TAKACHI

PCB SERIES LOW COST UNIVERSAL PCB

NEW

RoHS 3 Compliant

- Detailed DXF/DWG/PDF drawings available online.

- Plated Through Holes (PTH) type PCB with a 2.54mm hole-to-hole pitch. Inexpensive and economical PCB made using robust, heat-resistant and non-conductive glass epoxy.
- Easily mounted onto bosses or standoffs via the mounting holes at each corner.
- Environmentally friendly lead-free solder. RoHS3 compliant.
- 5 different sizes available, with PCB100-160 being a Eurocard (3U) format size.

Accessories (Optional parts)

Adhesive standoff AST series
See page AST-1

Adhesive standoff ASR series
See page ASR-1

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

Product no. / Dimensions

Product no.	W	D	a	b	c	t	Mounting screw	Pack of
PCB 32- 53	32	53	25	47	2.5	1.2	M2 or M2.5	1
PCB 47- 72	47	72	41	66	3.2	1.2	M3	1
PCB 72- 95	72	95	62	85	3.2	1.2	M3	1
PCB 90-120	90	120	82	112	3.2	1.6	M3	1
PCB100-160	100	160	92	152	3.2	1.6	M3	1

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	

RPCB-4B EXPANSION PCB for Raspberry Pi 4B

NEW

Installation example

- Raspberry Pi Board is not included.
- Connector, spacer, and mounting screw set are sold separately.

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

- Expansion PCB for standard Raspberry Pi 4B boards. Use to install expansion parts or components.
- Environmentally friendly lead-free solder. RoHS3 compliant.

RPCB-4B dimensions

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

*Red lines denotes connector installation area.

Product no.

Product no.	Pack of
RPCB-4B	1

- Expansion PCB can also be utilized on RPI-4B and RPA series cases.
  See page 132 ~ 134 for RPI series case and page 135 ~ 136 for RPA series case.

RPS series PIN SOCKET CONNECTOR for RPCB-4B

NEW

RPS dimensions

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

RPS2-2

RPS2-20

■ Material / Color : (Socket) FRPBT UL94V-0 /Black • (Pin) Phosphor bronze

■ 2.54mm hole-to-hole pitch pin socket connector.
Utilize with RPCB-4B expansion PCB for Raspberry Pi 4B.

Product no.

Product no.	Pin layout	Pack of
RPS2-2	4 (2 pin x 2)	1
RPS2-20	40 (20 pin x 2)	1

RPSP2.5-11 HEXAGONAL SPACER

NEW

RPSP2.5-11 dimensions

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

■ Material / Finish : Brass / Nickel plated

■ Brass hexagonal spacer with M2.5 threads on both male and female sides.
Utilize with RPCB-4B expansion PCB for Raspberry Pi 4B.

Product no.

Product no.	Pack of
RPSP2.5-11	4

MT2.5-4 MOUNTING SCREW for RPSP2.5-11

NEW

MT2.5-4 dimensions

■ Material / Finish : Steel / Trivalent chromate

■ Utilize when affixing RPCB-4B expansion PCB.

Product no.

Product no.	Pack of
MT2.5-4	4

ULCK series SCREWLESS PCB ADHESIVE STANDOFF

NEW

Product photo

Application example

ULCK dimensions

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

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

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

Product no.	Pack of
ULCK-6.4	4

CUBE series CUBE STANDOFF

NEW

CUBE dimensions

CUBE10-M3

CUBE10-M4

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

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

Product no. ■ Zinc diecast : Glossy barrel finish

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

Production example : Aluminium case

Production example : Acrylic case

TPS series TAPPING STANDOFF

NEW SIZE

TPS dimensions

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

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

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

Product no. / Dimensions

■ Material / Finish : Brass / Unfinished

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

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

MT series PCB MOUNTING SCREWS for TPS

Pan head

■ PCB mounting Screws for TPS tapping standoffs

Product no. / Dimensions

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

AST series INSERT NUT ADHESIVE STANDOFF

NEW

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

AST dimensions

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

AST2.5-□

AST3-□

AST4-□

Product no. / Dimensions

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

Bulk package

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

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

ASR series ADHESIVE PCB STANDOFF

ASR dimensions

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

Technical Data
Recommended torque : 0.4N • m

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

Product no. / Dimensions

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

B SERIES ADHESIVE RUBBER FEET

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

■ Injection molded type.

Product no. / Dimensions

■ Material : Synthetic rubber

Product no.	A	B	H	Color	Pack of
B 6-2	6	5	1.8	Black	10
B 8-4	8	7.7	3.5	Black	10
B10-4	10	9.2	4.2	Black	10
B11-3	10.8	10.2	3	Black	10
B11-5	11	9.6	5	Black	10
B12-4	12.7	10	3.8	Black	10
B15-5	15.4	14.8	5.1	Black	10
B16-7	16	13	7	Black	10
B19-4	19	15.8	4.2	Black	10
B21-7	21	17	7	Black	10
B23-5	22.8	22.4	5	Black	10
B26-11	26	20	11	Black	10
B 6-2G	6	5	1.8	Gray	10
B11-3G	10.8	10.2	3	Gray	10
B15-5G	15.4	14.8	5.1	Gray	10
B21-7G	21	17	7	Gray	10
B26-11G	26	20	11	Gray	10

B-P SERIES ADHESIVE RUBBER FEET

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

■ Press-punched type.

Product no. / Dimensions

■ Material / Color : Synthetic rubber / Black

Product no.	A	Pack of
B-P21	10	10
B-P22	20	10
B-P23	15	10

Product no. / Dimensions

■ Material / Color : Synthetic rubber / Black

Product no.	A	B	Pack of
B-P31	28	16	10
B-P32	46	26	10

TB SERIES ROUNDED ADHESIVE RUBBER FEET

NEW COLOR

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

Product no. / Dimensions

■ Material : Synthetic rubber

Product no.		A	H	Pack of
● Black	● White (W) ● White gray (G)			
TB- 7	–	6.7	4.2	10
TB- 8	NEW TB- 8W	8	2.6	10
TB-10	–	10	2.8	10
TB-12	NEW TB-12W	11.3	5.6	10
TB-14	–	14	8	10
TB-16	NEW TB-16W	15.9	8	10
TB-21	–	21.6	8.5	10
TB-27	TB-27G	27.8	7.4	10

SF SERIES — SQUARE ADHESIVE RUBBER FEET - LOW COST TYPE

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

■ Square-shaped adhesive rubber feet.

Product no. / Dimensions

■ Material / Color : Synthetic rubber / Black

Product no.	A	B	H	C	D	Pack of
SF11-3	10.5	10.5	2.5	8.6	8.6	10
SF13-4	12.7	12.7	3.5	9	9	10
SF13-6	12.7	12.7	6	7	7	10
SF20-8	20	20	7.6	14	14	10

SJ-P SERIES — SQUARE ADHESIVE POLYRETHANE FEET

■ Strong adhesive strength with the use of rubber pressure sensitive adhesive.

■ Polyurethane material is resistant against color migration.

Product no. / Dimensions

■ Material / Color : Polyurethane / Black

Product no.	A	B	H	C	D	Pack of
SJ-P5007	10.4	10.4	2.5	7.5	7.5	10
SJ-P5008	12.7	12.7	3	9.5	9.5	10
SJ-P5018	12.7	12.7	5.8	7	7	10
SJ-P1004	15	15	4.5	10	10	10
SJ-P5023	20.6	20.6	7.6	12.7	12.7	10
SJ-P1011	15.5	5.5	2	4.5	14.5	10

SJ-P1011

TN-27 — OVAL ADHESIVE RUBBER FEET

Product no. / Feature

■ Material / Color : Synthetic rubber / Black

Product no.	Pack of
TN-27	10

B-P SERIES SCREW MOUNT RUBBER FEET

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

■ Built-in washer and non-washer types are available.
■ Installation screws are separately sold.

B-P1S, P1M, P1L, P2S, P4, P5

B-P1, P2, P3

Product no. / Dimensions

■ Color : Black

Product no.	A	B	H	a	b	h	Washer	Material	Pack of
B-P1S	11.5	8.4	7.2	3.4	5.7	3.2	○	Synthetic rubber	10
B-P1M	15	15	4	3.5	7.4	2.2	○	Synthetic rubber	10
B-P1	15	13	7.7	3	6	4.2	×	Synthetic rubber	10
B-P1L	16	13	7.8	3	6	3.7	○	Synthetic rubber	10
B-P2S	18	15	11	3	6	5	○	Synthetic rubber	10
B-P2	19	15	8	3	6	4.5	×	Synthetic rubber	10
B-P3	22	18	13	3	7.5	7	×	Synthetic rubber	10
B-P4	32	26	20	5	15	10	○	EPDM	10
B-P5	32	28	15	5	14	10	○	EPDM	10

B-P SERIES SNAP-IN RUBBER FEET

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

■ Hole milling required for installation.

B-P10

B-P10S, P11, P12

B-P13, P14, P15

Product no. / Dimensions

Product no.	A	B	H	C	D	L	M	Material	Color	Pack of
B-P10S	8	8	2	5	5.6	0.9	3	Silicone UL94V-0	Black	10
B-P10	—	11	3	6.3	7.6	1.6	4	Silicone UL94V-0	Black	10
B-P11	11	13	4.5	5.5	7	1	4	Synthetic rubber	Black	10
B-P12	15	17	4.5	5.5	7	1	4	Synthetic rubber	Black	10
B-P13	R3	12	3	5	7	1.6	4	EPDM	Black	10
B-P14	R4	14	4	6	9	1.6	5	EPDM	Black	10
B-P15	R4	16	4	8	11	1.6	5	EPDM	Black	10

A-P SERIES SCREW MOUNT ELASTOMER FEET

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

A–P1 ~ A–P5

A–P6

- Prepare screws for installation.
- Resistant against color migration.

