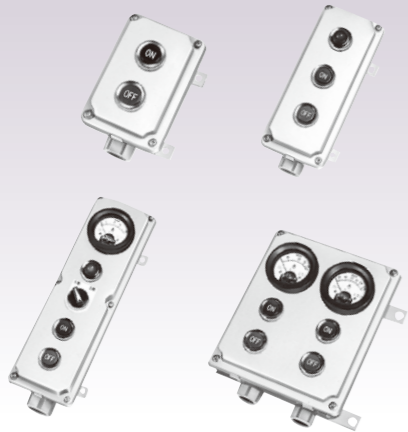


# ME·MS Series overview

## ME wall-mounted type



## MS stand type

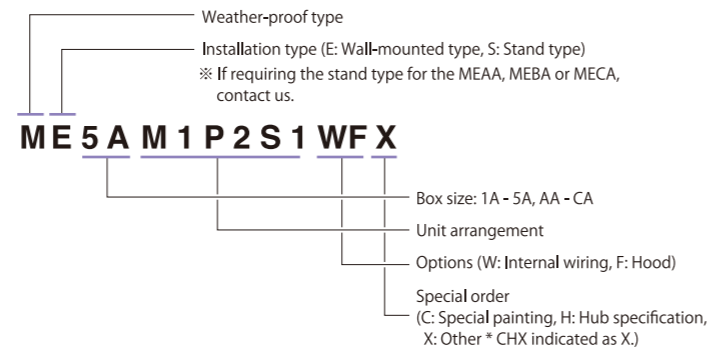


### ■ Features

- 1) Dust- and spray-proof construction equal to IP65 protection
- 2) Housed in a stainless steel box that stands up to corrosion and weather. Waterproof construction contents for use outdoors.
- 3) High brightness LEDs used for indicator lights because they are bright and easy to see. Long-lasting and maintenance-free.
- 4) Boxes come with hinges to facilitate wiring work, checks and maintenance.

### ■ Information required for orders

1) Control box model no.



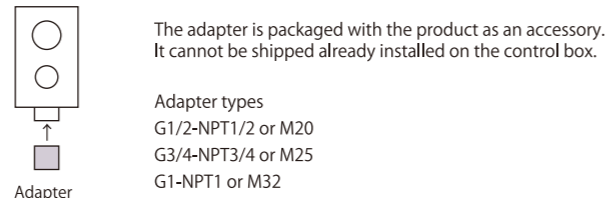
2) Installation unit specifications (For details, see p.55 - 59.)

3) Cable entry specifications

• Wall-mounted type: Select cable entry specifications from the below table. For cable wiring, select a cable gland model from p.51 - 52. However, the cable gland is provided as an accessory.

Box size	Standard cable entry specifications	
	Hub size	Hub location
ME2A	G3/4 or G1/2	1 on bottom
ME3A	G3/4 or G1/2	1 on bottom
ME5A	G3/4 or G1	1 on bottom
ME6A	G3/4 or G1/2	2 on bottom
MEAA	G1	2 on bottom
MEBA	G1	3 on bottom
MECA	G1	4 on bottom

※Optional adapters work with NPT and M threads.



• Stand type: Specify the cable outer diameter. One(1) cable can enter. Applicable cable outer diameter is within Ø8.8 - 20. The stand type is designed only for cable connection and the external cable port is fitted with packing.

### ■ Installation and connection work

- Wiring connections require either cabling and/or conduit work.
- With the stand type, use usually available foundation bolts.

### ■ Precautions for use

In normal use, these control boxes can stand up to corrosion. However if used in places where exposed to salty air or other adverse conditions, rusting and other issues may occur in a short period of time. In such case, please contact us before purchasing.

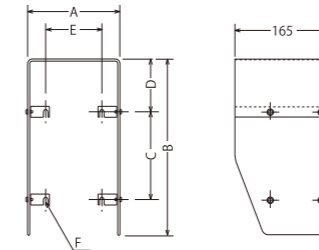
### ■ Construction of main parts

- Box: Stainless steel sheet
- Tightening bolts: Stainless steel
- Stand pole: Thick steel electrical conduit
- Stand base: Aluminum alloy
- Coating: Baked-on melamine resin (Only the outside is coated for 2-6 units control boxes.)
- Color: 5Y7/1

### ■ Optional Parts and Special Order Specifications

#### ● Hood

- Stainless steel
- Standard: no paint
- Special Order: painted with specified color



Type	A	B	C	D	E	F	Applicable models
FG2	150	200	100	59.5	95	4-φ7	ME2A/MS2A
FG3	150	295	150	84.5	95	4-φ7	ME3A/MS3A
FG5	150	400	250	84.5	95	4-φ7	ME5A/MS5A
FG6	265	290	180	64.5	210	4-φ10	ME6A/MS6A

\* Can also be manufactured for the ME1A as a customized product.  
\* Stand types (MS) cannot be retrofitted with a hood. Specify a hood when placing your order.

