Autonics

PANEL METER MT4Y SERIES

(EgNus



Thank you very much for selecting Autonics products For your safety, please read the following before using.

Caution for your safety

 $\ensuremath{\mathbb{X}}\xspace$ Please keep these instructions and review them before using this unit.

se observe the cautions that follow;

 ▲ Warning
 Serious injury may result if instructions are not followed.

 ▲ Caution
 Product may be damaged, or injury may result if instructions are not followed.

XThe following is an explanation of the symbols used in the operation manual. ▲ caution:Injury or danger may occur under special conditions.

- In case of using this unit with machinery(Ex: nuclear power control, medical equipment, ship, vehicle, train, airplane, combustion apparatus, safety device, crime/disaster prevention equipment, etc) which may cause damages to human life or property, it is required to install fail-safe device.

 It may cause a fire, human injury or damage to property.

 It must be mounted on the Panel.

- 2. It must be mounted on the Failet. It may cause electric shoot of the may cause electric shoot.
 3. Do not connect, inspect and repair terminals when it is power on. It may cause electric shock.
 4. Do not disassemble and modify this unit. Please contact us if it is required.
- It may cause electric shock and a fire.

 5. Please check the number of terminal when connecting power line or measured input.

A Caution

1. This unit shall not be used outdoors.
It might shorten the life cycle of the product or cause electric shock.
Use this product indoors only. Do not use the product outdoors or at locations subject to the temperatures or humidity outside. (Example: rain, dirty, frost, sunlight, condensation, etc.)

2. When connecting wire, AWG20(0.50mm²) should be used and tighten screw bolt on terminal block with 0.74N-m to 0.90N-m strength.
It may cause a malfunction or a fire due to contact failure.
3. Please observe the rated specification.
It might shorten the life cycle of the product and cause a fire.
4. Do not use beyond of the rated switching capacity of Relay contact.
It may cause insulation failure, contact mellt, contact failure, erelay broken and fire etc.
5. In cleaning the unit, do not use water or organic solvent. And use dry cloth.
It might cause an electric shock or a fire.
6. Do not use this unit in place where there are flammable or explosive gas, humidity, direct ray the sun, radiant heat, vibration and impact etc.
It may cause a fire or explosion.

- It may cause a fire or explosion:

 It may cause a fire or explosion:

 Do not inflow dust or wire dregs into the unit.
 It may cause a fire or mechanical malfunction.

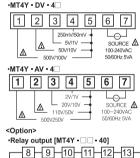
 Please connect properly after checking the polarity of measurement terminals It may cause a fire or explosion.

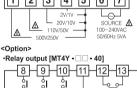
■ Front panel identification 19999

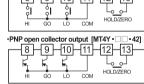


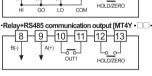
■ Panel cut-out Min. 91 31.5-0 68-0.7 *There are no 1, 2, 3 output indication in Indicator type (Unit: mm)

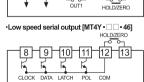
■ Terminal connection





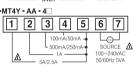


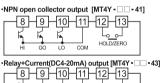


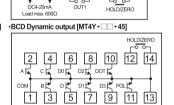


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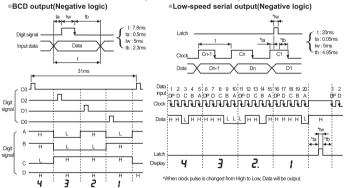






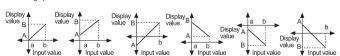


■ Time chart of serial output and BCD output



■ Prescale function[PA 1: H-5[/L-5[]

This function is to display setting(-1999 to 9999) of particular High/Low-limit value in order to display High/Low-limit value of measured input. If measured inputs are 'a' or 'b' and particular values are 'A' or 'B', it will display a=A, b=B as below graphs.



Error display function

| Display | Description | | | |
|---------|--|--|--|--|
| нннн | Flashes when measured input is exceeded the max.allowable input (110%) | | | |
| LLLL | lashes when measured input is exceeded the min.allowable input (-10%) | | | |
| d-HH | Flashes when display input is exceeded H-5C setting value | | | |
| d-LL | Flashes when display input is exceeded L - 5[setting value | | | |
| F-HH | Flashes when input frequency is exceeded the max. display value of measurement range | | | |
| ouEr | Flashes when it exceeds zero range (±99) | | | |

X"LLLL" is displayed when the measured input is 4-20mA.

