

# IP67 PORTABLE CASE WC SERIES



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

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

**IPx7 : No ingress of water when submerged up to a depth of 1 meter for 30 minutes**

## High waterproof performance with both TPE and silicone gasket

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

The durable silicone gasket maintains the battery lid seal.

Insert nut and screw allow the battery compartment to remain durable even after repeated opening/closing.

## Great protection by TPE sides

Side grips in TPE material provides a comfortable grip and protection against drop impact.



## 3 color combinations available



# APPLICATION EXAMPLE

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

## Structure AI Inspection Noise Detector System

Product by AIST (Japan)  
Website : [aist.go.jp](http://aist.go.jp)



## Emergency Call Receiver / Transmitter

Product by Knop Elektronik A/S (Denmark)  
Website : [knop.dk](http://knop.dk)



## GPS Transmit Trigger

Product by Tokyo Denki Gijyutsu Co., Ltd. (Japan)  
Website : [tdg-net.co.jp/](http://tdg-net.co.jp/)



## LPWA (Low Power, Wide Area) Transmitter



## We are able to manufacture embossed or standard overlay sheets with low initial costs.

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.



- Double shot injection molded TPE Grip and ABS Body.
- New AAA x 2 battery compartment model added. Case with a CR2032 coin battery, and no battery compartment types are also available. Solder battery contacts on PCB for CR2032 models.
- TPE side grip provides not only a comfortable grip, but also protects from drop impact.
- Suitable to be used as a remote controller, key fob, wireless device, RFID tag, and so on.
- See page WC-4 for coin battery contact installation step.

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

WC72-□, WC90-□

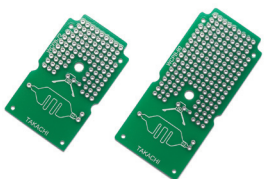
WC105-28



Components

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

Accessories (Optional parts)



Exclusive PCB WCPB series  
See page WCPB-1



Strap STPS series  
See page STPS-1

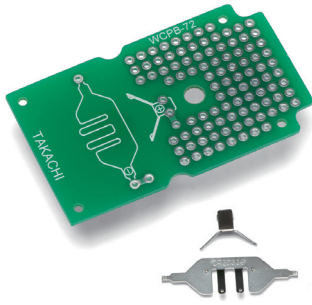


PCB mounting screw EM-1.6  
See page EM • MR-1

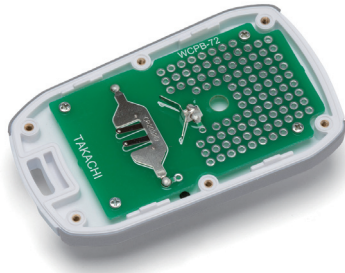


Neodymium magnet NMG series  
See page NMG-1

# Coin battery contact installation step



Solder the contacts onto the PCB



Install the PCB in the top cover

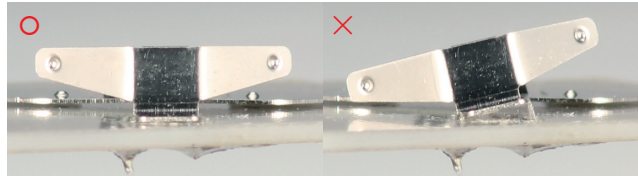


All set!

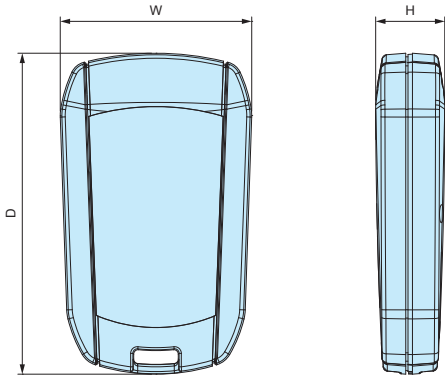
**CAUTION** ■ Use caution when mounting battery contacts.



