

4-Digit Multi Panel Meters



MT4N 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

- 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

Ordering Information

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

MT 4 N - ① - ② ③

① Input type

DV: DC voltage⁰¹⁾
DA: DC current
AV: AC voltage⁰²⁾
AA: AC current⁰²⁾

② Power supply

E: 12 - 24 VDC \equiv \pm 10 %,
12 - 24 VAC \sim \pm 10 % 50 / 60 Hz
4: 100 - 240 VAC \sim \pm 10 % 50 / 60 Hz

③ Preset output + Sub output

	Preset output	Sub output
N	None (indicator)	
0	Relay (OUT1 / 2)	-
1	NPN open collector (OUT1 / 2, GO)	-
2	PNP open collector (OUT1 / 2, GO)	-
3	Relay (OUT1)	Transmission (DC 4 - 20 mA)
4	Relay (OUT1)	RS485 communication
5	Relay (OUT1 / 2)	Transmission (DC 4 - 20 mA)

01) To measure the current over DC 500 mA, please select DV type because the shunt should be used.

02) In case of selecting frequency display, no output will be provided even if it is output support model.

Product Components

- Product
- Instruction manual

Software

Download the installation file and the manuals from the Autonics website.

■ DAQMaster

It is the comprehensive device management program for Autonics' products, providing parameter setting, monitoring and data management.

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 ERI			

(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)

(01) Except MT4N-□□-E5: 5 W / 8 VA

Communication Interface

■ RS485

Comm. protocol	Modbus RTU
Application standard	Compliance with EIA RS485
Max. connection	31-unit (address: 01 to 99)
Comm. synchronous method	Asynchronous
Comm. method	2-wire half duplex
Comm. distance	≤ 800 m
Comm. speed	1,200 / 2,400 / 4,800 / 9,600 / 19,200 / 38,400 bps
Start bit	1-bit (fixed)
Data bit	8-bit (fixed)
Parity bit	None, Even, Odd
Stop bit	1-bit, 2-bit
EEPROM life cycle	≈ 1,000,000 operations (Erase / Write)

Input Range and Display Range

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

■ DC voltage model

Input range	Display range		Input impedance
	Diaplay method: STND (fixed)	Diaplay method: SCAL ⁽⁰¹⁾	
0 - 50 VDC~	0.00 to 50.00	5 0 0	433.48 kΩ
0 - 10 VDC~	0.00 to 10.00	1 0 0	433.48 kΩ
0 - 5 VDC~	0.000 to 5.000	5	43.48 kΩ
0 - 1 VDC~	0.000 to 1.000	1	43.48 kΩ
0 - 250 mVDC~	0.0 to 250.0	2 5 0	2.28 kΩ
0 - 50 mVDC~	0.00 to 50.00	5 0	2.28 kΩ

(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 current model

Input range	Display range		Input impedance
	Diaplay method: STND (fixed)	Diaplay method: SCAL ⁽⁰¹⁾	
0 - 500 mA	0.0 to 500.0	5 0 0	0.22 Ω
0 - 200 mA	0.0 to 200.0	2 0 0	0.22 Ω
0 - 50 mA	0.00 to 50.00	5 0	2.22 Ω
4 - 20 mA	4.00 to 20.00	4 - 2 0	2.22 Ω
0 - 5 mA	0.000 to 5.000	5	22.22 Ω
0 - 2 mA	0.000 to 2.000	2	22.22 Ω

(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.

■ AC voltage model

Input range	Display range		Input impedance
	Diaplay method: STND (fixed)	Diaplay method: SCAL ⁽⁰¹⁾	
0 - 250 VAC~	0.0 to 250.0	2 5 0	1.086 MΩ
0 - 125 VAC~	0.0 to 125.0	1 2 5	1.086 MΩ
0 - 50 VAC~	0.00 to 50.00	5 0	199.12 kΩ
0 - 25 VAC~	0.00 to 25.00	2 5	199.12 kΩ
0 - 5 VAC~	0.000 to 5.000	5	19.12 kΩ
0 - 2.5 VAC~	0.000 to 2.500	2 5	19.12 kΩ

(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.

■ AC current model

Input range	Display range		Input impedance
	Diaplay method: STND (fixed)	Diaplay method: SCAL ⁽⁰¹⁾	
0 - 5 A	0.000 to 5.000	5	0.01 Ω
0 - 2.5 A	0.000 to 2.500	2 5	0.01 Ω
0 - 500 mA	0.0 to 500.0	5 0 0	0.19 Ω
0 - 250 mA	0.0 to 250.0	2 5 0	0.19 Ω
0 - 100 mA	0.0 to 100.0	1 0 0	1.01 Ω
0 - 50 mA	0.00 to 50.00	5 0	1.01 Ω

(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.

Dimensions

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

