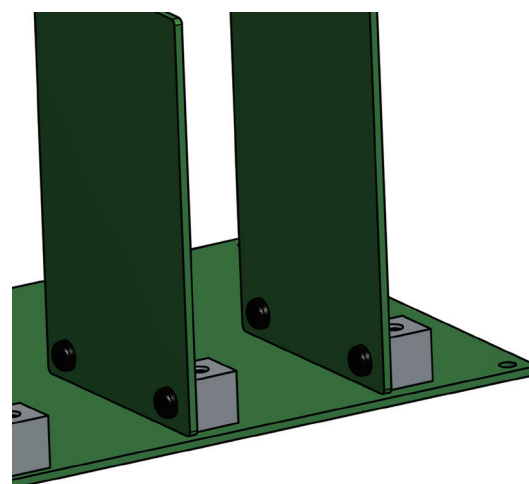
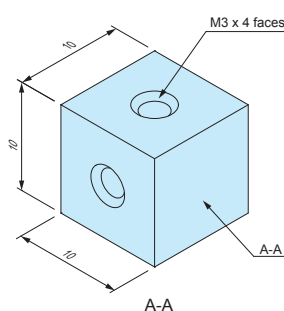
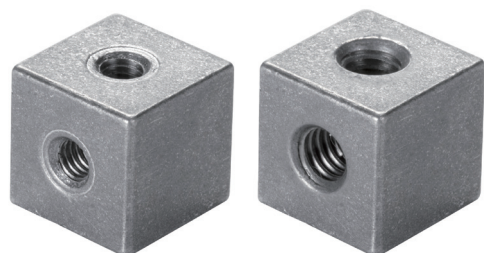
Product no.	Weight (g)	Pack of
ULCK-6.4	1.3 (1 pc)	4

CUBE series**CUBE STANDOFF**

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

CUBE10-M3

CUBE10-M4



- 10mm threaded cube shape standoff with a thread on 4 faces.
- M3 and M4 thread models available.
- Conveniently 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. / Details

■ Zinc diecast : Glossy barrel finish

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

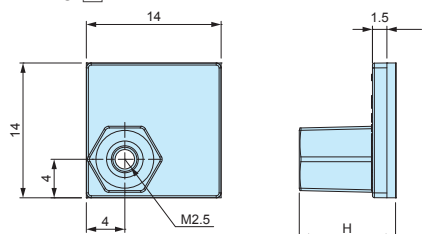
AST series**INSERT NUT ADHESIVE STANDOFF**

- 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.

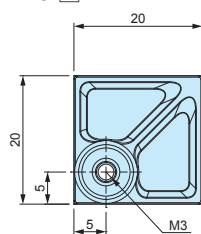
AST dimensions

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

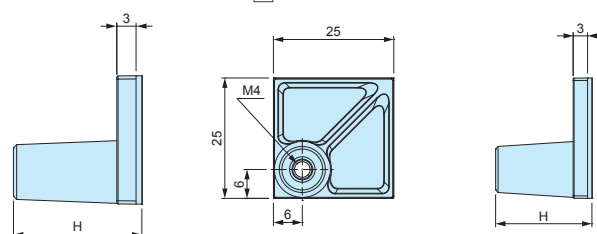
AST2.5-□



AST3-□



AST4-□

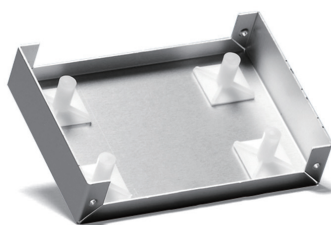
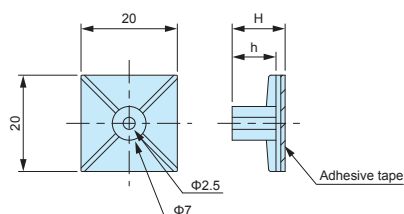
**Product no. / Details**

Product no	H dimension	Included screw	Recommended PCB thickness (mm)	Recommended torque (N · m)	Weight (g)	Pack of	Product no	Pack of
AST2.5-5B	5	M2.5-5 pan head	1.0 ~ 2.0	0.3	0.6 (1 piece)	4	AST2.5-5B-P	100
AST2.5-10B	10	M2.5-5 pan head	1.0 ~ 2.0	0.3	0.8 (1 piece)	4	AST2.5-10B-P	100
AST3-6B	6	M3-6 pan head	1.0 ~ 3.0	0.4	1.5 (1 piece)	4	AST3-6B-P	100
AST3-10B	10	M3-6 pan head	1.0 ~ 3.0	0.4	1.6 (1 piece)	4	AST3-10B-P	100
AST3-15B	15	M3-6 pan head	1.0 ~ 3.0	0.4	1.8 (1 piece)	4	AST3-15B-P	100
AST3-20B	20	M3-6 pan head	1.0 ~ 3.0	0.4	2.1 (1 piece)	4	AST3-20B-P	100
AST4-10.5B	10.5	M4-8 pan head	1.0 ~ 3.5	0.8	2.6 (1 piece)	4	AST4-10.5B-P	50
AST4-20B	20	M4-8 pan head	1.0 ~ 3.5	0.8	3.2 (1 piece)	4	AST4-20B-P	50

Bulk package

- 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 398).
- Please ensure that surface is cleaned and grease-free before adhering.
- Once removed, it cannot be adhered on again.

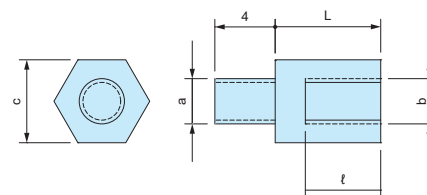
Product no. / Details

- Material / Color: Nylon 66 (UL94V-2) / Natural

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



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

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

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

Product no. / Details

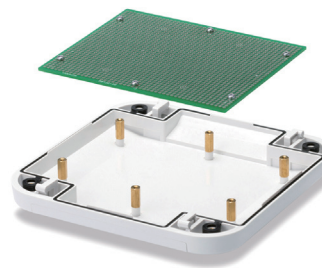
■ Material / Finish : Brass / Unfinished

Product no.	Screw size (a)	Screw size (b)	c	L	ℓ	Weight (g)	Pack of	Suitable models
TPS-M2.3-4	2.3	M2.3	5	4	3	0.7	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	2.3	M2.3	5	5	3	0.9	4	
TPS-M2.3-6	2.3	M2.3	5	6	4	1	4	
TPS-M2.3-7	2.3	M2.3	5	7	5	1.2	4	
TPS-M2.3-8	2.3	M2.3	5	8	6	1.3	4	
TPS-M2.3-10	2.3	M2.3	5	10	6	1.7	4	
TPS-M2.3-12	2.3	M2.3	5	12	6	2	4	PF • PFF series (M2.6 boss models) WP series (M2.6 boss models)
TPS-M2.6-4	2.6	M2.6	5	4	3	0.7	4	
TPS-M2.6-5	2.6	M2.6	5	5	3	0.8	4	
TPS-M2.6-7	2.6	M2.6	5	7	5	1.1	4	
TPS-M2.6-10	2.6	M2.6	5	10	6	1.6	4	SU • OP TWS • TW • TWN • TWF series (M3 boss models)
TPS-M2.6-12	2.6	M2.6	5	12	6	2	4	
TPS-M3-4	3	M3	5.5	4	3	0.8	4	
TPS-M3-5	3	M3	5.5	5	3	1.1	4	
TPS-M3-6	3	M3	5.5	6	4	1.2	4	
TPS-M3-7	3	M3	5.5	7	5	1.3	4	
TPS-M3-8	3	M3	5.5	8	5	1.6	4	BCAS • BCAP • BCPC • BCPK series (M4 boss models) BCAR • BCPR series (M4 boss models) SPCP • SPCM • WG • WGV • WGPC
TPS-M3-10	3	M3	5.5	10	6	1.9	4	
TPS-M3-12	3	M3	5.5	12	6	2.3	4	
TPS-M4-6	4	M4	7	6	4	2	4	
TPS-M4-10	4	M4	7	10	6	3.1	4	
TPS-M4-15	4	M4	7	15	8	4.7	4	
TPS-M4-20	4	M4	7	20	10	6.5	4	



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

Installation example



MT series

PCB MOUNTING SCREWS for TPS



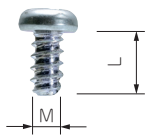
■ Pan head PCB mounting Screws for TPS tapping standoffs.

Product no. / Details

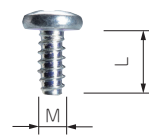
Product no.	M	L	Material	Finish	Pack of
MT2.3-4	2.3	4	Steel	Trivalent chromate	20
MT2.3-6	2.3	6	Steel	Trivalent chromate	20
MT2.6-4	2.6	4	Steel	Trivalent chromate	20
NEW MT2.6-6	2.6	6	Steel	Trivalent chromate	20
MT3-4	3	4	Steel	Trivalent chromate	20
NEW MT3-6	3	6	Steel	Trivalent chromate	20
NEW MT4-4	4	4	Steel	Trivalent chromate	20
NEW MT4-6	4	6	Steel	Trivalent chromate	20

EM series**PCB MOUNTING SCREW**

Pan head



Bind head



- 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.

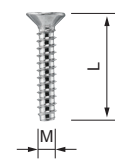
Product no. / Details

■ Material / Finish : Steel / Trivalent chromate

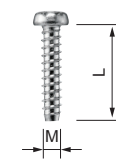
Product no.	M	L	Head type	Suitable models	Pack of
EM-1.6	1.6	4	Pan	SMW • CSS • CS SIC • SIM • WC • PS (M1.6 boss models)	50
EM-2	2	5	Pan	PS • TW • TWN • TWF SIC • SIM • PF • WC • WP (M2 boss models)	50
NEW EM-B2	2	5	Bind	SIC • SIM (M2 boss models) SIC • SIM6-12-□ (when installing PCB46-101)	50
EM-2.3	2.3	6	Pan	DRC • 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	Pan	WSC (Bottom base bosses)	50
EM-2.6	2.6	6	Pan	PF • PFF • WP (M2.6 boss models)	50
EM-3	3	5	Pan	SU • OP	50
EM-3-6	3	6	Pan	TWS • TW • TWN • TWF (M3 boss models)	50

MR series**TORX SCREW**

Flat head



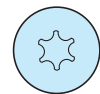
Pan head



With pin



★ Without pin



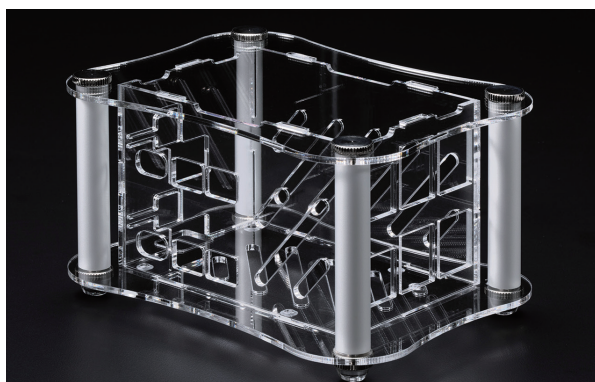
- Self-tapping torx screws for securing of the enclosure.

★ : MR1.6-6S, MR2.6-10□, MR3-5Z□ and MR3-14□ are without pin.

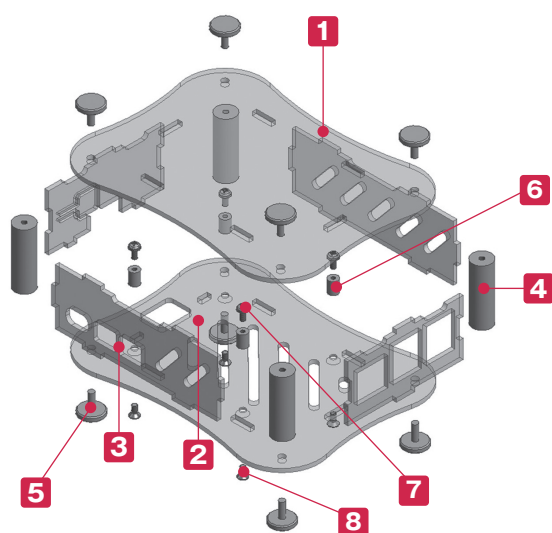
Product no. / Details

★ 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)	20
MR2.6-12PS	2.6	12	T8	Pan	Steel	Nickel plated	MX • MXA • MXB • MXF (M2.6 size)	20
MR2.6-14PS	2.6	14	T8	Pan	Steel	Nickel plated	LCT • LCS • LC115-F2 / F3 LCT • LCS • LC145S-F6	20
MR2.6-14S	2.6	14	T8	Flat	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
MR2.6-18S	2.6	18	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
MR-1S	3	5	T10	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
MR-1B	3	5	T10	Flat	Steel	Black trivalent chromate	UC	20
MR3-5ZS★	3	5	T10	Slotted raised countersunk	Steel	Nickel plated	FC • HY • HYR • HYRH (M3 size)	20
MR3-5ZB★	3	5	T10	Flat	Steel	Black trivalent chromate	CF	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



RPA-4B-1F is compatible with VESA Mount Standards (100 x 100mm), and can be installed on the back side of PC displays, etc.



- Exclusively for use with Raspberry Pi models.
- 3 different types - Single desktop, Dual desktop, and Single flanged - are available.
- New size for Raspberry Pi 5 is now available.
- The panel power button part may easily bend when the board is not installed.
- Raspberry Pi board is not included.

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

Technical Data

Operating temperature : -30°C ~ +60°C

※Included screws :

RPA-4B • 5-1 Knurled thumb screw x 8

RPA-4B • 5-2 Knurled thumb screw x 8

RPA-4B • 5-1F Knurled thumb screw x 4

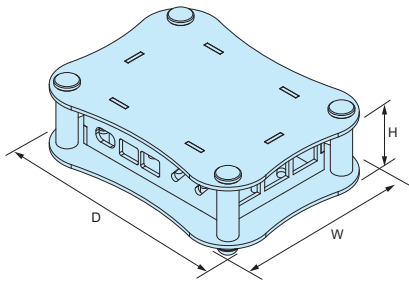
M3-8 flat head, Trivalent chromate x 4

Components

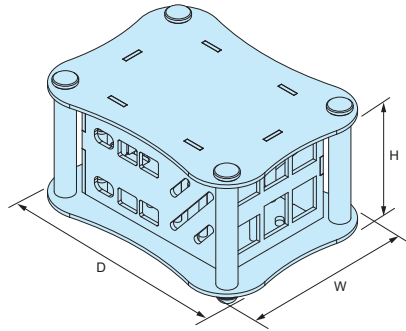
No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	Acrylic t=2.0	Transparent
2	Bottom cover	1	Acrylic t=2.0	Transparent
3	Panel	4	Acrylic t=2.0	Transparent
4	Pillar	4	Extruded aluminium A6063S-T5	Silver / Anodized with clear coating
5	Knurled thumb screw (M3-8)※	4 / 8	Brass	Nickel plated
6	Standoff (for board)	4	Brass	Nickel plated
7	Screw for Board (M2.5-4 pan head)	4	Steel	Trivalent chromate
8	Screw for Standoffs (M2.5-5 flat head)	4	Steel	Trivalent chromate

RPA dimensions

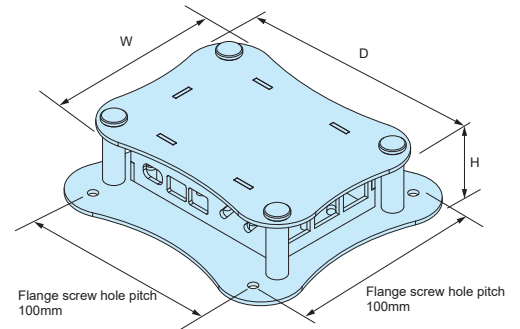
RPA-4B-1
RPA-5-1 (Single desktop)



RPA-4B-2
RPA-5-2 (Dual desktop)



RPA-4B-1F
RPA-5-1F (Single flanged)



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

Product no. / Details

Product no.	External Dimension			Suitable model	Included accessory	Weight(g)
	W	H	D			
RPA-4B-1	95	34	125	Raspberry Pi 4B	Rubber feet	118
NEW RPA-5-1	95	34	125	Raspberry Pi 5	Rubber feet	113.5
RPA-4B-2	95	62	125	Raspberry Pi 4B	Rubber feet Round spacer (M2.5-25)	171.5
NEW RPA-5-2	95	62	125	Raspberry Pi 5	Rubber feet Round spacer (M2.5-25)	166.5
RPA-4B-1F	95	34	125	Raspberry Pi 4B	—	118.5
NEW RPA-5-1F	95	34	125	Raspberry Pi 5	—	113.5

■ Rubber feet : Synthetic rubber / Semi-transparent • Round spacer : Brass / Nickel plated

Raspberry Pi Case Customization

Unique Logo (Inkjet printing)

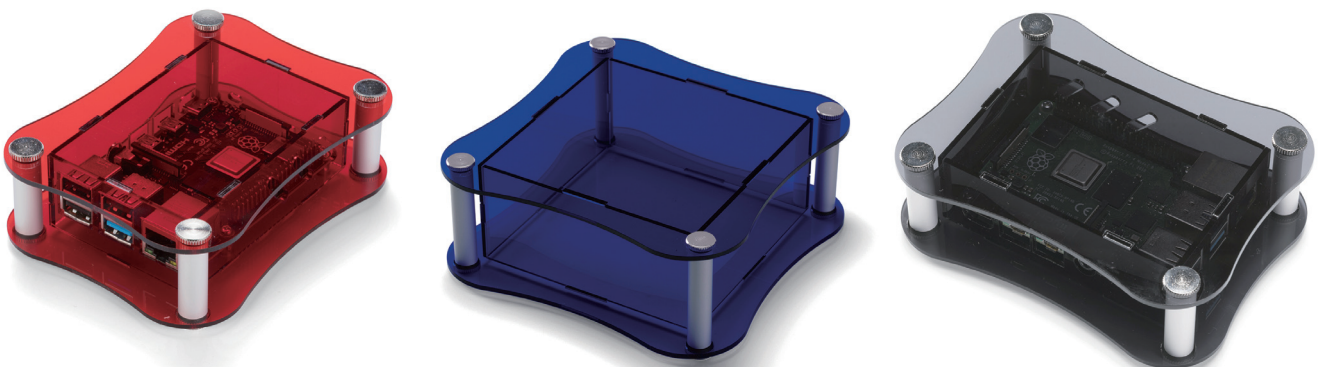
See page Custom-7~8, as well as our website for further details.

Various print processing methods are available, with no Minimum Order Quantity requirement!



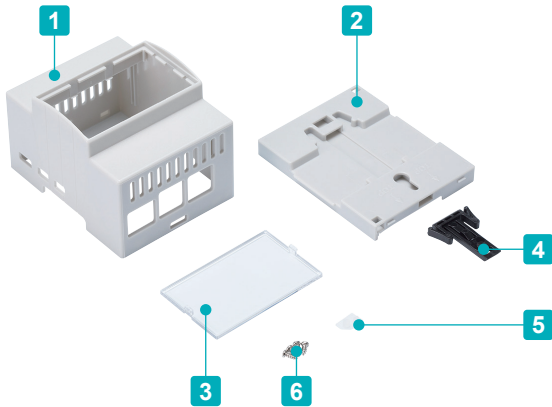
Color Variation

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



RPDM-5

Raspberry Pi 5 DIN RAIL CASE



- DIN rail mount case exclusively for use with the Raspberry Pi 5.
Able to assemble easily with a flathead screw driver; no screws required.
*Caution : Material may easily break when assembling.

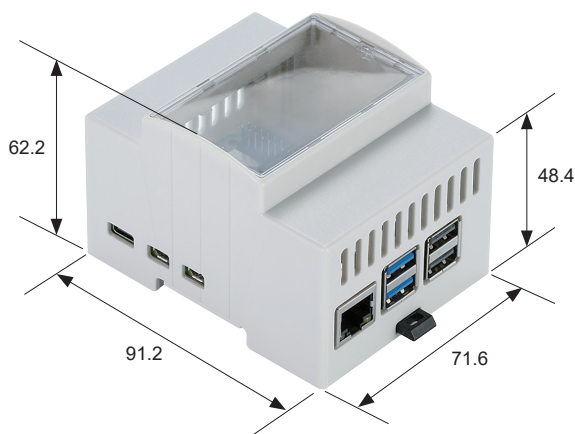
- Raspberry Pi board is not included.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Body	1	ABS	Gray
2	Base	1	ABS	Gray
3	Front panel	1	ABS	Transparent
4	Lever	1	ABS	Black
5	Transparent window	1	Acrylic	Translucent
6	Screw for Board	4*	Steel	Silver

*2 out of 4 pieces are spares.

RPDM-5 dimensions



Product no. / Details

Product no.	Weight (g)
RPDM-5	63.7

Accessories (Optional parts)

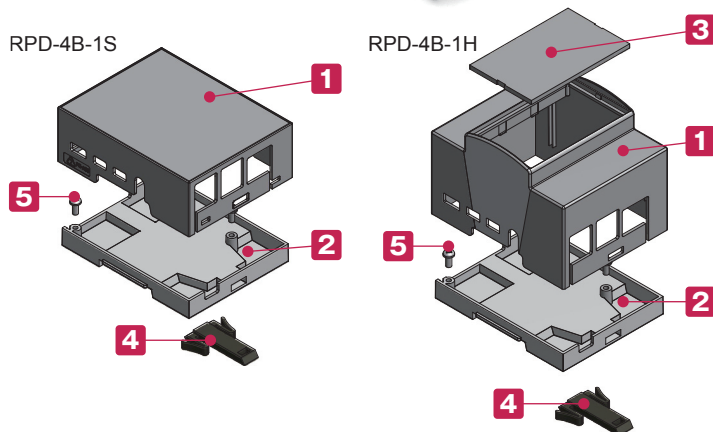


DIN RAIL
FDR series
See page FDR-1 ~ FDR-2



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.

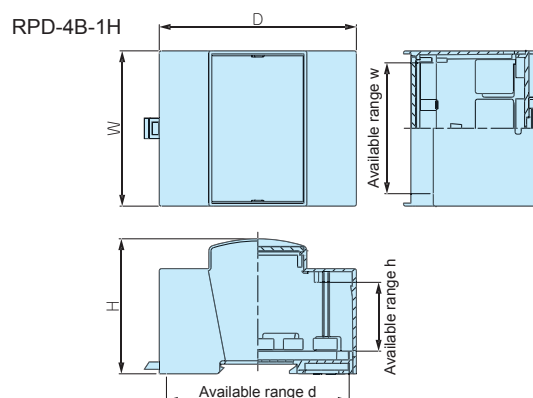
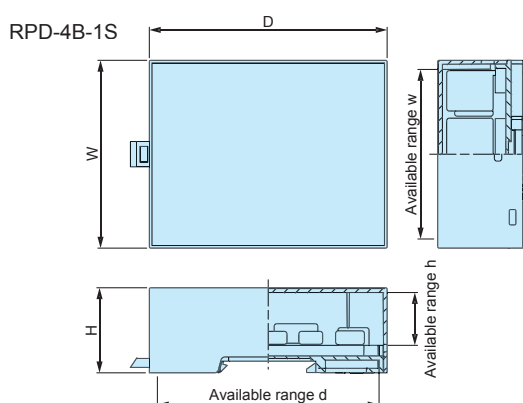
■ Raspberry Pi Board is excluded.

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.



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.

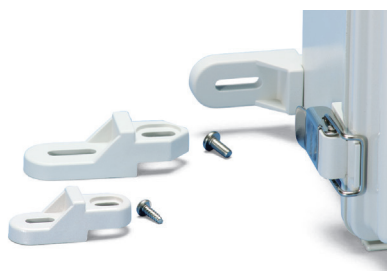
3-21-16 Higashi-ryoke,
Kawaguchi, Saitama 332-0003, JAPAN
Tel. +81-48-222-5409

www.takachi-enclosure.com

sales@takachi-el.co.jp

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

IP65 LATCH-HINGED PLASTIC BOX



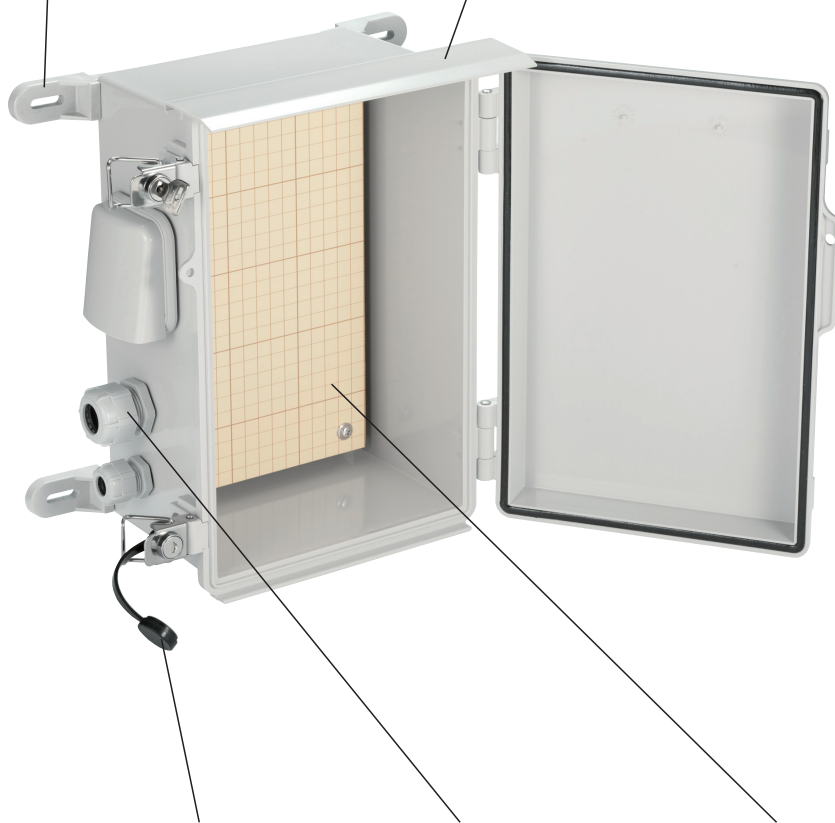
Stainless steel and plastic mounting brackets are available.
See page 146



BCAR • BCPR series come with an attachable BRF series outdoor roof.
See page 135 ~ 136



Pole mounting bracket for pole installation
See page 205 ~ 208



Dust protection cap (for lock/key type)
See page 142



Cable gland
For waterproofing enclosure openings to insert cables and wires
See page 181 ~ 193



Mounting plate
3 types of mounting plates are available (plastic / steel / wood)
See page 143 ~ 145



Ventilation cover
For heat dissipation and prevention of condensation build-up
See page 202

APPLICATION EXAMPLE

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

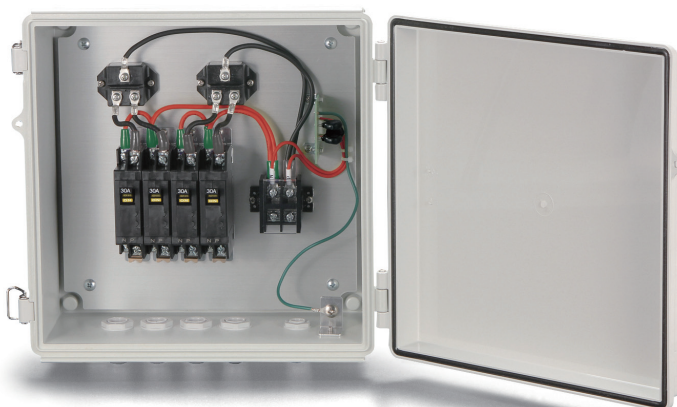
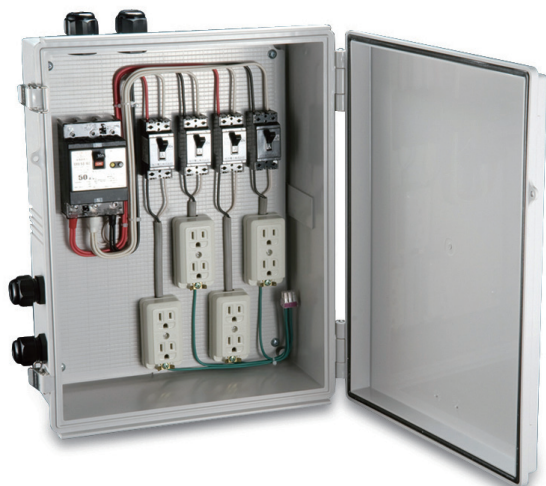
Outdoor WiFi Spot



Solar Power Junction Box



Power Switchboard Box



8 Channel Data Logger for Agriculture



Environmental Data Measurement and Controller Unit



"SenSu" Communication Unit with Sensor



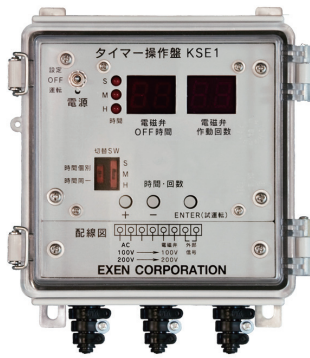
Network Sensor System for Agriculture



Wildlife Damage Monitoring System



Valve Controller



Building Surveillance Unit



Digital Pressure Gauge



Radiation Monitor



Power Saver for Air Conditioning



Anemometer

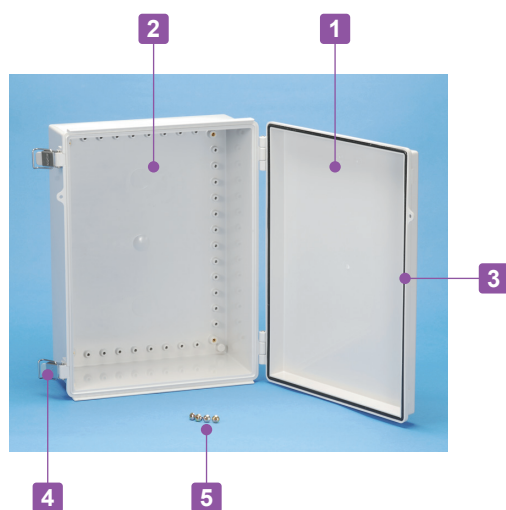


Water Gauge



Monitoring Camera



BCAP series**IP65 LATCH-HINGED ABS PLASTIC BOX****BCPC** series**IP65 LATCH-HINGED POLYCARBONATE PLASTIC BOX****Technical Data**

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

■ UL certified BC-C series is also available.
 See website for details.

- 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 more.
- 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

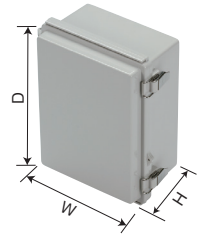
No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	Polycarbonate UL94V-0	Light gray
2	Base	1	Glass fiber filled polycarbonate UL94V-0	Light gray
3	Gasket	1	Polyurethane	Black
4	Latch	1 ~ 3	Stainless steel	Unfinished
5	Screw for mounting plate	2 ~ 8	Steel	Trivalent chromate

■ 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. / Details

Product no.	W	D	H	Weight (g)	
				G type	T type
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
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
BCAP203013□N	200	300	130	921	954
BCAP203015□N	200	300	150	989	1,022
BCAP203018□N	200	300	180	1,110	1,143
BCAP212110□	210	210	100	630	656
BCAP212113□	210	210	130	704	726
BCAP253515□N	250	350	150	1,278	1,320
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	258	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. / Details

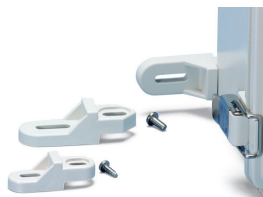
Product no.	W	D	H	Weight (g)
BCPC091207S	90	120	70	226
BCPC091208S	90	120	85	247
BCPC101507S	100	150	70	312
BCPC101508S	100	150	85	336
BCPC112107S	110	210	75	420
BCPC112110S	110	210	100	473
BCPC112607S	110	260	75	493
BCPC112610S	110	260	100.5	569
BCPC131508S	135	155	85	406
BCPC131808S	135	185	85.5	452
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
BCPC172210S	170	220	105	642
BCPC172711S	170	270	110.5	775
BCPC192810S	190	280	100.5	858
BCPC192814S	190	280	141	1,028
BCPC203013SN	200	300	130	1,070
BCPC203015SN	200	300	150	1,150
BCPC203018SN	200	300	180	1,295
BCPC212110S	210	210	100	742
BCPC212113S	210	210	130	827
BCPC253515SN	250	350	150	1,485
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	258	8,200
BCPC608018S	630	830	188	9,820
BCPC608028S	630	830	288	11,550

■ Refer to page 137 ~ 140 for detailed dimensions.

Accessories (Optional parts)



Mounting plate BMP series
See page 143 ~ 145



Mounting bracket CK • BFL series
See page 146



Pole mounting bracket SSK series
See page 205 ~ 208



Cable gland
See page 181 ~ 193

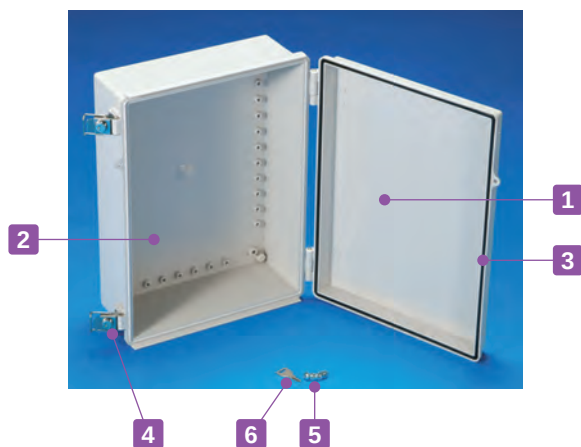


Ventilation parts
See page 195 ~ 202

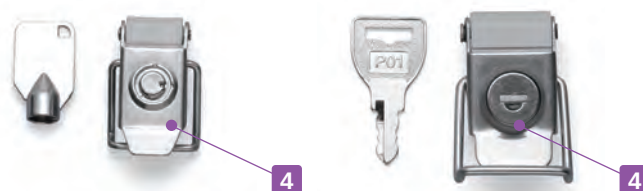


Technical Data

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



*Lock types vary according to box size.



■ 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 and selectable from 2 different cover types, Light gray and Transparent (BTO).

■ BCPK507018, 507025, 608018, and 608028 models are only available as S color type.

Box size
BCPK091207 ~ 172711
BCPK212110, 212113

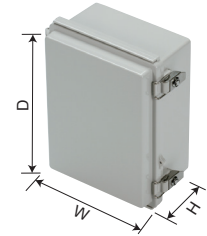
Box size
BCPK192810 ~ 203018
BCPK253515 ~ 608028

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 ~ 3	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. / Details

Product no.	W	D	H	Weight (g)	Delivery time
BCPK091207S	90	120	70	242	In stock
BCPK091208S	90	120	85	264	In stock
BCPK101507S	100	150	70	339	In stock
BCPK101508S	100	150	85	360	In stock
BCPK112107S	110	210	75	437	In stock
BCPK112110S	110	210	100	501	In stock
BCPK112607S	110	260	75	520	In stock
BCPK112610S	110	260	100.5	585	In stock
BCPK131508S	135	155	85	430	In stock
BCPK131808S	135	185	85.5	474	In stock
BCPK131810S	135	185	100.5	471	In stock
BCPK151509S	150	150	90	419	In stock
BCPK151512S	150	150	120.5	507	In stock
BCPK162110S	160	210	100	563	In stock
BCPK162113S	160	210	130	630	In stock
BCPK162610S	160	260	100	728	In stock
BCPK162613S	160	260	130	805	In stock
BCPK172210S	170	220	105	664	In stock
BCPK172711S	170	270	110.5	771	In stock
BCPK192810S	190	280	100.5	875	In stock
BCPK192814S	190	280	141	1,065	In stock
BCPK203013SN	200	300	130	1,098	In stock
BCPK203015SN	200	300	150	1,179	In stock
BCPK203018SN	200	300	180	1,324	In stock
BCPK212110S	210	210	100	743	In stock
BCPK212113S	210	210	130	822	In stock
BCPK253515SN	250	350	150	1,513	In stock
BCPK253518SN	250	350	180	1,676	In stock
BCPK282813S	280	280	130.5	1,391	In stock
BCPK283813S	280	380	130	1,811	In stock
BCPK303015S	300	300	151	1,670	In stock
BCPK303018S	300	300	181	1,782	In stock
BCPK304012S	300	400	120	1,858	In stock
BCPK304015S	300	400	150	1,912	In stock
BCPK304018S	300	400	181	2,083	In stock
BCPK353515S	350	350	150	2,067	In stock
BCPK353518S	350	350	181	2,175	In stock
BCPK354512S	350	450	120	2,442	In stock
BCPK354516S	350	450	160	2,863	In stock
BCPK354520S	350	450	201	3,156	In stock
BCPK405016S	400	500	160	3,149	In stock
BCPK405020S	400	500	201	3,725	In stock
BCPK406018S	400	600	181	4,159	In stock
BCPK406023S	400	600	231	4,639	In stock
BCPK506018S	530	630	185	5,339	In stock
BCPK506025S	530	630	255	7,136	In stock
BCPK507018S	530	730	188	7,470	In stock
BCPK507025S	530	730	258	8,260	In stock
BCPK608018S	630	830	188	9,880	In stock
BCPK608028S	630	830	288	11,610	In stock

Product no. / Details

Product no.	W	D	H	Weight (g)	Delivery time
BCPK091207T	90	120	70	237	2 months
BCPK091208T	90	120	85	261	2 months
BCPK101507T	100	150	70	337	2 months
BCPK101508T	100	150	85	335	2 months
BCPK112107T	110	210	75	444	2 months
BCPK112110T	110	210	100	509	2 months
BCPK112607T	110	260	75	528	2 months
BCPK112610T	110	260	100.5	594	2 months
BCPK131508T	135	155	85	421	2 months
BCPK131808T	135	185	85.5	475	2 months
BCPK131810T	135	185	100.5	478	2 months
BCPK151509T	150	150	90	422	2 months
BCPK151512T	150	150	120.5	508	2 months
BCPK162110T	160	210	100	721	2 months
BCPK162113T	160	210	130	639	2 months
BCPK162610T	160	260	100	738	2 months
BCPK162613T	160	260	130	825	2 months
BCPK172210T	170	220	105	681	2 months
BCPK172711T	170	270	110.5	794	2 months
BCPK192810T	190	280	100.5	900	2 months
BCPK192814T	190	280	141	1,094	2 months
BCPK203013TN	200	300	130	1,097	2 months
BCPK203015TN	200	300	150	1,178	2 months
BCPK203018TN	200	300	180	1,323	2 months
BCPK212110T	210	210	100	756	2 months
BCPK212113T	210	210	130	847	2 months
BCPK253515TN	250	350	150	1,510	2 months
BCPK253518TN	250	350	180	1,673	2 months
BCPK282813T	280	280	130.5	1,433	2 months
BCPK283813T	280	380	130	1,733	2 months
BCPK303015T	300	300	151	1,682	2 months
BCPK303018T	300	300	181	1,795	2 months
BCPK304012T	300	400	120	1,872	2 months
BCPK304015T	300	400	150	1,926	2 months
BCPK304018T	300	400	181	2,098	2 months
BCPK353515T	350	350	150	1,999	2 months
BCPK353518T	350	350	181	2,163	2 months
BCPK354512T	350	450	120	2,429	2 months
BCPK354516T	350	450	160	2,848	2 months
BCPK354520T	350	450	201	3,140	2 months
BCPK405016T	400	500	160	3,152	2 months
BCPK405020T	400	500	201	3,729	2 months
BCPK406018T	400	600	181	4,164	2 months
BCPK406023T	400	600	231	4,645	2 months
BCPK506018T	530	630	185	6,151	2 months
BCPK506025T	530	630	255	8,220	2 months
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—

■ Refer to page 137 ~ 140 for detailed dimensions.

