



E2. Digital Panel Meters

Multi panel meters are used to measure and monitor various industrial processes including voltage, current, frequency, and pressure.

E2-1	Panel Meters	MX4W Series	LCD Multi Panel Meters
		MT4N Series	4-Digit Multi Panel Meters
		MT4W Series	4-Digit Multi Panel Meters
		MT4Y Series	4-Digit Multi Panel Meters
		M4NN Series	4-Digit Multi Panel Meters
		M4N Series	Panel Meters (Indicator)
		M4M Series	Indicator / Thumbwheel Switch Panel Meters
		M4W Series	Indicator / Thumbwheel Switch Panel Meters
		M4Y Series	Panel Meters (Indicator)
		M5W Series	Panel Meters (Indicator)
		M4NS / M4YS Series	Loop-Power Panel Meters (Indicator)
		M4V Series	Digital Panel Meters for Mosaic Panels (Indicator)
E2-2	Pulse Meters	LR5N-B Series	Revolutions / Frequency Pulse Meters (Indicator)
		MP5M Series	Thumbwheel Switch Multi Pulse Meters
		MP5S / MP5Y / MP5W Series	Multi Pulse Meters

LCD Multi Panel Meters

MX4W Series



Features

- LCD display with easy-to-read white PV characters
- Isolated input and power modules allow powering of multiple units using a single power supply
- Compact, space-saving design (rear-length: 20 mm): reduced rear-length size by 80 % compared to same DIN size panel meters (MT4W)
- Various input options (by model)
 - Input options: DC / AC voltage, DC / AC current
- Maximum allowed input:
 - 500 VDC $\equiv$, 500 VAC $\sim$, DC 5 A, AC 5 A
- Display range: -9999 to 9999
- High / low-limit display scale function
- AC frequency measurement
 - (range: 0.100 to 1200 Hz)
- Preset output: OUT1, OUT2
 - (NPN / PNP open collector output)
- Power factor display / output function: displays analog outputs (1 - 5 V, 4 - 20 mA) from power factor converters as -0.50 to 1.00 to 0.50
- Various functions: peak display value monitoring, display cycle delay, zero-point adjustment, peak display value correction, etc.
- Power supply: 24 - 240 VAC $\sim$ 50 / 60 Hz, 24 - 240 VDC $\equiv$ universal

Specifications

Model	MX4W-V-F□	MX4W-A-F□
Input type	DC / AC voltage	DC / AC current
Max. allowable input	Dependent on the input type	
+DC input	≈ -10 to 110 % F.S. for each measured input range	
-DC input	≈ -110 to 110 % F.S. for each measured input range	
AC input	≈ 110 % F.S. for each measured input range	
Display method	12-segment LCD ⁰¹⁾ - measurement value display part: white, character height: 19 mm - other display parts: red, green, yellow (indicator: white)	
Display accuracy	Dependent on the ambient temperature	
23 $\pm$ 5 °C (DC input)	± 0.1 % F.S. rdg ± 2 -digit	± 0.1 % F.S. rdg ± 2 -digit ⁰²⁾
23 $\pm$ 5 °C (AC input)	± 0.3 % F.S. rdg ± 3 -digit	± 0.3 % F.S. rdg ± 3 -digit
0 to 50 °C	± 0.5 % F.S. rdg ± 3 -digit	± 0.5 % F.S. rdg ± 3 -digit ⁰³⁾
Display cycle	0.2 to 5.0 sec (select per 0.1 sec)	
Display scale	-9999 to 9999 (4-digit)	
A / D conversion method	$\Sigma\Delta$ (Sigma Delta) analog-to-digital converter	
Sampling cycle (DC input)	50 ms	
Sampling cycle (AC input)	16.6 ms	
Resolution	1 / 20,000	
Preset output	NPN / PNP open collector output model	
Load voltage	≤ 30 VDC $\equiv$	
Load current	≤ 100 mA	
Residual voltage	NPN open collector output: ≤ 1 VDC $\equiv$ / PNP open collector output: ≤ 2 VDC $\equiv$	
Unit weight (packaged)	≈ 77 g (≈ 100 g)	
Approval	CE 	

01) When using the unit at low temperature (below 0 °C), display cycle is slow due to characteristics of LCD. Control output operates normally.
 02) 5 A terminal: ± 0.3 % F.S. rdg ± 3 -digit
 03) 5 A terminal: ± 1 % F.S. rdg ± 3 -digit

Power supply	24 - 240 VDC $\equiv$ ± 10 %, 24 - 240 VAC $\sim$ ± 10 % 50 / 60 Hz
Power consumption	DC: ≤ 3 W, AC: ≤ 5 VA
Insulation resistance	≥ 100 M Ω (500 VDC $\equiv$ megger)
Dielectric strength	Between all terminals and case: 3,000 VAC $\sim$ 50 / 60 Hz for 1 min
Noise immunity	± 2 kV square wave noise (pulse width: 1 μ s) 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 2 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	-10 to 50 °C, storage: -20 to 60 °C (no freezing or condensation)
Ambient humidity	35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)
Insulation type	Symbol:  , double or reinforced insulation (dielectric strength between the measurement input part and the power part: 1 kV)



View product detail

4-Digit Multi Panel Meters

MT4N Series



Features

- Various input / output options (by model)
 - Input options: DC voltage, DC current, AC voltage, AC current
 - Output options: RS485 communication output, transmission output (DC 4 - 20 mA), NPN / PNP open collector output, relay contact output (default option: indicator / no output)
- Maximum allowed input: 50 VDC $\equiv$, DC 500 mA, 250 VAC $\sim$, AC 5A
- Display range: -1999 to 9999
- High / low-limit display scale function
- AC frequency measurement (range: 0.1 to 9999 Hz)
- Various functions: peak display value monitoring, display cycle delay, zero-point adjustment, peak display value correction, PV transmission output (DC 4 - 20 mA) scale, etc.
- Power supply: 12 - 24 VDC $\equiv$ / VAC $\sim$, 100 - 240 VAC $\sim$



