

# M4Y/M4W/M5W/M4M SERIES

## ■ Specifications

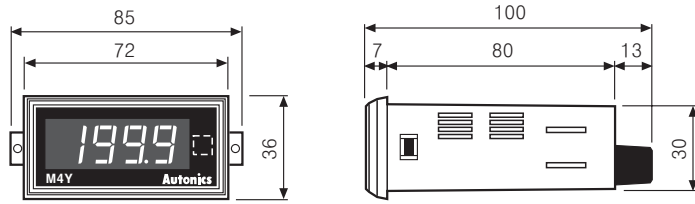
Classification		Indicator		Single preset output type	Dual preset output type
Measurement	DC, AC Voltage	M4Y-DV-□ M4Y-AV□-□ M5W-DV-□ M5W-AV-□	M4W-DV-□ M4W-AV□-□ M4M-DV-□ M4M-AV□-□	M4W1P-DV-□ M4W1P-AV□-□ M4M1P-DV-□ M4M1P-AV□-□	M4W2P-DV-□ M4W2P-AV□-□ M4M2P-DV-□ M4M2P-AV□-□
	DC, AC Ampere	M4Y-DA-□ M4Y-AA□-□ 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 E-45)	-	-
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 ~ 110% of rated voltage				
Power consumption	DC : 2W, AC : 4VA		DC : 3W, AC : 5VA		
Display method	7 Segment LED Display				
Character height	14.1mm		M4W:10.16mm, M4M:10mm		
Display accuracy	DC : F · S ±0.2% rdg ±1digit AC : F · S ±0.5% rdg ±1digit				
Sampling period	300ms				
A/D switching 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	Min. 100MΩ (at 500VDC mega)				
Dielectric strength	2000VAC 50/60Hz for 1 minute				
Noise strength	±1kV the square wave noise (pulse width:1μs) by the noise simulator				
Vibration	Mechanical	0.75mm amplitude at frequency of 10 ~ 55Hz in each of X, Y, Z directions for 1 hour			
	Malfunction	0.5mm amplitude at frequency of 10 ~ 55Hz in each of X, Y, Z directions for 10 minutes			
Shock	Mechanical	300m/s <sup>2</sup> (30G) in X, Y, Z directions for 3 times			
	Malfunction	100m/s <sup>2</sup> (10G) in X, Y, Z directions for 3 times			
Relay life cycle	Mechanical	—————		Min. 10,000,000	
	Malfunction	—————		Min. 100,000 (250VAC 3A resistive load)	
Ambient temperature	-10 ~ +50℃ (at non-freezing status)				
Storage temperature	-20 ~ +60℃ (at non-freezing status)				
Ambient humidity	35 ~ 85%RH				
Unit weight	M4Y:Approx. 170g M5W:Approx. 317g	M4W:Approx. 317g M4M:Approx. 401g	M4W1P:Approx. 408g M4M1P:Approx. 467g	M4W2P:Approx. 424g M4M2P:Approx. 496g	

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

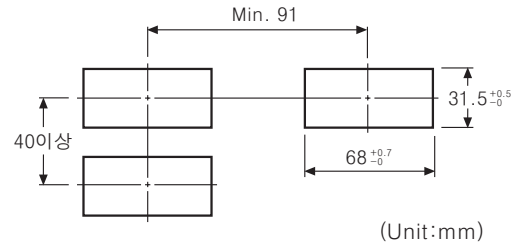
# Digital Panel Meter

## Dimensions

### ●M4Y



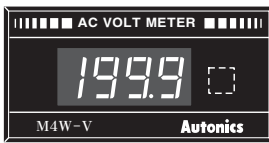
### ●Panel cut-out



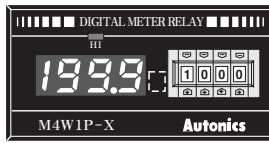
(Unit:mm)

※Unit will be displayed in □ of front panel.

### ●M4W



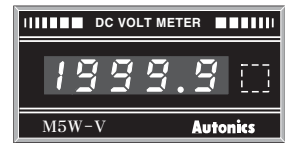
### ●M4W1P



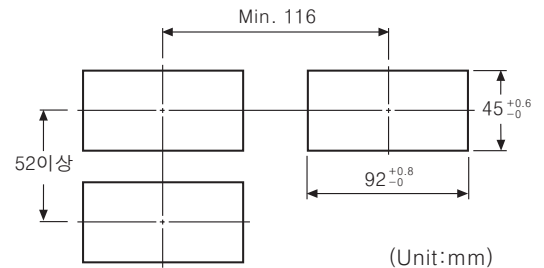
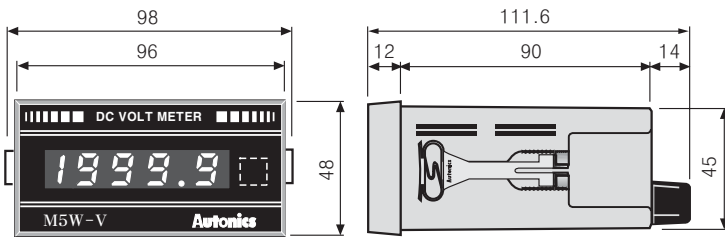
### ●M4W2P



### ●M5W



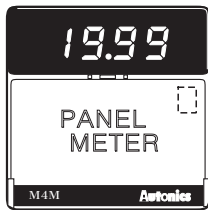
### ●Panel cut-out



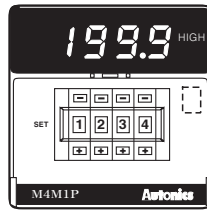
(Unit:mm)

※Unit will be displayed in □ of front panel.