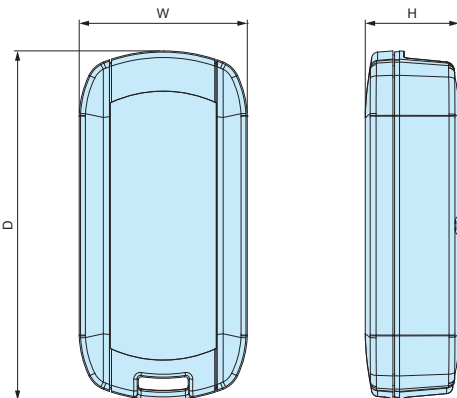
■ Battery direction is incused on the inner side of the battery lid.



WC72-□, WC90-□



WC105-28



## Battery Compartment Types

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

## Color Type

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

Product no. / Dimensions

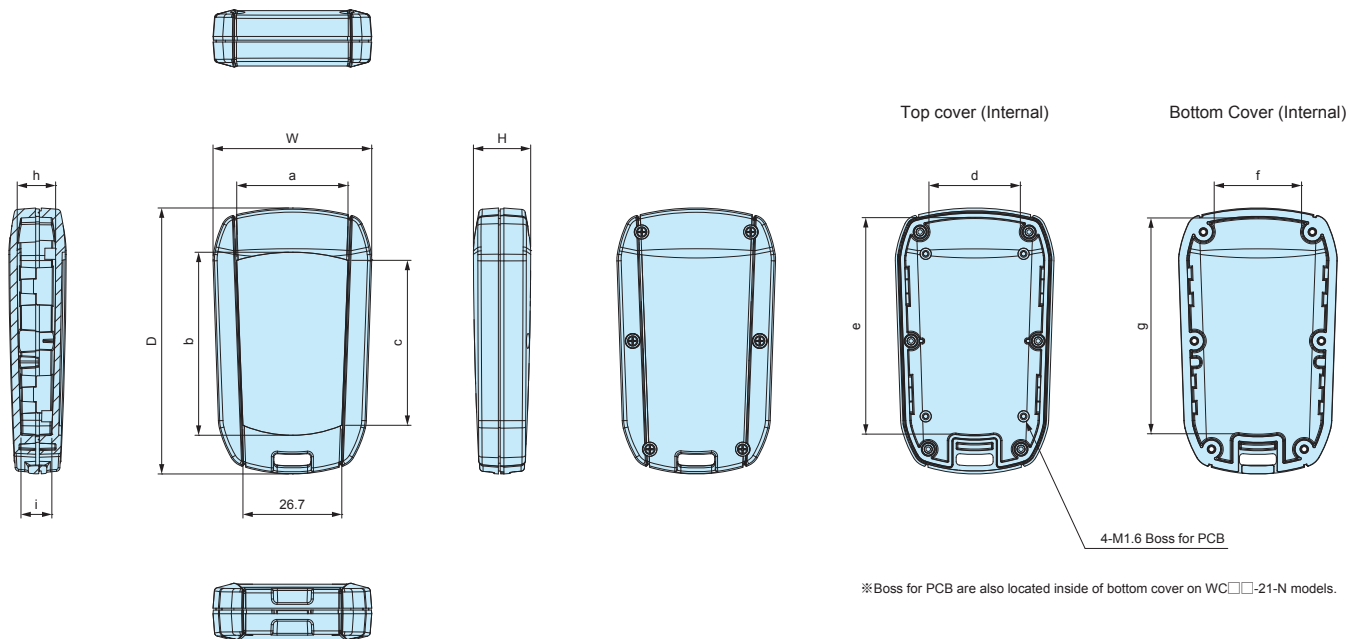
■ Please suffix color code at the end of the product number.