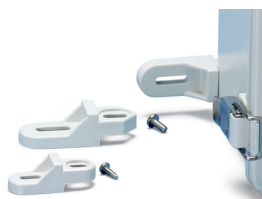
Accessories (Optional parts)



Dust protection cap BCC series
See page 142



Mounting plate BMP series
See page 143 ~ 145



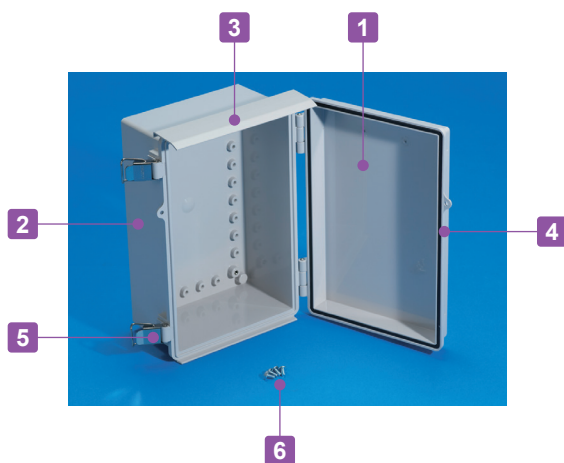
Mounting bracket CK • BFL series
See page 146



Cable gland
See page 181 ~ 193



Ventilation parts
See page 195 ~ 202

BCAR series**IP65 ABS PLASTIC BOX with OUTDOOR ROOF****BCPR** series**IP65 POLYCARBONATE PLASTIC BOX with OUTDOOR ROOF****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 more.
- 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

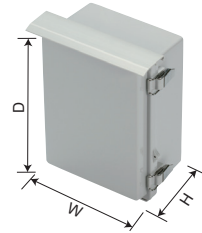
No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	Polycarbonate UL94V-0	Light gray
2	Base	1	Glass fiber filled polycarbonate UL94V-0	Light gray
3	Roof	1	PVC	Light gray
4	Gasket	1	Polyurethane	Black
5	Latch	1 ~ 3	Stainless steel	Unfinished
6	Screw for mounting plate	2 ~ 8	Steel	Trivalent chromate

■ 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. / Details

Product no.	W	D	H	Weight (g)	
				G type	T type
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
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
BCAR203013□N	200	300	130	959	992
BCAR203015□N	200	300	150	1,027	1,060
BCAR203018□N	200	300	180	1,148	1,181
BCAR212110□	210	210	100	666	692
BCAR212113□	210	210	130	740	762
BCAR253515□N	250	350	150	1,324	1,366
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	258	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. / Details

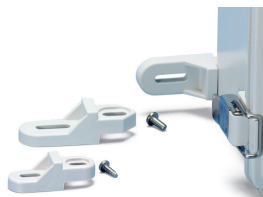
Product no.	W	D	H	Weight (g)
BCPR091207S	90	120	70	242
BCPR091208S	90	120	85	264
BCPR101507S	100	150	70	330
BCPR101508S	100	150	85	354
BCPR112107S	110	210	75	439
BCPR112110S	110	210	100	493
BCPR112607S	110	260	75	513
BCPR112610S	110	260	100.5	589
BCPR131508S	135	155	85	429
BCPR131808S	135	185	85.5	475
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
BCPR172210S	170	220	105	667
BCPR172711S	170	270	110.5	803
BCPR192810S	190	280	100.5	889
BCPR192814S	190	280	141	1,060
BCPR203013SN	200	300	130	1,108
BCPR203015SN	200	300	150	1,188
BCPR203018SN	200	300	180	1,333
BCPR212110S	210	210	100	777
BCPR212113S	210	210	130	862
BCPR253515SN	250	350	150	1,531
BCPR253518SN	250	350	180	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	258	8,420
BCPR608018S	630	830	188	10,040
BCPR608028S	630	830	288	11,770

■ Refer to page 137 ~ 140 for detailed dimensions.

Accessories (Optional parts)



Mounting plate BMP series
See page 143 ~ 145



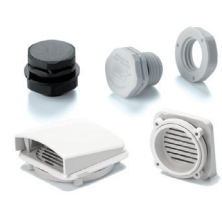
Mounting bracket CK • BFL series
See page 146



Pole mounting bracket SSK series
See page 205 ~ 208



Cable gland
See page 181 ~ 193

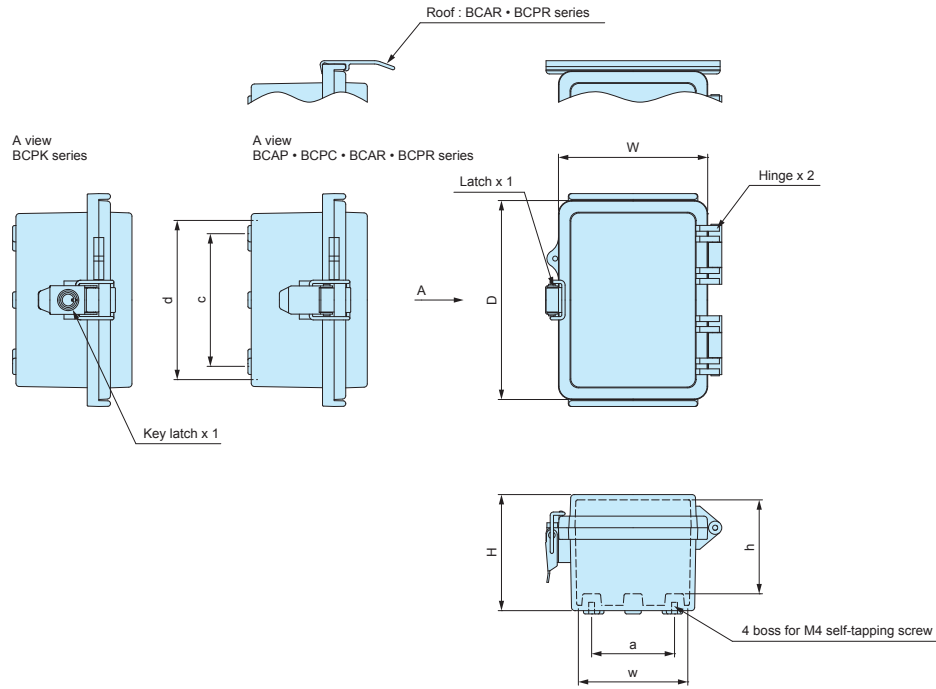


Ventilation parts
See page 195 ~ 202

BCAP • BCPC • BCPK • BCAR • BCPR dimensions

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

091207 • 091208



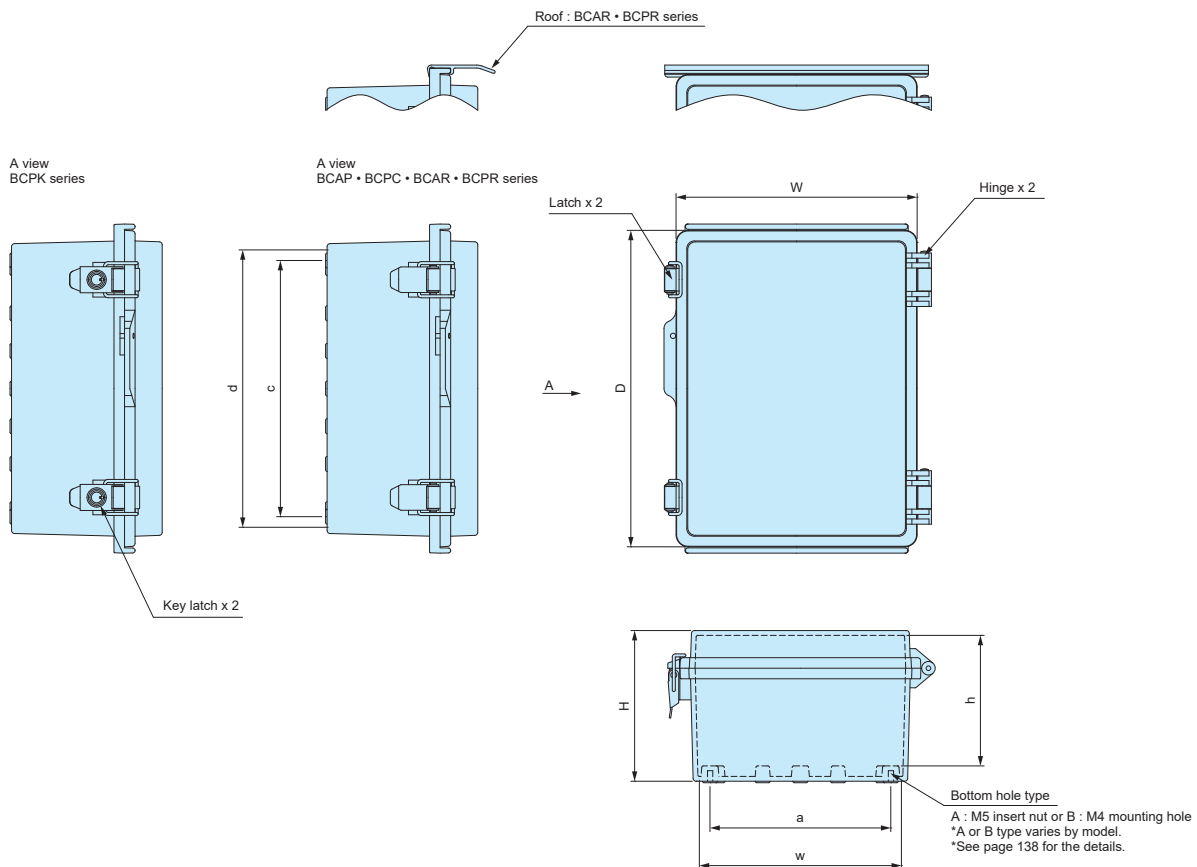
Product no. / Details

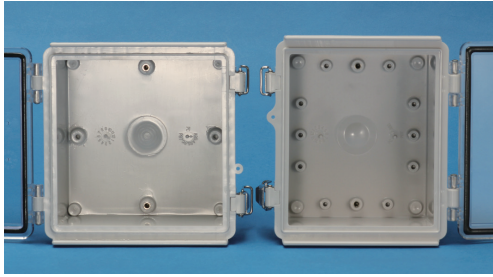
Product no.	W	D	H	Available range			Bottom hole pitch	
				w	d	h	a	c
BCAP • R, BCPC • K • R091207	90	120	70	66	96	56.5	50	80
BCAP • R, BCPC • K • R091208	90	120	85	66	96	71.5	50	80

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

101507 ~ 405020

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





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

APPLICATION EXAMPLE



Surveillance Video Data Cloud Router

Product no. / Details

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 • R172211	170	220	110.5	144.9	194.9	96.1	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
BCAP • R, BCPC • K • R203013□N	200	300	130	173.5	273.6	113.6	152	252	A
BCAP • R, BCPC • K • R203015□N	200	300	151.5	173.5	273.5	135.1	152	252	A
BCAP • R, BCPC • K • R203018□N	200	300	180.5	172.5	272.5	164.1	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
BCAP • R, BCPC • K • R253515□N	250	350	151	222.5	322.5	135.3	206	306	A
BCAP • R, BCPC • K • R253518□N	250	350	180	222.5	322.5	165.8	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

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

BCAP • BCPC • BCPK • BCAR • BCPR dimensions

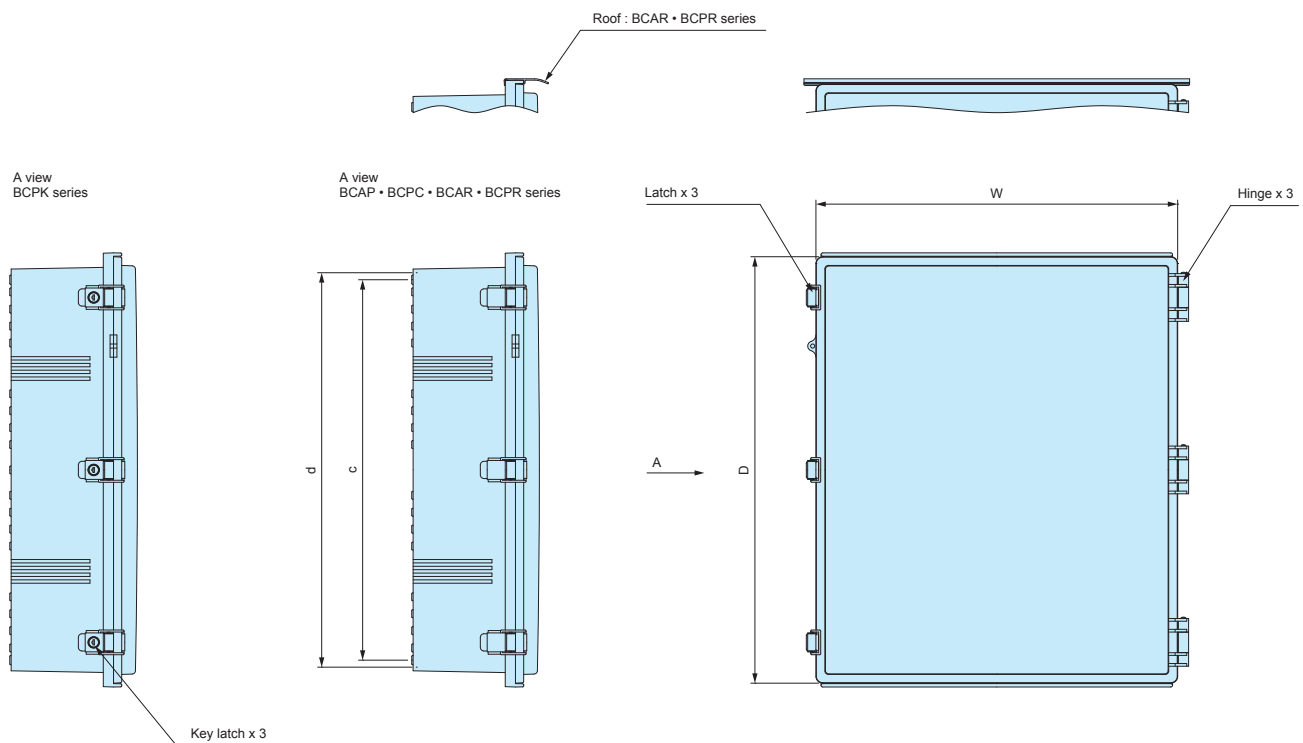
406018 ~ 507025

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

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



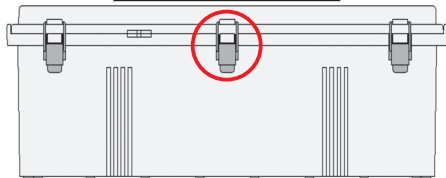
■ Number of bosses inside vary according to box size.
Refer to DXF/DWG/PDF drawings for more details.



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!

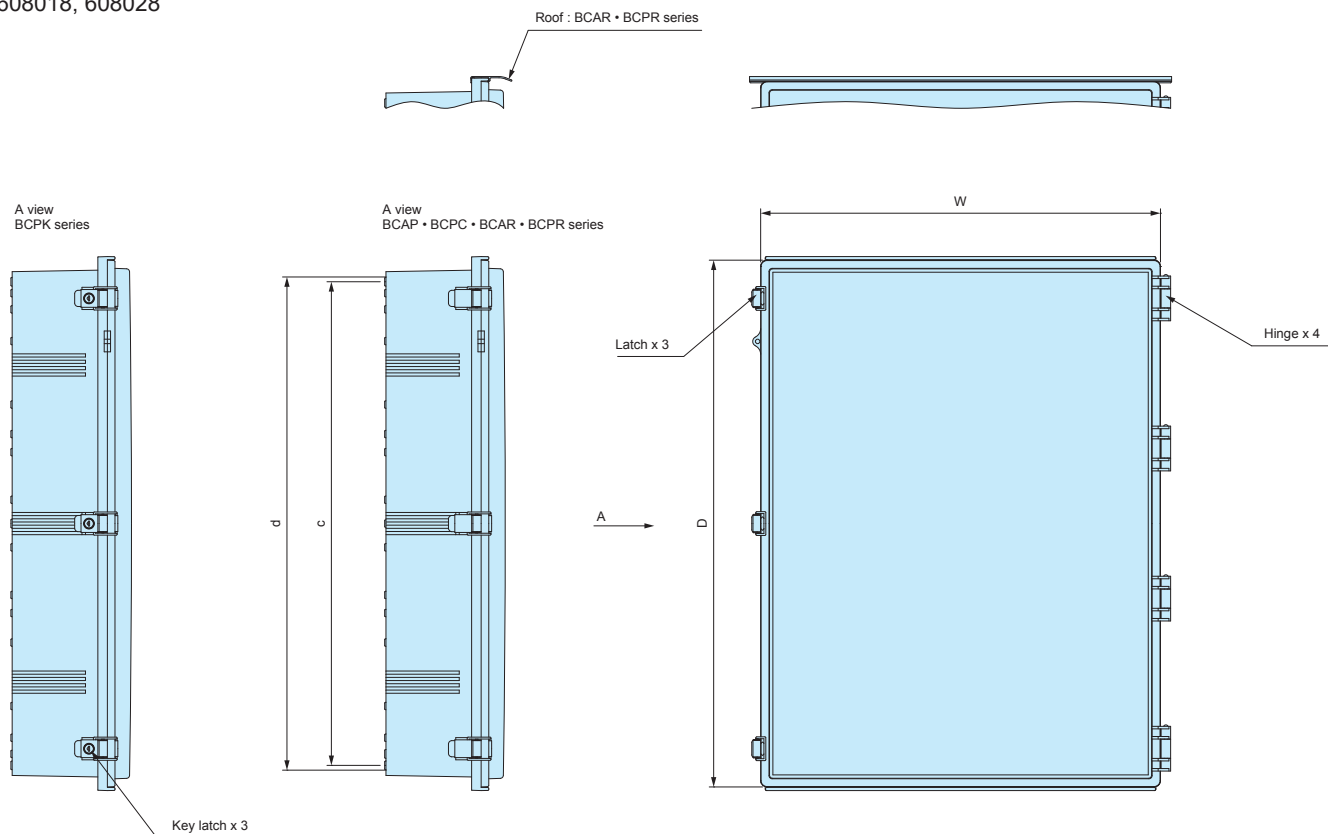


Product no. / Details

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

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

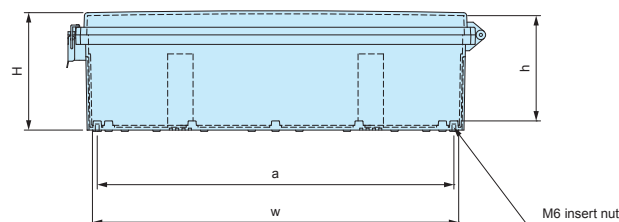
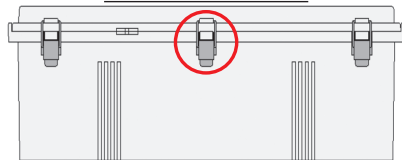
608018, 608028



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!

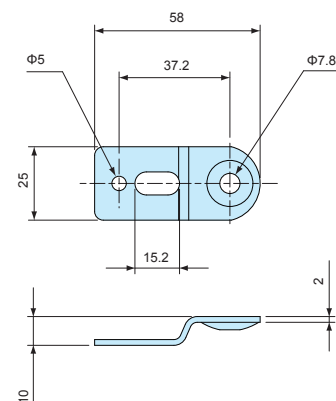


Product no. / Details

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

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

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



- 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.

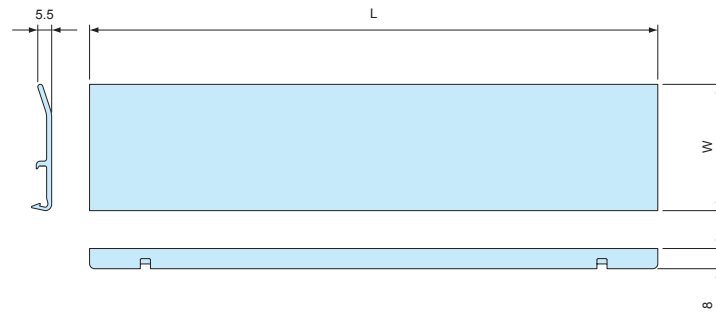
Color Type

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

BRF dimensions

Roof for 091207 ~ 353518

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

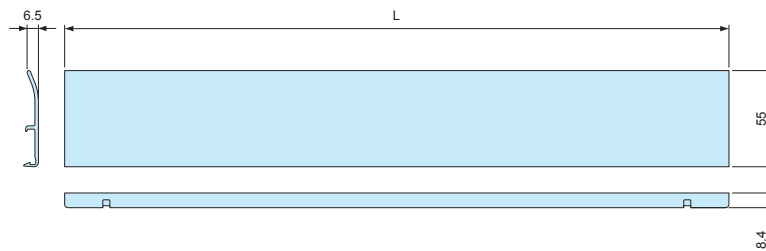


Product no. / Details

■ 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
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□N	BCAP • BCPC • BCPK 203013□N 203015□N 203018□N	225	50
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



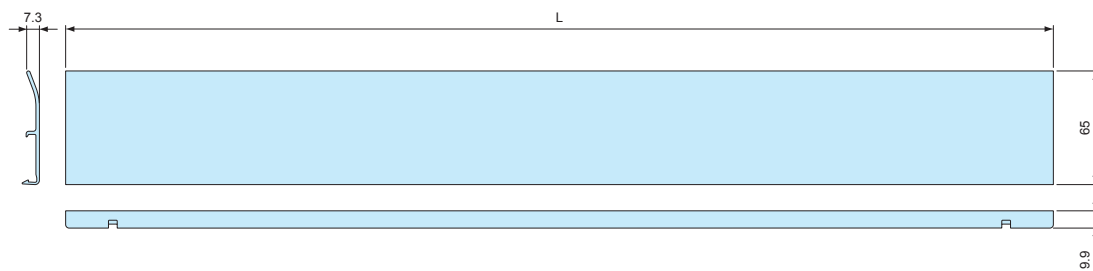
Product no. / Details

■ 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. / Details

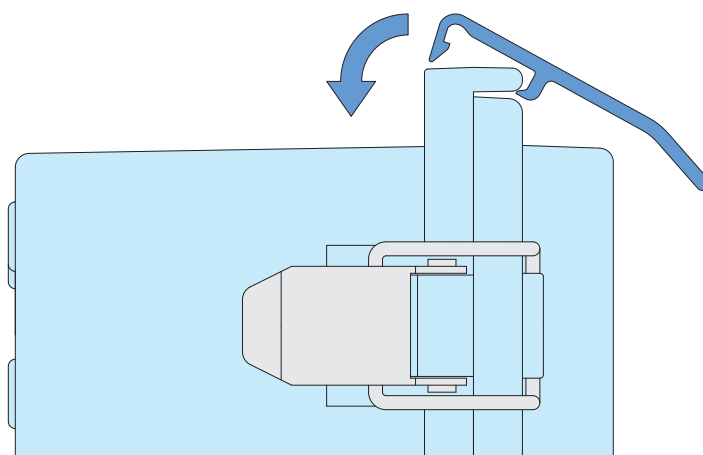
■ Please suffix the color code at the end of the product number.

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



- Prevents 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. / Details

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

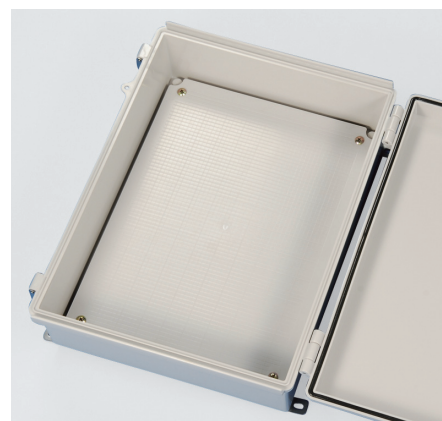
Suitable models

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

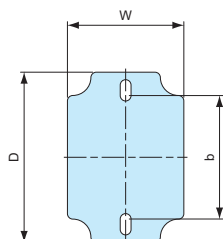
■ Not suitable for BCPK 212110, 212113, 172711 and smaller models.

BMP-P series**PLASTIC MOUNTING PLATE**

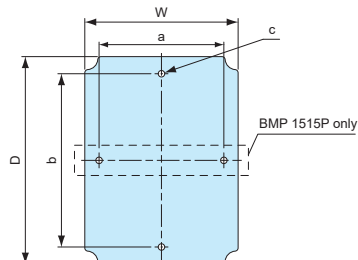
- Light weight ABS plastic mounting plate.

**BMP-P dimensions**

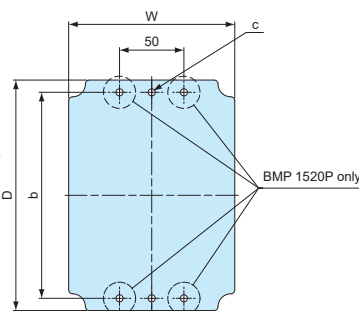
BMP0811P



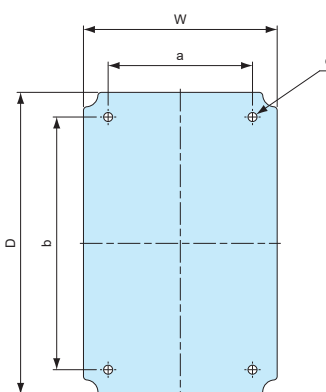
BMP0813P ~ 1515P



BMP1520P, 1525P



BMP1928P ~ 4050P



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

Components

Part name	Material	Color
Mounting plate	ABS	White gray

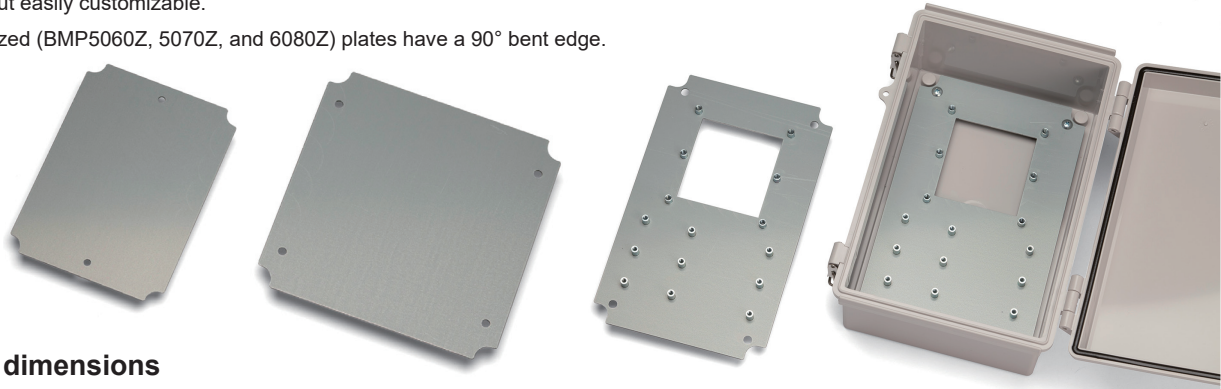
Product no. / Details

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	—	157.8	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

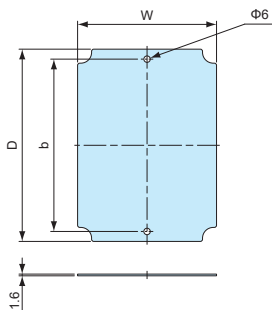
- K = BCPK series, R = BCAR • BCPR series.

BMP-Z series**STEEL MOUNTING PLATE**

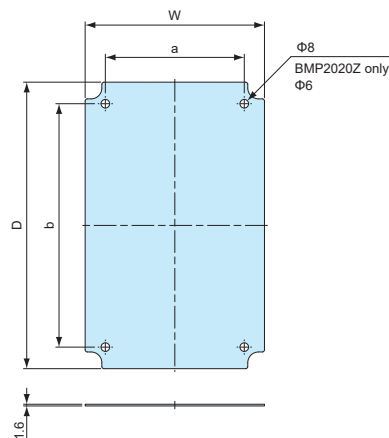
- Customization services (machining, punch press or clinching nut insertion) are available. See website for more details.
- Tough but easily customizable.
- Large sized (BMP5060Z, 5070Z, and 6080Z) plates have a 90° bent edge.

**BMP-Z dimensions**

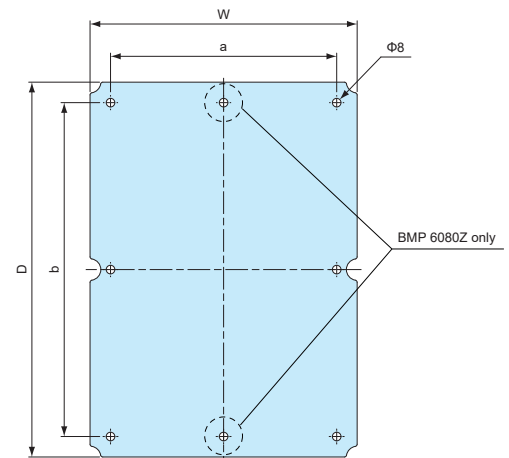
BMP0912Z ~ 1727Z



BMP1928Z ~ 4060Z



BMP5060Z ~ 6080Z

**Components**

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

**Product no. / Details**

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

Product no.	W	D	a	b	Suitable models	Screw	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	M5-8 × 4 pcs	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	M5-8 × 4 pcs	519
BMP2535Z	215	315	180	270	BCAP • R, BCPC • K • R 253515, 253518	M5-8 × 4 pcs	816
BMP2828Z	246	246	210	210	BCAP • R, BCPC • K • R 282813	M5-8 × 4 pcs	727.5
BMP2838Z	246	346	210	310	BCAP • R, BCPC • K • R 283813	M5-8 × 4 pcs	1,018
BMP3030Z	264	264	219	219	BCAP • R, BCPC • K • R 303015, 303018	M5-8 × 4 pcs	826.5
BMP3040Z	265	365	228	325	BCAP • R, BCPC • K • R 304012, 304015, 304018	M5-8 × 4 pcs	1,154
BMP3535Z	315	315	270	270	BCAP • R, BCPC • K • R 353515, 353518	M5-8 × 4 pcs	1,196.5
BMP3545Z	301	401	274	365	BCAP • R, BCPC • K • R 354512, 354516, 354520	M5-8 × 4 pcs	1,443
BMP4050Z	354	454	328	428	BCAP BCPC • K 405016, 405020	M5-8 × 4 pcs	1,998
BMP4060Z	354	551	328	525	BCAP BCPC • K 406018, 406023	M5-8 × 4 pcs	2,328
BMP5060Z	474	574	426	526	BCAP • R, BCPC • K • R 506018, 506025	M5-8 × 6 pcs	3,286
BMP5070Z	472	672	426	626	BCAP • R, BCPC • K • R 507018, 507025	M5-8 × 6 pcs	3,864
BMP6080Z	565	765	526	726	BCAP • R, BCPC • K • R 608018, 608028	—	5,288.5

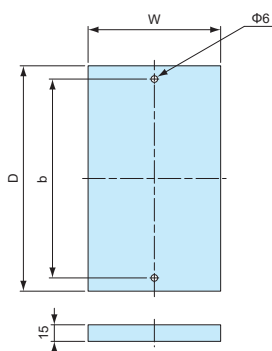
■ K = BCPK series, R = BCAR • BCPR series.

BMP-W series**WOODEN MOUNTING PLATE**

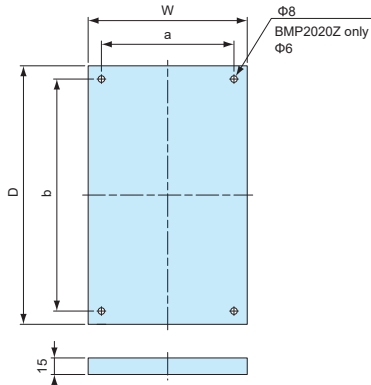
- Easily customizable hard wooden plate.
- Easy installation with screws provided.
- Plate comes with scales printed on for easy references.

**BMP-W dimensions**

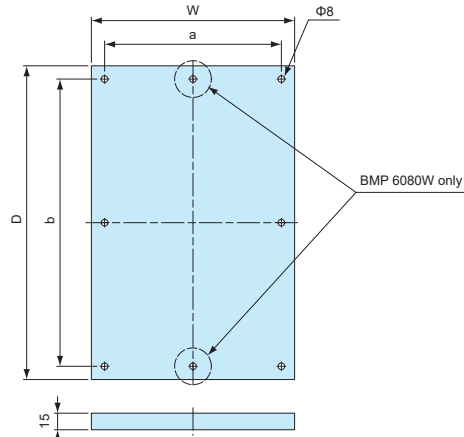
BMP0912W ~ 1727W



BMP1928W ~ 4060W



BMP5060W ~ 6080W

**Components**

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

Part name	Pcs	Material	Finish
Mounting plate	1	Wood board t=15	Scaled sheet
Screw (M5-20 pan washer head)	2 ~ 8	Steel	Trivalent chromate

Product no. / Details

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

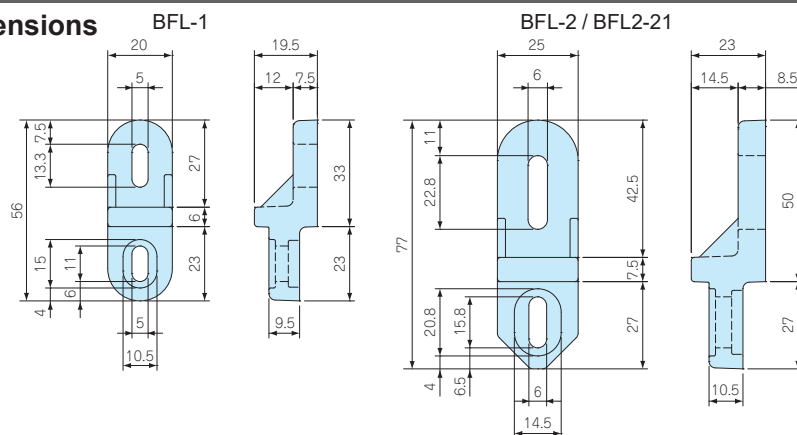
■ K = BCPK series, R = BCAR • BCPR series.

BFL series**PLASTIC MOUNTING BRACKET**

Color G

Color S

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

BFL dimensions**Color Type**

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

Components

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

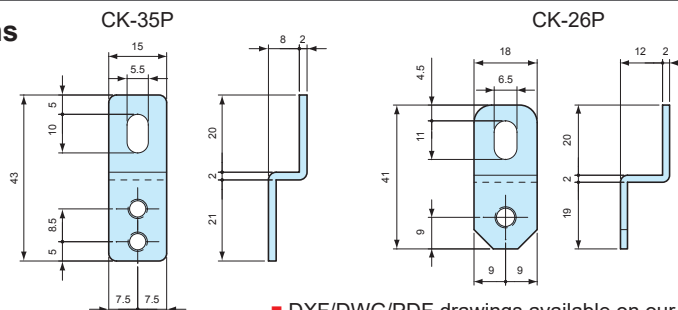
Part name	Pcs	Material / Finish
Mounting bracket	4	Glass fiber filled polycarbonate • ABS
Screw	4	Stainless steel / Unfinished

Product no. / Details

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****Components**

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

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

Product no. / Details

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**

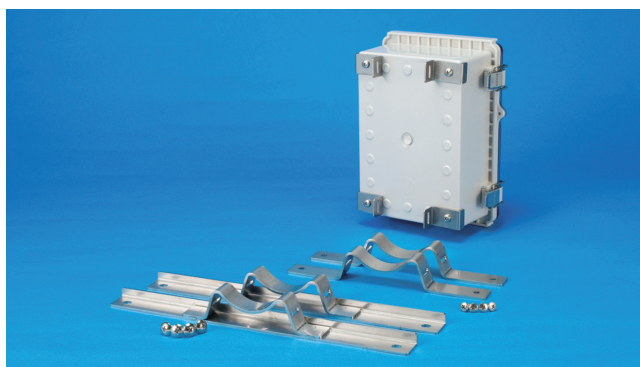
- PCB mounting screws for inner bosses of BCAP • BCAR • BCPC • BCPK • BCPR series.