#### ● Internal Wiring

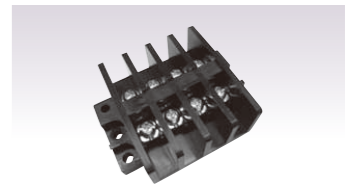
- Internal terminal block is provided as well as standard wiring between units and the terminal block.
- For special units arrangement and wiring, please contact us.
- Control boxes with internal wiring are not the same as those without internal wiring. Thus, terminal blocks cannot be added at customer's side.

#### Max. internal terminals

ME1A	—
ME(S)2A	4P
ME(S)3A	8P
ME(S)5A	12P
ME(S)6A	16P
MEAA	24P
MEBA	36P
MECA	64P

#### ● Internal Terminal Block

- Rating: 500 V, 25 A
- Max. connectable wire gauge: 3.5 mm<sup>2</sup>
- Terminal screw: M4 x 10



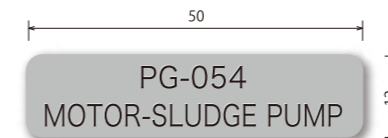
#### ● Wire Mark (Special Order)

For control boxes with internal wiring, wire mark can be provided as a special order.



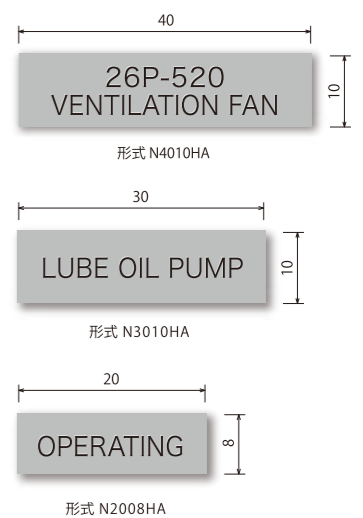
#### ● Name Plate

- Model no. N5012HA
- Acrylic, t2 thick, adhesive type
- Black letters etched from backside on white background
- Round gothic font (Character limit applies.)
- ※Stainless steel name plate is also available as a special order.



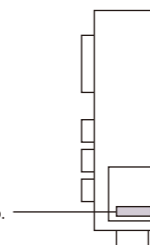
#### ● Unite Name Plate

- Acrylic, t2 thick, adhesive type
- Black letters etched from backside on white background
- Round gothic font (with letter limit)
- ※Stainless steel name plate is also available as a special order.



#### ● Manufacture Label

- Standard: Tetoron® Film
- Special Order: Stainless steel



\* For repeat orders, provide the 6-digit serial No.

#### ● Tropical Treatment (Special Order)

Unit terminal screws are changed to stainless steel screws.

Degree of protection  
IP 65

Specifications of units ● Individual sale of these units is only for maintenance purpose.

Ammeter symbol  $\text{M}$

MUM (AC Ammeter)



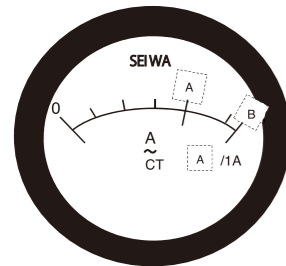
Weight : 440g

Class : 2.5 class  
 Direct current graduation : 5A, 3A, 1A  
 CT correspondence current graduation : 3A, 5A, 10A, 15A, 20A, 30A, 40A, 50A, 60A, 75A, 100A, 150A  
 CT secondary current : 5A, 1A  
 Extension scale : ×3 (standard) , ×2 (special)  
 Demand : 1.3VA (5A) 0.9VA (1A)

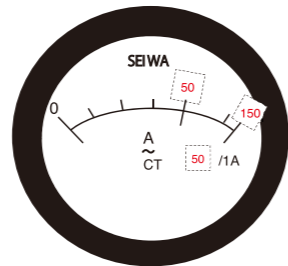
- Please Specify
- 1) Extension scale (x3 or x2)
  - 2) CT Ratio
  - 3) Red Needle provided (special) / not provided (standard)

CONFIRMATION SHEET FOR AMMETER (AC)

[Example 1 : AC ammeter 3-Fold 50/1A · w/o Red needle]



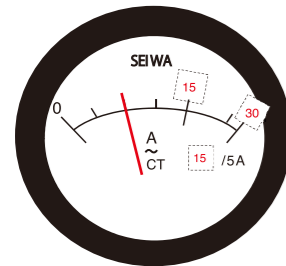
Type	■ Weather-proof
Extended Scale	<input type="checkbox"/> 3-Fold <input type="checkbox"/> 2-Fold
Red Needle	<input type="checkbox"/> NOT provided <input type="checkbox"/> Provided
CT Ratio(A)	/
A	
B	



