



EMC
Shielding



Technical Data

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

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

Components

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

Accessories (Optional parts)



Silicone cover LCTP • LCSC series
See page 57 ~ 58



Tapping standoff TPS series
See page 397



PCB mounting screw EM-2.3
See page 398



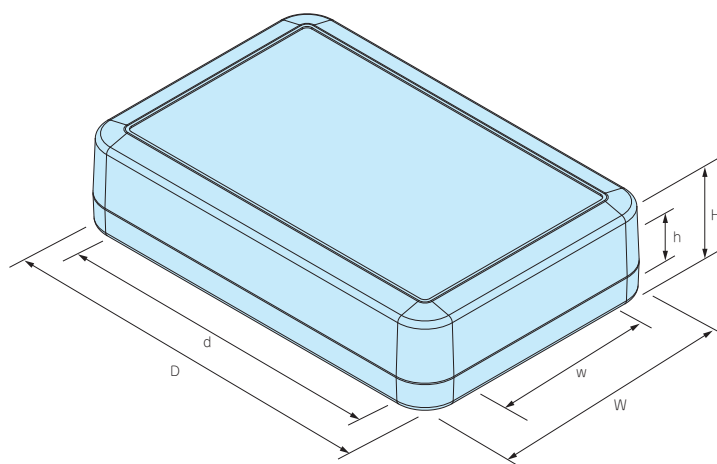
TORX screw MR series
See page 398



Suspension bracket WM series
See page 391

LCE dimensions

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



Product no. / Details

Product no.	External dimensions			Internal dimensions			Screw	Weight (g)
	W	H	D	w	h	d		
LCE115 -N -D	69	19.5	115	61.5	9.5	86.5	M2.6-14 flat head x 4 pcs	72.5
LCE115H -N -D	69	28	115	60.9	18	86.5	M2.6-18 flat head x 4 pcs	84
LCE135 -N -D	76	27	135	68.2	16	107	M2.6-18 flat head x 4 pcs	97
LCE145H -N -D	96	35	145	87.2	24.5	112.9	M2.6-18 flat head x 4 pcs	137
LCE165H -N -D	80	35	165	71.7	24	137	M2.6-18 flat head x 4 pcs	139

CONDUCTIVE PAINT CUSTOMIZATION AVAILABLE for LC series

The LCE series are a selected few models of the LC series, customized with conductive paint.

Other LC series enclosures not listed can also be customized with conductive paint.

Contact us for more details.

E-mail : sales@takachi-el.co.jp



LCT•LCS•LC•LCE HAND-HELD PLASTIC CASE

Hand-held case suitable for industrial measuring equipment, wireless communication devices and medical equipment.

9 different sizes with 8 different battery compartment types line-up available.

Consisting of a line-up of 4 different series: LC - plastic case, LCT - case with shockproof silicone cover, LCS - case with silicone cover, and LCE - EMC shielded plastic case.

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



LCS Plastic Case with Silicone Cover - 5 Silicone Cover Colors



CUSTOMIZATION



Machining



Custom cut on silicone cover



Custom color, custom shaped silicone cover



Digital printed overlay



APPLICATION EXAMPLE

Metal Coating Thickness Gauge



Solar Panel Trouble Checker



Solar Cell Connection Checker



Digital Pressure Gauge Setter



Fluorescent Portable Dissolved Oxygen Meter



Distribution Transformer Tester



Network Partial Discharge Checker



Radiation Survey Meter



Mini Radiation Survey Meter



Wireless Voltage Probe



Portable Anemometer



Ultrasonic Thickness Gauge



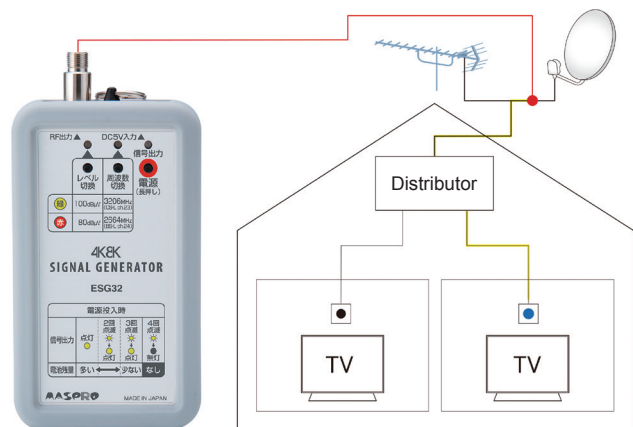
Hyperhidrosis Treatment Device



RF Scope



Satellite Broadcasting Signal Generator



Onboard Programmer



Code Debugger



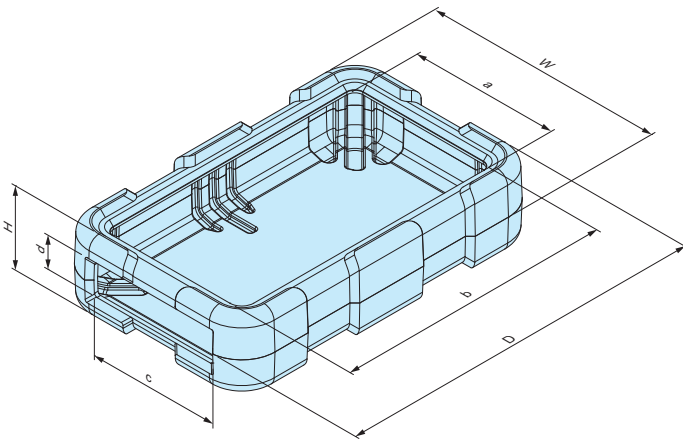
LCTP series**SHOCKPROOF SILICONE COVER for LC • LCE****Color Type**