Product no. / Dimensions

■ Material / Color : Elastomer / Black

Product no.	A	B	H	C	D	E	Pack of
A-P1	9.4	10.8	4	3.3	6.8	2	10
A-P2	13.4	14.2	5.5	3	8	3.5	10
A-P3	14	15	9	4	9.5	6	10
A-P4	20	21	8	4	8.2	5	10
A-P5	20	24	14	5.5	8.6	8	10
A-P6	36	40	19	4.5	9	7.5	10

TP SERIES SNAP-IN ELASTOMER FEET

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

- Easy installation with snap-in pin.
- Require a hole for installation.
- Resistant against color migration.

Product no. / Dimensions

■ Material / Color : (Feet) LDPE • (PIN) PP / Black

Product no.	A	B	H	Mounting hole	Panel thickness	Pack of
TP-1	12	12.7	4.4	5	1.0 ~ 2.0	10
TP-2	15	15.7	4.4	5	1.0 ~ 2.0	10
TP-3	17.2	19.2	7.9	8	0.8 ~ 1.2	10
TP-4	18	20	10	8	1.0 ~ 2.5	10
TP-5	19.8	20.8	6.4	8	1.0 ~ 2.5	10
TP-6	19.5	23.7	13.7	8	1.0 ~ 2.5	10
TP-7	26.5	29.4	15	10	1.0 ~ 3.5	10

TM SERIES PLASTIC FEET

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

TM-1, TM-2

TM-1S, TM-3

- Plastic feet equipped with soft padding on the bottom to prevent sliding.

Product no. / Dimensions

Product no.	A	B	H	C	D	E	F	Feet material	Pad material	Color	Pack of
TM-1S	15.9	19.5	6.3	7	5.8	4	2.3	ABS UL94HB	Silicone	Black	10
TM-1	20	21.8	10	7.2	8.5	3.5	4.5	ABS UL94HB	EVA	Black	10
TM-2	20	21.8	15	7.2	13.5	3.5	4.5	ABS UL94HB	EVA	Black	10
TM-3	25	30	7.8	8.1	6.8	3.3	2.7	ABS UL94HB	EVA	Black	10

A series SCREW MOUNT ELASTOMER FEET

NEW

A dimensions

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

A11–4～A24–14

A30–10

A40–19

■ Prepare screws for installation.
■ Resistant against color migration.

■ Material / Color : Elastomer / Black

Product no.	A	B	H	C	D	E	Pack of	Old product no.	Difference
A11- 4	9.4	10.8	4	3.3	6.8	2	10	A-P1	Product number change only.
A14- 6	13.4	14.2	5.5	3	8	3.5	10	A-P2	Product number change only.
A15- 9	14	15	9	4	9.5	6	10	A-P3	Product number change only.
A21- 8	20	21	8	4	8.2	5	10	A-P4	Product number change only.
A24-14	20	24	14	5.5	8.6	8	10	A-P5	Product number change only.
NEW A30-10	—	30	10	4	9.5	5	10	—	—
A40-19	36	40	19	4.5	9	8	10	A-P6	Product number change only.

AFS•AFM series ALUMINIUM ISOLATION FEET

- The surface treatment and finish allows the feet to exhibit a polished and luxurious feel.
- Non-slip NBR O-ring is present on the underside of the feet.
- Suitable for use in audio devices.

Available in both internal and external screw installation type.

External type / Shot blast finish (AFS series)

The external type is secured via screws from the underside / base of the feet to the enclosure.
A thread hole is required for direct securing, while a circular hole is required for lock nut securing.

The shot blast finish provides a high quality surface finish look, and pairing well with various types of enclosure surfaces.

Available in both silver and black.

Internal type / Reflective finish (AFM series)

The internal type is secured via screws from the inside of the enclosure. A circular hole is required for securing into the pre-made threads in the top-side of the feet.

The reflective surface finish adds a high quality touch to the unit, allow it to have a luxurious look.

Available only in Silver.

Product no. / Dimensions

Product no.		D	H	Installation type	C	a	b	Pack of
● Silver	● Black							
AFS20- 8S	AFS20- 8B	20	8	External	Φ3.4	3	9	4
AFS25-10S	AFS25-10B	25	10	External	Φ4.5	4	12	4
AFS30-12S	AFS30-12B	30	12	External	Φ4.5	5	12	4
AFS35-14S	AFS35-14B	35	14	External	Φ4.5	5	12	4
AFS39-16S	AFS39-16B	39	16	External	Φ4.5	5	15	4
AFS44-18S	AFS44-18B	44	18	External	Φ4.5	5	20	4
AFS55-20S	AFS55-20B	55	20	External	Φ5.5	5	20	4
AFM15- 7S	–	15	7	Internal	M3	4	–	4
AFM20- 9S	–	20	9	Internal	M3	5	–	4
AFM25-12S	–	25	12	Internal	M4	7	–	4
AFM30-14S	–	30	14	Internal	M4	8	–	4
AFM35-16S	–	35	16	Internal	M4	10	–	4
AFM39-18S	–	39	18	Internal	M4	10	–	4
AFM44-20S	–	44	20	Internal	M4	10	–	4
AFM55-22S	–	55	22	Internal	M5	15	–	4

AFS • AFM dimensions

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

AFS SERIES

AFM SERIES

APPLICATION EXAMPLE

RS series PLATED PLASTIC FEET

- Suitable for audio equipment use.
- Elastomeric foam pad can be found at the underside of the feet.

RS dimensions

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

Product no. / Dimensions

Product no.		Material	Pack of
Silver	Gold		
RS-28S	RS-28G	ABS UL94HB / Polyester / EVA	4
RS-45S	RS-45G	ABS UL94HB / Polyester / EVA	4
RS-55S	RS-55G	ABS UL94HB / Polyester / EVA	4
RS-60S	RS-60G	ABS UL94HB / Polyester / EVA	4

TC series ALUMINIUM FEET

- Aluminium material gives it a refined and elegant look.
- Suitable for audio equipment use.
- Elastomeric foam pad can be found on the underside of the feet.

TC dimensions

TC–1 TC–2 • TC-3

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

Product no. / Dimensions

Product no.		A	B	C	D	E	F	H	Material	Pack of
Silver	Gold									
TC-1S	TC-1G	25	35	11.5	9.7	3.4	5.6	11.5	ABS UL94HB / Aluminium / EVA	4
TC-2S	TC-2G	25	40	11	10.4	4.1	2.4	12.5	ABS UL94HB / Aluminium / EVA	4
TC-3S	TC-3G	25	45	11.7	13	4.2	7.5	15	ABS UL94HB / Aluminium / EVA	4

TLW series TILT LEG

APPLICATION EXAMPLE

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

Technical Data
Max load : 7kg

Components

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

TLW dimensions

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

Mounting hole (Front)

Mounting hole (Rear)

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

Product no. / Dimensions

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

TL series TILT LEG

TL dimensions

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

Components

＊Maximum load = 7 kg

No.	Part name	Pcs	Material	Color / Finish
1	Front feet	2	ABS UL94HB	Black • Gray • Light gray
2	Leg	2	ABS UL94HB	Black • Gray • Light gray
3	Rear feet	2	ABS UL94HB	Black • Gray • Light gray
4	Rubber feet	4	EPDM	Gray • Black
–	Screw	4	Steel	Black trivalent chromate

■ Included screws: M3-8 and M3 nut (with washer) set.

Product no. / Dimensions

Product no.	Color (body)	Color (rubber feet)	Sales unit
● TL-45BB	Black	Black	1 set
● TL-45GG	Gray	Gray	1 set
● TL-45SG	Light gray	Gray	1 set

■ EPDM (black) may have its color migrate onto the placement surface.

MS SERIES INSTALLATION AREA

CBF-1G CABLE HOOK

APPLICATION EXAMPLE

■ Used for wrapping and securing cords and wires.
■ Can be used with a variety of different enclosure series and models.
■ Requires a panel thickness of between 1.0 ~ 3.0mm.

Product no. / Dimensions

Product no.	Material	Color	Pack of
CBF-1G	ABS UL94HB	Gray	4

■ Included screws: M3-8 trivalent chromate (with washer) x 4 pcs

CBF dimensions

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

TI SERIES TILT STAND

Technical Data
Max load : 3kg

Installation Example

Components

No.	Part name	Pcs	Material	Color / Finish
1	Body	1	ABS UL94HB	Black • Light gray
2	Leg	1	ABS UL94HB	Black • Light gray
–	Screw (M3-6 Pan head tapping)	2	Steel	Trivalent chromate

Product no.

Product no.	
● Black	● Light Gray
TI-70B	TI-70S

FM200 SERIES ELASTOMER CARRYING HANDLE

NEW

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

Installation Hole Layout

■ Comfortable and easy to grip elastomer handle.

Technical Data
Max load : 20kg

Components

No.	Part name	Pcs	Material	Color / Finish
1	Grip	1	PU	Black • Gray
2	Base	2	PA6	Black • Gray
3	Base cover	2	ABS	Black • Gray
4	Shaft	2	SWCH	Nickel plated
—	Screw (Pan head tapping M5-8)	4	Steel	Trivalent chromate

Product no.

