


DIN W48×H24mm Small size digital panel meter

■ Features

- Max. display : 1999
- Auto Zero function and Hold function
- 7 Segment LED Display
- Power supply : 5VDC, 12-24VDC

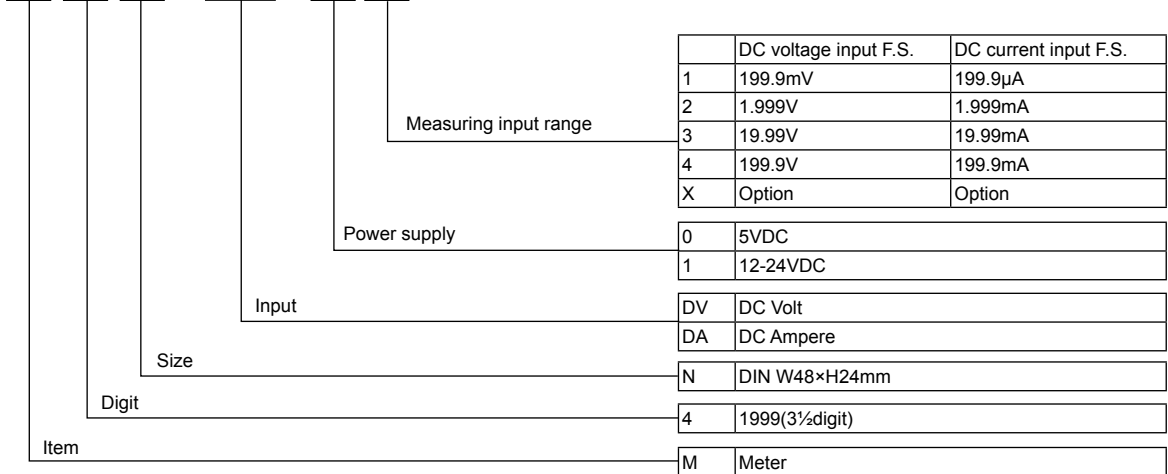
 Please read "Caution for your safety" in operation manual before using.



■ Ordering information

◎ DC VOLT METER / DC AMPERE METER

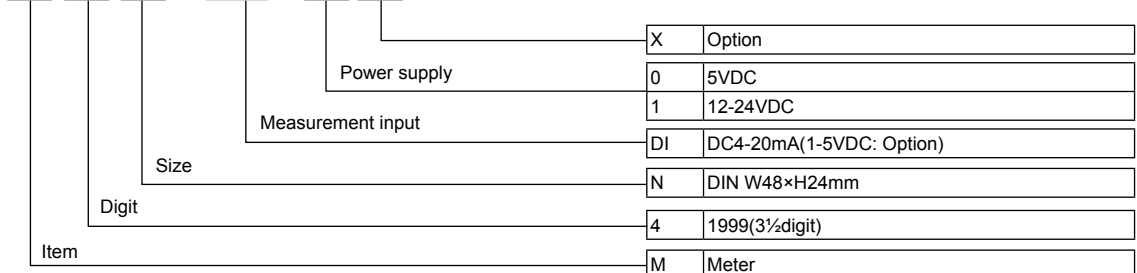
M 4 N - DV - 0 1



※M4N series is to measure DC only. AC voltage and AC current is not available to be measured.
 ※Measuring range for direct connection is max. 200VDC, max. DC200mA.

◎ DIGITAL SCALING METER

M 4 N - DI - 0 X



※1-5VDC measuring input is optional.
 If there is no additional order, its factory default is DC4-20mA.

(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

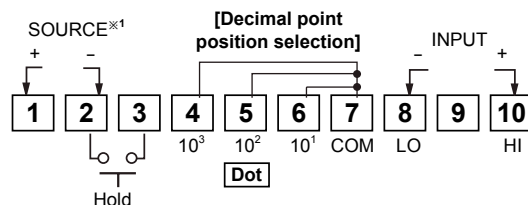
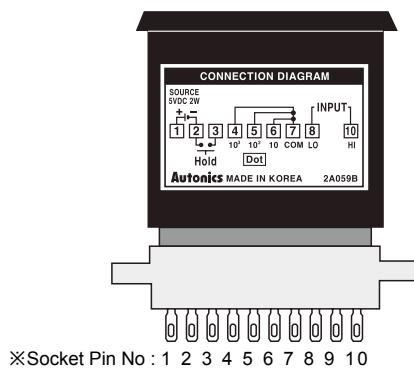
M4N Series