Code	 Orange	 Green	 Navy	 Dark gray
Color				

■ Shock-proof silicone cover for LC and LCE series.

LCTP dimensions

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

**APPLICATION EXAMPLE**

Ultrasonic Hardness Tester

**Components**

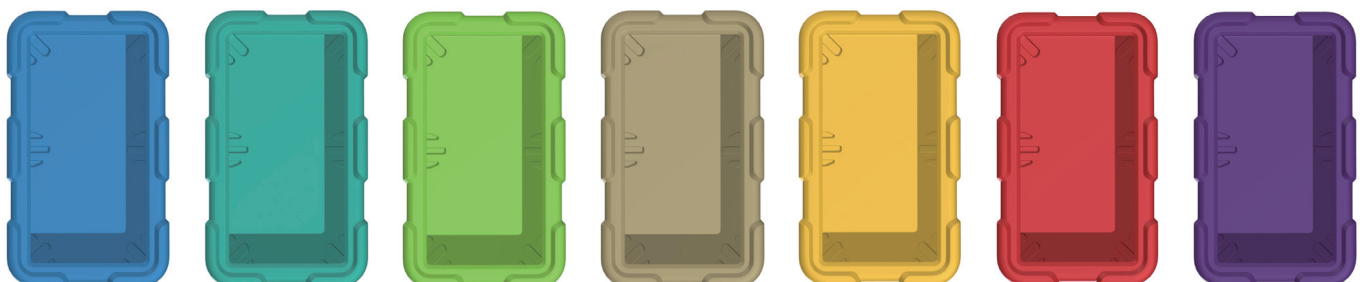
Part name	Material	Color
Silicone cover	Silicone	Orange • Green • Navy • Dark gray

Product no. / Details

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

Product no.	W	H	D	a	b	c	d	Suitable models	Weight (g)
LCTP115 -□	76	28	121.9	55.5	101.5	48.3	12	LC115 • LCE115	53.5
LCTP115H-□	76	36.5	121.9	55.5	101.5	48.3	20.5	LC115H • LCE115H	61
LCTP135 -□	85	40	143.9	59.5	118.5	55	19	LC135 • LCE135	115.5
LCTP135H-□	85	48	143.9	59.5	118.5	55	27	LC135H	124
LCTP145 -□	105	40	153.9	76.5	125.5	71	19	LC145	137.5
LCTP145H-□	105	48	153.9	76.5	125.5	71	27	LC145H • LCE145H	147
LCTP165 -□	89	40	173.9	63.5	148.5	59	19	LC165	143
LCTP165H-□	89	48	173.9	63.5	148.5	59	27	LC165H • LCE165H	151.5

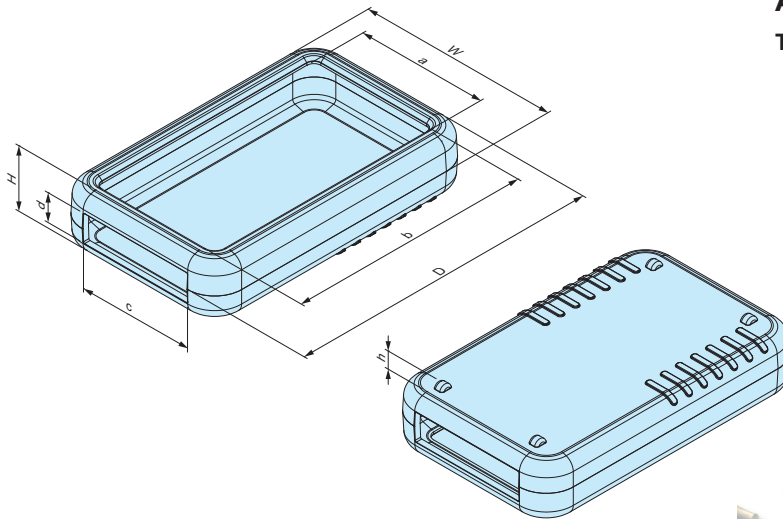
■ Custom color is available from just 1 pc. For 500 pcs or more, manufacturing costs will be similar to a standard color. Please inquire for more details.
For custom color order, please specify **PANTONE®** color code.



LCSC series**SILICONE COVER for LC • LCE****Color Type**

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

■ Silicone cover for LC and LCE series.