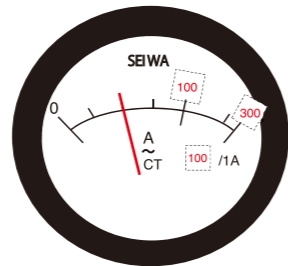
Type	■ Weather-proof
Extended Scale	<input checked="" type="checkbox"/> 3-Fold <input type="checkbox"/> 2-Fold
Red Needle	<input checked="" type="checkbox"/> NOT provided <input type="checkbox"/> Provided
CT Ratio(A)	50 / 1
A	50
B	150

[Example 2 : AC ammeter 2-Fold 15/5A · with Red needle]

[Example 3 : AC ammeter 3-Fold 100/1A · with Red needle]



Type	■ Weather-proof
Extended Scale	<input type="checkbox"/> 3-Fold <input checked="" type="checkbox"/> 2-Fold
Red Needle	<input type="checkbox"/> NOT provided <input checked="" type="checkbox"/> Provided
CT Ratio(A)	15 / 5
A	15
B	30



Type	■ Weather-proof
Extended Scale	<input checked="" type="checkbox"/> 3-Fold <input type="checkbox"/> 2-Fold
Red Needle	<input type="checkbox"/> NOT provided <input checked="" type="checkbox"/> Provided
CT Ratio(A)	100 / 1
A	100
B	300

Degree of protection  
IP 65

Specifications of units ● Individual sale of these units is only for maintenance purpose.

Ammeter symbol  $\text{M}$

MUM (DC Ammeter)



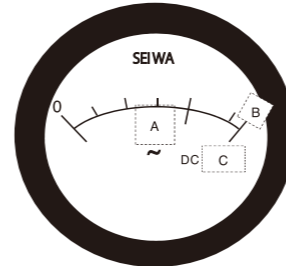
Weight : 440g

Class : 2.5 class  
 Input current : DC 4~20mA\*1  
 Scale : 0-50A, 0-100rpm, 0-60Hz, 0-100%, etc.  
 ※1 We can prepare Input current DC 0-1 A , and Input voltage 0-10 V.

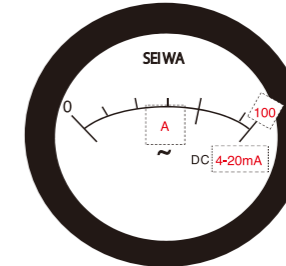
- Please Specify
- 1) Input current
  - 2) Scale
  - 3) Red Needle provided (special) / not provided (standard)

CONFIRMATION SHEET FOR AMMETER (DC)

[Example 1 : DC ammeter  
Input :DC4-20mA · Scale 0-100A · w/o Red needle]



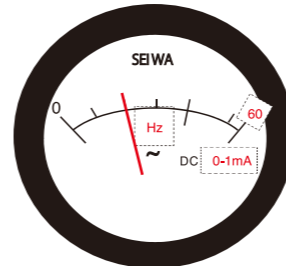
Type	■ Weather-proof
Input(C)	<input type="checkbox"/> DC 4 ~ 20mA <input type="checkbox"/> DC 0 ~ 1mA <input type="checkbox"/> DC 0 ~ 10V
Red Needle	<input type="checkbox"/> NOT provided <input type="checkbox"/> Provided
Scale	0 ~
A (=Unit)	
B (=Range)	



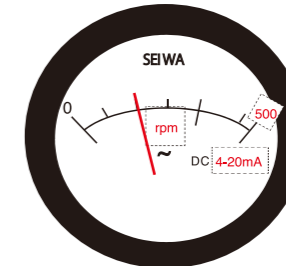
Type	■ Weather-proof
Input(C)	<input checked="" type="checkbox"/> DC 4 ~ 20mA <input type="checkbox"/> DC 0 ~ 1mA <input type="checkbox"/> DC 0 ~ 10V
Red Needle	<input checked="" type="checkbox"/> NOT provided <input type="checkbox"/> Provided
Scale	0 ~ 100
A (=Unit)	A
B (=Range)	100

[Example 2 : DC ammeter (Frequency meter)  
Input :DC0-1mA · Scale 0-60Hz · with Red needle]

[Example 3 : DC ammeter (RPM meter)  
Input :DC4-20mA · Scale 0-500rpm · with Red needle]



Type	■ Weather-proof
Input(C)	<input type="checkbox"/> DC 4 ~ 20mA <input checked="" type="checkbox"/> DC 0 ~ 1mA <input type="checkbox"/> DC 0 ~ 10V
Red Needle	<input type="checkbox"/> NOT provided <input checked="" type="checkbox"/> Provided
Scale	0 ~ 60
A (=Unit)	Hz
B (=Range)	60



Type	■ Weather-proof
Input(C)	<input checked="" type="checkbox"/> DC 4 ~ 20mA <input type="checkbox"/> DC 0 ~ 1mA <input type="checkbox"/> DC 0 ~ 10V
Red Needle	<input type="checkbox"/> NOT provided <input checked="" type="checkbox"/> Provided
Scale	0 ~ 500
A (=Unit)	rpm
B (=Range)	500

Degree of protection  
IP 65

Specifications of units ● Individual sale of these units is only for maintenance purpose.