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

**WC dimensions**

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

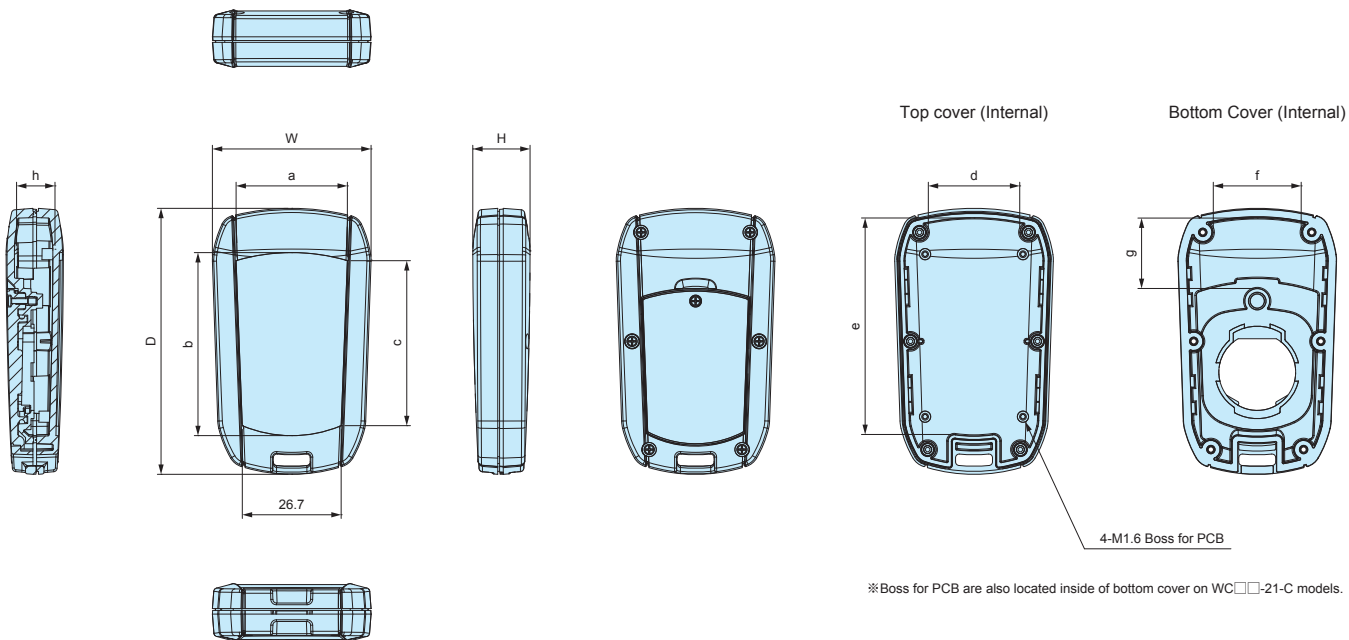
WC72-15-N / WC72-21-N  
WC90-15-N / WC90-21-N



※Boss for PCB are also located inside of bottom cover on WC□□-21-N models.

Product no.	W	H	D	a	b	c	d	e	f	g	h	i
WC72-15-N-□□	43	15.5	72	30.1	49.5	44.7	24.7	58.6	23.6	58.4	10.4	8.3
WC72-21-N-□□	43	21.5	72	30.1	49.5	44.7	24.7	58.6	23	56.3	16.3	14.3
WC90-15-N-□□	44.2	15.7	90	31.4	67.5	62.7	26.1	76.6	25	76.4	10.4	8.3
WC90-21-N-□□	44.2	21.7	90	31.4	67.5	62.7	26.1	76.6	24.4	74.3	16.4	14.3

