


# M4Y/M4W/M5W/M4M Series

DIN W72×H36mm, W96×H48mm, W72×H72mm

Digital panel meter for measuring voltage

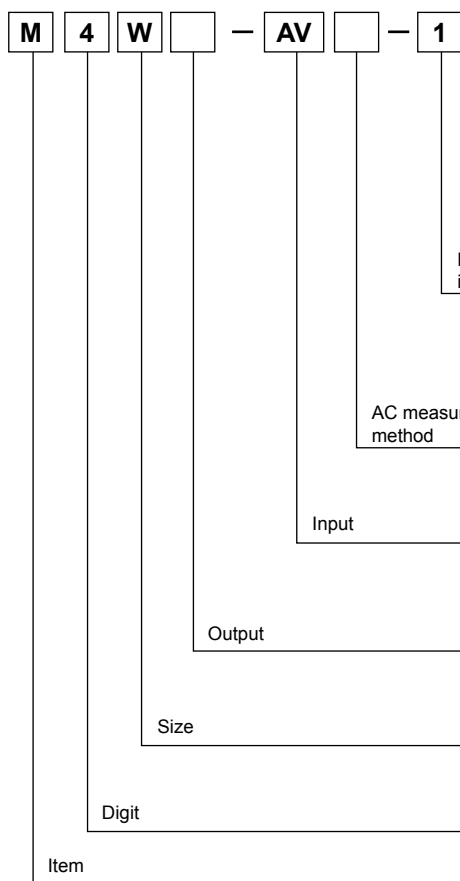
## ■ Features

- Max. display: 19999(M5W), 1999(Others)
- Auto zero function or Hold function(Except for M5W)
- RMS/AVG value selection function(AC Voltage)
- 7 Segment LED Display
- Case size by DIN specification
- Indicator, Single preset output type, Dual preset output type

 Please read "Caution for your safety" in operation manual before using.



## ■ Ordering information



NO	M4Y / M4W / M4M		M5W	
	DC INPUT (F.S.)	AC INPUT (F.S.)	DC INPUT (F.S.)	AC INPUT (F.S.)
1	199.9mV	199.9mV	199.99mV	199.99mV
2	1.999V	1.999V	1.9999V	1.9999V
3	19.99V	19.99V	19.999V	19.999V
4	199.9V	199.9V	199.99V	199.99V
5 <sup>※2</sup>	300V	—	300.0V	400.0V
6 <sup>※2</sup>	—	400V	—	—
XX	Option		Option	
No mark	AVG value			
R <sup>※3</sup>	RMS value			
DV	DC Volt			
DA	DC Ampere			
AV	AC Volt			
AA	AC Ampere			
No mark	Indicator			
1P	Single setting			
2P	Dual setting			
Y <sup>※4</sup>	DIN W72×H36mm			
W <sup>※4</sup>	DIN W96×H48mm			
M	DIN W72×H72mm			
4	1999(3½digit)			
5	19999(4½digit)			
M	Meter			

※1: Measuring input and display are 1:1.

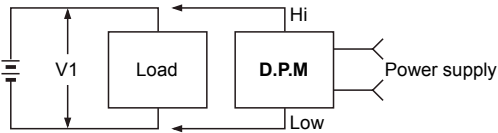
※2: Available input can be direct connection if under 300VDC, 400VAC.

※3: M5W AC measurement type has RMS only. It does not have "R" in model name.

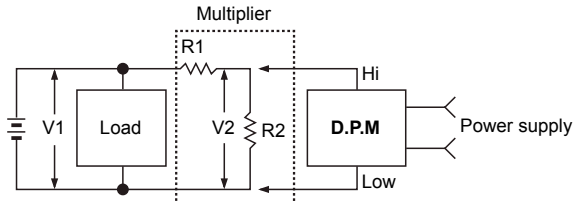
※4: M4Y, M5W are indicator.

