

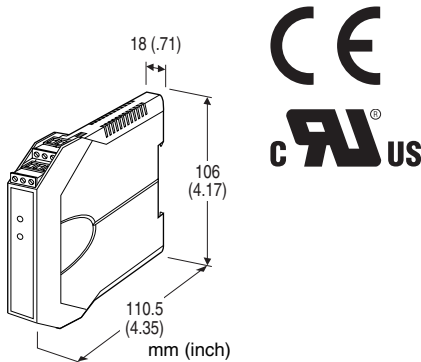
Space-saving Two-wire Signal Conditioners B3-UNIT

SIGNAL TRANSMITTER

(single-channel output loop powered isolator)

Functions & Features

- Converts a DC input into an isolated 4 - 20 mA DC signal
- Monitor terminals
- High-density mounting



MODEL: B3VS/1-[1][2]

ORDERING INFORMATION

- Code number: B3VS/1-[1][2]
- Specify a code from below for each [1] and [2].
(e.g. B3VS/1-A/UL/Q)
- Special input range (For codes Z & 0)
 - Specify the specification for option code /Q
(e.g. /C01)

[1] INPUT

Current

- A:** 4 - 20 mA DC (Input resistance 250 Ω)
- B:** 2 - 10 mA DC (Input resistance 499 Ω)
- C:** 1 - 5 mA DC (Input resistance 1000 Ω)
- D:** 0 - 20 mA DC (Input resistance 250 Ω)
- F:** 0 - 10 mA DC (Input resistance 499 Ω)
- H:** 10 - 50 mA DC (Input resistance 100 Ω)
- Z:** Specify current (See INPUT SPECIFICATIONS)

Voltage

- 3:** 0 - 1 V DC (Input resistance 1 MΩ min.)
- 4:** 0 - 10 V DC (Input resistance 1 MΩ min.)
- 5:** 0 - 5 V DC (Input resistance 1 MΩ min.)
- 6:** 1 - 5 V DC (Input resistance 1 MΩ min.)
- 4W:** -10 - +10 V DC (Input resistance 1 MΩ min.)
- 5W:** -5 - +5 V DC (Input resistance 1 MΩ min.)
- 0:** Specify voltage (See INPUT SPECIFICATIONS)

[2] 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 M-System's web site.)

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

GENERAL SPECIFICATIONS

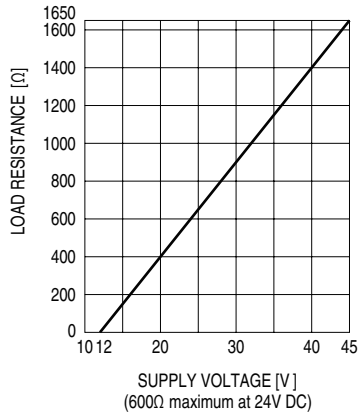
- Construction:** Small-sized front terminal structure
- Connection:** Euro type connector terminal
(applicable wire size: 0.2 to 2.5 mm², stripped length 8 mm)
- Housing material:** Flame-resistant resin (gray)
- Isolation:** Input to output
- Zero adjustment:** -5 to +5 % (front)
- Span adjustment:** 95 to 105 % (front)

INPUT SPECIFICATIONS

- **DC Current:** Input resistor incorporated
Specify input resistance value for code Z.
($R \leq 0.25 \text{ W} \div [\text{F.S. Current}]^2$)
- **DC Voltage:** -100 - +100 V DC
(Max. voltage across the input terminals:
70 V for conform with EU Directive; 60 V for UL approval)
- Minimum span:** 1 V
- Offset:** Max. 1.5 times span
- Input resistance:**
Span 1 - 2 V: $\geq 1 \text{ M}\Omega$
Span $\geq 2 \text{ V}$: $\geq 1 \text{ M}\Omega$
($\geq 80 \text{ k}\Omega$ with no supply voltage)

OUTPUT SPECIFICATIONS**Output:** 4 - 20 mA DC**Load resistance vs. supply voltage:**Load Resistance (Ω) = (Supply Voltage (V) - 12 (V)) \div 0.02

(A) (including leadwire resistance)

**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:** 110 g (0.24 lb)**PERFORMANCE in percentage of span****Accuracy:** ± 0.1 %**Temp. coefficient:** ± 0.02 %/ $^{\circ}$ C (± 0.01 %/ $^{\circ}$ F)**Response time:** ≤ 0.1 sec. (0 - 90 %)**Insulation resistance:** ≥ 100 M Ω 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

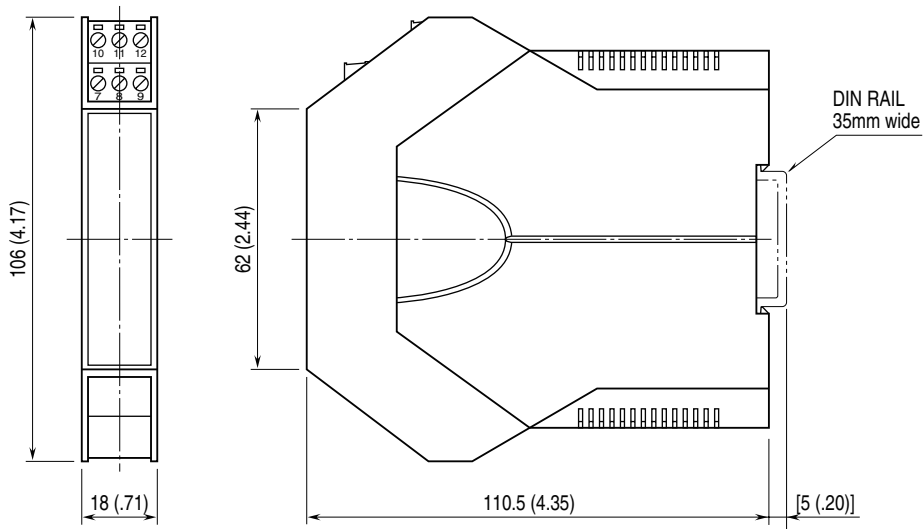
EN 50581

Approval:

UL/C-UL general safety requirements

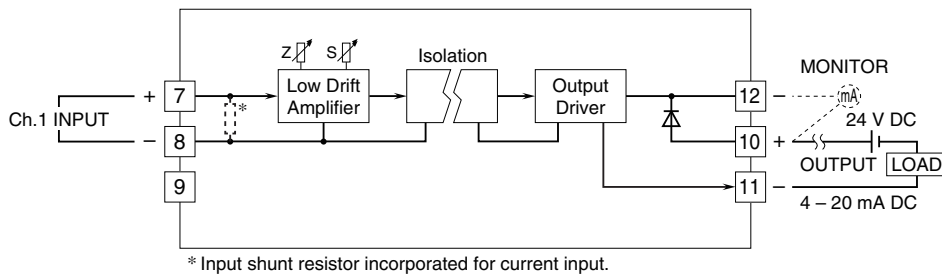
(UL 61010-1, CAN/CSA-C22.2 No.1010-1)

EXTERNAL 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.