Product no.	
● Black	● Gray
NEW FM200B	NEW FM200G

MH SERIES CARRYING HANDLE

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

Installation Hole Layout

Components

No.	Part name	Pcs	Material	Color / Finish
1	Holder	2	PC + ABS	Black • Gray
2	Blind cap	2	PP + Elastomer	Black • Gray
3	Grip	1	PP + Elastomer	Black • Gray
—	Screw (Pan head M4-14)	2	Steel	Trivalent chromate
—	Nut	2	Steel	Trivalent chromate
—	Spring washer	2	Steel	Trivalent chromate

Product no.

Product no.	
● Black	● Gray
MH-197B	MH-197G

Technical Data
Max load : 20kg

OH SERIES ALUMINIUM HANDLE

Components

No.	Part name	Pcs	Material	Color / Finish
1	Handle	1	Extruded aluminium A6063S-T5	Matte anodized
2	Screw (M4-10 Pan head with spring washer)	2	Steel	Trivalent chromate

Product no. / Dimensions

Product no.		P	W	Pack of
● Black matte anodized	● Silver matte anodized			
OH- 55B	OH- 55K	55	61.5	2
OH- 70B	OH- 70K	70	76.5	2
OH- 85B	OH- 85K	85	91.5	2
OH-100B	OH-100K	100	106.5	2
OH-120B	OH-120K	120	126.5	2
OH-140B	OH-140K	140	146.5	2
OH-170B	OH-170K	170	176.5	2

KH SERIES ANGLED ALUMINIUM HANDLE

Components

No.	Part name	Pcs	Material	Color / Finish
1	Handle	1	Extruded aluminium A5056S	Polished • Matte anodized
2	Screw (M4-10 Pan head with spring washer)	2	Steel	Trivalent chromate

Product no. / Dimensions

Product no.		P	Pack of
● Silver polished	● Black matte anodized		
KH- 70S	KH- 70B	70	2
KH-100S	KH-100B	100	2

BH SERIES ROUNDED ALUMINIUM HANDLE

Components

No.	Part name	Pcs	Material	Color / Finish
1	Handle	1	Extruded aluminium A5056S	Polished • Matte anodized
2	Screw	2	Steel	Trivalent chromate

Product no. / Dimensions

■ K type only available on BH-100, 120, 150, and 180 models.

Product no.			P	H	a	b	Pack of
● Silver polished	● Black matte anodized	● Silver matte anodized					
BH- 26S	BH- 26B	–	26	25	6	3	2
BH- 30S	BH- 30B	–	30	35	8	4	2
BH- 50S	BH- 50B	–	50	35	8	4	2
BH- 60S	BH- 60B	–	60	35	8	4	2
BH- 70S	BH- 70B	–	70	35	8	4	2
BH- 80S	BH- 80B	–	80	35	8	4	2
BH-100S	BH-100B	BH-100K	100	35	8	4	2
BH-110S	BH-110B	–	110	35	8	4	2
BH-120S	BH-120B	BH-120K	120	35	8	4	2
BH-150S	BH-150B	BH-150K	150	35	8	4	2
BH-180S	BH-180B	BH-180K	180	35	8	4	2

Z-P SERIES WASHER for HANDLE

■ Brass washer for BH • KH series.

Product no. / Dimensions

■ Material / Brass

Product no.		W	a	Pack of
Chrome plated	Black painted			
Z-P6S	Z-P6B	10	6.2	10
Z-P8S	Z-P8B	12	8.2	10

HK SERIES ELASTOMER CARRYING HANDLE

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

■ Elastomer handle that is comfortable to grip.

Technical Data
Max load : 20kg

Components

No.	Part name	Pcs	Material	Color / Finish
1	Grip	1	Elastomer	Black
2	Base	1	Polyamide	Black
3	Reinforcement	1	Stainless steel	Unfinished
—	Screw (Pan head M4-10 with washer)	2	Steel	Trivalent chromate

Product no. / Dimensions

Product no.	W	A	H	a
HK-1	222.5	22	20	149.5
HK-3	183	22	17	110.7

STPS series STRAP

APPLICATION EXAMPLE

Wrist strap (STPS-140G)

Neck strap (STPS-450C)

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

Quick-release joint
(Neck strap only)

Color Type

Code	G Green	C Cyan	L Light gray	B Black
Color				

Components

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

Product no. / Dimensions

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

STP series STRAP

Wrist strap (STP-200)

Neck strap (STP-450)

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

Neck strap detail

Quick-release joint

Adjuster

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

Components

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

Product no. / Dimensions

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

CR-20 KEY RING

- Hole milling is required for case installation.

CR-20 dimensions

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

Components

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

Product no. / Dimensions

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

WM series SUSPENSION BRACKET

How to install

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

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

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

WM dimensions

WM-1

WM-2

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

Components

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

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

Product no. / Dimensions

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

NMG series NEODYMIUM MAGNET

Round magnet

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

■ Material / Finish: Neodymium / Nickel plated

■ Please attach using a strong adhesive.

NMG dimensions

Components

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

Round magnet with countersunk hole

■ Please fasten with a screw.

Components

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

Rectangular magnet with countersunk holes

■ Please fasten with a screw.

Components

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

Example 1 The magnetic force remains strong even through plastic.

Make recessed pocket on the inside wall.

Glue on.

Attach onto a metallic surface.

Example 2

Make holes

Fasten with a screw and nut.

Attach onto a metallic surface.

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

GDH series PLASTIC BELT CLIP

GDH dimensions

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

Components

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

Product no. / Dimensions

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

DK series STEEL BELT CLIP

DK dimensions

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

DK-1

DK-2

Product no. / Dimensions

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

FDR SERIES DIN-RAIL

NEW SIZE

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

Feature

Material	Finish
Extruded Aluminium A6063S-T5	Silver anodized

Product no. / Dimensions

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

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

- FDR-1000 does not have mounting holes.

Matching DIN-Rail Chart

BC□□ series

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

BDN series

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

BCAS series

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

SPCM • SPCP series

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

Accessories (Optional parts)

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

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

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

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

DRA series DIN-RAIL MOUNTING BASE

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

■ **NOTE**

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

Technical Data
Max load : 5kg

DRA dimensions

DRA-1

DRA-2

DRA-3

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

Product no. / Dimensions

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

DRT series DIN-RAIL MOUNTING BASE

DRT dimensions

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

■ **NOTE**

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

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

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

Product no. / Dimensions

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

CKD SERIES DIN-RAIL MOUNTING FEET

Installation example

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

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

Technical Data
Max load : 3kg

Components

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

Product no. / Dimensions

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

TKR SERIES DIN-RAIL TERMINAL BLOCKS END STOPPER

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

TKR-TWE1

TKR-JTXE3

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

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

Product no. / Feature

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

WPMB-M4-2 POLE MOUNTING BRACKET

WPMB-M4-2 dimensions

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

■ Pole mount bracket made from weather resistant ASA material.

■ Pole mounting belt can be installed either W or D direction.

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

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

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

Color
White gray

Product no. / Dimensions

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

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

Installation example

Vertical mounting

Horizontal mounting

WPMB series POLE MOUNTING BRACKET for WP

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

WPMB dimensions

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

WPMB-M3 • WPMB-M4

WPMB-M4-2

Color Type

Code	Color
G	White gray
D	Dark gray

Product no. / Dimensions

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

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

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

WPMB-M3 / WPMB-M4

WPMB-M4-2

WPMB-M4-3 series POLE MOUNTING BRACKET

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

WPMB-M4-3 dimensions

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

Installation

Components

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

Product no. / Dimensions

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

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

BFL SERIES PLASTIC MOUNTING BRACKET

Color G Color S

BFL-1

BFL-2 / BFL-2-21

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

Color Type

G	White gray	BCAP • BCAR
S	Light gray	BCPC • BCPK • BCPR

Components

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

Product no. / Dimensions

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

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

※Not suitable for BCAP1515 model. Use CK-35P (Stainless steel) instead.

CK SERIES STAINLESS STEEL MOUNTING BRACKET

CK-35P

CK-26P

Components

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

Product no. / Dimensions

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

MT SERIES PCB MOUNTING SCREW

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

Product no. / Dimensions

Product no.	Material	Finish	Pack of
MT4-8T	Steel M4	Trivalent chromate	20
MT5-8T	Steel M5	Trivalent chromate	20

Suitable Box

MT4-8T	BCAP • R, BCPC • K • R 0912, 1015, 1121, 1126, 1315, 1318, 1515, 1621, 1626, 1722, 1727, 1928, 2121	7kgf • cm (0.7N • m)
MT5-8T	BCAP • R, BCPC • K • R 2030, 2535, 2828, 2838, 3030, 3040, 3535, 3545, 4050, 4060, 5060, 5070, 6080	14kgf • cm (1.4N • m)

SSK SERIES POLE MOUNTING BRACKET

- Stainless steel pole mounting bracket for BCAP • BCAR and BCPC • BCPK • BCPR series.
- No hole milling is required for maintaining the IP rating of the enclosure.
- Use PKB mounting belt to install onto a pole (See page 258 for PKB series).
- DXF/DWG/PDF drawings available on our website.