Pilot Lamp symbol (L)

**DR30D0L series**

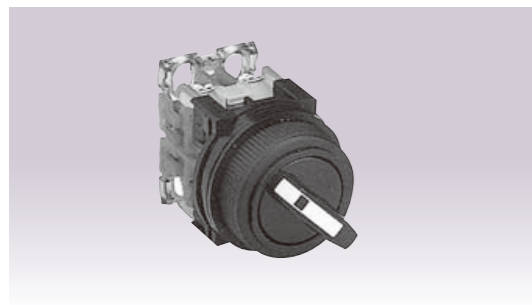


Light Source : LED  
Demand : 1.5VA  
Rated Voltage : 100 - 110V, 200 - 220V, or 220 - 254V  
Lens Color : Red, Green, Orange, Milk White  
The lens is made of Plastics.

- Please Specify
- 1) Rated Voltage
- 2) Lens Color

Selector Switch symbol (S)

**AR30PR series**



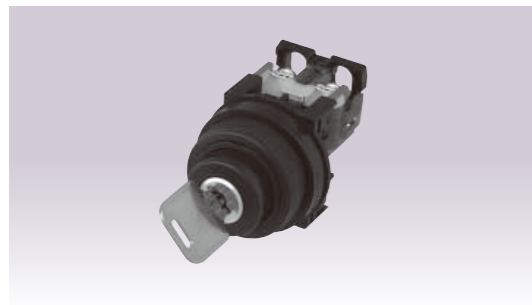
No. of Notch : 2-notch, 3-notch,  
Contact : 1a, 1b, 1a1b(over-lap), 2a, 2a2b

Letter ( On unit name plate ) : ON / OFF, MAN / AUTO, MAN / OFF / AUTO  
Other letters are available.

- Please Specify
- 1) No. of Notch
- 2) Contact
- 3) Letter

Key Selector Switch symbol (S)

**AR30JR series**



No. of Notch : 2-notch, 3-notch,  
Contact : 1a, 1b, 1a1b(over-lap), 2a, 2a2b

Letter ( On unit name plate ) : ON / OFF, MAN / AUTO, MAN / OFF / AUTO  
Other letters are available.

- Please Specify
- 1) No. of Notch
- 2) Contact
- 3) Letter

Degree of protection  
IP 65

Specifications of units ● Individual sale of these units is only for maintenance purpose.

Pushbutton Switch symbol (P)

**AR30F0R series**



Contact : 1a, 1b, 1a1b  
Color : Black, Red, Green  
Letter : ON / OFF / START / STOP / FOR / REV  
Other letters are available.

- Please Specify
- 1) Contact
- 2) Color
- 3) Letter

Pin-lock Type Pushbutton Switch symbol (P)

**AR30GPR series**

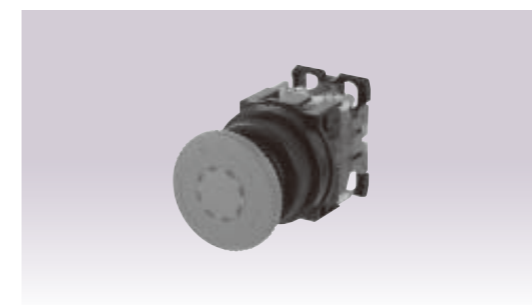


Contact : 1a, 1b, 1a1b  
Color : Black, Red, Green  
Letter ( On unit name plate. ) : OFF / STOP  
Other letters are available.

- Please Specify
- 1) Contact
- 2) Color
- 3) Letter

Push-lock Type Pushbutton Switch symbol (P)

**AR30V2R series**



Contact : 1b, 1a1b  
Color : Red only  
Letter ( On unit name plate. ) : EMERGENCY STOP / STOP  
Other letters are available.

- Please Specify
- 1) Contact
- 2) Letter

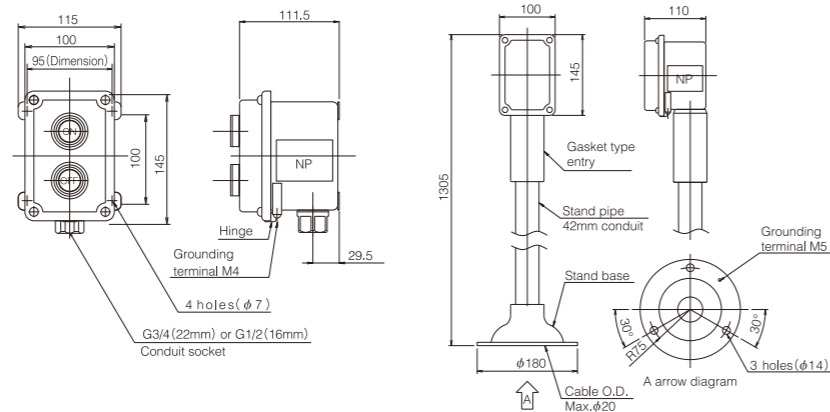
Rating for Selector Switches and Push Buttons

