

DC Ammeter (Moving Coil Type) - MF

AMMETER

Max. Scale Value	Approx. Internal Resistance or Voltage Drop		Accessory
	MF-17, 15	MF-10	
100μA	4kΩ	550Ω	—
200μA	1.8kΩ	450Ω	
500μA	510Ω	66Ω	
1mA	160Ω	48Ω	
2mA	81Ω	7.2Ω	
5mA	12Ω	12Ω	
10mA	6Ω	2Ω	
20mA	3Ω	1.7Ω	
30mA~500mA	60mV		
1A~10kA ⁽¹⁾	60mV		

▶ Meter up to 1Ω will manufacture when lead wire resistance value 0.07Ω is exceeds. Please specify.

Lead Wire Resistance Value

Cross Section (mm ²)	Annealed Copper (Ω/m)	Remarks
1.25	0.0165	JIS C 3317 (HIV) JIS C 3307 (IV) Twist wire
2.0	0.00924	
3.5	0.00520	

▶ Meter built-in adjustable resistor for external resistance corrective can be manufacture.

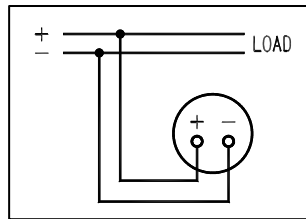
▶ Meter both deflection also can be manufacture.

Note:

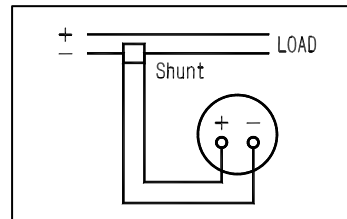
⁽¹⁾ When 1A is exceeds, shunt will external to meter 60mV. Meter 50mV, 100mV also can be manufacture.

⁽²⁾ Lead wire of shunt is not attached. Standard lead wire resistance is 0.07Ω (1.25mm²)

Connection Diagram

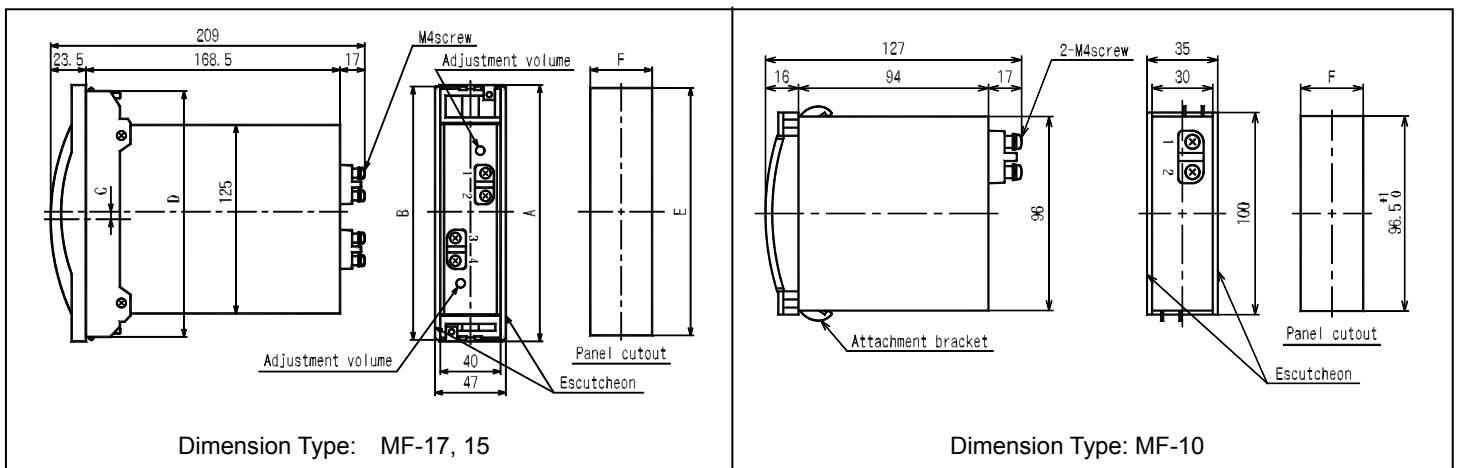


Ammeter



Ammeter external with Shunt

Dimensions



Dimension Type: MF-17, 15

Dimension Type: MF-10

Type	A	B	C	D	E	F		Weight (g)	
						1 unit	2-unit or above	1 pointer	2-pointer
MF-17	168	170	4	163	164 ± 0.5	41 ⁺¹ / ₋₀	(41 × n) ⁺¹ / ₋₀	400	500
MF-15	148	150	0	145	146 ± 0.5	41 ⁺¹ / ₋₀	(41 × n) ⁺¹ / ₋₀	400	500
MF-10	—					31 ⁺¹ / ₋₀	(30 × n) ⁺¹ / ₋₀ + 1	160	/

Please assemble the meter in the center of the panel if you need continuous assemble.
Or please contact and discuss with us if you need to continuous assemble more than 10 units.