■ Specifications

Model	M4N-DV-□□	M4N-DA-□□	M4N-DI-□□
Measurement input	DC voltage	DC Ampere	DC4-20mA
Power supply	5VDC, 12-24VDC		
Allowable voltage range	90 to 110% of rated voltage		
Power consumption	2W		
Display method	7 Segment red LED display(Character height : 10mm)		
Max. display range	Max. 1999		
Display accuracy	F-S $\pm 0.2\%$ rdg ± 1 digit		
Sampling period	300ms		
A/D switching method	Dual integral method		
Response time	Approx. 2sec.(0 to 1999)		
Max. allowable input	150% of measurement input range		
Sampling time	2.5 times/sec.		
Insulation resistance	Min. 100M Ω (at 500VDC megger)		
Dielectric strength	2000VAC 50/60Hz for 1 minute		
Noise strength	± 100 V the square wave noise(pulse width : 1 μ s) 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 1hour	
	Malfuction	0.5mm amplitude at frquency of 10 to 55Hz(for 1 min.) in each of X, Y, Z directions for 10minutes	
Shock	Mechanical	300m/s ² (approx. 30G) in each of X, Y, Z directions for 3 times	
	Malfuction	100m/s ² (approx. 10G)in each of X, Y, Z directions for 3 times	
Environ-ment	Ambient temperature	-10 to 50°C, storage : -20 to 60°C	
	Ambient humidity	35 to 85%RH, storage : 35 to 95%RH	
Unit weight	Approx. 44g		

※Environment resistance is rated at no freezing or condensation.

■ Connection



※1: 5VDC, 12-24VDC

※In case of changing position of decimal point, disconnect switching pattern point on PCB and connect terminal contact according point to be changed.

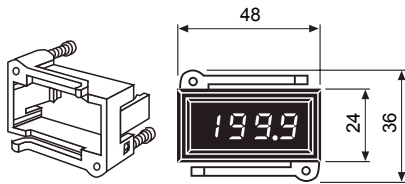
※Socket pin 9, NC terminal, is not connected at inside.

Compact Panel Meter

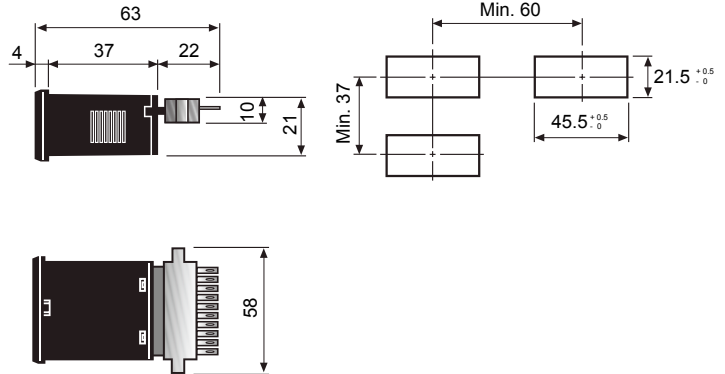
Dimensions

(unit: mm)

Bracket

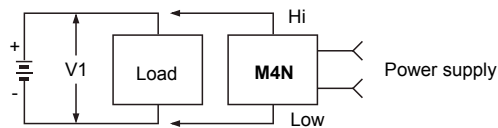


Panel cut-out



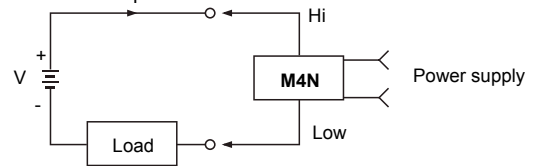
Connections

DC volt meter connection

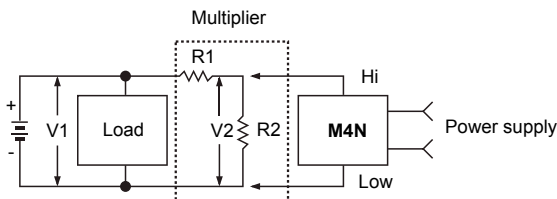


(Fig. 1) Measuring input (V1) is under 200VDC

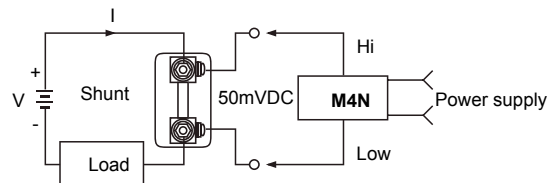
DC ampere meter connection



(Fig. 3) Measuring current is under DC200mA



(Fig. 2) Measuring input (V1) is under 200VDC



(Fig. 4) Measuring current is 50mVDC

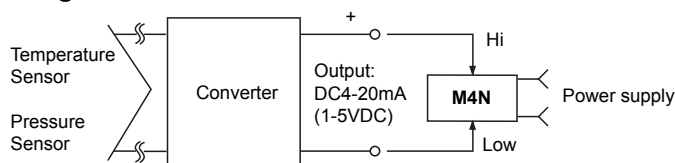
※When the measuring voltage is over 200VDC, please select R1 and R2 in order to make V2 less than max. measuring voltage using multiplier.