*After flashing " gu E r " 2 times when it exceeds the zero range, it returns to RUN mode ■ Monitoring max./min. display value function

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*The above specifications are subject to change and some models may be discontinued without notice

Specifications

MT4Y

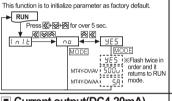
| Power supply | | 100-240VAC 50/60Hz (90 to 110% of rated voltage) | | | |
|-------------------------------------|------------------------|--|--|--|--|
| Power consumption | | 5VA | | | |
| Display method | | 7Segment LED Display(Red) | | | |
| Display accuracy | | 23°C±5°C≠ DC Type: FS±0.1% rdg±2digit /AC Type: FS±0.3% rdg±3digit (Frequency: FS±0.1% rdg±2digit) FS +0.3% rdg +3digit max. only for 56 terminal10°C to 50°C≠ DC/AC Type: FS±0.5% rdg±3digit | | | |
| Input spe | cification | DC Voltage/Current, AC Voltage/Current, AC Frequency | | | |
| Max. allow | wable input | 110% F.S. for each measured input range | | | |
| A/D conv | ersion method | Practical oversampling using successive approximation ADC | | | |
| Sampling | cycle | 50ms (DC), 16.6ms (AC 60Hz) | | | |
| Max. india | cation range | -1999 to 9999 (4Digit) | | | |
| Preset output | | Relay output Contact capacity:250VAC 3A, 30VDC 3A/Contact composition:N.O(1a) NPN/PNP Open Collector output 12-24VDC ±2V 50mA Max. (Load resistance) | | | |
| Sub output (Transmission output) | | RS485 communication output = Baud rate: 1200/240048009600, Communication method: 2-wire half duplex Synchronous method: Asynchronous method, Protocol: Modbus type Seraial/BCD output == NPN Open collector output, 12-24/VDC Max. 50mA/(Resistive load) DC4-20mA output == Resolution: 12,000division (Load resistance max. 6000), Response time:Max. 450ms | | | |
| AC measurement function | | Selectable RMS or AVG | | | |
| Frequency measurement function | | Measured range:0.100 to 9999Hz(Variable by decimal point position) | | | |
| Hold fund | tion ^{×1} | Includes(External hold function) | | | |
| Environ- | Ambient temperature | -10 to 50°C, Storage: -20 to 60°C | | | |
| ment | Ambient humidity | 35 to 85%RH, Storage: 35 to 85%RH | | | |
| Insulation type | | Double insulation or reinforced insulation (Dielectric strength between the measuring input part and the power part : 1kV) | | | |
| Approval | | (€ . ! | | | |
| Unit weigl | ht | Approx. 134q | | | |

**1: The indicator type has no Hold function.
**Environment resistance is rated at no freezing or condensation.

■ Specification of measured input and range [PA1: forc]

