

IP67 PORTABLE CASE WC series



● The protection rating against dust and water which applies to the enclosure used for electrical equipment, represented with a code based on the IEC60529 standard.

IP6x : No ingress of dust; complete protection against contact (dust tight)

IPx7 : No ingress of water when submerged up to a depth of 1 m for 30 min

High waterproof performance with both TPE and silicone gasket

ABS and TPE double-shot molded top & bottom covers allow for a good waterproof seal.

The durable silicone gasket maintains the battery lid seal.

Insert nut and screw help to maintain the waterproofing performance of the battery compartment even after repeated opening/closing.

Great protection by TPE sides

Side grips of TPE material provide a comfortable grip and protection against drop impact.



Available in 3 different color combinations



APPLICATION EXAMPLE

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

Multi-function Infrared Remote Controller



Emergency Call Receiver / Transmitter



Long Range Keyfob Remote Controller



GPS Vehicle Tracker



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

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



- Advantage 1** Reduce initial cost with digital inkjet printing.
- Advantage 2** Reduce initial tooling cost for cutting die with digital cutting plotter.
- Advantage 3** Reduce initial tooling cost for embossing with in-house mold processing.
- Advantage 4** Shorter lead-time made possible by having all production be in-house.

*applicable to small quantity orders



- Double shot injection molded TPE Grip and ABS Body.
- New CR2450/CR2477 battery compartment model added. Case with a CR2032 coin battery, 2x AAA battery compartment and no battery types are also available.
- TPE side grip provides not only a comfortable grip, but also protects from drop impact.
- Suitable to be used as a remote controller, key fob, wireless device, RFID tag, and so on.
- See page 31 for coin battery contact installation steps.

Technical Data

Protection class : IP67
 Operating temperature : -10°C ~ +50°C
 Recommended torque :
 WC72 • 90 • 100 : 0.06 ~ 0.08 N • m
 WC105 : 0.13 ~ 0.15 N • m

WC72-□, WC90-□, WC100-20

WC105-28

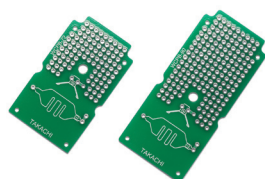


Components

No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	ABS UL94HB : Elastomer	Black & Black • Black & Marine • White & Light gray
2	Bottom cover	1	ABS UL94HB : Elastomer	Black & Black • Black & Marine • White & Light gray
3	Battery lid*	1	ABS UL94HB	Black • White
4	Battery contact*	1 set	WC72 • WC90 • WC100 : Stainless steel SUS304 WC105 : Brass • Hard steel wire	Nickel plated
5	O-ring*	1	Silicone	Black
6	Screw	7	Stainless steel SUS304	Unfinished

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

Accessories (Optional parts)