**Product no. / Details**

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. / Details

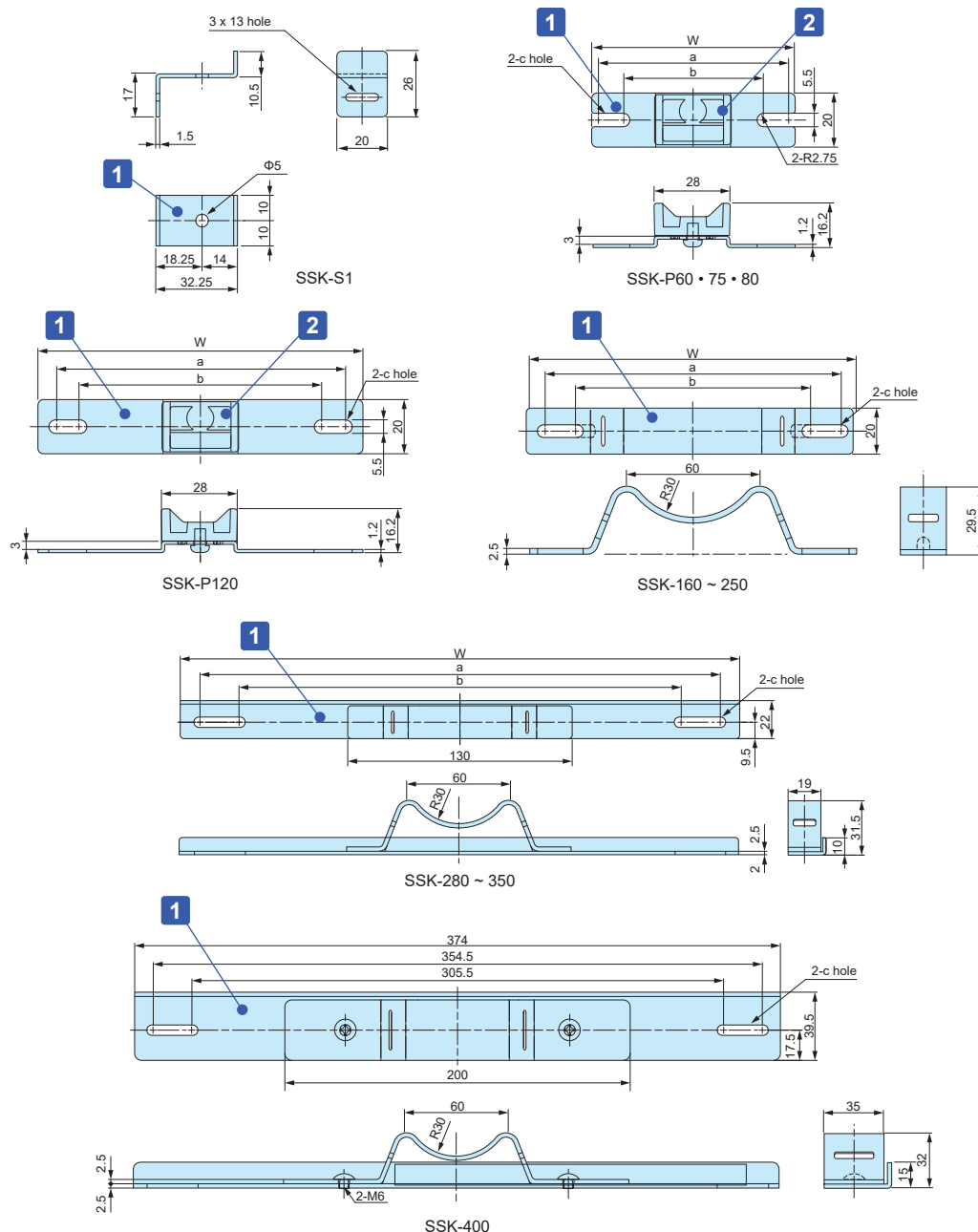
Product no.	Suitable models	Recommended torque
MT4-8T	BCAP • R, BCPC • K • R 0912, 1015, 1121, 1126, 1315, 1318, 1515, 1621, 1626, 1722, 1727, 1928, 2121	0.7N • m
MT5-8T	BCAP • R, BCPC • K • R 2030, 2535, 2828, 2838, 3030, 3040, 3535, 3545, 4050, 4060, 5060, 5070, 6080	1.4N • m

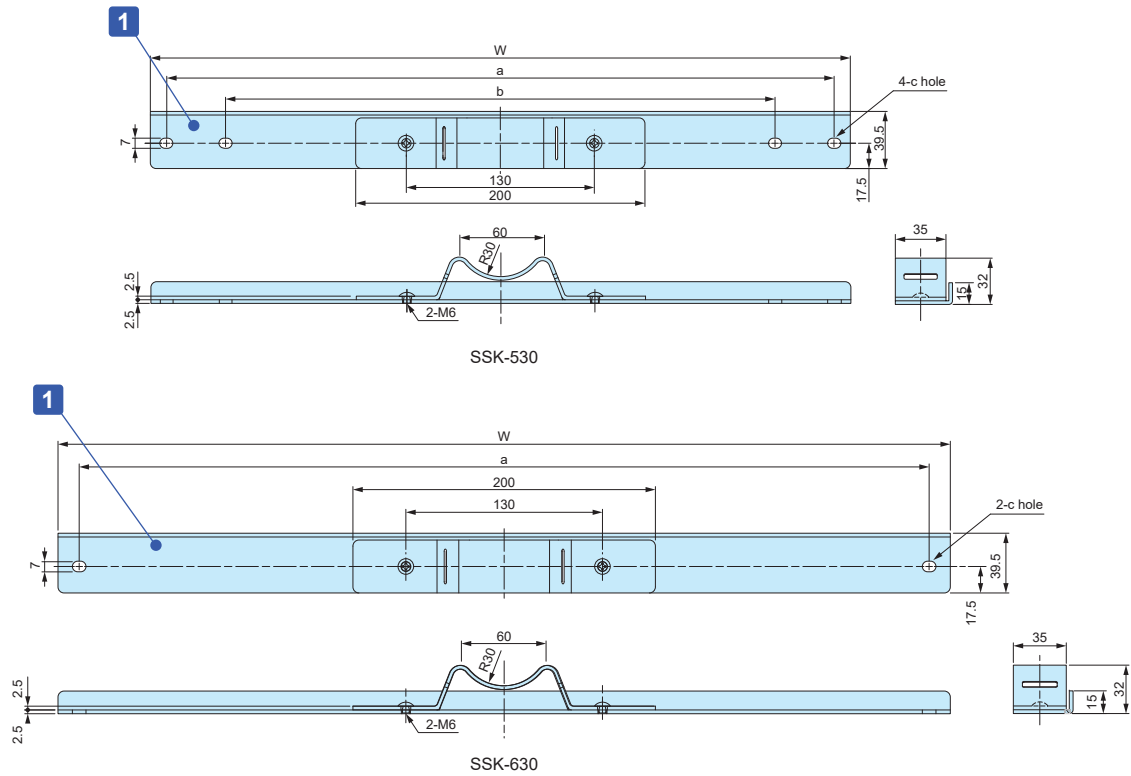
SSK series**POLE MOUNTING BRACKET for BCAP • BCAR • BCPC • BCPK • BCPR**

- 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.

APPLICATION EXAMPLE**Weather Station Data Logger****SSK dimensions**

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

**Water Level Detector**



■ 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. / Details

Product no.	W	a	b	c	Suitable models BCAP • BCAR • BCPC • BCPK • BCPR	Belt to use with	Pack of
SSK-S1	—	—	—	—	0912, 1015, 1121, 1126, 1315, 1318, 1621, 1626, 1722, 1727, 2121	PKB10PM, 10P, PKB10S, SNB series	4
SSK-P60	60	54.5	47.5	5.5 x 9	0912	PKB10PM, 10P, PKB10S	2
SSK-P75	75	69.5	55.5	5.5 x 12.5	1015	PKB10PM, 10P, PKB10S	2
SSK-P80	80	74.5	64.5	5.5 x 10.5	1121, 1126	PKB10PM, 10P, PKB10S	2
SSK-P120	120	106.5	88.5	5.5 x 14.5	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	5.5 x 30	1928, 2030	PKB10PM, 10P, PKB10S, SNB series	2
SSK-210	192	180.5	131.5	5.5 x 30	2121	PKB10PM, 10P, PKB10S, SNB series	2
SSK-250	230	215.5	166.5	5.5 x 30	2535	PKB10PM, 10P, PKB10S, SNB series	2
SSK-280	260	244.5	195.5	5.5 x 30	2828, 2838	PKB10PM, 10P, PKB10S, SNB series	2
SSK-300	280	264.5	215.5	5.5 x 30	3030, 3040	PKB10PM, 10P, PKB10S, SNB series	2
SSK-350	324	302.5	253.5	5.5 x 30	3535, 3545	PKB10PM, 10P, PKB10S, SNB series	2
SSK-400	374	354.5	305.5	5.5 x 30	4050, 4060	PKB20S, SNB series	2
SSK-530	484	462	380	7 x 9	5060, 5070	PKB20S, SNB series	2
SSK-630	590	562	—	7 x 9	6080	PKB20S, SNB series	2



SNB series



PKB-10PM, 10P



PKB-10S, 20S

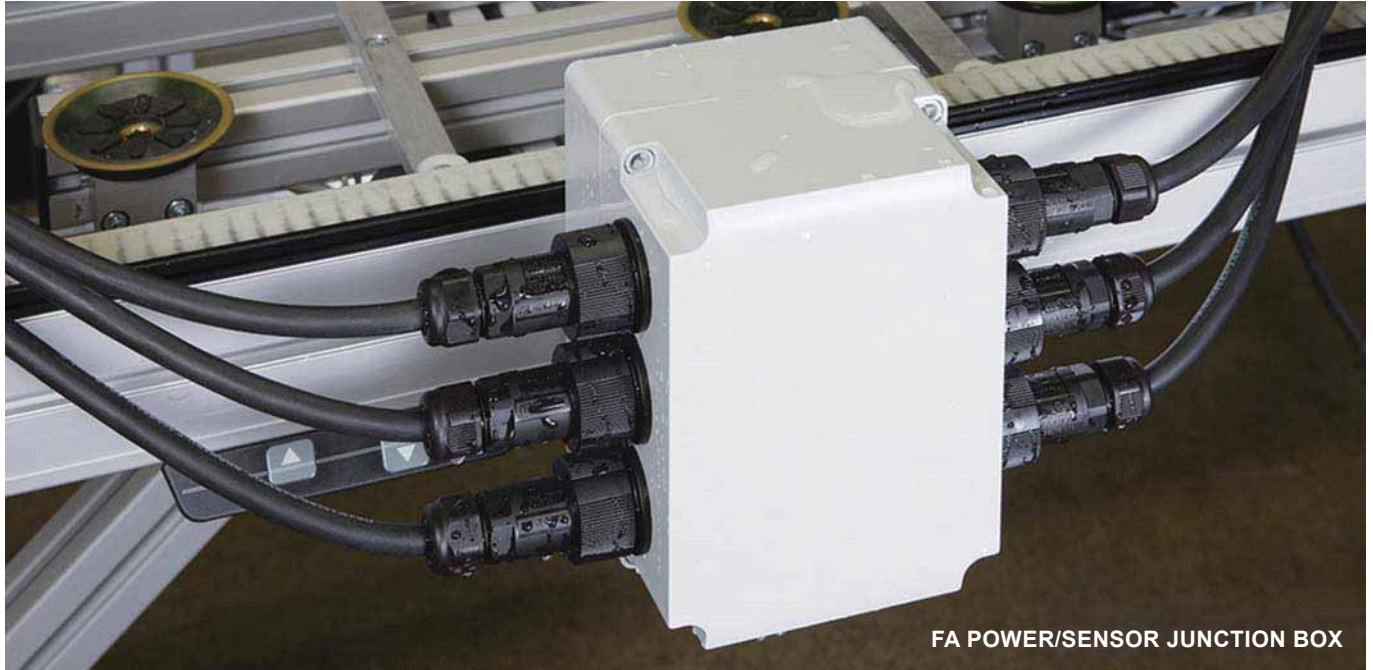
■ Pole mounting strap and belt, SNB and PKB series are sold separately. See page 207 ~ 208 for further details.

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.

**INDUSTRIAL MOTOR JUNCTION BOX****AUTOMATIC DOOR OPEN/CLOSE SWITCH****DIGITAL DIFFERENTIAL MANOMETER**

Product by KRONE CORPORATION (Japan)

**PARTS FEEDER COUNTER**

REMOTE GREENHOUSE MONITORING SYSTEM

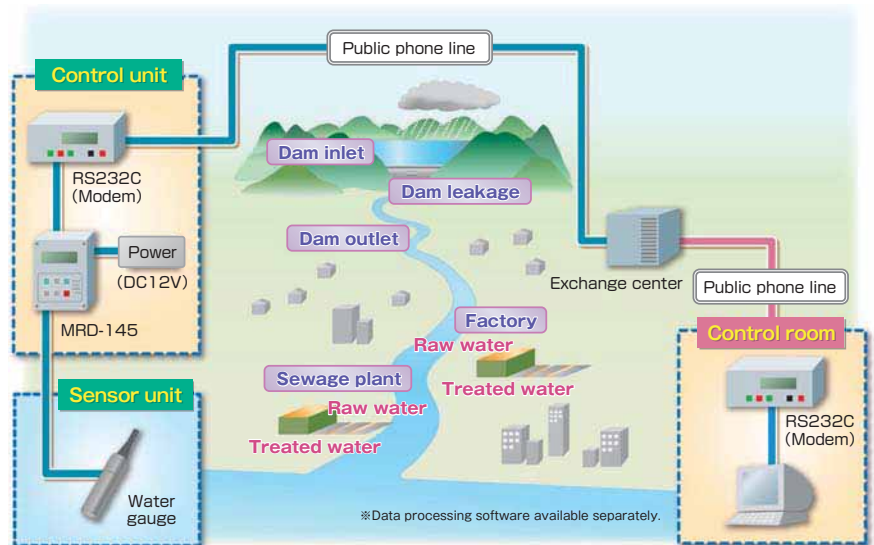


METEOROLOGICAL MONITOR



WATER LEVEL METER

Product by HOKUTO RIKEN (Japan)



DIGITAL ANEMOMETER

Product by North One (Japan)



SENSOR NETWORK MONITOR

Product by KYOSAI TECHNOLOGIES (Japan)



FIELD DATA LOGGER

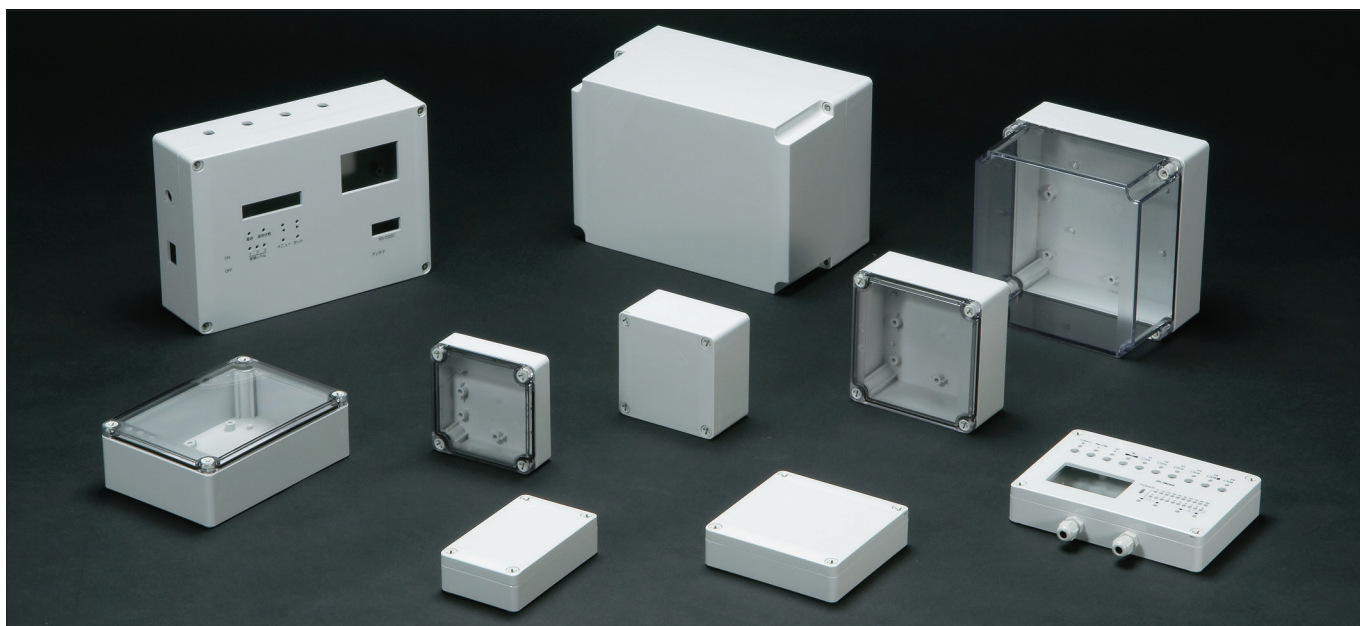
Product by M.C.S (Japan)



MONITORING CAMERA

Product by ACE PROMOTION (Japan)





Technical Data

Protection class : IP66 • IP67
 Operating temperature : -20°C ~ +75°C
 Recommended Torque : 1N • m ~ 1.5N • m



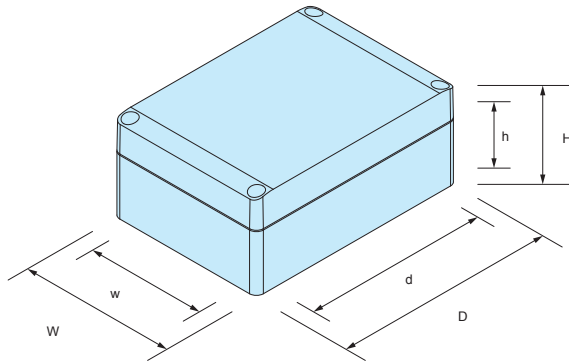
- UL certified products are SPCP.U series. See our website for more details.
- Please see our "PROTECTION CLASS (IP RATING)" document for details on the protection class when selecting your enclosure.
- Tough polycarbonate material for superior impact resistance.
- Available in 28 different sizes, with 2 different cover types (white gray and transparent).
- Suitable to be used as terminal junction box, control box, communication unit and more.
- 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

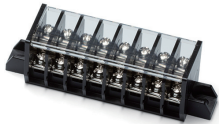
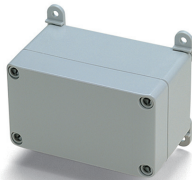
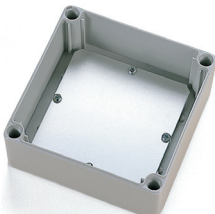
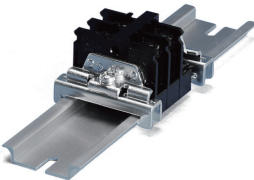
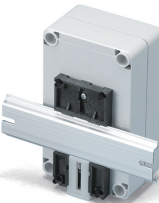
■ DXF/DWG/PDF/STP drawings available on our website.

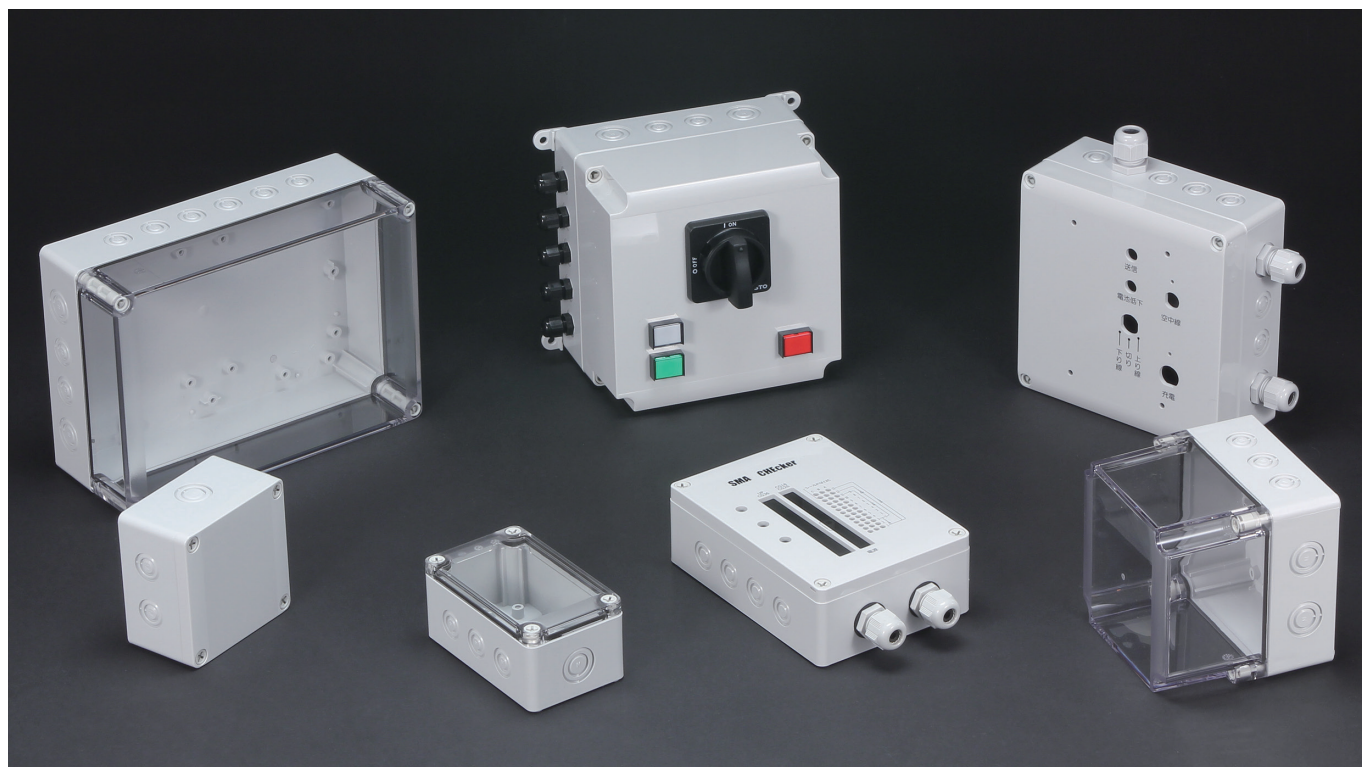


Product no. / Details

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

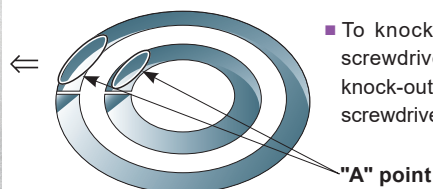
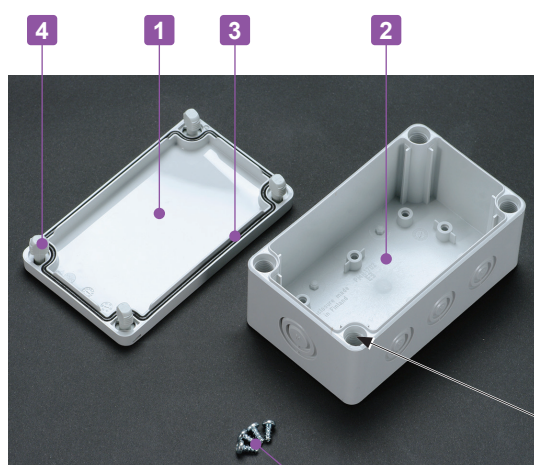
Accessories (Optional parts)

 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



Technical Data

Protection class : IP66 • IP67
 Operating temperature : -20°C ~ +75°C
 Recommended Torque : 1N • m ~ 1.5N • m



- UL certified products are SPCM.U series. See our website for more details.
- Please see our "PROTECTION CLASS (IP RATING)" document for details on the protection class when selecting your enclosure.
- Tough polycarbonate material for superior impact resistance.
- Available in 28 different sizes, with 2 different cover types (white gray and transparent).
- Molded with metric knock-outs to allow for easy cable entry.
- Suitable to be used as terminal junction box, control box, communication unit and more.
- 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.

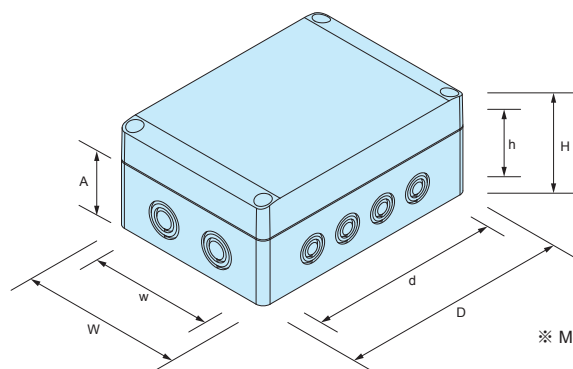
"A" point

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	Self-tapping screw (for mounting plate)	4	Steel	Unichrome plated

SPCM dimensions

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

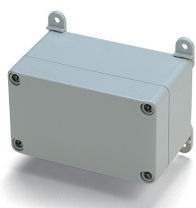


※ Metric knock-outs are on all 4 sides.

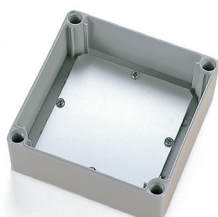
Product no. / Details

Product no.				External dimensions				Internal dimensions			Weight (g)
G type		T type		W	D	H	A	w	d	h	
Cover	Body	Cover	Body								
● White gray		○ Transparent	● White gray								
SPCM081306G		SPCM081306T		75	125	60	50	65.5	91	45.5	159
SPCM081308G		SPCM081308T		75	125	75	50	65.5	91	60.5	208
SPCM081310G		SPCM081310T		75	125	100	50	65	90.5	85.5	275
SPCM081313G		SPCM081313T		75	125	125	50	64.5	90	110.5	299
SPCM101006G		SPCM101006T		100	100	60	50	90.5	66	45.5	164
SPCM131306G		SPCM131306T		125	125	60	50	115.5	91	45.5	243
SPCM131308G		SPCM131308T		125	125	75	50	115.5	91	60.5	292
SPCM131310G		SPCM131310T		125	125	100	50	115	90.5	85.5	366
SPCM131313G		SPCM131313T		125	125	125	50	114.5	90	110.5	401
SPCM131806G		SPCM131806T		125	175	60	50	115.5	141	45.5	294
SPCM131808G		SPCM131808T		125	175	75	50	115.5	141	60.5	373
SPCM131810G		SPCM131810T		125	175	100	50	115	140.5	85.5	450
SPCM131813G		SPCM131813T		125	175	125	50	115	140.5	110.5	519
SPCM131815G		SPCM131815T		125	175	150	50	114	139.5	135.5	588
SPCM181808G		SPCM181808T		175	175	75	50	165.5	141	60.5	468
SPCM181810G		SPCM181810T		175	175	100	50	165	140.5	85.5	569
SPCM181810HG		SPCM181810HT		175	175	100	75	164.8	140.4	85.5	538
SPCM181813G		SPCM181813T		175	175	125	50	164.5	140	110.5	639
SPCM181813HG		SPCM181813HT		175	175	125	75	164.3	139.9	110.5	652
SPCM181815G		SPCM181815T		175	175	150	50	164	139.5	135.5	723
SPCM181815HG		SPCM181815HT		175	175	150	75	163.9	139.5	135.5	716
SPCM181818HG		SPCM181818HT		175	175	175	75	163.5	139.1	160.5	794
SPCM182508G		SPCM182508T		175	250	75	50	165.5	216	60.5	633
SPCM182510G		SPCM182510T		175	250	100	50	165	215.5	85.5	745
SPCM182510HG		SPCM182510HT		175	250	100	75	164.8	215.4	85.5	718
SPCM182513HG		SPCM182513HT		175	250	125	75	164.3	214.9	110.5	855
SPCM182515G		SPCM182515T		175	250	150	50	164	214.5	135.5	946
SPCM182518HG		SPCM182518HT		175	250	175	75	163.5	214.1	160.5	983

Accessories (Optional parts)



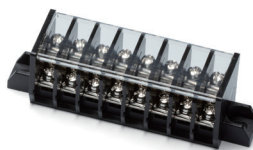
Mounting bracket SFL-1
See page SPCM • SPCP-ACC-1



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



Cable gland
See cable gland pages

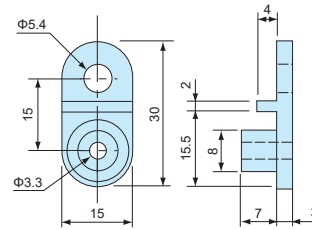


Terminal block • Terminal cover STB • STC series
See page STB • STC-1 ~ STB • STC-4



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

SFL-1 PLASTIC MOUNTING BRACKET



Product no. / Feature

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

SMS4-8 MOUNTING SCREW



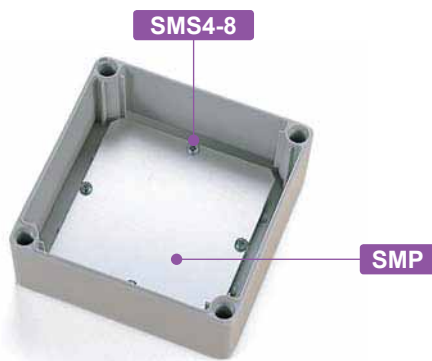
- Mounting screws for PCB mounting on SPCP • SPCM series.
※ 1 set included with each SPCP • SPCM enclosure.

Product no. / Feature

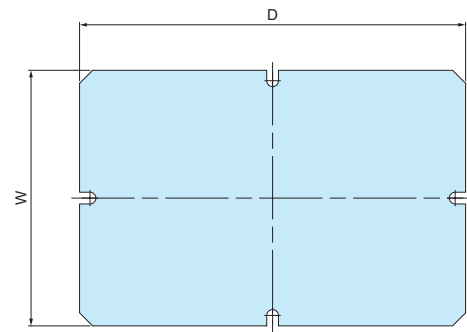
Product no.	Material	Screw	Pcs
SMS4-8 (M4-8 Pan head tapping)	Steel	Trivalent chromate	4

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.



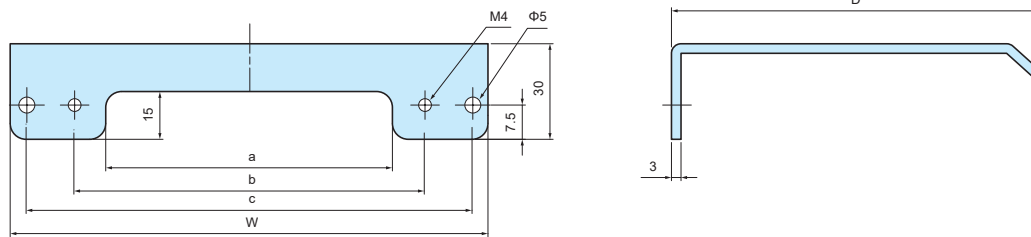
SR SERIES

OUTDOOR ROOF for SPCM • SPCP

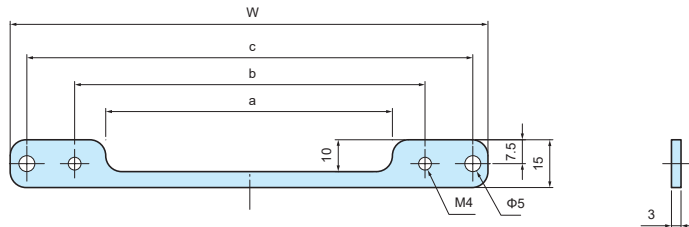


- Roof and spacer attachments are easily attached onto the enclosure using existing cover fastening holes.
- Recommended for outdoor environments for protection against rain, etc.

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

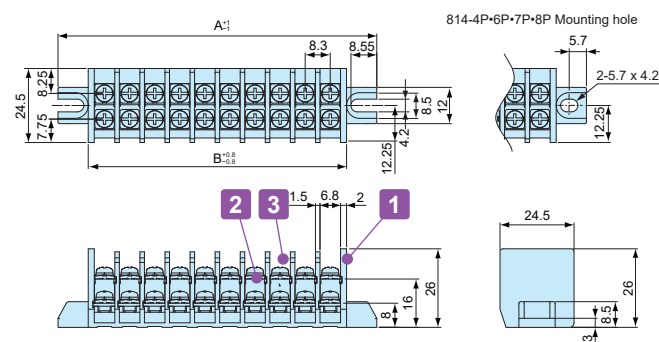
 (FW2)


■ 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

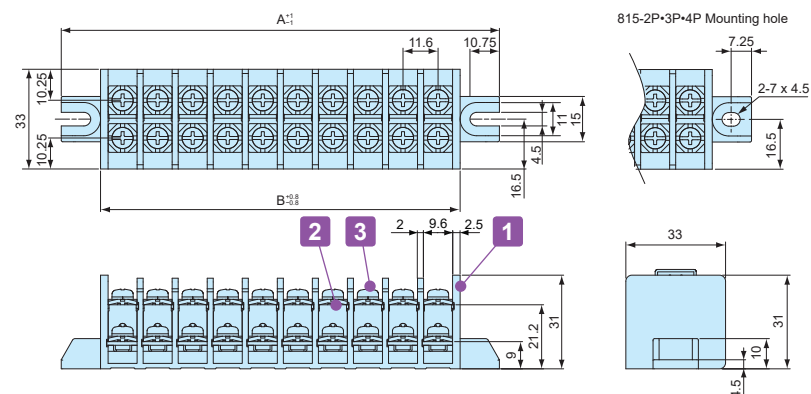
STB-814



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

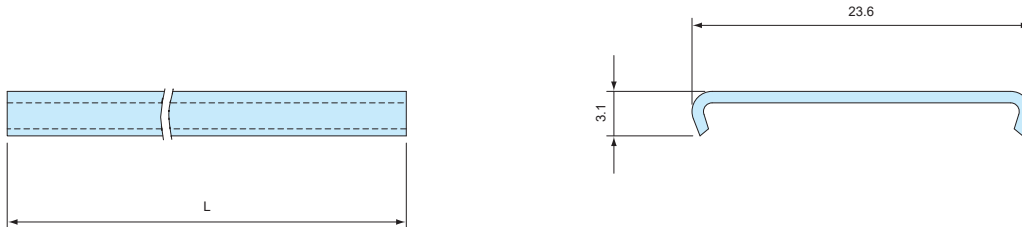
STC SERIES

TERMINAL COVER

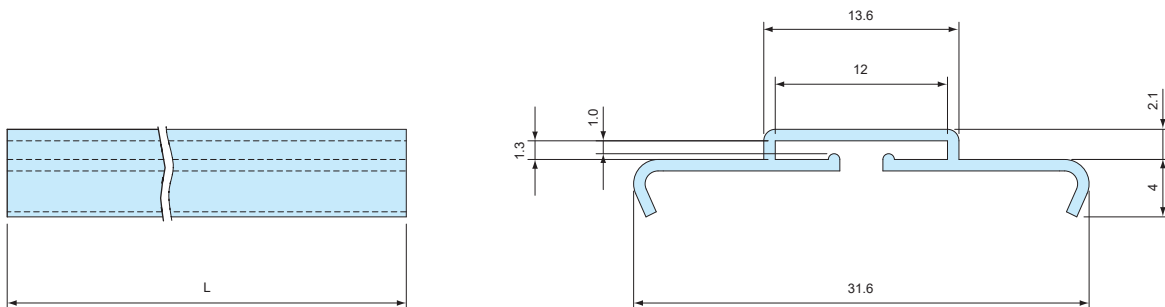


- Terminal cover for STB terminal block.
- Use for protecting terminals.

STC814



STC815



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

Product no. / Dimensions

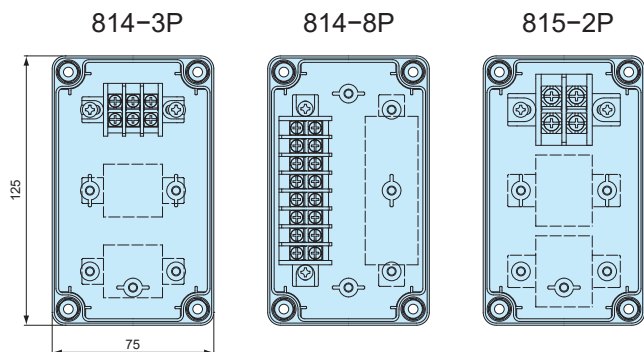
Product no.	P (Number of poles)	L	Compatible terminal
STC814- 3P	3	22.4	STB814- 3P
STC814- 4P	4	30.7	STB814- 4P
STC814- 6P	6	47.3	STB814- 6P
STC814- 7P	7	55.6	STB814- 7P
STC814- 8P	8	63.9	STB814- 8P
STC814- 9P	9	72.2	STB814- 9P
STC814-10P	10	80.5	STB814-10P
STC815- 2P	2	20.2	STB815- 2P
STC815- 3P	3	31.8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

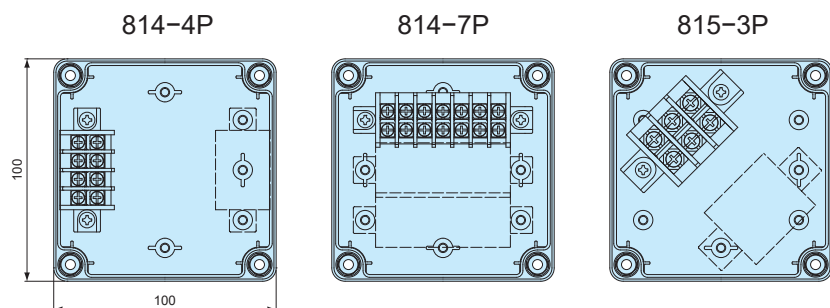
■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

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

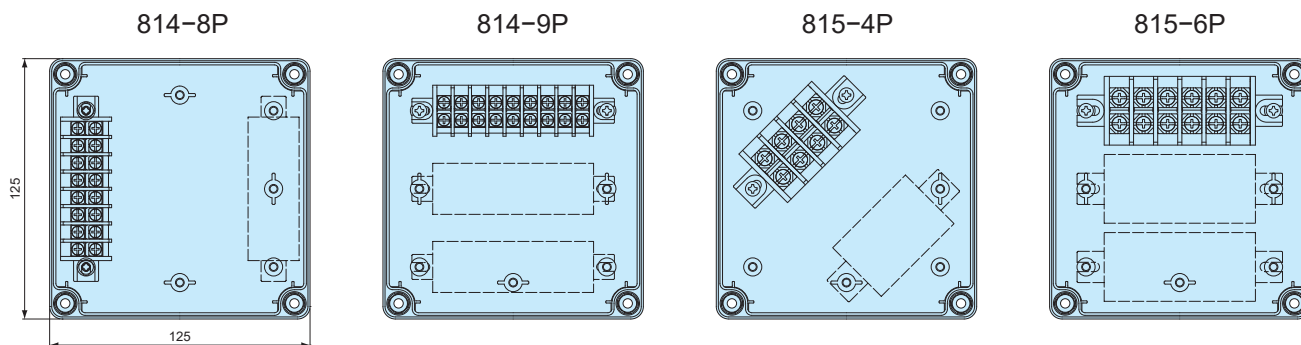
Suitable box SPCM/SPCP 081305 • 081306 • 081308 • 081310 • 081313



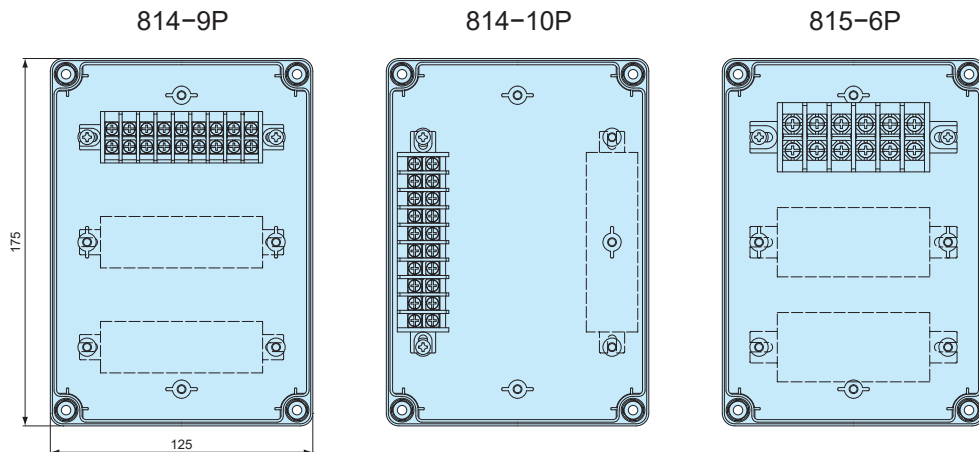
Suitable box SPCM/SPCP 101006



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



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



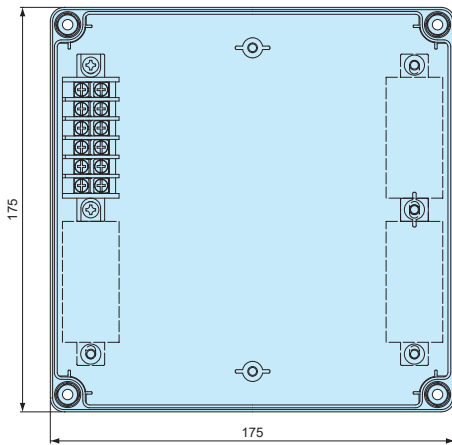
STB TERMINAL BLOCK MOUNTING POSITION

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

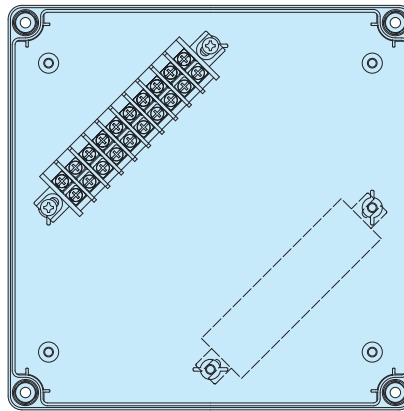
■ Terminals can be installed in the area with dotted lines.