LCSC dimensions

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

APPLICATION EXAMPLE**Temperature Surveillance Sensor****Components**

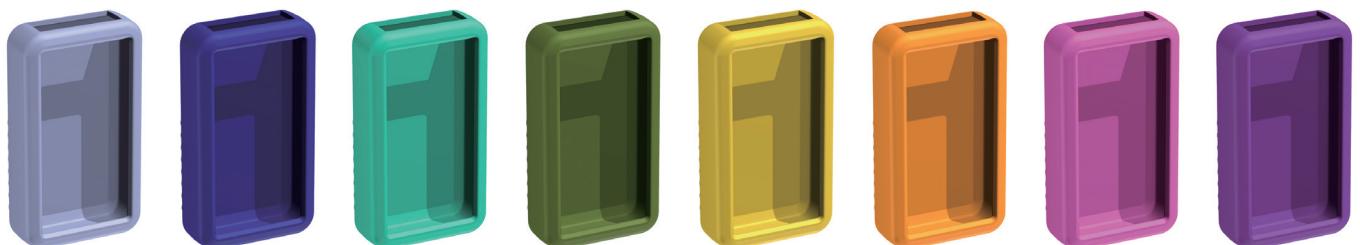
Part name	Material	Color
Silicone cover	Silicone	Red • Green • Blue • Dark gray • Light gray

Product no. / Details

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

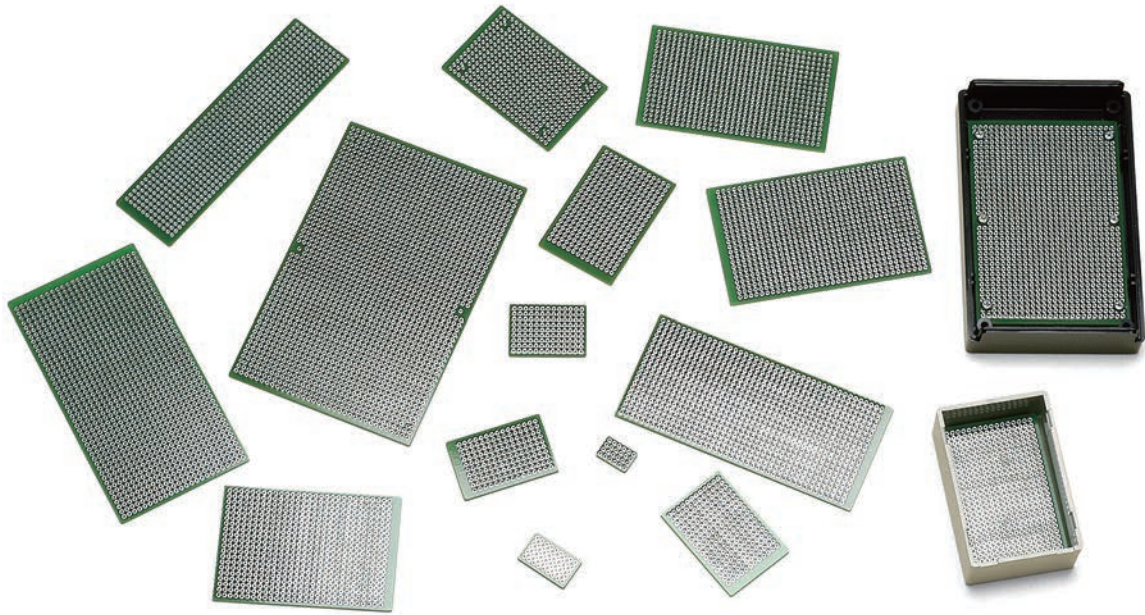
Product no.	W	H	D	a	b	c	d	h	Suitable models	Weight (g)
LCSC115 -□	74	24	120	55.5	101.5	48.3	12	2	LC115 • LCE115	43
LCSC115H-□	74	32.5	120	55.5	101.5	48.3	20.5	2	LC115H • LCE115H	50
LCSC135 -□	81	32	141	59.5	118.5	55	19	2.5	LC135 • LCE135	70
LCSC135H-□	81	40	141	59.5	118.5	55	27	2.5	LC135H	75.5
LCSC145 -□	101	32	151	76.5	125.5	71	19	2.5	LC145	81
LCSC145H-□	101	40	151	76.5	125.5	71	27	2.5	LC145H • LCE145H	89
LCSC165 -□	85	32	171	63.5	148.5	59	19	2.5	LC165	82.5
LCSC165H-□	85	40	171	63.5	148.5	59	27	2.5	LC165H • LCE165H	86

■ Custom color is available from just 1 pc. For 500pcs or more, manufacturing costs will be similar to a standard color. Please inquire for more details.
For custom color order, please specify **PANTONE®** color code.