SSK dimensions

SSK-S1

SSK-P60 • 75 • 80

SSK-P120

SSK-160 ~ 250

SSK-280 ~ 350

SSK-400

APPLICATION EXAMPLE

WEATHER STATION DATA LOGGER
Product by Sakaki Corporation (Japan)

WATER LEVEL DETECTOR
Product by Aspect System (Japan)

Accessories (Optional parts)

Components

No.	Part name	Pcs	Material	Color / Finish
1	Bracket	2 / 4	Stainless Steel SUS304	Barrel finish
2	Plastic bracket (SSK-P type only)	2	ASA UL94HB	White gray (RAL7035)
–	Screw	4	Stainless Steel SUS304	Unfinished

Product no. / Dimensions

Product no.	W	a	b	c	Box size	Belt to use with	Pack of
SSK-S1	32.25	18.25	14	–	0912, 1015, 1121, 1126, 1315, 1318, 1621, 1626, 1722, 1727, 2121	PKB-10P, PKB-10S	4
SSK-P60	60	54.5	46.5	5.5×9	0912	PKB-10P, PKB-10S	2
SSK-P75	75	69.5	53.5	5.5×12.5	1015	PKB-10P, PKB-10S	2
SSK-P80	80	74.5	64.5	5.5×10.5	1121, 1126	PKB-10P, PKB-10S	2
SSK-P120	120	106.5	88.5	5.5×14.5	1315, 1318	PKB-10P, PKB-10S	2
SSK-160	142	129.5	101	–	1515, 1621, 1626	PKB-10P, PKB-10S	2
SSK-170	152	142.3	101	–	1722, 1727	PKB-10P, PKB-10S	2
SSK-200	174	161.5	112.5	–	1928, 2030	PKB-10P, PKB-10S	2
SSK-210	192	180.5	131.5	–	2121	PKB-10P, PKB-10S	2
SSK-250	230	215.5	166.5	–	2535	PKB-10P, PKB-10S	2
SSK-280	260	244.5	195.5	–	2828, 2838	PKB-10P, PKB-10S	2
SSK-300	280	264.5	215.5	–	3030, 3040	PKB-10P, PKB-10S	2
SSK-350	324	302.5	253.5	–	3535, 3545	PKB-10P, PKB-10S	2
SSK-400	374	354.5	305.5	–	4050, 4060	PKB-20S	2
SSK-530	484	462	380	7×9	5060, 5070	PKB-20S	2
SSK-630	590	562	–	7×9	6080	PKB-20S	2

PKB SERIES POLE MOUNTING BELT

PKB−10PM, 10P

PKB−10S, 20S

- New shorter belt type PKB-10PM is available for Φ25 to Φ60mm poles. Other belt types are for Φ60 to Φ400mm poles.
- Designed for one time use only (not reusable).
- Strong stainless steel clamping type and easy installation plastic type are available.
- Use SSK mounting bracket for installation onto a pole.
- Drawings below are reference examples only. DXF/DWG/PDF drawings available on our website.

PKB-10PM, 10P

PKB-10S

PKB-20S

Components

Part name	Pcs	Material	Color / Finish
Stopper	2	POM • Stainless steel SUS304	Black • Barrel finish
Belt	2	PET • Stainless steel SUS430	Gray • Bright annealed finish

Product no. / Dimensions

Product no.	W	D	H	a	b	Belt material	Belt length	Tensile strength (horizontal)	Weight (g)	Pack of
NEW PKB-10PM	24	23	11	10	0.5	PET	500mm	0.8kN	14	2
PKB-10P	23	40	11	10	0.5	PET	1,500mm	1.3kN	31.8	2
PKB-10S	(16.5)	(49.5)	12	10	0.3	Stainless steel	1,500mm	1.4kN	101.6	2
PKB-20S	(27.4)	(49.5)	12	20	0.3	Stainless steel	1,500mm	2.9kN	182.2	2

SSK SERIES POLE MOUNTING BRACKET

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

PKB series

SSK dimensions

SSK-P50 • 60 • 75 • 80

SSK-P100 • 120

SSK-160 ~ 250

SSK-280 ~ 350

SSK-400

SSK-530

Components

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

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

Product no. / Dimensions

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

SSK-B SERIES MOUNTING SCREW SET for SSK

NEW SIZE

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

Product no. / Dimensions

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

■ Installation Example

BCAS050604, 050605

Use screws included with SSK-P

M4 / M5 Pan head with nut fastening

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

Pan head screw into insert nut

SSK-B5-10

POLE MOUNTING BRACKET / SCREW SET MATCHING CHART

SPCM • SPCP series

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

BCAL series

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

※Use screws included with SSK bracket for vertical mount

BCAS series

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

※Use screws included with SSK bracket for vertical mount

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

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

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

Vertical mount
(Longer vertical side)

Horizontal mount
(Longer horizontal side)

SSK SERIES POLE MOUNTING BRACKET

- Stainless steel pole mounting bracket.
- Welding onto stainless steel case can be performed to maintain waterproof ability.
- Use SSK-B series screws (see page SSK-M-2) for installation on diecast aluminium box.
- Use PKB mounting belt (see page PKB-1) for installation onto a pole.

SSK dimensions

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

SSK-S1

SSK-P50 • 60 • 75 • 80

SSK-P100 • 120

SSK-160 ~ 250

SSK-280 ~ 350

SSK-400

SSK-530

Components

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

Product no. / Dimensions

Product no.	W	a	b	c	Suitable mounting belt	Pack of
SSK-S1	32.25	18.25	14	—	PKB-10PM, 10P, PKB-10S	4
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 below chart for appropriate 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	AW5-4-7 ~ AW8-5-18	4
SSK-B4-25N	M4-25 Pan head with nut	BDN9-9-6, BDN10-14-7	4
SSK-B5-8T	M5-8 Binding head tapping	HQ series	4
SSK-B5-15N	M5-15 Pan head with nut	AW9-9-10 ~ AW21-9-31	4
SSK-B5-25N	M5-25 Pan head with nut	BDN12-22-8, BDN16-26-9	4

- Installation Example

M5 thread fastening

SSK-B5-8T

M4/M5 Pan head with nut fastening

SSK-B4-15N SSK-B4-25N
SSK-B5-15N SSK-B5-25N
SSK-B5-35N SSK-B6-40N

POLE MOUNTING BRACKET / SCREW SET MATCHING CHART

BDN series

Box Product no.		SSK Product no.		Screw set Product no.
		Vertical mount	Horizontal mount	
BDN	9-9-6	SSK-P75	SSK-P100	SSK-B4-25-N
	10-14-7	SSK-P80	SSK-160	SSK-B4-25-N
	12-22-8	SSK-P100	SSK-250	SSK-B5-25-N
	16-26-9	SSK-160	SSK-280	SSK-B5-25-N

HQ series

Box Product no.		SSK Product no.		Screw set Product no.
		Vertical mount	Horizontal mount	
HQ	10-10-5 • 10-10-7	SSK-P50	–	SSK-B5-8T
	15-10-5 • 15-10-8	SSK-P80	SSK-160	SSK-B5-8T
	15-11-3	SSK-P100	SSK-160	SSK-B5-8T
	16-16-6 • 16-16-8	SSK-170	SSK-170	SSK-B5-8T
	19-10-5 • 19-10-7	–	SSK-200	SSK-B5-8T
	20-15-3 • 20-15-5 • 20-15-9	SSK-160	SSK-210	SSK-B5-8T
	26-18-6	SSK-200	SSK-280	SSK-B5-8T
	27-17-7 • 27-17-10	SSK-170	SSK-280	SSK-B5-8T

SSM • SSB series

■ Installation should be done by welding.

Box Product no.				SSK Product no.	
				Vertical mount	Horizontal mount
SSM SSB	121508			SSK-S1	–
	151508	152206	152210	SSK-160	–
	202010	202806		SSK-210	–
	202812	223312			
	304015			SSK-300	–

■ SSK bracket is different depending on mount type (Vertical or Horizontal).

Vertical mount
(Longer vertical side)

Horizontal mount
(Longer horizontal side)

AW series

Box Product no.		SSK Product no.		Screw set Product no.
		Vertical mount	Horizontal mount	
AW	5-4-7	–	SSK-P100	SSK-B4-15N
	5-4-9	–	SSK-P120	SSK-B4-15N
	5-4-11	–	SSK-160	SSK-B4-15N
	5-4-14	–	SSK-200	SSK-B4-15N
	7-7-8	SSK-P50	SSK-P120	SSK-B4-15N
	7-7-11	SSK-P50	SSK-160	SSK-B4-15N
	7-7-15	SSK-P50	SSK-210	SSK-B4-15N
	7-7-20	SSK-P50	SSK-250	SSK-B4-15N
	7-7-25	SSK-P50	SSK-300	SSK-B4-15N
	8-5-9	SSK-P75	SSK-160	SSK-B4-15N
	8-5-12	SSK-P75	SSK-160	SSK-B4-15N
	8-5-14	SSK-P75	SSK-200	SSK-B4-15N
	8-5-18	SSK-P75	SSK-250	SSK-B4-15N
	9-9-10	SSK-P75	SSK-160	SSK-B5-15N
	9-9-13	SSK-P75	SSK-170	SSK-B5-15N
	9-9-17	SSK-P75	SSK-250	SSK-B5-15N
	9-9-22	SSK-P75	SSK-280	SSK-B5-15N
	9-9-28	SSK-P75	SSK-350	SSK-B5-15N
	11-6-11	SSK-P100	SSK-160	SSK-B5-15N
	11-6-15	SSK-P100	SSK-210	SSK-B5-15N
	11-6-19	SSK-P100	SSK-250	SSK-B5-15N
	11-6-24	SSK-P100	SSK-300	SSK-B5-15N
	12-8-11	SSK-P120	SSK-160	SSK-B5-15N
	12-8-14	SSK-P120	SSK-200	SSK-B5-15N
	12-8-17	SSK-P120	SSK-250	SSK-B5-15N
	12-8-22	SSK-P120	SSK-280	SSK-B5-15N
	16-9-14	SSK-160	SSK-200	SSK-B5-15N
	16-9-18	SSK-160	SSK-250	SSK-B5-15N
	16-9-23	SSK-160	SSK-280	SSK-B5-15N
	16-9-28	SSK-160	SSK-350	SSK-B5-15N
	21-9-17	SSK-210	SSK-250	SSK-B5-15N
	21-9-21	SSK-210	SSK-280	SSK-B5-15N
	21-9-26	SSK-210	SSK-350	SSK-B5-15N
	21-9-31	SSK-210	SSK-400	SSK-B5-15N