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

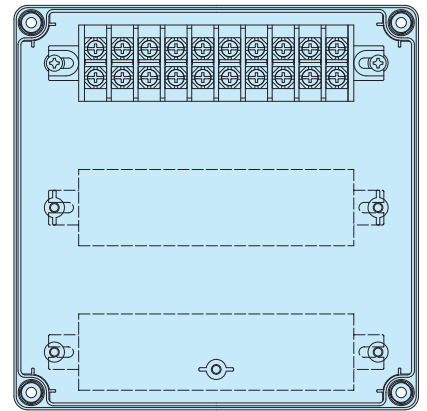
814-6P



814-10P

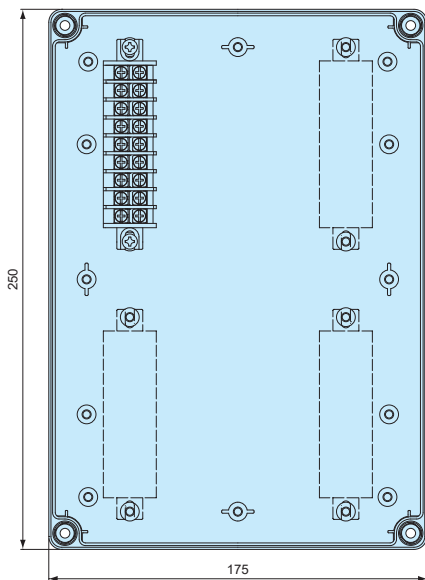


815-10P

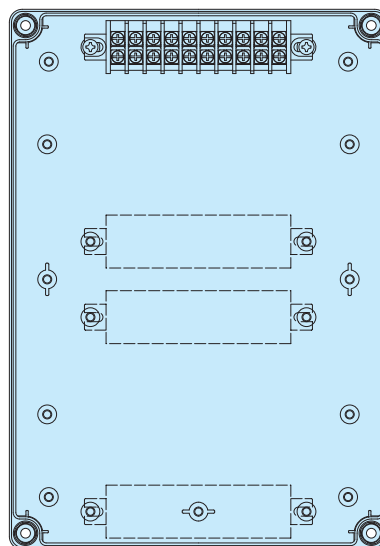


Suitable box SPCM/SPCP 182508 • 182510 • 182515

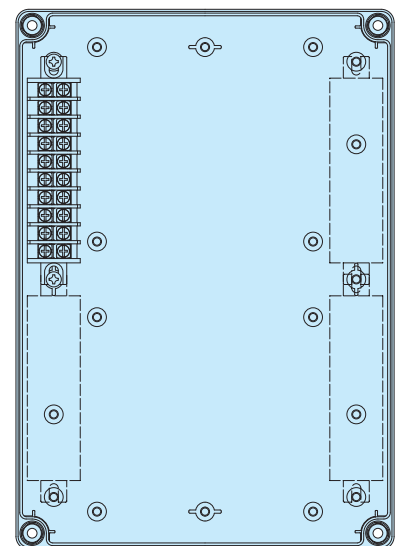
814-9P



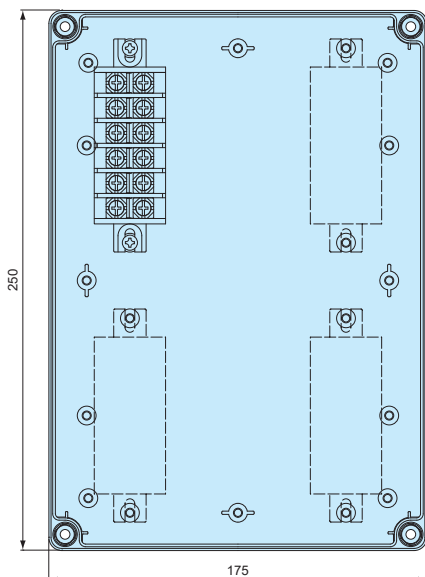
814-10P



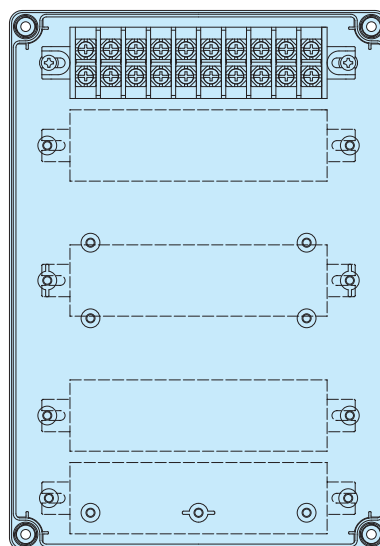
814-10P



815-6P

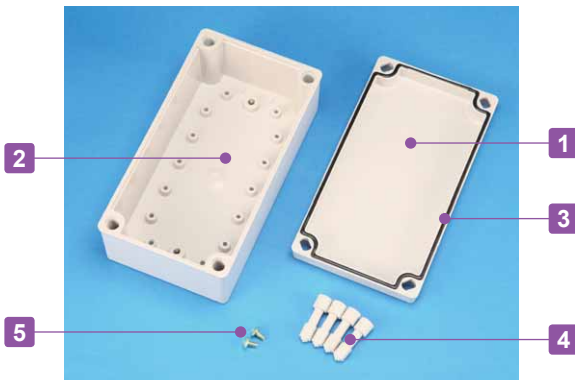
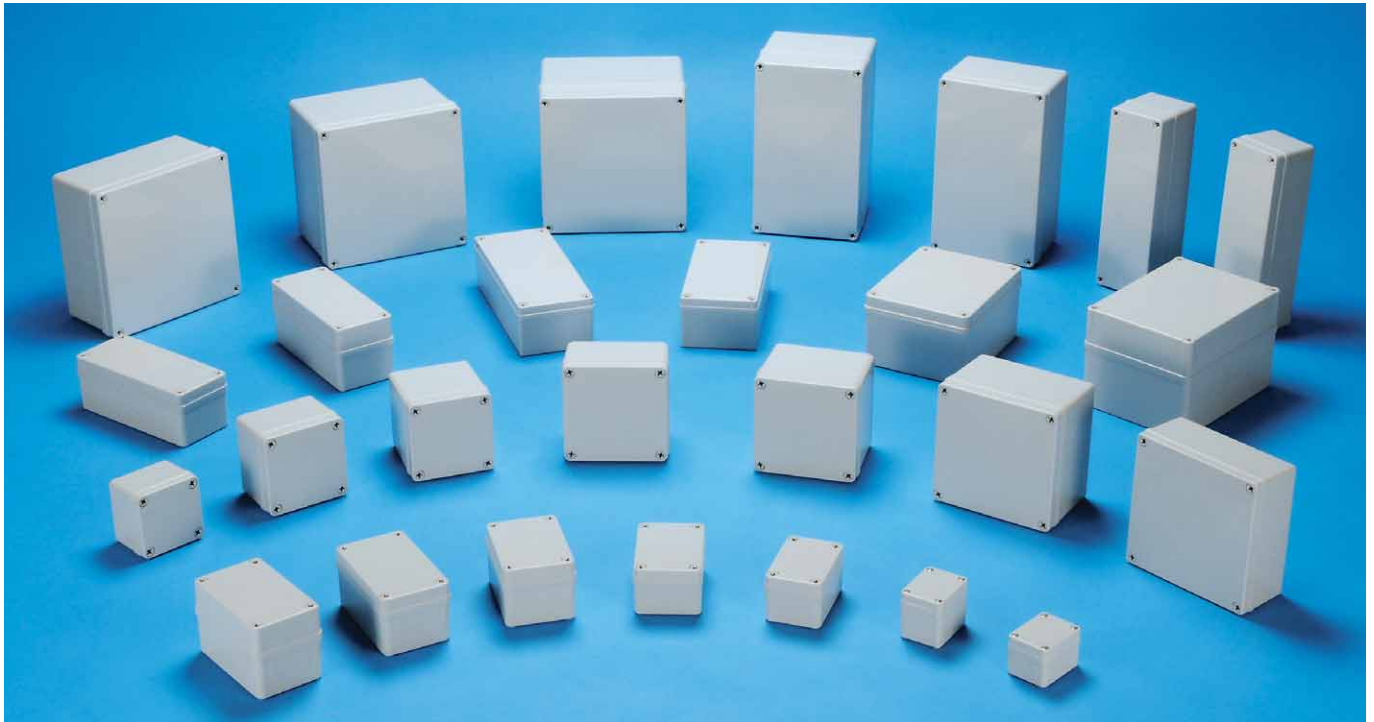


815-10P



BCAS SERIES

IP65 PLASTIC PULL BOX



IP65

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

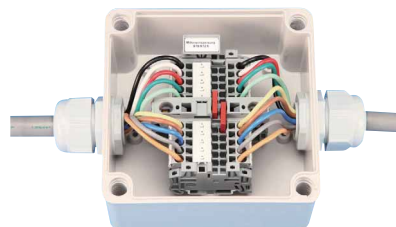
No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	ABS UL94HB	White gray
2	Body	1	ABS UL94HB	White gray
3	Gasket	1	Polyurethane	Black
4	Cover screw	4	Nylon • Stainless steel (BCAS050604G and BCAS050605G only)	White gray • Unfinished
5	Tapping screw (for mounting plate)	2 ~ 4	Steel	Trivalent chromate

APPLICATION EXAMPLE

SWITCH BOX



TERMINAL JUNCTION BOX



AIR PIPE CONTROLLER



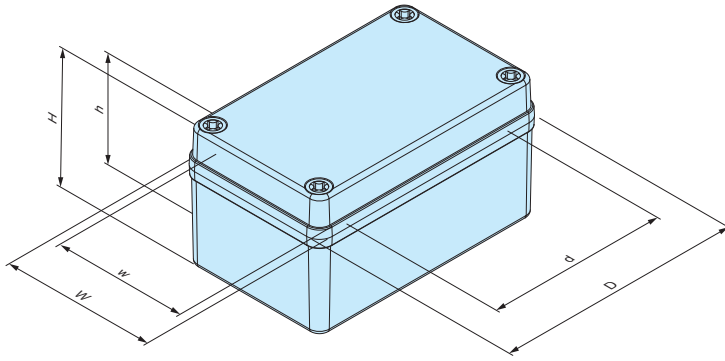
METEOROLOGICAL MONITOR TRANSMITTER



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

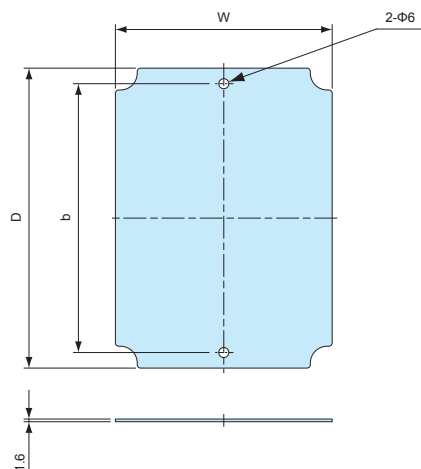
STEEL MOUNTING PLATE



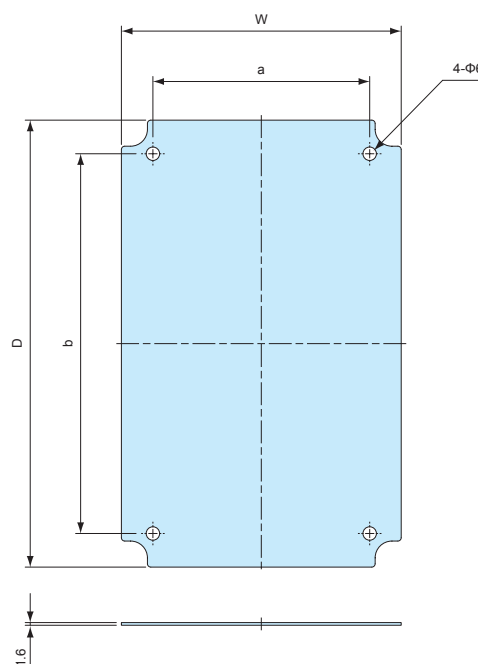
■ Strong but easily customizable.

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

BMP0506Z ~ 1525Z



BMP2020Z, 2123Z

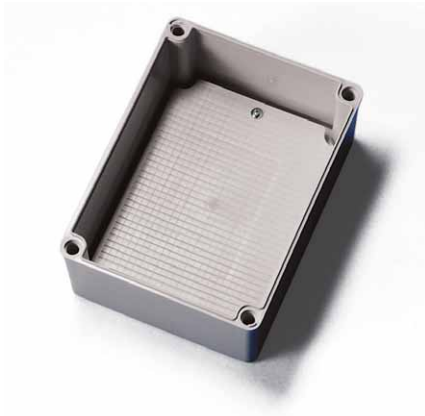


Components

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

Product no. / Dimensions

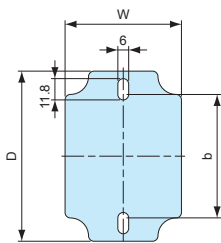
Product no.	W	D	a	b	Suitable box	Weight (g)
BMP0506Z	41	56	-	40	BCAS050604, 050605	23
BMP0609Z	52	82	-	65	BCAS060905	41
BMP0710Z	62	92	-	75	BCAS071005	63
BMP0808Z	67	67	-	50	BCAS080806	47
BMP0811Z	68	98	-	80	BCAS081104, 081107, 081108, 081110	72
BMP0813Z	68	118	-	99	BCAS081307, 081308	87
BMP0818Z	69	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**

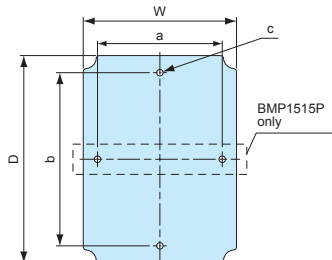
- Lightweight ABS plastic mounting plate.
- Not available for BCAS050604, 050605, 060905, 071005, 080806, 101807, 102307, and 212310 models.

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

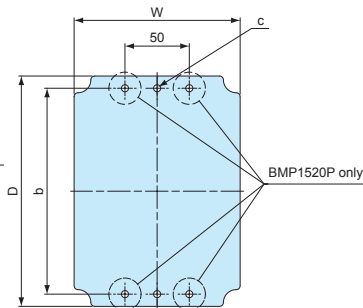
BMP0811P



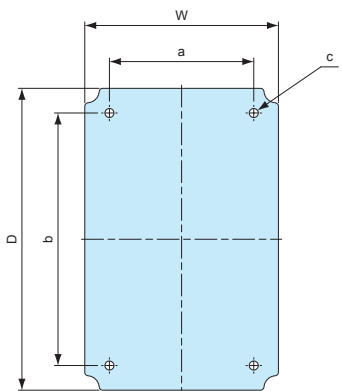
BMP0813P ~ 1616P



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

BCAL SERIES

IP65 PLASTIC BOX



Technical Data

IP65

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

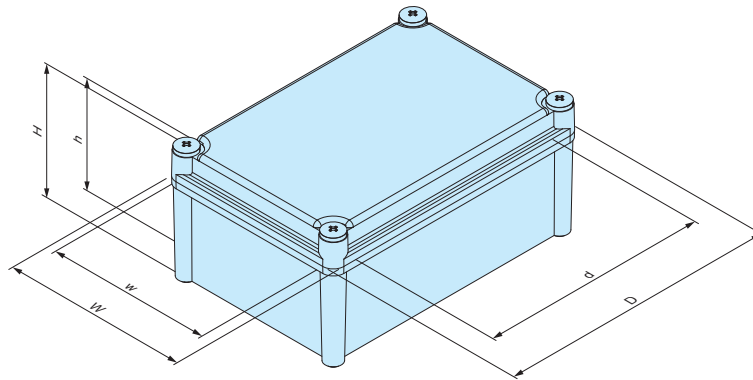


Components

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

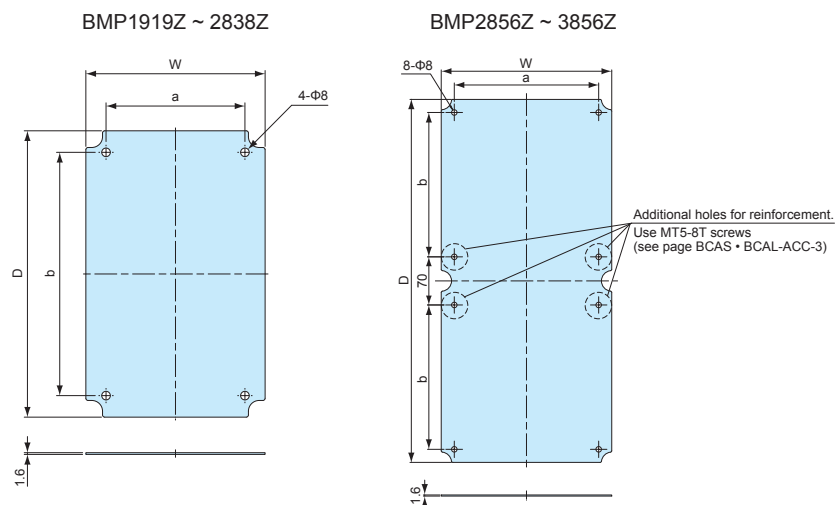


INCLINOMETER for Bridge Construction Product by Akasakatec Inc. (Japan)



BMP-Z SERIES**STEEL MOUNTING PLATE**

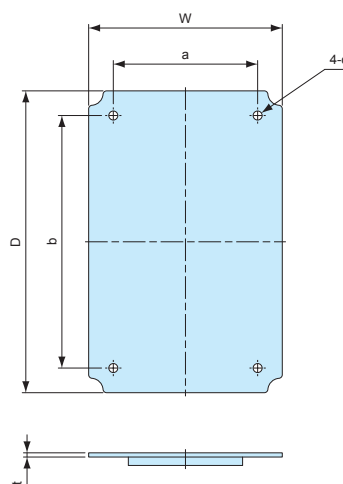
■ DXF/DWG/PDF drawings available on our website.



- 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**

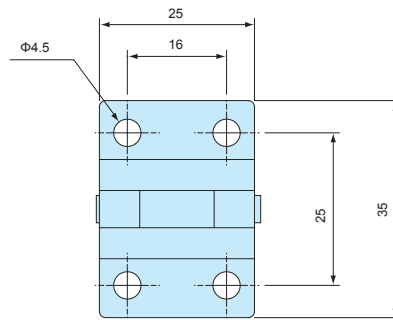
- Not available for BCAL283413, 285613, and 385618 models.
- Material/Color : ABS / White gray

Product no. / Dimensions

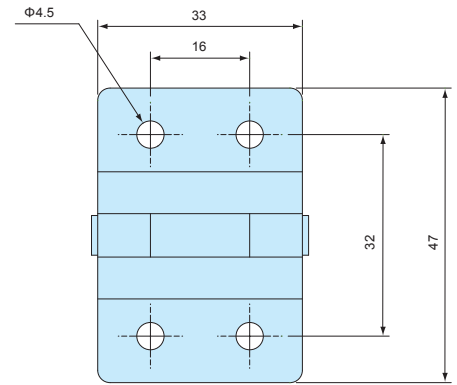
Product no.	W	D	a	b	c (Φ)	t	Suitable box	Weight (g)
BMP1919P	159	159	120	120	Φ8	4	BCAL191913	104
BMP1928P	158.5	248	120	210	Φ8	3.5	BCAL192813, 192818	162
BMP1938P	159	348	120	310	Φ8	4.5	BCAL193813, 193818	236
BMP2828P	248.5	248.5	210	210	Φ8	4	BCAL282813	237
BMP2838P	248	347.5	209	309.5	Φ8	4	BCAL283813,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

BCH SERIES**HINGE** for BCAS • BCAL

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



BCH55



BCH65

Components

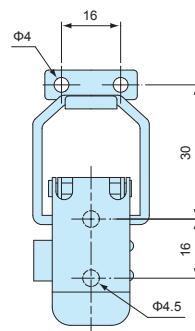
Part name	Pcs	Material	Color / Finish
Hinge	1	Stainless steel SUS304	Unfinished
Bracket	2	Stainless steel SUS304	Unfinished
Gasket	2	EPDM	Black

Product no. / Suitable box

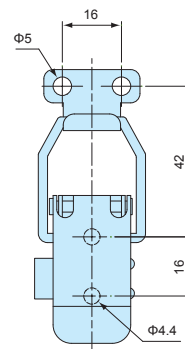
Product no.	Suitable box	Included screw
BCH55	BCAS series Not available for BCAS050604, 050605, 060905, 071005, 080806, 081104, 101807, 102007, 102307, 152004, and 161607 models.	Truss head M4-10
BCH65	BCAL series	Truss head M4-10

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

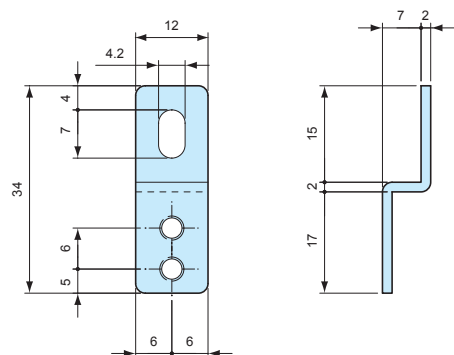


CK-34Z

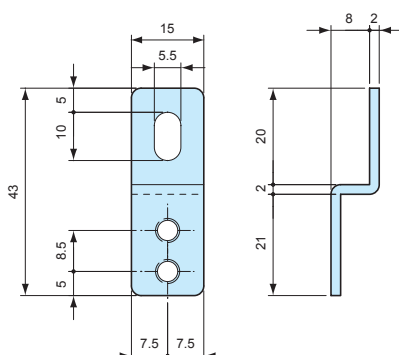


CK-26P

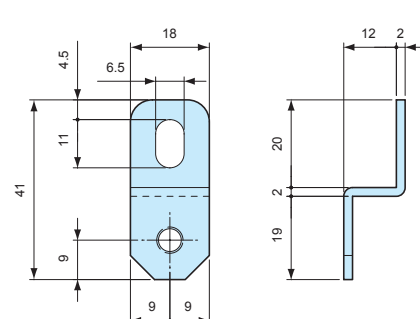
CK-34Z dimensions



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

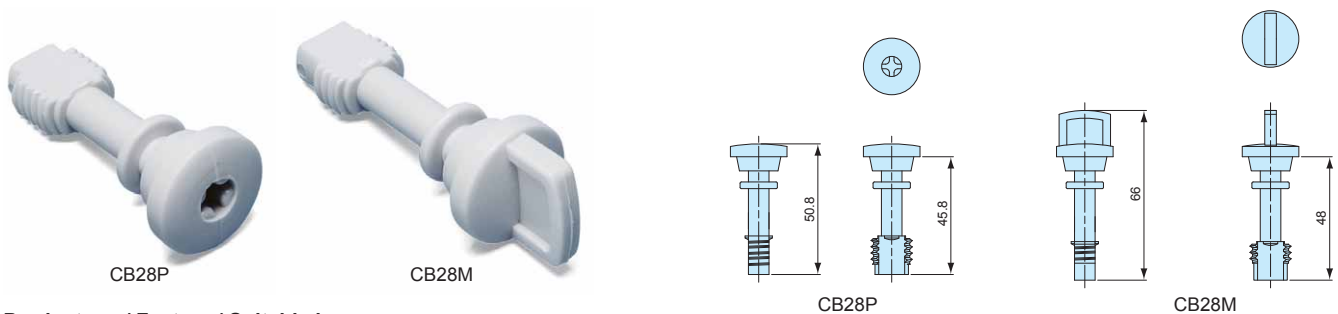
Suitable box chart

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****Product no. / Feature / Suitable box**

Product no.	Material	Color	Pack of
CB20	Fiberglass • Nylon	White gray	1
CB35	Fiberglass • Nylon	White gray	1
CB50	Fiberglass • 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****Product no. / Feature / Suitable box**

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

SSK SERIES

POLE MOUNTING BRACKET

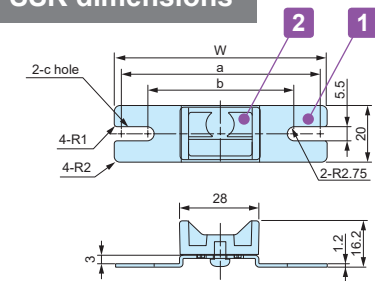


- Stainless steel pole mounting bracket for SPCM • SPCP and BCAL • BCAS series.
- Easy pole mount with the use of SSK-B mounting screw and PKB mounting belt.
- DXF/DWG/PDF drawings available on our website.
- SSK-P models includes plastic mounting brackets.

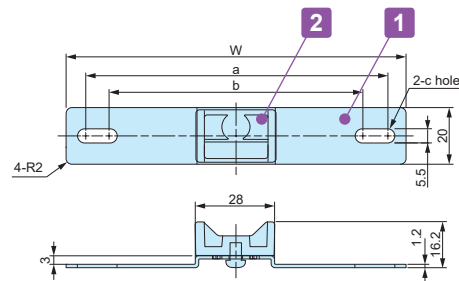


PKB series

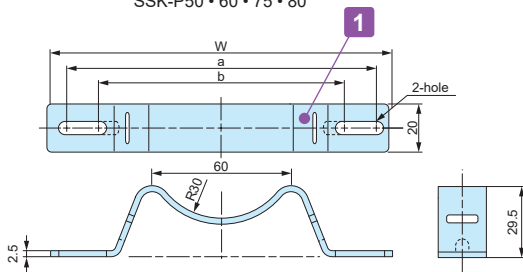
SSK dimensions



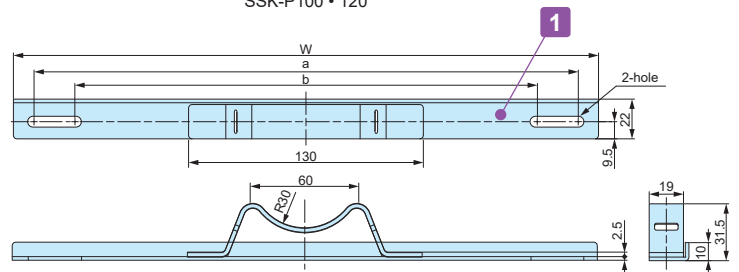
SSK-P50 • 60 • 75 • 80



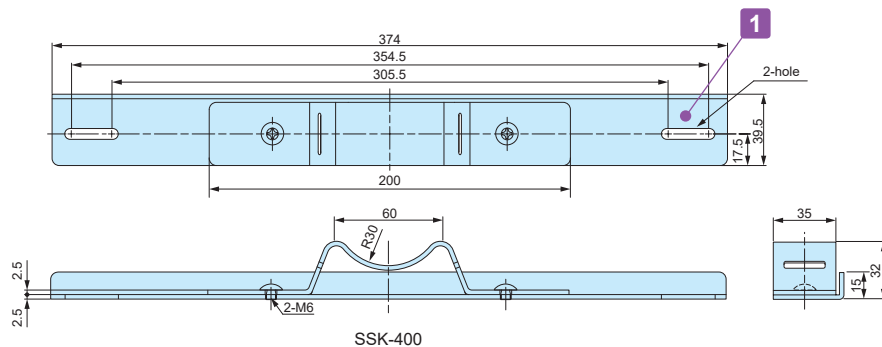
SSK-P100 • 120



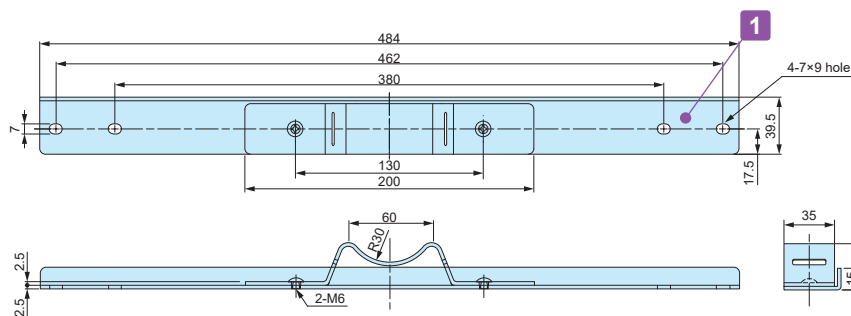
SSK-160 ~ 250



SSK-280 ~ 350



SSK-400



SSK-530

SSK-1

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



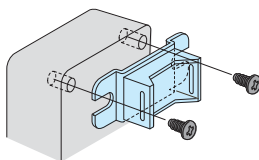
- Mounting screw set for use with SSK pole mounting bracket.
- See chart on page SSK-3 for appropriate bracket/screw/box combination.
- Material / Finish : Stainless steel / Unfinished.

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

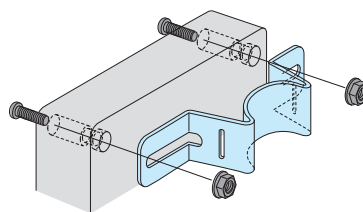
■ Installation Example

BCAS050604, 050605



Use screws included with SSK-P

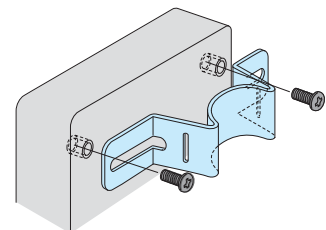
M4 / M5 Pan head with nut fastening



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

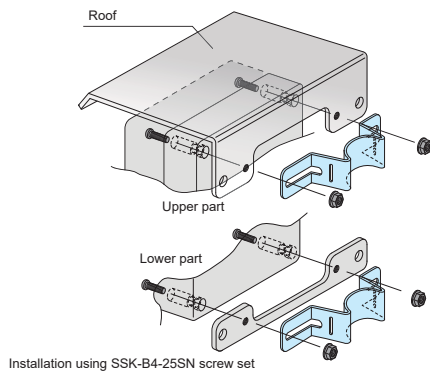
※Use screws included with SSK bracket for vertical mount

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

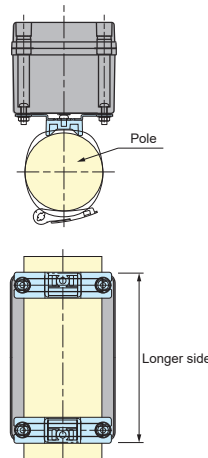
- For installation of SR series outdoor roof on SPCM • SPCP series
SR series (For SPCM • SPCP - see page SPCP • SPCM-ACC-2)



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

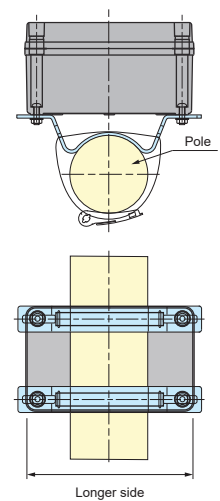
Vertical mount

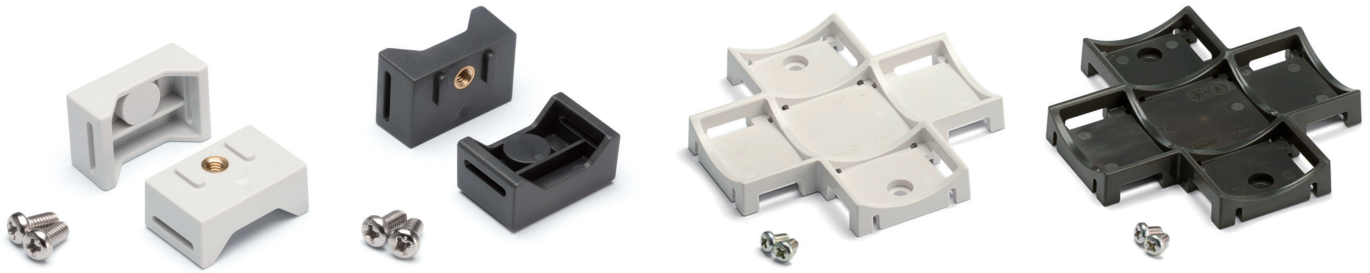
(Longer vertical side)



Horizontal mount

(Longer horizontal side)

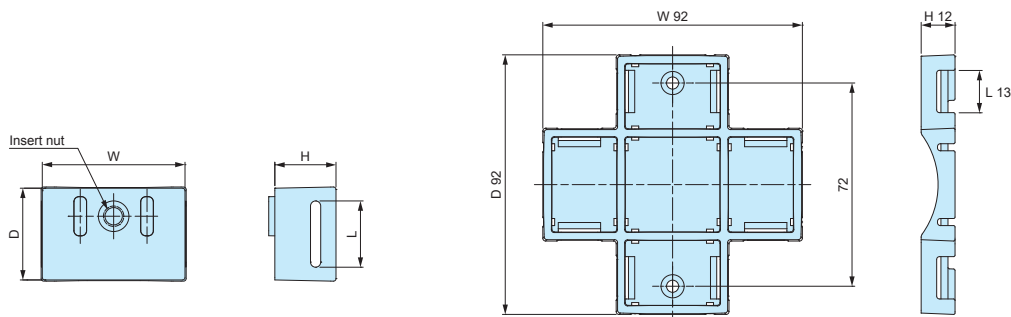


WPMB series**POLE MOUNTING BRACKET for WP**

- 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. / Details

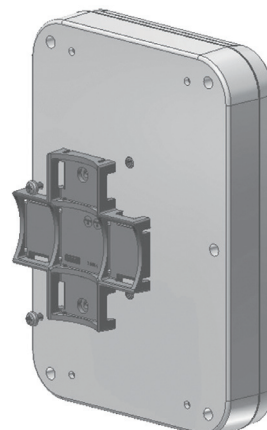
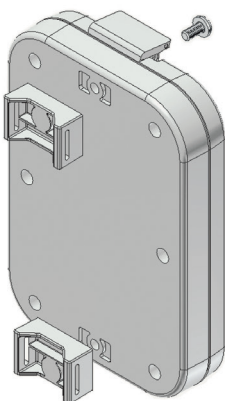
■ Please suffix color code at the end of the product number.

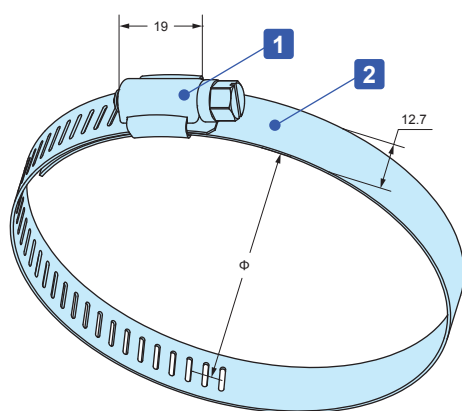
Product no.	Dimensions				Screw	Suitable models	Recommended torque (N • m)	Weight (g)	Pack of
	W	D	H	L					
WPMB-M3□	18	14	9.5	11	Stainless steel M3-6 x 2 pcs	WP5-7-2 • 5-7-3 • 6-8-2 • 6-8-3 • 8-8-2 • 8-8-4 • 8-10-2 • 8-10-4	0.4 ~ 0.45	3	2
WPMB-M4□	28	18	12	13	Stainless steel M4-8 x 2 pcs	WP9-13-3 •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



SNB series**STAINLESS STEEL POLE MOUNTING STRAP****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.
Flat-bladed screwdrivers 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. / Details

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



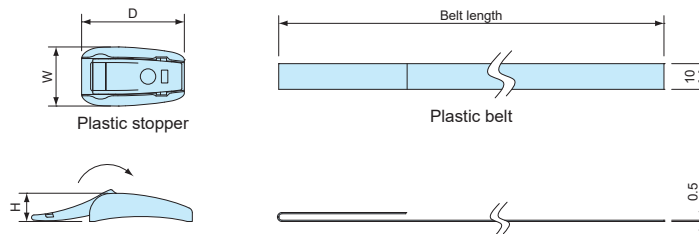
PKB-10S, 20S

- 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.