## ■ The application of connections

### ◎ Measuring DC voltage



(Fig. 1) Measuring lower than 300VDC of measurement voltage (V1)



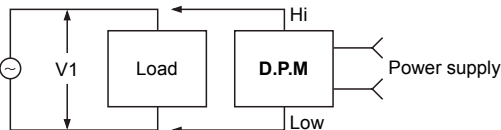
(Fig. 2) Measuring higher than 300VDC of measurement voltage

※When measuring voltage is higher than 300VDC, please select R1 and R2 with multiplying resistance on the external to make V2 less than max. measurement voltage.

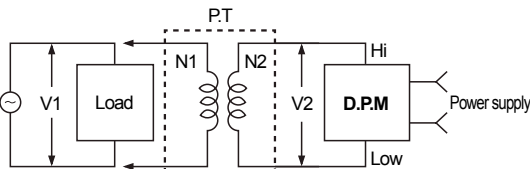
$$V3 = \frac{R2}{R1 + R2} \times V1 \quad R1 > R2$$

Ex)Ordering D.P.M for measuring 1000VDC  
As above Fig. 2, select the R1 value to make 300VDC on R2.  
(Generally R1 value will be higher than R2 value.)  
Order the D.P.M indicating 1000V for 300VDC.

### ◎ Measuring AC voltage



(Fig. 3) Measuring lower than 400VAC of measurement voltage (V1)



(Fig. 4) Measuring higher than 400VAC of measurement voltage (V1)

※When measuring voltage is higher than 400VAC, please use the P.T on the external. (V2 voltage must be lower than max. measurement voltage)

$$V2 = \frac{N2}{N1} \times V1$$

Ex)Ordering D.P.M for measuring 1000VAC  
Select the P.T having 1000VAC of 1st part voltage and 220VAC of 2nd part voltage and order the D.P.M indicating 1000V for 220VAC.

## ■ Proper usage

• Please notice the product customized by requirement cannot be replaced.

• If it displays arbitrary number even though the power is ON, please remove the input signal and check whether it displays "0000" after short the measurement terminal. (Checking auto zero function)

If it does not display "0000", please connect to our A/S center.

Note)M5W Series does not have auto zero function.

• If it indicates "1999" or "+1999" during input signal is ON, please turn OFF the power and check the connection condition.

It is because the input signal is too low or high. Note) M5W Series indicates "19999" or "+19999".

• The specification of measurement input, which is indicated in ordering information, is a standard specification, 1:1 of measurement input and process value. When it is an optional specification of AC voltmeter, please mark the specification of P.T after select a model.

※Please notice P.T is not included.

• The D.P.M for measuring AC voltage has both AVG type and RMS type separately. Because it is produced with AVG type, please mark the model name accurately.

Ex)In case of M4Y, M4W, M4M Series (Include setting type)

The model of RMS type: M4W-AVR-6

The model of AVG type: M4W-AV-6

※The specification will be set by sign "R".

※M5W Series has RMS type only, and it is not indicated "R" on the model name.