* n = unit of meter

DC Voltmeter (Moving Coil Type) - MF

VOLTMETER

Max. Scale Value	Approx. Internal Resistance or Voltage Drop	Accessory
	MF-17, 15, 10	
50mV~900mV	4mA	—
1V~600V ⁽¹⁾	1mA	
750V/1mA ⁽²⁾ ? 25kV/1mA	1mA	Series resistor

Note:

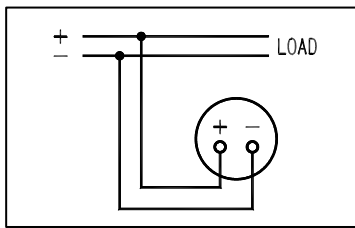
⁽¹⁾ Internal resistance until 5kΩ/V will be manufacture when voltmeter 1V is exceeds.

⁽²⁾ When 600V is exceeds, series resistor will external to meter 1mA.

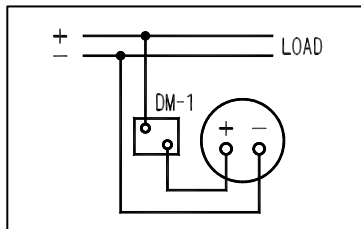
▶ Meter both deflection also can be manufacture.

▶ External overvoltage protection to voltmeter 500mV also can be manufacture.

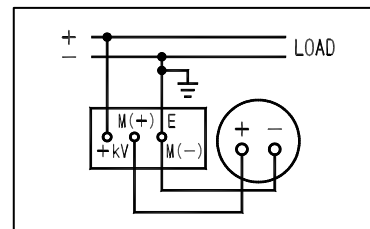
Connection Diagram



Voltmeter

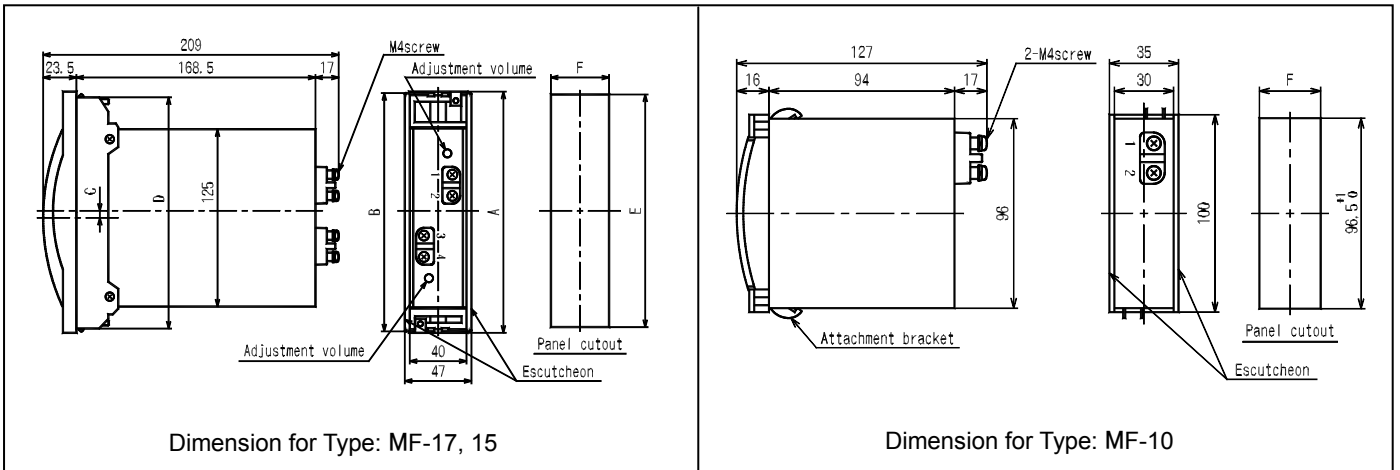


Voltmeter external with Series resistor (DM-1)



Voltmeter external with Series resistor (DM-2~25)

Dimensions



Dimension for Type: MF-17, 15

Dimension for Type: MF-10

Type	A	B	C	D	E	F		Weight (g)		
						1 unit	2-unit or above	1 pointer	2-pointer	
MF-17	168	170	4	163	164±0.5	41 ⁺¹ ₋₀	(41×n) ⁺¹ ₋₀	400	500	
MF-15	148	150	0	145	146±0.5	41 ⁺¹ ₋₀	(41×n) ⁺¹ ₋₀	400	500	
MF-10	—					31 ⁺¹ ₋₀	(30×n) ⁺¹ ₋₀	+1	160	

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Or please contact and discuss with us if you need to continuous assemble more than 10 units.

* n = unit of meter