SNB series STAINLESS STEEL POLE MOUNTING STRAP NEW

SNB dimensions

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

Components

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

Product no. / Dimensions

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

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

SNB Strap required

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

PKB series POLE MOUNTING BELT

PKB−10PM, 10P

PKB−10S, 20S

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

PKB dimensions

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

PKB-10PM, 10P

PKB-10S

PKB-20S

Components

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

Product no. / Dimensions

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

RMW series WEATHERPROOF CABLE GLAND

IP67

- 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±3°C Humidity Range : 50±10%
Cycle Conditions : 120 minutes cycle (18 minutes irradiation + water spray - 102 minutes irradiation)
Time period : 2,000 hours (equivalent to a period of 4 years under natural conditions)
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

RM series POLYAMIDE CABLE GLAND

- Low cost cable glands made from polyamide material.
- Wide selection, for M8 ~ M63, suitable for Φ1mm ~ Φ44 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°C ~ +80°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	Φ8.2	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	Φ8.2	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	Φ10.2	3	6	13	20.5	13	14.4	1
RM12S-7B	RM12S-7S	M12×1.5	Φ12.2	3.5	7	9	20.5	16	17.6	1
RM12L-7B	RM12L-7S	M12×1.5	Φ12.2	3.5	7	14.5	20.5	16	17.7	1
RM16S-8B	RM16S-8S	M16×1.5	Φ16.2	4	8	9	23.5	19	21	1
RM16L-8B	RM16L-8S	M16×1.5	Φ16.2	4	8	15	24	19	21	1
RM20S-12B	RM20S-12S	M20×1.5	Φ20.2	6	12	10	29	24	26.2	1
RM20L-12B	RM20L-12S	M20×1.5	Φ20.2	6	12	15	28.5	24	26.2	1
RM25L-17B	RM25L-17S	M25×1.5	Φ25.2	11	17	15	35	33	36.2	1
RM32L-21B	RM32L-21S	M32×1.5	Φ32.3	13	21	15	38	36	39.5	1
RM40L-27B	RM40L-27S	M40×1.5	Φ40.3	18	27	18	43.5	45.7	50.5	1
RM50L-38B	RM50L-38S	M50×1.5	Φ50.4	27	38	20	50.5	60	66.5	1
RM63L-44B	RM63L-44S	M63×1.5	Φ63.4	37	44	20	53	68	75.5	1
RM10L-6B-P	RM10L-6S-P	M10×1.5	Φ10.2	3	6	13	20.5	13	14.4	100
RM12S-7B-P	RM12S-7S-P	M12×1.5	Φ12.2	3.5	7	9	20.5	16	17.6	100
RM12L-7B-P	RM12L-7S-P	M12×1.5	Φ12.2	3.5	7	14.5	20.5	16	17.7	100
RM16S-8B-P	RM16S-8S-P	M16×1.5	Φ16.2	4	8	9	23.5	19	21	100
RM16L-8B-P	RM16L-8S-P	M16×1.5	Φ16.2	4	8	15	24	19	21	100
RM20S-12B-P	RM20S-12S-P	M20×1.5	Φ20.2	6	12	10	29	24	26.2	100
RM20L-12B-P	RM20L-12S-P	M20×1.5	Φ20.2	6	12	15	28.5	24	26.2	100
RM25L-17B-P	RM25L-17S-P	M25×1.5	Φ25.2	11	17	15	35	33	36.2	100

RSP series STRAIN RELIEF CABLE GLAND

■ 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

AG series HIGH WATER PROTECTION CABLE GLAND

- High water protection IP68 (1bar / 30min) polyamide cable gland.
- Wide selection, for M8 ~ M50, suitable for Φ2.5mm ~ Φ42 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°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)

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

AGM series METAL CABLE GLAND

- High water protection IP68 (1bar / 30min) metal cable gland.
- Wide selection, for M6 ~ M50 and PG7 ~ PG16.
  Suitable for Φ2 mm ~ Φ42 mm cable.

Technical Data
Protection class: IP68 1bar / 30min Operating temperature: -40°C ~ +100°C Compliant with EN50262 Ver. A

AGM 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.

- 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.

Components

No.	Part name	Material	Color / Finish
1	Cap	Brass	Nickel plated
2	Sealing insert	TPE	Black
3	Connector	Brass	Nickel plated
-	O-ring	NBR	Black
4	Lock nut	Brass	Nickel plated

AGM dimensions

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

Product no. / Dimensions

Product no.	G			Cable range		L	H Max	SW	A	d	m	Pack of
	Thread size	Thread outer dia.	Mounting hole	Min	Max							
AGM6-2.5	M6×1.0	—	Φ6.2	2	2.5	8	12	8	9	10	2.8	1
AGM6-3	M6×1.0	—	Φ6.2	2.5	3.0	8	12	8	9	10	2.8	1
AGM6-3.5	M6×1.0	—	Φ6.2	3.0	3.5	8	12	8	9	10	2.8	1
AGM8-5	M8×1.25	—	Φ8.2	3.5	4.7	10	14	11	12	12	3	1
AGM10-6	M10×1.5	—	Φ10.2	4.0	6.0	10	15	13	14.3	14	2.8	1
AGM12-8	M12×1.5	—	Φ12.2	6.5	8.0	10	17	15	16.5	16.5	2.8	1
AGM16-10.5	M16×1.5	—	Φ16.2	8.0	10.5	10	21	18	20	21	3	1
AGM20-15	M20×1.5	—	Φ20.2	11.0	15.0	10	23	24	26.5	26.5	3.5	1
AGM25-20	M25×1.5	—	Φ25.2	16.0	20.0	11	28	30	33	33	4	1
AGM32-25.5	M32×1.5	—	Φ32.3	21.0	25.5	13	29.5	36	39.5	39.5	4	1
AGM40-28.5	M40×1.5	—	Φ40.3	24.0	28.5	13	32	46	50.7	51	5	1
AGM40-33	M40×1.5	—	Φ40.3	28.5	33.0	13	32	46	50.7	51	5	1
AGM50-37	M50×1.5	—	Φ50.4	33.0	37.0	14	34	55	59.7	60	5.5	1
AGM50-42	M50×1.5	—	Φ50.4	37.0	42.0	14	34	55	59.7	60	5.5	1

AGE SERIES EMC SHIELDED CABLE GLAND

- Optimal contact spring provides excellent shield contact and the smallest possible transfer impedance.
- Clawed lock nut makes a good EMC shield contact possible on conductive enclosures.
- Shape of the contact spring not only allows for a large clamping range to the shield but also enables easy and faster installation and re-installation.
- 2-piece detachable sealing inserts can be adapted to the wider existing cable diameter on site.
  (AGE12 available only with 1-piece sealing insert)

Technical Data

Protection class : IP68 2bar / 30min, IP69K
20m depth immersion in 30 minutes
Operating temperature : -60°C ~ +100°C
Compliant with IEC62444 Var. A

Cable Range

No.	Sealing insert type	
	Assembled	Detached
AGE16-10.5	Φ 6 ~ Φ 7.5	Φ 7.5 ~ Φ10.5
AGE20-15	Φ 8 ~ Φ10.5	Φ10.5 ~ Φ15
AGE25-20	Φ12.5 ~ Φ15	Φ15 ~ Φ20
AGE32-25	Φ17 ~ Φ20	Φ20 ~ Φ25

Cross-section view

Components

No.	Part name	Material	Color / Finish
1	Cap	Brass	Nickel plated
2	Sealing insert	TPE	Black
3	Connector	Brass	Nickel plated
4	Contact spring	Stainless steel	Unfinished
-	O-Ring	NBR	Black
5	Lock-nut	Brass	Nickel plated

INSTALLATION Instruction

Remove the contact spring from the connector.

Install the connector onto the enclosure.

Strip the cable.

Clip the contact spring on the shielded cable.

Pass the cable through the Sealing insert and cap.

Tighten the cap to complete.

AGE dimensions

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

Product no. / Dimensions

Product no.	G		Cable range		L	H Max	SW	A	d	m	Pack of
	Thread size	Mounting hole	Min	Max							
AGE12-5	M12×1.5	Φ12.2	3.5	5.0	10	22	15	16.5	16.5	3.5	1
AGE12-6.5	M12×1.5	Φ12.2	5.0	6.5	10	22	15	16.5	16.5	3.5	1
AGE16-10.5	M16×1.5	Φ16.2	6.0	10.5	10	25	18	20	21	3.5	1
AGE20-15	M20×1.5	Φ20.2	8.0	15.0	10	27	24	26.5	26.5	4	1
AGE25-20	M25×1.5	Φ25.2	12.5	20.0	11	33	30	33	33	4	1
AGE32-25	M32×1.5	Φ32.3	17.0	25.0	13	34	36	39.5	39.5	5	1

AGH SERIES HEAT RESISTANT METAL CABLE GLAND

- Heat resistant sealing insert made of FPM material. Resistant up to 200°C
- IP68 1bar / 30min high performance waterproof cable gland.

