

D5016

I.S. SIL3 4-Wire HART® Transmitter Current Repeater

The Current Repeater D5016 module is a high integrity analog input interface suitable for applications requiring SIL 3 level in safety related systems for high risk industries. It repeats a 4 wires 4-20 mA current signal in floating circuit to drive a Safe Area load. The module allows bi-directional communication signals, for HART® devices.

FEATURES

- SIL 3 / SC 3 (pending)
- Input from Zone 0/Div. 1 (pending)
- Installation in Zone 2/Div. 2 (pending)
- 2 fully independent channels
- 4-20 mA Source-Sink Output
- HART® compatible
- High Accuracy
- Three port isolation, Input/Output/Supply
- High Density, two channels per unit

ORDERING INFORMATION

Ordering codes

D5016xy

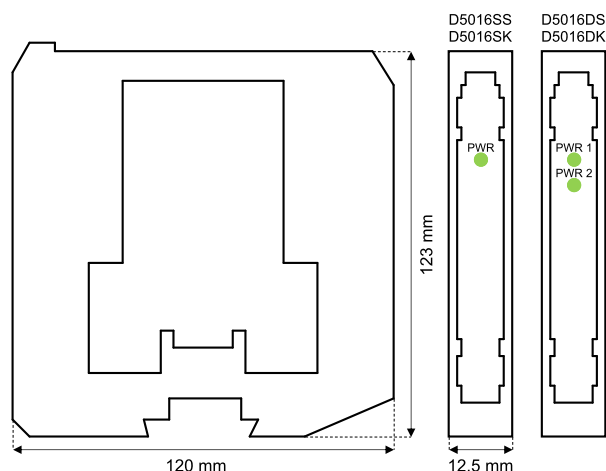
x: S → 1 channel; D → 2 channels

y: S → source current output; K → sink current output

Accessories

Bus Connector JDFT049, Bus Mounting Kit OPT5096.

OVERALL DIMENSIONS



TECHNICAL DATA

Supply

24 Vdc nom (18 to 30 Vdc), reverse polarity protected.

Current consumption: 90 mA (D5016D*), 45 mA (D5016S*), @ 24 Vdc with 20 mA output, typical.

Power dissipation: 1.35 W (D5016D*), 0.68 W (D5016S*), @ 24 Vdc with 20 mA output, typical.

Input

4 to 20 mA (separately powered input, voltage drop ≤ 6.5 V), reading range 0 to 24 mA.

HART Impedance: 225 Ω , typical.

Output

4 to 20 mA.

Sink out voltage range: 2 to 30 V.

Conventional Tx load: 0 to 550 Ω .

Smart Tx load: 250 Ω nom (150 to 500 Ω).

Response time: 10 ms (10 to 90 % step change).

Performance

Ref. Conditions: 24 V supply, 250 Ω load, 23 ± 1 °C ambient temperature.

Calibration accuracy: $\leq \pm 20$ μ A.

Linearity accuracy: $\leq \pm 20$ μ A.

Temp. influence: $\leq \pm 2$ μ A/°C.

Isolation

I.S. In/Out 2.5 kV; I.S. In/Supply 2.5 kV; I.S. In/I.S. In 500 V; Out/Supply 500 V; Out/Out 500 V.

Environmental conditions

Operating temperature: temperature limits -40 to $+70$ °C.

Storage temperature: temperature limits -45 to $+80$ °C.

Safety description

Associated apparatus and non-sparking electrical equipment.

$U_o = 7.7$ V at terminals 7-8, 9-10.

$U_i = 30$ V, $I_i = 128$ mA, $C_i = 0$ nF, $L_i = 0$ nH at terminals 7-8, 9-10.

$U_m = 250$ Vrms or Vdc, -40 °C $\leq T_a \leq 70$ °C.

Mounting

DIN-Rail 35 mm, with or without Power Bus or on custom Term. Board.

Weight: about 155 g (D5016D*), 130 g (D5016S*).

Connection: by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm² (13 AWG).