View product detail

Specifications

Model	MT4N-DV-□□	MT4N-DA-□□	MT4N-AV-□□	MT4N-AA-□□
Input type	DC voltage	DC current	AC voltage ⁰¹⁾	AC current ⁰¹⁾
Max. allowable input	110 % F.S. for each measured input range			
Display method	7-segment (red) LCD (character height: 9 mm)			
Display accuracy	Dependent on the ambient temperature			
23 ± 5 °C	± 0.1 % F.S. rdg ± 2 digit ⁰²⁾		± 0.3 % F.S. rdg ± 3 digit	
-10 to 50 °C	± 0.5 % F.S. rdg ± 3 digit			
Max. display range	-1999 to 9999 (4 digit)			
A / D conversion method	Practical oversampling using successive approximation ADC			
Sampling cycle	50 ms		16.6 ms	
Unit weight (packaged)	≈ 64 g (≈ 127 g)			
Approval	CE ENEC			

01) Available frequency display

02) 5 A terminal: ± 0.3 % F.S. rdg ± 3 digit

Preset output	None (indicator) / Relay / NPN open collector / PNP open collector output model
Relay	Contact capacity: 125 VAC~ 0.3 A, 30 VDC≡ 1 A Contact composition: N.O (1a)
NPN / PNP open collector	Output capacity: ≤ 12 - 24 VDC≡ ± 2 VDC≡, 50 mA resistive load
Sub output	None (indicator) / Transmission (DC 4 - 20 mA) / RS485 communication output model
Transmission (DC 4 - 20 mA)	Resolution: 1/12,000 (load resistance: ≤ 600 Ω) Response time: ≤ 450 ms
RS485 communication	Protocol: Modbus RTU
Power supply	12 - 24 VDC≡ ± 10 %, 12 - 24 VAC~ ± 10 % 50 / 60 Hz / 100 - 240 VAC~ ± 10 % 50 / 60 Hz model
Power consumption (DC / AC voltage)	3 W / 5 VA ⁰¹⁾
Power consumption (AC voltage)	5 VA
Insulation resistance	≥ 20 MΩ (500 VDC≡ megger)
Dielectric strength (DC / AC voltage)	Between external terminal and case: 1,000 VAC~ 50 / 60 Hz for 1 min
Dielectric strength (AC voltage)	Between external terminal and case: 2,000 VAC~ 50 / 60 Hz for 1 min
Noise immunity	± 2 kV 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 min) in each X, Y, Z direction for 2 hours
Vibration (malfunction)	0.5 mm double amplitude at frequency of 10 to 55 Hz (for 1 min) 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 temp.	-10 to 50 °C, storage: -20 to 60 °C (no freezing or condensation)
Ambient humi.	35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)
Insulation type	Symbol:  double or reinforced insulation (dielectric strength between the measurement input part and the power part: 1 kV)
Comm. protocol	Modbus RTU

01) Except MT4N-□□-E5: 5 W / 8 VA

4-Digit Multi Panel Meters

MT4W Series



Features

- Various input / output options (by model)
 - Input options: DC voltage, DC current, AC voltage, AC current
 - Output options: RS485 communication output, low speed serial output, BCD dynamic output, transmission output (DC 4 - 20 mA), NPN / PNP open collector output, relay contact output (default option: indicator / no output)
- Maximum allowed input:
500 VDC $\equiv$, DC 5 A, 500 VAC $\sim$, AC 5 A
- Display range: -1999 to 9999
- High / low-limit display scale function
- AC frequency measurement
(range: 0.1 to 9999 Hz)
- Various functions: peak display value monitoring, display cycle delay, zero-point adjustment, peak display value correction, PV transmission output (DC 4 - 20 mA) scale, etc.
- Power supply:
12 - 24 VDC $\equiv$, 100 - 240 VAC $\sim$
- DIN W 72 × H 36 mm

Specifications

Model	MT4W-DV-□□	MT4W-DA-□□	MT4W-AV-□□	MT4W-AA-□□
Input type	DC voltage	DC current	AC voltage ⁰¹⁾	AC current ⁰¹⁾
Max. allowable input	110 % F.S. for each measured input range			
Display method	7-segment (red) LED (character height: 14.2 mm)			
Display accuracy	Dependent on the ambient temperature			
23 ± 5 °C	± 0.1 % F.S. rdg ± 2 digit	± 0.1 % F.S. rdg ± 2 digit ⁰²⁾	± 0.3 % F.S. rdg ± 3 digit	± 0.3 % F.S. rdg ± 3 digit
-10 to 50 °C	± 0.5 % F.S. rdg ± 3 digit			
Max. display range	-1999 to 9999 (4 digit)			
A / D conversion method	ΣΔ (Sigma Delta) ADC			
Sampling cycle	50 ms		16.6 ms	
Unit weight (packaged)	≈ 211 g (= 326 g)			
Approval	CE  ⁰³⁾ ENEC			

01) Available frequency display, Display accuracy (23 ± 5 °C): ± 0.1 % F.S. rdg ± 2 digit

02) 5 A terminal: ± 0.3 % F.S. rdg ± 3 digit

03) Except power supply 12 - 24 VDC $\equiv$ model

Preset output	None (indicator) / Relay / NPN open collector / PNP open collector output model
Relay	Contact capacity: 250 VAC $\sim$ 3 A, 30 VDC $\equiv$ 3 A Contact composition: N.O (1a)
NPN / PNP open collector	Output capacity: ≤ 12 - 24 VDC $\equiv$ ± 2 VDC $\equiv$, 50 mA resistive load
Sub output	None (indicator) / BCD Dynamic / Transmission (DC 4 - 20 mA) / Low speed serial / RS485 Communication output model
BCD Dynamic / Low speed serial	NPN open collector output Output capacity: ≤ 12 - 24 VDC $\equiv$, 50 mA resistive load
Transmission (DC 4 - 20 mA)	Resolution: 1/12,000 (load resistance: ≤ 600 Ω) Response time: ≤ 450 ms
RS485 communication	Protocol: Modbus RTU

