

# LCD Multi Panel Meters



## MX4W Series CATALOG

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

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

### 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

### Ordering Information

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

**MX 4 W - ① - F ②**

#### ① Input type

V: DC / AC voltage  
A: DC / AC current


#### ② Preset output

N: Indicator  
1: NPN open collector  
2: PNP open collector

### Product Components

- Product
- Bracket × 2
- Instruction manual
- Terminal cover × 1


### 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 <sup>(01)</sup> - 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 ± 5 °C (DC input)	± 0.1 % F.S. rdg ± 2-digit	± 0.1 % F.S. rdg ± 2-digit <sup>(02)</sup>
23 ± 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 <sup>(03)</sup>
Display cycle	0.2 to 5.0 sec (select per 0.1 sec)	
Display scale	-9999 to 9999 (4-digit)	
A / D conversion method	ΣΔ (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 MΩ (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 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 <sup>2</sup> (≈ 30 G) in each X, Y, Z direction for 3 times
Shock (malfunction)	100 m/s <sup>2</sup> (≈ 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)

## Input Range and Display Range

When the max. input value is over the 100 %, it may result in input terminal damage.

### ■ DC / AC voltage model (input type: DC)

Input range	Display range		Input impedance
	Display method: STND (fixed)	Display method: SCAL <sup>01)</sup>	
0.0 - 500.0 VDC $\rightleftharpoons$	0.0 to 500.0	500.0	4.062 M $\Omega$
0 - 500 VDC $\rightleftharpoons$	0 to 500	500	
0.0 - 200.0 VDC $\rightleftharpoons$	0.0 to 200.0	200.0	
0 - 200 VDC $\rightleftharpoons$	0 to 200	200	
0.00 - 50.00 VDC $\rightleftharpoons$	0.00 to 50.00	50.00	
0.0 - 50.0 VDC $\rightleftharpoons$	0.0 to 50.0	50.0	
0.00 - 20.00 VDC $\rightleftharpoons$	0.00 to 20.00	20.00	
0.0 - 20.0 VDC $\rightleftharpoons$	0.0 to 20.0	20.0	
0.000 - 5.000 VDC $\rightleftharpoons$	0.000 to 5.000	5.000	
0.00 - 5.00 VDC $\rightleftharpoons$	0.00 to 5.00	5.00	
1.000 - 5.000 VDC $\rightleftharpoons$	1.000 to 5.000	1 - 5.0	162 k $\Omega$
1.00 - 5.00 VDC $\rightleftharpoons$	1.00 to 5.00	1 - 5.0	
0.000 - 2.000 VDC $\rightleftharpoons$	0.000 to 2.000	200.0	
0.00 - 2.00 VDC $\rightleftharpoons$	0.00 to 2.00	200	
0.0 - 500.0 mVDC $\rightleftharpoons$	0.0 to 500.0	500.0	
0 - 500 mVDC $\rightleftharpoons$	0 to 500	500	
0.0 - 200.0 mVDC $\rightleftharpoons$	0.0 to 200.0	200.0	
0 - 200 mVDC $\rightleftharpoons$	0 to 200	200	
0.00 - 50.00 mVDC $\rightleftharpoons$	0.00 to 50.00	50.00	
0.0 - 50.0 mVDC $\rightleftharpoons$	0.0 to 50.0	50.0	

01) Connect to the input terminals whose 30 % to 100 % of the input range includes the max. value of the input range to measure.  
When the max. input value is under the 30 % of the input terminal range, display accuracy is degraded.

