

# Autonics

## DIGITAL PANEL METER M4N SERIES

### M A N U A L



Thank you very much for selecting Autonics products.  
For your safety, please read the following before using.

#### Caution for your safety

\*Please keep these instructions and review them before using this unit.

\*Please observe the cautions that follow;

**Warning** Serious injury may result if instructions are not followed.

**Caution** Product may be damaged, or injury may result if instructions are not followed.

\*The following is an explanation of the symbols used in the operation manual.  
caution: Injury or danger may occur under special conditions.

#### Warning

1. In case of using this unit with machineries(Nuclear power control, medical equipment, vehicle, train, airplane, combustion apparatus, entertainment or safety device etc), it requires installing fail-safe device, or contact us for information on type required.

It may result in serious damage, fire or human injury.

#### Caution

1. It must be mounted on panel.

It may give an electric shock.

2. Do not repair, check up or connect when power on and measuring input applied.

It may give an electric shock.

3. Do not disassemble and modify this unit, when it requires. If needs, please contact us.

It may give an electric shock and cause a fire.

4. This unit shall not be used outdoors.

It might shorten the life cycle of the product or give an electric shock.

5. Please observe specification rating.

It might shorten the life cycle of the product and cause a fire.

6. Be sure that there is not insulated between measuring input terminal and power terminal.

It may cause mechanical trouble of measuring target or result in product damage.

7. Please separate the power supply when use it as Volt meter and Ampere meter at the same time.

It may cause mechanical trouble of measuring target or result in product damage.

8. Please wire properly after check polarity of power.

It may cause a fire or explosion and result in product damage.

9. In cleaning the unit, do not use water or an oil-based detergent.

It might cause an electric shock or fire that will result in damage to this product.

10. Do not use this unit at place where there are flammable or explosive gas, humidity, direct ray the sun, radiant heat, vibration, impact etc.

It may cause explosion.

11. Do not inflow dust or wire dregs into inside of this unit.

It may cause a fire or mechanical trouble.

12. Please connect properly after checking the polarity of measuring terminals.

It may cause a fire or explosion.

\*The above specification are changeable without notice anytime.

#### Ordering information

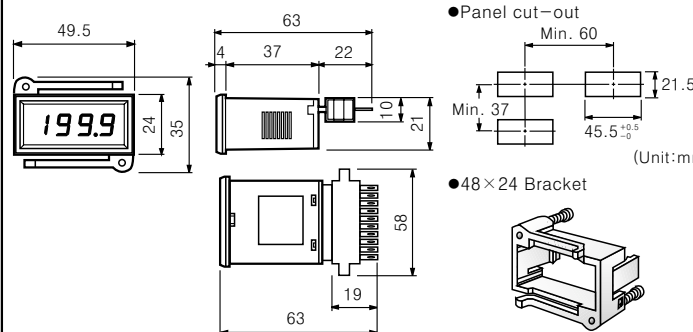
M	4	N	-	D	V	-	0	1
Measuring input								
1	199.9 (mV, $\mu$ A)							
2	1.999 (V, mA)							
3	19.99 (V, mA)							
4	199.9 (V, mA)							
X	Option							
0	Power supply 5VDC							
1	Power supply 12-24VDC							
V	*1 Volt Meter							
A	Ampere Meter							
I	1-5VDC, 4-20mA DC							
D	DC Type							
N	DIN Size W48 X H24mm							
4	3 1/2 digit							
M	Meter							

\*1 M4N series cannot measure AC voltage.