Model	MT4W-□□-1□	MT4W-□□-4□
Power supply	12 - 24 VDC $\equiv$ ± 10 %	100 - 240 VAC $\sim$ ± 10 % 50 / 60 Hz
Power consumption	5 W	5 VA
Insulation resistance	Between external terminal and case: ≥ 100 M Ω (500 VDC $\equiv$ megger)	
Dielectric strength	Between external terminal and case: 2,000 VAC $\sim$ 50 / 60 Hz for 1 min	
Noise immunity	± 2 kV square wave noise (pulse width: 1 μ s) by the noise simulator	
Vibration	0.75 mm double amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours	
Vibration (malfunction)	0.5 mm double amplitude at frequency of 10 to 55 Hz (for 1 min) 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	
Relay life cycle	Mechanical: ≥ 20,000,000 operations Electrical: ≥ 100,000 operations (250 VAC $\sim$ 3A resistive load)	
Ambient temp.	-10 to 50 °C, storage: -20 to 60 °C (freezing or condensation)	
Ambient humi.	35 to 85 %RH, storage: 35 to 85 %RH (freezing or condensation)	
Insulation type	Symbol:  double or reinforced insulation (dielectric strength between the measurement input part and the power part: 1 kV)	
Comm. protocol	Modbus RTU	



View product detail

4-Digit Multi Panel Meters

MT4Y Series



Features

- Various input / output options (by model)
 - Input options: DC voltage, DC current, AC voltage, AC current
 - Output options: RS485 communication output, low speed serial output, BCD dynamic output, transmission output (DC 4 - 20 mA), NPN / PNP open collector output, relay contact output (default option: indicator / no output)
- Maximum allowed input:
500 VDC $\equiv$, DC 5 A, 500 VAC $\sim$, AC 5 A
- Display range: -1999 to 9999
- High / low-limit display scale function
- AC frequency measurement
(range: 0.1 to 9999 Hz)
- Various functions: peak display value monitoring, display cycle delay, zero-point adjustment, peak display value correction, PV transmission output (DC 4 - 20 mA) scale, etc.
- Power supply:
12 - 24 VDC $\equiv$, 100 - 240 VAC $\sim$
- DIN W 96 × H 48 mm



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Specifications

Model	MT4Y-DV-4□	MT4Y-DA-4□	MT4Y-AV-4□	MT4Y-AA-4□
Input type	DC voltage	DC current	AC voltage ⁰¹⁾	AC current ⁰¹⁾
Max. allowable input	110 % F.S. for each measured input range			
Display method	7-segment (red) LED (character height: 14.2 mm)			
Display accuracy	Dependent on the ambient temperature			
23 ± 5 °C	± 0.1 % F.S. rdg ± 2 digit	± 0.1 % F.S. rdg ± 2 digit ⁰²⁾	± 0.3 % F.S. rdg ± 3 digit	± 0.3 % F.S. rdg ± 3 digit
-10 to 50 °C	± 0.5 % F.S. rdg ± 3 digit			
Max. display range	-1999 to 9999 (4 digit)			
A / D conversion method	ΣΔ (Sigma Delta) ADC			
Sampling cycle	50 ms		16.6 ms	
Unit weight (packaged)	≈ 134 g (≈ 213.5 g)			
Approval	  			

01) Available frequency display, Display accuracy (23 ± 5 °C): ± 0.1 % F.S. rdg ± 2 digit

02) 5 A terminal: ± 0.3 % F.S. rdg ± 3 digit

Preset output	None (indicator) / Relay / NPN open collector / PNP open collector output model
Relay	Contact capacity: 250 VAC~ 3 A, 30 VDC= 3 A Contact composition: N.O (1a)
NPN / PNP open collector	Output capacity: ≤ 12 - 24 VDC= ± 2 VDC=, 50 mA resistive load
Sub output	None (indicator) / BCD Dynamic / Transmission (DC 4 - 20 mA) / Low speed serial / RS485 Communication output model
BCD Dynamic / Low speed serial	NPN open collector output Output capacity: ≤ 12 - 24 VDC=, 50 mA resistive load
Transmission (DC 4 - 20 mA)	Resolution: 1/12,000 (load resistance: ≤ 600 Ω) Response time: ≤ 450 ms
RS485 communication	Protocol: Modbus RTU
Power supply	100 - 240 VAC~ ± 10 % 50 / 60 Hz
Power consumption	5 VA
Insulation resistance	Between external terminal and case: ≥ 100 MΩ (500 VDC= megger)
Dielectric strength	Between external terminal and case: 2,000 VAC~ 50 / 60 Hz for 1 min
Noise immunity	± 2 kV 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 min) in each X, Y, Z direction for 2 hours
Vibration (malfunction)	0.5 mm double amplitude at frequency of 10 to 55 Hz (for 1 min) 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
Relay life cycle	Mechanical: ≥ 20,000,000 operations Electrical: ≥ 100,000 operations (250 VAC~ 3A resistive load)
Ambient temp.	-10 to 50 °C, storage: -20 to 60 °C (no freezing or condensation)
Ambient humi.	35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)
Insulation type	Symbol:  double or reinforced insulation (dielectric strength between the measurement input part and the power part: 1 kV)
Comm. protocol	Modbus RTU