Technical Data
Protection class : Protection class IP68 1bar / 30min 10m depth immersion in 30 minutes Operating temperature : -40°C ~ +200°C Compliant with EN50262 Var. A

AGH series

Thicker sealing insert evenly clasp onto the cable by having a larger area. Remains durable even after repeated tightening / loosening.

Conventional cable gland

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

- Tightening torque varies depending on the cable diameter. Tighten until the sealing insert protrudes slightly from the cap.

Components

No.	Part name	Material	Color / Finish
1	Cap	Brass	Nickel plated
2	Sealing insert	FPM	Green
3	Connector	Brass	Nickel plated
4	O-Ring	FPM	Green
5	Lock-nut	Brass	Nickel plated

AGH dimensions

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

Product no. / Dimensions

Product no.	G		Cable range		L	H Max	SW	A	d	m	Pack of
	Thread size	Mounting hole	Min	Max							
AGH10-6	M10×1.5	Φ10.2	4.0	6.0	10	15	13	14.3	14.2	3	1
AGH12-8	M12×1.5	Φ12.2	6.5	8.0	10	17	15	16.5	16.5	3	1
AGH16-10.5	M16×1.5	Φ16.2	8.0	10.5	10	20	18	20	21	3	1
AGH20-15	M20×1.5	Φ20.2	11.0	15.0	10	23	24	26.5	26.3	3.5	1
AGH25-20	M25×1.5	Φ25.2	16.0	20.0	11	27	30	33	33	4	1
AGH32-25.5	M32×1.5	Φ32.3	21.0	25.5	13	28.5	36	39.7	39.7	4	1

PMF-6B SMALL PROTECTIVE VENT

NEW

IP68

Application example

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

PMF-6B dimensions

Hole milling drawings

Installation drawings

Technical Data

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

Product no. / Dimensions

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

PMF-12M STAINLESS STEEL PROTECTIVE VENT

NEW

IP68 IP69K

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

PMF-12M dimensions

Hole milling drawings

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

Installation drawings

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

Technical Data

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

Product no. / Dimensions

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

PMF series PROTECTIVE VENT

Pressure Equalization / Ventilation

Application Example

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

PMF dimensions

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

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

Hole milling drawings

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

Installation drawings

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

Technical Data

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

Product no. / Dimensions

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

PMF-32S LARGE PROTECTIVE VENT

Pressure Equalization / Ventilation

IP68 IP69K

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

PMF-32 dimensions

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

Hole milling drawings

Installation drawings

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

Technical Data

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

Product no. / Dimensions

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

VE8 series ADHESIVE PROTECTIVE VENT FILTER

NEW

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

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

CAUTION

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

VE8 drawings

Installation drawings

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

Components

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

Product no. / Dimensions

Product no.	Outer dimension (Φ·mm)	Effective diameter (Φ·mm)	Thickness (mm)	Sales unit
VE80308	7.6	3.3	0.26	8 pcs (per pack)
VE80814	14.0	8.0	0.26	4 pcs (per pack)
VE81221	21.5	12.5	0.26	4 pcs (per pack)
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)

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

CJCV series USB DUST COVER FLAP

- USB TYPE-A connector dust cover plug with stopper cord.
- Hole milling is required for flap installation.

How to Install

Incorrect Position

- The USB connector should be mounted such that it does not protrude out from the panel's inner side.

Hole layout for installing

Product no. / Feature

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

Product no.	Material	Color	Panel thickness	Pack of
CJCV-1	TPU	Black	0.5 ~ 2.0mm	10
CJCV-2	TPU	Black	2.0 ~ 12.0mm	10

USBC series USB DUSTPROOF BLIND PLUG

NEW

USB TYPE-A

USBC-2 (Pull-tab type)

USBC-8 (No pull-tab type)

- Easy insertion plug for USB type-A connector.

Product no. / Feature

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

Product no.	Material	Color	Pack of
USBC-2	ABS UL94HB	Black	10
USBC-8	PA66 UL94V-2	Black	10

USB TYPE-B

USBC-1 (Pull-tab type)

USBC-3 (No pull-tab type)

Product no. / Feature

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

Product no.	Material	Color	Pack of
USBC-1	ABS UL94HB	Black	10
USBC-3	PP UL94HB	Black	10

USB TYPE-C

USB Type-C connector

Product no. / Feature

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

Product no.	Material	Color	Pack of
NEW USBC-3C	PE	Black	10

USB 3.0 Micro B

USB 3.0 Micro B connector

Product no. / Feature

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

Product no.	Material	Color	Pack of
NEW USBC-21	TPE	Black	10

MICRO USB

USBC-31

MINI USB

USBC-10

Product no. / Feature

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

Product no.	Material	Color	Pack of
USBC-31	PE	Black	10
USBC-10	TPE	Black	10

KPS•USB3C series USB DUSTPROOF CONNECTOR COVER NEW

USB TYPE-A

Product no. / Feature

Product no.	Material	Color	Pack of
KPS-6	PE	Natural	10

USB TYPE-C

Product no. / Feature

Product no.	Material	Color	Pack of
NEW USB3C-3	PE	Natural	10

MICRO USB

Product no. / Feature

Product no.	Material	Color	Pack of
KPS-21	PE	Natural	10

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

DTC series D-SUB • DVI DUSTPROOF CONNECTOR COVER

DTC dimensions

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

Product no. / Dimensions / Feature

Product no.	Matching connector	A	Material	Color	Pack of
DTC- 9F	D-sub 9 pin	18.5	PP UL94HB	Gray	10
DTC-15F	D-sub 15 pin • DVI	26.8	PP UL94HB	Gray	10
DTC-25F	D-sub 25 pin	40.6	PP UL94HB	Gray	10

PLC-3TV POWER INLET DUSTPROOF BLIND PLUG

PLC-3TV dimensions

■ Pull-tab type blind plug for power inlet.

Product no. / Feature

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

Product no.	Material	Color	Pack of
PLC-3TV	TPE UL94V-0	Black	5

PJR-45 • PJS-45 RJ45 DUSTPROOF BLIND PLUG

PJR-45 (Pull-tab type)

PJS-45 (No pull-tab type)

Product no. / Feature

Product no.	Material	Color	Pack of
PJR-45	PE	Black	10
PJS-45	ABS UL94HB	Black	10

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

PJCV-1 RJ45 DUSTPROOF CONNECTOR COVER

Product no. / Feature

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

Product no.	Material	Color	Pack of
PJCV-1	PE	Natural	10

SFPC • CXP series FIBER OPTIC PORT DUSTPROOF PLUG

NEW

■ Dustproof pull-tab cover plug for fiber optic connector port.

For SFP port

SFPC-11

For QSFP port

SFPC-12

For CXP port

CXP-2

Product no. / Feature

Product no.	Material	Color	Pack of
NEW SFPC-11	PE	Black	10
NEW SFPC-12	PE	Black	10
NEW CXP-2	PE	Black	10

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

HDMIC series HDMI DUSTPROOF BLIND PLUG

HDMIC-1 (Pull-tab type)

HDMIC-3 (No pull-tab type)

Product no. / Feature

Product no.	Material	Color	Pack of
HDMIC-1	PE	Black	10
HDMIC-3	ABS UL94HB	Black	10

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

HDMIT-1 HDMI DUSTPROOF CONNECTOR COVER

Product no. / Feature

Product no.	Material	Color	Pack of
HDMIT-1	PE	Natural	10

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

CP SERIES CORD PROTECTOR

Installation hole layout

- Cord protector for protection against cord twists and breakage.
- Nut can be secured from the back side of the panel for additional stability.

Components

No.	Part name	Material
1	Connector	PVC
2	Nut	Polyethylene

Product no. / Feature

Product no.		Panel thickness	Cord diameter	Pack of
● Black	● Light Gray			
CP-Y85B	CP-Y85G	1.5 ~ 2.0	VFF0.75×2	10

CP SERIES CORD PROTECTOR

Installation hole layout

- Cord protector for protection against cord twists and breakage.
- Nut can be secured from the back side of the panel for additional stability.

Components

No.	Part name	Material
1	Connector	PVC
2	Nut	Polyethylene

Product no. / Feature

Product no.		Panel thickness	Cord diameter	Cord shape	Pack of
● Black	● Light Gray				
CP-127B	CP-127G	1.5 ~ 2.0	Φ5.8 ~ Φ6.8	Round cord	10

SG SERIES RUBBER MEMBRANE GROMET

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

Technical Data
Operating temperature: -30°C ~ +100°C

Components

Material	Hardness	Color
EPDM	55°±5°	Black

■ Membrane thickness = 0.4 ~ 0.6mm

Product no. / Dimensions

Product no.	A	B	C	D	E	F	G	H	Pack of
SG- 9A	8.5	3.5	2.3	2	4.5	9	13	16	10
SG-12A	6.3	2.5	1.6	1.5	7	12	16	19	10
SG-14A	8	2.7	2.3	2	9	14	18	21	10
SG-16A	8.1	3.5	1.6	2	11	16	20	23	10
SG-18A	8.8	3.5	2.3	2	13	18	22	25	10
SG-20A	9.1	4	1.6	2.5	15	20	24	27	10
SG-22A	9.8	4	2.3	2.5	17	22	26	29	10
SG-24A	11.3	5	2.3	3	19	24	28	31	10
SG-26A	12.2	5	3.2	3	19	26	31	35	10
SG-28A	11.8	5	2.3	3	21	28	33	37	10
SG-30A	12.7	5	3.2	3	23	30	35	39	10
SG-30B	8	3.2	1.6	3.2	25	30	35	—	10
SG-32A	11.8	5	2.3	3	25	32	37	41	10
SG-34A	12.7	5	3.2	3	27	34	39	43	10
SG-36A	13.8	6	2.3	4	28	36	42	45	10
SG-38A	14.7	6	3.2	4	30	38	44	48	10
SG-42A	14.7	6	3.2	4	34	42	48	52	10