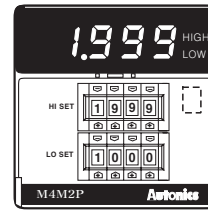
### ●M4M



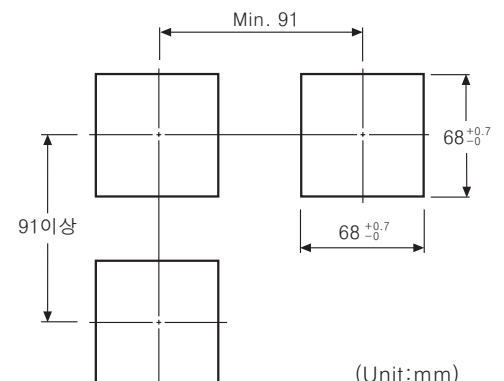
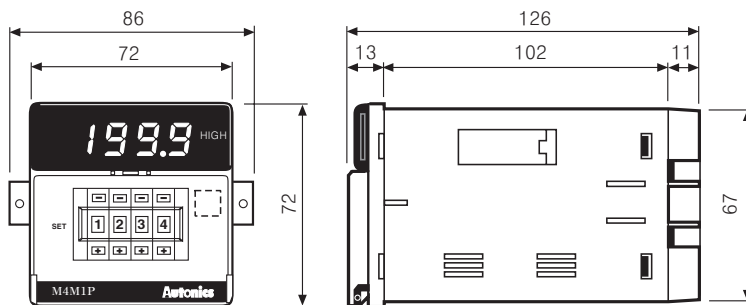
### ●M4M1P



### ●M4M2P



### ●Panel cut-out



(Unit:mm)

※Unit will be displayed in □ of front panel.

