

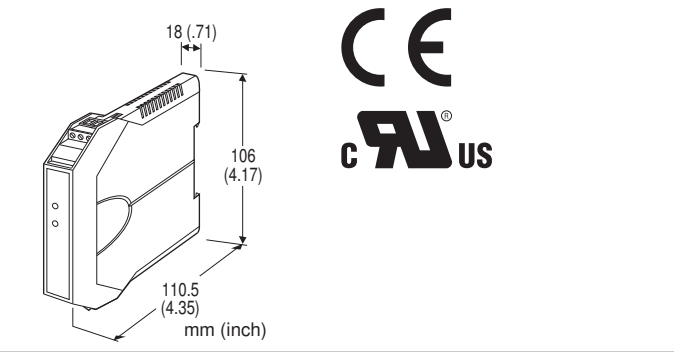
Space-saving Two-wire Signal Conditioners B3-UNIT

SIGNAL TRANSMITTER

(field-configurable)

Functions & Features

- Converts a DC input into an isolated 4 – 20 mA DC signal
- DIP switch configurable input range
- Monitor terminals
- High-density mounting



MODEL: B3FV[1]

ORDERING INFORMATION

- Code number: B3FV[1]
- Specify a code from below for [1].
(e.g. B3FV/Q)
- Input range (e.g. 0 – 10 V DC)
 - If you need the transmitter to be calibrated to a specific range, please specify when ordering. Non-specified orders will be shipped at default factory setting (4 – 20 mA input)
 - Specify the specification for option code /Q (e.g. /C01)

[1] OPTIONS

Standards & Approvals

- blank:** CE marking
- /UL:** UL approval, CE marking

Other Options

- blank:** none
- /Q:** Option other than the above (specify the specification)

SPECIFICATIONS OF OPTION: Q

COATING (For the detail, refer to M-System's web site.)

- /C01:** Silicone coating
- /C02:** Polyurethane coating
- /C03:** Rubber coating (UL not available)

GENERAL SPECIFICATIONS

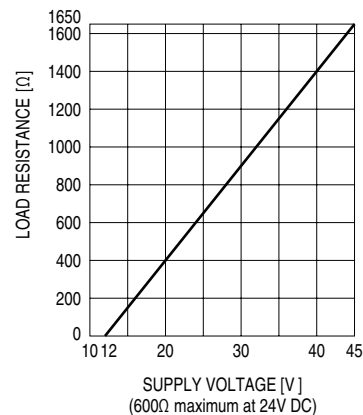
- Construction:** Small-sized front terminal structure
 - Connection:** Euro type connector terminal (applicable wire size: 0.2 to 2.5 mm², stripped length 8 mm)
 - Housing material:** Flame-resistant resin (gray)
 - Isolation:** Input to output
 - Configuration:** DIP switch
 - Setting:**
 - Input Type
 - Input Range
 - Others
- Refer to the instruction manual for details.

INPUT SPECIFICATIONS

- **DC Current:** Input resistor incorporated
- Input resistance:** 250 Ω (4 – 20 mA)
- Usable range:**
 - Max. range:** -30 to +30 mA DC
 - Span:** Min. 16 μA, Max. 60 mA
 - Offset:** -100 to +80 % of the selected range
- **DC Voltage**
 - **Input resistance**
 - Span 4 mV – 3 V :** ≥ 1 MΩ (≥ 40 kΩ with no supply voltage)
 - Span ≥ 3 V :** ≥ 1 MΩ
 - **Usable range:**
 - Max. range:** -100 to +100 V DC
 - Span:** Min. 4m V, Max. 100 V
 - Offset:** -100 to +80 % of the selected range (Max. voltage across the input terminals: 70 V for conform with EU Directive; 60 V for UL approval)

OUTPUT SPECIFICATIONS

- Output:** 4 – 20 mA DC
- Load resistance vs. supply voltage:**
Load Resistance (Ω) = (Supply Voltage (V) – 12 (V)) ÷ 0.02 (A) (including leadwire resistance)



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INSTALLATION

Supply voltage: 12 - 45 V DC
Operating temperature:
 -40 to +85°C (-40 to +185°F)
 Max. 55°C (131°F) for UL approval
Operating humidity: 0 to 95 %RH (non-condensing)
Mounting: DIN rail
Weight: 80 g (2.8 oz)

