Panel Meters (Indicator)

M4Y Series

INSTRUCTION MANUAL

TCD210076AB

Autonics

Thank you for choosing our Autonics product.

Read and understand the instruction manual and manual thoroughly before using the product.

For your safety, read and follow the below safety considerations before using. For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.

Keep this instruction manual in a place where you can find easily.

The specifications, dimensions, etc. are subject to change without notice for product improvement. Some models may be discontinued without notice.

Follow Autonics website for the latest information.

Safety Considerations

- Observe all 'Safety Considerations' for safe and proper operation to avoid hazards.
- ▲ symbol indicates caution due to special circumstances in which hazards may

⚠ Warning Failure to follow instructions may result in serious injury or death.

- ${\bf 01.}\ {\bf Fail\text{-}safe}\ device\ must be\ installed\ when\ using\ the\ unit\ with\ machinery\ that$ may cause serious injury or substantial economic loss. (e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion **apparatus, safety equipment, crime / disaster prevention devices, etc.)** Failure to follow this instruction may result in personal injury, economic loss or fire.
- 02. Do not use the unit in the place where flammable / explosive / corrosive gas, high humidity, direct sunlight, radiant heat, vibration, impact or salinity may be present.

ire to follow this instruction may result in explosion or fire.

- **03. Install on a device panel to use.**Failure to follow this instruction may result in fire or electric shock.
- 04. Do not connect, repair, or inspect the unit while connected to a power source. Failure to follow this instruction may result in fire or electric shock.
- 05. Check 'Connections' before wiring.
- Of. Do not disassemble or modify the unit.

 Failure to follow this instruction may result in fire or electric shock.

⚠ Caution Failure to follow instructions may result in injury or product damage.

- 01. When connecting the power / measurement input and relay output, use AWG 24 (0.20 mm²) to AWG 15 (1.65 mm²) cable or over and tighten the terminal screw with a tightening torque of 0.98 to 1.18 N m.
- 02. Use the unit within the rated specifications.
- ailure to follow this instruction may result in fire or product damage
- $\,$ 03. Use a dry cloth to clean the unit, and do not use water or organic solvent.
- 04. Keep the product away from metal chip, dust, and wire residue which flow

Failure to follow this instruction may result in fire or product damage.

Cautions during Use

- Follow instructions in 'Cautions during Use'.
- Otherwise, It may cause unexpected accidents.

 Power supply should be insulated and limited voltage / current or Class 2, SELV power
- Install a power switch or circuit breaker in the easily accessible place for supplying or disconnecting the power.
- Keep away from high voltage lines or power lines to prevent inductive noise. In case installing power line and input signal line closely, use line filter or varistor at power line and shielded wire at input signal line.

Do not use near the equipment which generates strong magnetic force or high frequency noise.

Connection with the line filter	Connection with the varistor
Install the line filter close to the panel meter close to the panel meter the	Panel meter 110 / 220 VAC~ HI LOW

- This unit may be used in the following environments.
- Indoors (in the environment condition rated in 'Specifications')
- Altitude max 2 000 m
- Pollution degree 2 - Installation category II

Ordering Information

This is only for reference, the actual product does not support all combinations For selecting the specified model, follow the Autonics webstie.

M 4 Y - **0 2** - **3**

• Input type DV: DC voltage AV: AC voltage

T: Rotation

S: Speed

DA: DC current AA: AC current W: Power

Measurement input Refer to measurement input

No mark: AVG

specifications.

R: RMS

2 AC measurement method

DI: Scaling (DC 4 - 20 mA)

