

Panel Meters (Indicator)

M5W Series
INSTRUCTION MANUAL

TCD210078AA

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 occur.

⚠ Warning

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

01. Fail-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.
Failure 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.
Failure to follow this instruction may result in fire.
06. 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.
Failure to follow this instruction may result in fire or malfunction due to contact failure.

02. Use the unit within the rated specifications.
Failure 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.
Failure to follow this instruction may result in fire or electric shock.

04. Keep the product away from metal chip, dust, and wire residue which flow into the unit.
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.
- 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

Install the line filter close to the panel meter

Connection with the varistor

Panel meter

- 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 5 W - ① - ②

① Input type

DV: DC voltage
DA: DC current
W: Power
T: Rotation
S: Speed
DI: Scaling (DC 4 - 20 mA)

② Measurement input

Refer to measurement input specifications.

Measurement Input Specifications						
Measurement input	Input type					
	DV	DA	W ⁰¹⁾	T ⁰²⁾	S ⁰²⁾	DI
No mark	-	-	-	-	-	19999
1	199.99 mVDC≐	199.99 μA	199.99 W	19999 rpm	19999 m / min	-
				0 - 10 VDC≐	0 - 10 VDC≐	
2	1.9999 VDC≐	1.9999 mA	1.9999 kW	-	-	-
3	19.999 VDC≐	19.999 mA	19.999 kW	-	-	-
4	199.99 VDC≐	199.99 mA	199.99 kW	-	-	-
5	300.0 VDC≐	1.9999 A	1999.9 kW	-	-	-
6	-	19.999 A	-	-	-	-
7	-	199.99 A	-	-	-	-
8	-	1999.9 A	-	-	-	-
DX	-	-	-	DC input Option	-	-
XX	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 tachometer with 0 - 10 VDC≐ or 0 - 10 VAC~ output.

Product Components

- Product (+bracket)
- 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

INPUT

1 2 3 4 5 6 7 8

HIGH LOW SOURCE 100 - 240 VAC ~ 50 / 60 Hz

- Power option

24 - 70 VDC≐

Specifications					
Input type	DC voltage	DC current	Power	Rotation, speed	Scaling
Max. allowable input	≤ 300 VDC≡	≤ DC 2 A	≤ 10 VDC≡	≤ 10 VDC≡	DC 4 - 20 mA
	≈ 150 % F.S. for each measured input range				
Display method	7-segment (red) LED (character height: 14 mm)				
Display accuracy	± 0.2 % F.S. rdg ± 1-digit				
Display scale	19999				
Sampling time	2.5 times / sec				
Response speed	≈ 2 sec (0 to 19999)				
Sampling cycle	300 ms				
Operation method	Dual integral method				
Unit weight	≈ 172 g				
Approval	ERC				
Power supply ⁰¹⁾	100 - 240 VAC ~ ± 10 % 50 / 60 Hz				
Power consumption	2 W				
Insulation resistance	≥ 100 MΩ (500 VDC≡ megger)				
Dielectric strength	2,000 VAC ~ 50 / 60 Hz for 1 min				
Noise immunity	± 1 the square wave noise (pulse width: 1 μs) by the noise simulator				
Vibration	0.75 mm double amplitude at frequency of 10 to 55 Hz (for 1 minute) in each X, Y, Z direction for 1 hours				
Vibration (malfunction)	0.5 mm double amplitude at frequency of 10 to 55 Hz (for 1 minute) in each X, Y, Z direction for 10 min				
Shock	300 m/s ² (≈ 30 G) in each X, Y, Z direction for 3 times				
Shock (malfunction)	100 m/s ² (≈ 10 G) in each X, Y, Z direction for 3 times				
Ambient temperature	0 to 50 °C, storage: -25 to 65 °C (no freezing or condensation)				
Ambient humidity	35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)				

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

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

Error

- When 19999 or -19999 flashes with a certain measurement input, disconnect power supply and then check the cables.