Plug-in Signal Conditioners MX-UNIT

SIGNAL TRANSMITTER

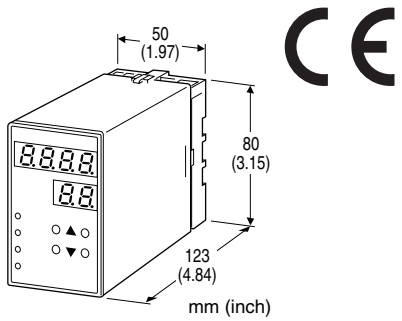
(front configurable)

Functions & Features

- Converts a DC input into a standard process signal
- Field-programmable I/O range
- Easy programming via front UP-DOWN keys with a help of 4-digit and 2-digit displays
- I/O signal inversion feature
- Isolation up to 2000 V AC
- Loop test output
- High-density mounting

Typical Applications

- Isolation between control room and field instrumentation
- Ideal for quick spare part



MODEL: MXV-[1][2]-[3][4]

ORDERING INFORMATION

- Code number: MXV-[1][2]-[3][4]

Specify a code from below for each [1] through [4].
(e.g. MXV-S1V1-M2/Q)

- Specify the specification for option code /Q
  (e.g. /SET)

[1] INPUT

Voltage

S1: Range -1 – +1 V DC (Input resistance 1 MΩ min.)
S2: Range -10 – +10 V DC (Input resistance 1 MΩ min.)
S3: Range -30 – +30 V DC (Input resistance 1 MΩ min.)

[2] OUTPUT

Current

Z1: Range 0 – 20 mA DC (Load resistance 600Ω max.)

Voltage

V1: Range -1 – +1 V DC (Load resistance 1000Ω min.)
V2: Range -10 – +10 V DC (Load resistance 10kΩ min.)

[3] POWER INPUT

AC Power

M2: 100 – 240 V AC (Operational voltage range 85 – 264 V, 47 – 66 Hz)

DC Power

R: 24 V DC
(Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)
P: 110 V DC
(Operational voltage range 85 – 150 V, ripple 10 %p-p max.)

[4] OPTIONS

blank: none
/Q: With options (specify the specification)

SPECIFICATIONS OF OPTION: Q

EX-FACTORY SETTING

/SET: Preset according to the Ordering Information Sheet (No. ESU-1717)

RELATED PRODUCTS

- Resistor module (model: REM)

GENERAL SPECIFICATIONS

Construction: Plug-in
Connection: M3.5 screw terminals
Housing material: Flame-resistant resin (black)
Isolation: Input to output to power
Programming: Via front keys

- Scaled range
- Input range
- Output range
- Moving average
- etc...

(Refer to the instruction manual for details)

■ **DISPLAY**

LED: 8 mm (.31") 7 segment, red
Number of display digits: 4 digits for DATA display; 2 digits for ITEM display
Scaling: -9999 to 9999
PV indication: Output signal in engineering unit
Overrange indication: LEDs blinking
Power saving mode: Displays turn off if the keys are untouched for a preset time period
LEDs: Red; the PL1 turns on with negative polarity and the PL2 with programming error.

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INPUT SPECIFICATIONS

■ **INPUT**

Code S1: -1.00 – +1.00 V DC
Operational range: -1.15 – +1.15 V DC
Minimum increment: 10 mV
Code S2: -10.0 – +10.0 V DC
Operational range: -11.5 – +11.5 V DC
Minimum increment: 100 mV
Code S3: -30.0 – +30.0 V DC
Operational range: -34.5 – +34.5 V DC
Minimum increment: 100 mV

Notes:
-Set the 100 % input value with a larger value than the 0 % input value.
-Inverted output is available with the configuration.
-Operational range is of -15 to +115 % or in the usable range as indicated above.

Default setting:
Code S1: -1.00 – +1.00 V DC
Code S2: -10.0 – +10.0 V DC
Code S3: -30.0 – +30.0 V DC

OUTPUT SPECIFICATIONS

■ **DC Current**: 0.0 – 20.0 mA DC
Operational range: 0.0 – 24.0 mA DC
Minimum increment: 0.1 mA
Default setting: 4.0 – 20.0 mA DC

■ **DC Voltage**

Code V1: -1.00 – +1.00 V DC
Operational range: -1.15 – +1.15 V DC
Minimum increment: 10 mV
Code V2: -10.0 – +10.0 V DC
Operational range: -11.5 – +11.5 V DC
Minimum increment: 100 mV

Note: Set to the 100 % output with a larger value than the 0 % output value.