Rated operating voltage & current	AC			DC		
	Rated operating voltage (V)	Rated operating current (A)		Rated operating voltage (V)	Rated operating current (A)	
		AC15 (coil load)	AC12 (resistance load)		DC13 (coil load)	DC12 (resistance load)
24	6	10	24	6	6	
110	6	10	110	1.3	2.5	
220	6	10	220	0.45	1	
440	2.5	5	—	—	—	
550	2	3	—	—	—	
Insulation	AC, DC600V					
Rated carried current	10A					



Combination of 1 or 2 units

Degree of protection  
IP 65



Unit arrangement	1		2		3		4		5	
Connection	RL 1-⊗-2		ON 1-○-2		OFF 1-○-2		EMERGENCY STOP 1-○-2		MANU AUTO 1-○-2 ○-○-3	
Provision of wiring	no	yes	no	yes	no	yes	no	yes	no	yes
Wall-mounted type	ME2AL1	ME2AL1W	ME2AP1	ME2AP1W	ME2AP1	ME2AP1W	ME2AP1	ME2AP1W	ME2AS1	ME2AS1W
Stand type	MS2AL1	MS2AL1W	MS2AP1	MS2AP1W	MS2AP1	MS2AP1W	MS2AP1	MS2AP1W	MS2AS1	MS2AS1W

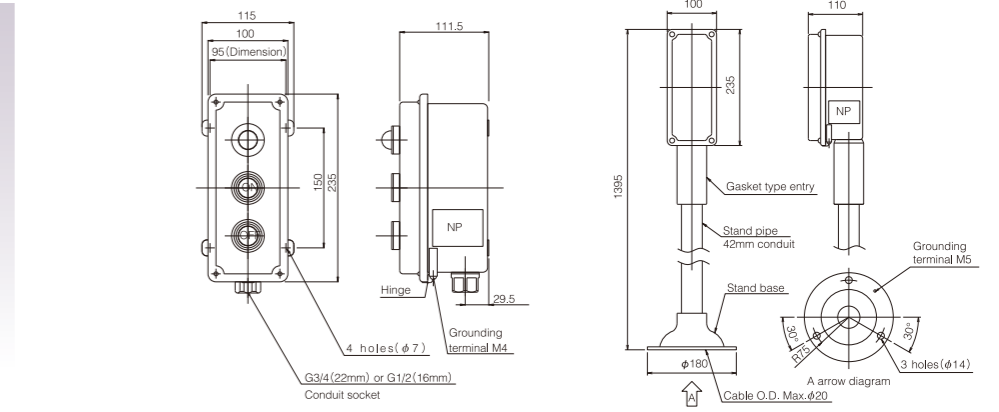
Unit arrangement	6		7		8		9		10	
Connection	RL 1-⊗-2 GL 3-⊗-4		ON 1-○-2 OFF 3-○-4		RL 1-⊗-2 ON 3-○-4		RL 1-⊗-2 OFF ON 3-○-4		OFF ON 1-○-2 OFF ON 3-○-4	
Provision of wiring	no	yes	no	yes	no	yes	no	yes	no	yes
Wall-mounted type	ME2AL2	ME2AL2W	ME2AP2	ME2AP2W	ME2AL1P1	ME2AL1P1W	ME2AL1S1	ME2AL1S1W	ME2AS2	ME2AS2W
Stand type	MS2AL2	MS2AL2W	MS2AP2	MS2AP2W	MS2AL1P1	MS2AL1P1W	MS2AL1S1	MS2AL1S1W	MS2AS2	MS2AS2W

Mass : max.0.8kg (ME2AL2)

(M).....Ammeter (L).....Pilot lamp (S).....Selector switch (P).....Pushbutton switch

Combination of 3 units

Degree of protection  
IP 65



Unit arrangement	1		2		3		4	
Connection	1-⊗-2 3-⊗-4 5-⊗-6		RL 1-⊗-2 ON 3-○-4 5-○-6		FOR 1-○-2 REV 3-○-4 STOP 5-○-6		RL 1-⊗-2 GL 3-⊗-4 MANU AUTO 4-○-5 STOP 6-○-6	
Provision of wiring	no	yes	no	yes	no	yes	no	yes
Wall-mounted type	ME3AL3	ME3AL3W	ME3AL1P2	ME3AL1P2W	ME3AP3	ME3AP3W	ME3AL2S1	ME3AL2S1W
Stand type	MS3AL3	MS3AL3W	MS3AL1P2	MS3AL1P2W	MS3AP3	MS3AP3W	MS3AL2S1	MS3AL2S1W