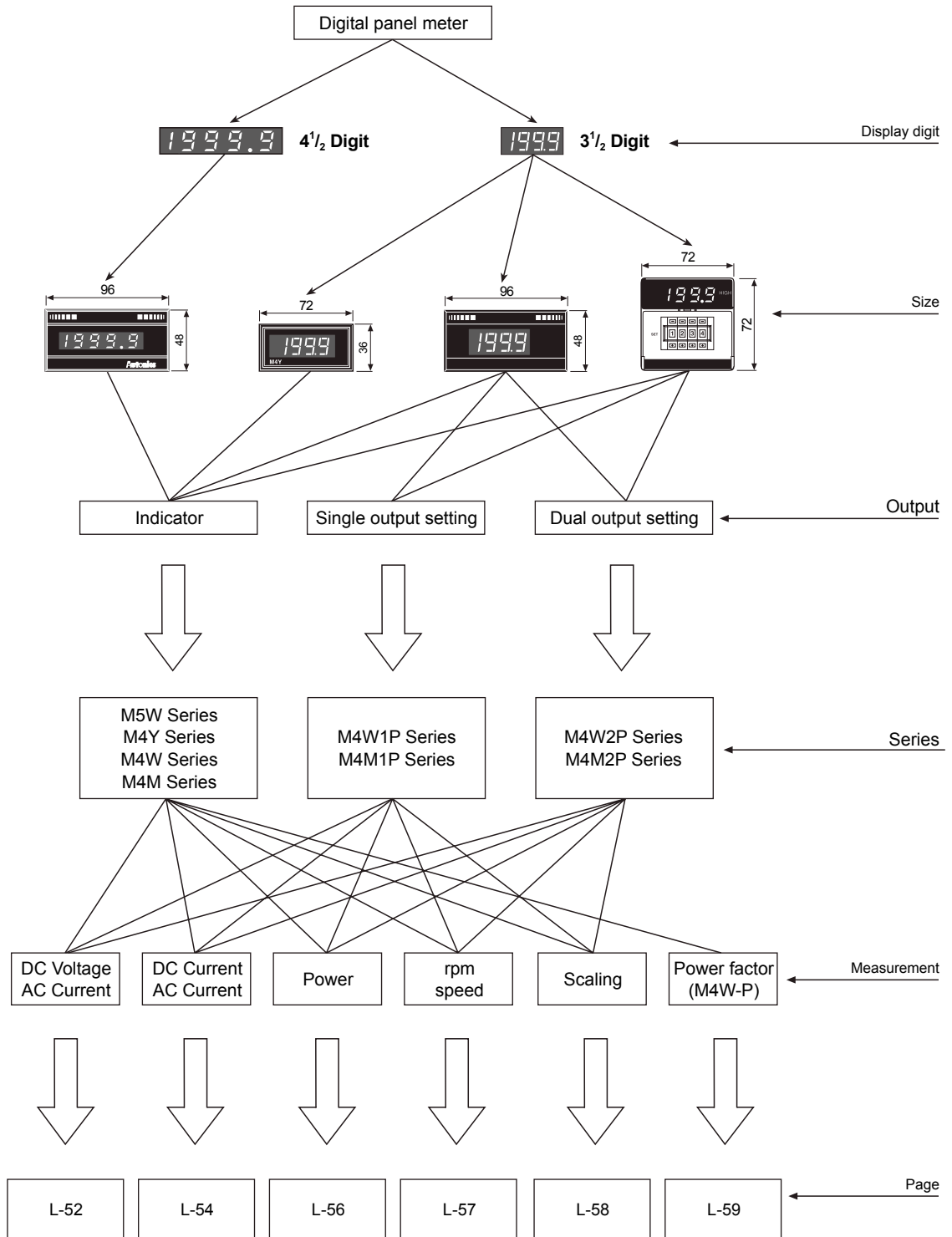
• In case of D.P.M for measuring AC voltage, please check if it is AVG type or RMS type when comparison measuring with other company's products.

(A)	Photo electric sensor
(B)	Fiber optic sensor
(C)	Door/Area sensor
(D)	Proximity sensor
(E)	Pressure sensor
(F)	Rotary encoder
(G)	Connector/Socket
(H)	Temp. controller
(I)	SSR/Power controller
(J)	Counter
(K)	Timer
(L)	Panel meter
(M)	Tacho/Speed/Pulse meter
(N)	Display unit
(O)	Sensor controller
(P)	Switching mode power supply
(Q)	Stepper motor& Driver&Controller
(R)	Graphic/Logic panel
(S)	Field network device
(T)	Software
(U)	Other

# M4Y/M4W/M5W/M4M Series

## ■ Panel meter selection II

※This panel meter selection is except MT4N / MT4Y / MT4W Series.