(A) Counter

(B) Timer

(C) Temp. controller

(D) Power controller

(E) Panel meter

(F) Tacho/Speed/Pulse meter

(G) Display unit

(H) Sensor controller

(I) Switching power supply

(J) Proximity sensor

(K) Photo electric sensor

(L) Pressure sensor

(M) Rotary encoder

(N) Stepping motor & Driver & Controller

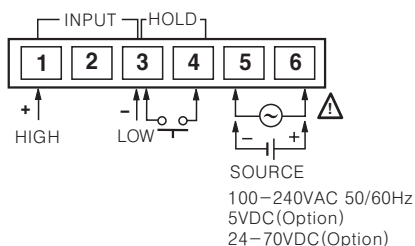
(O) Graphic panel

(P) Production stoppage models & replacement

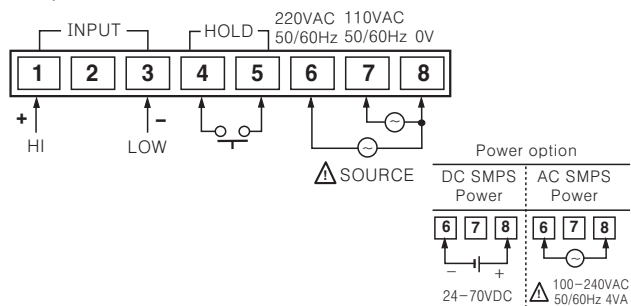
# M4Y/M4W/M5W/M4M SERIES

## Connections

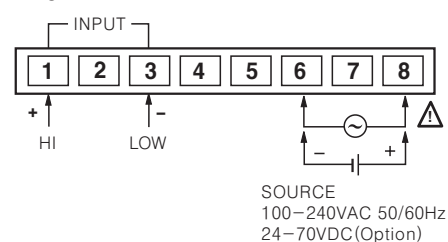
### ●M4Y



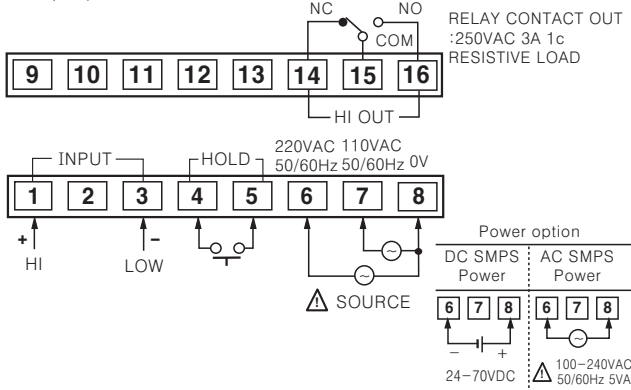
### ●M4W



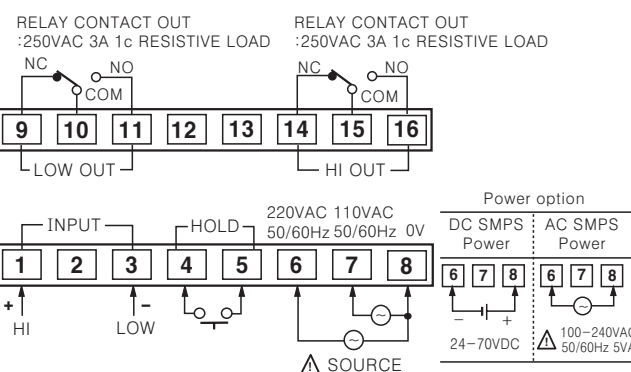
### ●M5W



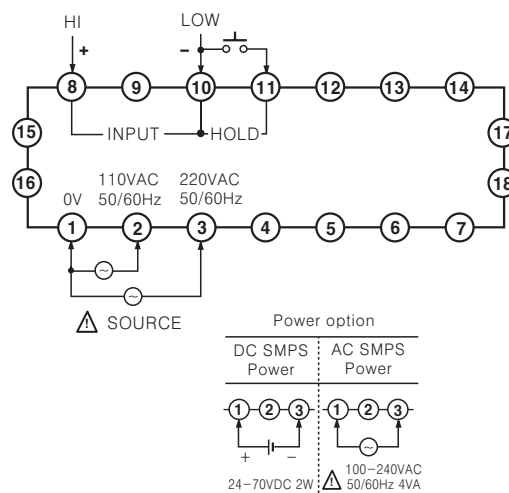
### ●M4W1P



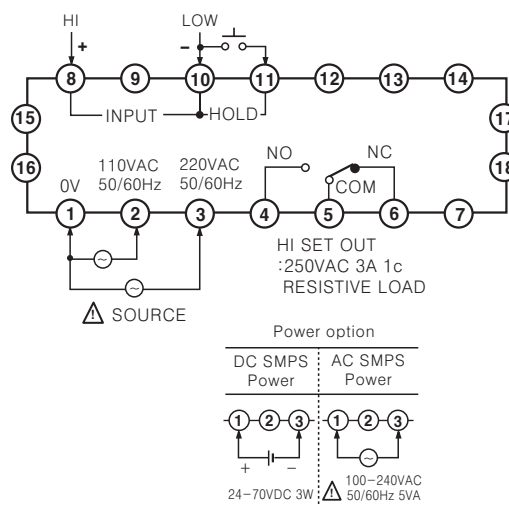
### ●M4W2P



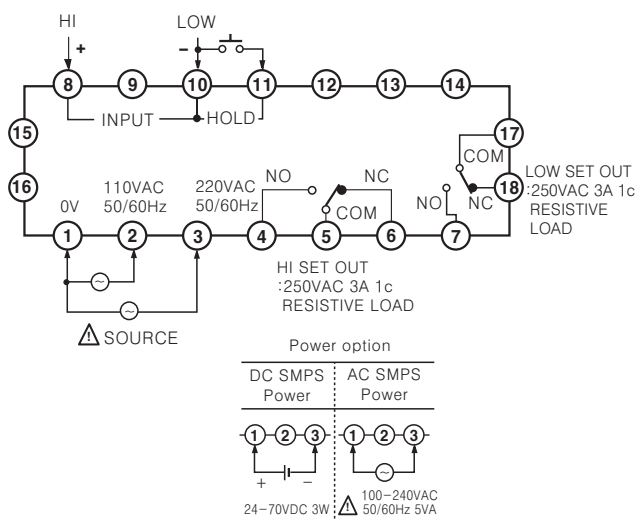
### ●M4M



### ●M4M1P



### ●M4M2P



# Digital Panel Meter

DIN W72 × H36mm, W96 × H48mm, W72 × H72mm

## Digital panel meter for measuring voltage

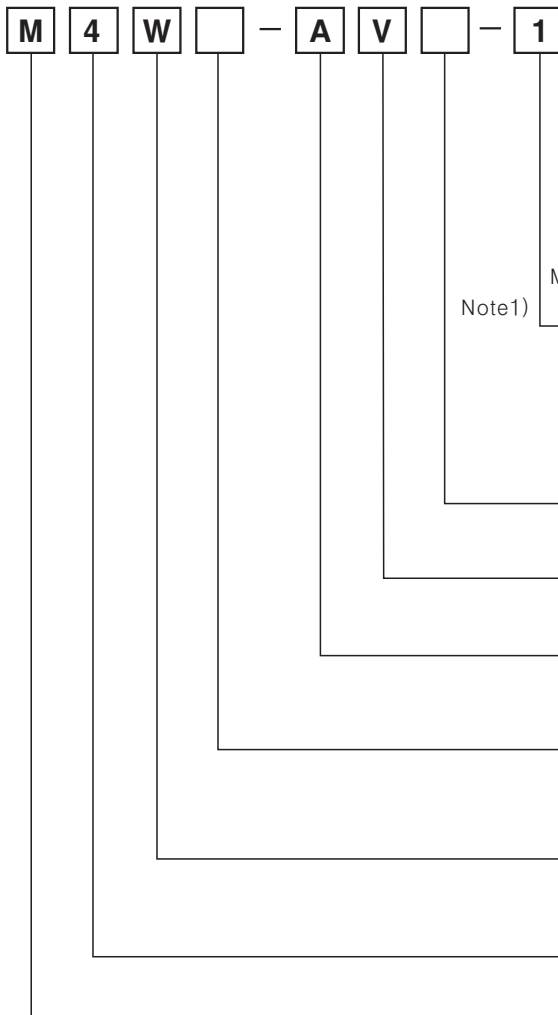
### ■ Features

- 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	300V	—	300.0V	—
6	—	400V	—	400.0V
XX	Option		Option	
	AVG value			
R	RMS value			
V	Volt Meter			
A	Ampere Meter			
D	DC Type			
A	AC Type			
	Indicator			
1P	Single setting			
2P	Dual setting			
Y	DIN W72×H36mm			
W	DIN W96×H48mm			
M	DIN W72×H72mm			
4	3½ digit			
5	4½ digit			
M	Meter			