WC72-15-C / WC72-21-C  
WC90-15-C



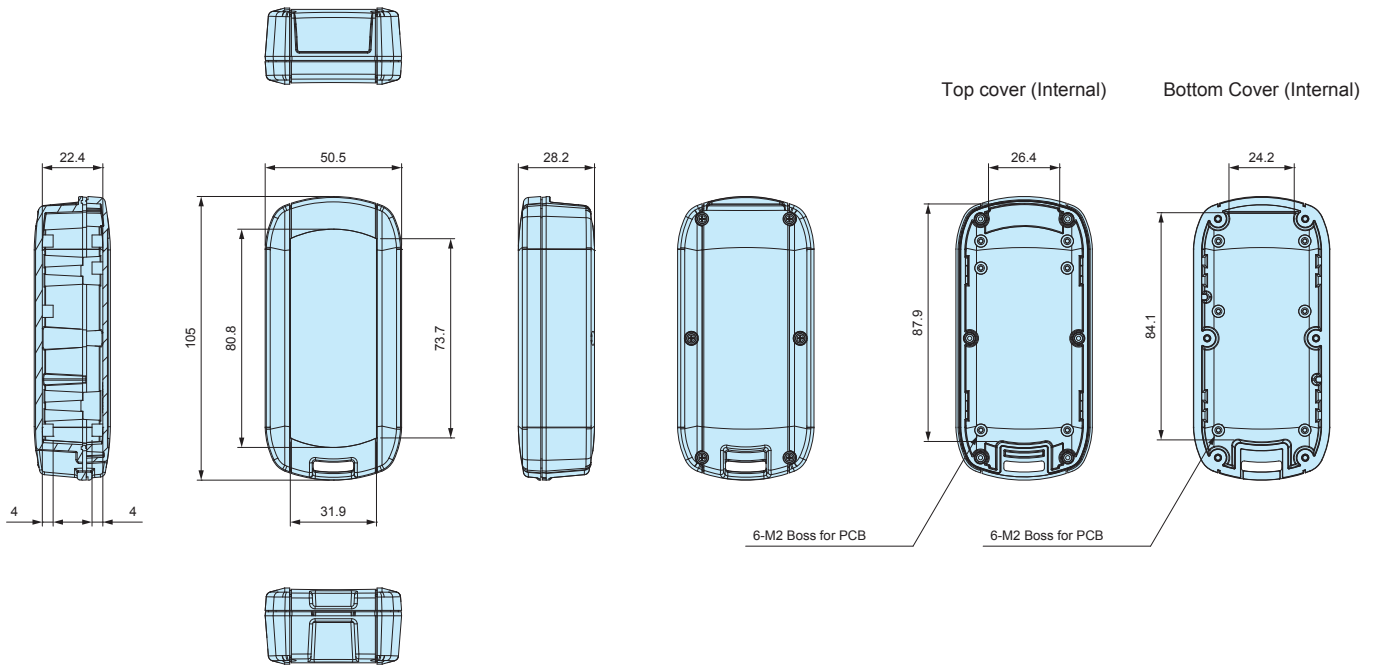
※Boss for PCB are also located inside of bottom cover on WC□□-21-C models.

Product no.	W	H	D	a	b	c	d	e	f	g	h
WC72-15-C-□□	43	15.5	72	30.1	49.5	44.7	24.7	58.6	23.8	19	10.4
WC72-21-C-□□	43	21.5	72	30.1	49.5	44.7	24.7	58.6	23	17.3	16.3
WC90-15-C-□□	44.2	15.7	90	31.4	67.5	62.7	26.1	76.6	25	36.9	10.4