Exclusive PCB WCPB series
See page 33



Strap STPS series
See page 34



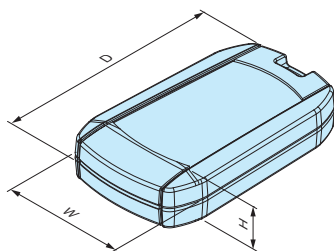
PCB mounting screw EM-1.6
See page 398



Neodymium magnet NMG series
See page 392

WC dimensions

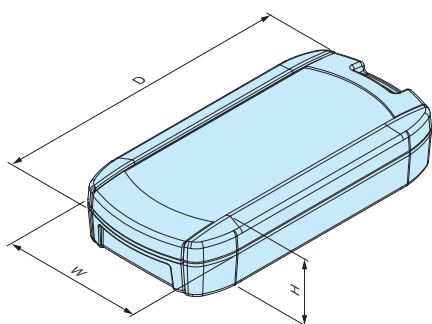
WC72-□, WC90-□



Battery Compartment Types

Type	N	C	R	F2
	None	CR2032 × 1	CR2450 / 2477 × 1	AAA × 2
Battery Compartment				

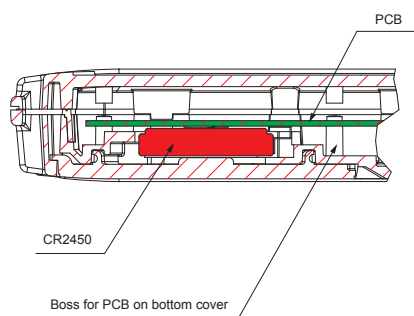
WC100-20, WC105-28



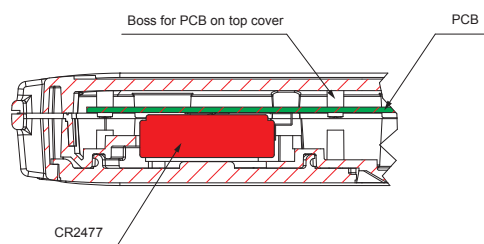
Color Type

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

CR2450 × 1 on WC100-20-R -□□ (PCB on bottom cover)



CR2477 × 1 on WC100-20-R -□□ (PCB on top cover)



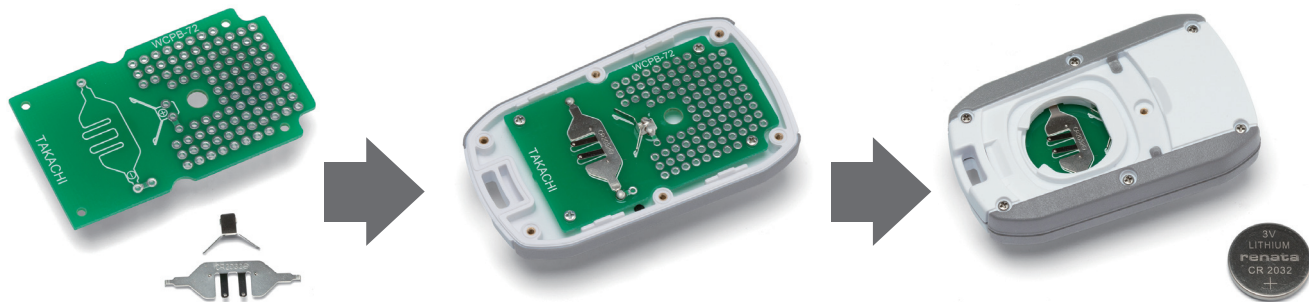
*Not compatible with Renata CR2477N battery

Product no. / Details

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

Product no.	W	H	D	Battery Compartment	Weight (g)
WC 72-15-N -□□	43	15.5	72	None	18.5
WC 72-15-C -□□	43	15.5	72	CR2032	22
WC 72-21-N -□□	43	21.5	72	None	22
WC 72-21-C -□□	43	21.5	72	CR2032	25.5
WC 90-15-N -□□	44.2	15.7	90	None	23
WC 90-15-C -□□	44.2	15.7	90	CR2032	26.5
WC 90-21-N -□□	44.2	21.7	90	None	27
NEW WC100-20-N -□□	49	20.5	100	None	35
NEW WC100-20-R -□□	49	20.5	100	CR2450×1 / CR2477×1	40
WC105-28-N -□□	50.5	28.2	105	None	47
WC105-28-F2-□□	50.5	28.2	105	AAA × 2	58.5

Coin Battery Contact Installation Steps



Solder the contacts onto the PCB. Install the PCB on the top or bottom cover.

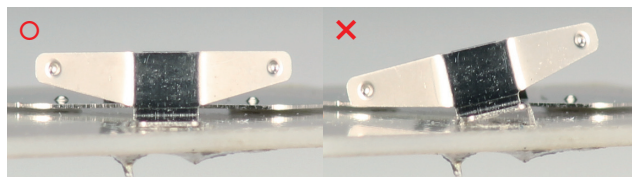
All set!

CAUTION

- When installing the battery terminal, make sure that it is parallel to the PCB. The battery may become stuck if installed at an angle. In addition, when mounting PCB, use a 1mm PCB. Please note batteries cannot be used with PCB thicker than 1mm.



- Battery direction is incised on the inner side of the battery lid.