4-Digit Multi Panel Meters

M4NN Series



Features

- Various input / output options (by model)
 - Input options: DC voltage, DC current, AC voltage, AC current
 - Output options: NPN open collector / PNP open collector (default: indicator / no output)
- Isolated input and power modules allow powering of multiple units using a single power supply
- Display range: -1999 to 9999
- High / low-limit display scale function
- AC frequency measurement (range: 0.1 to 9999 Hz)
- Preset output mode: OUT1, GO, OUT2 (NPN / PNP open collector output)
- Power factor display function: displays analog input (1 - 5 V, 4 - 20 mA) from power factor converters as -0.50 to 1.00 to 0.50
- Various functions: peak display value monitoring, display cycle delay, zero-point adjustment, peak display value correction
- Power supply: 5 - 24 VDC $\equiv$ (isolated type)

Specifications

Model	M4NN-DV-1□	M4NN-DA-1□	M4NN-AV-1□	M4NN-AA-1□
Input type	DC voltage	DC current	AC voltage ⁰¹⁾	AC current ⁰¹⁾
Max. allowable input	Dependent on the input type			
+DC input	≈ -10 to 110 % F.S. for each measured input range		-	
-DC input	≈ -110 to 110 % F.S. for each measured input range		-	
AC input	-		≈ 110 % F.S. for each measured input range	
Display method	7-segment (red) LED (character height: 11 mm)			
Display accuracy	Dependent on the ambient temperature			
23 ± 5 °C	± 0.1 % F.S. rdg ± 2-digit	± 0.1 % F.S. rdg ± 2-digit ⁰²⁾	± 0.3 % F.S. rdg ± 3-digit	± 0.3 % F.S. rdg ± 3-digit
-10 to 50 °C	± 0.5 % F.S. rdg ± 3-digit	± 0.5 % F.S. rdg ± 3-digit ⁰³⁾	± 0.5 % F.S. rdg ± 3-digit	± 0.5 % F.S. rdg ± 3-digit ⁰³⁾
Display cycle	0.1 to 5.0 sec (select per 0.1 sec)			
Display scale	-1999 to 9999 (4-digit)			
A / D conversion method	Practical oversampling using successive approximation ADC			
Sampling cycle	50 ms		16.6 ms	
Resolution	1 / 12,000			
Preset output	NPN / PNP open collector output model			
Load voltage	≤ 30 VDC≡			
Load current	≤ 100 mA			
Residual voltage	NPN open collector output: ≤ 1 VDC≡ / PNP open collector output: ≤ 2 VDC≡			
Unit weight (packaged)	≈ 46.8 g (≈ 83.7 g)		≈ 46.9 g (≈ 83.8 g)	
Approval	CE ENEC		CE ENEC	

01) Available frequency display

02) 5 A terminal: ± 0.3 % F.S. rdg ± 3-digit

03) 5 A terminal: ± 1 % F.S. rdg ± 3-digit

Power supply	5 - 24 VDC $\equiv$ ± 10 % (low-limit: 5 VDC $\equiv$ fixed)
Power consumption	≤ 3 W
Insulation resistance	≥ 100 MΩ (500 VDC $\equiv$ megger)
Dielectric strength	Between all terminals and case: 2,000 VAC $\sim$ 50 / 60 Hz for 1 min
Noise immunity	± 2 kV 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 2 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	-10 to 50 °C, storage: -20 to 60 °C (no freezing or condensation)
Ambient humidity	35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)
Insulation type	Symbol:  double or reinforced insulation (dielectric strength between the measurement input part and the power part: 1 kV)
Connection	Plug type - socket type terminal



View product detail

Panel Meters

(Indicator)

M4N Series



Features

- Input options (by model)
 - Input options: DC voltage, DC current
- Auto-zero adjustment and hold display value function
- Max display value: 1999
- 7-segment LED display
- Compact size: DIN W 48 × H 24 mm
- Power supply: 5 VDC $\equiv$, 12 - 24 VDC $\equiv$

Specifications

Model	M4N-DV-□□	M4N-DA-□□	M4N-DI-□X
Input type	DC voltage	DC current	DC 4 - 20 mA
Max. allowable input	≈ 150 % F.S. for each measured input range		
Display method	7-segment (red) LED (character height: 10 mm)		
Display accuracy	0.2 % F.S. rdg ± 1-digit		
Sampling time	2.5 times / sec		
Display scale	-1999 (4-digit)		
Operation method	Dual integral method		
Sampling cycle	300 ms		
Response speed	≈ 2 sec (0 to 1999)		
Unit weight	≈ 44 g		
Approval	EAC		
Power supply	5 VDC $\equiv$ ± 10 % / 12 - 24 VDC $\equiv$ ± 10 % model		
Power consumption	2 W		
Insulation resistance	≥ 100 MΩ (500 VDC $\equiv$ megger)		
Dielectric strength	2,000 VAC~ 50 / 60 Hz for 1 min		
Noise immunity	±100 V 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	-10 to 50 °C, storage: -20 to 60 °C (no freezing or condensation)		
Ambient humidity	35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)		



View product detail

Indicator / Thumbwheel Switch Panel Meters

M4M Series



Features

- Max. display value: 1999
- Auto-zero function and hold display value function
- Linear display based on input specification
- Display output values (0 - 10 VDC $\approx$) from power converters (options available for DC 4 - 20 mA, 1 - 5 VDC $\approx$)
- RMS or AVG value selection (AC voltage)
- 7-segment LED display
- DIN standard size models

Specifications

Input type	DC voltage	AC voltage	DC current	AC current	Power	Rotation, speed	Scaling
Max. allowable input	≤ 300 VDC $\approx$	≤ 400 VAC $\sim$	$\leq$ DC 2 A	$\leq$ AC 5 A	≤ 10 VDC $\approx$	≤ 10 VDC $\approx$ ≤ 10 VAC $\sim$	DC 4 - 20 mA
	≈ 150 % F.S. for each measured input range ⁰¹⁾						
Display method	7-segment (red) LED (character height: 10 mm)						
Display accuracy	Dependent on the input type						
DC input	± 0.2 % F.S. rdg ± 1 -digit						
AC input	± 0.5 % F.S. rdg ± 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	Dependent on the output						
Indicator	≈ 262 g						
Single setting	≈ 290 g						
Dual setting	≈ 316 g						
Approval	EAC						