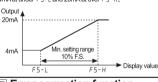
| 0-500V [500u] 4.33315MΩ 0.0 to 500.0(Fixed) 0-100V [100u] 4.33315MΩ 0.0 to 100.0(Fixed) 0-50V [50u] 4.33.15KΩ 0.00 to 10.00(Fixed) 0-5V [5u] 433.15KΩ 0.00 to 10.00(Fixed) 0-5V [5u] 433.15KΩ 0.00 to 10.00(Fixed) 0-5V [5u] 433.15KΩ 0.00 to 10.00(Fixed) 0-5V [5u] 43.15KΩ 0.00 to 10.00(Fixed) 0-5V [5u] 43.15KΩ 0.000 to 1.000(Fixed) 0-50mV [505u] 2.15KΩ 0.00 to 250.00(Fixed) 0-50mV [505u] 2.15KΩ 0.00 to 50.00(Fixed) 0-50mV [505u] 2.15KΩ 0.00 to 50.00(Fixed) 0-500mA [58] 0.01Ω 0.000 to 5.000(Fixed) 0-500mA [0.58] 0.1Ω 0.00 to 50.00(Fixed) 0-50mA [0.58] 0.1Ω 0.00 to 50.00(Fixed) 0-50mA [5368] 1.0Ω 0.00 to 50.00(Fixed) 0-50mA [5368] 1.0Ω 0.00 to 50.00(Fixed) 0-50mA [5368] 1.0Ω 0.000 to 5.000(Fixed) 0-500V [500u] 4.987MΩ 0.0 to 50.00(Fixed) 0-500V [500u] 4.987MΩ 0.0 to 50.00(Fixed) 0-500V [500u] 4.987MΩ 0.0 to 50.00(Fixed) 0-500V [500u] 2.00KΩ 0.00 to 50.00(Fixed) 0-50V [50u] 0-50V [50u] 0.00C 0.0 | Туре | Measur and r | | Input impedance | Display range [5tnd] | Prescale Display range [5£8£] | | |
|---|---------|-----------------|----------|-----------------|-----------------------|--|--|--|
| Dc Vott O-50V [50ω] 433.15kΩ 0.00 to 50.00(Fixed) O-10V [10ω] 433.15kΩ 0.000 to 50.00(Fixed) O-10V [10ω] 433.15kΩ 0.000 to 50.00(Fixed) O-250mV [50ω] 43.15kΩ 0.000 to 50.00(Fixed) O-250mV [50ω] 2.15kΩ 0.000 to 50.00(Fixed) O-50mV [50ω] 2.15kΩ 0.00 to 50.00(Fixed) O-50mV [50ω] 2.15kΩ 0.00 to 50.00(Fixed) O-50mV [50ω] 0.10Ω 0.000 to 5.000(Fixed) O-50mA [58] 0.11Ω 0.000 to 5.000(Fixed) O-50mA [0.28] 0.11Ω 0.00 to 50.00(Fixed) O-50mA [0.28] 0.11Ω 0.00 to 50.00(Fixed) O-50mA [0.28] 0.10Ω 0.00 to 50.00(Fixed) O-50mA [0.28] 0.10Ω 0.00 to 50.00(Fixed) O-5mA [58] 0.10Ω 0.00 to 50.00(Fixed) O-5mA [58] 0.10Ω 0.000 to 50.00(Fixed) O-5mA [58] 0.10Ω 0 | | 0-500V | [5000] | 4.33315MΩ | 0.0 to 500.0(Fixed) | | | |
| DC Volt 0-10V [10_1] 433.15kΩ 0.00 to 10.00(Fixed) 0-5V (5 ω) 43.15kΩ 0.000 to 5.000(Fixed) 0-250mV (5 0.5 ω) 2.15kΩ 0.00 to 5.000(Fixed) 0.50mV (50 5 ω) 2.15kΩ 0.00 to 5.000(Fixed) 0.50mV (50 5 ω) 2.15kΩ 0.00 to 5.000(Fixed) 0.50mA (5.8 fill 0.10Ω 0.000 to 5.000(Fixed) 0.000 to 5.000(Fix | | 0-100V | [1000] | 4.33315MΩ | 0 .0 to 100.0(Fixed) | | | |
| DC Volt | | 0-50V | [500] | 433.15kΩ | 0.00 to 50.00(Fixed) | | | |
| 0-5V [5] 43.15kΩ 0.000 to 1.000(Fixed) 0.25 cmV [25] 2.15kΩ 0.00 to 250.00(Fixed) 0.00 to 1.000 to 1. | DC Volt | 0-10V | [100] | 433.15kΩ | 0.00 to 10.00(Fixed) | dot Display range | | |
| 0-250mV [2.5ω] 2.15kΩ 0.00 to 250.00(Fixed) | DC Voit | 0-5V | [50] | 43.15kΩ | 0.000 to 5.000(Fixed) | 7 -1999 to 9999 | | |