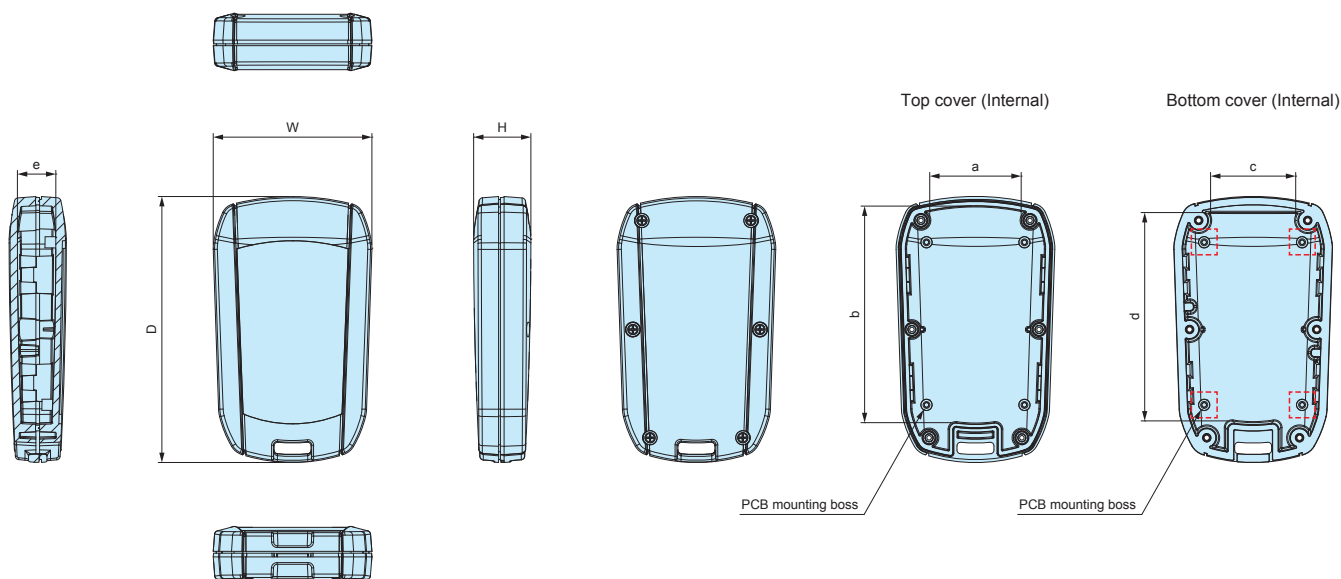
WC dimensions

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

WC72-15-N / WC72-21-N
WC90-15-N / WC90-21-N
WC100-20-N / WC105-28-N

*WC72-15-N and WC90-15-N have no bosses for PCB on bottom cover.

*WC100-20-N and WC105-28-N have different design from shown in the figure.



Product no.	W	H	D	a	b	c	d	e
WC 72-15-N-□□	43	15.5	72	24.7	58.6	23.6	58.4	10.4
WC 72-21-N-□□	43	21.5	72	24.7	58.6	23	56.3	16.3
WC 90-15-N-□□	44.2	15.7	90	26.1	76.6	25	76.4	10.4
WC 90-21-N-□□	44.2	21.7	90	26.1	76.6	24.4	74.3	16.4
WC100-20-N-□□	49	20.5	100	29	84.4	27.7	81.6	14.5
WC105-28-N-□□	50.5	28.2	105	26.4	87.9	24.2	84.1	22.4