01) At 400 VAC $\sim$ input: ≈ 120 % F.S. for each measured input range

Output	Indicator	Single setting	Dual setting
Power supply ⁰¹⁾	110 / 220 VAC $\sim \pm 10$ % 50 / 60 Hz		
Power consumption	Dependent on the input type		
DC input	2 W	3 W	3 W
AC input	4 VA	5 VA	5 VA
Contact capacity	-	250 VAC ~ 3 A, 150 VDC ≈ 3 A	250 VAC ~ 3 A, 150 VDC ≈ 3 A
Contact composition	-	1c $\times$ 1	1c $\times$ 2
Insulation resistance	≥ 100 M Ω (500 VDC $\approx$ megger)		
Dielectric strength	2,000 VAC ~ 50 / 60 Hz for 1 min		
Noise immunity	± 1 kV square wave noise (pulse width: 1 μ s) 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		
Relay life cycle	Mechanical: $\geq 10,000,000$ operations Electrical: $\geq 100,000$ operations (250 VAC ~ 3 A resistive load)		
Ambient temperature	-10 to 50 $^{\circ}$ C, storage: -25 to 65 $^{\circ}$ 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 $\approx$, 100 - 240 VAC ~ 50 / 60 Hz options are also available to order.

View product detail



Voltmeter



Scaling



Ammeter



Wattmeter



Tachometer /
Speed Meter

Indicator / Thumbwheel Switch Panel Meters

M4W Series



Features

- Max. display value: 1999
- Auto-zero function and hold display value function
- Linear display based on input specification
- Display output values (0 - 10 VDC $\approx$) from power converters (options available for DC 4 - 20 mA, 1 - 5 VDC $\approx$)
- RMS or AVG value selection (AC voltage)
- 7-segment LED display
- DIN standard size models

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
	≈ 150 % F.S. for each measured input range ⁰¹⁾						
Display method	7-segment (red) LED (character height: 14 mm)						
Display accuracy	Dependent on the input type						
DC input	± 0.2 % F.S. rdg ± 1-digit					± 0.3 % F.S. rdg	
AC input	± 0.5 % F.S. rdg ± 1-digit					± 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	Dependent on the output type						
Indicator	≈ 168 g						
Single setting	≈ 253 g						
Dual setting	≈ 278 g						
Approval	EAC						

01) At 400 VAC $\sim$ input: ≈ 120 % F.S. for each measured input range

Output type	Indicator	Single setting	Dual setting
Power supply ⁰¹⁾	110 / 220 VAC $\sim$ ± 10 % 50 / 60 Hz		
Power consumption	Dependent on the input type		
DC input	2 W	3 W	3 W
AC input	4 VA	5 VA	5 VA
Contact capacity	-	250 VAC $\sim$ 3 A, 150 VDC $\approx$ 3 A	250 VAC $\sim$ 3 A, 150 VDC $\approx$ 3 A
Contact composition	-	1c $\times$ 1	1c $\times$ 2
Insulation resistance	≥ 100 M Ω (500 VDC $\approx$ megger)		
Dielectric strength	2,000 VAC $\sim$ 50 / 60 Hz for 1 min		
Noise immunity	± 1 kV square wave noise (pulse width: 1 μ s) 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		
Relay life cycle	Mechanical: $\geq 10,000,000$ operations Electrical: $\geq 100,000$ operations (250 VAC $\sim$ 3A resistive load)		
Ambient temperature	-10 to 50 $^{\circ}$ C, storage: -25 to 65 $^{\circ}$ 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 $\approx$, 100 - 240 VAC $\sim$ 50 / 60 Hz options are also available to order.

View product detail



Voltmeter



Scaling



Ammeter



Wattmeter



Tachometer /
Speed Meter

Panel Meters

(Indicator)

M4Y Series



Features

- Max. display value: 1999
- Auto-zero function and hold display value function
- Linear display based on input specification
- Display output values (0 - 10 VDC $\overline{=}$) from power converters (options available for DC 4 - 20 mA, 1 - 5 VDC $\overline{=}$)
- RMS or AVG value selection (AC voltage)
- 7-segment LED display
- DIN standard size models

Specifications

Input type	DC voltage	AC voltage	DC current	AC current	Power	Rotation, speed	Scaling
Max. allowable input	≤ 300 VDC $\overline{=}$	≤ 400 VAC $\sim$	$\leq$ DC 2 A	$\leq$ AC 5 A	≤ 10 VDC $\overline{=}$	≤ 10 VDC $\overline{=}$ ≤ 10 VAC $\sim$	DC 4 - 20 mA
	≈ 150 % F.S. for each measured input range ⁰¹⁾						
Display method	7-segment (red) LED (character height: 14 mm)						
Display accuracy	Dependent on the input type						
DC input	± 0.2 % F.S. rdg ± 1 -digit						
AC input	± 0.5 % F.S. rdg ± 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						
Approval	EAC						

01) At 400 VAC $\sim$ input: ≈ 120 % F.S. for each measured input range

Power supply ⁰¹⁾	100 - 240 VAC $\sim$ ± 10 % 50 / 60 Hz
Power consumption	Dependent on the input type
DC input	2 W
AC input	4 VA
Insulation resistance	≥ 100 M Ω (500 VDC $\overline{=}$ megger)
Dielectric strength	2,000 VAC $\sim$ 50 / 60 Hz for 1 min
Noise immunity	≈ 1 kV square wave noise (pulse width: 1 μ s) 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	-10 to 50 $^{\circ}$ C, storage: -25 to 65 $^{\circ}$ 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 $\overline{=}$ option is also available to order.

