

## Dual Output Super-mini Signal Conditioners Pico-M Series

### CURRENT LOOP SUPPLY

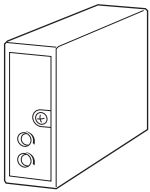
(applicable to HART signal)

#### Functions & Features

- Powers a 4 - 20 mA DC current loop
- Isolates and relays HART signals
- Shortcircuit protection
- Opencircuit detection selectable
- Space-saving, easy to maintain, multi-channel installation base

#### Typical Applications

- 2-wire HART transmitters



## MODEL: M8DYH-AY-R[1]

### ORDERING INFORMATION

- Code number: M8DYH-AY-R[1]  
Specify a code from below for [1].  
(e.g. M8DYH-AY-R/RE/Q)
- Specify the specification for option code /Q  
(e.g. /C01 /V01)

### INPUT

Current

4 - 20 mA DC (Input resistance 250 Ω)

### OUTPUT 1 / OUTPUT 2

AY: 4 - 20 mA DC / None

### POWER INPUT

DC Power

R: 24 V DC

(Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)

### [1] OPTIONS (multiple selections)

Output polarity reversal

blank: none

/RE: Output polarity reversal

Other Options

blank: none

/Q: With options (specify the specification)

### SPECIFICATIONS OF OPTION: Q (multiple selections)

COATING (For the detail, refer to our web site.)

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating

ADJUSTMENT

/V01: Multi-turn fine adjustment

### RELATED PRODUCTS

- Installation Base or Single Mount Base Socket (model: M8BSx)

This unit must be mounted on dedicated base or socket except Model M8BS2 base and M8BS-1.

### GENERAL SPECIFICATIONS

Construction: Plug-in

Mounting screw: M3 screw (torque 0.3 N·m)

Housing material: Flame-resistant resin (black)

Power supply: Via the Installation Base terminals  
(model: M8BSx)

(Model M8BS2 and M8BS-1 are not usable for the M8DYH.)

Isolation: Input to output 1 to output 2 to power

Zero adjustment: -2 to +2 % (front)

Span adjustment: 98 to 102 % (front)

### SUPPLY OUTPUT

(across the terminals 1 - 2)

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: 45 mA max.

Protected time duration: No limit

### INPUT SPECIFICATIONS

■ DC Current: Input resistor incorporated

Input current: ≥ 0 mA

### OUTPUT SPECIFICATIONS

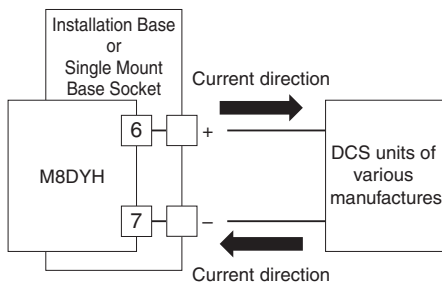
The output goes below 0 % when the input is open.

Load resistance: 200 - 300 Ω

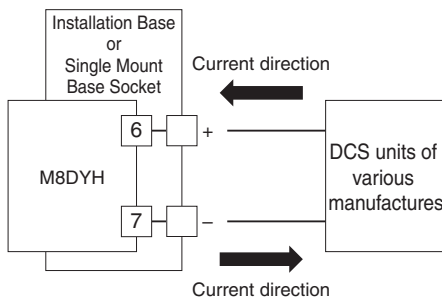
(250 Ω ±10% when using HART communication)

Polarity of output is reversed with option code /RE (with output polarity reversal).