NG SERIES RUBBER GROMET

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

Technical Data
Operating temperature: -30°C ~ +100°C

Components

Material	Hardness	Color
EPDM	50° ~ 55°	Black

Product no. / Dimensions

Product no.	A	B	C	D	E	R	Pack of
NG-79-1	3.7	1.2	3.5	6	9	0.6	10
NG-79-A1	4	1	5	8	11	0.6	10
NG-79-A	4.5	1.5	5	8	11	0.6	10
NG-79-A2	5	2	5	8	11	0.6	10
NG-79-B	6	3	5	8	11	0.6	10
NG-79-C	4.5	1.5	7	10	13	0.6	10
NG-79-D	6	3	7	10	13	0.6	10
NG-79-E	4.5	1.5	9	12	15	0.6	10
NG-79-F	6	3	9	12	15	0.6	10
NG-79-G	5.5	1.5	11	15	19	1	10
NG-79-H	7	3	11	15	19	1	10
NG-79-J	5.5	1.5	13	17	21	1	10
NG-79-K	7	3	13	17	21	1	10
NG-79-L	5.5	1.5	15	19	23	1	10
NG-79-M	7	3	15	19	23	1	10
NG-79-N	6.5	1.5	20	25	30	1.2	10
NG-79-O	8	3	20	25	30	1.2	10
NG-79-P	6.5	1.5	25	30	35	1.2	10
NG-79-Q	8	3	25	30	35	1.2	10
NG-79-R	7.5	1.5	30	36	42	1.2	10
NG-79-S	9	3	30	36	42	1.2	10
NG-74	4	1	3	5	7	1	10
NG-742	5	2	3	5	7	1	10

MHD SERIES SMALL HOLE PLUG

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

- Small hole plug for Φ5.0, Φ5.5, Φ7.0, and Φ8.0 sized holes.
- Made from TPE (Elastomer) and silicone material.
- Applicable panel installation thickness between 1.0mm ~ 3.0mm.

Product no. / Dimensions

Product no.	Material	Color	Mounting hole	A	B	C	D	Pack of
MHD-5	TPE	Black	Φ5	7	5.2	5.7	3.5	10
MHD-5.5	Silicone	Black	Φ5.5	7	5.6	5	3	10
MHD-7	TPE	Black	Φ7	9	7.2	5.7	3.5	10
MHD-8	TPE	Black	Φ8	10	8.2	5.7	3.5	10

HPL SERIES HOLE PLUG

- Hole plug for the unused holes.

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

Product no. / Dimensions

■ Material / Color : PA66 UL94V-2 / Black

Product no.	A	B	C	D	Mounting hole	Panel thickness	Pack of
HPL- 8	7.6	10.4	8.1	1.6	Φ8	1.5/1.6	10
HPL-10	9.5	13	10.5	1.6	Φ9.5	1.0/2.0/2.5	10
HPL-13	12.5	16.7	10.9	1.6	Φ12.5	1.0/1.5/2.0/3.0	10
HPL-16	15.8	19.8	10	1.1	Φ16	1.0/1.2/3.0	10
HPL-19	18.9	23.2	10	1.4	Φ19	1.0/1.2	10
HPL-22	22	26	11.3	1.6	Φ22	1.0/1.2/2.0	10
HPL-25	25.4	29.1	12.3	2.4	Φ25.5	1.0/1.2/2.0	10
HPL-30	30	35	12	1.6	Φ30	1.0/1.2/2.0	10

■ Confirm first for usability on panel thickness not listed in the above chart.

JKG SERIES HOLE EDGE PROTECTOR

- Install protector on the cut edge of the hole on the panel to protect cables and components from damage.
- Cut into suitable lengths to fit the hole.

Product no. / Dimensions

■ Material / Color : PA66 UL94V-2 / Natural

Product no.	A	B	C	Panel thickness	Pack of
JKG006N	0.6	3.1	3.8	0.5 ~ 0.7	10
JKG008N	0.8	3.1	3.8	0.7 ~ 0.9	10
JKG010N	1	3.3	3.8	0.9 ~ 1.1	10
JKG012N	1.2	3.5	3.8	1.1 ~ 1.3	10
JKG014N	1.4	3.7	3.8	1.3 ~ 1.5	10
JKG016N	1.6	3.9	3.8	1.4 ~ 1.7	10
JKG020N	2	4.3	3.8	1.8 ~ 2.0	10
JKG030N	3	6.2	4.8	2.5 ~ 3.0	10

AGE SERIES COOLING FAN

NEW

Heat Resistant

■ Affordable Cooling Fan AGE series is now available.

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

AGE02510B

Lead wire UL1571 AWG28

AGE03010B

Lead wire UL1571 AWG28

AGE04010B

Lead wire UL1007 AWG26

AGE05010B

Lead wire UL1007 AWG26

AGE06010B

Lead wire UL1007 AWG26

AGE08020B

Lead wire UL1007 AWG28

Product no. / Dimensions

Product no.	Outer dimensions (mm)	Rated voltage (V)	Voltage range (V)	Rated current (A)	Rated input (W)	Max airflow (m3/min)	Max static pressure (pa)	Rotation speed (min-1)	Operating temperature	Life expectancy (H)
NEW AGE02510B	25.0 x 25.0 x 10.0	DC 5	4.5□ 5.5	0.12	0.6	0.04	18.6	7,000	-10°C ~ +50°C	70,000
NEW AGE03010B	30.0 x 30.0 x 10.5	DC12	7.0□13.2	0.05	0.6	0.08	22.4	6,000	-10°C ~ +50°C	70,000
NEW AGE04010B	40.0 x 40.0 x 10.0	DC12	7.0□13.2	0.09	1.08	0.13	13.9	4,000	-10°C ~ +50°C	70,000
NEW AGE05010B	50.0 x 50.0 x 10.0	DC12	7.0□13.2	0.07	0.84	0.3	34.9	5,500	-10°C ~ +50°C	70,000
NEW AGE06010B	60.0 x 60.0 x 10.5	DC12	7.0□13.2	0.3	3.6	0.4	20.4	3,500	-10°C ~ +50°C	70,000
NEW AGE08020B	80.0 x 80.0 x 20.0	DC12	7.0□13.2	0.07	0.84	0.78	22.4	2,400	-10°C ~ +50°C	70,000

■ Life expectancy is measured under normal operational conditions.

HF-G SERIES FAN GUARD

NEW SIZE

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

■ Material : Steel wire

HF-G30 ~ 120

Product no. / Dimensions

■ Shape vary by model.

Product no.	A	B	C	D	a	Surface finish
HF-G 30	26	24	4.5	1.4	M3	Chorome plated
HF-G 40	29	32	5	1.6	M3 and M4	Nickel chrome plated
HF-G 50	41	42	5	1.6	M3 and M4	Nickel chrome plated
HF-G 60	53	50	4.5	1.6	M4	Nickel chrome plated
HF-G 80	76.5	71.5	5	1.8	M4	Nickel chrome plated
HF-G 90	85.5	82.5	5	1.8	M4	Nickel chrome plated
HF-G120	115	104.8	3.6	1.8	M4	Nickel chrome plated
NEW HF-G172	154	162	6.5	2.3	M4	Nickel chrome plated

HF-G172

HF SERIES COOLING FAN

Heat Resistant

HF2510AL-05

Lead wire UL3302HF AWG28

HF0312ES-12

Lead wire UL1685LF AWG28

~~HF0410N-12~~

※Cross out products are discontinued.

Lead wire UL1007 AWG26

HF0510ET-12

Lead wire UL1685LF AWG28

~~HF0610-12~~ ※Cross out products are discontinued.

Lead wire UL1007 AWG26

HF0820SA-12

Lead wire UL3385 AWG26

Product no. / Dimensions

Product no.	Outer dimensions (mm)	Rated voltage (V)	Voltage range (V)	Rated current (A)	Rated input (W)	Max airflow (m3/min)	Max static pressure (pa)	Rotation speed (min-1)	Operating temperature	Life expectancy (H)
HF2510AL-05	25.0 x 25.0 x 10.2	DC 5	4.5 ~ 5.5	0.15	0.75	0.048	18	8,000	−10 ~ +100°C	50,000
HF0312ES-12	30.0 x 30.0 x 10.2	DC12	10.2 ~ 13.8	0.15	1.8	0.1	36	7,500	−10 ~ +100°C	50,000
~~HF0410N -12~~	~~40.0 x 40.0 x 10.4~~	~~DC12~~	~~10.2 ~ 13.8~~	~~0.09~~	~~1.08~~	~~0.12~~	~~31.4~~	~~5,100~~	~~−5 ~ +60°C~~	~~50,000~~
HF0510ET-12	50.0 x 50.0 x 10.0	DC12	10.2 ~ 13.8	0.25	3	0.33	33	5,600	−10 ~ +100°C	50,000
~~HF0610 -12~~	~~60.0 x 60.0 x 10.3~~	~~DC12~~	~~10.2 ~ 13.8~~	~~0.1~~	~~1.2~~	~~0.33~~	~~16.7~~	~~3,300~~	~~−5 ~ +60°C~~	~~50,000~~
HF0820SA-12	80.0 x 80.0 x 20.0	DC12	6.0 ~ 13.2	0.13	1.56	1.13	52.8	3,700	−10 ~ +70°C	40,000

■ Life expectancy is measured under normal operational conditions.

