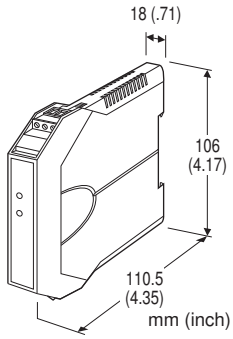
Space-saving Two-wire Signal Conditioners B3-UNIT

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/UL/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 (multiple selections)

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 our 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 mm^2, stripped length 8 mm)
Housing material: Flame-resistant resin (gray)
Isolation: Input to output
Configuration: DIP switch
Setting:

- Input Type
- Input Range
- Others

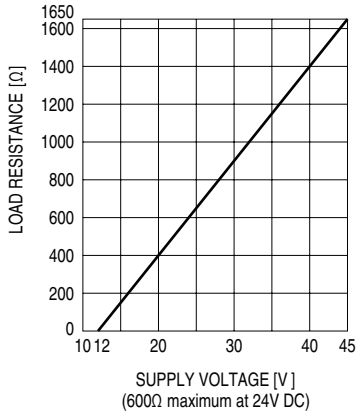
Refer to the instruction manual for details.

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

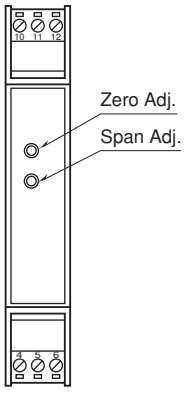
Accuracy: ±0.1 %
Temp. coefficient: ±0.02 %/°C (±0.01 %/°F)
Response time: ≤ 0.5 sec. (0 – 90 %)
Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength: 2000 V AC @1 minute
(input to output to ground)

STANDARDS & APPROVALS

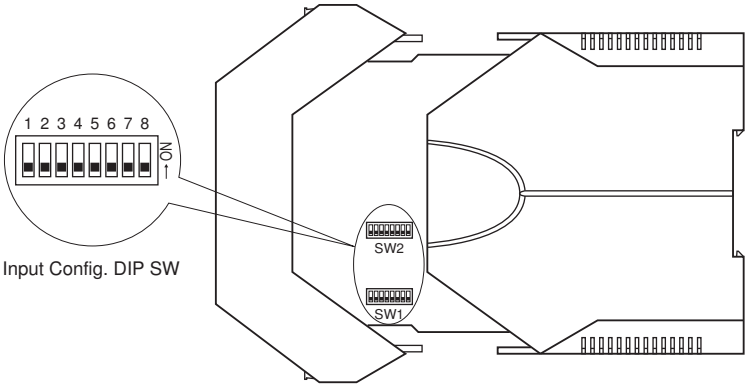
EU conformity:
EMC Directive
EMI EN 61000-6-4
EMS EN 61000-6-2
RoHS Directive
Approval:
UL/C-UL general safety requirements
(UL 61010-1, CAN/CSA-C22.2 No.1010-1)

EXTERNAL VIEW

FRONT VIEW



SIDE VIEW



Input Config. DIP SW

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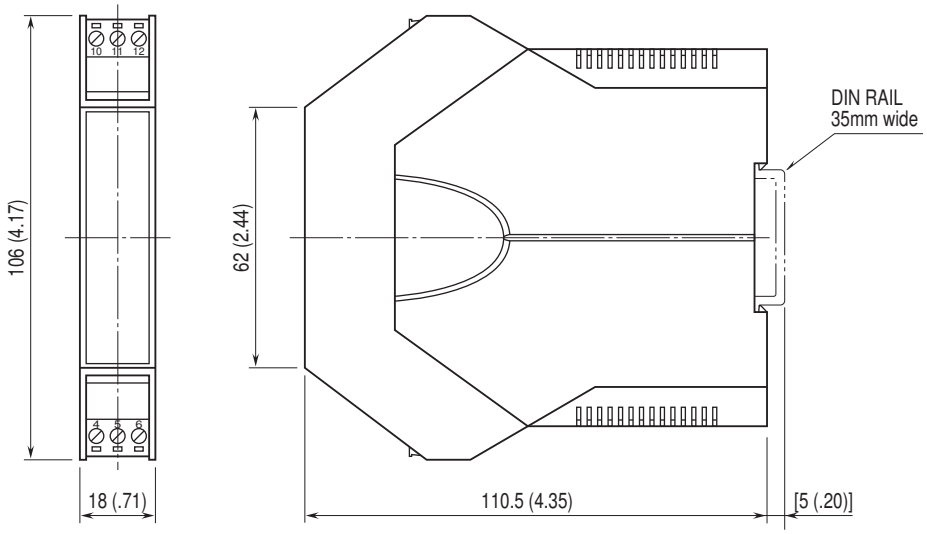
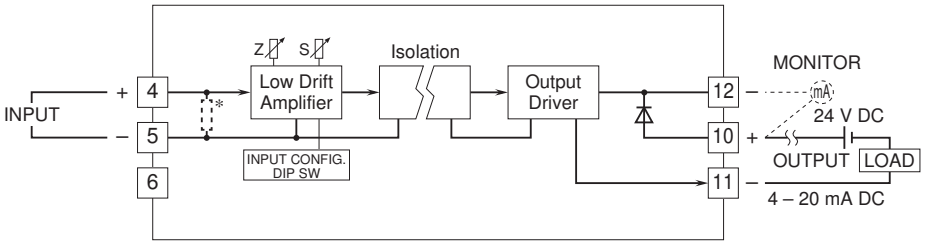
EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



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

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



* Input shunt resistor incorporated for current input.

⚠ Specifications are subject to change without notice.

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