

Space-saving Dual Output Signal Conditioners Mini-MW Series

CURRENT LOOP SUPPLY

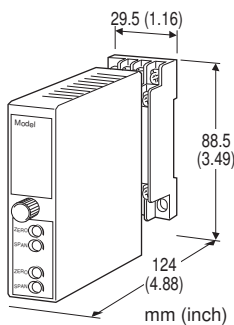
(with square root extractor)

Functions & Features

- Powers a 4 – 20 mA DC current loop
- Square root extraction
- Shortcircuit protection
- Applicable to smart transmitters

Typical Applications

- Various 2-wire transmitters



MODEL: W2DNY-24[1][2]-[3][4]

ORDERING INFORMATION

- Code number: W2DNY-24[1][2]-[3][4]
Specify a code from below for each [1] through [4].
(e.g. W2DNY-24A6-M2/CE/Q)
- Special output ranges (For codes Z & 0)
- Specify the specification for option code /Q
(e.g. /C01/S01)

Note: If one of the outputs should be a current range, specify it for the Output 1 to allow a greater load.

SUPPLY OUTPUT

24: 24 V DC

INPUT

Current

4 – 20 mA DC

[1] OUTPUT 1

Current

- A: 4 – 20 mA DC (Load resistance 750 Ω max.)
- B: 2 – 10 mA DC (Load resistance 1500 Ω max.)
- C: 1 – 5 mA DC (Load resistance 3000 Ω max.)
- D: 0 – 20 mA DC (Load resistance 750 Ω max.)
- E: 0 – 16 mA DC (Load resistance 900 Ω max.)
- F: 0 – 10 mA DC (Load resistance 1500 Ω max.)
- G: 0 – 1 mA DC (Load resistance 15 k Ω max.)
- Z: Specify current (See OUTPUT SPECIFICATIONS)

Voltage

- 1: 0 – 10 mV DC (Load resistance 10 k Ω min.)
- 2: 0 – 100 mV DC (Load resistance 100 k Ω min.)
- 3: 0 – 1 V DC (Load resistance 1000 Ω min.)
- 4: 0 – 10 V DC (Load resistance 10 k Ω min.)
- 5: 0 – 5 V DC (Load resistance 5000 Ω min.)
- 6: 1 – 5 V DC (Load resistance 5000 Ω min.)
- 0: Specify voltage (See OUTPUT SPECIFICATIONS)

[2] OUTPUT 2

Y: None

Current

- A: 4 – 20 mA DC (Load resistance 350 Ω max.)
- B: 2 – 10 mA DC (Load resistance 700 Ω max.)
- C: 1 – 5 mA DC (Load resistance 1400 Ω max.)
- D: 0 – 20 mA DC (Load resistance 350 Ω max.)
- E: 0 – 16 mA DC (Load resistance 430 Ω max.)
- F: 0 – 10 mA DC (Load resistance 700 Ω max.)
- G: 0 – 1 mA DC (Load resistance 7000 Ω max.)
- Z: Specify current (See OUTPUT SPECIFICATIONS)

Voltage

Same range availability as Output 1

[3] POWER INPUT

AC Power

M: 85 – 264 V AC (Operational voltage range 85 – 264 V, 47 – 66 Hz)

(Select 'N' for 'Standards & Approvals' code.)

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

(90 – 264 V for UL)

DC Power

R: 24 V DC

(Operational voltage range 24 V $\pm$ 10 %, ripple 10 %p-p max.)

R2: 11 – 27 V DC

(Operational voltage range 11 – 27 V, ripple 10 %p-p max.)

(Select 'N' for 'Standards & Approvals' code.)

P: 110 V DC

(Operational voltage range 85 – 150 V, ripple 10 %p-p max.)