View product detail



Voltmeter



Scaling



Ammeter



Wattmeter



Tachometer /
Speed Meter

Panel Meters

(Indicator)

M5W Series



Features

- Max. display value: 19999
- Linear display based on input specification
- Display output values (0 - 10 VDC $\overline{=}$) from power converters (options available for DC 4 - 20 mA, 1 - 5 VDC $\overline{=}$)
- RMS or AVG value selection (AC voltage)
- 7-segment LED display
- DIN standard size models

Specifications

Input type	DC voltage	DC current	Power	Rotation, speed	Scaling
Max. allowable input	≤ 300 VDC $\overline{=}$	$\leq$ DC 2 A	≤ 10 VDC $\overline{=}$	≤ 10 VDC $\overline{=}$	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	EAC				

Power supply ⁰¹⁾	100 - 240 VAC $\sim$ ± 10 % 50 / 60 Hz
Power consumption	2 W
Insulation resistance	≥ 100 M Ω (500 VDC $\overline{=}$ megger)
Dielectric strength	2,000 VAC $\sim$ 50 / 60 Hz for 1 min
Noise immunity	± 1 the square wave noise (pulse width: 1 μ s) 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 $\overline{=}$ option is also available to order.

View product detail



Voltmeter



Scaling



Ammeter



Wattmeter



Tachometer /
Speed Meter

Loop-Power

Panel Meters

(Indicator)

M4NS / M4YS Series



Features

- Loop-powered: power supplied by loop current
- Measured input: DC 4 - 20 mA
- Display range: -1999 to 9999
- High / low-limit display scale function
- Decimal point setting function
- Input high / low-value correction function
- Display peak value monitoring function
- Set peak value monitoring delay time
- Display cycle time setting
(0.5 / 1 / 2 / 3 / 4 / 5 seconds)
- Error display function
 - M4NS: DIN W 48 × H 24 mm
 - M4YS: DIN W 72 × H 36 mm

Specifications

Model	M4NS-NA	M4YS-NA
Input type	DC 4 - 20 mA	
Impedance between input lines ⁰¹⁾	≤ 600 Ω	
Display method	7-segment (red) LED (character height: 10 mm)	7-segment (red) LED (character height: 14 mm)
Display accuracy	Dependent on the ambient temperature	
25 ± 5 °C	0.3 % F.S. rdg ± 1-digit	
-10 to 50 °C	0.4 % F.S. rdg ± 1-digit	
Display scale	-1999 to 9999 (4-digit)	
Display cycle	0.5, 1, 2, 3, 4, 5 sec	
Resolution	1 / 12,000	
Unit weight	≈ 44 g	≈ 110 g
Approval	EAC	
01) Based on input power 24 VDC≡		
Power supply	Loop powered type	
Insulation resistance	≥ 100 MΩ (500 VDC≡ megger)	
Dielectric strength	2,000 VAC~ 50 / 60 Hz for 1 min	
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	-10 to 50 °C, storage: -25 to 60 °C (no freezing or condensation)	
Ambient humidity	35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)	



View product detail

Digital Panel Meters for Mosaic Panels (Indicator)

M4V Series



Features

- Various input options:
0 - 2 VDC $\overline{=}$, 0 - 10 VDC $\overline{=}$, 1 - 5 VDC $\overline{=}$,
DC 0 - 1 mA, DC 4 - 20 mA
- High / low-limit display scale function
- Display range: -999 to 9999
- Display accuracy: F.S $\pm$ 2 % rdg $\pm$ 1-digit
- Error display function
- Built-in microprocessor

Specifications

Model	M4V
Input type	DC voltage, DC current
Measurement input type	0 - 2 VDC $\overline{=}$, 1 - 5 VDC $\overline{=}$, 0 - 10 VDC $\overline{=}$, DC 0 - 1 mA, DC 4 - 20 mA
Max. allowable input	$\approx$ 110 % F.S. for each measured input range
Display method	7 -segment (red) LED (character height: 14 mm)
Display accuracy	Dependent on the ambient temperature
0 to 50 °C	$\pm$ 0.2 % F.S. rdg $\pm$ 1-digit
-10 to 0 °C	$\pm$ 0.3 % F.S. rdg $\pm$ 1-digit
Display cycle	0.5 sec
Unit weight	$\approx$ 83 g
Approval	ERC
Power supply	12 - 24 VDC $\overline{=}$ $\pm$ 10 %
Power consumption	$\leq$ 2 W
Insulation resistance	$\geq$ 100 M Ω (500 VDC $\overline{=}$ megger)
Dielectric strength	2,000 VAC $\sim$ 50 / 60 Hz for 1 min
Noise immunity	$\pm$ 300 V square wave noise (pulse width: 1 μ s) 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 ($\approx$ 30 G) in each X, Y, Z direction for 3 times
Shock (malfunction)	100 m/s ² ($\approx$ 10 G) in each X, Y, Z direction for 3 times
Ambient temperature	-10 to 50 °C, storage: -20 to 60 °C (no freezing or condensation)
Ambient humidity	35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)



View product detail

Revolutions / Frequency Pulse Meters (Indicator)

LR5N-B Series



Features

- 1-pulse input per revolution
- Display up to 10,000 RPM
- Built-in internal battery
(power supply not required)
- Display RPM or RPS of rotating shaft or disc
- AC voltage frequency display function
- IP66 protection structure (front panel)