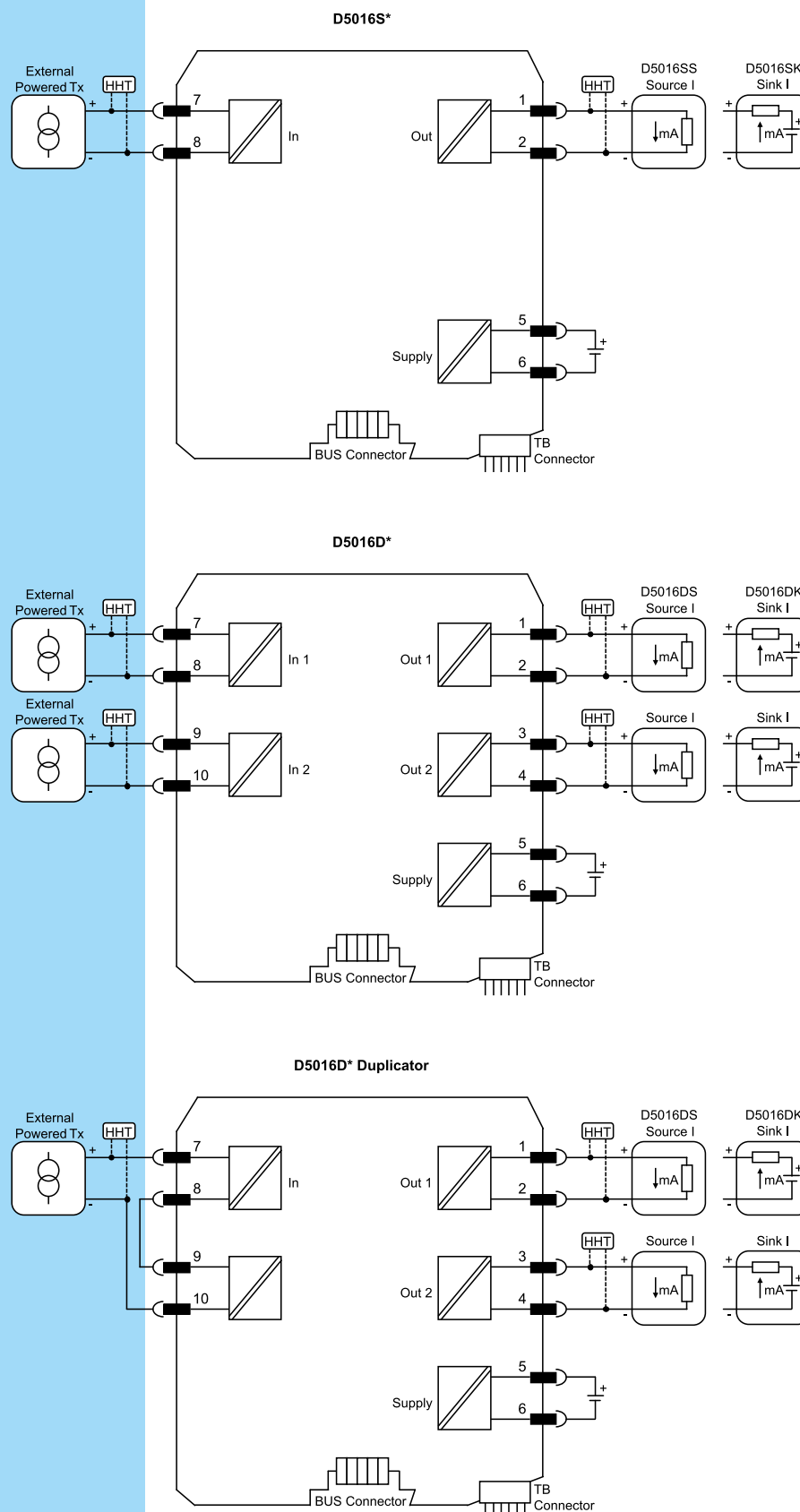
Dimensions: Width 12.5 mm, Depth 123 mm, Height 120 mm.

FUNCTION DIAGRAM

Additional installation diagrams may be found in Instruction Manual.

Hazardous Area

Safe Area/Zone 2/Div. 2



Functional Safety Management Certification:
GM International is certified to conform to IEC61508:2010 part 1 clauses 5-6 for safety related systems up to and included SIL3. In addition, GM International products have been granted I.S. certificates from the most credited Notified Bodies in the world.

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