Note1) Measuring input and display are 1:1.

Note2) Available input can be direct connection if under 300VDC, 400VAC.

Note3) RMS only applies to AC measuring type. Do not enter "R" with DC model.

Note4) M4Y, M5W are indicator.

(A) Counter

(B) Timer

(C) Temp. controller

(D) Power controller

(E) Panel meter

(F) Tacho/Speed/Pulse meter

(G) Display unit

(H) Sensor controller

(I) Switching power supply

(J) Proximity sensor

(K) Photo electric sensor

(L) Pressure sensor

(M) Rotary encoder

(N) Stepping motor & Driver & Controller

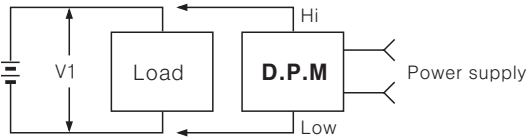
(O) Graphic panel

(P) Production stoppage models & replacement

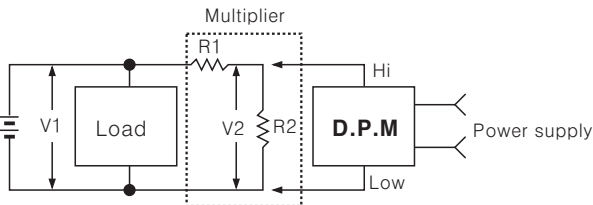
# M4Y/M4W/M5W/M4M SERIES

## ■ 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.

$$V2 = \frac{R2}{R1+R2} \times V1 \quad R1 > R2$$

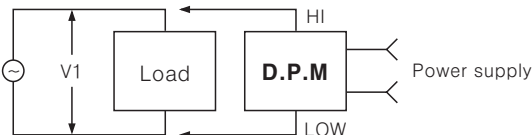
Ex) Ordering D.P.M for measuring 1000VDC

As above Fig. 2, select the R1 value to make 300VDC on R2.

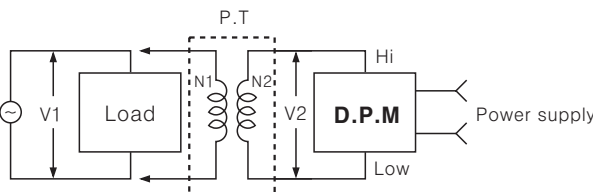
(Generally R1 value will be higher than R2 value.)

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.

# Digital Panel Meter

DIN W72 × H36mm, W96 × H48mm, W72 × H72mm

Digital panel meter for measuring ampere

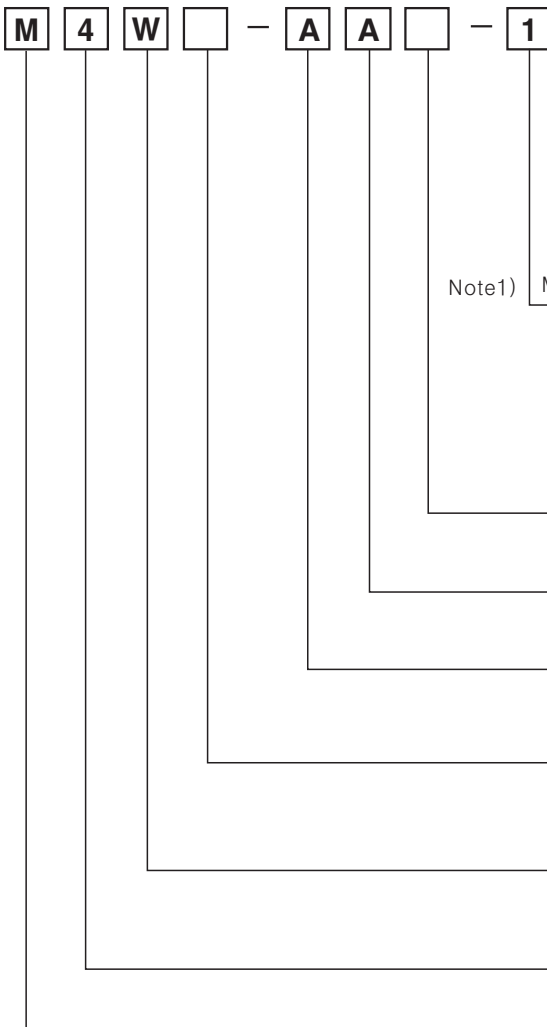
## Features

- 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



Note1) Measuring input

Note2)

Note3)