# Digital Panel Meter

## ■ Specifications

Classification		Indicator		Single preset output type		Dual preset output type	
Measurement	DC, AC voltage	M4Y-DV-□ M4Y-AV□-□ M5W-DV-□ M5W-AV-□	M4W-DV-□ M4W-AV□-□ M4M-DV-□ M4M-AV□-□	M4W1P-DV-□ M4W1P-AV□-□ M4M1P-DV-□ M4M1P-AV□-□	M4W2P-DV-□ M4W2P-AV□-□ M4M2P-DV-□ M4M2P-AV□-□		
	DC, AC ampere	M4Y-DA-□ M4Y-AA□-□ M5W-DA-□ M5W-AA-□	M4W-DA-□ M4W-AA□-□ M4M-DA-□ M4M-AA□-□	M4W1P-DA-□ M4W1P-AA□-□ M4M1P-DA-□ M4M1P-AA□-□	M4W2P-DA-□ M4W2P-AA□-□ M4M2P-DA-□ M4M2P-AA□-□		
	AC power (0-10VDC)	M4Y-W-□ M5W-W-□	M4W-W-□ M4M-W-□	M4W1P-W-□ M4M1P-W-□	M4W2P-W M4M2P-W		
	rpm, speed (0-10VDC) (0-10VAC)	M4Y-T□-□ M4Y-S□-□ M5W-T-□ M5W-S-□	M4W-T□-□ M4W-S□-□ M4M-T-□ M4M-S-□	M4W1P-T□-□ M4W1P-S□-□ M4M1P-T-□ M4M1P-S-□	M4W2P-T□-□ M4W2P-S□-□ M4M2P-T-□ M4M2P-S-□		
	Power factor (DC4-20mA)	—	M4W-P (Refer to L-57)	—	—		
Max. allowable input		150% for each input specification(At 400VAC:120%)					
Power supply		100-240VAC 50/60Hz ★ 5VDC (Except for M5W) ★ 24-70VDC	110/220VAC 50/60Hz ★ 24-70VDC ★ 100-240VAC 50/60Hz				
Allowable voltage range		90 to 110% of rated voltage					
Power consumption		DC: 2W, AC: 4VA		DC: 3W, AC: 5VA			
Display method		7 Segment LED display					
Character height		M4Y, M4W, M5W : 14mm / M4W1P, M4W2P, M4M1P, M4M2P : 10mm					
Display accuracy		DC : F.S. ±0.2% rdg ±1digit AC : F.S. ±0.5% rdg ±1digit					
Sampling period		300ms					
A/D conversion method		Dual slope integral method					
Response time		2sec.(0 to Max.)					
Display frequency		2.5 times/sec.					
Contact capacity		—		Relay contact output : 250VAC 3A 1c		Relay contact output : 250VAC 3A 1c×2	
Insulation resistance		100MΩ(at 500VDC megger)					
Dielectric strength		2000VAC 50/60Hz for 1 minute					
Noise strength		±1kV the square wave noise (pulse width: 1us) by the noise simulator					
Vibration	Mechanical	0.75mm amplitude at frequency of 10 to 55Hz(for 1 min.) in each of X, Y, Z directions for 1 hour					
	Malfunction	0.5mm amplitude at frequency of 10 to 55Hz(for 1 min.) in each of X, Y, Z directions for 10 minutes					
Shock	Mechanical	300m/s <sup>2</sup> (approx. 30G) in X, Y, Z directions for 3 times					
	Malfunction	100m/s <sup>2</sup> (approx. 10G) in X, Y, Z directions for 3 times					
Relay life cycle	Mechanical	—		Min. 10,000,000 operations			
	Malfunction	—		Min. 100,000 operations (250VAC 3A resistive load)			
Environment	Ambient temperature	-10 to 50°C, storage: -20 to 60°C					
	Ambient humidity	35 to 85%RH, storage: 35 to 85%RH					
Unit weight		M4Y: Approx. 144g M5W: Approx. 172g	M4W: Approx. 168g M4M: Approx. 262g (M4M-P: Approx. 268g)	M4W1P: Approx. 253g M4M1P: Approx. 290g	M4W2P: Approx. 278g M4M2P: Approx. 316g		

※"★" symbol in power supply is optional. (customizable)

※Environment resistance is rated at no freezing or condensation.

(A)  
Photo electric sensor

(B)  
Fiber optic sensor

(C)  
Door/Area sensor

(D)  
Proximity sensor

(E)  
Pressure sensor

(F)  
Rotary encoder

(G)  
Connector/Socket

(H)  
Temp. controller

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Counter

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Timer

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Field network device

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Other

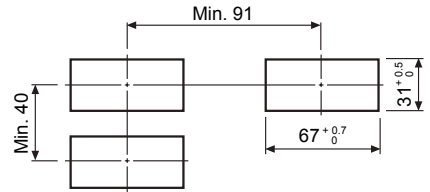
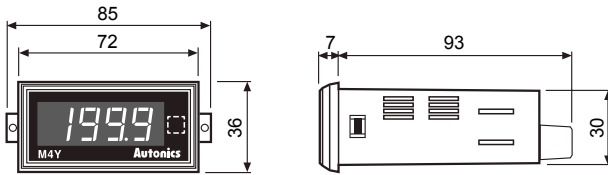
# M4Y/M4W/M5W/M4M Series

## ■ Dimensions

(unit: mm)

### ● M4Y

### ● Panel cut-out



※Unit will be displayed in □ of front panel.