| 0-50mV [50πω] 2.15kΩ 0.00 to 50.00(Fixed) 0-5A [5R] 0.01Ω 0.000 to 5.000(Fixed) 0-2A [2R] 0.01Ω 0.00 to 5.000(Fixed) 0-50mA [0.5R] 0.1Ω 0.0 to 500.0(Fixed) 0-50mA [50πR] 1.0Ω 0.00 to 50.00(Fixed) 0-50mA [5πR] 1.0Ω 0.00 to 50.00(Fixed) 0-5mA [5πR] 10.0Ω 0.00 to 5.000(Fixed) 0-2mA [2πR] 10.0Ω 0.00 to 5.000(Fixed) 0-2mA [2πR] 10.0Ω 0.00 to 5.000(Fixed) 0-2mA [2πR] 10.0Ω 0.000 to 5.000(Fixed) 0-500V [50□] 1.087MΩ 0.00 to 5.000(Fixed) 0-50V [50□] 2.00kΩ 0.000 to 1.000(Fixed) 0-50V [2π] 2.00kΩ 0.000 to 1.000(Fixed) 0-2V [2π] 2.00kΩ 0.000 to 1.000(Fixed) 0-2V [2π] 2.00kΩ 0.000 to 1.000(Fixed) 0-5A [5R] 0.01Ω 0.000 to 5.000(Fixed) 0-5A [5R] 0.01Ω 0.000 to 5.000(Fixed) 0-5A [5R] 0.01Ω 0.000 to 5.000(Fixed) 0-5C0MA [0.5R] 0.01Ω 0.000 to 5.000(Fixed) 0-5C0MA [0.5R] 0.000 to 1.000(Fixed) 0-5C0MA [0.5R] 0.000 to 1.000(Fixed) 0-5C0MA [0.5R] 0.000 to 1.000(Fixed) | | 0-1V | [10] | 43.15kΩ | 0.000 to 1.000(Fixed) | 0.0 -199.9 to 999.9 | | |
| 0-5A [5R] 0.01Ω 0.000 to 5.000(Fixed) | | 0-250mV | [0.25.0] | 2.15kΩ | 0.00 to 250.00(Fixed) | 0.00 -19.99 to 99.99 | | |
| 0-2A [2R] 0.01Ω 0.000 to 2.000(Fixed) | | 0-50mV | [50ñu] | 2.15kΩ | 0.00 to 50.00(Fixed) | 0.000 -1.999 to 9.999 | | |
| 0-500mA [0.5R] 0.1Ω 0.0 to 500.0(Fixed) | | 0-5A | [58] | 0.01Ω | 0.000 to 5.000(Fixed) | | | |
| DC 0-200mA [0.2R] 0.1Ω 0.0 to 200.0(Fixed) | | 0-2A | [85] | 0.01Ω | 0.000 to 2.000(Fixed) | | | |
| Ampere 0.50mA [50.88] 1.0Ω 0.00 to 50.00(Fixed) 4.20mA [4 - 20] 1.0Ω 4.00 to 20.00(Fixed) 0.5mA [5.88] 10.0Ω 0.000 to 5.000(Fixed) 0.2mA [25.81] 10.0Ω 0.000 to 5.000(Fixed) 0.2mA [25.81] 10.0Ω 0.000 to 5.000(Fixed) 0.2mA [25.81] 10.0Ω 0.000 to 2.000(Fixed) 0.2500 [250.0] 4.987MΩ 0.0 to 500.0(Fixed) 0.2500 [250.0] 4.987MΩ 0.0 to 250.0(Fixed) 0.110V [1/07] 1.087MΩ 0.00 to 500.0(Fixed) 0.250V [250.0] 2.00kΩ 0.00 to 50.00(Fixed) 0.20V [20.0] 2.00kΩ 0.00 to 50.00(Fixed) 0.20V [20.0] 2.00kΩ 0.00 to 50.00(Fixed) 0.20V [20.0] 2.00kΩ 0.00 to 10.00(Fixed) 0.2V [10.0] 2.00kΩ 0.000 to 1.000(Fixed) 0.2V [10.0] 2.0kΩ 0.000 to 1.000(Fixed) 0.250 (2.581) 0.01Ω 0.000 to 5.000(Fixed) 0.250A [2.581] 0.01Ω 0.000 to 5.000(Fixed) 0.250A [2.581] 0.01Ω 0.000 to 25.00(Fixed) 0.250MA [0.581] 0.1Ω 0.0 to 500.0(Fixed) 0.250MA [0.2581] 0.1Ω 0.0 to 500.0(Fixed) 0.250MA [0.2581] 0.1Ω 0.0 to 250.0(Fixed) 0.250MA 0.25MA 0.00 to 1.000(Fixed) 0.0 to 250.0(Fixed) 0.250MA 0.25MA 0.00 to 1.000(Fixed) 0.0 to 250.0(Fixed) 0.000 to 250.0(Fixed) 0.0 | | 0-500mA | [0.58] | 0.1Ω | 0.0 to 500.0(Fixed) | its max. input within 30 to 100% of the input terminal. When it is higher than input, it may cause terminal breakdown and over display range. The accuracy is decreased when it is connected to the terminal under | | |
| 4-20mA [4-20] 1.0Ω 4.00 to 20.00(Fixed) | DC | 0-200mA | [85.0] | 0.1Ω | 0.0 to 200.0(Fixed) | | | |
| 4-20mA (4-20) 1.00 4.00 to 2.000(Fixed) 1.00 1.00 0.000 to 5.000(Fixed) 0.000 to 5.000(| Ampere | 0-50mA | [SOAR] | 1.0Ω | 0.00 to 50.00(Fixed) | | | |