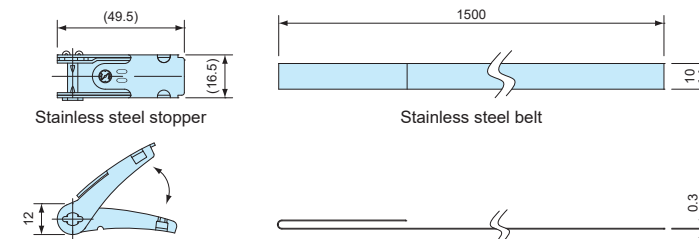
PKB dimensions

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

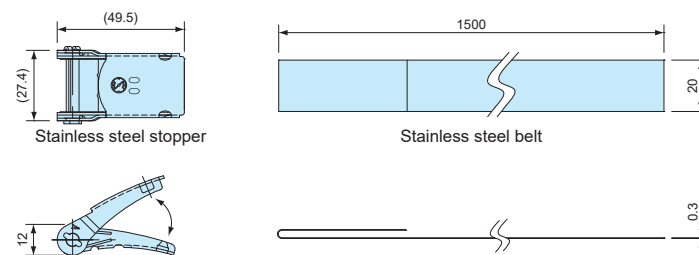
PKB-10PM, 10P



PKB-10S



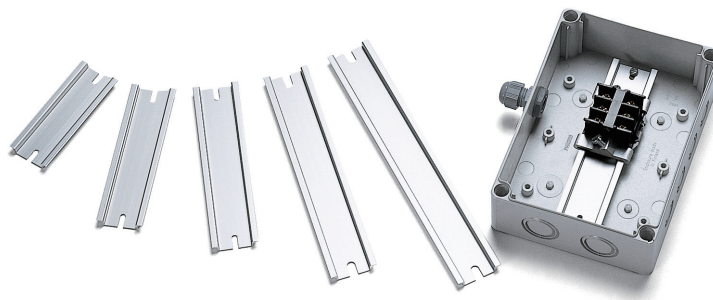
PKB-20S

**Components**

Part name	Material	Color / Finish
Stopper	Stainless steel SUS304 • POM	Barrel finish • Black
Belt	Stainless steel SUS430 • PET	Bright annealed finish • Gray

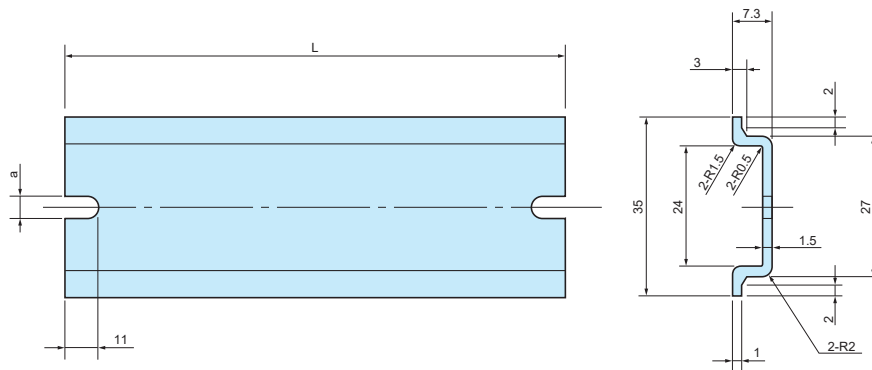
Product no. / Details

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

FDR series**DIN RAIL**

Application example

- DIN Rail for installation of terminals, relays, or switches inside enclosures.
- Suitable for DIN Rail types of various manufacturers.

**Product no. / Details**

Product no.	L	a	Matching boss pitch	Weight
FDR- 50	50	4.2	32 ~ 42	8.6
FDR- 57	57	4.2	39 ~ 49	9.5
FDR- 66	66	4.2	48 ~ 58	10
FDR- 77	77	4.2	59 ~ 69	12
FDR- 80	80	4.2	62 ~ 72	13
FDR- 87	87	4.2	69 ~ 79	14
FDR- 92	92	4.2	74 ~ 84	15
FDR-100	100	4.2	82 ~ 92	17.8
FDR-106	106	4.2	88 ~ 98	19
FDR-110	110	4.2	92 ~ 102	20
FDR-120	120	4.2	102 ~ 112	21
FDR-128	128	4.2	110 ~ 120	23
FDR-137	137	4.2	119 ~ 129	24
FDR-142	142	4.2	124 ~ 134	25
FDR-146	146	4.2	128 ~ 138	26
FDR-150	150	4.2	132 ~ 142	25.8
FDR-168	168	4.2	150 ~ 160	30
FDR-170	170	4.2	152 ~ 162	30
FDR-186	186	4.2	168 ~ 178	32
FDR-202	202	4.2	184 ~ 194	37
FDR-205	205	4.2	187 ~ 197	36
FDR-223	223	4.2	205 ~ 215	39.3
FDR-226	226	4.2	208 ~ 218	39
FDR-235	235	4.2	217 ~ 227	42
FDR-242	242	4.2	224 ~ 234	43
FDR-249	249	4.2	231 ~ 241	43
FDR-283	283	4.2	265 ~ 275	49
FDR-300	300	4.2	282 ~ 292	52
NEW FDR-314	314	4.2	296 ~ 306	51.5
FDR-350	350	4.2	332 ~ 342	60
FDR-400	400	4.2	382 ~ 392	69
FDR-450	450	4.2	432 ~ 442	78
FDR-550	550	4.2	532 ~ 542	94

Product no.	L	a	Matching boss pitch	Weight
NEW FDR-B106	106	6.5	90 ~ 96	17.5
FDR-B124	124	6.5	108 ~ 114	21.4
FDR-B142	142	6.5	126 ~ 132	24
FDR-B160	160	6.5	144 ~ 150	28
FDR-B165	165	6.5	149 ~ 155	28
FDR-B176	176	6.5	160 ~ 166	30
FDR-B183	183	6.5	167 ~ 173	30
FDR-B196	196	6.5	180 ~ 186	33
FDR-B223	223	6.5	207 ~ 213	37
FDR-B256	256	6.5	240 ~ 246	43
FDR-B260	260	6.5	244 ~ 250	45
NEW FDR-B276	276	6.5	260 ~ 266	47.5
FDR-B303	303	6.5	287 ~ 293	52
NEW FDR-B327	327	6.5	311 ~ 317	56.2
FDR-B338	338	6.5	322 ~ 328	57
FDR-B360	360	6.5	344 ~ 350	63
FDR-B376	376	6.5	360 ~ 366	64
FDR-B383	383	6.5	367 ~ 373	65
FDR-B463	463	6.5	447 ~ 453	87
FDR-1000	1,000	—	—	169.5

- Material / Finish: A6063S-T5 / Silver anodized
- FDR-1000 does not have mounting holes.

Matching DIN-Rail Chart

BC□□ series

Product no.	Matching DIN-Rail
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
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

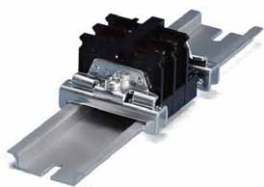
BCAS series

Product no.	Matching DIN-Rail
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
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)



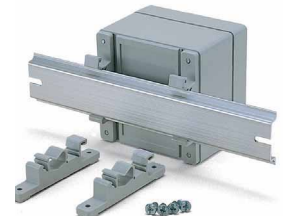
DIN-Rail stopper bracket TKR series
See page DIN-ACC-2



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

IP68 Waterproof Performance

Heavy Duty Diecast Aluminium Enclosure

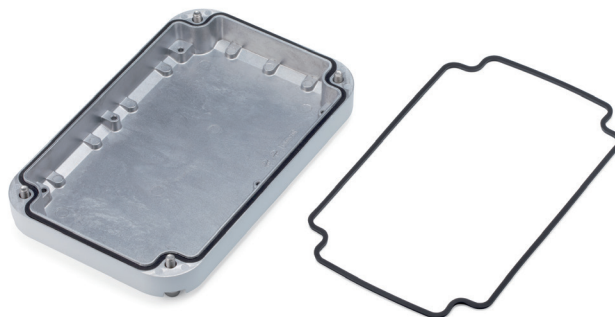
DW•DWH series



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



*Do not use underwater/underground.



With a silicone waterproof gasket, it allows the enclosure to maintain a stable high waterproofing capability.

Selectable from 2 types : general-purpose DW series and the heat-sink DWH series.

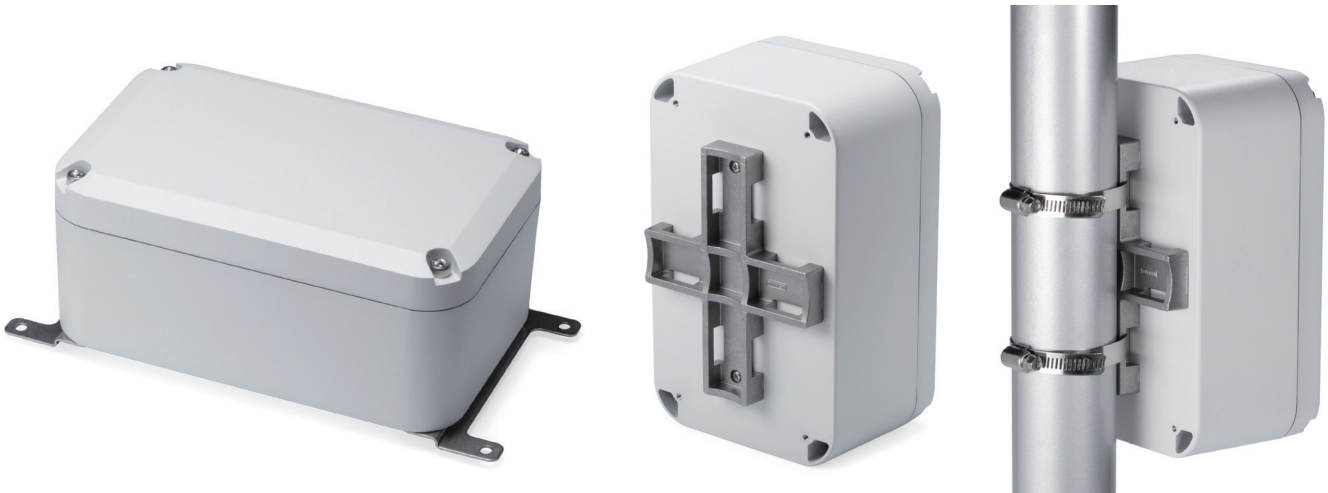


DW series: Easily matches various devices.



DWH series: Heat sink shape for high heat dissipation performance.

Easy installation on walls & poles



Application example - Suitable for a wide range of uses even under severe conditions.

Access Point



Plant Control Equipment



Shockproof Industrial PC



Junction Box

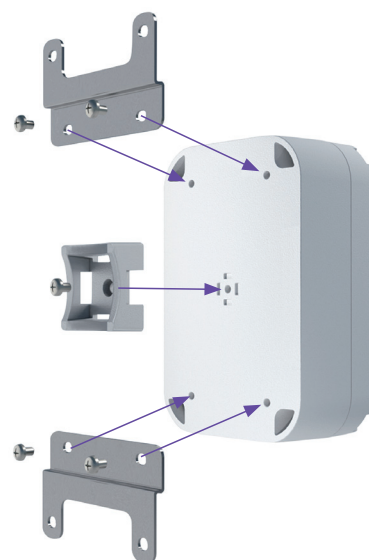
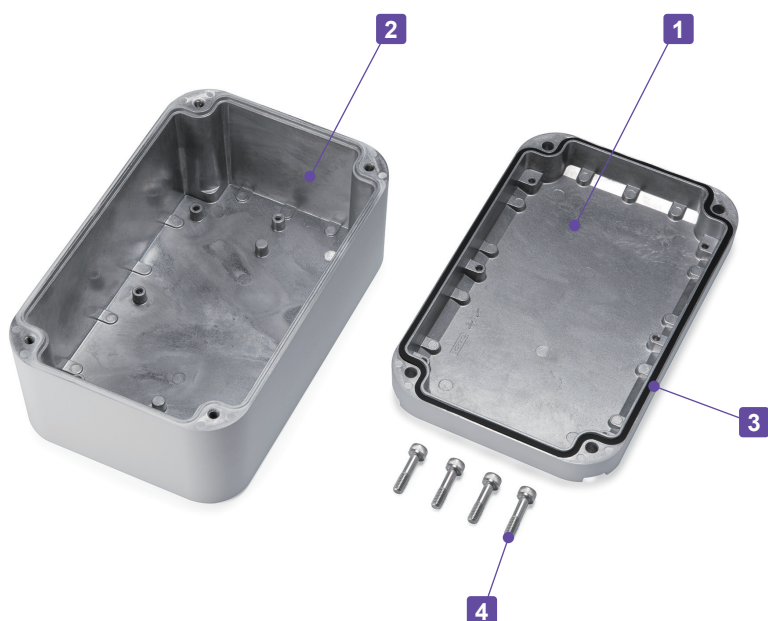




- IP68 high performance aluminium diecast box protected from immersion as long as 24 hours at 1m depth.
- EMC shielding is achieved by having the unfinished inner sides of the Top cover and Base, as well as the conductive silicone gasket.
- Suitable for use in a severe environment such as outdoor network device, plant control equipment, meteorological instruments and more.

Technical Data

Protection class : IP68 (24-hours/1m-depth)
 Operating temperature : -40°C ~ +105°C
 Recommended torque : 4.0 ~ 5.0N • m



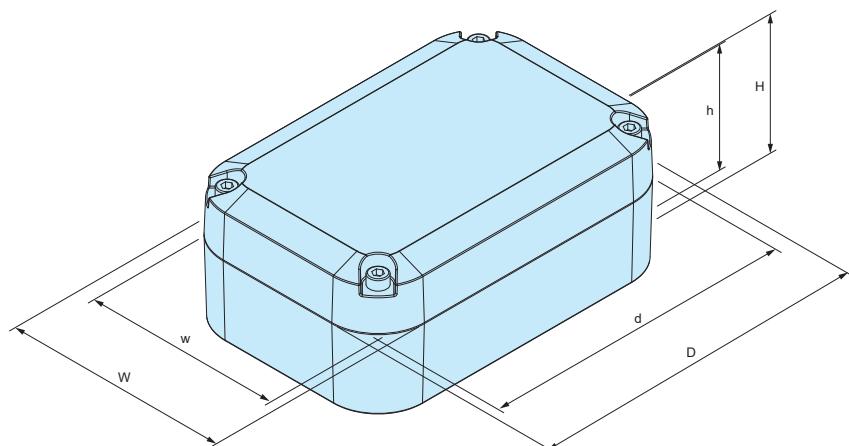
There are M4 threaded holes on the backside of the body for wall / pole mounting bracket.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	Diecast aluminium ADC12	White / Powder coated (Unfinished inside)
2	Base	1	Diecast aluminium ADC12	White / Powder coated (Unfinished inside)
3	Gasket	1	Conductive silicone	Black
4	Screw (Hexagon socket head)	4	Stainless steel	Unfinished

DW dimensions

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



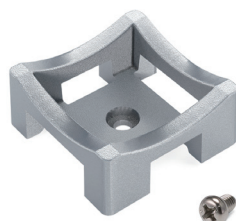
Product no. / Details

Product no.	W	D	H	w	d	h	Weight (g)
DW10-15- 6W	100	150	60	86	136	46	670
DW10-15- 9W	100	150	90	81	131	76	910
DW14-22- 7W	140	220	70	125	205	56	1,245
DW14-22-10W	140	220	100	123	203	86	1,640

Accessories (Optional parts)



Wall mounting bracket
DWF series
See page 153



Aluminium pole mounting bracket
DWMB-1N • WGMB-2N
See page 154



Pole mounting belt • ties
SNB • PKB series
See page 207 ~ 208



Mounting plate for DW • DWH
DWMP series
See page 153



DIN Rail
FDR series
See page 100



Mounting screw
SMS 4-8
See page 153



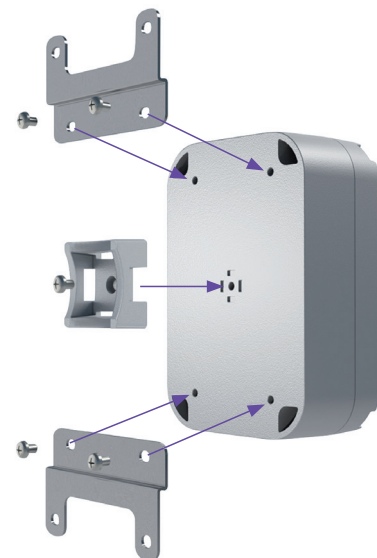
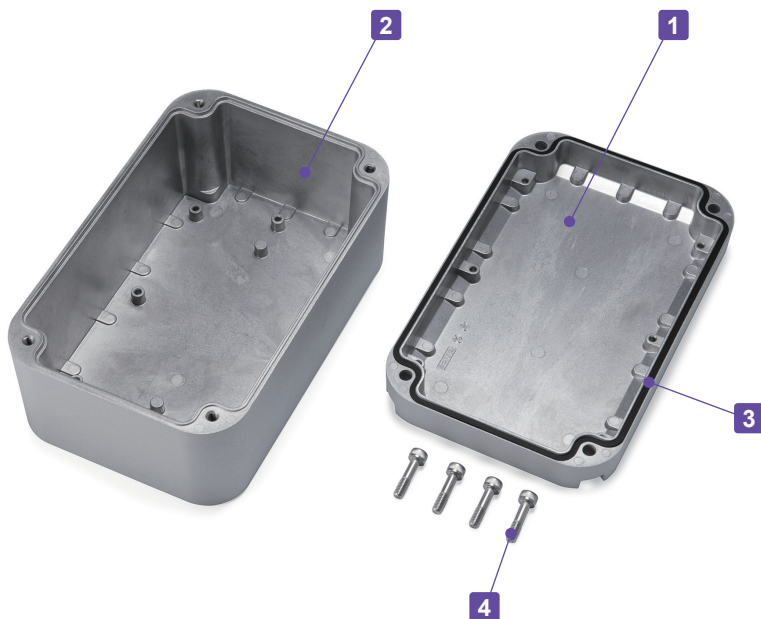
Cable glands
See page 181 ~ 193



- IP68 high performance aluminium diecast box protected from immersion as long as 24 hours at 1m depth.
- EMC shielding is achieved by having the unfinished inner sides of the Top cover and Base, as well as the conductive silicone gasket.
- Suitable for Access Points, Optical Transmission Equipment, Shockproof Industrial PCs and more.

Technical Data

Protection class : IP68 (24-hours/1m-depth)
Operating temperature : -40°C ~ +105°C
Recommended torque : 4.0 ~ 5.0N • m



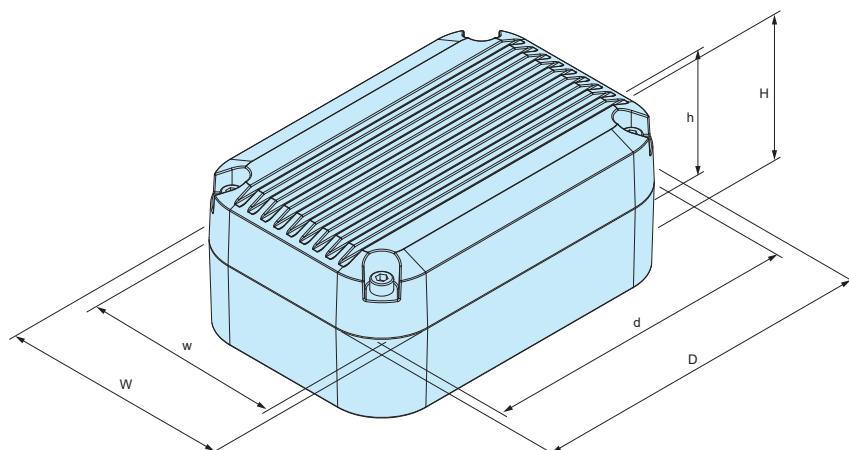
There are M4 threaded holes on the backside of the body for wall / pole mounting bracket.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Heat-sink top cover	1	Diecast aluminium ADC12	Metallic silver / Powder coated (Unfinished inside)
2	Base	1	Diecast aluminium ADC12	Metallic silver / Powder coated (Unfinished inside)
3	Gasket	1	Conductive silicone	Black
4	Screw (Hexagon socket head)	4	Stainless steel	Unfinished

DWH dimensions

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



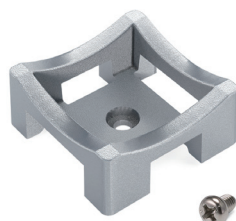
Product no. / Details

Product no.	W	D	H	w	d	h	Weight (g)
DWH10-15 -6S	100	150	63.5	86	136	46	875
DWH10-15- 9S	100	150	93.5	81	131	76	1,115
DWH14-22- 7S	140	220	74	125	205	56	1,470
DWH14-22-10S	140	220	104	123	203	86	1,865

Accessories (Optional parts)



Wall mounting bracket
DWF series
See page 153



Aluminium pole mounting bracket
DWMB-1N • WGMB-2N
See page 154



Pole mounting belt • ties
SNB • PKB series
See page 207 ~ 208



Mounting plate for DW • DWH
DWMP series
See page 153



DIN Rail
FDR series
See page 100



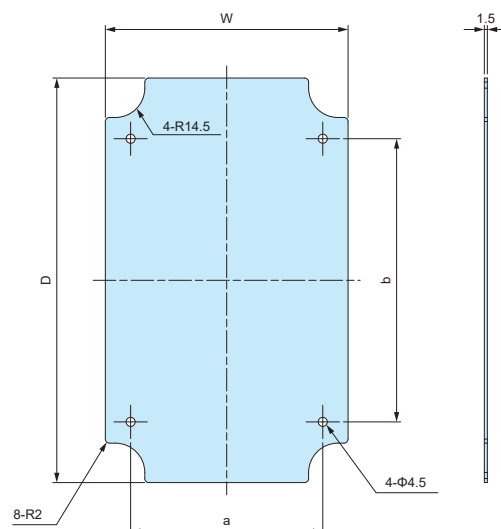
Mounting screw
SMS 4-8
See page 153



Cable glands
See page 181 ~ 193

DWMP series**MOUNTING PLATE for DW • DWH**

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



■ Material / Finish : Aluminium A1050P t1.5 / Unfinished

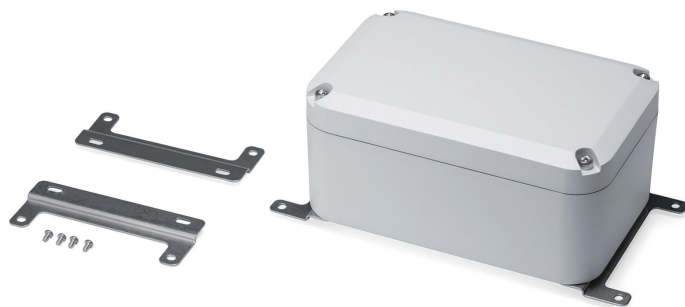
■ Covered with a protective film on one side.

■ Hole milling, clinching spacer customizations are available.
See our website for more details.

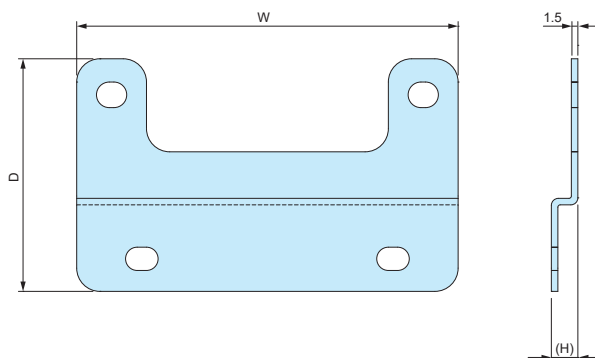
Product no. / Details

Including 4x screws (Pan head self tapping M4-8 Steel Trivalent chromate)

Product no.	W	D	a	b	Suitable model	Weight (g)
DWMP10-15	78	128	65	80	DW • DWH10-15-□	39
DWMP14-22	120	200	95	140	DW • DWH14-22-□	96

DWF series**WALL MOUNTING BRACKET for DW • DWH**

■ Material / Finish : Stainless Steel / Barrel finish

**Product no. / Details**

Including 4x screws (Pan head M4-6 Stainless Steel Unfinished)

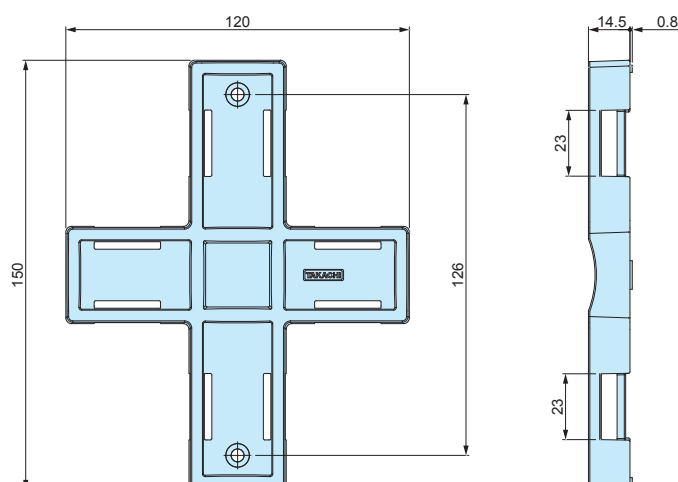
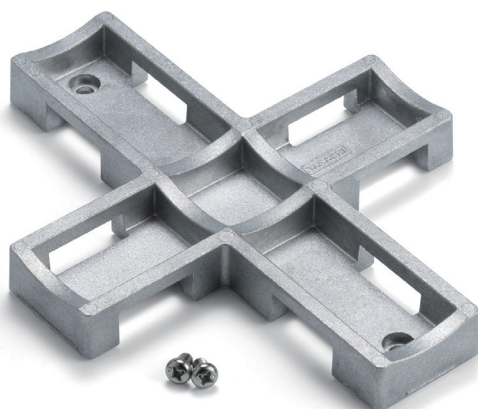
Product no.	W	D	(H)	Suitable model	Weight (g)	Pack of
DWF-10	82	50	(5.8)	DW • DWH10-15-□	77 (2pcs)	2
DWF-15	132	50	(5.8)	DW • DWH14-22-□	107 (2pcs)	2

SMS4-8**MOUNTING SCREW**

■ Self-tapping screws for mounting PCB and DIN Rail (FDR series - see page 100) on bosses or standoffs.

**Product no. / Details**

Product no.	Details	Material	Finish	Weight(g)	Pack of
SMS4-8	M4-8 Pan head tapping	Steel	Trivalent chromate	1 (1pc)	4

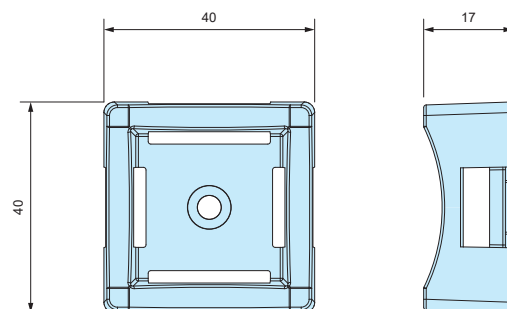
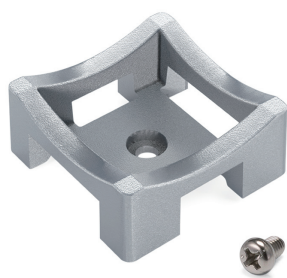
WGMB-2N**DIECAST ALUMINIUM POLE MOUNTING BRACKET for DW • DWH**

- Pole mount bracket made from robust diecast aluminium.
- 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 protection class.
- Can be used for DW • DWH14-22-□ models.
- Pole mounting belt can be installed in either W or D direction.
- Pole mount is possible with the use of SNB or PKB series mounting belt. See page 207 ~ 208 for more details.

Product no. / Details

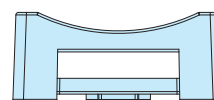
■ Stainless steel mounting screws included.

Product no.	Suitable models	Material / Finish	Weight (g)	Pack of
WGMB-2N	DW • DWH14-22-□	Diecast aluminium ADC12 / Shot blast	126	1

DWMB-1N**WALL MOUNTING BRACKET for DW • DWH**

■ Material / Finish : Diecast aluminium ADC12 / Shot blast

- Pole mount bracket made from robust diecast aluminium.
- Hole milling is not required when installing the mount bracket, thus allowing the enclosure to maintain its protection class.
- Can be used for DW • DWH10-15-□ models.
- Pole mounting belt can be installed in either W or D direction.
- Pole mount is possible with the use of SNB or PKB series mounting belt. See page 207 ~ 208 for more details.



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

Product no. / Details

Including 1x screw (Pan head M4-6 Stainless Steel Unfinished)

Product no.	Suitable models	Weight (g)	Pack of
DWMB-1N	DW • DWH10-15-□	24	1



- IP68 and heat dissipation enclosure. Designed with flanged end panels.
- PCB or chassis is mounted by sliding it horizontally into an inner-grooved body frame.
- Designed for a tough environment where waterproof and heat countermeasures are required.
- Suitable for outdoor use such as LED power supplies and junction boxes.

Technical Data

Protection class : IP68 (24 hours/1m depth)
 Operating temperature : -40°C ~ +105°C
 Recommended torque : 1.0N • m

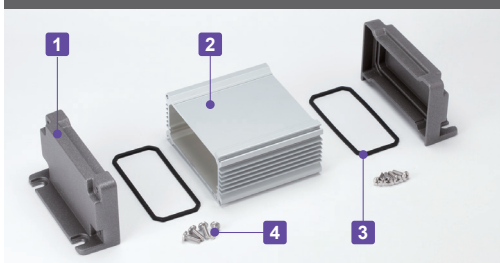
Normal N type Components

No.	Part name	Pcs	Material	Color / Finish
1	Flanged end panel	2	Diecast aluminium ADC12	Metallic gray • Black / Powder coated
2	Body frame	1	Extruded aluminium A6063S-T5	Silver • Black / Anodized with clear coating
3	Gasket	2	Silicone	Black
4	Screw	8	Stainless steel	Unfinished

EMC Shielded E type Components

No.	Part name	Pcs	Material	Color / Finish
1	Flanged end panel	2	Diecast aluminium ADC12	Silver • Black / Painted (Unfinished inside)
2	Body frame	1	Extruded aluminium A6063S-T5	Silver • Black / Anodized with clear coating
3	Gasket	2	Conductive silicone	Black
4	Screw	8	Stainless steel	Unfinished

Normal - N type



Color type



Metallic gray / Silver

N G S



Black / Silver

N B S

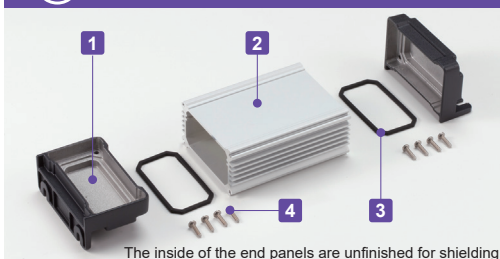


Black / Black

N B B



EMC Shielded - E type



Color type



Silver / Silver

E S S



Black / Silver

E B S

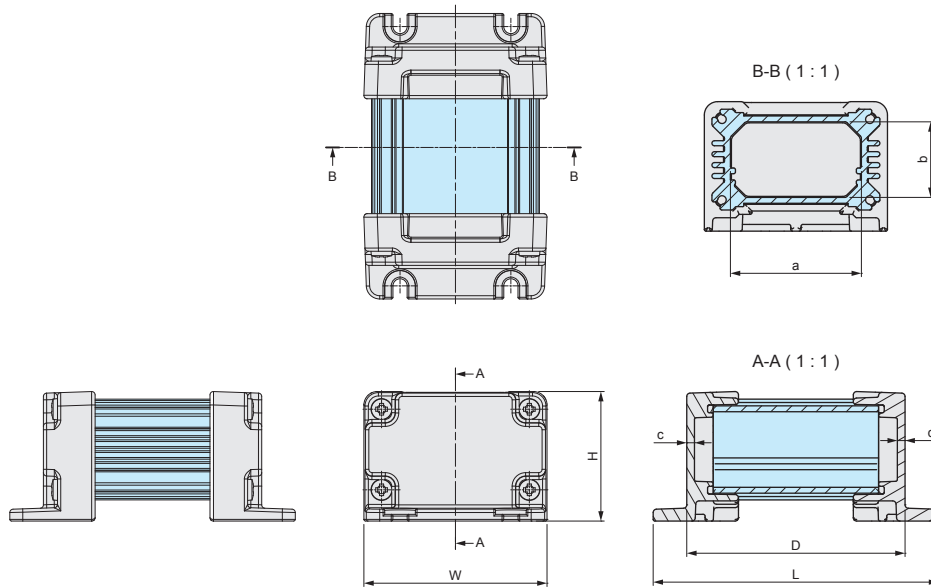


Black / Black

E B B

AW dimensions

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



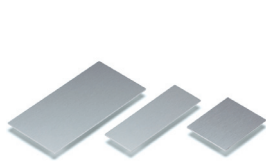
Product no. / Details

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

Product no.	W	H	D	L	a	b	c	Weight (g)
AW 5-4- 7□□□	54.6	38.6	65	85	39	22.5	2.3	128.5
AW 5-4- 9□□□	54.6	38.6	85	105	39	22.5	2.3	149
AW 5-4-11□□□	54.6	38.6	110	130	39	22.5	2.3	175
AW 5-4-14□□□	54.6	38.6	135	155	39	22.5	2.3	201.5
AW 7-7- 8□□□	65.8	70.8	80	106	47	51	2.5	294.5
AW 7-7-11□□□	65.8	70.8	110	136	47	51	2.5	350
AW 7-7-15□□□	65.8	70.8	150	176	47	51	2.5	424.5
AW 7-7-20□□□	65.8	70.8	200	226	47	51	2.5	517
AW 7-7-25□□□	65.8	70.8	250	276	47	51	2.5	610
AW 8-5- 9□□□	80.8	50.8	90	116	62	31	2.5	289.5
AW 8-5-12□□□	80.8	50.8	115	141	62	31	2.5	330.5
AW 8-5-14□□□	80.8	50.8	140	166	62	31	2.5	372
AW 8-5-18□□□	80.8	50.8	175	201	62	31	2.5	429.5
AW 9-9-10□□□	86.3	92	100	129	66.5	66.5	3	560.5
AW 9-9-13□□□	86.3	92	125	154	66.5	66.5	3	633.5
AW 9-9-17□□□	86.3	92	170	199	66.5	66.5	3	764.5
AW 9-9-22□□□	86.3	92	220	249	66.5	66.5	3	910.5
AW 9-9-28□□□	86.3	92	275	304	66.5	66.5	3	1,071
AW11-6-11□□□	106.3	62	110	139	86.5	36.5	3	526.5
AW11-6-15□□□	106.3	62	150	179	86.5	36.5	3	625
AW11-6-19□□□	106.3	62	190	219	86.5	36.5	3	723.5
AW11-6-24□□□	106.3	62	240	269	86.5	36.5	3	847
AW12-8-11□□□	120	77	105	134	100.2	51.5	3	614.5
AW12-8-14□□□	120	77	140	169	100.2	51.5	3	720.5
AW12-8-17□□□	120	77	179.5	208.5	100.2	51.5	3	840
AW12-8-22□□□	120	77	215	244	100.2	51.5	3	947.5
AW16-9-14□□□	156.3	87	135	164	136.5	61.5	3	945.5
AW16-9-18□□□	156.3	87	175	204	136.5	61.5	3	1,092.5
AW16-9-23□□□	156.3	87	225	254	136.5	61.5	3	1,275.5
AW16-9-28□□□	156.3	87	275	304	136.5	61.5	3	1,459
AW21-9-17□□□	206.3	87	170	199	186.5	61.5	3	1,303
AW21-9-21□□□	206.3	87	210	239	186.5	61.5	3	1,473.5
AW21-9-26□□□	206.3	87	260	289	186.5	61.5	3	1,686.5
AW21-9-31□□□	206.3	87	310	339	186.5	61.5	3	1,899.5

■ Custom length is available.

Accessories (Optional parts)



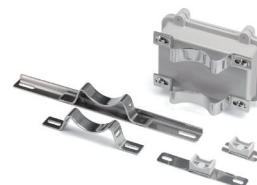
Mounting plate AWC series
See page 166



Hexagon socket head screw HCS series
See page 166



Cable gland
See page 181 ~ 193



Pole mounting bracket SSK series
See website



Protective vent CVP • PMF series
See page 195 ~ 200



- Waterproof case available in 73 different sizes and 6 different color combinations.
- Equipped with flanged frame for easy wall mounting. Suitable to be used as wall mounted controller and transmitter.
- Custom length is available.