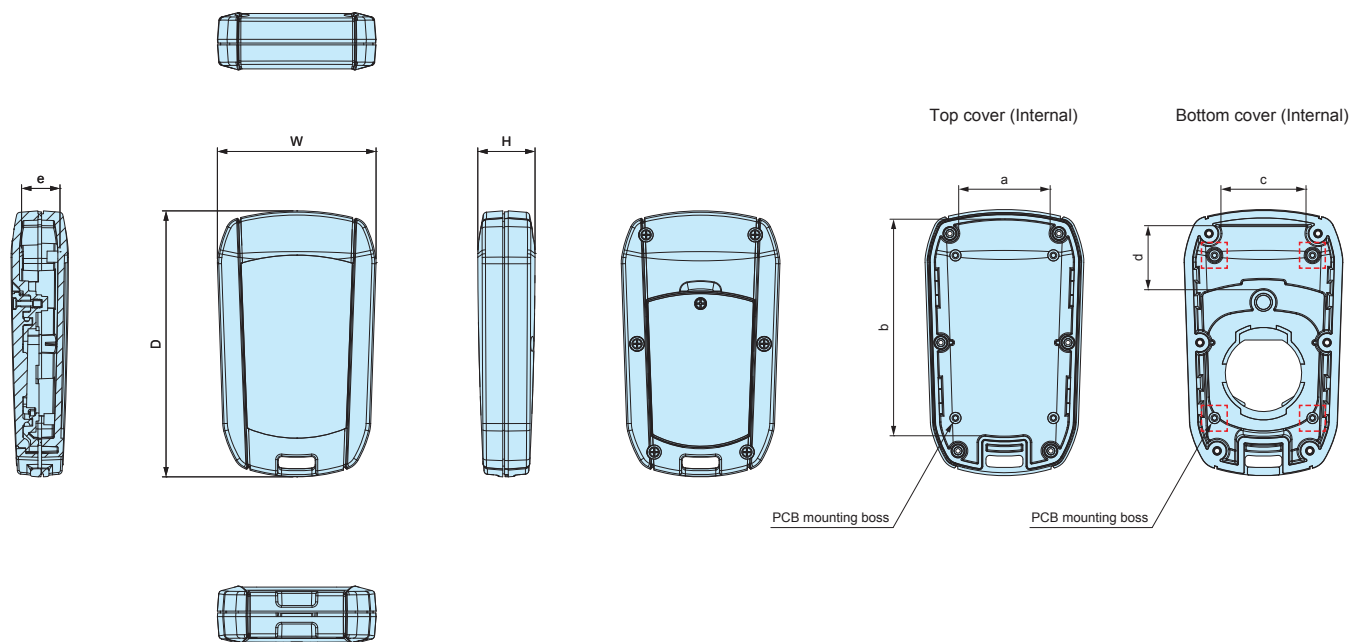
WC dimensions

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

WC72-15-C / WC72-21-C
WC90-15-C / WC100-20-R

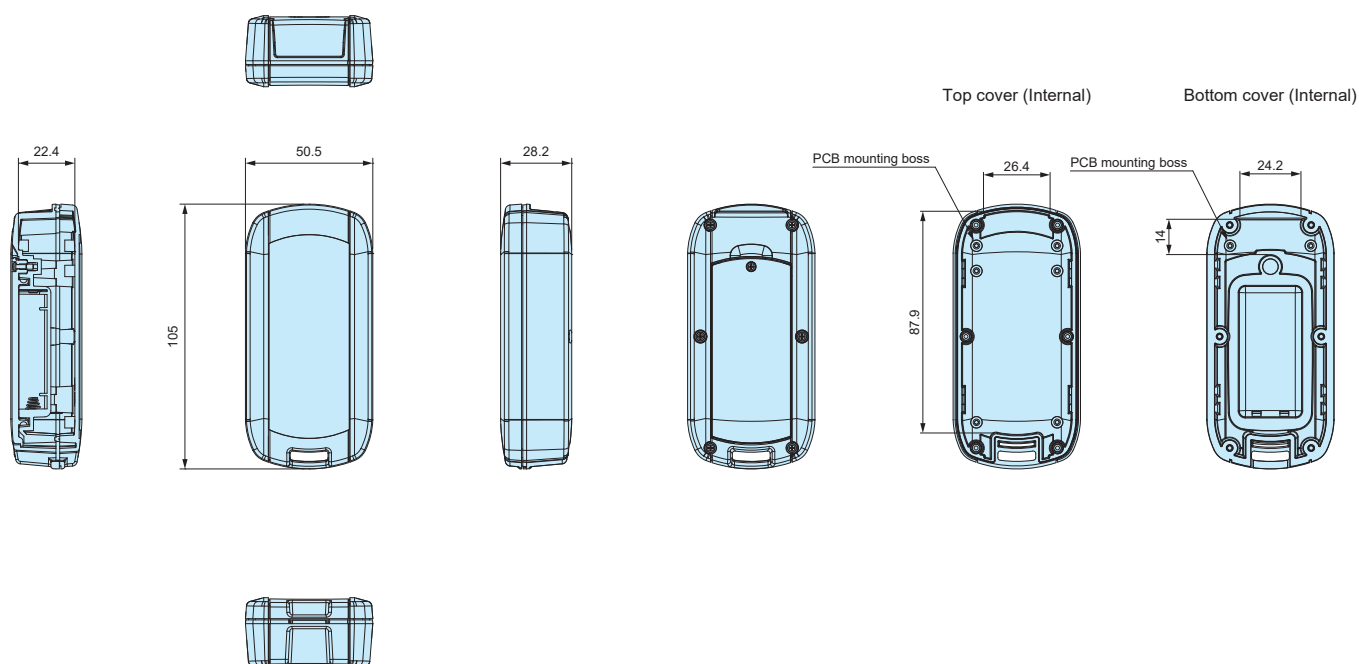
*WC72-21-C and WC100-20-R have bosses for PCB on bottom cover.