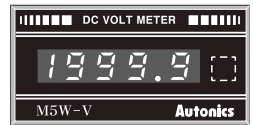
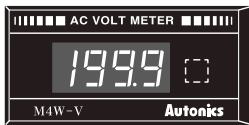
(unit: mm)

### ● M4W

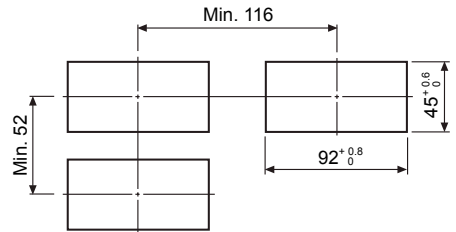
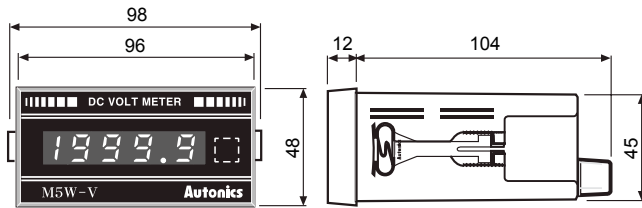
### ● M4W1P

### ● M4W2P

### ● M5W



### ● Panel cut-out



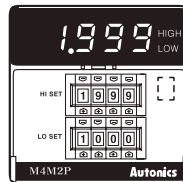
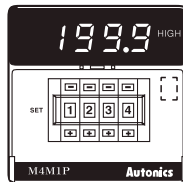
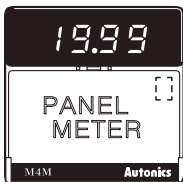
※Unit will be displayed in □ of front panel.

(unit: mm)

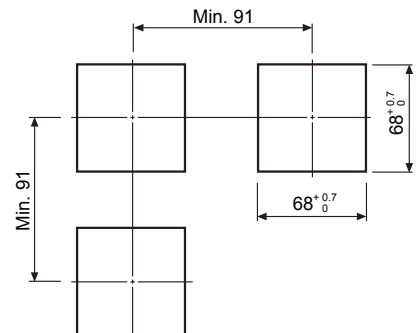
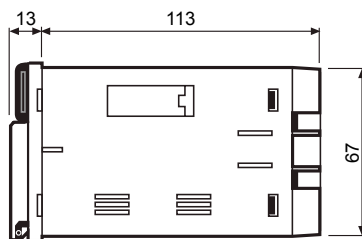
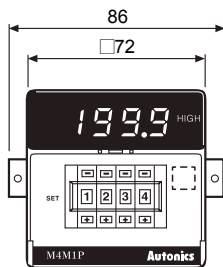
### ● M4M

### ● M4M1P

### ● M4M2P



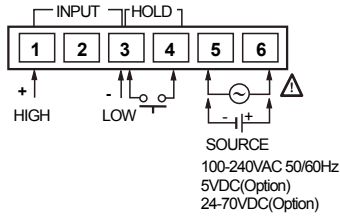
### ● Panel cut-out



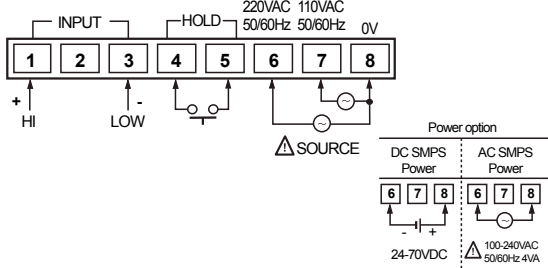
※Unit will be displayed in □ of front panel.