Technical Data

Protection class : IP65 • IP54
 Protection class varies by size.
 ■ Not suitable for environments with direct rainfall.
 Operating temperature: -10°C ~ +60°C

Included screws

EXWF7-□, 9-□ models : M2.5-8 x 8 pcs
 EXWF11-□, 15-□ models : M3-10 x 8 pcs
 EXWF20-□ models : M4-12 x 8 pcs
 EXWF24-□, 30-□ models : M5-12 x 8 pcs
 ※Hexagonal wrench included.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Flanged end panel	2	PC+ABS Flame-resistant	Black • Gray / Unpainted Navy / Painted
2	Top cover	1	Extruded aluminium A6063S-T5	Silver • Black / Anodized with clear coating
3	Bottom cover	1	Extruded aluminium A6063S-T5	Silver • Black / Anodized with clear coating
4	Panel gasket	2	Silicone • EPDM sponge	Black
5	Cover gasket	2	Silicone sponge	White gray
6	Screw (Hexagonal)	8	Stainless steel	Unfinished
-	O-ring*	8	NBR	Black

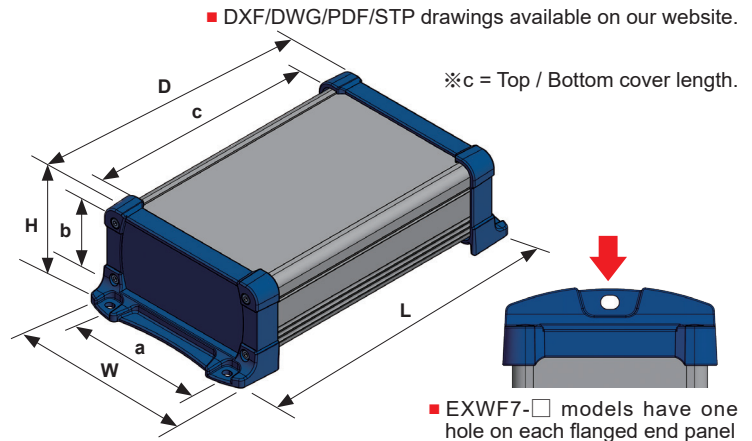
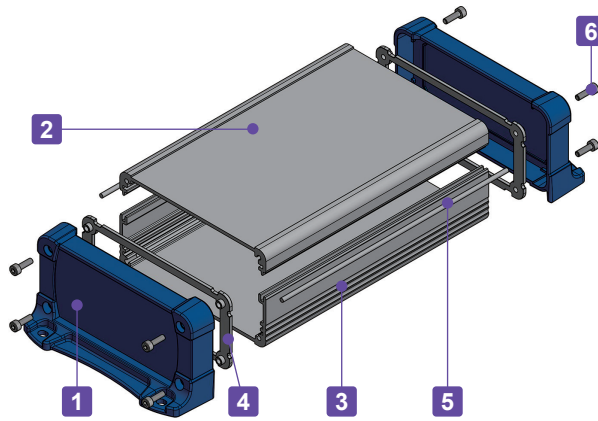
*O-ring is only available for EXWF20-□, 24-□, and 30-□ models.

■ Panel gasket material : Silicone : EXWF7-□ ~ 15-□ models • EPDM sponge : EXWF20-□ ~ 30-□ models.

Color Type

Code	[S][B] Silver / Black	[S][G] Silver / Gray	[S][N] Silver / Navy
Color			
Code	[B][B] Black / Black	[B][G] Black / Gray	[B][N] Black / Navy
Color			

EXWF dimensions

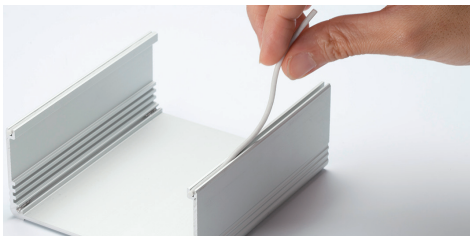


Product no. / Details

- Listed D dimension may vary due to expansion and contraction of gasket from screw tightening.
■ Please suffix color code at the end of the product number.

Product no.	IP Code	External dimensions				Internal dimensions			
		W	H	D	L	a	b	c	
EXWF 7- 3- 6□□	IP65	66	34	57	82	47	20	46	
EXWF 7- 3- 9□□	IP65	66	34	84	109	47	20	73	
EXWF 7- 3-11□□	IP65	66	34	107	132	47	20	96	
EXWF 7- 4- 6□□	IP65	66	44	57	82	47	30	46	
EXWF 7- 4- 9□□	IP65	66	44	84	109	47	30	73	
EXWF 7- 4-11□□	IP65	66	44	107	132	47	30	96	
EXWF 7- 6- 6□□	IP65	66	59	57	82	47	45	46	
EXWF 7- 6- 9□□	IP65	66	59	84	109	47	45	73	
EXWF 7- 6-11□□	IP65	66	59	107	132	47	45	96	
EXWF 9- 4- 7□□	IP65	86	39	68	94.8	67	25	56	
EXWF 9- 4-10□□	IP65	86	39	98	124.8	67	25	86	
EXWF 9- 4-13□□	IP65	86	39	128	154.8	67	25	116	
EXWF 9- 5- 7□□	IP65	86	49	68	94.8	67	35	56	
EXWF 9- 5-10□□	IP65	86	49	98	124.8	67	35	86	
EXWF 9- 5-13□□	IP65	86	49	128	154.8	67	35	116	
EXWF 9- 6- 7□□	IP65	86	64	68	94.8	67	50	56	
EXWF 9- 6-10□□	IP65	86	64	98	124.8	67	50	86	
EXWF 9- 6-13□□	IP65	86	64	128	154.8	67	50	116	
EXWF11- 4- 9□□	IP65	113	41.5	87	119.8	89	24	74	
EXWF11- 4-13□□	IP65	113	41.5	127	159.8	89	24	114	
EXWF11- 4-17□□	IP65	113	41.5	173	205.8	89	24	160	
EXWF11- 6- 9□□	IP65	113	56.5	87	119.8	89	39	74	
EXWF11- 6-13□□	IP65	113	56.5	127	159.8	89	39	114	
EXWF11- 6-17□□	IP65	113	56.5	173	205.8	89	39	160	
EXWF11- 7- 9□□	IP65	113	71.5	87	119.8	89	54	74	
EXWF11- 7-13□□	IP65	113	71.5	127	159.8	89	54	114	
EXWF11- 7-17□□	IP65	113	71.5	173	205.8	89	54	160	
EXWF15- 5-11□□	IP65	148	47	106	146.2	107	29	93	
EXWF15- 5-15□□	IP65	148	47	146	186.2	107	29	133	
EXWF15- 5-20□□	IP65	148	47	196	236.2	107	29	183	
EXWF15- 6-11□□	IP65	148	62	106	146.2	107	44	93	
EXWF15- 6-15□□	IP65	148	62	146	186.2	107	44	133	
EXWF15- 6-20□□	IP65	148	62	196	236.2	107	44	183	
EXWF15- 8-11□□	IP65	148	82	106	146.2	107	64	93	
EXWF15- 8-15□□	IP65	148	82	146	186.2	107	64	133	
EXWF15- 8-20□□	IP65	148	82	196	236.2	107	64	183	
EXWF15-10-11□□	IP65	148	102	106	146.2	107	84	93	
EXWF15-10-15□□	IP65	148	102	146	186.2	107	84	133	
EXWF15-10-20□□	IP65	148	102	196	236.2	107	84	183	
EXWF20- 6-14□□	IP54	195	57	138	186.6	132	35	120	
EXWF20- 6-19□□	IP54	195	57	190	238.6	132	35	172	
EXWF20- 6-25□□	IP54	195	57	243	291.6	132	35	225	
EXWF20- 6-30□□	IP54	195	57	298	346.6	132	35	280	
EXWF20- 8-14□□	IP54	195	75	138	186.6	132	53	120	
EXWF20- 8-19□□	IP54	195	75	190	238.6	132	53	172	
EXWF20- 8-25□□	IP54	195	75	243	291.6	132	53	225	
EXWF20- 8-30□□	IP54	195	75	298	346.6	132	53	280	
EXWF20-10-14□□	IP54	195	95	138	186.6	132	73	120	
EXWF20-10-19□□	IP54	195	95	190	238.6	132	73	172	
EXWF20-10-25□□	IP54	195	95	243	291.6	132	73	225	
EXWF20-10-30□□	IP54	195	95	298	346.6	132	73	280	
EXWF20-12-14□□	IP54	195	120	138	186.6	132	98	120	
EXWF20-12-19□□	IP54	195	120	190	238.6	132	98	172	
EXWF20-12-25□□	IP54	195	120	243	291.6	132	98	225	
EXWF20-12-30□□	IP54	195	120	298	346.6	132	98	280	
EXWF24- 7-17□□	IP54	240	65	165	213.6	177	43	147	
EXWF24- 7-23□□	IP54	240	65	225	273.6	177	43	207	
EXWF24- 7-29□□	IP54	240	65	285	333.6	177	43	267	
EXWF24- 7-35□□	IP54	240	65	345	393.6	177	43	327	
EXWF24- 9-17□□	IP54	240	90	165	213.6	177	68	147	
EXWF24- 9-23□□	IP54	240	90	225	273.6	177	68	207	
EXWF24- 9-29□□	IP54	240	90	285	333.6	177	68	267	
EXWF24- 9-35□□	IP54	240	90	345	393.6	177	68	327	
EXWF24-12-17□□	IP54	240	115	165	213.6	177	93	147	
EXWF24-12-23□□	IP54	240	115	225	273.6	177	93	207	
EXWF24-12-29□□	IP54	240	115	285	333.6	177	93	267	
EXWF24-12-35□□	IP54	240	115	345	393.6	177	93	327	
EXWF30- 9-25□□	IP54	298	93	247	295.6	231	68	228	
EXWF30- 9-32□□	IP54	298	93	317	365.6	231	68	298	
EXWF30- 9-40□□	IP54	298	93	397	445.6	231	68	378	
EXWF30-14-25□□	IP54	298	143	247	295.6	231	118	228	
EXWF30-14-32□□	IP54	298	143	317	365.6	231	118	298	
EXWF30-14-40□□	IP54	298	143	397	445.6	231	118	378	

How to install cover gaskets



- Insert cover gasket into the joint-grooves on the bottom cover.



- Ensure that a small portion of the cover gasket protrudes out in order to maintain a connection with the end panel.



- Equipped with flanged frame for easy wall mounting.
- Available in 67 different sizes and 6 different color combinations by 2 body frame and 3 end panel colors.
- Custom length is available.

Included screws

EXPF 7-□, 9-□ models : M2.5-8 x 8 pcs

EXPF11-□, 15-□ models : M3-10 x 8 pcs

EXPF20-□ models : M4-12 x 8 pcs

EXPF24-□ models : M5-12 x 8 pcs

※Hexagonal wrench included

Components

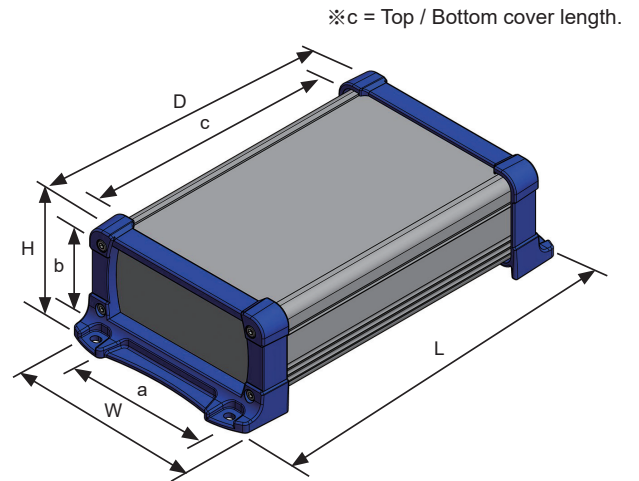
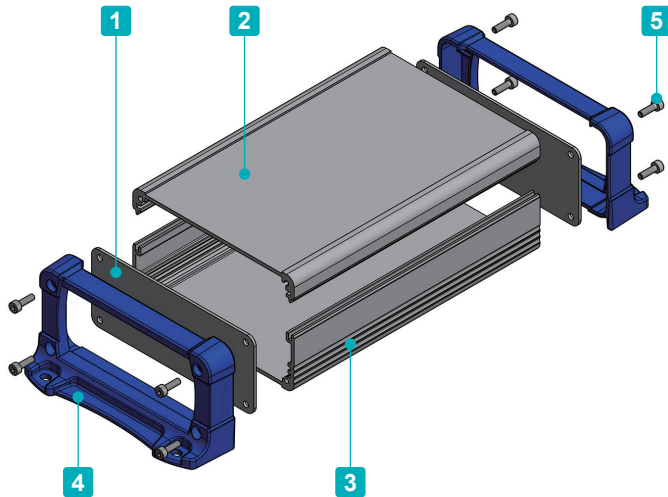
No.	Part name	Pcs	Material	Color / Finish
1	Panel	2	Aluminium A1100P	Silver / Anodized • Black / Painted
2	Top cover	1	Extruded aluminium A6063S-T5	Silver • Black / Anodized with clear coating
3	Bottom cover	1	Extruded aluminium A6063S-T5	Silver • Black / Anodized with clear coating
4	Flanged frame	2	PC+ABS Flame-resistant	Black • Gray / Unpainted Navy / Painted
5	Screw (Hexagonal)	8	Stainless steel	Unfinished

Color Type

Code	[S][B] Silver / Black	[S][G] Silver / Gray	[S][N] Silver / Navy
Color			
Code	[B][B] Black / Black	[B][G] Black / Gray	[B][N] Black / Navy
Color			

EXPF dimensions

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



Product no. / Details

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

Product no.	External dimensions				Internal dimensions		
	W	H	D	L	a	b	c
EXPF 7- 3- 6□□	66	34	60	84	46	19.6	46
EXPF 7- 3- 9□□	66	34	87	111	46	19.6	73
EXPF 7- 3-11□□	66	34	110	134	46	19.6	96
EXPF 7- 4- 6□□	66	44	60	84	46	29.6	46
EXPF 7- 4- 9□□	66	44	87	111	46	29.6	73
EXPF 7- 4-11□□	66	44	110	134	46	29.6	96
EXPF 7- 6- 6□□	66	59	60	84	46	44.6	46
EXPF 7- 6- 9□□	66	59	87	111	46	44.6	73
EXPF 7- 6-11□□	66	59	110	134	46	44.6	96
EXPF 9- 4- 7□□	86	39	70	95.8	66	24.6	56
EXPF 9- 4-10□□	86	39	100	125.8	66	24.6	86
EXPF 9- 4-13□□	86	39	130	155.8	66	24.6	116
EXPF 9- 5- 7□□	86	49	70	95.8	66	34.6	56
EXPF 9- 5-10□□	86	49	100	125.8	66	34.6	86
EXPF 9- 5-13□□	86	49	130	155.8	66	34.6	116
EXPF 9- 6- 7□□	86	64	70	95.8	66	49.6	56
EXPF 9- 6-10□□	86	64	100	125.8	66	49.6	86
EXPF 9- 6-13□□	86	64	130	155.8	66	49.6	116
EXPF11- 4- 9□□	113	41.5	90	121.8	88	24	74
EXPF11- 4-13□□	113	41.5	130	161.8	88	24	114
EXPF11- 4-18□□	113	41.5	176	207.8	88	24	160
EXPF11- 6- 9□□	113	56.5	90	121.8	88	39	74
EXPF11- 6-13□□	113	56.5	130	161.8	88	39	114
EXPF11- 6-18□□	113	56.5	176	207.8	88	39	160
EXPF11- 7- 9□□	113	71.5	90	121.8	88	54	74
EXPF11- 7-13□□	113	71.5	130	161.8	88	54	114
EXPF11- 7-18□□	113	71.5	176	207.8	88	54	160
EXPF15- 5-11□□	148	47	110	149.2	106.8	29	93
EXPF15- 5-15□□	148	47	150	189.2	106.8	29	133
EXPF15- 5-20□□	148	47	200	239.2	106.8	29	183
EXPF15- 6-11□□	148	62	110	149.2	106.8	44	93
EXPF15- 6-15□□	148	62	150	189.2	106.8	44	133
EXPF15- 6-20□□	148	62	200	239.2	106.8	44	183
EXPF15- 8-11□□	148	82	110	149.2	106.8	64	93
EXPF15- 8-15□□	148	82	150	189.2	106.8	64	133
EXPF15- 8-20□□	148	82	200	239.2	106.8	64	183
EXPF15-10-11□□	148	102	110	149.2	106.8	84	93
EXPF15-10-15□□	148	102	150	189.2	106.8	84	133
EXPF15-10-20□□	148	102	200	239.2	106.8	84	183

Product no.	External dimensions				Internal dimensions		
	W	H	D	L	a	b	c
EXPF20- 6-14□□	195	57	140	188.6	131	35	120
EXPF20- 6-19□□	195	57	192	240.6	131	35	172
EXPF20- 6-25□□	195	57	245	293.6	131	35	225
EXPF20- 6-30□□	195	57	300	348.6	131	35	280
EXPF20- 8-14□□	195	75	140	188.6	131	53	120
EXPF20- 8-19□□	195	75	192	240.6	131	53	172
EXPF20- 8-25□□	195	75	245	293.6	131	53	225
EXPF20- 8-30□□	195	75	300	348.6	131	53	280
EXPF20-10-14□□	195	95	140	188.6	131	73	120
EXPF20-10-19□□	195	95	192	240.6	131	73	172
EXPF20-10-25□□	195	95	245	293.6	131	73	225
EXPF20-10-30□□	195	95	300	348.6	131	73	280
EXPF20-12-14□□	195	120	140	188.6	131	98	120
EXPF20-12-19□□	195	120	192	240.6	131	98	172
EXPF20-12-25□□	195	120	245	293.6	131	98	225
EXPF20-12-30□□	195	120	300	348.6	131	98	280
EXPF24- 7-17□□	240	65	170	218.6	176	43	147
EXPF24- 7-23□□	240	65	230	278.6	176	43	207
EXPF24- 7-29□□	240	65	290	338.6	176	43	267
EXPF24- 7-35□□	240	65	350	398.6	176	43	327
EXPF24- 9-17□□	240	90	170	218.6	176	68	147
EXPF24- 9-23□□	240	90	230	278.6	176	68	207
EXPF24- 9-29□□	240	90	290	338.6	176	68	267
EXPF24- 9-35□□	240	90	350	398.6	176	68	327
EXPF24-12-17□□	240	115	170	218.6	176	93	147
EXPF24-12-23□□	240	115	230	278.6	176	93	207
EXPF24-12-29□□	240	115	290	338.6	176	93	267
EXPF24-12-35□□	240	115	350	398.6	176	93	327

■ Custom length is available.

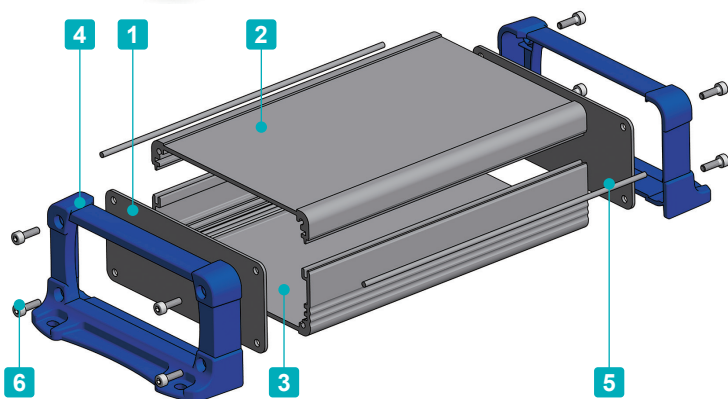
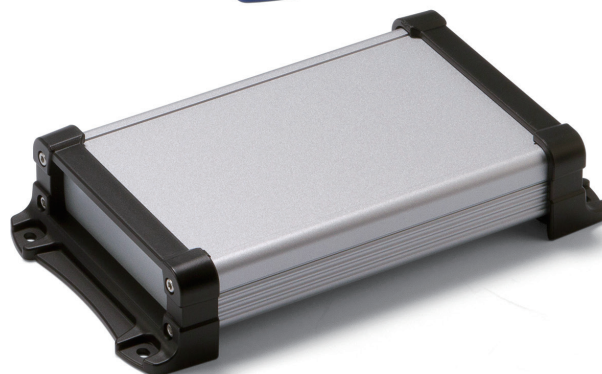
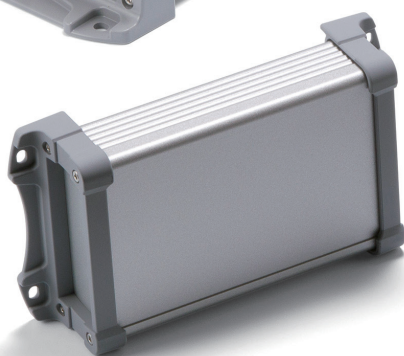


Following models are suitable for Mini-ITX board size.

EXPF20-8-19□□

EXPF20-10-19□□

EXPF20-12-19□□

EMC
Shielding

■ EMC shielding is achieved by having the unfinished inner sides of the top/bottom covers and panels, as well as the fabric-over-foam gasket in contact with one another.

■ Equipped with flanged frame for easy wall mounting.

■ Available in 67 different sizes and 3 different color combinations.

Included screws

EXEF7-□, 9-□ models : M2.5-8 x 8 pcs

EXEF11-□, 15-□ models : M3-10 x 8 pcs

EXEF20-□ models : M4-12 x 8 pcs

EXEF24-□ models : M5-12 x 8 pcs

※ Hexagonal wrench included

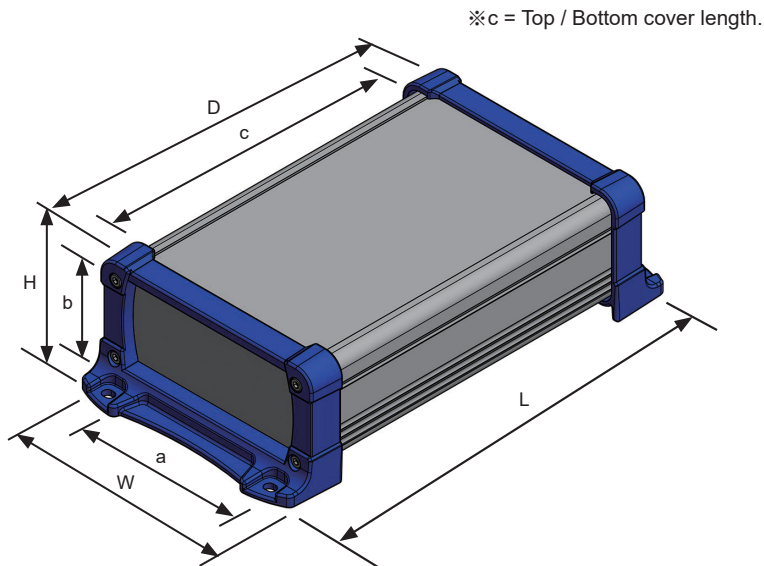
Components

No.	Part name	Pcs	Material	Color / Finish
1	Panel	2	Aluminium A1100P	Metallic silver / Painted (Conductive inside)
2	Top cover	1	Extruded aluminium A6063S-T5	Metallic silver / Painted (Unfinished inside)
3	Bottom cover	1	Extruded aluminium A6063S-T5	Metallic silver / Painted (Unfinished inside)
4	Flanged frame	2	PC+ABS Flame-resistant	Black • Gray / Unpainted Navy / Painted
5	Fabric-over-foam gasket	2	Conductive fabric : TPE	Metallic gray
6	Screw (Hexagonal)	8	Stainless steel	Unfinished

Color Type

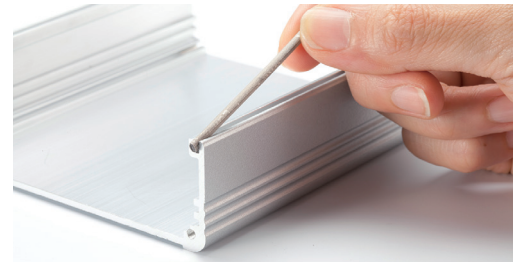
Code	S B Silver / Black	S G Silver / Gray	S N Silver / Navy
Color			

EXEF dimensions

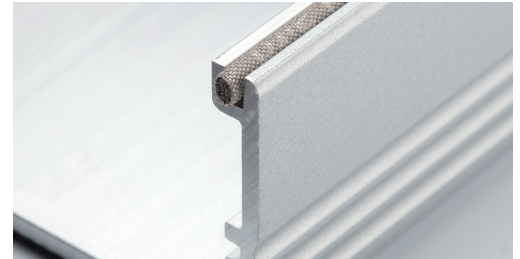


■ DXF/DWG/PDF/STP drawings available on our website.

How to install shield gaskets



■ Insert fabric-over-foam gaskets into the joint-grooves on both sides of the bottom cover.



■ Ensure that a small portion of the fabric-over-foam gaskets protrude out in order to maintain connections with the end panels.

Product no. / Details

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

Product no.	External dimensions				Internal dimensions		
	W	H	D	L	a	b	c
EXEF 7- 3- 6□□	66	34	60	84	46	19.6	46
EXEF 7- 3- 9□□	66	34	87	111	46	19.6	73
EXEF 7- 3-11□□	66	34	110	134	46	19.6	96
EXEF 7- 4- 6□□	66	44	60	84	46	29.6	46
EXEF 7- 4- 9□□	66	44	87	111	46	29.6	73
EXEF 7- 4-11□□	66	44	110	134	46	29.6	96
EXEF 7- 6- 6□□	66	59	60	84	46	44.6	46
EXEF 7- 6- 9□□	66	59	87	111	46	44.6	73
EXEF 7- 6-11□□	66	59	110	134	46	44.6	96
EXEF 9- 4- 7□□	86	39	70	95.8	66	24.6	56
EXEF 9- 4-10□□	86	39	100	125.8	66	24.6	86
EXEF 9- 4-13□□	86	39	130	155.8	66	24.6	116
EXEF 9- 5- 7□□	86	49	70	95.8	66	34.6	56
EXEF 9- 5-10□□	86	49	100	125.8	66	34.6	86
EXEF 9- 5-13□□	86	49	130	155.8	66	34.6	116
EXEF 9- 6- 7□□	86	64	70	95.8	66	49.6	56
EXEF 9- 6-10□□	86	64	100	125.8	66	49.6	86
EXEF 9- 6-13□□	86	64	130	155.8	66	49.6	116
EXEF11- 4- 9□□	113	41.5	90	121.8	88	24	74
EXEF11- 4-13□□	113	41.5	130	161.8	88	24	114
EXEF11- 4-18□□	113	41.5	176	207.8	88	24	160
EXEF11- 6- 9□□	113	56.5	90	121.8	88	39	74
EXEF11- 6-13□□	113	56.5	130	161.8	88	39	114
EXEF11- 6-18□□	113	56.5	176	207.8	88	39	160
EXEF11- 7- 9□□	113	71.5	90	121.8	88	54	74
EXEF11- 7-13□□	113	71.5	130	161.8	88	54	114
EXEF11- 7-18□□	113	71.5	176	207.8	88	54	160
EXEF15- 5-11□□	148	47	110	149.2	106.8	29	93
EXEF15- 5-15□□	148	47	150	189.2	106.8	29	133
EXEF15- 5-20□□	148	47	200	239.2	106.8	29	183
EXEF15- 6-11□□	148	62	110	149.2	106.8	44	93
EXEF15- 6-15□□	148	62	150	189.2	106.8	44	133
EXEF15- 6-20□□	148	62	200	239.2	106.8	44	183
EXEF15- 8-11□□	148	82	110	149.2	106.8	64	93
EXEF15- 8-15□□	148	82	150	189.2	106.8	64	133
EXEF15- 8-20□□	148	82	200	239.2	106.8	64	183
EXEF15-10-11□□	148	102	110	149.2	106.8	84	93
EXEF15-10-15□□	148	102	150	189.2	106.8	84	133
EXEF15-10-20□□	148	102	200	239.2	106.8	84	183

Product no.	External dimensions				Internal dimensions		
	W	H	D	L	a	b	c
EXEF20- 6-14□□	195	57	140	188.6	131	35	120
EXEF20- 6-19□□	195	57	192	240.6	131	35	172
EXEF20- 6-25□□	195	57	245	293.6	131	35	225
EXEF20- 6-30□□	195	57	300	348.6	131	35	280
EXEF20- 8-14□□	195	75	140	188.6	131	53	120
EXEF20- 8-19□□	195	75	192	240.6	131	53	172
EXEF20- 8-25□□	195	75	245	293.6	131	53	225
EXEF20- 8-30□□	195	75	300	348.6	131	53	280
EXEF20-10-14□□	195	95	140	188.6	131	73	120
EXEF20-10-19□□	195	95	192	240.6	131	73	172
EXEF20-10-25□□	195	95	245	293.6	131	73	225
EXEF20-10-30□□	195	95	300	348.6	131	73	280
EXEF20-12-14□□	195	120	140	188.6	131	98	120
EXEF20-12-19□□	195	120	192	240.6	131	98	172
EXEF20-12-25□□	195	120	245	293.6	131	98	225
EXEF20-12-30□□	195	120	300	348.6	131	98	280
EXEF24- 7-17□□	240	65	170	218.6	176	43	147
EXEF24- 7-23□□	240	65	230	278.6	176	43	207
EXEF24- 7-29□□	240	65	290	338.6	176	43	267
EXEF24- 7-35□□	240	65	350	398.6	176	43	327
EXEF24- 9-17□□	240	90	170	218.6	176	68	147
EXEF24- 9-23□□	240	90	230	278.6	176	68	207
EXEF24- 9-29□□	240	90	290	338.6	176	68	267
EXEF24- 9-35□□	240	90	350	398.6	176	68	327
EXEF24-12-17□□	240	115	170	218.6	176	93	147
EXEF24-12-23□□	240	115	230	278.6	176	93	207
EXEF24-12-29□□	240	115	290	338.6	176	93	267
EXEF24-12-35□□	240	115	350	398.6	176	93	327



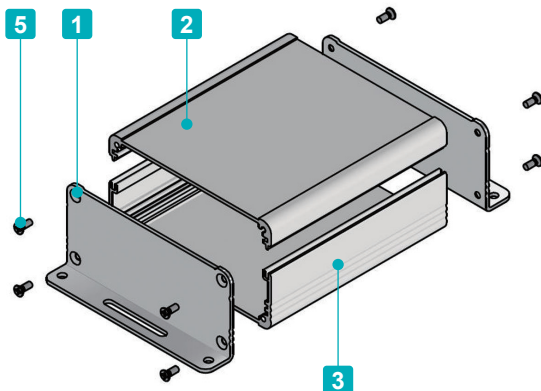
Following models are suitable for Mini-ITX board size.

EXEF20-8-19□□
EXEF20-10-19□□
EXEF20-12-19□□

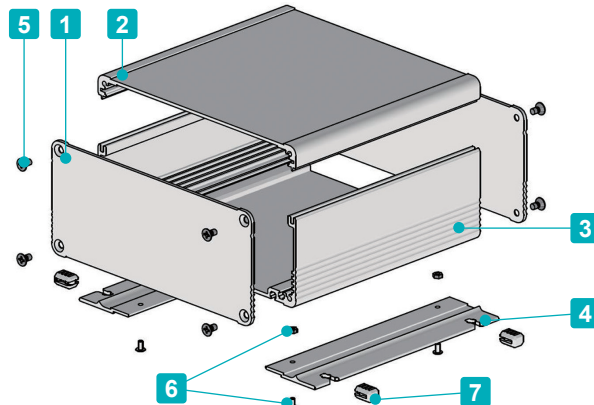


- Flanged panel type or flanged bracket type extruded aluminium enclosure.
- Equipped with flanged panel or bracket for easy wall mounting.
- Anodized finish with clear coating (except for flanged bracket) and selectable from 4 different color combinations.
- Rubber feet are included only on EXF19-□, 23-□ and 29-□ models.
- Custom length is available.

Flanged panel type EXF6-□, 8-□, 11-□ and 14-□



Flanged bracket type EXF19-□, 23-□ and 29-□



Components

No.	Part name	Pcs	Material	Color / Finish
1	Flanged panel (EXF6-□, 8-□, 11-□, 14-□) Panel (EXF19-□, 23-□, 29-□)	2	Aluminium A1050P	Silver • Black / Anodized
2	Top cover	1	Extruded aluminium A6063S-T5	Silver • Black / Anodized with clear coating
3	Bottom cover	1	Extruded aluminium A6063S-T5	Silver • Black / Anodized with clear coating
4	Flange bracket (only for EXF19-□, 23-□, and 29-□)	2	Extruded aluminium A6063S-T5	Metallic silver / Painted • Black / Anodized
5	Panel screw (Phillips head)	8	Stainless steel	Unfinished
6	Flange screw / nut (only for EXF19-□, 23-□, and 29-□)	4 each	Steel	Black trivalent chromate
7	Rubber feet (only for EXF19-□, 23-□, and 29-□)	4	Silicone	Black

Color Type *For flange bracket models, color will be the same as top • bottom cover.

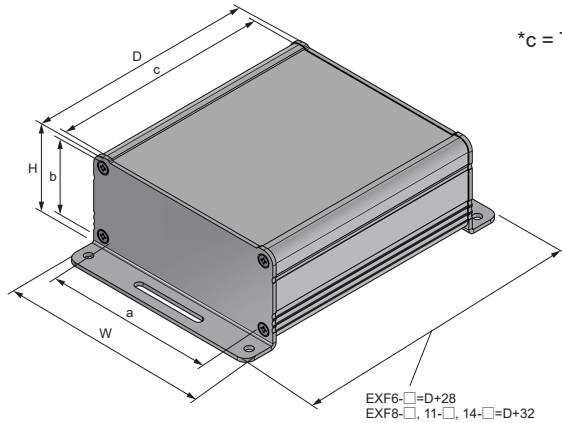
Code	S S Silver / Silver	S B Silver / Black	B S Black/Silver	B B Black/Black
Color				

EXF dimensions

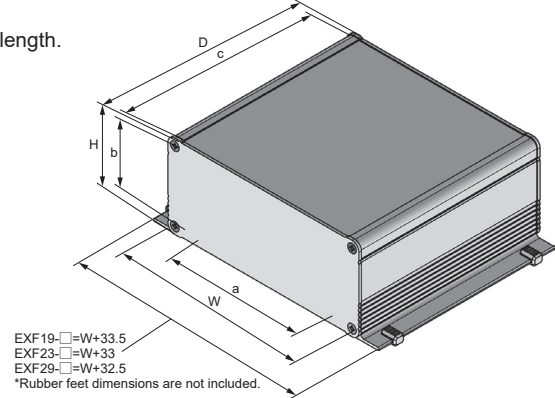
■ DXF/DWG/PDF/STP drawings available on our website.

Flanged panel type EXF6-□, 8-□, 11-□ and 14-□

Flanged bracket type EXF19-□, 23-□ and 29-□



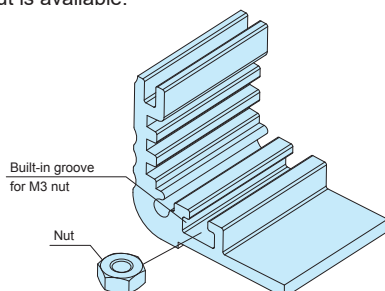
*c = Top/Bottom covers length.



Product no. / Details

Product no.	External dimensions			Internal dimensions			Weight (g)
	W	H	D	a	b	c	
EXF 6-3- 5□□	60.6	27.6	50	46	19.6	46	63
EXF 6-3- 8□□	60.6	27.6	77	46	19.6	73	85
EXF 6-3-10□□	60.6	27.6	100	46	19.6	96	105
EXF 6-4- 5□□	60.6	37.6	50	46	29.6	46	75
EXF 6-4- 8□□	60.6	37.6	77	46	29.6	73	101
EXF 6-4-10□□	60.6	37.6	100	46	29.6	96	124
EXF 6-5- 5□□	60.6	52.6	50	46	44.6	46	92
EXF 6-5- 8□□	60.6	52.6	77	46	44.6	73	122
EXF 6-5-10□□	60.6	52.6	100	46	44.6	96	148
EXF 8-3- 6□□	80.6	32.6	60	66	24.6	56	106
EXF 8-3- 9□□	80.6	32.6	90	66	24.6	86	143
EXF 8-3-12□□	80.6	32.6	120	66	24.6	116	180
EXF 8-4- 6□□	80.6	42.6	60	66	34.6	56	122
EXF 8-4- 9□□	80.6	42.6	90	66	34.6	86	162
EXF 8-4-12□□	80.6	42.6	120	66	34.6	116	203
EXF 8-6- 6□□	80.6	57.6	60	66	49.6	56	145
EXF 8-6- 9□□	80.6	57.6	90	66	49.6	86	189
EXF 8-6-12□□	80.6	57.6	120	66	49.6	116	234
EXF11-3- 8□□	106	33	78	88	24	74	177
EXF11-3-12□□	106	33	118	88	24	114	244
EXF11-3-16□□	106	33	164	88	24	160	322
EXF11-5- 8□□	106	48	78	88	39	74	206
EXF11-5-12□□	106	48	118	88	39	114	279
EXF11-5-16□□	106	48	164	88	39	160	364
EXF11-6- 8□□	106	63	78	88	54	74	238
EXF11-6-12□□	106	63	118	88	54	114	319
EXF11-6-16□□	106	63	164	88	54	160	412
EXF14-4-10□□	141	38	97	106.8	29	93	287
EXF14-4-14□□	141	38	137	106.8	29	133	377
EXF14-4-19□□	141	38	187	106.8	29	183	491
EXF14-5-10□□	141	53	97	106.8	44	93	325
EXF14-5-14□□	141	53	137	106.8	44	133	422
EXF14-5-19□□	141	53	187	106.8	44	183	544
EXF14-7-10□□	141	73	97	106.8	64	93	371
EXF14-7-14□□	141	73	137	106.8	64	133	475
EXF14-7-19□□	141	73	187	106.8	64	183	606
EXF14-9-10□□	141	93	97	106.8	84	93	422
EXF14-9-14□□	141	93	137	106.8	84	133	536
EXF14-9-19□□	141	93	187	106.8	84	183	679

- Grooves for M3 sliding nut are built into the top and bottom covers (140mm or wider). Optional nut is available.

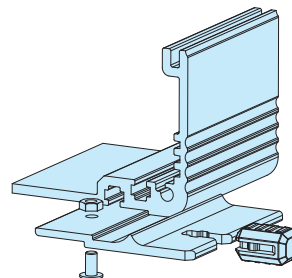


- Included screws
EXF 6-□ and 8-□ models : M2.5-8 x 8 pcs EXF11-□, 14-□ models : M3-8 x 8 pcs
EXF19-□ models : M4-10 x 8 pcs EXF23-□, 29-□ models : M5-10 x 8 pcs
- Please suffix color code at the end of the product number.