| 0-5mA [5 π R] 10.0Ω 0.000 to 2.000(Fixed) | | 4-20mA | [4-20] | 1.0Ω | 4.00 to 20.00(Fixed) | | | |
| 0-500V [500u] 4.987MΩ 0.0 to 500.0(Fixed) | | 0-5mA | [558] | 10.0Ω | 0.000 to 5.000(Fixed) | | | |
| AC Volt | | 0-2mA | [855] | 10.0Ω | 0.000 to 2.000(Fixed) | | | |
| O-250V (250u) 4.987MΩ 0.0 to 250.0(Fixed) | | 0-500V | [5000] | 4.987ΜΩ | 0.0 to 500.0(Fixed) | | | |
| AC Volt | | 0-250V | [2505] | 4.987MΩ | 0.0 to 250.0(Fixed) | | | |
| AC Volt 0-50V [50ω] 1.087MΩ 0.00 to 50.00(Fixed) 0-20V [20ω] 200kΩ 0.00 to 20.00(Fixed) 0-10V [10ω] 200kΩ 0.000 to 20.00(Fixed) 0-2V [2ω] 20kΩ 0.000 to 2.000(Fixed) 0-1V [1ω] 20kΩ 0.000 to 1.000(Fixed) 0-1V [1ω] 20kΩ 0.000 to 1.000(Fixed) 0-5A [58] 0.01Ω 0.000 to 5.000(Fixed) 0-2.5A [2.58] 0.01Ω 0.000 to 5.000(Fixed) 0-1A [18] 0.05Ω 0.000 to 1.000(Fixed) 0-100 M [0.58] 0.1Ω 0.0 to 500.0(Fixed) 0-250MA [0.258] 0.1Ω 0.0 to 500.0(Fixed) 0-250MA [0.258] 0.1Ω 0.0 to 250.0(Fixed) 0-100MA [0.18] 0.5Ω 0.0 to 100.0(Fixed) 0-100MA [0.18] 0.5Ω 0.0 to 100.0(Fixed) 0-100MA 0.18] 0.5Ω 0.0 to 100.0(Fixed) 0.0 to 250.0(Fixed) 0.000 | | 0-110V | [110P] | 1.087ΜΩ | 0.0 to 440.0(Fixed) | | | |
| 0-20V (20u) 200kΩ 0.00 to 20.00(Fixed) | AC Volt | 0-50V | [50] | 1.087ΜΩ | 0.00 to 50.00(Fixed) | | | |
| 0-2V [∂ω] 20kΩ 0.000 to 2.000(Fixed) 0-1V [Iω] 20kΩ 0.000 to 1.000(Fixed) 0-5A [SR] 0.01Ω 0.000 to 5.000(Fixed) 0-2.5A [∂.5R] 0.01Ω 0.000 to 5.000(Fixed) 0-1A [IR] 0.05Ω 0.000 to 1.000(Fixed) 0-50mA [0.5R] 0.1Ω 0.00 to 5.000(Fixed) 0-50mA [0.5R] 0.1Ω 0.0 to 500.0(Fixed) 0-250mA [0.25R] 0.1Ω 0.0 to 250.0(Fixed) 0-100mA [0.IR] 0.5Ω 0.0 to 100.0(Fixed) | AC VOIL | 0-20V | [200] | 200kΩ | 0.00 to 20.00(Fixed) | | | |
| 0-1V [I ₂] 20kΩ 0.000 to 1.000(Fixed) | | 0-10V | [100] | 200kΩ | 0.00 to 10.00(Fixed) |] | | |
| O-1V [I _{\(\)\)} | | 0-2V | [20] | 20kΩ | 0.000 to 2.000(Fixed) | | | |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | 0-1V | [10] | 20kΩ | 0.000 to 1.000(Fixed) | | | |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | 0-5A | [58] | 0.01Ω | 0.000 to 5.000(Fixed) | | | |
| AC Ampere 0-500mA [0.5β] 0.1Ω 0.0 to 500.0(Fixed) 0-250mA [0.25β] 0.1Ω 0.0 to 250.0(Fixed) 0-100mA [0.1β] 0.5Ω 0.0 to 100.0(Fixed) | | 0-2.5A | [2.5A] | 0.01Ω | 0.000 to 2.500(Fixed) | | | |
| Ampere 0-500mA [0.5F] 0.1Ω 0.0 to 500.0(Fixed) 0-250mA [0.25R] 0.1Ω 0.0 to 250.0(Fixed) 0-100mA [0.1R] 0.5Ω 0.0 to 100.0(Fixed) | | 0-1A | [18] | 0.05Ω | 0.000 to 1.000(Fixed) | | | |
| 0-250mA [0.258] 0.1Ω 0.0 to 250.0(Fixed) 0-100mA [0.18] 0.5Ω 0.0 to 100.0(Fixed) | | 0-500mA | [0.58] | 0.1Ω | 0.0 to 500.0(Fixed) | | | |
| | Amporo | 0-250mA | [0.258] | 0.1Ω | 0.0 to 250.0(Fixed) | | | |
| 0-50mA [5β̄̄̄̄̄̄̄̄̄̄̄̄̄] 0.5Ω 0.00 to 50.00(Fixed) | | 0-100mA | [0.18] | 0.5Ω | 0.0 to 100.0(Fixed) | | | |
| | | 0-50mA | [SOAR] | 0.5Ω | 0.00 to 50.00(Fixed) | | | |