### ■ DC / AC voltage model (input type: -DC)

Input range	Display range		Input impedance
	Display method: STND (fixed)	Display method: SCAL <sup>01)</sup>	
-500.0 - 500.0 VDC $\rightleftharpoons$	-500.0 to 500.0	- 500.0	4.062 M $\Omega$
-500 - 500 VDC $\rightleftharpoons$	-500 to 500	- 500	
-200.0 - 200.0 VDC $\rightleftharpoons$	-200.0 to 200.0	- 200.0	
-200 - 200 VDC $\rightleftharpoons$	-200 to 200	- 200	
-50.00 - 50.00 VDC $\rightleftharpoons$	-50.00 to 50.00	- 50.00	
-50.0 - 50.0 VDC $\rightleftharpoons$	-50.0 to 50.0	- 50.0	
-20.00 - 20.00 VDC $\rightleftharpoons$	-20.00 to 20.00	- 20.00	
-20.0 - 20.0 VDC $\rightleftharpoons$	-20.0 to 20.0	- 20.0	
-5.000 - 5.000 VDC $\rightleftharpoons$	-5.000 to 5.000	- 5.000	
-5.00 - 5.00 VDC $\rightleftharpoons$	-5.00 to 5.00	- 5.00	
-2.000 - 2.000 VDC $\rightleftharpoons$	-2.000 to 2.000	- 200.0	162 k $\Omega$
-2.00 - 2.00 VDC $\rightleftharpoons$	-2.00 to 2.00	- 200.0	
-500.0 - 500.0 mVDC $\rightleftharpoons$	-500.0 to 500.0	- 500.0	
-500 - 500 mVDC $\rightleftharpoons$	-500 to 500	- 500	
-200.0 - 200.0 mVDC $\rightleftharpoons$	-200.0 to 200.0	- 200.0	
-200 - 200 mVDC $\rightleftharpoons$	-200 to 200	- 200	
-50.00 - 50.00 mVDC $\rightleftharpoons$	-50.00 to 50.00	- 50.00	
-50.0 - 50.0 mVDC $\rightleftharpoons$	-50.0 to 50.0	- 50.0	

01) Connect to the input terminals whose 30 % to 100 % of the input range includes the max. value of the input range to measure.  
When the max. input value is under the 30 % of the input terminal range, display accuracy is degraded.

### ■ DC / AC voltage model (input type: AC)

Input range	Display range		Input impedance
	Display method: STND (fixed)	Display method: SCAL <sup>01)</sup>	
0.0 - 500.0 VAC $\sim$	0.0 to 500.0	500.0	4.062 M $\Omega$
0 - 500 VAC $\sim$	0 to 500	500	
0.0 - 200.0 VAC $\sim$	0.0 to 200.0	200.0	
0 - 200 VAC $\sim$	0 to 200	200	
0.0 - 110.0 VAC $\sim$	0.0 to 110.0	110.0	
0 - 110 VAC $\sim$	0 to 110	110	
0.00 - 50.00 VAC $\sim$	0.00 to 50.00	50.00	
0.0 - 50.0 VAC $\sim$	0.0 to 50.0	50.0	
0.00 - 20.00 VAC $\sim$	0.00 to 20.00	20.00	
0.0 - 20.0 VAC $\sim$	0.0 to 20.0	20.0	
0.000 - 5.000 VAC $\sim$	0.000 to 5.000	5.000	162 k $\Omega$
0.00 - 5.00 VAC $\sim$	0.00 to 5.00	5.00	
0.000 - 2.000 VAC $\sim$	0.000 to 2.000	200.0	
0.00 - 2.00 VAC $\sim$	0.00 to 2.00	200.0	
0.0 - 500.0 mVAC $\sim$	0.0 to 500.0	500.0	
0 - 500 mVAC $\sim$	0 to 500	500	
0.0 - 200.0 mVAC $\sim$	0.0 to 200.0	200.0	
0 - 200 mVAC $\sim$	0 to 200	200	
0.00 - 50.00 mVAC $\sim$	0.00 to 50.00	50.00	
0.0 - 50.0 mVAC $\sim$	0.0 to 50.0	50.0	

01) Connect to the input terminals whose 30 % to 100 % of the input range includes the max. value of the input range to measure.  
When the max. input value is under the 30 % of the input terminal range, display accuracy is degraded.

### ■ DC / AC current model (input type: DC)

Input range	Display range		Input impedance
	Display method: STND (fixed)	Display method: SCAL <sup>01)</sup>	
0.000 - 5.000 A	0.000 to 5.000	5.000	0.02 $\Omega$
0.00 - 5.00 A	0.00 to 5.00	5.00	
0.000 - 2.000 A	0.000 to 2.000	200.0	
0.00 - 2.00 A	0.00 to 2.00	200.0	
0.0 - 500.0 mA	0.0 to 500.0	500.0	
0 - 500 mA	0 to 500	500	
0.0 - 200.0 mA	0.0 to 200.0	200.0	
0 - 200 mA	0 to 200	200	
0.00 - 50.00 mA	0.00 to 50.00	50.00	
0.0 - 50.0 mA	0.0 to 50.0	50.0	
0.00 - 20.00 mA	0.00 to 20.00	20.00	0.87 $\Omega$
0.0 - 20.0 mA	0.0 to 20.0	20.0	
0.000 - 5.000 mA	0.000 to 5.000	5.000	
0.00 - 5.00 mA	0.00 to 5.00	5.00	
0.000 - 2.000 mA	0.000 to 2.000	200.0	
0.00 - 2.00 mA	0.00 to 2.00	200.0	
4.00 - 20.00 mA	4.00 to 20.00	4.00 20	
4.0 - 20.0 mA	4.0 to 20.0	4.0 20	
0.000 - 5.000 mA	0.000 to 5.000	5.000	
0.00 - 5.00 mA	0.00 to 5.00	5.00	
0.000 - 2.000 mA	0.000 to 2.000	200.0	21.87 $\Omega$
0.00 - 2.00 mA	0.00 to 2.00	200.0	