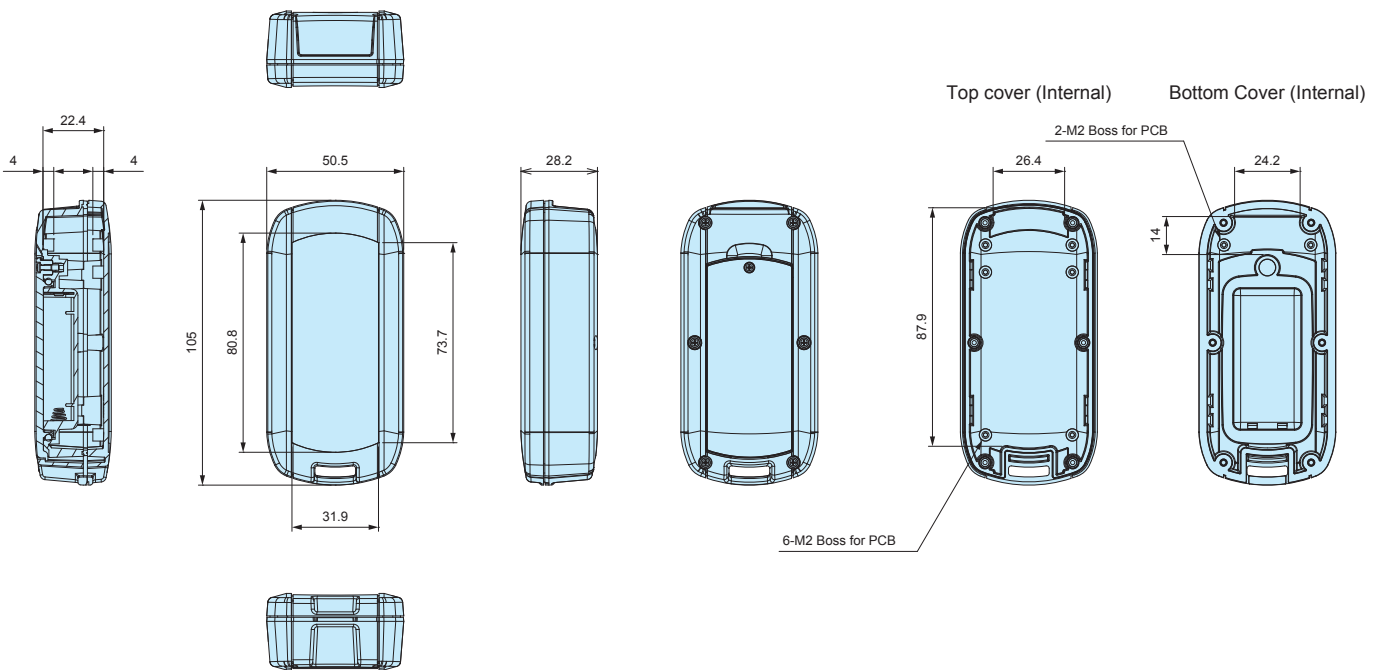
**WC dimensions**

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

WC105-28-N



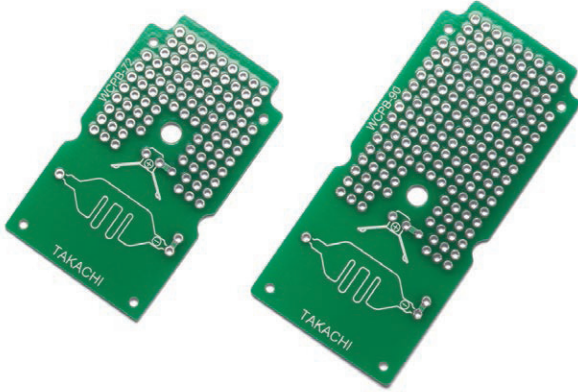
WC105-28-F2



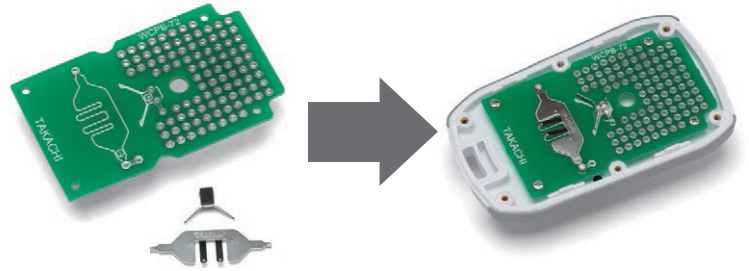
# WCPB SERIES

# EXCLUSIVE PCB for WC

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

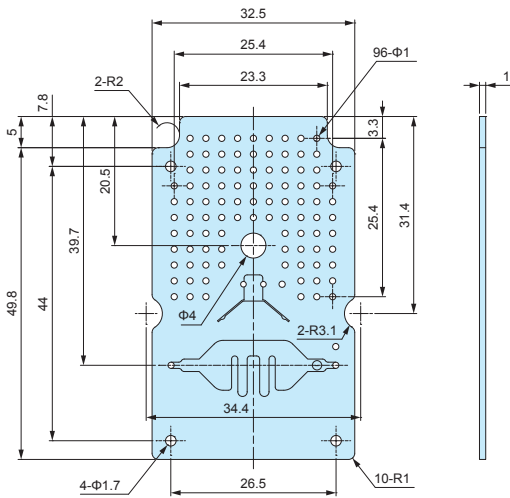


Please use battery contacts included with WC case.