Specifications

Model	LR5N-B		
Display digits	4½-digit		
Display type	LCD Zero Blanking (character size: H 8.7 mm)		
Input type	IN 1: No-voltage input	IN 2: Voltage input 1	IN 3: Voltage input 2
Input signal level	Short-residual voltage : ≤ 0.5 V Short-circuit impedance : ≤ 10 kΩ Open-circuit impedance : ≥ 500 kΩ	High input voltage range : 4.5 - 30 VDC≡ Low input voltage range : 0 - 2 VDC≡ Voltage: 3 - 30 VAC~	30 - 240 VAC~
HOLD	YES		
Unit weight (packaged)	≈ 59 g (≈ 91.5 g)		
Power supply	Built-in battery (CR2477)		
Battery life cycle	≥ 3 years (at ≈ 20 °C)		
Insulation resistance	≥ 100 MΩ (500 VDC≡ megger)		
Dielectric strength	2,000 VAC~ 50 / 60 Hz for 1 min (Cutoff current = 10 mA)		
Vibration	0.75 mm double amplitude at frequency of 10 to 55Hz (for 1 minute) in each X, Y, Z direction for 1 hour		
Vibration (malfunc.)	0.3 mm double amplitude at frequency of 10 to 55 Hz (for 1 minute) in each X, Y, Z direction for 10 minute		
Shock	300 m/s ² (≈ 30 G) in each X, Y, Z direction for 3 times		
Shock (malfunc.)	100 m/s ² (≈ 10 G) in each X, Y, Z direction for 3 times		
Ambient temp.	-10 to 55 °C, storage: -25 to 65 °C (no freezing or condensation)		
Ambient humid.	35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)		
Protection rating	IP66 (when using waterproof rubber for front panel), terminal cover (finger protector)		
Display unit	Display range	Display accuracy	
RPM	1 to 10000 RPM	1 to 5000 RPM: F.S. ± 0.05 % ± 1-digit 5001 to 10000 RPM: F.S. ± 0.1 % ± 1-digit	
0.1RPM	0.1 to 1000.0 RPM	F.S. ± 0.05 % ± 1-digit	
Hz	1 to 1000 Hz	F.S. ± 0.1 % ± 1-digit	
0.1Hz	0.1 to 100.0 Hz		
RPS	1 to 1000 RPS		



View product detail

Thumbwheel Switch Multi Pulse Meters

MP5M Series



Features

- 14 operation modes
 - Frequency / revolutions / speed, passing speed, cycle, passing time, time interval
 - Time differential, absolute ratio, density, length measurement 1 / 2, interval
 - Accumulation, addition / subtraction (individual input), addition / subtraction (phase difference input)
- Various output models
 - Relay single (high-limit) / double (high / low-limit) + NPN open collector output
- Various functions
 - Prescale, monitoring delay, hysteresis, auto-zero, parameter lock
- NPN input (non-contact / contact) or PNP input (non-contact / contact)
- Display range: -19999 to 99999
- Various display units
- Power supply
 - 100 - 240 VAC ~ 50 / 60 Hz (AC type)
 - 24 VAC ~ 50 / 60 Hz, 24 - 48 VDC (AC / DC type)

Specifications

Series	MP5M-□N	MP5M-□1	MP5M-□2
Input signal ⁰¹⁾	Solid state input 1: ≤ 50 kHz (pulse width: ≥ 10 μs) Solid state input 2 ⁰²⁾ : ≤ 5 kHz (pulse width: ≥ 100 μs) Contact input: ≤ 45 Hz (contact: ≥ 12 VDC = 5 mA, pulse width: ≥ 11 ms)		
Voltage input	Input impedance: 3.9 kΩ, [H]: 4.5 - 24 VDC =, [L]: 0 - 1 VDC =		
No-voltage input	Short-circuit impedance: ≤ 80 Ω, residual voltage: ≤ 1 VDC =, open-circuit impedance: ≥ 100 kΩ		
Display method	7-segment LED (zero blanking method)		
Character size	W 4 × H 8 mm		
Prescale	0.0001 × 10 ⁻⁹ to 9.9999 × 10 ⁹		
Hysteresis	- 0 to 9999 ⁰³⁾		
Display cycle	OFF ⁰⁴⁾ , 0.05, 0.5, 1, 2, 4, 8 sec (same as update output cycle)		
Display range	-19999 to 99999		
Contact control output	Relay		
Type	-	1c × 1	1a × 2
Capacity	-	250 VAC ~ 3 A, 30 VDC = 3 A resistive load	250 VAC ~ 3 A, 30 VDC = 3 A resistive load
Solid-state control output	NPN open collector		
Type	-	× 1	× 2
Capacity	-	≤ 30 VDC = 100 mA	≤ 30 VDC = 100 mA
Approval	CE  ENEC		
Unit weight (package)	≈ 168 g (≈ 243 g)	≈ 181 g (≈ 256 g)	≈ 190 g (≈ 265 g)

01) Standard duty ratio 1:1

02) Operation mode F7, F8: ≤ 1 kHz (pulse width: ≥ 500 μs)

03) The hysteresis setting range varies according to the decimal point setting position.

04) Only available operation mode F2, F14

Input	AC voltage	AC / DC voltage
Power supply	100 - 240 VAC ~ ± 10 % 50 / 60 Hz	24 VAC ~ ± 10 % 50 / 60 Hz, 24 - 48 VDC = ± 10 %
Power consumption	≤ 9 VA	AC: ≤ 6.5 VA, DC: ≤ 5 W
External power supply	≤ 12 VDC = ± 10 % 80 mA	
Memory retention	Number of inputs: 100,000 operations (non-volatile semiconductor memory type)	
Relay life cycle	Mechanical: ≥ 5,000,000 operations Electrical: ≥ 100,000 operations (250 VAC ~ 3 A resistive load)	
Insulation resistance	≥ 100 MΩ (500 VDC = megger)	
Dielectric strength	2,000 VAC ~ 60 Hz for 1 min	
Noise immunity	± 2 kV 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 in each X, Y, Z direction for 1 hour	
Vibration (malfunction)	0.5 mm double amplitude at frequency of 10 to 55 Hz in each X, Y, Z direction for 10 min	
Shock	300m / s ² (≈ 30G) in each X, Y, Z direction for 3 times	
Shock (malfunction)	100m / s ² (≈ 30G) in each X, Y, Z direction for 3 times	
Ambient temperature	-10 to 50 °C, storage: -20 to 60 °C (no freezing or condensation)	
Ambient humidity	35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)	