Unit arrangement	5		6		7		8	
Connection	MANU AUTO 1-○-2 OFF ON 3-○-4 4-○-5 6-○-6 OFF		1-M-2 ON 3-○-4 5-○-6 OFF		OFF ON 1-○-2 OFF ON 3-○-4 OFF ON 5-○-6 OFF ON 6-○-6		RL 1-⊗-2 GL 3-⊗-4 4-○-5	
Provision of wiring	no	yes	no	yes	no	yes	no	yes
Wall-mounted type	ME3AS1P2	ME3AS1P2W	ME3AM1P2	ME3AM1P2W	ME3AS3	ME3AS3W	ME3AL2P1	ME3AL2P1W
Stand type	MS3AS1P2	MS3AS1P2W	MS3AM1P2	MS3AM1P2W	MS3AS3	MS3AS3W	MS3AL2P1	MS3AL2P1W

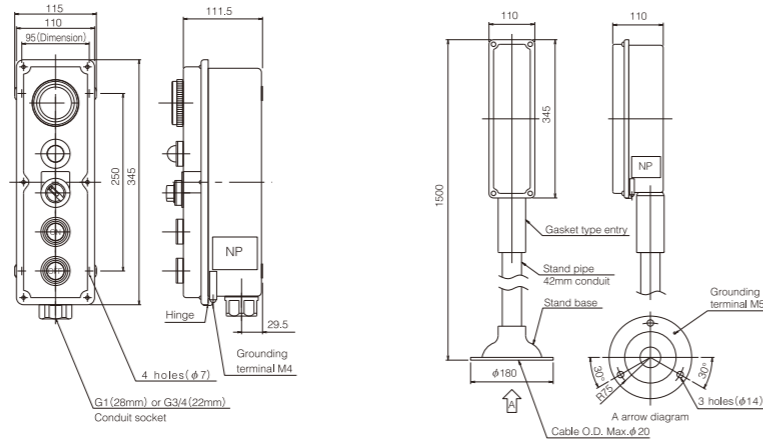
Mass : max.1.2kg (ME3AM1P2)

(M).....Ammeter (L).....Pilot lamp (S).....Selector switch (P).....Pushbutton switch

ME-MS

Combination of 4 or 5 units

Degree of protection  
IP 65



Unit arrangement	1		2		3		4		5	
Connection										
Provision of wiring	no	yes	no	yes	no	yes	no	yes	no	yes
Wall-mounted type	ME5AL2P2	ME5AL2P2W	ME5AL1S1P2	ME5AL1S1P2W	ME5AM1S1P2	ME5AM1S1P2W	ME5AM1L1P2	ME5AM1L1P2W	ME5AM1P3	ME5AM1P3W
Stand type	MS5AL2P2	MS5AL2P2W	MS5AL1S1P2	MS5AL1S1P2W	MS5AM1S1P2	MS5AM1S1P2W	MS5AM1L1P2	MS5AM1L1P2W	MS5AM1P3	MS5AM1P3W

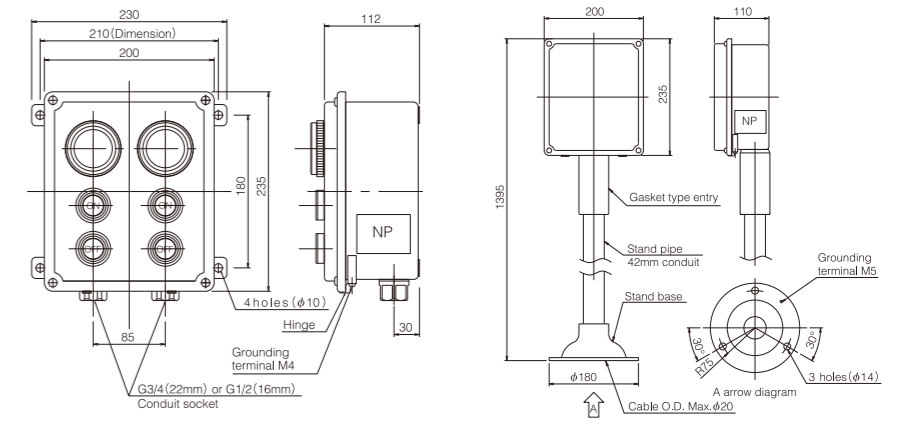
Unit arrangement	6		7		8		9		10	
Connection										
Provision of wiring	no	yes	no	yes	no	yes	no	yes	no	yes
Wall-mounted type	ME5AL2P3	ME5AL2P3W	ME5AL2S1P2	ME5AL2S1P2W	ME5AM1L1S1P2	ME5AM1L1S1P2W	ME5AM1L2P2	ME5AM1L2P2W	ME5AM1L1P3	ME5AM1L1P3W
Stand type	MS5AL2P3	MS5AL2P3W	MS5AL2S1P2	MS5AL2S1P2W	MS5AM1L1S1P2	MS5AM1L1S1P2W	MS5AM1L2P2	MS5AM1L2P2W	MS5AM1L1P3	MS5AM1L1P3W