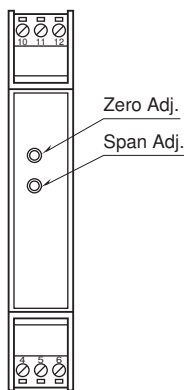
PERFORMANCE in percentage of span

Accuracy: ±0.1 %
Temp. coefficient: ±0.02 %/°C (±0.01 %/°F)
Response time: ≤ 0.5 sec. (0 - 90 %)
Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength: 2000 V AC @1 minute
 (input to output to ground)

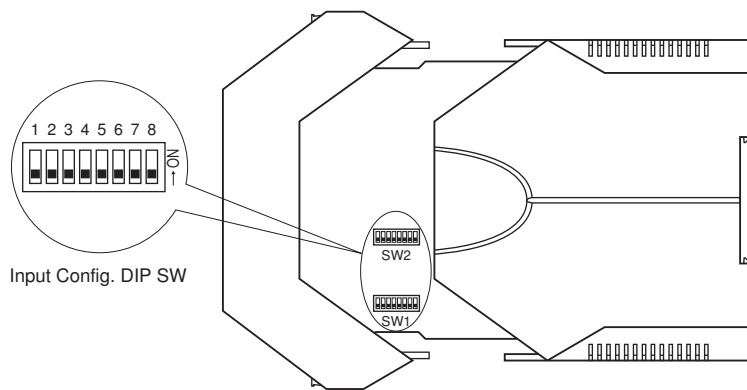
STANDARDS & APPROVALS

EU conformity:
 EMC Directive
 EMI EN 61000-6-4
 EMS EN 61000-6-2
 RoHS Directive
 EN 50581
Approval:
 UL/C-UL general safety requirements
 (UL 61010-1, CAN/CSA-C22.2 No.1010-1)

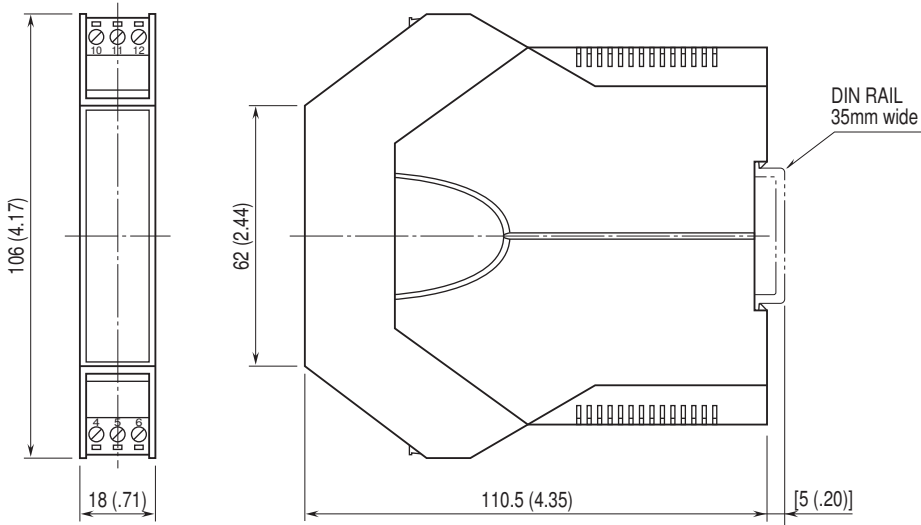
EXTERNAL VIEW



SIDE VIEW

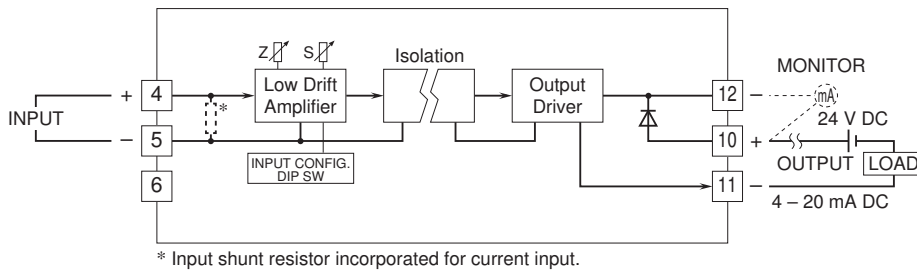


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



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

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.