## ■ BLANK



## ■ /RE (with output polarity reversal)



## HART COMMUNICATION

**Transmission gain:** Approx. -3 dB (within 1 - 3 kHz)  
 measured with 250  $\Omega$  at output  
**Loop impedance:** 250  $\Omega$   $\pm$ 10 %  
**Communication directions:** Bidirectional

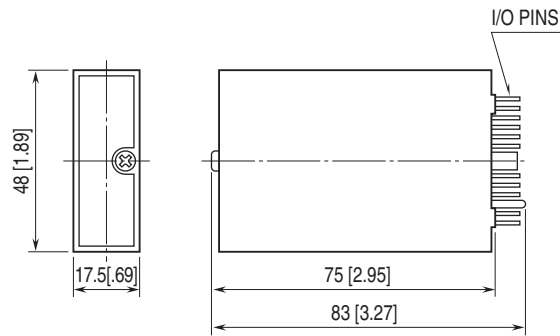
## INSTALLATION

**Current consumption:** Approx. 54 mA  
**Operating temperature:** 0 to 55°C (32 to 131°F)  
**Operating humidity:** 30 to 95 %RH (non-condensing)  
**Mounting:** Installation Base (model: M8BSx)  
**Weight:** 50 g (1.76 oz)

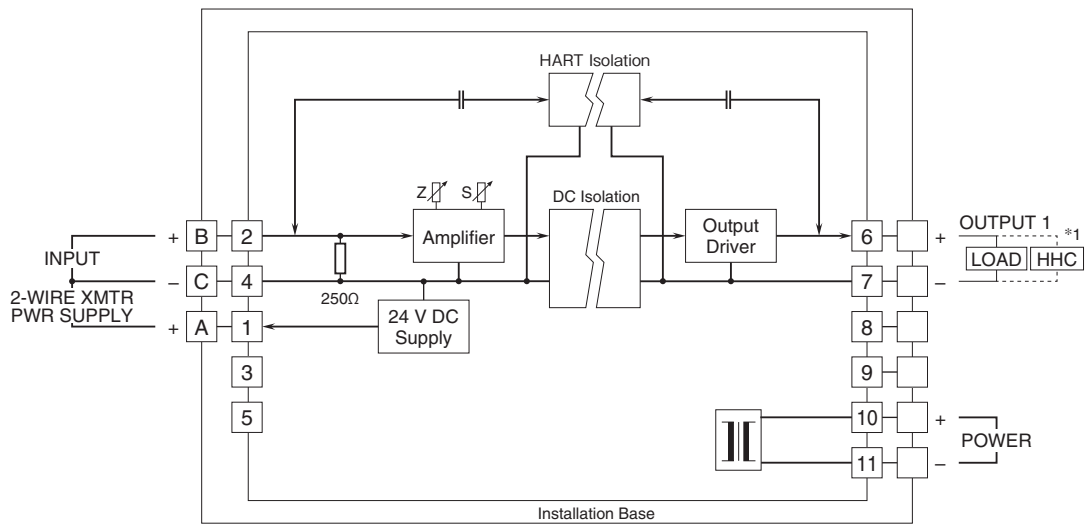
## PERFORMANCE in percentage of span

**Accuracy:**  $\pm$ 0.1 %  
**Temp. coefficient:**  $\pm$ 0.02 %/°C ( $\pm$ 0.01 %/°F)  
**Response time:**  $\leq$  0.5 sec. (0 - 90 %)  
**Line voltage effect**  
     **Supply output:**  $\pm$ 3 % over voltage range  
     **Output signal:**  $\pm$ 0.1 % over voltage range  
**Insulation resistance:**  $\geq$  100 M $\Omega$  with 500 V DC  
**Dielectric strength:**  
 1500 V AC @1 minute (input to output 1 or output 2 or  
 power to ground)  
 500 V AC @1 minute (output 1 to output 2 to power)

## EXTERNAL DIMENSIONS unit: mm [inch]

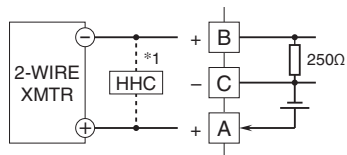


## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

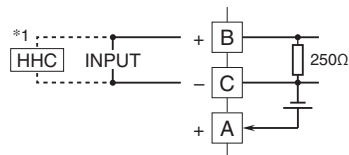


\*1. Hand-held communicator

### ■ When used as current loop supply



### ■ When used as isolator



Specifications are subject to change without notice.