Product no.	External dimensions			Internal dimensions			Weight (g)
	W	H	D	a	b	c	
EXF19- 4-13□□	186.5	45.25	125	131	35	120	652
EXF19- 4-18□□	186.5	45.25	177	131	35	172	875
EXF19- 4-23□□	186.5	45.25	230	131	35	225	1,101
EXF19- 4-29□□	186.5	45.25	285	131	35	280	1,333
EXF19- 6-13□□	186.5	63.25	125	131	53	120	722
EXF19- 6-18□□	186.5	63.25	177	131	53	172	959
EXF19- 6-23□□	186.5	63.25	230	131	53	225	1,195
EXF19- 6-29□□	186.5	63.25	285	131	53	280	1,444
EXF19- 8-13□□	186.5	83.25	125	131	73	120	802
EXF19- 8-18□□	186.5	83.25	177	131	73	172	1,059
EXF19- 8-23□□	186.5	83.25	230	131	73	225	1,311
EXF19- 8-29□□	186.5	83.25	285	131	73	280	1,576
EXF19-11-13□□	186.5	108.25	125	131	98	120	926
EXF19-11-18□□	186.5	108.25	177	131	98	172	1,184
EXF19-11-23□□	186.5	108.25	230	131	98	225	1,463
EXF19-11-29□□	186.5	108.25	285	131	98	280	1,739
EXF23- 5-15□□	232	53.5	153	176	43	147	1,024
EXF23- 5-21□□	232	53.5	213	176	43	207	1,350
EXF23- 5-27□□	232	53.5	273	176	43	267	1,682
EXF23- 5-33□□	232	53.5	333	176	43	327	2,012
EXF23- 8-15□□	232	78.5	153	176	68	147	1,164
EXF23- 8-21□□	232	78.5	213	176	68	207	1,509
EXF23- 8-27□□	232	78.5	273	176	68	267	1,854
EXF23- 8-33□□	232	78.5	333	176	68	327	2,225
EXF23-10-15□□	232	103.5	153	176	93	147	1,303
EXF23-10-21□□	232	103.5	213	176	93	207	1,682
EXF23-10-27□□	232	103.5	273	176	93	267	2,060
EXF23-10-33□□	232	103.5	333	176	93	327	2,455
EXF29- 8-23□□	287.5	78.75	234	230	68	228	1,893
EXF29- 8-30□□	287.5	78.75	304	230	68	298	2,361
EXF29- 8-38□□	287.5	78.75	384	230	68	378	2,896
EXF29-13-23□□	287.5	128.75	234	230	118	228	2,305
EXF29-13-30□□	287.5	128.75	304	230	118	298	2,832
EXF29-13-38□□	287.5	128.75	384	230	118	378	3,433

- Custom length is available.

- Flange bracket is installed as per the diagram below.



EF series**WALL MOUNTING BRACKET for EX • EXH • EXHE**

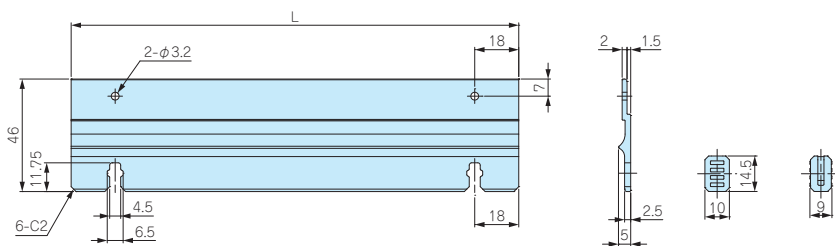
Installation Example



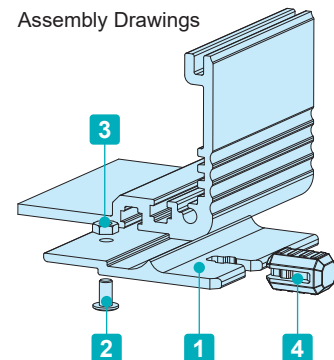
- Wall mounting bracket for EX, EXH, and EXHE series. Applicable only for width 185, 230, and 285mm bottom covers.
- Easy installation by inserting the nuts into built-in grooves on EX, EXH, and EXHE bottom cover.
- Rubber feet are included to hide the mounting cutouts when not used for wall mounting, and act as feet stabilizers for desktop use.

EF dimensions

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



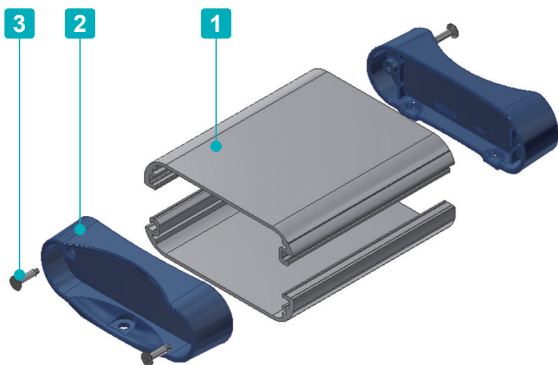
Assembly Drawings

**Components**

No.	Part name	Pcs	Material	Color / Finish
1	Bracket	2	Extruded aluminium A6063S-T5	Metallic silver / Painted • Black / Anodized
2	Screw	4	Steel	Black trivalent chromate
3	Nut	4	Steel	Black trivalent chromate
4	Rubber feet	4	Silicone	Black

Product no. / Details

Product no.		L	Suitable models
● Metallic silver	● Black		
EF19-13S	EF19-13B	119.5	EX • EXH • EXHE19-□-13
EF19-18S	EF19-18B	171.5	EX • EXH • EXHE19-□-18
EF19-23S	EF19-23B	224.5	EX • EXH • EXHE19-□-23
EF19-29S	EF19-29B	279.5	EX • EXH • EXHE19-□-29
EF23-15S	EF23-15B	146.5	EX • EXH • EXHE23-□-15
EF23-21S	EF23-21B	206.5	EX • EXH • EXHE23-□-21
EF23-27S	EF23-27B	266.5	EX • EXH • EXHE23-□-27
EF23-33S	EF23-33B	326.5	EX • EXH • EXHE23-□-33
EF29-23S	EF29-23B	227.5	EX • EXH • EXHE29-□-23
EF29-30S	EF29-30B	297.5	EX • EXH • EXHE29-□-30
EF29-38S	EF29-38B	377.5	EX • EXH • EXHE29-□-38

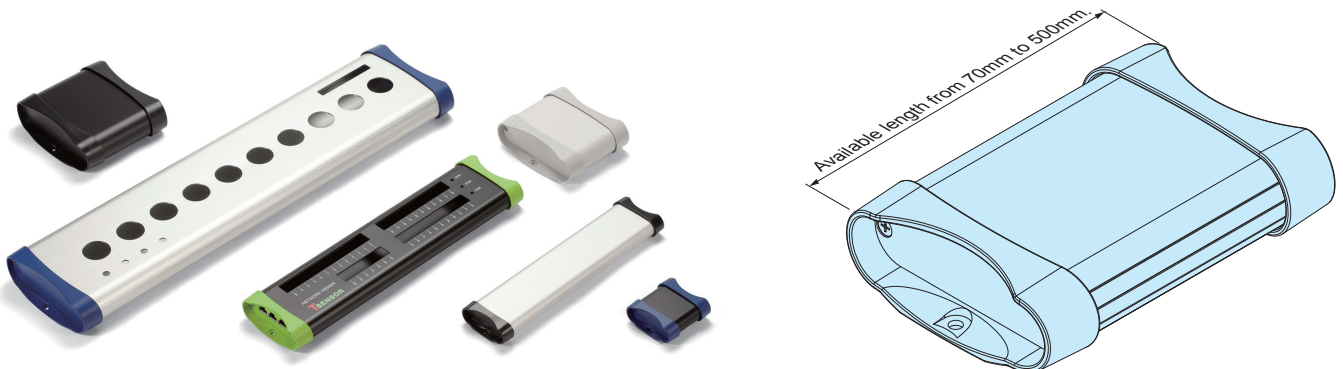


- Flanged network enclosure with easy to hold rounded design.
- 8 different color combinations and 12 different sizes available to choose from.
- Suitable to be used as transmitters, measurement tools, controllers, etc.
- Grooves are built into the internal enclosure, allowing for easy sliding/insertion of PCB boards.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Frame	2	Extruded aluminium A6063S-T5	Silver • Black / Anodized with clear coating
2	Flanged panel	2	ABS UL94HB	Black • Gray / Unpainted Navy • Lime / Painted
3	Self-tapping screw	4	Steel	Nickel plated • Black trivalent chromate

Custom length available in 0.1mm intervals.



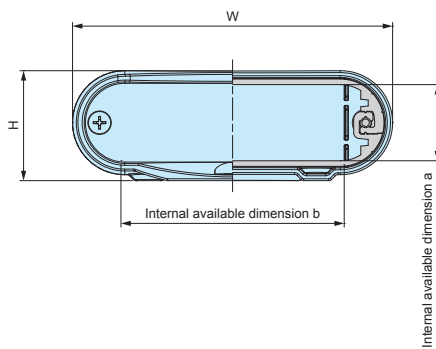
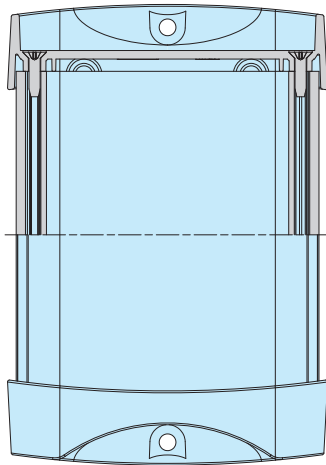
Color Type Please choose from the color combinations listed below

※Black and Gray panels are ABS color. Navy and Lime panels are painted.

[B][B] Black / Black	[B][G] Black / Gray	[B][N] Black / Navy	[B][L] Black / Lime
			
[S][B] Silver / Black	[S][G] Silver / Gray	[S][N] Silver / Navy	[S][L] Silver / Lime
			

MXF dimensions

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



Screw Type

P	H
	
Plus head	Hexalobular head

P type: Includes 4x Nickel plated and 4x Black trivalent chromate screws.
H type: Includes 4x screws that match the case color.

Please request / order by indicating the combination part number as below.

MXF 2 - 6 - 7 □ □ □
Color code Screw P or H

Product no. / Details

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

Product no.	H	W	D	a	b	c	ℓ	Weight (g)
MXF2- 6- 7 □ □	23.4	60.9	65	15.1	41.1	45	40	44
MXF2- 6- 9 □ □	23.4	60.9	90	15.1	41.1	70	65	59
MXF2- 6-12 □ □	23.4	60.9	115	15.1	41.1	95	90	75
MXF2- 8- 9 □ □	29.6	86.1	94	20.5	60.1	64.6	58	90
MXF2- 8-12 □ □	29.6	86.1	124	20.5	60.1	94.6	88	121
MXF2- 8-15 □ □	29.6	86.1	154	20.5	60.1	124.6	118	153
MXF3-11-10 □ □	35.6	114.2	104	26.5	87.3	74.6	66	130
MXF3-11-14 □ □	35.6	114.2	144	26.5	87.3	114.6	106	184
MXF3-11-19 □ □	35.6	114.2	194	26.5	87.3	164.6	156	251
MXF4-13-12 □ □	40.6	134.2	124	31	104.1	94.4	84	197
MXF4-13-17 □ □	40.6	134.2	174	31	104.1	144.4	134	284
MXF4-13-23 □ □	40.6	134.2	234	31	104.1	204.4	194	388

EXHF series

FLANGED HEAT-SINK ALUMINIUM ENCLOSURE

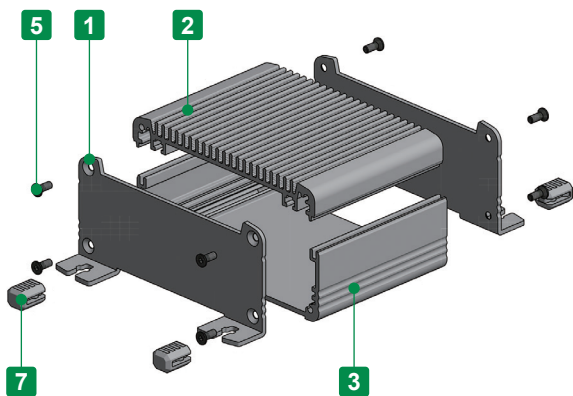


Heat
Resistant

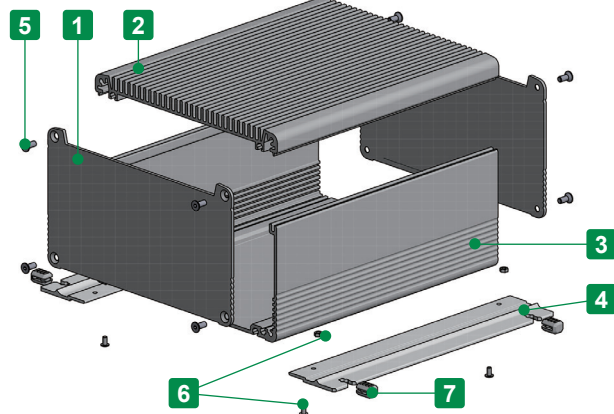


- Equipped with flanged bracket for easy wall mounting.
- Aluminum enclosure equipped with a highly efficient heat-sink top cover.

EXHF8-□, 11-□, 14-□



EXHF19-□, 23-□, 29-□



Components

No.	Part name	Pcs	Material	Color / Finish
1	Flanged panel (EXHF8-□, 11-□, 14-□) Panel (EXHF19-□, 23-□, 29-□)	2	Aluminium A1050P	Metallic silver / Painted (Unfinished inside) : Black / Anodized
2	Heat-sink top cover	1	Extruded aluminium A6063S-T5	Metallic silver / Painted (Unfinished inside) : Black / Anodized
3	Bottom frame	1	Extruded aluminium A6063S-T5	Metallic silver / Painted (Unfinished inside) : Black / Anodized
4	Flange bracket	2	Extruded aluminium A6063S-T5	Metallic silver / Painted • Black / Anodized
5	Panel screw (Hexagonal)	8	Stainless steel	Unfinished
6	Flange screw & nut	4 each	Steel	Black trivalent chromate
7	Rubber feet	4	Silicone	Black

Color Type

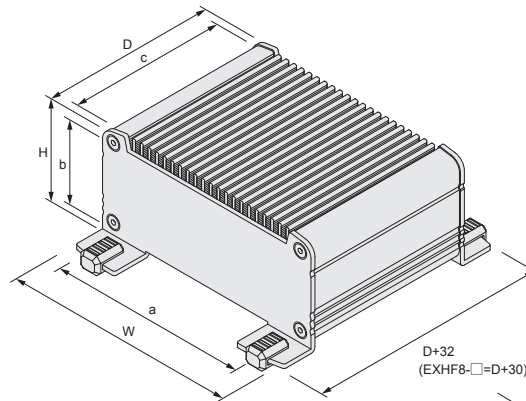
Code	S S Silver / Silver	B B Black / Black
Color		

Included screws
EXHF8-□ models : M2.5-8 x 8 pcs
EXHF11-□, 14-□ models : M3-8 x 8 pcs
EXHF19-□ models : M4-10 x 8 pcs
EXHF23-□, 29-□ models : M5-10 x 8 pcs
※Hexagonal wrench included

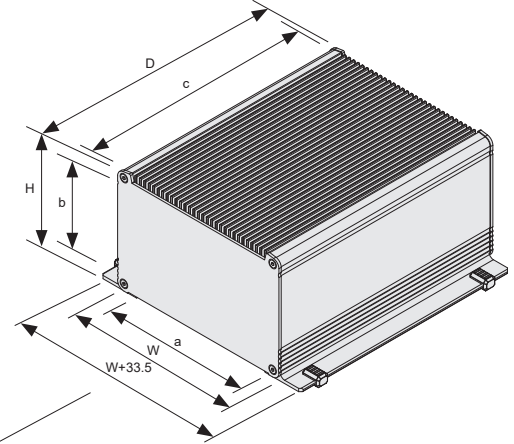
EXHF dimensions

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

EXHF8-□, 11-□, 14-□



EXHF19-□, 23-□, 29-□



※c = Heat-sink top cover / Bottom frame length.

*Rubber feet dimensions are not included.

Product no. / Details

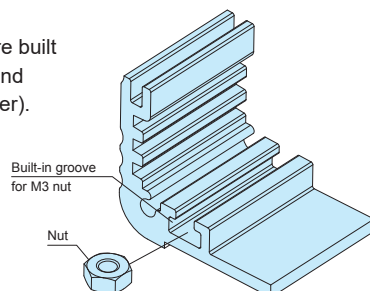
■ Please suffix color code at the end of the product number.

Product no.	External dimensions			Internal dimensions			※Thermal resistance rate (°C/W)
	W	H	D	a	b	c	
EXHF 8-3- 6□□	80.6	32.8	60	66	15	56	7.32
EXHF 8-3- 9□□	80.6	32.8	90	66	15	86	5.65
EXHF 8-3-12□□	80.6	32.8	120	66	15	116	4.72
EXHF 8-4- 6□□	80.6	42.8	60	66	25	56	7.32
EXHF 8-4- 9□□	80.6	42.8	90	66	25	86	5.65
EXHF 8-4-12□□	80.6	42.8	120	66	25	116	4.72
EXHF 8-6- 6□□	80.6	57.8	60	66	40	56	7.32
EXHF 8-6- 9□□	80.6	57.8	90	66	40	86	5.65
EXHF 8-6-12□□	80.6	57.8	120	66	40	116	4.72
EXHF11-3- 8□□	106	33.1	78	88.5	14	74	4.82
EXHF11-3-12□□	106	33.1	118	88.5	14	114	3.72
EXHF11-3-16□□	106	33.1	164	88.5	14	160	3.03
EXHF11-5- 8□□	106	48.1	78	88.5	29	74	4.82
EXHF11-5-12□□	106	48.1	118	88.5	29	114	3.72
EXHF11-5-16□□	106	48.1	164	88.5	29	160	3.03
EXHF11-6- 8□□	106	63.1	78	88.5	44	74	4.82
EXHF11-6-12□□	106	63.1	118	88.5	44	114	3.72
EXHF11-6-16□□	106	63.1	164	88.5	44	160	3.03
EXHF14-4-10□□	141	38.1	97	101.8	24.3	93	3.4
EXHF14-4-14□□	141	38.1	137	101.8	24.3	133	2.75
EXHF14-4-19□□	141	38.1	187	101.8	24.3	183	2.27
EXHF14-5-10□□	141	53.1	97	101.8	39.3	93	3.4
EXHF14-5-14□□	141	53.1	137	101.8	39.3	133	2.75
EXHF14-5-19□□	141	53.1	187	101.8	39.3	183	2.27
EXHF14-7-10□□	141	73.1	97	101.8	59.3	93	3.4
EXHF14-7-14□□	141	73.1	137	101.8	59.3	133	2.75
EXHF14-7-19□□	141	73.1	187	101.8	59.3	183	2.27
EXHF14-9-10□□	141	93.1	97	101.8	79.3	93	3.4
EXHF14-9-14□□	141	93.1	137	101.8	79.3	133	2.75
EXHF14-9-19□□	141	93.1	187	101.8	79.3	183	2.27

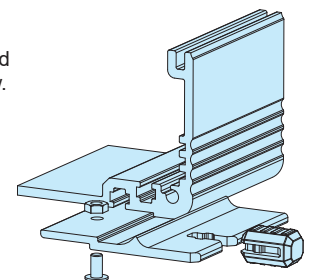
※Thermal resistance test condition

- Ambient air cooling.
- Heat-sink fins are set perpendicular to the ground with temperature at 60°C.
- Painted aluminium extrusion.
- Heat source is applied on the opposite side (inner side) of the fins.

- Grooves for M3 sliding nut are built into the heat-sink top cover and bottom frame (140mm or wider). Optional nut is available.



- Flange bracket is installed as per the diagram below.

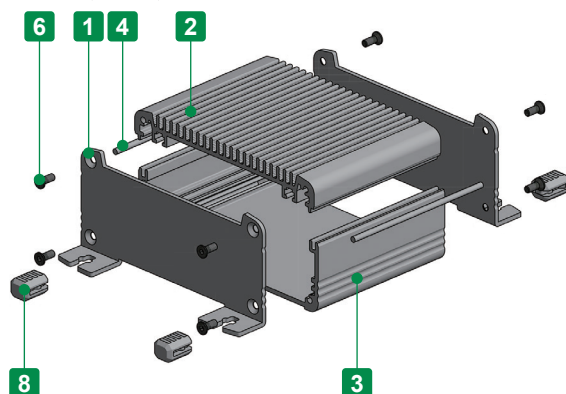


■ Custom length is available.

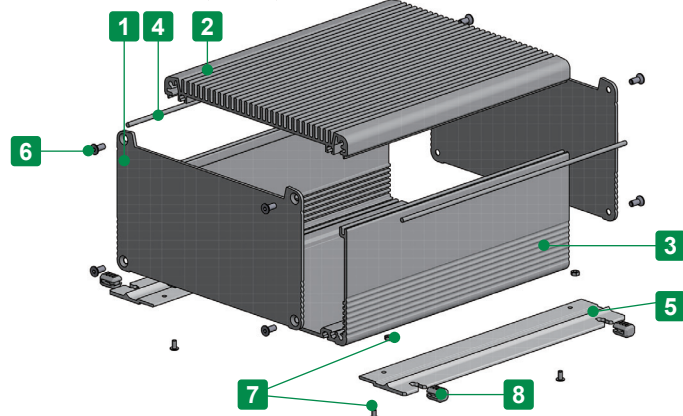
EXHFE series**FLANGED HEAT-SINK ALUMINIUM EMC SHIELDED ENCLOSURE**

- EMC shielding is achieved by having the unfinished internal parts of the enclosure, as well as the fabric-over-foam gasket, in contact with one another.
- Aluminium enclosure equipped with a highly efficient heat-sink top cover.
- Equipped with flanged bracket for easy wall mounting.

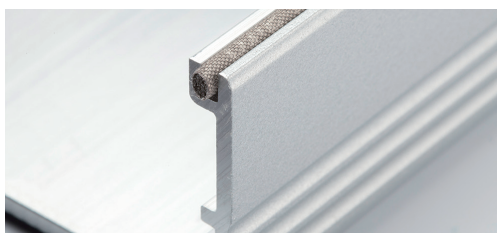
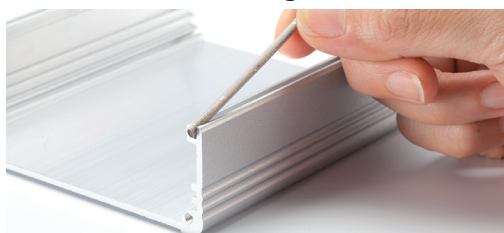
EXHFE8-□, 11-□, 14-□



EXHFE19-□, 23-□, 29-□

**Components**

No.	Part name	Pcs	Material	Color / Finish
1	Flanged panel (EXHFE8-□, 11-□, 14-□) Panel (EXHFE19-□, 23-□, 29-□)	2	Aluminium A1050P	Metallic silver / Painted (Unfinished inside)
2	Heat-sink top cover	1	Extruded aluminium A6063S-T5	Metallic silver / Painted (Unfinished inside)
3	Bottom frame	1	Extruded aluminium A6063S-T5	Metallic silver / Painted (Unfinished inside)
4	Fabric-over-foam gasket	2	Conductive fabric : TPE	Metallic gray
5	Flange bracket	2	Extruded aluminium A6063S-T5	Metallic silver / Painted
6	Panel screw (Hexagonal)	8	Stainless steel	Unfinished
7	Flange screw & nut	4 each	Steel	Black trivalent chromate
8	Rubber feet	4	Silicone	Black

How to install shield gaskets

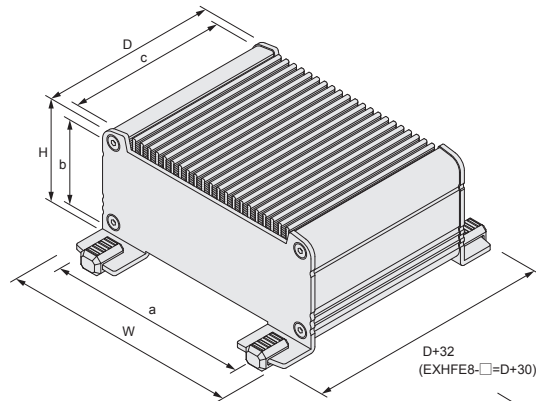
- Insert fabric-over-foam gaskets into the joint-grooves on both sides of the bottom cover.
- Ensure that a small portion of the fabric-over-foam gaskets protrude out in order to maintain connections with the end panels.

Included screws
 EXHFE8-□ models : M2.5-8 x 8 pcs
 EXHFE11-□, 14-□ models : M3-8 x 8 pcs
 EXHFE19-□ models : M4-10 x 8 pcs
 EXHFE23-□, 29-□ models : M5-10 x 8 pcs
 ※ Hexagonal wrench included

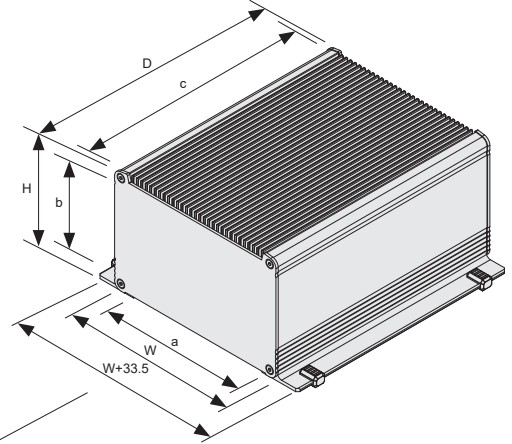
EXHFE dimensions

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

EXHFE8-□, 11-□, 14-□



EXHFE19-□, 23-□, 29-□



※c = Heat-sink top cover / Bottom frame length.

*Rubber feet dimensions are not included.

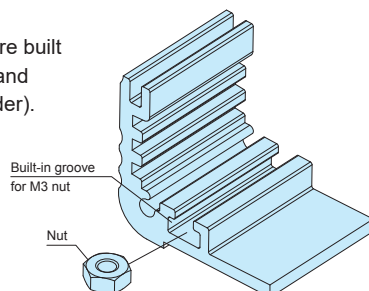
Product no. / Details

Product no.	External dimensions			Internal dimensions			※Thermal resistance rate (°C/W)
	W	H	D	a	b	c	
EXHFE 8-3- 6SS	80.6	32.8	60	66	15	56	7.32
EXHFE 8-3- 9SS	80.6	32.8	90	66	15	86	5.65
EXHFE 8-3-12SS	80.6	32.8	120	66	15	116	4.72
EXHFE 8-4- 6SS	80.6	42.8	60	66	25	56	7.32
EXHFE 8-4- 9SS	80.6	42.8	90	66	25	86	5.65
EXHFE 8-4-12SS	80.6	42.8	120	66	25	116	4.72
EXHFE 8-6- 6SS	80.6	57.8	60	66	40	56	7.32
EXHFE 8-6- 9SS	80.6	57.8	90	66	40	86	5.65
EXHFE 8-6-12SS	80.6	57.8	120	66	40	116	4.72
EXHFE11-3- 8SS	106	33.1	78	88.5	14	74	4.82
EXHFE11-3-12SS	106	33.1	118	88.5	14	114	3.72
EXHFE11-3-16SS	106	33.1	164	88.5	14	160	3.03
EXHFE11-5- 8SS	106	48.1	78	88.5	29	74	4.82
EXHFE11-5-12SS	106	48.1	118	88.5	29	114	3.72
EXHFE11-5-16SS	106	48.1	164	88.5	29	160	3.03
EXHFE11-6- 8SS	106	63.1	78	88.5	44	74	4.82
EXHFE11-6-12SS	106	63.1	118	88.5	44	114	3.72
EXHFE11-6-16SS	106	63.1	164	88.5	44	160	3.03
EXHFE14-4-10SS	141	38.1	97	101.8	24.3	93	3.4
EXHFE14-4-14SS	141	38.1	137	101.8	24.3	133	2.75
EXHFE14-4-19SS	141	38.1	187	101.8	24.3	183	2.27
EXHFE14-5-10SS	141	53.1	97	101.8	39.3	93	3.4
EXHFE14-5-14SS	141	53.1	137	101.8	39.3	133	2.75
EXHFE14-5-19SS	141	53.1	187	101.8	39.3	183	2.27
EXHFE14-7-10SS	141	73.1	97	101.8	59.3	93	3.4
EXHFE14-7-14SS	141	73.1	137	101.8	59.3	133	2.75
EXHFE14-7-19SS	141	73.1	187	101.8	59.3	183	2.27
EXHFE14-9-10SS	141	93.1	97	101.8	79.3	93	3.4
EXHFE14-9-14SS	141	93.1	137	101.8	79.3	133	2.75
EXHFE14-9-19SS	141	93.1	187	101.8	79.3	183	2.27

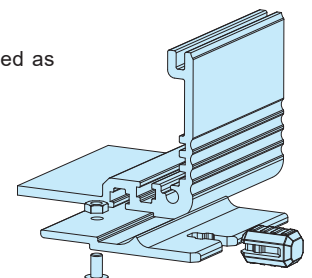
※ Thermal resistance test condition

- Ambient air cooling.
- Heat-sink fins are set perpendicular to the ground with temperature at 60°C.
- Painted aluminium extrusion.
- Heat source is applied on the opposite side (inner side) of the fins.

- Grooves for M3 sliding nut are built into the heat-sink top cover and bottom frame (140mm or wider). Optional nut is available.

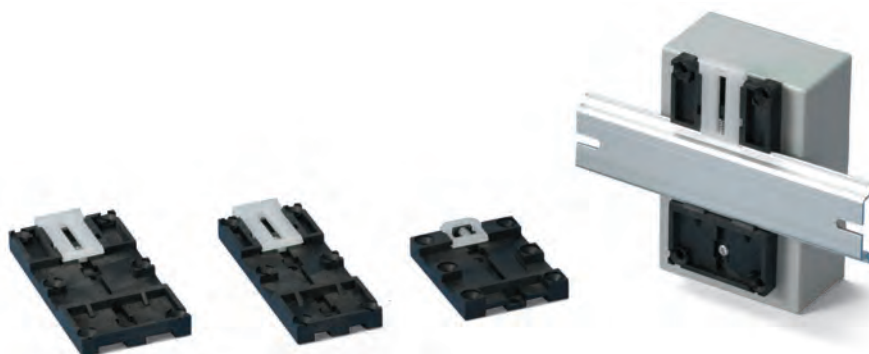


- Flange bracket is installed as per the diagram below.



DRA series

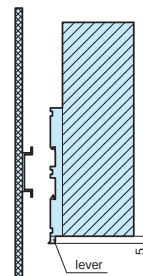
DIN-RAIL MOUNTING BASE



- 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

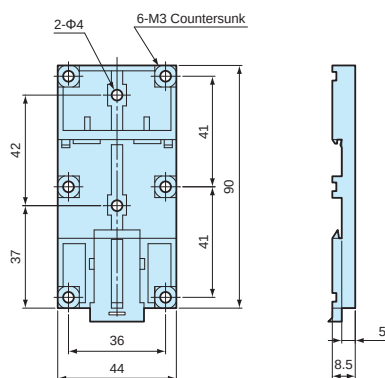


Technical Data

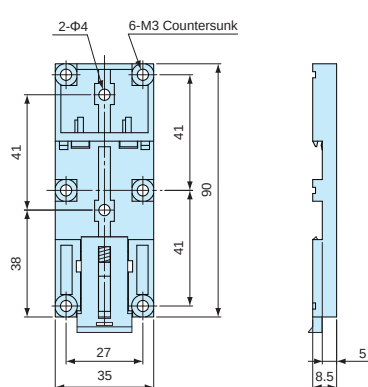
Max load : 5kg

DRA dimensions

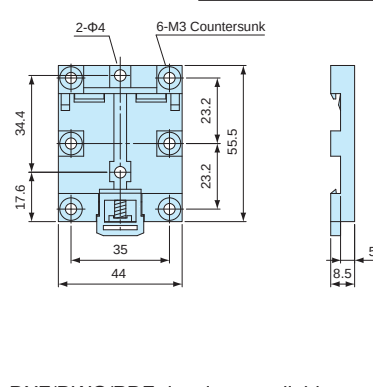
DRA-1



DRA-2



DRA-3



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

Product no. / Dimensions

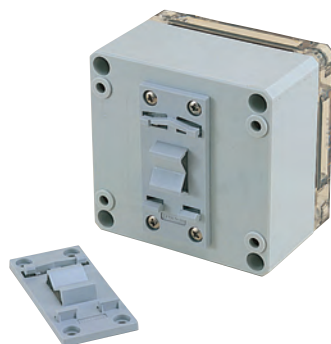
Product no.	Material (body)	Material (lever)	Color	Weight (g)
DRA-1	PPE : SB UL94V-1	Nylon 66 UL94V-2	Black : White	16.4
DRA-2	PPE : SB UL94V-1	Nylon 66 UL94V-2	Black : White	14.5
DRA-3	PPE : SB UL94V-1	Nylon 66 UL94V-2	Black : White	10.4

DRT series

DIN-RAIL MOUNTING BASE

DRT dimensions

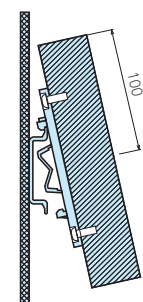
- DXF/DWG/PDF drawings available on our website.



- 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.

■ 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.



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

DIN-RAIL MOUNTING FEET

PMF-6B

SMALL PROTECTIVE VENT



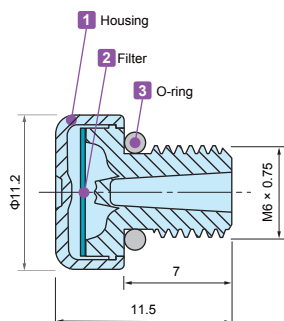
IP68



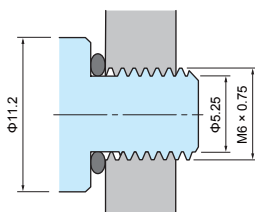
Application example

- Small and screw-in protective vent suitable for compact, and hand-held type devices.
- IP68 protection class (water depth 2 meters / 60 mins) and $-40^{\circ}\text{C} \sim +150^{\circ}\text{C}$ 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.

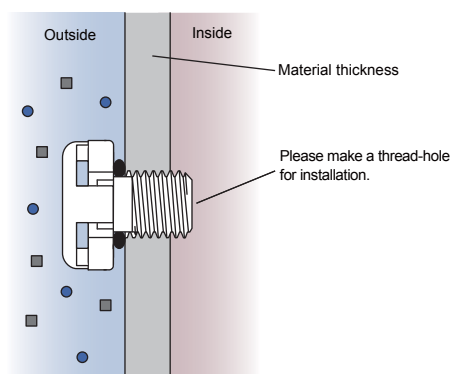
PMF-6B dimensions



Hole milling drawings



Installation drawings



Technical Data

Airflow	300ml / min ($\text{dp} = 7 \text{ kPa}$)
Recommended Torque	0.2 ~ 0.4 N · m
Certifications	IEC60529 (Protection class test) : IP66 • IP67 • IP68 IEC60068-2-1, 2, 14 (Heat resistance test) : $-40^{\circ}\text{C} \sim +150^{\circ}\text{C}$ IEC60068-2-78 (Humidity test) : $85^{\circ}\text{C} \cdot 85\% \text{ humidity} \cdot 1000 \text{ hours}$ 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

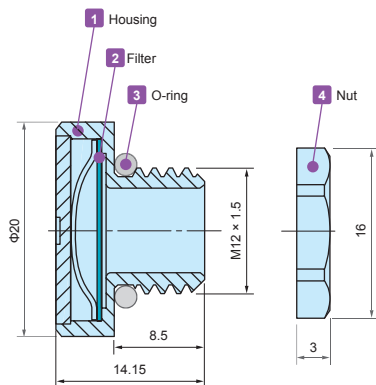
IP68 IP69K



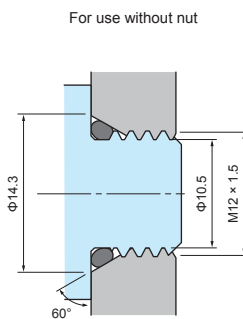
Application example

- Stainless steel protective vent for superior durability and chemical resistance.
- IP68 protection class (water depth 2 meters / 60 mins) and $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$ 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

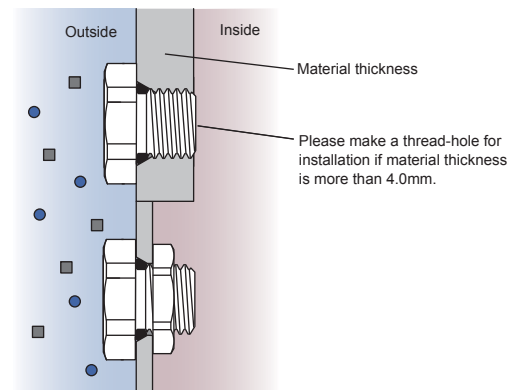


Hole milling drawings



- While $\Phi 12.2\text{mm}$ 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) : $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$ IEC60068-2-78 (Humidity test) : $85^{\circ}\text{C} \cdot 85\%$ humidity • 1000 hours IEC60068-2-64 (Vibration test)

Product no. / Dimensions

Product no.	Material				G		Nut SW
● Metallic	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	$\Phi 12.2$	15

PMF series

PROTECTIVE VENT

Pressure Equalization / Ventilation



Application Example

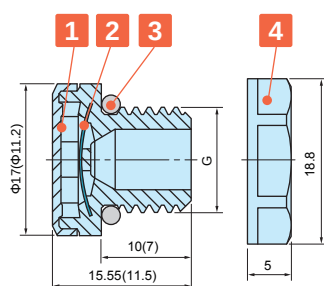
- Protective vent protects the enclosure from deformation by equalizing internal and external pressure differences, as well as venting the gas generated within the enclosure.
- IP68 protection class (water depth 2 meters / 60 mins) with an operating temperature range $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$ 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

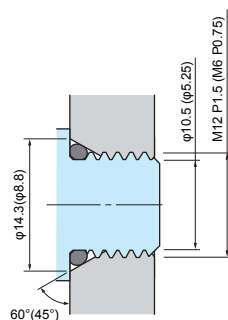
Hole milling drawings

Installation drawings

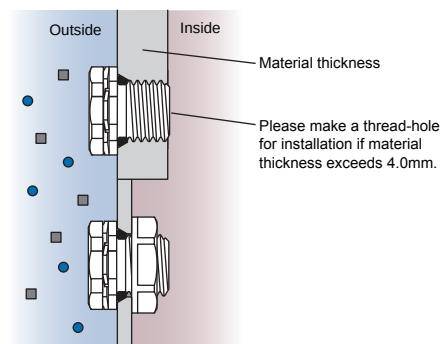
■ DXF/DWG/PDF drawings available on our website.