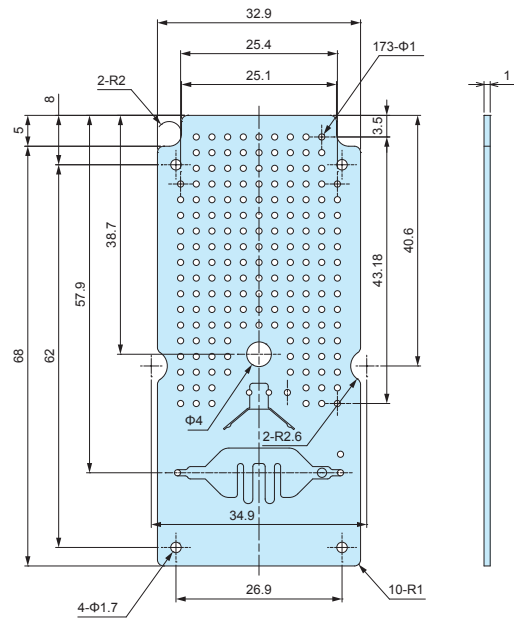


- DXF/DWG/PDF drawings available on our website.

WCPB-72



WCPB-90



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

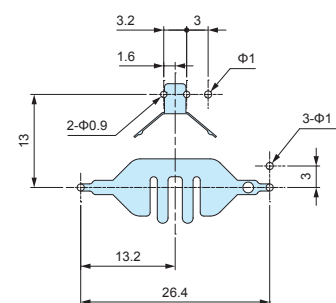
**Components**

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

**Product no. / Dimensions**

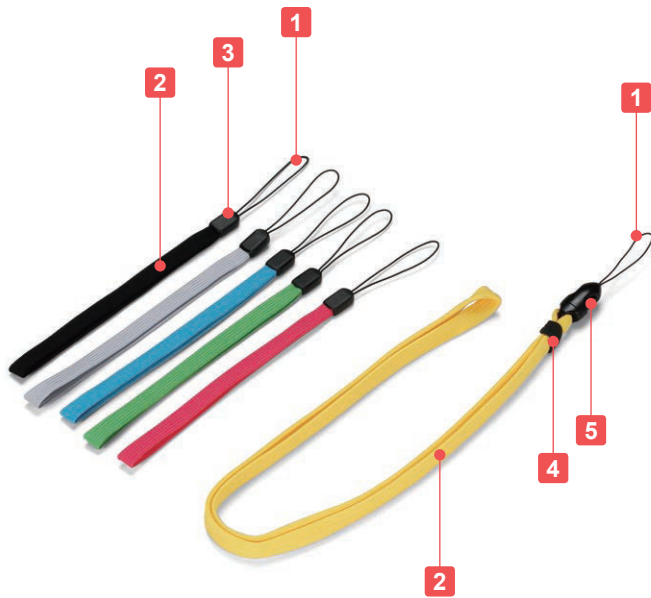
Product no.	Suitable case
WCPB- 72	WC72-15-C WC72-21-C
WCPB- 90	WC90-15-C

Battery contact position details



STPS SERIES

STRAP



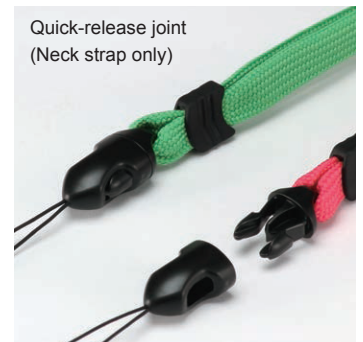
Wrist strap (STPS-140P)



Neck strap (STPS-450Y)



- Colorful and sturdy straps best used with CSS, CS and PS series.
- Wrist and Neck straps are available in 6 unique colors.
- Neck strap comes with a quick-release joint, making removal or attachment quick and easy.