*WC100-20-R has different design from shown in the figure.



Product no.	W	H	D	a	b	c	d	e
WC 72-15-C-□□	43	15.5	72	24.7	58.6	23.8	19	10.4
WC 72-21-C-□□	43	21.5	72	24.7	58.6	23	17.3	16.3
WC 90-15-C-□□	44.2	15.7	90	26.1	76.6	25	36.9	10.4
WC100-20-R-□□	49	20.5	100	29	84.4	27.7	31.3	14.5

WC105-28-F2-□□



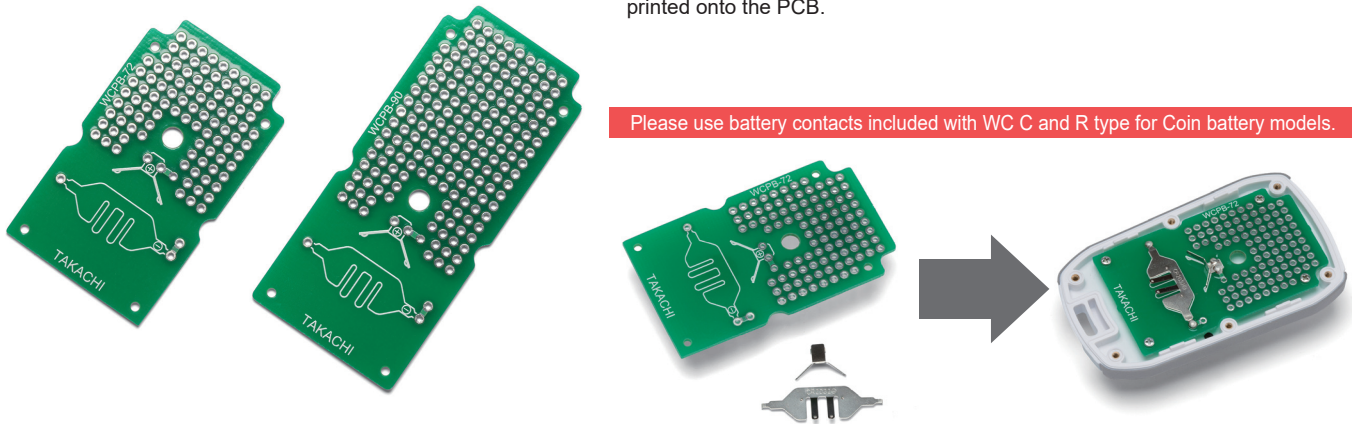


WCPB series

EXCLUSIVE PCB for WC

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

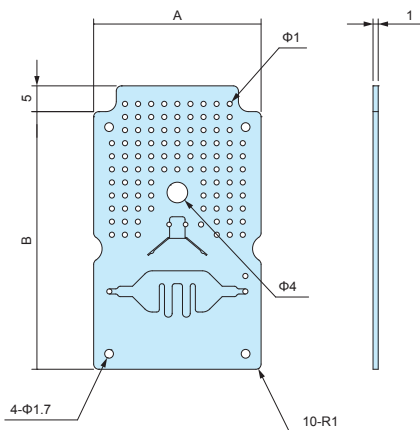
Please use battery contacts included with WC C and R type for Coin battery models.