## Connections

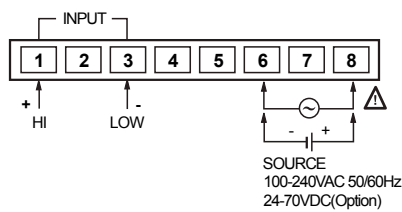
### M4Y



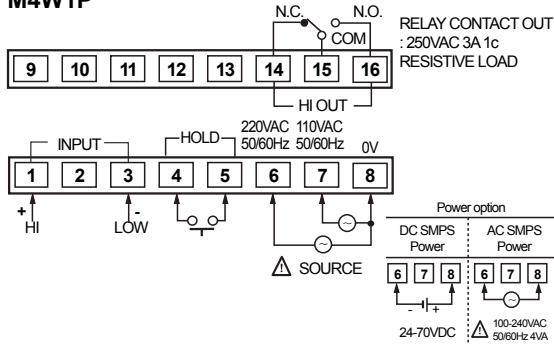
### M4W



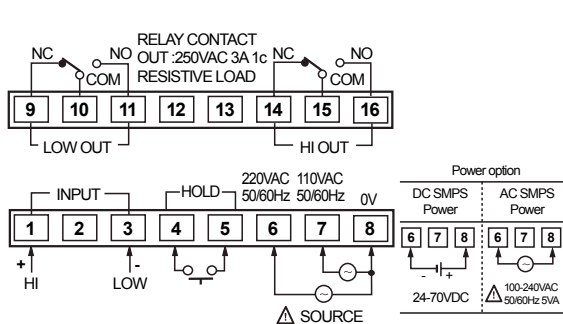
### M5W



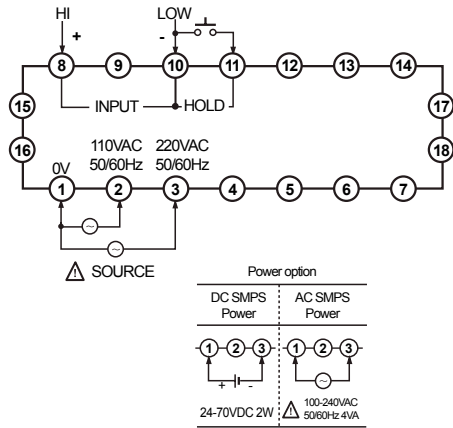
### M4W1P



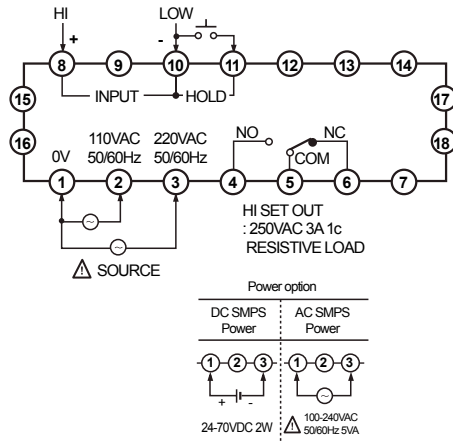
### M4W2P



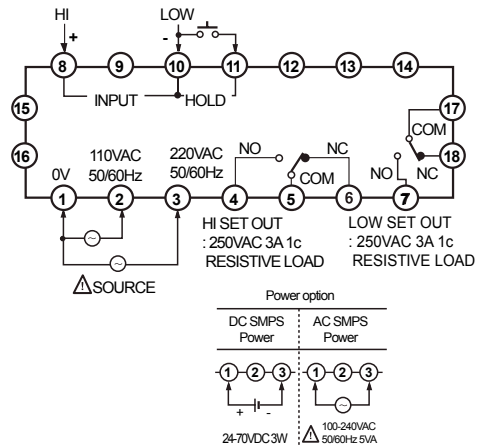
### M4M



### M4M1P



### M4M2P



(A) Photo electric sensor

(B) Fiber optic sensor

(C) Door/Area sensor

(D) Proximity sensor

(E) Pressure sensor

(F) Rotary encoder

(G) Connector/Socket

(H) Temp. controller

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