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

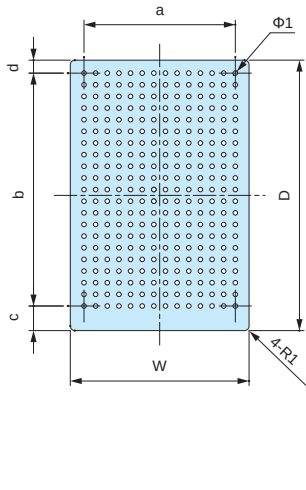


Adhesive standoff ASR series
See page Standoff-1

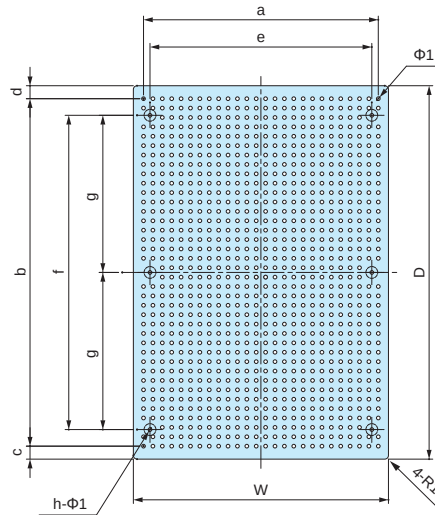


PCB mounting screw EM series
See page EM • MR-1

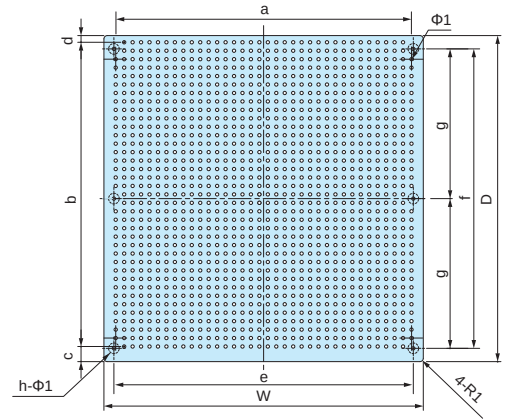
Pattern A



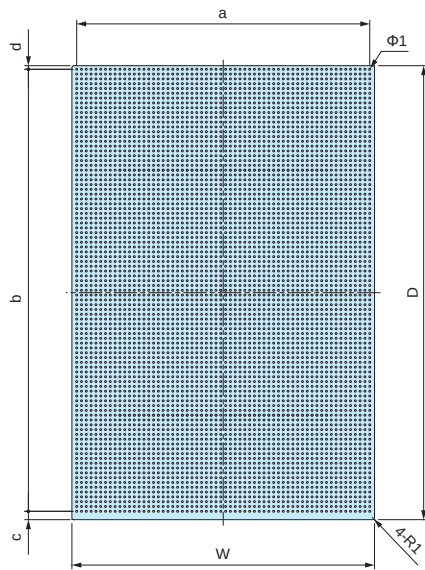
Pattern B



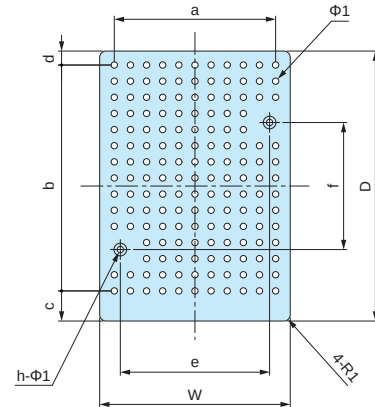
Pattern C



Pattern D



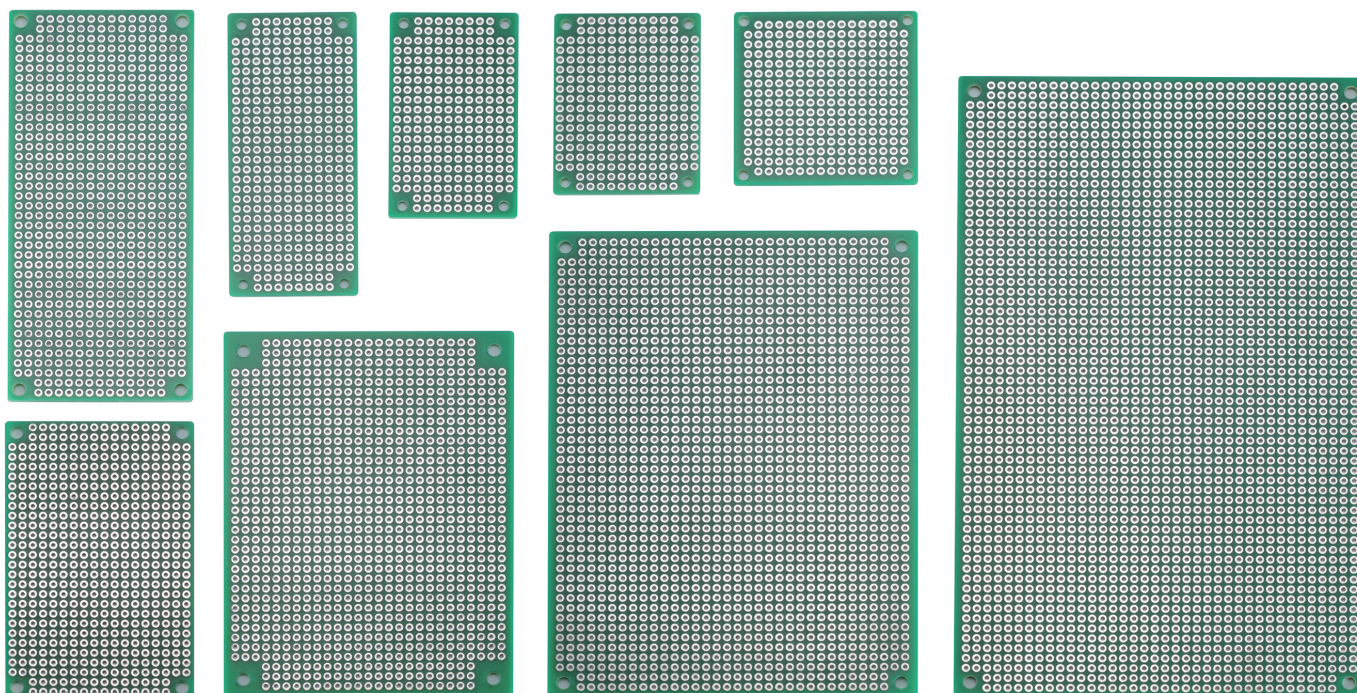
Pattern E



Product no. / Dimensions

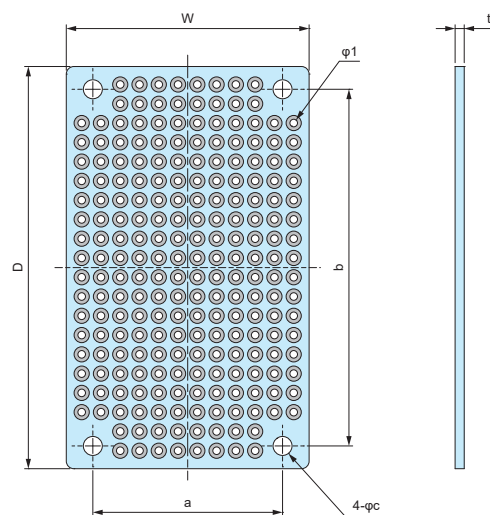
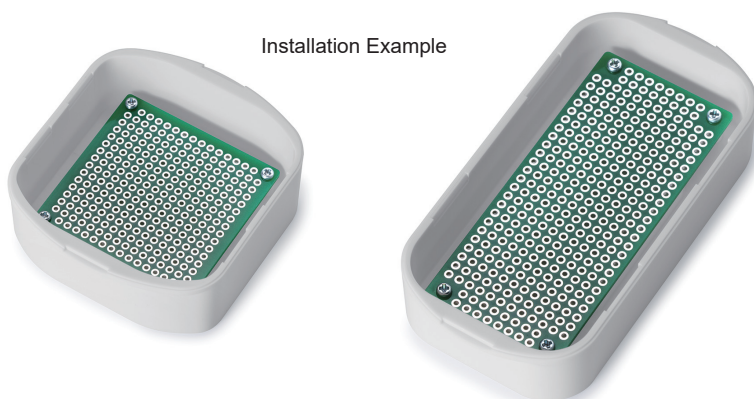
■ Pattern B, C, and E PCBs come with holes for boss mounting.

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	



- 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	—

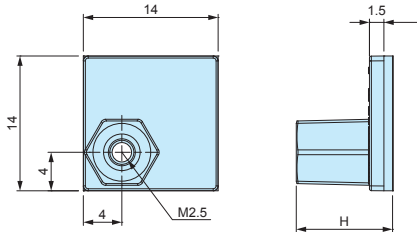
