

## Super-mini Signal Conditioners Mini-M Series

### CURRENT LOOP SUPPLY

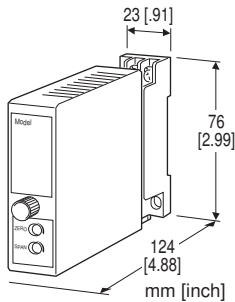
(applicable to HART signal)

#### Functions & Features

- Powers a 4 - 20 mA DC current loop
- Isolates and relays HART signals
- Shortcircuit protection
- Applicable to smart transmitters

#### Typical Applications

- 2-wire HART transmitters



## MODEL: M2DYH-24A-[1][2]

### ORDERING INFORMATION

- Code number: M2DYH-24A-[1][2]
- Specify a code from below for each of [1] and [2].  
(e.g. M2DYH-24A-M2/Q)
- Specify the specification for option code /Q  
(e.g. /C01/S01)

### SUPPLY OUTPUT

24: 24 V DC

### INPUT

#### Current

4 - 20 mA DC (Input resistance 250 Ω)

### OUTPUT

#### Current

A: 4 - 20 mA DC (Load resistance 600 Ω max.)

### [1] 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.)

R2: 11 - 27 V DC

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

P: 110 V DC

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

### [2] OPTIONS

blank: none

/Q: With options (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

/C04: Polyolefin coating

#### TERMINAL SCREW MATERIAL

/S01: Stainless steel

### 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 to power

Overrange output: Approx. -10 to +110 %

Zero adjustment: -5 to +5 % (front)

Span adjustment: 95 to 105 % (front)

### 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 resistor incorporated

### HART COMMUNICATION

Frequency band: 500 Hz - 10 kHz (within -10 dB)

Transmission gain: Approx. -3 dB (within 1 - 3 kHz)  
measured with 250 Ω at output

Output load (loop impedance) 250 Ω ±10% is required for HART communication.

Communication directions: Bidirectional

## INSTALLATION

### Power Consumption

#### •AC:

Approx. 3.5 VA at 100 V

Approx. 5.5 VA at 200 V

Approx. 6.5 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:** 150 g (0.33 lb)

## PERFORMANCE in percentage of span

**Accuracy:** ±0.1 %

**Temp. coefficient:** ±0.015 %/°C (±0.008 %/°F)

**Response time:** ≤ 0.5 sec. (0 - 90 %)

### Line voltage effect

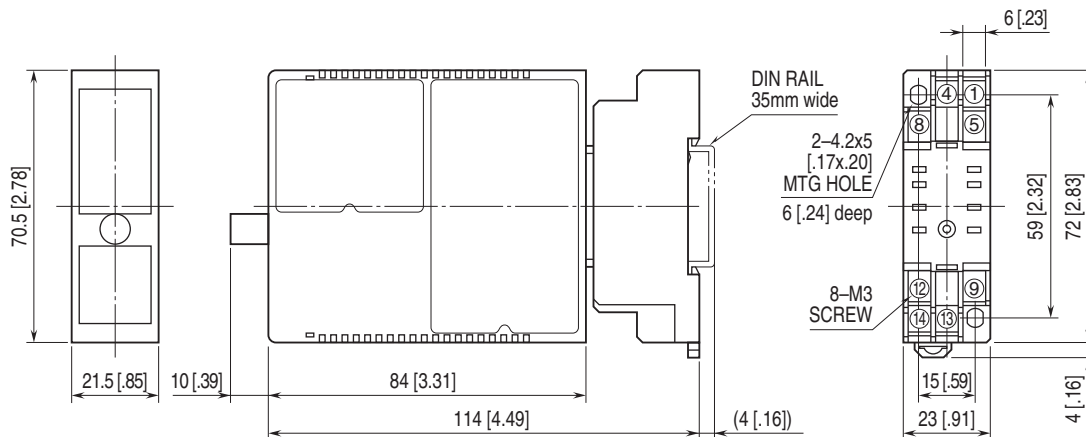
**Supply output:** ±3 % over voltage range

**Output signal:** ±0.1 % over voltage range

**Insulation resistance:** ≥ 100 MΩ with 500 V DC

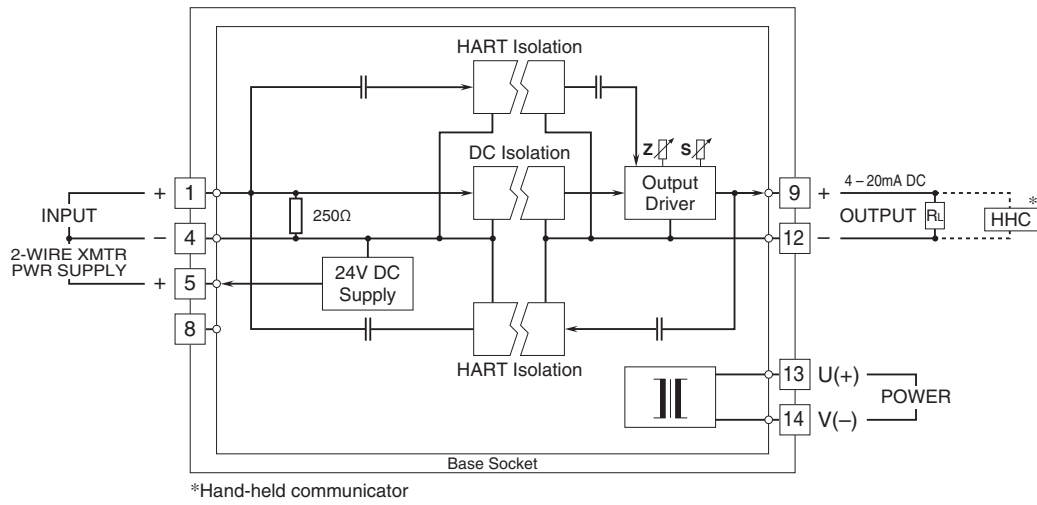
**Dielectric strength:** 2000 V AC @1 minute (input to output to power to ground)

## EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]

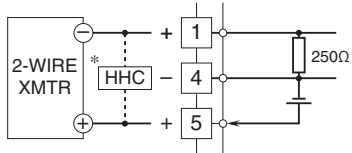


• When mounting, no extra space is needed between units.

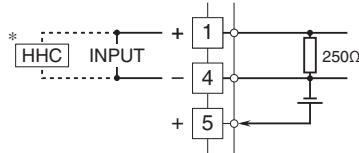
**SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM**



■ When Used as DC Supply



■ When Used as Isolator



Specifications are subject to change without notice.