Mass : max.2.1kg (ME5AM1L2P2)

(M).....Ammeter (L).....Pilot lamp (S).....Selector switch (P).....Pushbutton switch

Combination of 6 units

Degree of protection  
IP 65



Unit arrangement	1		2		3	
Connection						
Provision of wiring	no	yes	no	yes	no	yes
Wall-mounted type	ME6AL6	ME6AL6W	ME6AP6	ME6AP6W	ME6AL2P4	ME6AL2P4W
Stand type	MS6AL6	MS6AL6W	MS6AP6	MS6AP6W	MS6AL2P4	MS6AL2P4W

Unit arrangement	4		5		6	
Connection						
Provision of wiring	no	yes	no	yes	no	yes
Wall-mounted type	ME6AS2P4	ME6AS2P4W	ME6AM2P4	ME6AM2P4W	ME6AL4S2	ME6AL4S2W
Stand type	MS6AS2P4	MS6AS2P4W	MS6AM2P4	MS6AM2P4W	MS6AL4S2	MS6AL4S2W

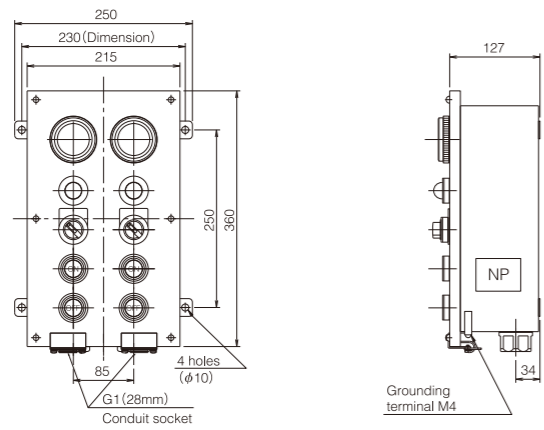
Mass : max.2.5kg (ME6AM2P4)

(M).....Ammeter (L).....Pilot lamp (S).....Selector switch (P).....Pushbutton switch

ME-MS

### Combination of 8 or 10 units

Degree of protection  
**IP 65**



- If you need a stand type version of the MEAA series models, consult us.
- Only in the MEAA series models, coating is applied to both the inside and outside surfaces (melamine resin coating, colour 5Y7/1)

Unit arrangement	1		2		3		4	
Connection								
Provision of wiring	no	yes	no	yes	no	yes	no	yes
Wall-mounted type	MEAAL4P4	MEAAL4P4W	MEAAL2S2P4	MEAAL2S2P4W	MEAAM2L2P4	MEAAM2L2P4W	MEAAL4S2P4	MEAAL4S2P4W

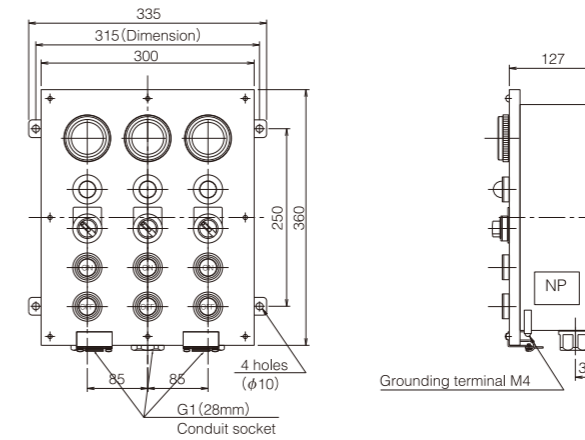
Unit arrangement	5		6	
Connection				
Provision of wiring	no	yes	no	yes
Wall-mounted type	MEAAL4P6	MEAAL4P6W	MEAAM2L2S2P4	MEAAM2L2S2P4W

Mass : max.5.1kg (MEAAM2L2S2P4)

(M).....Ammeter (L).....Pilot lamp (S).....Selector switch (P).....Pushbutton switch

### Combination of 12 or 15 units

Degree of protection  
**IP 65**



- Combination of 24 units (MECA) is also available upon request.
- If you need a stand type version of the MEBA and MECA series models, consult us.
- Only in the MEBA and MECA series models, coating is applied to both the inside and outside surfaces (melamine resin coating, colour 5Y7/1)

Unit arrangement	1		2		3	
Connection						
Provision of wiring	no	yes	no	yes	no	yes
Wall-mounted type	MEBAL6P6	MEBAL6P6W	MEBAL3S3P6	MEBAL3S3P6W	MEBAM3L3P6	MEBAM3L3P6W