Initialization function



Current output(DC4-20mA) scale adjustment function [PA 2: F5-H/F5-L] ts current output for the display value at the output curren

DC 4-20mA. It sets display value for 4mA at F5-L and 20mA at F5-H and the range between F5-H and F5-L should be 10% F5. (When it sets as under 10% F5. it changed as over 10% F5. automatically)Preset display value is fixed to output as 4mA at under F5-L and 20mA at over F5-H. Output



■ Error correction function

imes The offset correction range of 1 ob.L is within -99 to +99

Startup compensation timer function [PA 2:568.6] This time function limits the operation of an output

until the measured input(overvoltage or inrush current) is stable at moment of power on. All outputs are off during startup compensation time setting after power is supplied. Setting range: 00.0 to 99.9 (Unit: sec.)
Factory default: 00.0

AC frequency measurement

function [PA 1: dl 5P]
It measures input signal frequency when it is AC input. It uses fixed decimal point[PA1: do:], measured range can be changed by setting and measured range of decimal point position is as below chart. It is available to adjust the upper gradient I[PA1: in-bA] and [PA1: in-bB]. In order to measure frequency normally, input signal, over 10% F.S. of the measured range, should be supplied. Please select the proper point of measurement terminal.

| Measured range | | | | |
|---------------------------|-------|------|-----|----------------|
| Decimal point position | 0.000 | 0.00 | 0.0 | 0 |
| | | | | 1 to 9999Hz |
| Accuracy of f | | | | |

±0.1rdg ±2digit. From 1kHz to 10kHz, F.S. ±0.3rdg ±2digit. ② nbH: 0.100 to 9.999 (Gradient adjustment of high value)
(Gradient adjustment of high value)
(Index adjustment of Index.H)

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[PA 1: I n b. H / I n b. L]

It corrects display value error of measured input.

I n b. L. ±99 (Adjust deviation of low value)

I n b. L. ±99 (D o 1.010(Correct gradient(%) of high value)

Display value=(Measured value × (n b. H) + I n b. L

When the measured range is 0 to 500/, and the display range is 0

to 500.0. If he low display value is "1.2" to 0" input, set -12 as the I n b. L value to display "1.0" by adjusting the offset of the low value.

The display value to the 500V measured input value by adjusting the offset of the low value. If this display value is "50 L0", calculate 500.06510 (the desired display value)he display value), and set the 0.998 correction value as the I n b. H to display "500.0" by adjusting the gradient of the high value.

Zero adjustment function

It adjusts the indication value of the optional configured input value as zero by force, zero point error can be adjusted with 3 ways as below. When zero adjustment adjustment with front key and Hold terminal is finished normally, zero of measurement terminal is displayed and the adjusted value is saved at Inb L automatically.

| Operation | value | Front key | signal | |
|--|--------------|--|---|--|
| Description | value method | Press both ((), (A) keys for 3 sec. at the RUN mode. | Short-circuit external Hold terminal no.12, 13 over min.50m. | |
| ※Refer to description "■ Error correction function, ■ Error display function, ■ Parameter 2" for function and error. | | | | |

(Figure1)

X Input value

■ Gradient correction function [PA1: I nb.H]

(Figure 1)Display value Y can be adjusted as σ, β times against X input value by correction function [I nb H] and used as correction function of max. display value [H - 5C]. Adjustment range is 0.100 to 5.000 and multiply current gradient.

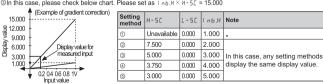
Ex)Input:200m/VDC, Display:3.000 for MT4Y-DV type

Select 0-1VDC for measured input in Parameter 1.

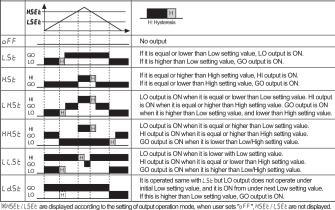
Stlandard specification in input: 0-1VDC and 1.000 therefore it has to be 15.000(H-5E) for 1VDC(Input) in order to display 3.000 for 200m/VDC(Input).

But it is unable due to setting range is 9.999.