Measurement Input Specifications

Measurement	Input type								
input	DV	AV	DA	AA	W 01)	T 02)	S 02)	DI	
No mark	-	-	-	-	-	-	-	1999	
1	199.9 mVD- C==	199.9 mVAC~	199.9 μΑ	19.99 mA	199.9 W	1999 rpm	1999 m/min	-	
						0 - 10 VDC==	0 - 10 VDC==		
2		1.999 VAC~	1.999 mA	199.9 mA	1.999 kW	1999 rpm	1999 m/min	-	
						0 - 10 VAC~	0-10 VAC~		
3	19.99 VDC==	19.99 VAC~	19.99 mA	1.999 A	19.99 kW	-	-	-	
4	199.9 VDC=	199.9 VAC~	199.9 mA	19.99 A	199.9 kW	-	-	-	
5	300 VDC==	-	1.999 A	199.9 A	-	-	-	-	
6	-	400 VAC~	19.99 A	1999 A	-	-	-	-	
7	-	-	199.9 A	-	-	-	-	-	
8	-	-	1999 A	-	-	-	-	-	
DX	-	-	-	-	-	DC input	option	-	
AX	-	-	-	-	-	AC input option		-	
XX	Option	Option	Option	Option	Option	-	-	Option	

- 01) This specification is based on the transducer with 0 10 VDC == output. When the output of transducer is DC 4 20 mA or 1 5 VDC ==, use the scaling meter
- 02) This specification is based on the tacho generator with 0 10 VDC== or 0 10 VAC \sim output.

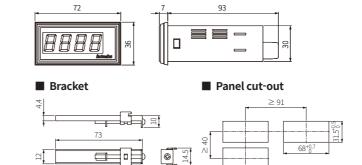
Product Components

- Product
- Bracket × 2

Instruction manual

Dimensions

• Unit: mm, For the detailed drawings, follow the Autonics website.

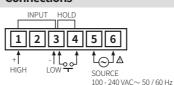


Cautions during Wiring

· Unit: mm, Use terminals of size specified below.



Connections



 Power option 5 6 24 - 70 VDC=

Specifications

Input type	DC voltage	AC voltage	DC current	AC current	Power	Rotation, speed	Scaling
Max. allowable input	≤ 300 VDC==	≤ 400 VAC~	≤ DC 2 A	≤ AC 5 A	≤ 10 VDC==	≤ 10 VDC== ≤ 10 VAC~	DC 4 - 20 mA
	$pprox$ 150 % F.S. for each measured input range $^{(1)}$						
Display method	7-segment (red) LED (character height: 14 mm)						
Display accuracy	Dependent on the input type						
DC input	\pm 0.2 % F.S. rdg \pm 1-digit						
AC input	\pm 0.5 % F.S. rdg \pm 1-digit						
Display scale	1999						
Sampling time	2.5 times / sec						
Response speed	≈ 2 sec (0 to 1999)						
Sampling cycle	300 ms						
Operation method	Dual integral method						
Unit weight	≈ 144 g						
Certification	ERC						
01) At 400 VAC ~ input: ≈ 120 % F.S. for each measured input range							
Power supply 01)	100 - 240 VAC~ ± 10 % 50 / 60 Hz						
D							

Power supply 01)	100 - 240 VAC $\sim \pm$ 10 % 50 / 60 Hz			
Power consumption	Dependent on the input type			
DC input	2 W			
AC input	4 VA			
Insulation resistance	\geq 100 M Ω (500 VDC== megger)			
Dielectric strength	Between the charging part and the case: 3,000 VAC $\sim 50/60$ Hz for 1 min			
Noise immunity	$\pm1\mathrm{kV}$ square wave noise (pulse width: $1\mathrm{\mu s}$) by the noise simulator			
Vibration	$0.75\mathrm{mm}$ double amplitude at frequency of 10 to 55 Hz in each X, Y, Z direction for 1 hours			
Vibration (malfunction)	0.5 mm double amplitude at frequency of 10 to 55 Hz in each X, Y, Z direction for 10 min			
Shock	$300 \text{ m/s}^2 (\approx 30 \text{ G})$ in each X, Y, Z direction for 3 times			
Shock (malfunction)	$100 \text{ m/s}^2 (\approx 10 \text{ G})$ in each X, Y, Z direction for 3 times			
Ambient temperature	-10 to 50 °C, storage: -25 to 65 °C (no freezing or condensation)			

01) Power supply 24 - 70 VDC == option is also available to order.

Error

• When 1999 or -1999 flashes with a certain measurement input, disconnect power

35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)

18. Bansong-ro 513Beon-gil, Haeundae-gu, Busan, Republic of Korea, 48002 www.autonics.com | +82-2-2048-1577 | sales@autonics.con

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