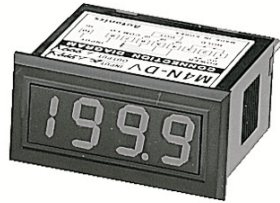


Autonics

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

- 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

- It must be mounted on panel.
It may give an electric shock.
- Do not repair, check up or connect when power on and measuring input applied.
It may give an electric shock.
- 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.
- This unit shall not be used outdoors.
It might shorten the life cycle of the product or give an electric shock.
- Please observe specification rating.
It might shorten the life cycle of the product and cause a fire.
- 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.
- Please separate the power supply in case of using multiple units at the same time.
It may cause mechanical trouble of measuring target or result in product damage.
- Please wire properly after check polarity of power.
It may cause a fire or explosion and result in product damage.
- 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.
- 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.
- Do not inflow dust or wire dregs into inside of this unit.
It may cause a fire or mechanical trouble.
- Please connect properly after checking the polarity of measuring terminals.
It may cause a fire or explosion.

*The above specifications are subject to change without notice.

Ordering information

M	4	N	-	D	V	-	0	1
Measuring input range	1	2	3	4	Blank	DC volt input F.S.	DC ampere input F.S.	
Power supply	0	1	V	A	I	5VDC	12~24VDC	
Measurement functions	V	A	I	D	N	DC Volt	DC Ampere	DC4~20mA(1~5VDC: Option)*2
Measuring input*1	D	N				DC Type	DIN W48 X H24mm	
Size	4	M				1999(3½ Digit)	Meter	
Digit	4							
Item	M							

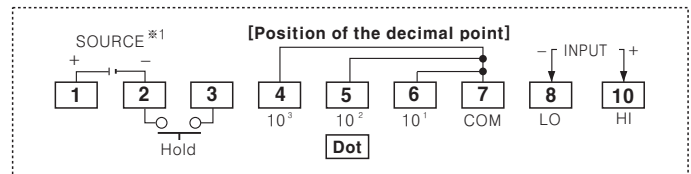
*1: M4N series is to measure DC only. AC voltage and AC current is not available to be measured.
*2: 1~5VDC measuring input is optional.

Specifications

Model	M4N-DV-□□	M4N-DA-□□	M4N-DI-□□
Measurement function	DC voltage	DC Ampere	DC4~20mA
Power supply	5VDC, 12~24VDC		
Allowable voltage range	90~110% of rated voltage		
Power consumption	2W		
Display method	7Segment LED Display(Character height: 10mm)		
Max.display range	Max. 1999		
Display accuracy	F.S. ±0.2% rdg ±1digit		
Sampling cycle	300ms		
A/D conversion method	Dual intergal 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. 100MΩ (at 500VDC megger)		
Dielectric strength	2000VAC 50/60Hz for 1 minute		
Noise strength	±100V 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 1hour	
	Malfunction	0.5mm amplitude at frequency of 10 ~ 55Hz in each of X, Y, Z directions for 10minutes.	
Shock	Mechanical	300m/s ² (30G) in X, Y, Z direction	
	Malfunction	100m/s ² (10G) in X, Y, Z direction	
Environment	Ambient temperature	-10 ~ 50°C, Storage temperature: -20 ~ 60°C	
	Ambient humidity	35 ~ 85%RH, Storage humidity: 35 ~ 85%RH	
Weight	Approx. 44g		

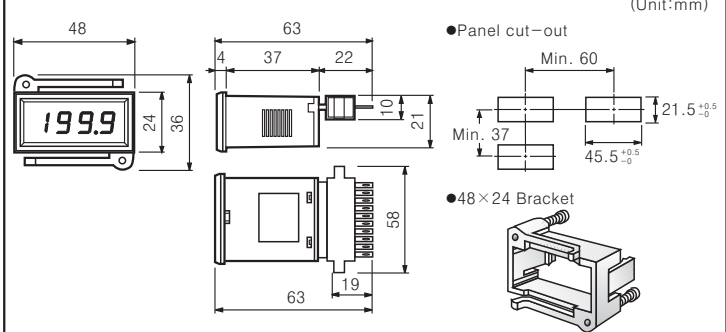
*Environment resistance is rated at no freezing or condensation.

Connections

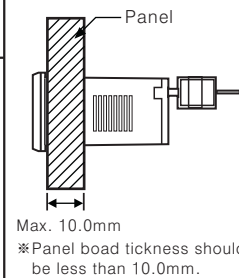


*1: 5VDC, 12~24VDC
*When changing the position of the decimal point, disconnect switching pattern point on PCB and change the decimal point in external terminal socket.

Dimensions

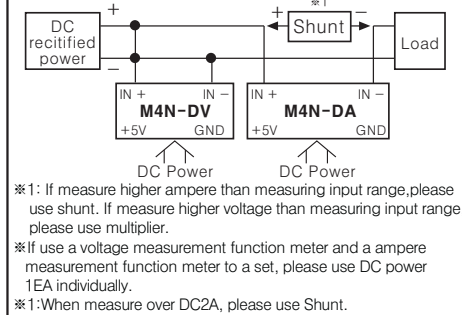


Mounting



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

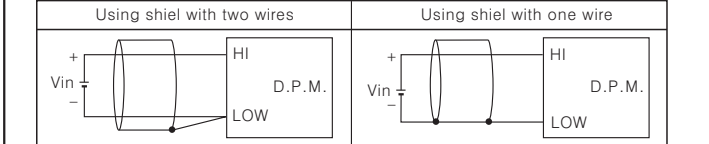
General block diagram



*1: If measure higher ampere than measuring input range, please use 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.
*1: When measure over DC2A, please use Shunt.

Caution for using

- Please use separated line from high voltage line or power line in order to avoid inductive noise.
- Please use power switch or circuit breaker in order to turn OFF the power.
- The switch or circuit-breaker should be installed near by users for safety.
- Be sure to avoid using this unit near by machinery makes strong high frequency noise. (Welding machine high, capacity SCR unit etc.)
- When input applied, if "I" or "H" are displayed, it has some trouble with measuring input, please check the line after power off.
- 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

- Proximity sensors
- Area sensors
- Door/Door side sensors
- Counters
- Rotary encoders
- Display units
- Power controllers
- Sensor controllers
- Panel meters
- Graphic/Logic panels
- Temperature controllers
- Tachometer/Pulse(Rate) meters
- Temperature/Humidity transducers
- Switching power supplies
- Stepping motors/drivers/motion controllers
- Field network devices
- Laser marking system(CO₂, Nd:YAG)
- Laser welding/soldering system
- Photoelectric sensors
- Fiber optic sensors
- Pressure sensors
- Timers

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