In this case, please check below chart. Please set as Inb.H×H-5[= 15.000]



■ Preset output mode [PA2: oUŁŁ]



■ Display cycle delay function [PA 2: df 5.b]

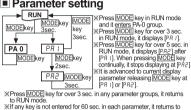
In some applications the measured input may fluctuate which in turn causes the display to fluctuate. By adjusting the display cycle delay function time at d1 5.½ of parameter 2, the operator can adjust the display time within a range of 0.1 sec to 5 sec. For example, if the operator sets the display cycle time to 4.0 sec., the display value displayed will be the average input value over 4 sec. and also will show any changes if any every 4 sec.

| Parameter | Display | | Function | Note | |
|----------------------|------------------|---------------------------|--|---|--|
| | In-E Input type | | Selectable RMS/AVG in AC type | Available AC type only. | |
| | In-r Input range | | Selection of input range | - | |
| | dl 5P Display | | Selection of display type | Selectable: 5End/5ERL/FrE9 | |
| | Stad | Standard | Standard scale range | Display max. display value of 5£ nd | |
| | FrE9 Frequency | | Frequency display | Available AC type only. | |
| | SERL | Scale | Scale range | These are displayed at 50 AL only . It sets max/min. | |
| PB 1 | н-5[High scale | | Set max. value of display range | display value(-1999 to 9999). | |
| (Parameter 1) | L-SC | Low scale | Set min. value of display range | display value(=1999 to 9999). | |
| (Parameter I) | dot | Dot | Set decimal point position | It is displayed in SCAL/FrE9 only and set the position. | |
| | | | Correct high-limit value of | 5End/5ERL: Correction range: 0.100 to 5.000 | |
| | Inb.H | Input bias high | display value | FrE9: Correction range: 0.100 to 9.999 | |
| | I nb.L | Input bias low | Correct low-limit value of display value | Set range:-99 to +99 | |
| | Inb.E | Input bias exponent | Set display index of frequency mode | Set range: 10 ⁻² /10 ⁻¹ /10 ⁰ /10 ¹ | |
| | oUt.t | Out type | Set operation mode of preset output | Selectable of f/LSE/HSE/LHSE/HHSE/LLSE/LdS | |
| | HYS | Hysteresis | Set hysteresis value | Set range: 1 to 10% F.S. | |
| | SERE | Startup compensation time | Set startup compensation time | Set range: 0.0 to 99.9 sec. | |
| | PE L'F | Peak time | Set monitoring delay time for peak value(sec) | Set range:00sec to 30sec | |
| | d1 5.E | Display time | Set sampling time(sec.) | 0.1 to 5.0 sec.(Variable by 0.1 sec.) | |
| | Fra Zero kev | Zero key | Set usage of front side zero | ne: Not use front side zero adjustment key | |
| | Zelo key | Zelo key | adjustment key | 보통5: Use of front side zero adjustment key | |
| PR2 (Parameter 2) | Euln | Event input | Set external terminal(12, 13) function | HoLd: Use external terminal as Hold terminal EEro: Use external terminal as zero point adjustment terminal | |
| | F5-H | Full scale high | Set the upper value output point or PV output | Min. set range: Min. 10% F.S. | |
| | F5-L | Full scale low | Set the lower value output point or PV output | Max. set range: Max. F5-н 10% | |
| | Adr5 | Address | Set communication address | Set range : 01 to 99 | |
| | ьРБ | Bit per second | Set baud rate(bps) | Selectable (200/2400/4800/9600 | |
| | Prty | Parity bit | Set parity bit | Selectable nonE/EuEn / odd | |
| | SEP | Stop bit | Set stop bit | Selectable 1 / 2 | |
| | ~5⊻.b | Response waiting time | Set response wating time | Set range : 5 to 99 | |
| | LoE | Lock | Set lock function | Selectable of F/LoC1/LoC2/LoC3 | |
| | H.SEŁ | High set | Set high setting value | Setting range can be set within the display rang of 5tnd/5tRt | |
| PRO | L.SEE | Low set | Set low setting value | | |
| (Parameter 0) | н.РЕЕ | High peak | Max. value by data monitoring | Initializes the monitored data value by pressing an one of KIN Revs. | |
| | LPER | Low peak | Min. value by data monitoring | | |

Parameter setting

Parameter 1

RUN



to RUN mode.

If any key is not entered for 60 sec. in each parameter, it returns to RUN mode.

After returning to RUN mode, press MODE key within 2 sec., it returns to previous parameter. (Refer to the below descriptions of each to previous parameter. (Refer to the below descriptions of each parameter group.)

**PA-O group cannot be entered when preset output mode of [PR2] group is OFF.

Parameter 0



<Specification chart of measured input by each items>

★ Keys.

 ★ Keys.

 ★ Lidisplays Low-limit monitoring value (Low peak) in RUN mode. It is initialized by pressing any one of ☑ ☑ A keys.