AST series**INSERT NUT ADHESIVE STANDOFF**

- 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.

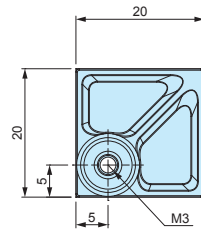
AST dimensions

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

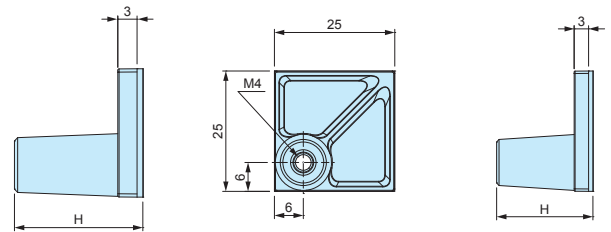
AST2.5-□



AST3-□



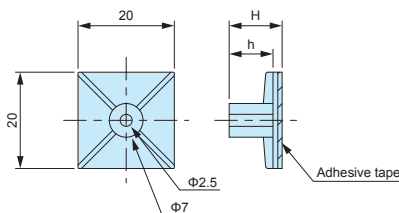
AST4-□

**Product no. / Details****Bulk package**

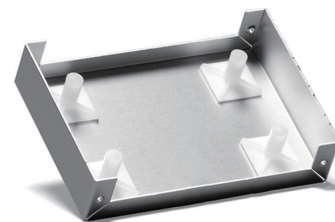
Product no	H dimension	Included screw	Recommended PCB thickness (mm)	Recommended torque (N · m)	Weight (g)	Pack of	Product no	Pack of
AST2.5-5B	5	M2.5-5 pan head	1.0 ~ 2.0	0.3	0.6 (1 piece)	4	AST2.5-5B-P	100
AST2.5-10B	10	M2.5-5 pan head	1.0 ~ 2.0	0.3	0.8 (1 piece)	4	AST2.5-10B-P	100
AST3-6B	6	M3-6 pan 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

- 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.