(110 V $\pm$ 10 % for UL)

[4] OPTIONS (multiple selections)**Standards & Approvals (must be specified)**

/N: Without CE or UL

/CE: CE marking

/UL: UL approval, CE marking

Other Options

blank: none

/Q: Option other than the above (specify the specification)

SPECIFICATIONS OF OPTION: Q (multiple selections)**COATING (For the detail, refer to M-System's web site.)**

/C01: Silicone coating

/C02: Polyurethane coating

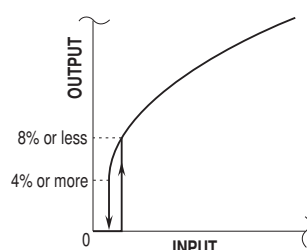
/C03: Rubber coating (UL not available)

TERMINAL SCREW MATERIAL

/S01: Stainless steel (UL not available)

GENERAL SPECIFICATIONS**Construction:** Plug-in**Connection:** M3 screw terminals (torque 0.8 N·m)**Screw terminal:** Chromated steel (standard) or stainless steel**Housing material:** Flame-resistant resin (black)**Isolation:** Input to output 1 to output 2 to power**Overrange output:** 0 to 110 % at 1 - 5 V**Zero adjustment:** -5 to +5 % (front)**Span adjustment:** 95 to 105 % (front)

Adjustable individually for each output 1 and output 2.

Low-end cutout: Approx. 4 - 8 % (output)**SUPPLY OUTPUT**

(across the terminals 1 - 5)

Output voltage: 24 - 28 V DC with no load

18 V DC min. at 20 mA

Current rating: ≤ 22 mA DC• **Shortcircuit Protection****Current limited:** 30 mA max.**Protected time duration:** No limit**INPUT SPECIFICATIONS**■ **DC Current:** Input resistors incorporated

Approx. 300 Ω (50 Ω as receiving resistor, 250 Ω across the monitor terminals)

OUTPUT SPECIFICATIONS■ **DC Current:** 0 - 20 mA DC**Minimum span:** 1 mA**Offset:** Max. 1.5 times span**Load resistance:** Output drive 15 V max. for Output 1; 7 V max. for Output 2■ **DC Voltage:** 0 - 12 V DC (up to 10 V for Output 2)**Minimum span:** 10 mV**Offset:** Max. 1.5 times span**Load resistance:** Output drive 1 mA max.; at ≥0.5 V**INSTALLATION****Power Consumption**• **AC:**

Approx. 5 VA at 100 V

Approx. 6 VA at 200 V

Approx. 7 VA at 264 V

• **DC:** Approx. 3 W**Operating temperature:** -5 to +55°C (23 to 131°F)**Operating humidity:** 30 to 90 %RH (non-condensing)**Mounting:** Surface or DIN rail**Weight:** 200 g (0.44 lb)**PERFORMANCE in percentage of span****Accuracy:** ±0.2 % (input 1 - 100 %)**Temp. coefficient:** ±0.015 %/°C (±0.008 %/°F)**Response time:** ≤ 0.5 sec. (0 - 90 %)**Line voltage effect****Supply output:** ±3 % over voltage range**Output signal:** ±0.1 % over voltage range**Insulation resistance:** ≥ 100 MΩ with 500 V DC**Dielectric strength:** 2000 V AC @1 minute (input to output 1 to output 2 to power to ground)

STANDARDS & APPROVALS

EU conformity:

EMC Directive

EMI EN 61000-6-4

EMS EN 61000-6-2

Low Voltage Directive

EN 61010-1

Installation Category II

Pollution Degree 2

Input or output 1 or output 2 to power input:

Reinforced insulation (300 V)

Input to output 1 to output 2: Basic insulation (300 V)

RoHS Directive

EN 50581

Approval:

UL/C-UL nonincendive Class I, Division 2,

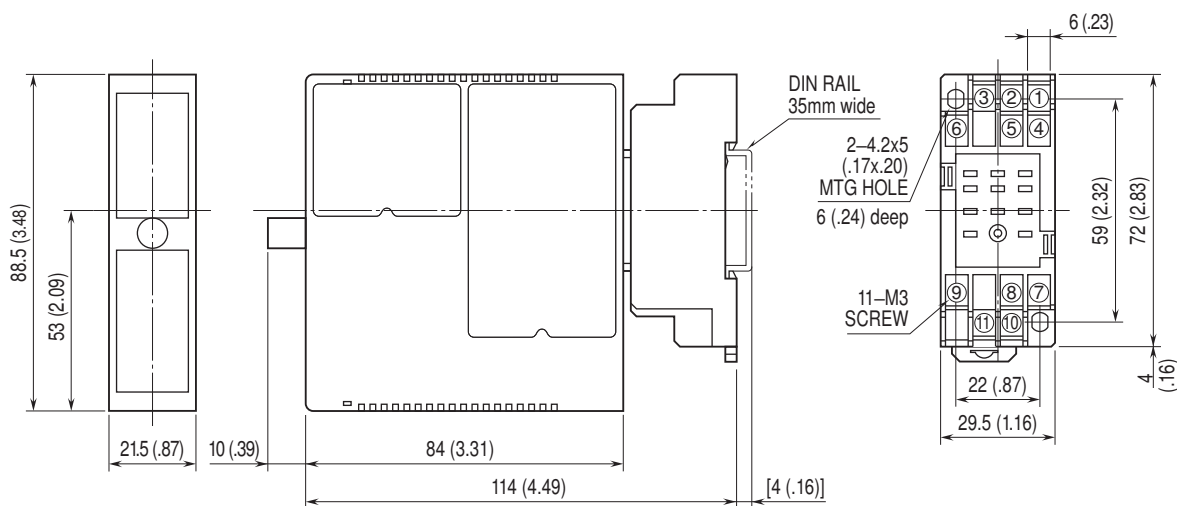
Groups A, B, C, and D

(ANSI/ISA-12.12.01, CAN/CSA-C22.2 No.213)

UL/C-UL general safety requirements

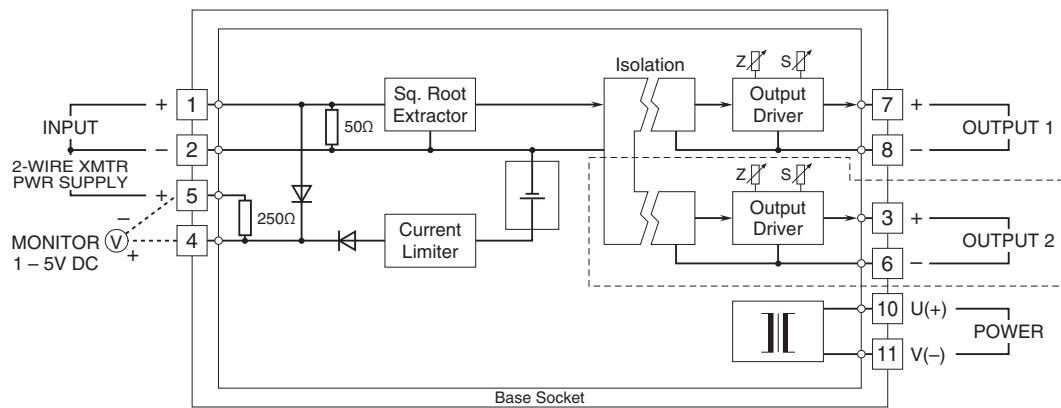
(UL 61010-1, CAN/CSA-C22.2 No.61010-1)

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



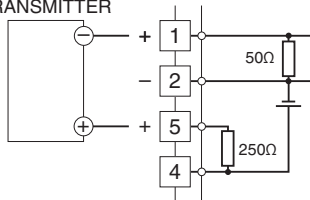
- When mounting, no extra space is needed between units.

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

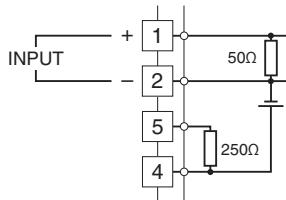


■ When Used as DC Supply

2-WIRE
TRANSMITTER



■ When Used as Square Root Extractor



Specifications are subject to change without notice.