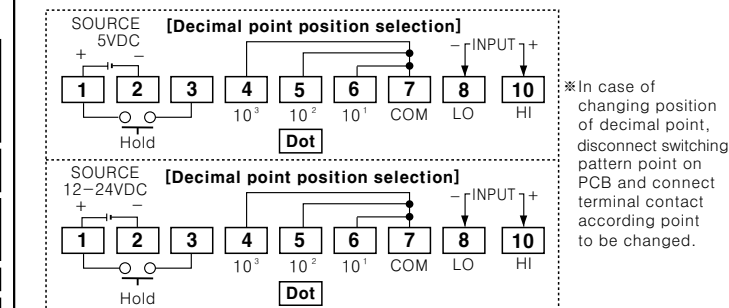
#### Specification

Model	M4N-DV-□□	M4N-DA-□□	M4N-DI-□□
Measurement function	DC voltage	DC Ampere	DC1-5V, DC4-20mA
Max. display range	Max. 1999(Fixed decimal point)		
Max. allowable input	150% of each input		
Power supply	5VDC $\pm$ 10%, 12-24VDC $\pm$ 10%		
Power consumption	DC:2W		
Display method	7Segment LED Display		
Display accuracy	F $\cdot$ S $\pm$ 0.2% rdg $\pm$ 1digit		
Sampling cycle	300ms		
A/D conversion method	Dual slope intergal method		
Response time	2sec.(0 to Max.)		
Sampling time	2.5 times/sec.		
Insulation resistance	100M $\Omega$ Min. (at 500VDC)		
Dielectric strength	2000VAC 50/60Hz for 1 minute		
Noise strength	$\pm$ 2kV the square wave noise(pulse width:1 $\mu$ s) by the noise simulator		
Vibration	Mechanical	0.75mm amplitude at frequency of 10 to 55Hz in each of X, Y, Z directions for 1hour	
	Malfunction	0.5mm amplitude at frequency of 10 to 55Hz in each of X, Y, Z directions for 10minutes.	
Shock	Mechanical	300m/s <sup>2</sup> (30G) in X, Y, Z direction	
	Malfunction	100m/s <sup>2</sup> (10G) in X, Y, Z direction	
Ambient temperature	-10 to 50 $^{\circ}$ C (at non-freezing condition)		
Storage temperature	-25 to 65 $^{\circ}$ C (at non-freezing condition)		
Ambient humidity	35 to 85%RH		
Weight	Approx. 42g		

#### Dimension

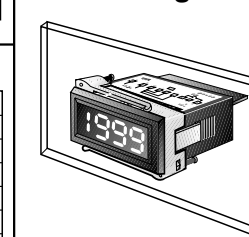


#### Connection



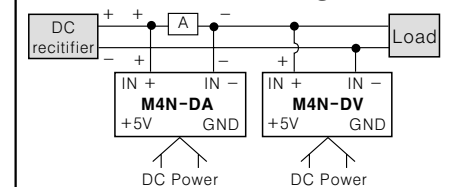
\*In case of changing position of decimal point, disconnect switching pattern point on PCB and connect terminal contact according point to be changed.

#### Mounting



\*Panel board thickness should be less than 10.0mm.

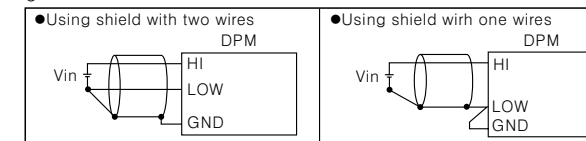
#### General block diagram



\*In case of using volt meter and ampere meter in same panel system, be sure to separate 5VDC adapter for each meters, but in case of using 2 or 3 set of the same kind of volt meter, they can be wired at same power(5VDC).  
\*Power line and input circuit is not isolated.

#### Caution for using

1. Please use separated line from high voltage line or power line in order to avoid inductive noise.
2. Please install power switch or circuit breaker in order to cut the power supply.
3. The switch or circuit-breaker should be installed near by users for safety.
4. Be sure to avoid using this unit near by machinery makes strong high frequency noise.(Welding machine high, capacity SCR unit etc.)
5. When input applied, if "1" or "-1" are displayed, it has some trouble with measuring input, please check the line after power off.
6. Input line : Shield wire must be used when the measuring input line is getting longer or there are lots of noises.



7. Please use insulated transformer for power supply.

\*It may cause malfunction if above instructions are not followed.

#### Main products

- COUNTER
- TIMER
- TEMPERATURE CONTROLLER
- PANEL METER
- TACHOMETER
- LINE SPEED METER
- DISPLAY UNIT
- PROXIMITY SWITCH
- PHOTOELECTRIC SENSOR
- FIBER OPTIC SENSOR
- PRESSURE SENSOR
- ROTARY ENCODER
- SENSOR CONTROLLER
- POWER CONTROLLER
- STEPPING MOTOR & DRIVER & CONTROLLER

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