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



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



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

Technical Data

Product no.	PMF-6B	PMF-12	PMF-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) : $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$ ($\sim +150^{\circ}\text{C}$ for PMF-6B) IEC60068-2-78 (Humidity test) : $85^{\circ}\text{C} \cdot 85\%$ humidity $\cdot 1,000$ 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
● Light gray	● Black	1 Housing	2 Filter	3 O-ring	4 Lock nut	Thread size	Mount hole	SW
—	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



Application Example

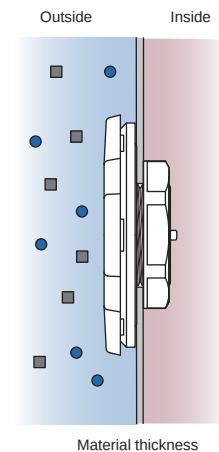
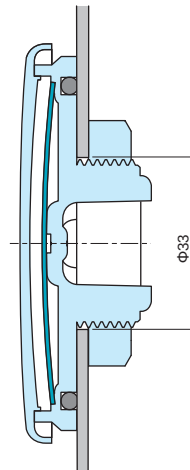
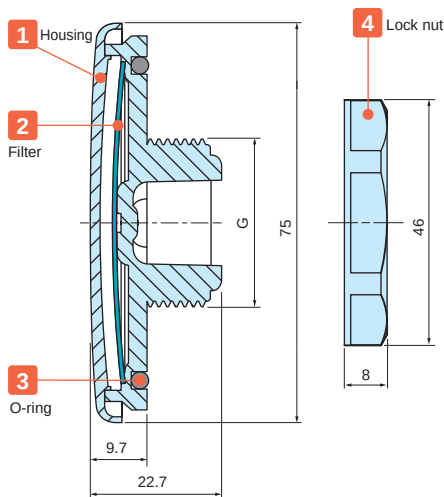
- Maintaining high airflow for large enclosures in an outdoor environment.
- Protective vent protects the enclosure from deformation by equalizing internal and external pressure differences, as well as venting the gas generated within the enclosure.
- Simple and flat design allows it to be used on a 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

Hole milling drawings

Installation drawings

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



- 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

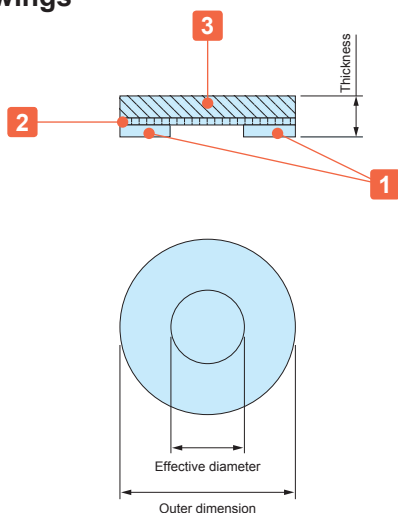
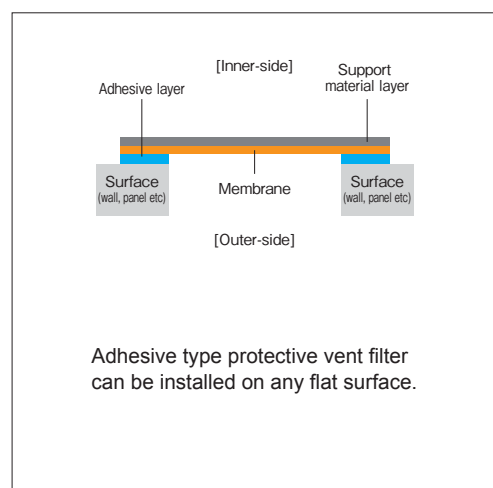
VE8 series**ADHESIVE PROTECTIVE VENT FILTER****Technical Data**

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****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

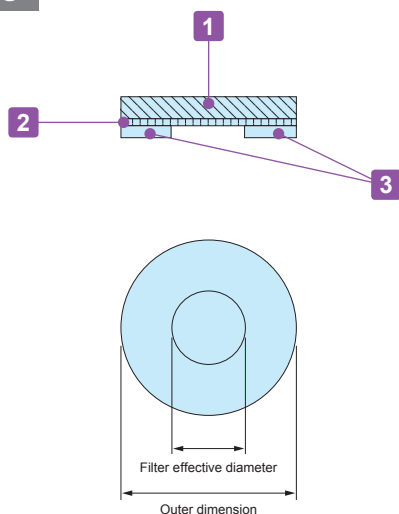
Water Entry Pressure (WEP): $\geq 20.0\text{kPa}$
 Airflow: $450\text{cc}/\text{cm}^2 \cdot \text{min}$ at 1.29Kpa

- Prevents ingress 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.

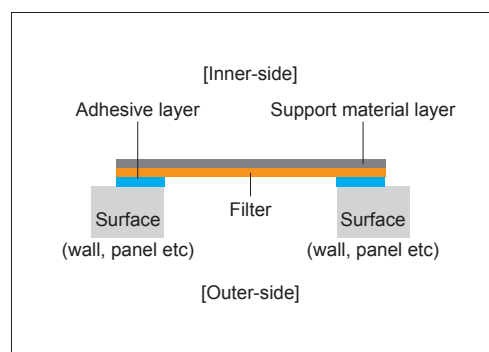
NOTE

- 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

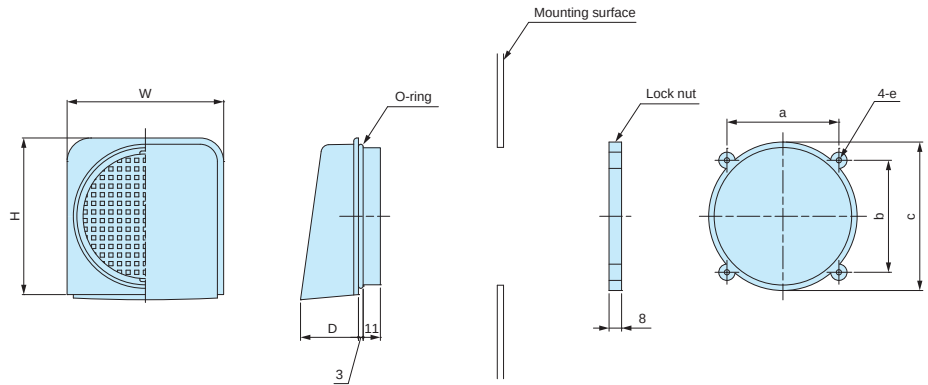
VENTILATION LOUVER



- 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

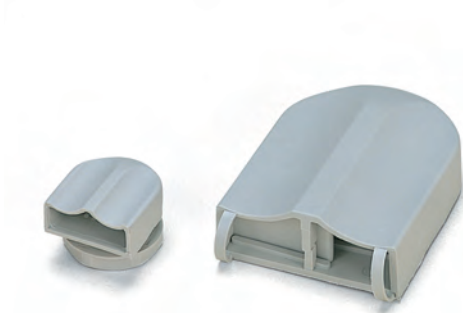
■ O-ring material : NBR / Black

VF series

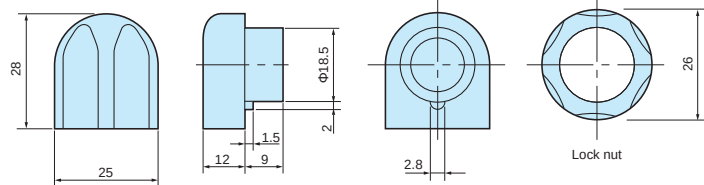
VENTILATION PARTS

VF dimensions

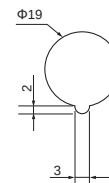
■ DXF/DWG/PDF drawings available on our website.



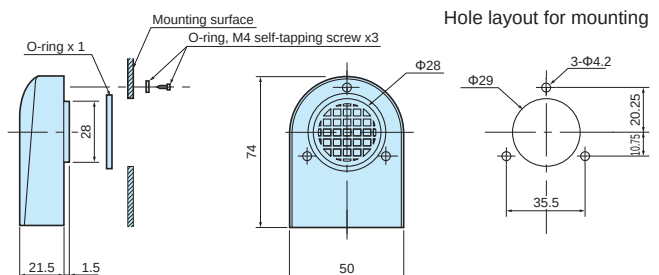
VF-1



Hole layout for mounting



VF-2



Hole layout for mounting

Technical Data

Protection class : VF-1 IP33
VF-2 IP24

Product no. / Dimensions

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



- Weatherproof cable gland equipped with high ultraviolet and degradation resistant silicone sealing insert and O-ring.
- Recommended to use outdoors where waterproofing is critical.
- IP67 protection class.

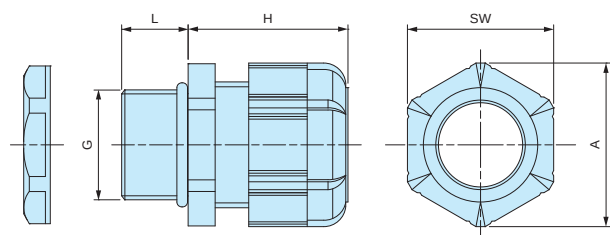
Components

■ PA = Polyamide

No.	Part name	Material
1	Cap	PA66 UL94V-2
2	Sealing insert	Silicone
3	Connector	PA66 UL94V-2
4	O-ring	Silicone
5	Lock nut	PA66 UL94V-2

RMW dimensions

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



Technical Data

Protection class: IP67
Operating temperature: -20°C ~ +80°C

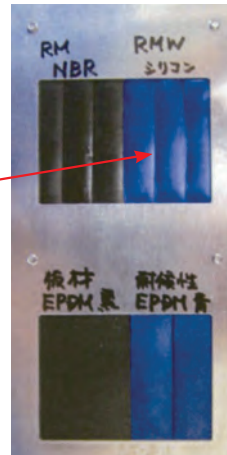
- Lock nut is not included for RMW10S-6.
- Please drill a proper thread hole into the enclosure for installation.

Product no. / Dimensions

Product no.		G		Cable range		L	H Max	SW	A	Pack of
● Black	● Light gray	Thread size	Mounting hole	Min	Max					
RMW8L-2.5B	RMW8L-2.5S	M8×1.25	Φ8.2	1	2.5	13	19.5	11.8	13.5	1
RMW8L-4B	RMW8L-4S	M8×1.25	Φ8.2	2.5	4	13	19.5	11.8	13.5	1
RMW10S-6B	RMW10S-6S	M10×1.5	—	3	6	8	20.5	13	14.4	1
RMW10L-6B	RMW10L-6S	M10×1.5	Φ10.2	3	6	13	20.5	13	14.4	1
RMW12S-7B	RMW12S-7S	M12×1.5	Φ12.2	3.5	7	9	20.5	16	17.6	1
RMW12L-7B	RMW12L-7S	M12×1.5	Φ12.2	3.5	7	14.5	20.5	16	17.7	1
RMW16S-8B	RMW16S-8S	M16×1.5	Φ16.2	4	8	9	23.5	19	21	1
RMW16L-8B	RMW16L-8S	M16×1.5	Φ16.2	4	8	15	24	19	21	1
RMW20S-12B	RMW20S-12S	M20×1.5	Φ20.2	6	12	10	29	24	26.2	1
RMW20L-12B	RMW20L-12S	M20×1.5	Φ20.2	6	12	15	28.5	24	26.2	1
RMW25L-17B	RMW25L-17S	M25×1.5	Φ25.2	11	17	15	35	33	36.2	1
RMW32L-21B	RMW32L-21S	M32×1.5	Φ32.3	13	21	15	38	36	39.5	1
RMW40L-27B	RMW40L-27S	M40×1.5	Φ40.3	18	27	18	43.5	45.7	50.5	1
RMW50L-38B	RMW50L-38S	M50×1.5	Φ50.4	27	38	20	50.5	60	66.5	1
RMW10L-6B-P	RMW10L-6S-P	M10×1.5	Φ10.2	3	6	13	20.5	13	14.4	100
RMW12S-7B-P	RMW12S-7S-P	M12×1.5	Φ12.2	3.5	7	9	20.5	16	17.6	100
RMW12L-7B-P	RMW12L-7S-P	M12×1.5	Φ12.2	3.5	7	14.5	20.5	16	17.7	100
RMW16S-8B-P	RMW16S-8S-P	M16×1.5	Φ16.2	4	8	9	23.5	19	21	100
RMW16L-8B-P	RMW16L-8S-P	M16×1.5	Φ16.2	4	8	15	24	19	21	100
RMW20S-12B-P	RMW20S-12S-P	M20×1.5	Φ20.2	6	12	10	29	24	26.2	100
RMW20L-12B-P	RMW20L-12S-P	M20×1.5	Φ20.2	6	12	15	28.5	24	26.2	100

RMW series silicone sealing insert weatherproof test report

Object: Cut into a piece of the silicone sealing insert from RMW series and attach it onto an aluminium plate.
For comparison, NBR sealing insert from our RM and EPDM sealing insert from another manufacturer is also attached for comparison purposes.



Before



After

Testing conditions

Equipment :

7.5kW Super Xenon Weather Meter SX75 (Suga Test Instruments Co., Ltd.- <http://www.sugatest.co.jp/english/>)

Conditions :

JIS B7754 : 1991

Testing with an authorized Xenon arc lamp weathering test equipment under the conditions denoted below.

Irradiance : 180W/m^2 at 300-400nm

Black Panel Temperature : $63\pm 3^\circ\text{C}$ Humidity Range : $50\pm 10\%$

Cycle Conditions : 120 minutes cycle (18 minutes irradiation + water spray - 102 minutes irradiation)

2,000 hours (equivalent to a period of 4 years under natural conditions)

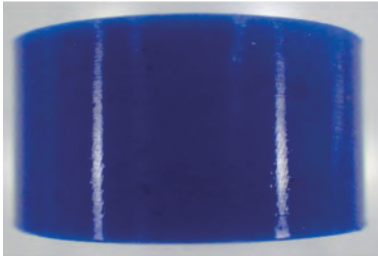
Time period :

Total radiant exposure : 1296MJ/m^2

Test result (visual / touch inspection)

Silicone sealing insert material : No cracks, no gloss transition, no powder - no appearance change at all. Flexibility remains unchanged.

Before



After



NBR material from our RM series : Lost glossiness on the surface and material is stiffened.

Before

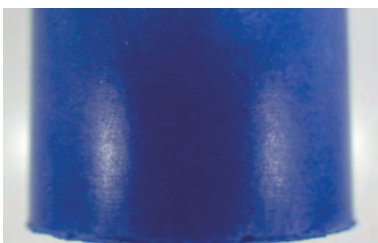


After

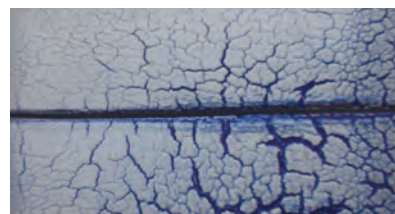


EPDM material from weatherproof cable gland of another manufacturer : Cracked, color drastically faded and powder appeared on the surface.

Before



After





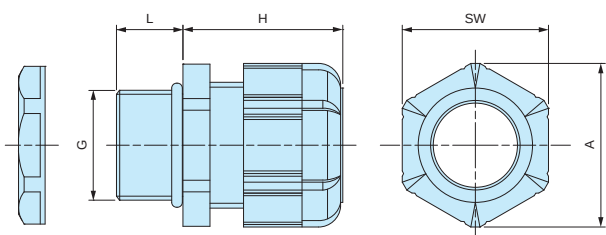
- Low cost cable glands made from polyamide material.
- Wide selection, for M8 ~ M63, suitable for $\Phi 1\text{mm} \sim \Phi 44\text{ mm}$ cable.
- High oil resistant NBR rubber sealing and O-ring.
- IP67 protection class.

Components

■ PA = Polyamide

No.	Part name	Material
1	Cap	PA66 UL94V-2
2	Sealing insert	NBR
3	Connector	PA66 UL94V-2
4	O-ring	NBR
5	Lock nut	PA66 UL94V-2

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



Technical Data

Protection class: IP67
Operating temperature: $-20^{\circ}\text{C} \sim +80^{\circ}\text{C}$

- Lock nut is not included for RM8S-2.5, 8S-4, and 10S-6 models.
Please drill a proper thread hole into the enclosure for installation.

Product no. / Dimensions

Product no.		G		Cable range		L	H Max	SW	A	Pack of
● Black	● Light gray	Thread size	Mounting hole	Min	Max					
RM8S-2.5B	RM8S-2.5S	M8×1.25	—	1	2.5	7.5	19.5	11.8	13.5	1
RM8L-2.5B	RM8L-2.5S	M8×1.25	$\Phi 8.2$	1	2.5	13	19.5	11.8	13.5	1
RM8S-4B	RM8S-4S	M8×1.25	—	2.5	4	7.5	19.5	11.8	13.5	1
RM8L-4B	RM8L-4S	M8×1.25	$\Phi 8.2$	2.5	4	13	19.5	11.8	13.5	1
RM10S-6B	RM10S-6S	M10×1.5	—	3	6	8	20.5	13	14.4	1
RM10L-6B	RM10L-6S	M10×1.5	$\Phi 10.2$	3	6	13	20.5	13	14.4	1
RM12S-7B	RM12S-7S	M12×1.5	$\Phi 12.2$	3.5	7	9	20.5	16	17.6	1
RM12L-7B	RM12L-7S	M12×1.5	$\Phi 12.2$	3.5	7	14.5	20.5	16	17.7	1
RM16S-8B	RM16S-8S	M16×1.5	$\Phi 16.2$	4	8	9	23.5	19	21	1
RM16L-8B	RM16L-8S	M16×1.5	$\Phi 16.2$	4	8	15	24	19	21	1
RM20S-12B	RM20S-12S	M20×1.5	$\Phi 20.2$	6	12	10	29	24	26.2	1
RM20L-12B	RM20L-12S	M20×1.5	$\Phi 20.2$	6	12	15	28.5	24	26.2	1
RM25L-17B	RM25L-17S	M25×1.5	$\Phi 25.2$	11	17	15	35	33	36.2	1
RM32L-21B	RM32L-21S	M32×1.5	$\Phi 32.3$	13	21	15	38	36	39.5	1
RM40L-27B	RM40L-27S	M40×1.5	$\Phi 40.3$	18	27	18	43.5	45.7	50.5	1
RM50L-38B	RM50L-38S	M50×1.5	$\Phi 50.4$	27	38	20	50.5	60	66.5	1
RM63L-44B	RM63L-44S	M63×1.5	$\Phi 63.4$	37	44	20	53	68	75.5	1
RM10L-6B-P	RM10L-6S-P	M10×1.5	$\Phi 10.2$	3	6	13	20.5	13	14.4	100
RM12S-7B-P	RM12S-7S-P	M12×1.5	$\Phi 12.2$	3.5	7	9	20.5	16	17.6	100
RM12L-7B-P	RM12L-7S-P	M12×1.5	$\Phi 12.2$	3.5	7	14.5	20.5	16	17.7	100
RM16S-8B-P	RM16S-8S-P	M16×1.5	$\Phi 16.2$	4	8	9	23.5	19	21	100
RM16L-8B-P	RM16L-8S-P	M16×1.5	$\Phi 16.2$	4	8	15	24	19	21	100
RM20S-12B-P	RM20S-12S-P	M20×1.5	$\Phi 20.2$	6	12	10	29	24	26.2	100
RM20L-12B-P	RM20L-12S-P	M20×1.5	$\Phi 20.2$	6	12	15	28.5	24	26.2	100
RM25L-17B-P	RM25L-17S-P	M25×1.5	$\Phi 25.2$	11	17	15	35	33	36.2	100

RSP series

STRAIN RELIEF CABLE GLAND



IP67

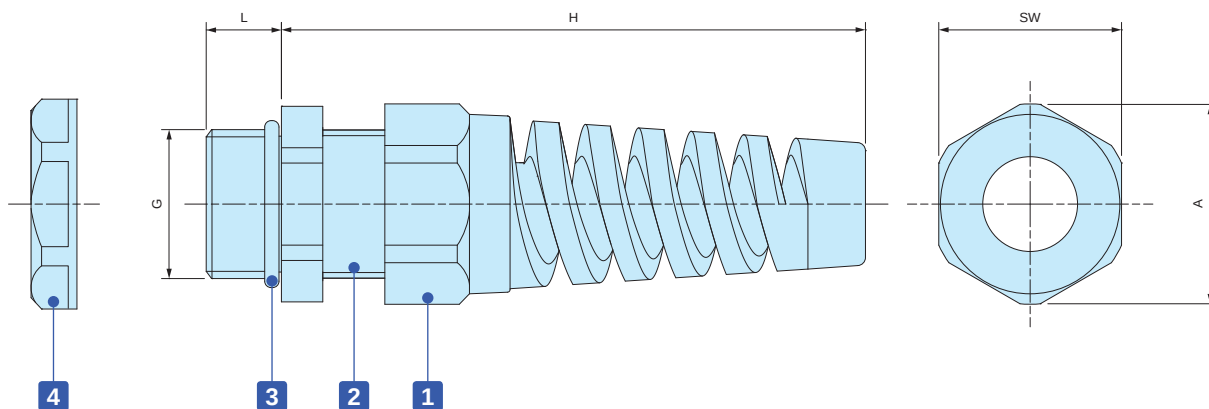
- Strain relief cap protects cables by preventing it from bending beyond its limit and breaking.

Technical Data

Protection class : IP67
Operating temperature : -20°C ~ +80°C

RSP dimensions

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

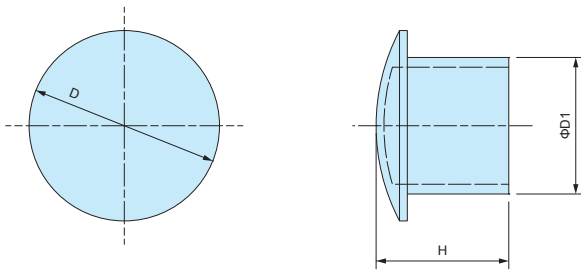


Components

No.	Part name	Material
1	Stain relief cap	PA66 UL94V-2
-	Sealing insert	NBR
2	Connector	PA66 UL94V-2
3	O-ring	NBR
4	Lock nut	PA66 UL94V-2

Product no. / Dimensions

Product no.		G		Cable range		L	H Max	SW	A	Pack of
● Black	● Light gray	Thread size	Mounting hole	Min	Max					
RSP12-6B	RSP12-6S	M12×1.5	Φ12.2	3.5	6	9	62	16	17	1
RSP16-8B	RSP16-8S	M16×1.5	Φ16.2	4	8	9	69	19.5	21	1
RSP20-11B	RSP20-11S	M20×1.5	Φ20.2	6	11	10	82	24	26	1
RSP25-16B	RSP25-16S	M25×1.5	Φ25.2	11	16	12	102	33	36	1

SP SERIES**SEALING PLUG****SP dimensions**

■ Material : Nylon

- Sealing plug for cable glands when not in use.
- Maintain a waterproof seal when plugged into the sealing insert on cable glands.

Product no. / Dimensions

Product no.	D	D1	H	Suitable cable glands	Pack of
SP-12	10.2	6	15.5	RMW12, RM12, RMW16, RM16, RPG7, RPG9	10
SP-16	15.6	9.5	15.5	RMW20, RM20, RPG11, RPG13.5	10
SP-20	19.6	13.5	16.5	RPG16	10
SP-25	24.4	17.5	17	RMW25, RM25, RMW32, RM32, RPG21	5
SP-40	32.5	24.5	17.5	RMW40, RM40, RPG29	5
SP-50	47.2	38.9	17.6	RMW50, RM50	5



- High water protection IP68 (1bar / 30min) polyamide cable gland.
- Wide selection, for M8 ~ M50, suitable for $\Phi 2.5\text{mm}$ ~ $\Phi 42\text{ mm}$ cable.
- Super tough and superior heat resistant PA6GF (glass fiber filled PA6) material on cap and connector.
- Safer halogen free, eco-friendly product.

Technical Data

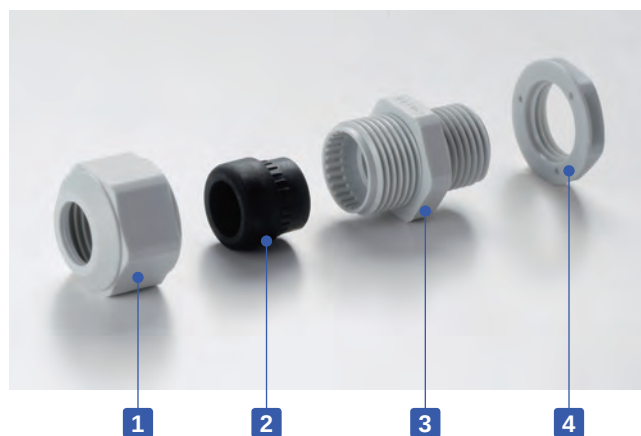
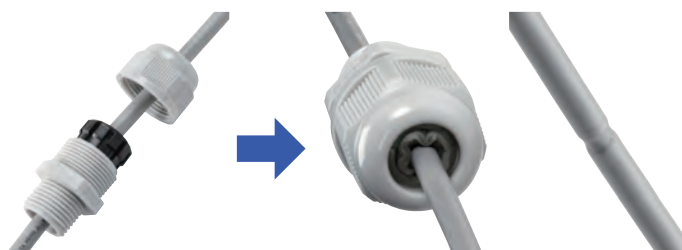
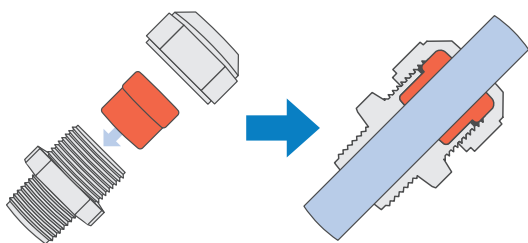
Protection class: IP68 1bar / 30min
 Operating temperature: -20°C ~ $+100^{\circ}\text{C}$
 Compliant with EN50262 Ver. A

AG series

Thicker sealing insert evenly hold a cable by having a larger holding area. Remains durable even after repeated tightening / loosening.

Lamellar insert type

If over-tightened, it can cause the rubber bush or cable to deform, which can allow water to seep in.



Components

■ PA6GF = Polyamide6 Glass Fiber Filled

No.	Part name	Material
1	Cap	PA6GF
2	Sealing insert	TPE
3	Connector	PA6GF
4	Lock nut	PA6

■ Lock nut is not included for M8 and M10 sizes.

Please drill a proper thread hole into the enclosure for installation.

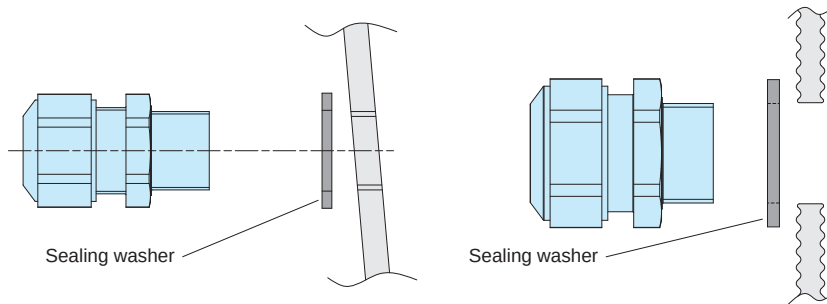
- Proper tightening torque varies by each cable diameter. Tighten the cap until top of the sealing insert forms a small bead between the cap and the cable.



■ No optional sealing washer is required when installing on an even surface because of the built-in waterproof rib.

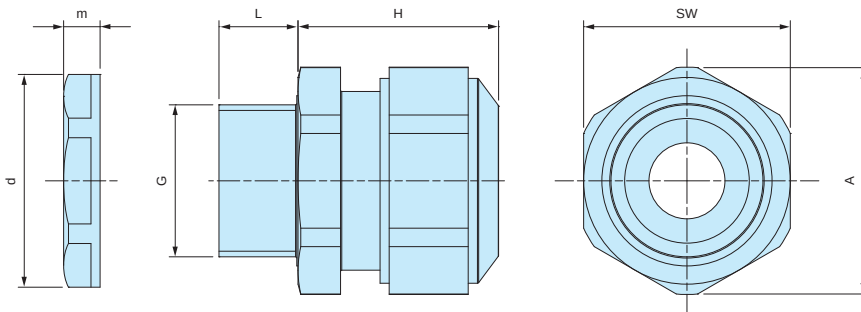
■ An optional sealing washer is required when installing on an uneven surface. (See website for more information on the optional sealing washer)

Waterproof rib



AG dimensions

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



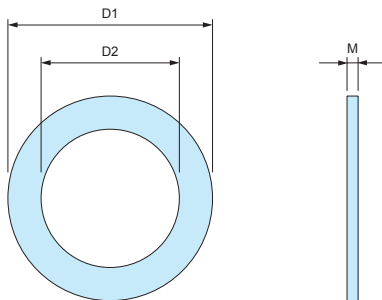
■ Lock nut is not included for M8 and M10 sizes.
Please drill a proper thread hole into the enclosure for installation.

Product no. / Dimensions

Product no.		G		Cable range		L	H Max	SW	A	d	m	Pack of
● Black	● Light gray	Thread size	Mounting hole	Min	Max							
AG8-3.5B	AG8-3.5S	M8×1.0	—	2.5	3.5	10	17	12	13.2	—	—	1
AG8-5B	AG8-5S	M8×1.0	—	3.5	4.7	10	17	12	13.2	—	—	1
AG10-6B	AG10-6S	M10×1.0	—	4	6	10	19	15	16.5	—	—	1
AG12-5B	AG12-5S	M12×1.5	Φ12.2	3.5	4.7	12	23.5	17	18.7	18.8	5	1
AG12-6.5B	AG12-6.5S	M12×1.5	Φ12.2	5	6.5	12	23	17	18.7	18.8	5	1
AG12-8B	AG12-8S	M12×1.5	Φ12.2	6.5	7.8	12	23	17	18.7	18.8	5	1
AG16-10B	AG16-10S	M16×1.5	Φ16.2	8	10	12	26	21	23.1	24.3	5	1
AG20-15B	AG20-15S	M20×1.5	Φ20.2	11	15	13	27	27	29.7	29	6	1
AG25-16B	AG25-16S	M25×1.5	Φ25.2	12.5	16	13	34	34	37.4	36	6.7	1
AG25-20B	AG25-20S	M25×1.5	Φ25.2	16	20	13	34	34	37.4	36	6.7	1
AG32-25.5B	AG32-25.5S	M32×1.5	Φ32.3	21	25.5	15	36	41	45.6	46	8	1
AG40-28.5B	AG40-28.5S	M40×1.5	Φ40.3	24	28.5	15	41	50	55.4	53.5	9	1
AG40-33B	AG40-33S	M40×1.5	Φ40.3	28.5	33	15	41	50	55.4	53.5	9	1
AG50-37B	AG50-37S	M50×1.5	Φ50.4	33	37	16	45	60	65.5	66	9.6	1
AG50-42B	AG50-42S	M50×1.5	Φ50.4	37	42	16	45	60	65.5	66	9.6	1

AGP SERIES**SEALING WASHER for AG • AGSP**

- Sealing washer for AG series.
- Made from oil resistant NBR material.
- Use in the case of installation on a rough or uneven surfaces.
- Selectable in 7 sizes (from M12 to M50)
- Sealing washer is not necessary for installation on flat surfaces.

AGP Dimensions

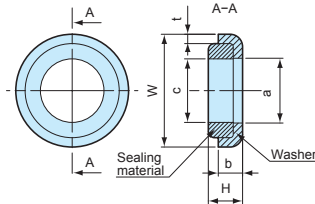
- Material : NBR

**Product no. / Dimensions**

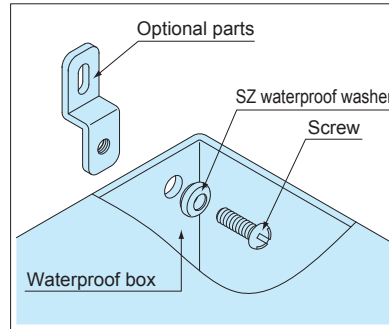
Product no.	D1	D2	M	Suitable cable gland	Pack of
AGP-12	20	12	1.6	AG12	10
AGP-16	23.5	16.5	2.0	AG16	10
AGP-20	29	20	2.0	AG20	10
AGP-25	37	25	2.0	AG25	10
AGP-32	44	32	2.2	AG32	5
AGP-40	52	40	2.2	AG40	5
AGP-50	64	50	3.1	AG50	5

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

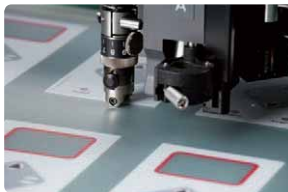
Product no.	W	H	a	b	c	t	Washer material	Sealing material	Color	Screw size	Pack of
SZ- 3N	7	2.7	3.2	2.2	3.1	0.5	SUS304	NBR	Black	M 3	1
SZ- 3S	7	2.7	3.2	2.2	3.1	0.5	SUS304	Silicone	Brown	M 3	1
SZ- 4N	8	2.8	4.2	2.1	4.1	0.5	SUS304	NBR	Black	M 4	1
SZ- 4S	8	2.8	4.2	2.1	4.1	0.5	SUS304	Silicone	Brown	M 4	1
SZ- 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

DIGITAL PRINTED OVERLAY



3 reasons for low initial costs

Reason
①



Cutting process



Avoiding the cost for cutting die manufacturing via our in-house cutting plotter.

Reason
②

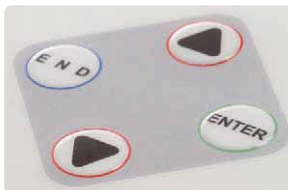


Printing process



Saving the cost for print plates via utilization of our in-house digital inkjet printer.

Reason
③

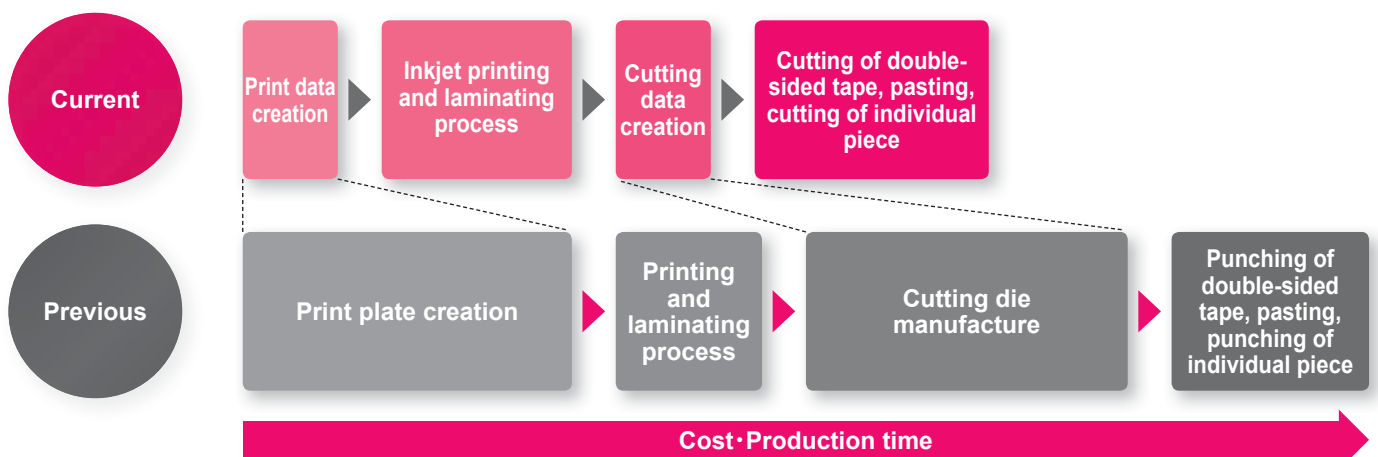


Embossing process



Reducing the cost for the embossing die via our new die manufacturing process.

Comparison of current and previous manufacturing methods



PRODUCTION PROCESS



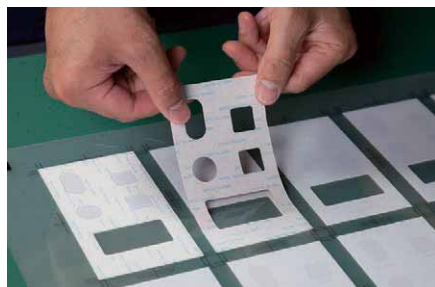
1. Inkjet printing on film



2. Laminating



3. Cutting double-sided tape



4. Sticking double-sided tape on printed film



5. Cutting the sheet to size



6. Embossing



7. Machining on enclosure



8. Sticking overlay sheet onto enclosure



9. Complete

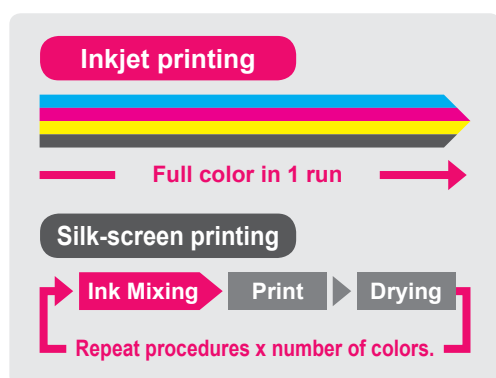
CUSTOMIZATION EXAMPLE



INKJET PRINTING



Full color digitally designed image
can be printed in 1 run.
No cost difference regardless of the
number of colors used.



Low printing cost
Full color print possible
in small quantities

Inkjet printing	1 run only for full color print			
Printing cost Full color				
Silk-screen printing	Printing cost x number of colors			
Printing cost Color 1	Printing cost Color 2	Printing cost Color 3	Printing cost Color 4	

CNC MACHINING

CNC milling is a form of computer controlled machining. Similar in operation to drilling and cutting, it is able to create various hole styles and shapes by using a rotating cutting tool to bore into the object.



- Mainly used for plastic, aluminium die-cast, and aluminium extrusion material types.
- Able to perform milling for various shapes and sizes.
- Recommended for small quantity customization.