**Product no. / Details**

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

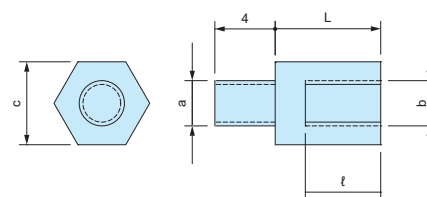
Product no	H	h	Weight (g)	Pack of
ASR- 5	5.1	3.1	0.9 (1 piece)	10
ASR- 6	6.4	4.4	1.0 (1 piece)	10
ASR- 7	7.2	5.1	0.9 (1 piece)	10
ASR- 8	8.1	6.3	0.9 (1 piece)	10
ASR- 9	9	7	1.0 (1 piece)	10
ASR-11	11	9	1.0 (1 piece)	10
ASR-13	12.7	10.7	1.2 (1 piece)	10
ASR-14.5	14.7	12.8	1.1 (1 piece)	10
ASR-16	15.9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

- 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.

Technical Data
Recommended torque : 0.4N · m

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

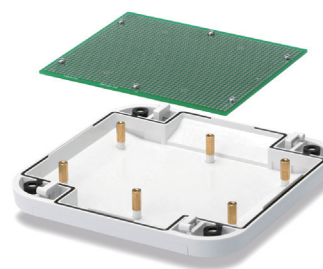
■ Material / Finish : Brass / Unfinished

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



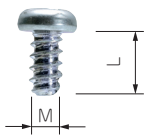
■ Pan head PCB mounting Screws for TPS tapping standoffs.

Product no. / Details

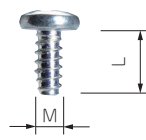
Product no.	M	L	Material	Finish	Pack of
MT2.3-4	2.3	4	Steel	Trivalent chromate	20
MT2.3-6	2.3	6	Steel	Trivalent chromate	20
MT2.6-4	2.6	4	Steel	Trivalent chromate	20
NEW MT2.6-6	2.6	6	Steel	Trivalent chromate	20
MT3-4	3	4	Steel	Trivalent chromate	20
NEW MT3-6	3	6	Steel	Trivalent chromate	20
NEW MT4-4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

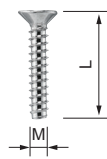
Product no. / Details

■ Material / Finish : Steel / Trivalent chromate

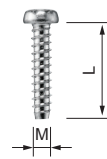
Product no.	M	L	Head type	Suitable models	Pack of
EM-1.6	1.6	4	Pan	SMW • CSS • CS SIC • SIM • WC • PS (M1.6 boss models)	50
EM-2	2	5	Pan	PS • TW • TWN • TWF SIC • SIM • PF • WC • WP (M2 boss models)	50
NEW EM-B2	2	5	Bind	SIC • SIM (M2 boss models) SIC • SIM6-12-□ (when installing PCB46-101)	50
EM-2.3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



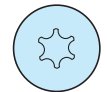
Pan head



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.

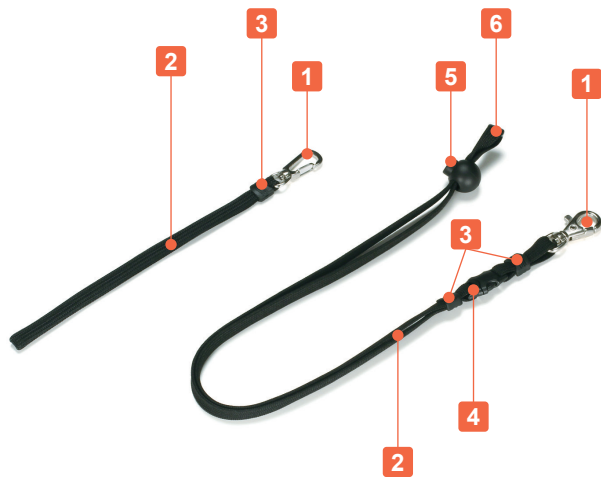
Product no. / Details

★ 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

STP series

STRAP



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

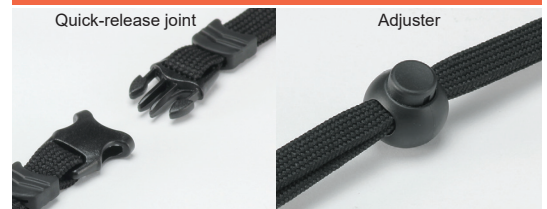
Wrist strap (STP-200)



Neck strap (STP-450)



Neck strap detail



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

Components

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

Product no. / Details

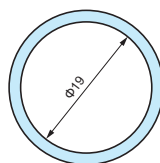
Product no.	Strap width	Strap length	Strap material	Cap material
STP-200	8	200	Nylon	Polyurethane x 1
STP-450	10	450	Polyester	Elastomer x 2

CR-20 KEY RING

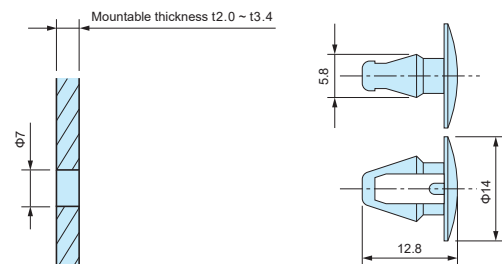


- Hole milling is required for case installation.