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

※When the current is higher than DC200mA, please use shunt.

※Second section of shunt is DC50mV.

Scaling meter connection



※1-5VDC output of converter is sold separately.

(A)	Photo electric sensor
(B)	Fiber optic sensor
(C)	Door/Area sensor
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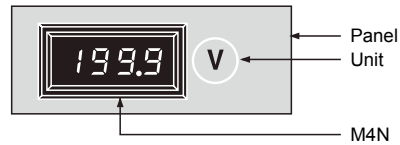
M4N Series

■ Proper usage

◎ Caution for selecting and using products

- Be careful customized product by requirement cannot be replaced.
 - When power is applied, it may display arbitrary number, because measuring input terminal is opened. If connect Low terminal of measuring input to GND, it displays "000".
 - If it indicates 1 or -1 during input signal is ON, please turn OFF the power and check the connection condition, because the input signal is too low or high.
 - When measuring voltage is higher than 200VDC, please divide the voltage with multiplying resistance to make lower than 200VDC.
(Refer to the connection method of DC volt meter in the application of connections)
Ex)Measuring 1000VDC
As the above connection figure of DC volt meter, select the R1 value to make 200VDC on R2.
(Generally R1 value will be higher than R2 value.)
Order the D.P.M indicating 1000V for 300VDC.
 - Select another item or use shunt for over than DC200mA of measured value.
(See the connection method of DC current for the application of using shunt.)
Ex)In case of measuring 20ADC
Use the shunt used for 20ADC/50mVDC and the specification should be ordered as M4N-DV-X 50mVDC/19.99.
※Our company does not sell a shunt.
Please connect our distributor to purchase the item.
 - M4N series is produced for 5VDC and 12-24VDC. Therefore, before you order the item please check the model again.
 - The specification of measurement input, which is indicated in model ordering, is a standard specification, 1:1 of measurement input and processing value. The additional specifications can be customizable.
 - * The application of M4N-DV/M4N-DA
M4N - DV - 0X 10VDC / 100.0
M4N - DA - 0X DC50mA / 199.9
 - * The application of M4N-DI
M4N - DI - 0X DC4-20mA / 100.0
- Note)If measurement input is 1-5VDC, please indicate it. Other wise, it will be produced with DC4-20mA.

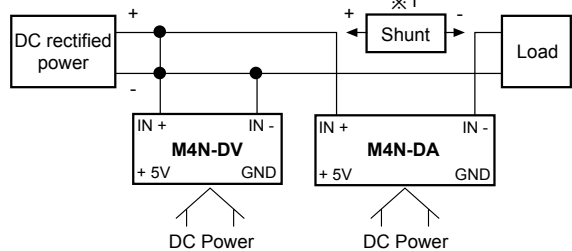
- Indicating method of unit
M4N is not indicated a unit on the product, therefore please indicate it in panel.



- Display of decimal point
The displaying decimal point is set in the product by your order.
(The prior products display the decimal point by using jump line in external connector like as connection figures.)
After purchasing the product, do not change the decimal point. If you need to change it, please connect us or distributor.

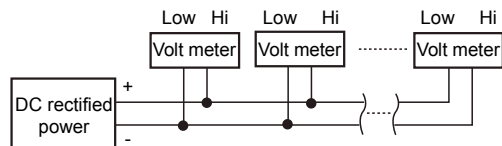
◎ Caution for connecting M4N

- In case of using both volt meter and ampere meter
Because the connection of measurement input terminal and power terminal is not insulated, when you use volt meter and ampere meter by connecting one set, please provide individual power.
In case of using same power, it may damage the product.



- ※1: If measure higher ampere than measuring input range, please use a shunt. If measure higher voltage than measuring input range, please use multiplier.
- ※If use a voltage measurement function meter and a ampere measurement function meter to a set, please use DC power 1EA individually.
- ※Power - terminal and measurement input terminal are shorted inside of the product.

- It is available using several volt meters with providing one DC power. However, the potential difference between - of measurement input and - of power may cause an error.



- ※Ampere meter cannot be used with above connection. Please provide power separately.

- Make sure to check the polarity of provided power before turn ON the power.
(If the polarity is connected reversely, internal circuit could be damaged.)
- Please check if the pin numbers are changed after connecting.