

Super-mini Terminal Block Signal Conditioners M5-UNIT

CURRENT LOOP SUPPLY

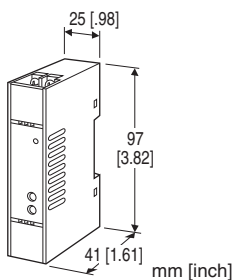
(applicable to HART signal, opencircuit detection selectable)

Functions & Features

- Powers a 4 - 20 mA DC current loop
- Isolates and relays HART signals
- Shortcircuit protection
- Opencircuit detection selectable
- High-density mounting
- Power LED

Typical Applications

- 2-wire HART transmitters



MODEL: M5DYH2-A-R[1]

ORDERING INFORMATION

- Code number: M5DYH2-A-R[1]
Specify a code from below for [1].
(e.g. M5DYH2-A-R/B/Q)
- Specify the specification for option code /Q
(e.g. /C01/V01/S01)

INPUT

Current
4 - 20 mA DC (Input resistance approx. 250 Ω)

OUTPUT

Current
A: 4 - 20 mA DC

POWER INPUT

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

[1] OPTIONS (multiple selections)

Opencircuit detection
blank: none

/B: Opencircuit detector

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 our web site.)

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating

ADJUSTMENT

/V01: Multi-turn fine adjustment

TERMINAL SCREW MATERIAL

/S01: Stainless steel

GENERAL SPECIFICATIONS

Construction: Terminal block

Connection: M3.5 screw terminals (torque 0.8 N·m)

Screw terminal: Nickel-plated steel (standard) or stainless steel

Housing material: Flame-resistant resin (black)

Isolation: Input to output to power

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

Span adjustment: 98 to 102 % (front)

Power indicator LED: Green LED turns on when the power is supplied.

Opencircuit detection: Input current 0 mA when the output loop is open.

Photo MOSFET Relay ON Resistance; 3 Ω max.

SUPPLY OUTPUT

(across the terminals 3 - 4)

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 max. (250±10% required for HART communication)

HART COMMUNICATION

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

INSTALLATION

Power consumption
•DC: Approx. 2 W
Operating temperature: -20 to +65°C (-4 to +149°F)
Operating humidity: 30 to 90 %RH (non-condensing)
Mounting: DIN rail
Weight: 80 g (2.8 oz)

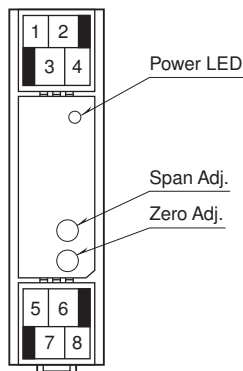
PERFORMANCE in percentage of span

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 Ω with 500 V DC
Dielectric strength: 2000 V AC @1 minute (input to output to power to ground)

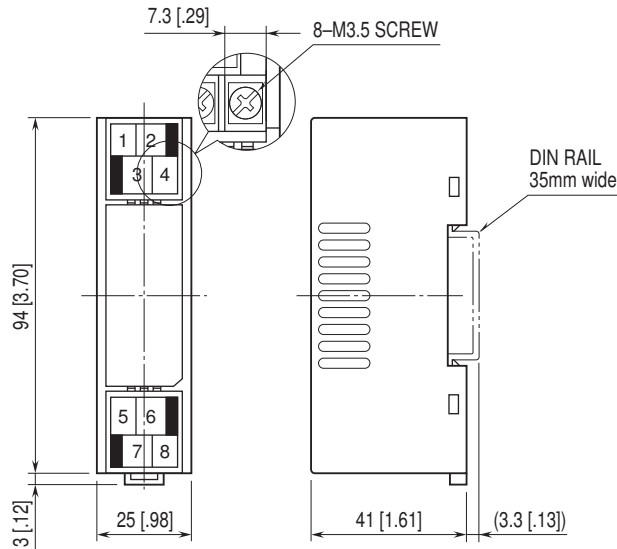
STANDARDS & APPROVALS

EU conformity:
EMC Directive
EMI EN 61000-6-4
EMS EN 61000-6-2
RoHS Directive

FRONT VIEW

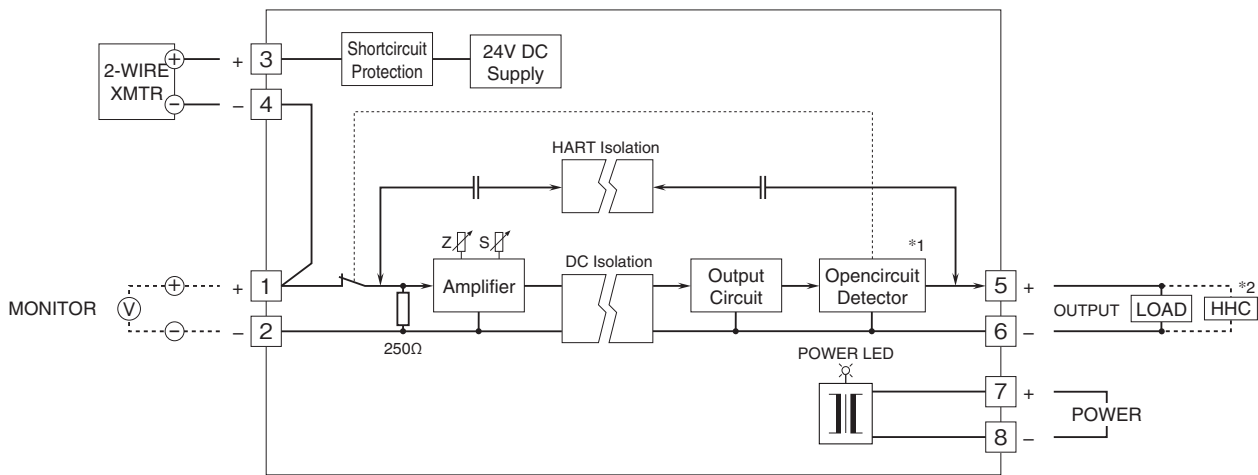


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



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

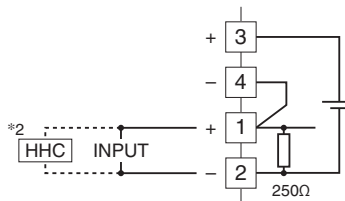
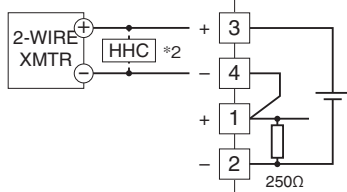
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*1. Included with option /B
*2. Hand-held communicator

■ When used as DC Supply

■ When used as Isolator



Specifications are subject to change without notice.