CR-20 dimensions



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

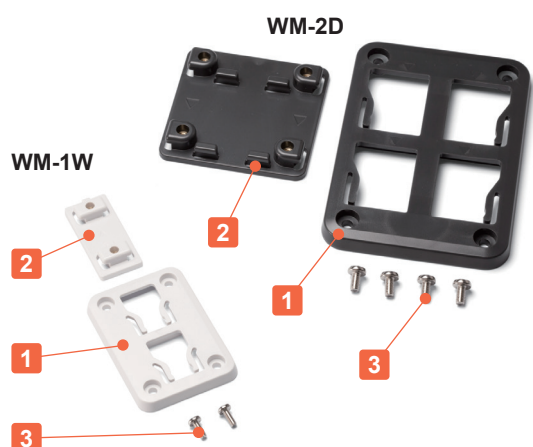


Components

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

Product no. / Details

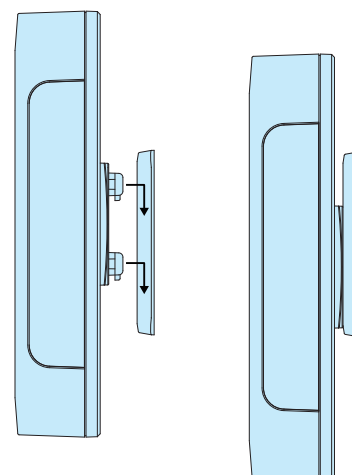
Product no.	Ring Φ	Installation hole	Mounting thickness
CR-20	Φ19	Φ7	t2.0 ~ t3.4

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

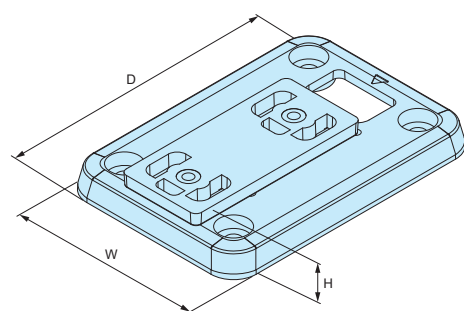
* The max load values listed are static load values only. Use caution when handling.

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**

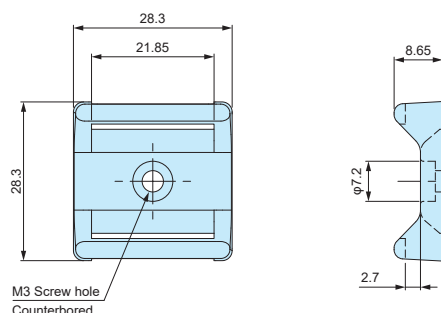
Product no.		W	H	D	Mountable thickness	Weight (g)
● Off-white	● Dark gray					
WM-1W	WM-1D	45	9	65	t0.8~t3.5	11.5
WM-2W	WM-2D	80	11	115	t0.8~t3.5	48

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

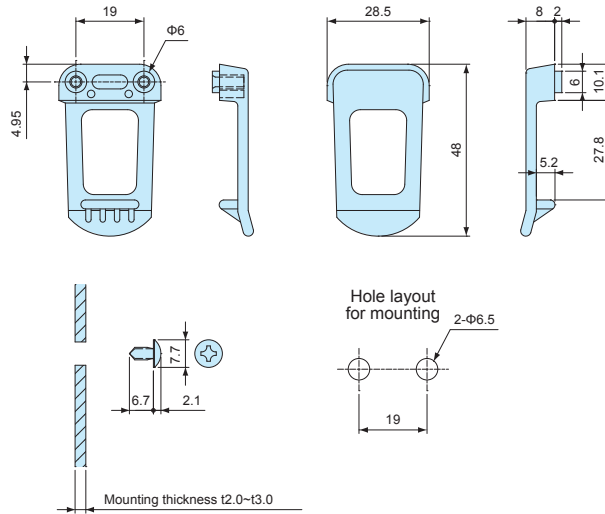
Product no.	Maximum load (kg)	Weight (g)	Pack of
PMB-1	1	3 (1 piece)	2