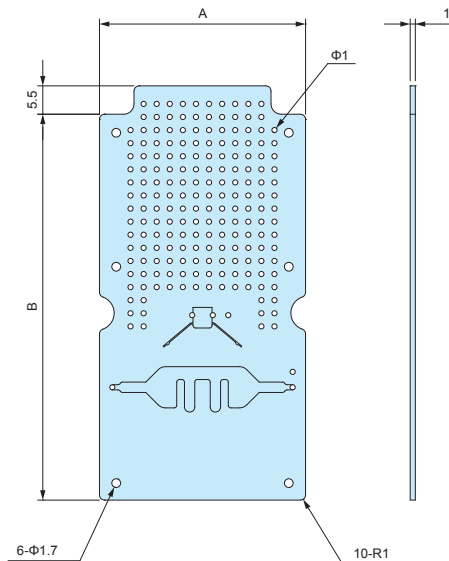
WCPB dimensions

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

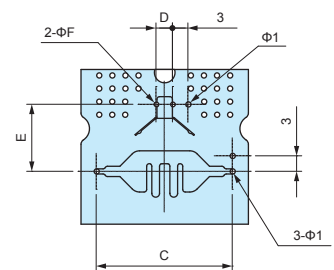
WCPB-72 / WCPB-90



WCPB-100



Battery contact position details



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

Components

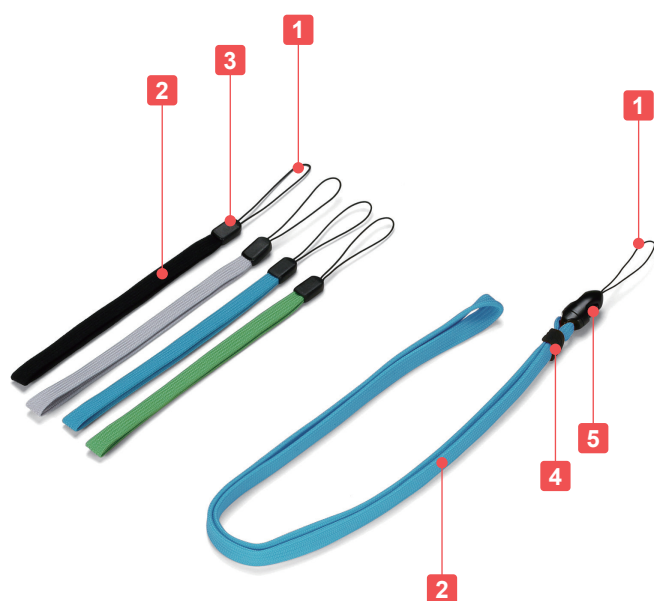
Part name	Pcs	Material	Color / Finish
PCB	1	Glass epoxy (FR-4) t=1.0	Through-hole • Lead-free solder resist
Screw	4 or 6	Steel (Tapping M1.6-4)	Steel (Tapping M1.6-4)

Product no. / Details

Product no.	A	B	C	D	E	F	Screw pcs	Suitable models
WCPB- 72	32.5	49.8	26.4	3.2	13	0.9	4	WC72-15-C • WC72-21-C
WCPB- 90	32.9	68	26.4	3.2	13	0.9	4	WC90-15-C
NEW WCPB-100	40	74.9	35	4	14	1	6	WC100-20-R

STPS series

STRAP



APPLICATION EXAMPLE

Wrist strap (STPS-140G)



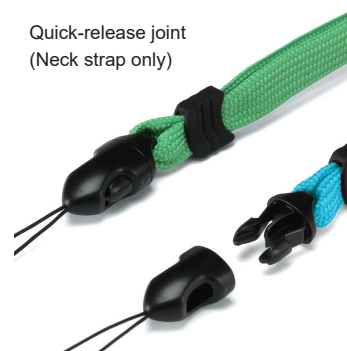
Neck strap (STPS-450C)



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

Color Type

Code	G Green	C Cyan	L Light gray	B Black
Color				

Quick-release joint
(Neck strap only)

Components

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

Product no. / Details

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

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

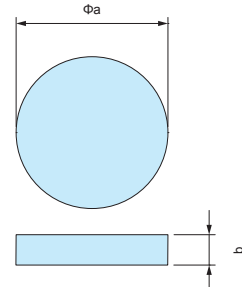
■ DXF/DWG/PDF drawings available on our website.