Color Type

Code	P Pink	Y Yellow	G Green	C Cyan	L Light gray	B Black
Color						

Components

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

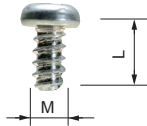
Product no. / Dimensions

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



EM SERIES

PCB MOUNTING SCREW



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

Product no. / Dimensions

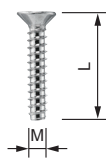
Product no.	M	L	Material	Finish	Suitable enclosures	Pack of
EM-1.6	1.6	4	Steel	Trivalent chromate	WC • CSS • CS • PS (M1.6 size)	50
EM-2	2	5	Steel	Trivalent chromate	PS • TW • TWN • TWF • WP (M2 size)	50
EM-2.3	2.3	6	Steel	Trivalent chromate	WH • LC • LCT • LCS • LCE • PFE WSC (Top cover bosses) PF •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

MR SERIES

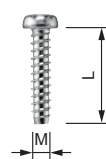
TORX SCREW



Countersunk head



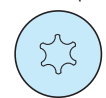
Pan head



With pin



★ Without pin



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

Product no. / Dimensions

★Mark = Without pin

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

NMG SERIES

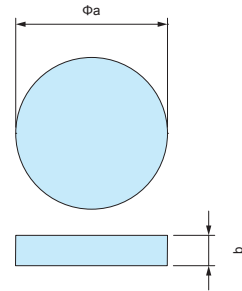
NEODYMIUM MAGNET



Round magnet



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



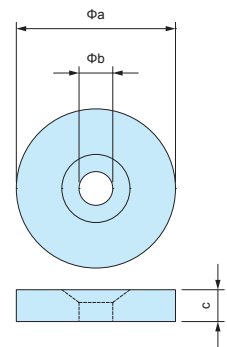
Components

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

Round magnet with countersunk hole



- Please fasten with a screw.



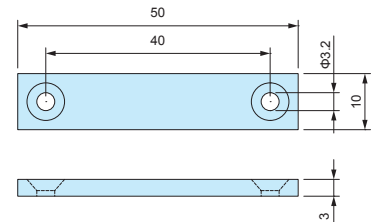
Components

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

Rectangular magnet with countersunk holes



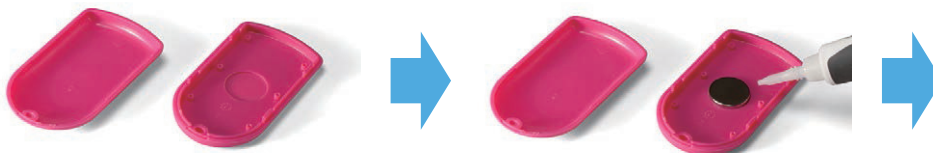
- Please fasten with a screw.



Components

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

Example 1 The magnetic force remains strong even through plastic.



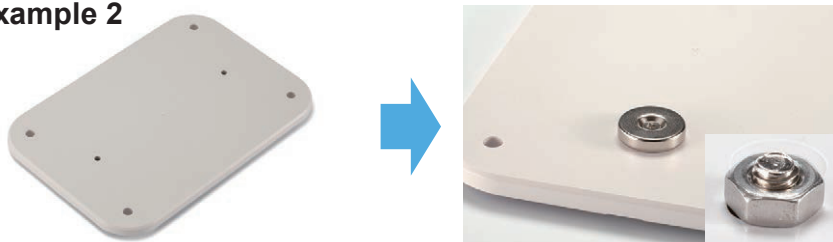
Make recessed pocket on the inside wall.

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.**