Unit arrangement	4		5	
Connection				
Provision of wiring	no	yes	no	yes
Wall-mounted type	MEBAL6S3P6	MEBAL6S3P6W	MEBAM3L3S3P6	MEBAM3L3S3P6W

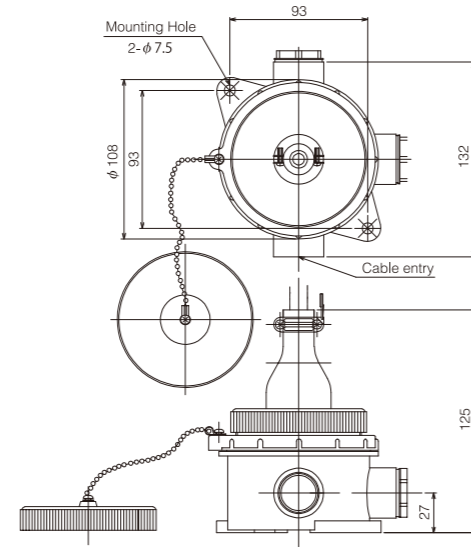
Mass : max.6.5kg (MEBAM3L3S3P6)

(M).....Ammeter (L).....Pilot lamp (S).....Selector switch (P).....Pushbutton switch

Degree of protection  
IP 54

For Indoor and Outdoor Use

TSN



Model	Rated voltage	Rated current	Weight	No. of Poles	Applicable cable outer diameter
TSN-401	125V AC	15A	0.5kg	2P	φ 10.5~ φ 12.0
TSN-402				2P+E	φ 11.0~ φ 13.0
TSN-403	250V AC			2P+E	φ 11.0~ φ 13.0
TSN-404				3P+E	φ 12.0~ φ 14.0

Material  
Main Body : aluminum alloy casting  
Coating : Meramine Resin Painting  
Painting Color : 5Y7/1

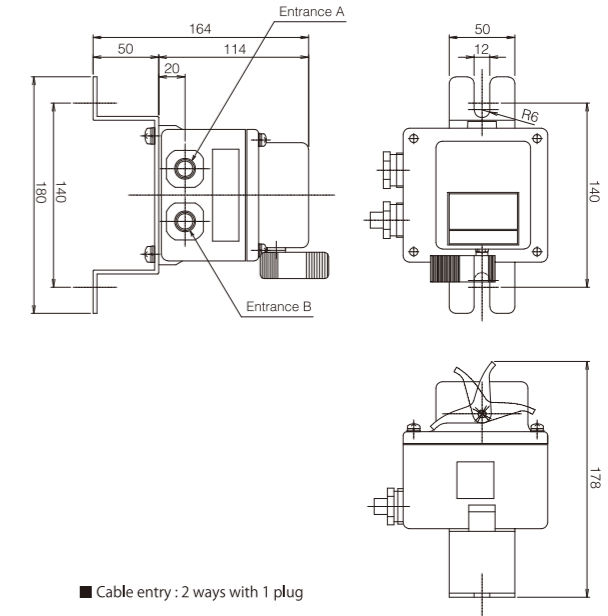
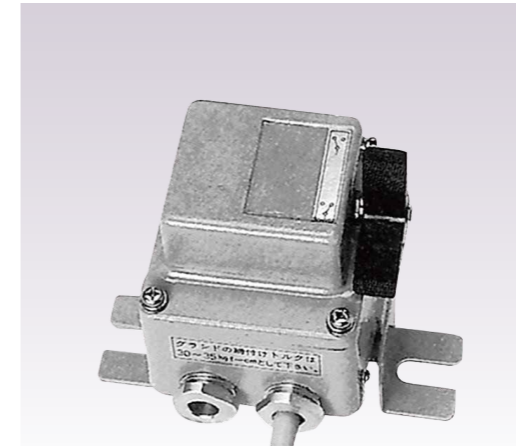
Ambient Temperature : 20°C~+40°C

Cable entry : G3/4<sup>ø</sup>, G1/2, NPT3/4, NPT1/2, M25, M20  
※ 1 standard

Degree of protection  
IP 67

For Indoor and Outdoor Use

TSW



Catalogue No.	Entrance A (Applicable cable outer diameter)	Entrance B	Poles number	Rated voltage	Rated current
TSW-1	A φ 10~ φ 13	Blind plug	The piece ardently	300V AC	20A
	B φ 14~ φ 17				
TSW-2	A φ 10~ φ 13	Blind plug	Both ardently		
	B φ 14~ φ 17				
TSW-3	A φ 10~ φ 13	Blind plug	3 roads		
	B φ 14~ φ 17				
TSW-4	A φ 10~ φ 13	Blind plug	4 roads		
	B φ 14~ φ 17				

Material  
Main Body : aluminum alloy casting

Ambient Temperature : 20°C~+40°C