NO	M4Y / M4W / M4M		M5W	
	DC INPUT (F · S)	AC INPUT (F · S)	DC INPUT (F · S)	AC INPUT (F · S)
1	199.9 μA	19.99mA	199.99 μA	19.999mA
2	1.999mA	199.9mA	1.9999mA	199.99mA
3	19.99mA	1.999A	19.999mA	1.9999A
4	199.9mA	19.99A	199.99mA	19.999A
5	1.999A	199.9A	1.9999A	199.99A
6	19.99A	1999A	19.999A	1999.9A
7	199.9A	—	199.99A	—
8	1999A	—	1999.9A	—
XX	Option		Option	
		AVG value		
	R	RMS value		
	V	Volt Meter		
	A	Ampere Meter		
	D	DC Type		
	A	AC Type		
		Indicator		
	1P	Single setting		
	2P	Dual setting		
	Y	DIN W72 × H36mm		
	W	DIN W96 × H48mm		
	M	DIN W72 × H72mm		
	4	3½ digit		
	5	4½ digit		
	M	Meter		

Note1) Measuring input and display is 1:1 for DC INPUT No.1 to 5 and AC INPUT No.1 to 3, DC INPUT No.6 to 8 is used with DC50mV Shunt, AC INPUT No.4 to 6 are used with C.T(Current transducer)

Note2) RMS only applies to AC measuring type. Do not enter "R" with DC model.

Note3) M4Y, M5W are indicator.

(A) Counter

(B) Timer

(C) Temp. controller

(D) Power controller

(E) Panel meter

(F) Tacho/Speed/Pulse meter

(G) Display unit

(H) Sensor controller

(I) Switching power supply

(J) Proximity sensor

(K) Photo electric sensor

(L) Pressure sensor

(M) Rotary encoder

(N) Stepping motor & Driver & Controller

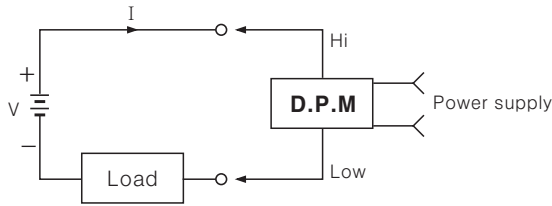
(O) Graphic panel

(P) Production stoppage models & replacement

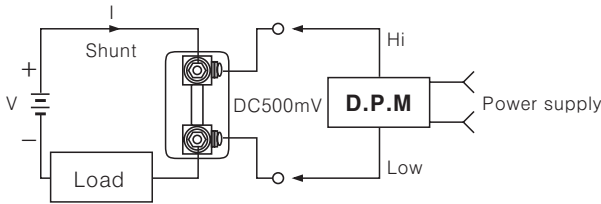
# M4Y/M4W/M5W/M4M SERIES

## ■ Connections

### ◎ Measuring DC voltage



(Fig. 1) Measuring lower than 2ADC of current

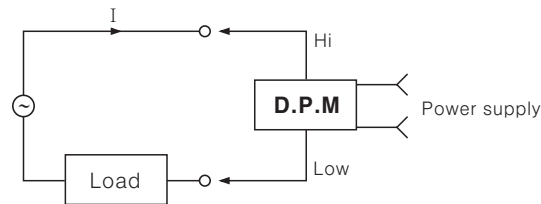


(Fig. 2) Measuring higher than 2ADC of current

- ※ Higher than 2ADC is using shunt for measuring current.
- ※ Basically the 2nd part of shunt value is DC50mV.

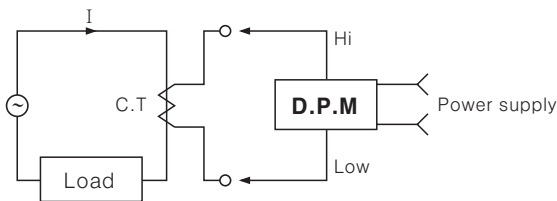
Ex) Ordering D.P.M in case of 10ADC of measuring ampere : Select 10ADC/DC50mV of shunt and DC50mV/1000ADC of D.P.M.

### ◎ Measuring AC voltage



(Fig. 3) Measuring lower than 5AAC of current

Ex) Ordering D.P.M in case of lower than 5AAC of measuring ampere :  
Select M4W-AA-XX AC5A/5.00A



(Fig. 4) Measuring higher than 5AAC of current

- ※ If the current is higher than 5AAC, please use C.T.

Ex) How to order D.P.M in case of 300AAC of measuring ampere : Select 300AAC/5A of C.T and 5AAC/300A of D.P.M.

## ■ 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.

※ Please notice a shunt and C.T are 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-AAR-6

The model of AVG type: M4W-AA-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.