View product detail

Multi Pulse Meters

MP5S / MP5Y / MP5W Series



Features

- 16 operation modes
 - Frequency / revolutions / speed, passing speed, cycle, passing time, time interval
 - Time differential, absolute ratio, error ratio, density, error, length measurement 1 / 2, interval
 - Accumulation, addition / subtraction (individual input), addition / subtraction (phase difference input)
- Various output models
 - Relay triple / quintuple output, NPN / PNP open collector quintuple output
 - BCD Dynamic output, PV transmission output (current output)
 - RS485 communication output (Modbus RTU)
- Various function
 - Prescale, delay monitoring, hysteresis, auto-zero, parameter lock, data bank (MP5W only)
- Display range: -19999 to 99999
- Various display units

Specifications

Series	MP5S	MP5Y	MP5W
Input signal ⁰¹⁾	Solid state input 1: ≤ 50 kHz (pulse width: ≥ 10 μs) Solid state input 2 ⁰²⁾ : ≤ 5 kHz (spulse width: ≥ 100 μs) Contact input: ≤ 45 Hz (contact: 12 VDC≐ ≥ 5 mA, (pulse width: ≥ 11 ms)		
Voltage input	Input impedance: 3.9 kΩ, [H]: 4.5 - 24 VDC≐, [L]: 0 - 1 VDC≐		
No-voltage input	Short-circuit impedance: ≤ 80 Ω, residual voltage: ≤ 1 VDC≐, open-circuit impedance: ≥ 100 kΩ		
Display method	7-segment LED (zero blanking method)		
Character size	W 4 × H 8 mm	W 7 × H 14 mm	
Prescale	0.0001 × 10 ⁻⁹ to 9.9999 × 10 ⁹		
Hysteresis	0 to 9999 ⁰³⁾		
Display cycle	OFF ⁰⁴⁾ , 0.05, 0.5, 1, 2, 4, 8 sec (same as update output cycle)		
Display range	-19999 to 99999		
Output	Depending on models		
Relay	250 VAC~ 3 A, 30 VDC≐ 3 A resistive load		
NPN / PNP open collector	≤ 30 VDC≐: 30 mA		
BCD Dynamic	NPN open collector ≤ 30 VDC≐: 30 mA (Dynamic COM cycle (T) = 40 ms)		
PV transmission	DC 4 - 20 mA (load: ≤ 500 Ω, resolution: 8,000 divisions) / DC 0 - 20 mA (load: ≤ 500 Ω, resolution: 10,000 divisions)		
RS485 communication	Modbus RTU		
Product components	Product, instruction manual		
Bracket	Mounted	× 2	× 2
Unit sticker	× 1	× 1	× 2
Unit weight (package)	≈ 132 g (≈ 191 g)	≈ 140 g (≈ 230 g)	≈ 210 g (≈ 334 g)
Approval	CE  ENEC		

01) Standard duty ratio 1:1

02) Operation mode F7, F8, F9, F10: ≤ 1 kHz (pulse width: ≥ 500 μ s)

03) The hysteresis setting range varies according to the decimal point setting position.

04) Only available operation mode F2, F16

Input	AC voltage	AC / DC voltage
Power supply	100 - 240 VAC $\sim \pm 10$ % 50 / 60 Hz	24 VAC $\sim \pm 10$ % 50 / 60 Hz, 24 - 48 VDC $\Rightarrow \pm 10$ %
Power consumption	Depending on Series / power supply	
MP5S	≤ 7.5 VA	AC: ≤ 6 VA, DC: ≤ 4.5 W
MP5Y	≤ 9 VA	AC: ≤ 7 VA, DC: ≤ 6.2 W
MP5W	≤ 15 VA	AC: ≤ 11 VA, DC: ≤ 7 W
External power supply	≤ 12 VDC $\Rightarrow \pm 10$ % 80 mA	
Sub power supply ⁰¹⁾	≤ 24 VDC $\Rightarrow$ 30 mA	
Memory retention	Number of inputs: 100,000 operations (non-volatile semiconductor memory type)	
Relay life cycle	Mechanical: $\geq 10,000,000$ operations (switching frequency 180 operations / min) Electrical: $\geq 100,000$ operations (250 VAC $\sim$ 3 A, 30 VDC $\Rightarrow$ 3 A resistive load) (switching frequency 20 operations / min)	
Insulation resistance	≥ 100 M Ω (500 VDC $\Rightarrow$ megger)	
Dielectric strength	2,000 VAC $\sim$ 60 Hz for 1 min	
Noise immunity	± 2 kV the square wave noise (pulse width: 1 μ s) by the noise simulator	
Vibration	0.75 mm double amplitude at frequency of 10 to 55 Hz in each X, Y, Z direction for 1 hour	
Vibration (malfunction)	0.5 mm double amplitude at frequency of 10 to 55 Hz in each X, Y, Z direction for 10 min	
Shock	300m / s ² (≈ 30 G) in each X, Y, Z direction for 3 times	
Shock (malfunction)	100m / s ² (≈ 30 G) in each X, Y, Z direction for 3 times	
Ambient temperature	-10 to 50 $^{\circ}$ C, storage: -20 to 60 $^{\circ}$ C (no freezing or condensation)	
Ambient humidity	35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)	
Comm. protocol	Modbus RTU (16-bit CRC)	

01) Only for MP5W



View product detail