GDH series**PLASTIC BELT CLIP**

Installation example

GDH dimensions

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

**Components**

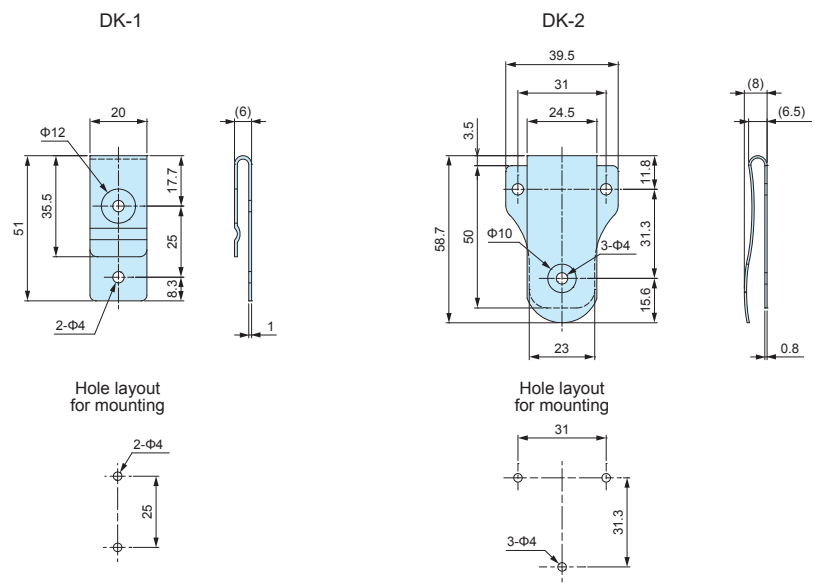
No.	Part name	Pcs	Material	Color / Finish
1	Clip	1	ABS UL94HB	White • Black
2	Screw	2	Steel M3.5-6	Zinc plated

Product no. / Details

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

DK series**STEEL BELT CLIP****DK dimensions**

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

**Product no. / Details**

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

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

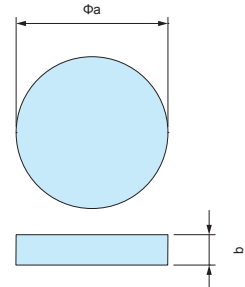
■ DXF/DWG/PDF drawings available on our website.



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

Product no. / Details

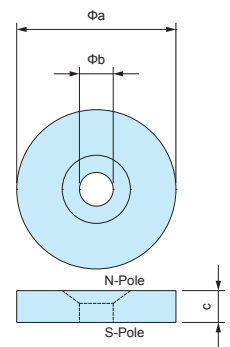
Product no.	a	b	Weight (g)	Flux Density	Absorption
NMG3-15N	15	3	4	214.4 mT	2.44 kgf
NMG3-20N	20	3	7.1	170.7 mT	3.26 kgf
NMG5-22N	22	5	11.4	247.2 mT	5.91 kgf
NMG5-25N	25	5	18.4	221.9 mT	6.89 kgf

NMG dimensions**Round magnet with countersunk hole**

- Please fasten with a screw.

**Product no. / Details**

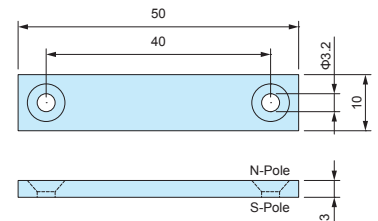
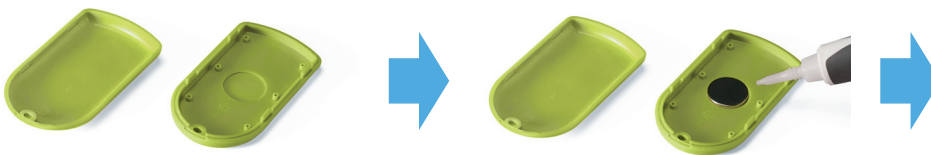
Product no.	a	b	c	Countersunk size	Weight (g)	Flux Density	Absorption
NMG3-15M3	15	3.2	3	M3	3.8	214.3 mT	2.33 kgf
NMG3-20M3	20	3.2	3	M3	6.9	170.6 mT	3.17 kgf
NMG5-22M4	22	4.3	5	M4	13.7	247.2 mT	5.68 kgf
NMG5-25M5	25	5.3	5	M5	17.6	221.9 mT	6.58 kgf

**Rectangular magnet with countersunk holes**

- Please fasten with a screw.

**Product no. / Details**

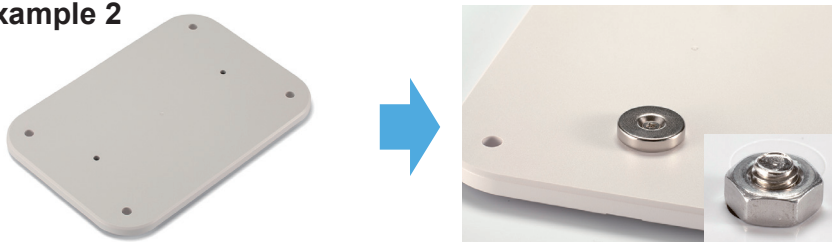
Product no.	a	b	c	Countersunk size	Weight (g)	Flux Density	Absorption
NMG3-50M3	50	10	3	M3	11.3	210.0 mT	9.1 kgf

**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.