# Digital Panel Meter

**DIN W72 × H36mm, W96 × H48mm, W72 × H72mm**

**Digital panel meter for measuring power**

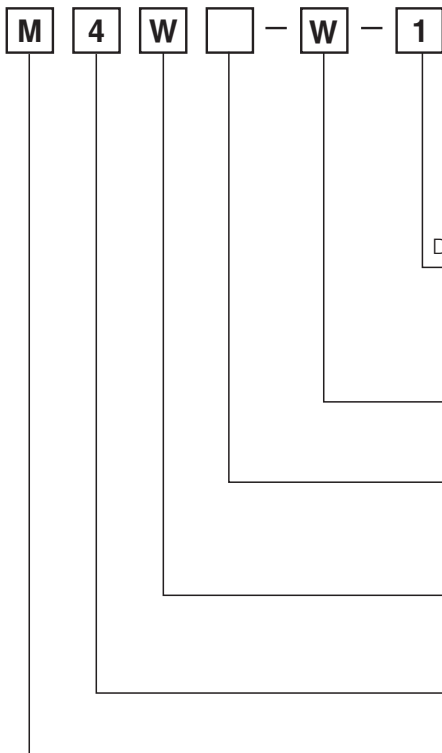
## ■ Features

- Max. display : 19999(M5W), 1999(Others)
- Auto Zero function and Hold function(Except for M5W)
- Display the output(0-10VDC) from Power converter.  
(It is available to correspond when output is DC4-20mA, 1-5VDC.)
- 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



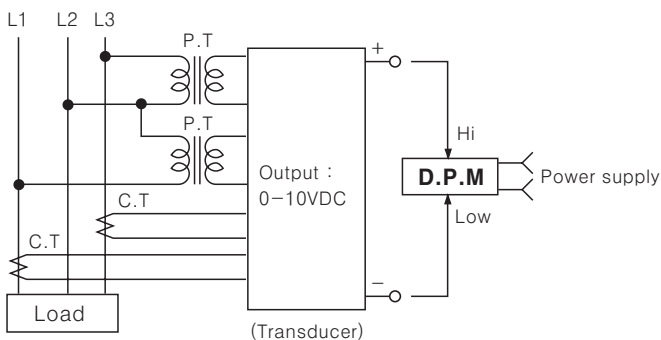
NO	M4Y / M4W / M4M	M5W
	DISPLAY(F.S)	DISPLAY(F.S)
1	199.9W	199.99W
2	1.999kW	1.9999kW
3	19.99kW	19.999kW
4	199.9kW	199.99kW
5	1999kW	1999.9kW
XX	Option	Option
W	Watt Meter	
	Indicator	
1P	Single setting	
2P	Dual setting	
Y	DIN W72×H36mm	
W	DIN W96×H48mm	
M	DIN W72×H72mm	
4	3½ digit	
5	4½ digit	
M	Meter	

Note1) When output specification of power converter is 0-10VDC, Display value is maximum.

Note2) M4Y, M5W are indicator.

※If output specification of Converter or power converter is DC4-20mA or 1-5VDC, please use Scaling Meter.

## ■ Application of connection



- The specification of measuring input indicated in ordering information, is display value output specification is 0-10VDC and 0-10ADC.
- When the output of transducer or converter is DC4-20mA or 1-5VDC, please use Scaling Meter.

- (A) Counter
- (B) Timer
- (C) Temp. controller
- (D) Power controller
- (E) Panel meter
- (F) Tacho/Speed/Pulse meter
- (G) Display unit
- (H) Sensor controller
- (I) Switching power supply
- (J) Proximity sensor
- (K) Photo electric sensor
- (L) Pressure sensor
- (M) Rotary encoder
- (N) Stepping motor & Driver & Controller
- (O) Graphic panel
- (P) Production stoppage models & replacement

# M4Y/M4W/M5W/M4M SERIES

DIN W72 × H36mm, W96 × H48mm, W72 × H72mm

Digital panel meter for measuring Revolution/Speed

## Features

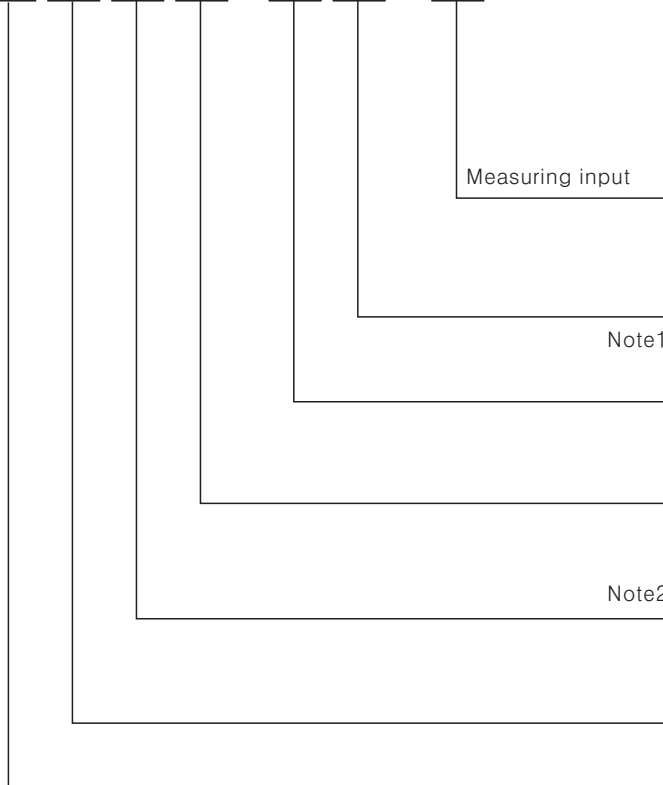
- Max. display: 19999 (M5W), 1999 (Others)
- Auto Zero function or Hold function (Except for M5W)
- RMS/AVG value selection function (AC Voltage)
- 7 Segment LED Display
- Case size by DIN specification
- Indicator, Single preset output type, Dual preset output type