Default setting:
Code V1: -1.00 – +1.00 V DC
Code V2: -10.0 – +10.0 V DC

INSTALLATION

Power consumption
•**AC**:
approx. 3 VA at 100 V
approx. 4 VA at 200 V
approx. 5 VA at 264 V
•**DC**: Approx. 3.5 W (100 mA at 24 V)
Operating temperature: -5 to +55°C (23 to 131°F)
Operating humidity: 30 to 90 %RH (non-condensing)
Mounting: Surface or DIN rail
Weight: 450 g (0.99 lb)

PERFORMANCE

Accuracy: Input + output
Input: ±0.05 %
Output: ±0.05 %
Min. span required to ensure the accuracy:
20 % of the nominal I/O range
Display accuracy: Input accuracy ±1 digit
(with 0.0 – 100.0 scaling)
Temp. coefficient: ±0.015 %/°C (±0.008 %/°F)
Response time: ≤ 0.5 sec. (0 – 90 %)
Line voltage effect: ±0.1 % over voltage range
Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength: 2000 V AC @1 minute (input to output to power to ground)

STANDARDS & APPROVALS

CE conformity:
EMC Directive (2004/108/EC)
EMI EN 61000-6-4: 2007
EMS EN 61000-6-2: 2005
Low Voltage Directive (2006/95/EC)
EN 61010-1: 2001
Installation Category II
Pollution Degree 2
Input or output to power: Reinforced insulation (300 V)
Input to output: Basic insulation (300 V)

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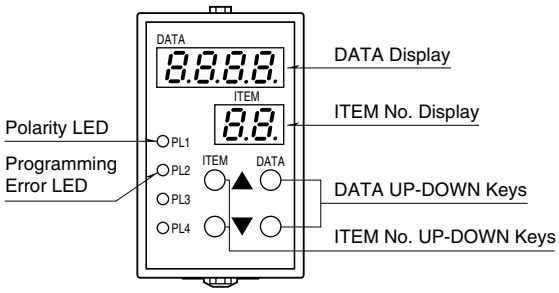
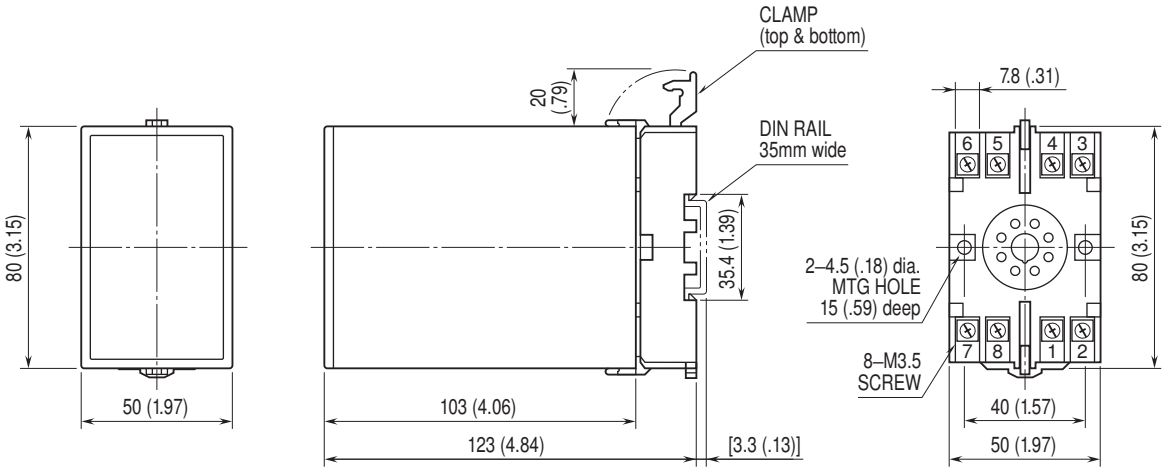
EXTERNAL VIEW



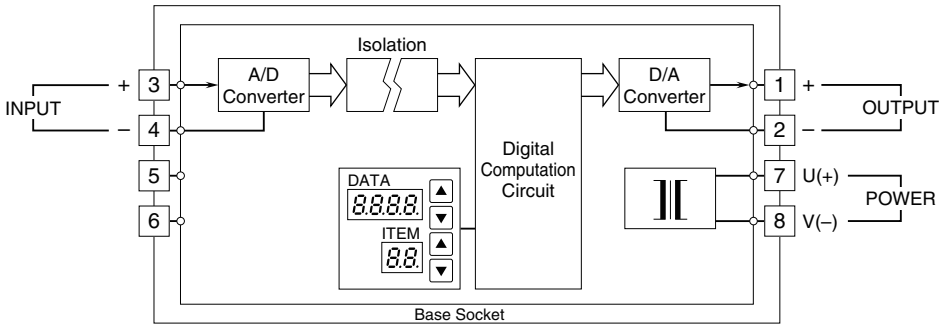
Refer to the instruction manual for detailed procedures.

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



• When mounting, no extra space is needed between units.

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



⚠ Specifications are subject to change without notice.

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