 ★ If PEŁŁ monitoring delay time of Parameter 2 is set as "00 5", HPEŁ and LPEŁ are not displayed.

Change the parameter

Advance to the parameter to be changed when pressing MODE key continuously in RUN mode and releasing MODE key at the parameter.(Refer to "Parameter

When pressing MODE key in each parameter, the initial mode of the parameter is displayed.

(Refer to the description of each parameter to the description

When pressing one of 【 , ☑ , ☒ keys in display mode, the saved setting value is displayed.

Ex) Mode Value value setting value press one Press one Value value setting value flashes every 0.5 sec.

Ex) Change AC type measured input from 250V to 125V.

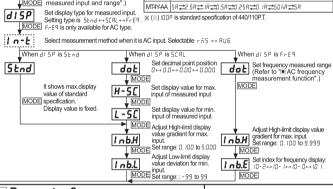
to 125V. Setting value Value Press one Press one

setting value

setting")

MODE key 3sec. Item Range of measured input PA I MT4Y-DV 5000 \$ 1000 \$ 500 \$ 1000 \$ 500 \$ 1000 \$ 500 \$ 1000 \$ 5000 \$ 1000 \$ 5000 \$ 1000 \$ 5000 \$ 1000 MT4Y-DA SR=28R=0.5R=0.2R=2505R=44-20=555R=26R=25R

Select measured input specification. (Refer to "Specification of measured input and range".) MT4YAV 5000 ₹2500 ₹110P(☆)₹500 ₹200 ₹100 ₹20 ₹10 ₹2000



Parameter 2



Select Preset output mode.
Selectable:
Sel

MODE Set startup compensation time. Set range: 0.0 to 99.9 sec. PEY.L Set monitoring delay time. Set range : 00 to 30sec.

d I 5.L Set display period and also variable sets by 0.1sec. within 0.1 to 5.0sec. Enable zero adjustment by front key operation to select £5. Press both 1 hb. automatically.

MODE saved at 1 nb.1 automatically.

Select either hold input by No. 12, 13 terminal or zero point setting by external signal.

MODE For Zero point adjustment by hold terminal.

F 5 - H Set high-limit value for DC20mA output position of PV output.
%When changing input range and prescale mode, the setting value
of F5 - H, F5 - L are changed automatically as max. and min. value
input range. F5-L Set low-limit value for the DC4mA output position of PV output

MODE Rd-5 Set address of RS485 communication output. Set range : 01 to 99 BPS Select baud rate of RS485 communication output Selectable 9500 ↔ 4800 ↔ ₹400 ↔ 1200

Prk 9 Select parity bit of RS485 communication. Selectable nonE / EuEn / odd SEP Select stop bit of RS485 communication.

Set response waiting time of RS485 community Set range: 5 to 99

5. When confirming the setting value with MODE key, the changed setting value flashes twice and enters into the next setting. 6. It returns RUN mode from parameter by

di SP

pressing MODE key for 3 sec. User manual for communication

Visit our website (www.autonics.com) to download the user manual for communication of MT series.

Max. 7.2mm

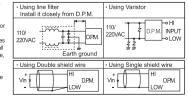
Caution for using

6. Be sure to avoid using the following unit near by machinery making strong high frequency noise.
(High frequency welder & Sewing machine, High capacity SCR unit etc.).
'When input is applied, if "Half" or "LLLL" is displayed, there is some problem with measured input, please check the line

| Sewing | S

is some problem with measured input, please check the line after power off.

8. Noise inflowing from power line can cause serious problem for D.P.M. (Digital Panel Meter) driving by AC power supply. Even though there is condenser for protecting noise between lines at primary side of power transformer, but it is very difficult to install protection components at small size product like of D.P.M. Therefore, please use noise absorber circuit such as line filter, variator in autematic lines when vallence deliver concerns to user refers. external lines when voltage failure occurs by power relay magnet SW and high frequency equipment are operated in same line or surge occurs by spark of high voltage or thunder etc. I, hput line: Shled wire must be used when the measuring input line is getting longer in the place occurring lots of noise.



XIt may cause malfunction if above instructions are not followed.

■ Major products Photoelectric sensors Temperature controllers Switching mode power supplies
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Door side sensors Counters Supper motion controllers (Graphict/Logic panels
Proximity sensors Panel meters Field network devices
Pressure sensors Tachometer/Fuel(Rate) meters
Florid network devices
F

Autonics Corporation

EP-KE-77-0008H

XRS485 / DC4-20mA outputs provide L.5 t only. *BCD Dynamic output / Low speed serial output are not available