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

## Ordering information

**M 4 W** - **T** - **1**

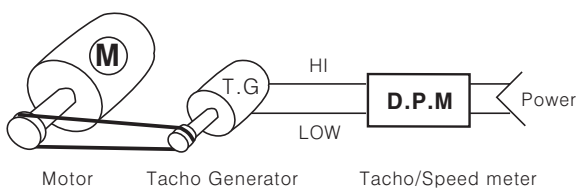


NO	M4Y / M4W / M4M	M5W
	INPUT (F.S)	
1	0-10VDC / 1999	0-10VDC / 1999.9
2	0-10VAC / 1999	0-10VAC / 1999.9
DX	DC Input Option	DC Input Option
AX	AC Input Option	AC Input Option
	AVG value	
Note1) R	RMS value	
T	Tacho Meter (m/min)	
S	Line Speed Meter (m/min)	
	Indicator	
1P	Single setting output	
2P	Dual setting output	
Note2) Y	DIN W72 × H36mm	
W	DIN W96 × H48mm	
M	DIN W72 × H72mm	
4	3½ digit	
5	4½ digit	
M	Meter	

Note1) AC measuring type of M5W only applies to RMS and it is not marked with "R" in the model name.

Note2) M4Y, M5W are indicator.

## Application of connection



### Tacho Generator (T.G)

This generator makes a voltage in proportion to revolution speed of motor. The D.P.M receives the voltage and displays the number of revolution and please check the specification of T.G.

- The specification of measuring input indicated in ordering information, is display value when output specification is 0-10VDC and 0-10ADC. Different output specification of tachogenerator is optional.

# Digital Panel Meter

**DIN W72 × H36mm, W96 × H48mm, W72 × H72mm**

## ■ Features

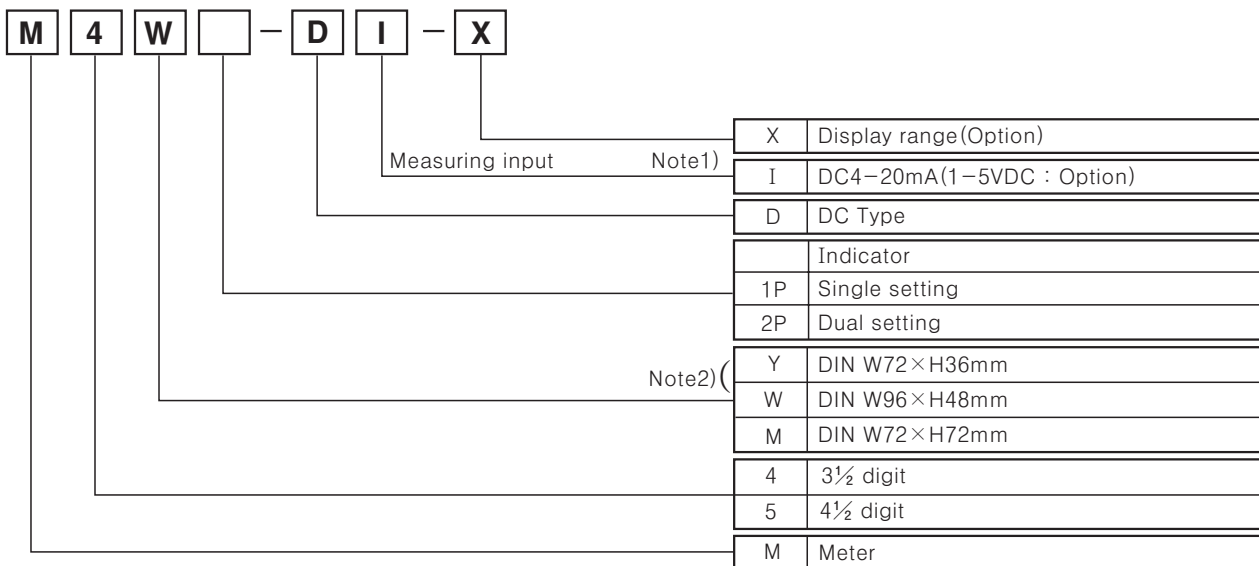
- Max. display : 19999(M5W), 1999(Others)
- 7 Segment LED Display
- Case size by DIN specification
- Linear display function by INPUT specification,  
Input : DC4–20mA, Display : 4mA → 0, 20mA → 600
- Indicator, Single preset output type,  
Dual preset output type

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

## Digital scaling meter



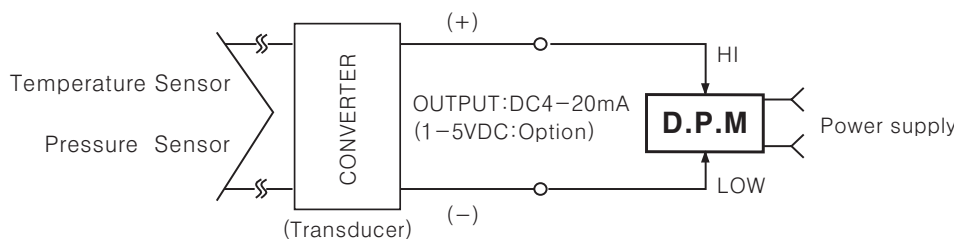
## ■ Ordering information



Note1) 1–5VDC of measuring input specification is available by option.