01) Connect to the input terminals whose 30 % to 100 % of the input range includes the max. value of the input range to measure.  
When the max. input value is under the 30 % of the input terminal range, display accuracy is degraded.

### ■ DC / AC current model (input type: -DC)

Input range	Display range		Input impedance
	Display method: STND (fixed)	Display method: SCAL <sup>01)</sup>	
-5.000 - 5.000 A	-5.000 to 5.000	- 5.000	0.02 $\Omega$
-5.00 - 5.00 A	-5.00 to 5.00	- 5.00	
-2.000 - 2.000 A	-2.000 to 2.000	- 200.0	
-2.00 - 2.00 A	-2.00 to 2.00	- 200.0	
-500.0 - 500.0 mA	-500.0 to 500.0	- 500.0	
-500 - 500 mA	-500 to 500	- 500	
-200.0 - 200.0 mA	-200.0 to 200.0	- 200.0	
-200 - 200 mA	-200 to 200	- 200	
-50.00 - 50.00 mA	-50.00 to 50.00	- 50.00	
-50.0 - 50.0 mA	-50.0 to 50.0	- 50.0	
-20.00 - 20.00 mA	-20.00 to 20.00	- 20.00	0.87 $\Omega$
-20.0 - 20.0 mA	-20.0 to 20.0	- 20.0	
-5.000 - 5.000 mA	-5.000 to 5.000	- 5.000	
-5.00 - 5.00 mA	-5.00 to 5.00	- 5.00	
-2.000 - 2.000 mA	-2.000 to 2.000	- 200.0	
-2.00 - 2.00 mA	-2.00 to 2.00	- 200.0	

01) Connect to the input terminals whose 30 % to 100 % of the input range includes the max. value of the input range to measure.  
When the max. input value is under the 30 % of the input terminal range, display accuracy is degraded.

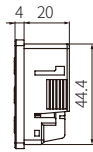
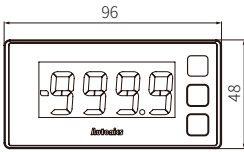
### ■ DC / AC current model (input type: AC)

Input range	Display range		Input impedance
	Display method: STND (fixed)	Display method: SCAL <sup>01)</sup>	
0.000 - 5.000 A	0.000 to 5.000	5.000	0.02 $\Omega$
0.00 - 5.00 A	0.00 to 5.00	5.00	
0.000 - 2.000 A	0.000 to 2.000	200.0	
0.00 - 2.00 A	0.00 to 2.00	200.0	
0.0 - 500.0 mA	0.0 to 500.0	500.0	
0 - 500 mA	0 to 500	500	
0.0 - 200.0 mA	0.0 to 200.0	200.0	
0 - 200 mA	0 to 200	200	
0.00 - 50.00 mA	0.00 to 50.00	50.00	
0.0 - 50.0 mA	0.0 to 50.0	50.0	
0.00 - 20.00 mA	0.00 to 20.00	20.00	0.87 $\Omega$
0.0 - 20.0 mA	0.0 to 20.0	20.0	
0.000 - 5.000 mA	0.000 to 5.000	5.000	
0.00 - 5.00 mA	0.00 to 5.00	5.00	
0.000 - 2.000 mA	0.000 to 2.000	200.0	
0.00 - 2.00 mA	0.00 to 2.00	200.0	

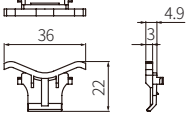
01) Connect to the input terminals whose 30 % to 100 % of the input range includes the max. value of the input range to measure.  
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## Dimensions

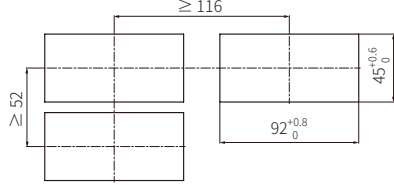
• Unit: mm, For the detailed drawings, follow the Autonics website.



### ■ Bracket



### ■ Panel cut-out



### ■ Terminal cover