※Cross out products are discontinued.

HF-G SERIES FINGER GUARD

※Cross out products are discontinued.

■ Material : Steel wire

Product no. / Dimensions

■ Shape vary by model.

Product no.	A	B	C	D	a	Finish
HF-G 30	26	24	4.5	1.4	M3	Chrome plated
HF-G 40	28.5	32	5	1.6	M3 and M4	Nickel plated
HF-G 50	41	42	5	1.6	M3 and M4	Nickel plated
HF-G 60	53	50	4.5	1.6	M4	Nickel plated
HF-G 80	76.5	71.5	5.5	1.8	M4	Nickel plated
HF-G 90	85.5	82.5	5	1.8	M4	Nickel plated
HF-G120	115.5	104.8	6	1.8	M4	Nickel plated

HF-P SERIES FILTER FRAME

Heat Resistant

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

HF-P40 • HF-P60
※Drawings for HF-P60 model

HF-P80 • HF-P90 • HF-P120
※Drawings for HF-P80 model.

Components

No.	Part name	Material	Color
1	Base frame	ABS UL94V-0	Black
2	Cover	ABS UL94V-0	Black
3	Filter	Polyurethane foam	Gray

Product no. / Dimensions

■ Shape vary by model.

Product no.	A	B	C	D	a	b	c
HF-P 40	40	6.3	37	3.2	32	–	M3
HF-P 60	59.6	6.5	55.9	3.2	50	–	M4
HF-P 80	83.4	9.8	80	6.5	–	71.5	M4
HF-P 90	96.2	9.7	92	6.3	–	82.5	M4
HF-P120	123.7	10.8	117.2	7.3	–	104.8	M4

HR SERIES FILTER

■ Replacement filter for HF-P filter frame.
■ Can also be used as a dustproof filter over vent holes.

Product no. / Dimensions

Product no.	W	H	t
HR0520	200	50	3
HR1030	300	100	3
HR2550	500	250	3

■ Material / Color : Polyurethane foam / Gray

EMF SERIES EMC SHIELDED FILTER FRAME

EMC Shielding Effects

■ Use for EMC shielding on the hole for cooling fan.

Components

Frame material	Filter material	Mesh
Aluminium / Unfinished	Stainless steel	30

■ Mesh 30 = 30 openings in a 1 square inch area (25.4 x 25.4mm).

Product no. / Dimensions

Product no.	W	H	a	b	c	Matching fan size (mm)
EMF- 60	59.5	59.5	50	46	3.5	60.0 x 60.0
EMF- 80	83.8	83.8	71.5	68.8	4	80.0 x 80.0
EMF- 90	92	92	82.5	78	3.5	92.0 x 92.0
EMF-120	119	119	104.8	104.5	3.7	120.0 x 120.0

EM series PCB MOUNTING SCREW

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

Product no. / Dimensions

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

MR series TORX SCREW

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

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

Product no. / Dimensions

★Mark = Without pin

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

EV series CONDUCTIVE SCREW

NEW SIZE

Conductive

EV dimensions

Base material exposed after being shaved.

Example: Internal grounding use.

- When tightened, protrusions on the underside of the screw head will shave away at the painted or anodized surface to expose the base material for achieving conductivity.

Product no. / Dimensions

Product no.	M	L	Material	Finish	Suitable series	Pack of
EV3-5S	3	5	Steel	Nickel plated	YM • MB • others	20
NEW EV-4S	4	5	Steel	Nickel plated	BDN • others	20

PLS • MTS • PM series CAPTIVE FASTENER • CAPTIVE SCREW

NEW SIZE

PLS-1G
Plastic fastener

MTS-1
Metal fastener

MTS-3
Metal fastener

Hole layout for mounting

PLS-1G, MTS-1

MTS-3

Product no. / Dimensions **Fastener**

Product no.	M	Material	Color / Finish	Pack of
PLS-1G	2.5	POM	White gray	50
MTS-1	2.5	Steel	Zinc plated	8
NEW MTS-3	2.5	Steel	Nickel plated	10

Conductive

PM-1□

PM-2□

PM-3

PM dimensions

PM-1□ • PM-2□

Product no. / Dimensions **Screw**

Product no.	Material	Finish	L	A	B	Suitable screw driver	Pack of
PM-1B	Steel	Black trivalent chromate	10	4	1.5	#1	50
PM-1S	Steel	Chrome plated	10	4	1.5	#1	50
PM-2B	Steel	Black trivalent chromate	11	5	2	#2	50
PM-2S	Steel	Nickel plated	11	5	2	#2	50
NEW PM-3	Steel	Nickel plated	7	2.5	2	#2	50

CUTS • ALTS series

LOW COST CONDUCTIVE COPPER • ALUMINIUM FOIL SHEET

NEW

CUTS

ALTS

EMC Shielding Effects

- Flexible copper and aluminium sheet.
- 257 x 182mm (B5 size) and 297 x 210mm (A4 size) are available. Convenient for usage in shielding a wide area, or for cutting into unique shapes to fit unusual surface structures.
- Conductive adhesive usage allows conductivity to be maintained without a reduction of the shielding effect.
- Copper sheet can be soldered onto a metal foil.

Usage

- Grounding and shielding for enclosures.
- Grounding and shielding for cable harnesses or connectors.
- Anti-static characteristics for inhibitation of triboelectric charging.

Layer details

Contents	Copper foil (rolled)	Aluminium foil
Foil thickness (μm)	36	50
Adhesive layer thickness (μm)	24	50
Overall thickness (μm)	60	100
Adhesive force (gl/25mm) 180° peel test on SUS	1,100	1,100
Contact resistance value (Ω/25mm/2kgf)	0.05	0.05

Copper Foil Sheet

Product no. / Dimensions

Product no.	Width (mm)	Length (mm)	Weight (g)
CUTS1825	182	257	21.5
CUTS2129	210	297	29.0

Alminium Foil Sheet

Product no. / Dimensions

Product no.	Width (mm)	Length (mm)	Weight (g)
ALTS1825	182	257	15.0
ALTS2129	210	297	20.0

Unique sized shape with holes is available as a custom order. (maximum sheet size = A4)
Mass manufacturing is also possible with the manufacture of a cutting die.

CUT•ALT series LOW COST CONDUCTIVE COPPER • ALUMINIUM FOIL TAPE

NEW

CUT

ALT

EMC Shielding Effects

- Flexible copper and aluminium tape.
- Conductive adhesive usage allows conductivity to be maintained without reduction of shielding effect.
- Copper tape can be soldered onto a metal foil.

■ **Construction**

Usage

- Grounding and shielding for enclosures.
- Grounding and shielding for cable harnesses or connectors.
- EMI shielded room.
- Can be used for measuring shield characteristics in an emergency situation.

■ **Characteristic**

Contents	Copper foil (rolled)	Aluminium foil
Foil thickness (μm)	36	50
Adhesive layer thickness (μm)	24	50
Overall thickness (μm)	60	100
Adhesive force (gf/25mm) 180° peel test on SUS	1,100	1,100
Contact resistance value (Ω/25mm/2kgf)	0.05	0.05

Copper Foil Tape

Product no. / Dimensions

Product no.	Width (mm)	Length	Weight (g)
CUT 8- 2S	8.0	2m	12.8
CUT13- 2S	13.0	2m	20.4
CUT25- 2S	25.0	2m	41.0
CUT 8-20L	8.0	20m	80.5
CUT13-20L	13.0	20m	123.7
CUT25-20L	25.0	20m	236.7
CUT50-20L	50.0	20m	481.9

Aluminium Foil Tape

Product no. / Dimensions

Product no.	Width (mm)	Length	Weight (g)
ALT 8- 2S	8.0	2m	10.8
ALT13- 2S	13.0	2m	16.4
ALT25- 2S	25.0	2m	31.2
ALT 8-20L	8.0	20m	52.9
ALT13-20L	13.0	20m	85.3
ALT25-20L	25.0	20m	164.5
ALT50-20L	50.0	20m	328.5

CUS,CUL,ALS,ALL SERIES CONDUCTIVE COPPER • ALUMINIUM FOIL TAPE

TKK
E203845

EMC Shielding Effects

- Flexible copper and aluminium tape.
- Conductive adhesive layer maintains conductivity.
- Copper tape can be soldered onto a metal foil.
- Copper and aluminium tape are UL510 (FR) certified products.

Usage

- Grounding and shielding for enclosures.
- Grounding and shielding for cable harnesses or connectors.
- EMI shielded room.
- Can be used for measuring shield characteristics in an emergency situation.

■Construction

■Characteristic

Contents	Copper	Aluminium
Foil thickness (μm)	35	50
Adhesive layer thickness (μm)	60	60
Overall thickness (μm)	95	110
Adhesive force (gl/25mm) 180° peel test on SUS	1300	1300
Contact resistance value (Ω/25mm/2kgf)	0.003	0.005

COPPER FOIL TAPE

Product no. / Dimensions

Product no.	Width	Length
CUS- 8T	8.0	2m
CUS-13T	13.0	2m
CUS-25T	25.0	2m
CUL- 8T	8.0	20m
CUL-13T	13.0	20m
CUL-25T	25.0	20m
CUL-50T	50.0	20m

ALUMINIUM FOIL TAPE

Product no. / Dimensions

Product no.	Width	Length
ALS- 8T	8.0	2m
ALS-13T	13.0	2m
ALS-25T	25.0	2m
ALL- 8T	8.0	20m
ALL-13T	13.0	20m
ALL-25T	25.0	20m
ALL-50T	50.0	20m