Note2) M4Y, M5W are indicator.

## ■ Application of connection



- The measurement input specification of ordering information, is an output specification of converter and DC4–20mA is the standard specification. In case, the output of converter is 1–5VDC, it is customizable.
- DC voltmeter can be produced by requirement, in case, it is out of the 1–5VDC output specification.

(A) Counter

(B) Timer

(C) Temp. controller

(D) Power controller

(E) Panel meter

(F) Tacho/Speed/Pulse meter

(G) Display unit

(H) Sensor controller

(I) Switching power supply

(J) Proximity sensor

(K) Photo electric sensor

(L) Pressure sensor

(M) Rotary encoder

(N) Stepping motor & Driver & Controller

(O) Graphic panel

(P) Production stoppage models & replacement

# M4Y/M4W/M5W/M4M SERIES

DIN W96×H48mm, Digital panel meter for display the power factor

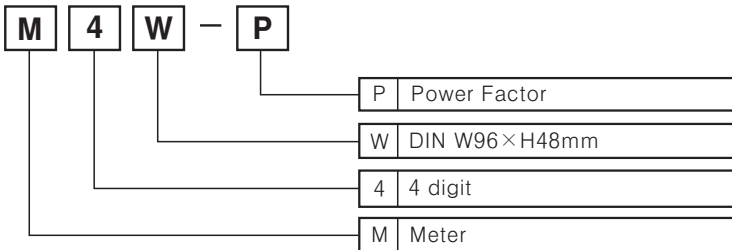
## Features

- Display indicator of power factor
- Input : DC4-20mA (Output specification of power factor transducer)
- Display : -0.50~1.00 ~ +0.50

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



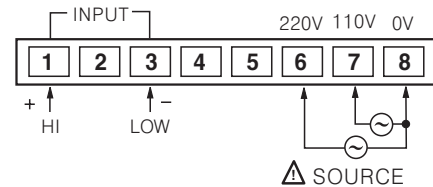
## Ordering information



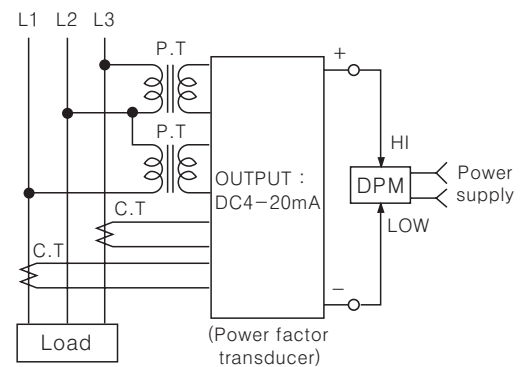
## Specifications

Model	M4W-P	
Measurement	Measuring of power factor (cos φ)	
Input	DC4-20mA	
Display	-0.50~1.00~+0.50 cos φ	
Power supply	110/220VAC 50/60Hz	
Allowable voltage range	90 ~ 110% of rated voltage	
Power consumption	4VA	
Display method	7 Segment LED Display	
Character height	14.1mm	
Display accuracy	F · S ±0.5% rdg ±1digit	
Sampling period	300ms	
Response speed	2sec.(0 ~ Max.)	
Point display	Fixed point	
Insulation resistance	Min. 100MΩ (at 500VDC mega)	
Dielectric strength	2000VAC 50/60Hz for 1 minute	
Noise strength	±1kV the square wave noise (pulse width:1μs) by the noise simulator	
Vibration	Mechanical	0.75mm amplitude at frequency of 10 ~ 55Hz in each of X, Y, Z directions for 1 hour
	Malfunction	0.5mm amplitude at frequency of 10 ~ 55Hz in each of X, Y, Z directions for 10 minutes
Shock	Mechanical	300m/s <sup>2</sup> (30G) in X, Y, Z directions for 3 times
	Malfunction	100m/s <sup>2</sup> (10G) in X, Y, Z directions for 3 times
Ambient temperature	-10 ~ +50°C (at non-freezing status)	
Storage temperature	-20 ~ +60°C (at non-freezing status)	
Ambient humidity	35~85%RH	
Unit weight	Approx. 317g	

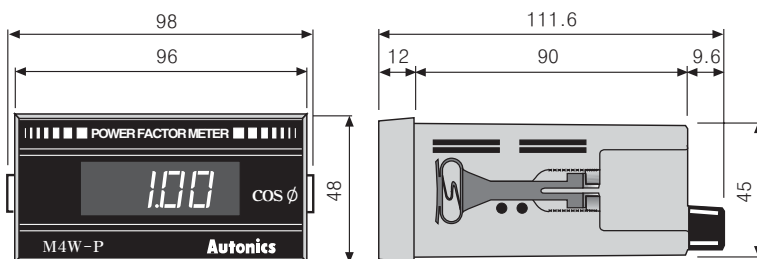
## Connections



## Application of connection



## Dimension



## Panel cut-out