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

Product no. / Details

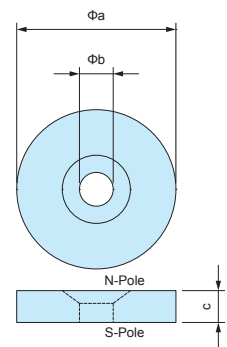
Product no.	a	b	Weight (g)	Flux Density	Absorption
NMG3-15N	15	3	4	214.4 mT	2.44 kgf
NMG3-20N	20	3	7.1	170.7 mT	3.26 kgf
NMG5-22N	22	5	11.4	247.2 mT	5.91 kgf
NMG5-25N	25	5	18.4	221.9 mT	6.89 kgf

NMG dimensions**Round magnet with countersunk hole**

- Please fasten with a screw.

**Product no. / Details**

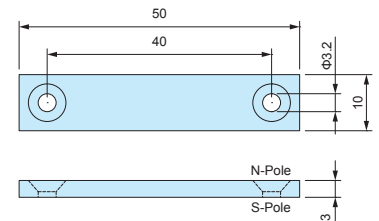
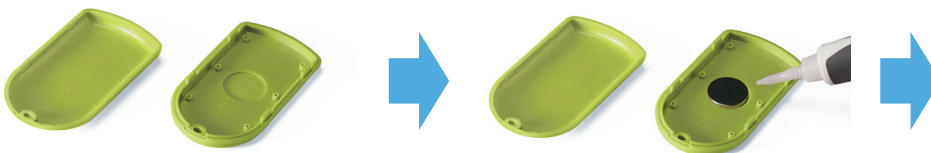
Product no.	a	b	c	Countersunk size	Weight (g)	Flux Density	Absorption
NMG3-15M3	15	3.2	3	M3	3.8	214.3 mT	2.33 kgf
NMG3-20M3	20	3.2	3	M3	6.9	170.6 mT	3.17 kgf
NMG5-22M4	22	4.3	5	M4	13.7	247.2 mT	5.68 kgf
NMG5-25M5	25	5.3	5	M5	17.6	221.9 mT	6.58 kgf

**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

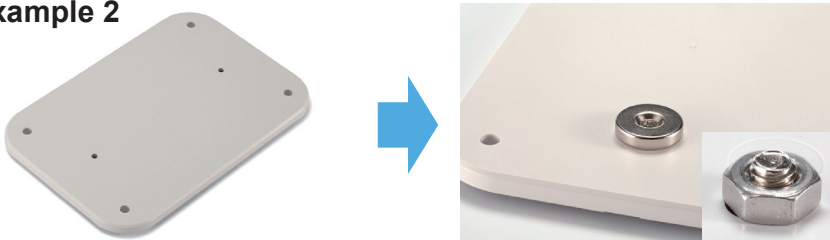
**Example 1** The magnetic force remains strong even through plastic.

Make recessed pocket on the inside wall.

Glue on.



Attach onto a metallic surface.

Example 2

Make holes

Fasten with a screw and nut.

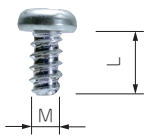


Attach onto a metallic surface.

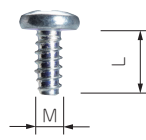
CAUTION: Handle with care to avoid personal injury or damage to the magnet.

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.

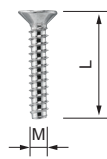
Product no. / Details

■ Material / Finish : Steel / Trivalent chromate

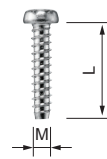
Product no.	M	L	Head type	Suitable models	Pack of
EM-1.6	1.6	4	Pan	SMW • CSS • CS SIC • SIM • WC • PS (M1.6 boss models)	50
EM-2	2	5	Pan	PS • TW • TWN • TWF SIC • SIM • PF • WC • WP (M2 boss models)	50
NEW EM-B2	2	5	Bind	SIC • SIM (M2 boss models) SIC • SIM6-12-□ (when installing PCB46-101)	50
EM-2.3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



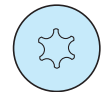
Pan head



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