

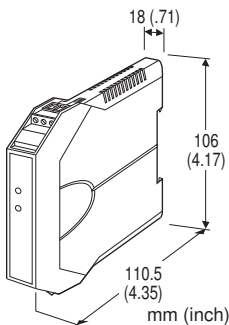
Space-saving Two-wire Signal Conditioners B3-UNIT

THERMOCOUPLE TRANSMITTER

(field-configurable)

Functions & Features

- Converts a thermocouple input into an isolated, linearized 4 - 20 mA DC signal
- DIP switch configurable input range
- Cold junction compensation, linearization and burnout
- Monitor terminals
- High-density mounting
- CE marking
- UL approval



MODEL: B3FT-[1][2]

ORDERING INFORMATION

- Code number: B3FT-[1][2]
- Specify a code from below for each [1], [2]. (e.g. B3FT-1/UL)
- Input range (e.g. J, 0 - 400°C)
- 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 (K, 0 - 300°C or E, 0 - 250°C).

[1] INPUT THERMOCOUPLE

- 1: K (CA), J (IC), T (CC)
2: E (CRC), R, N

[2] OPTIONS

Standards & Approvals

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

GENERAL SPECIFICATIONS

- Construction:** Small-sized front terminal structure
Connection: Euro type connector terminal
Housing material: Flame-resistant resin (gray)
Isolation: Input to output
Burnout: Upscale (default), downscale or no burnout selectable
Linearization: Standard
Cold junction compensation: CJC sensor attached to the input terminals
Configuration: DIP switch
Setting:
- Input Type
 - Input Range
 - Burnout
 - Others
- Refer to the instruction manual for details.

INPUT SPECIFICATIONS

Input resistance: 20 kΩ min.

Burnout sensing: 0.1 μA

K, J, T thermocouple, Celsius

T/C	UPPER RANGE (usable range)	LOWER RANGE	MIN. SPAN
K (CA)	-18 to +300°C	-18 to +190°C	75°C
	-18 to +1370°C	-18 to +850°C	300°C
J (IC)	-18 to +300°C	-18 to +190°C	70°C
	-18 to +1200°C	-18 to +750°C	300°C
T (CC)	-18 to +150°C	-18 to +75°C	75°C
	-18 to +400°C	-18 to +250°C	150°C

K, J, T thermocouple, Fahrenheit

T/C	UPPER RANGE (usable range)	LOWER RANGE	MIN. SPAN
K (CA)	0 to 572°F	0 to 374°F	135°F
	0 to 2498°F	0 to 1562°F	540°F
J (IC)	0 to 572°F	0 to 374°F	126°F
	0 to 2192°F	0 to 1382°F	540°F
T (CC)	0 to 302°F	0 to 167°F	135°F
	0 to 752°F	0 to 482°F	270°F

E, R, N thermocouple, Celsius

T/C	UPPER RANGE (usable range)	LOWER RANGE	MIN. SPAN
E (CRC)	-18 to +250°C	-18 to +120°C	60°C
	-18 to +1000°C	-18 to +600°C	250°C
R	-18 to +700°C	-18 to +340°C	360°C
	-18 to +1760°C	-18 to +1060°C	700°C
N	-18 to +400°C	-18 to +250°C	110°C
	-18 to +1300°C	-18 to +800°C	400°C

E, R, N thermocouple, Fahrenheit

T/C	UPPER RANGE (usable range)	LOWER RANGE	MIN. SPAN
E (CRC)	0 to 482°F	0 to 248°F	108°F
	0 to 1832°F	0 to 1112°F	450°F
R	0 to 1292°F	0 to 644°F	648°F
	0 to 3200°F	0 to 1940°F	1260°F
N	0 to 752°F	0 to 482°F	198°F
	0 to 2372°F	0 to 1472°F	720°F



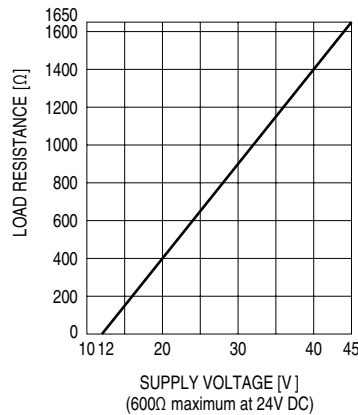
OUTPUT SPECIFICATIONS

■ **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)

**Approval:**

UL/C-UL general safety requirements
(UL 61010-1, CAN/CSA-C22.2 No.1010-1)

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**

K, J: ± 0.2 % of FS or ± 0.3 °C (± 0.54 °F), whichever is greater.

T, E, N: ± 0.3 % of FS or ± 0.4 °C (± 0.72 °F), whichever is greater.

R: ± 0.4 % of FS at ≥ 400 °C or 752°F

Cold junction compensation error: ± 0.5 °C or ± 0.9 °F

maximum for 0 – 55°C (32 – 131°F);

± 2 °C or ± 3.6 °F maximum for -40 – +85°C (-40 – +185°F)

Temp. coefficient: ± 0.02 %/°C (± 0.01 %/°F)

Response time: ≤ 0.5 sec. (0 – 90 %)

Burnout response: ≤ 10 sec.

Insulation resistance: ≥ 100 M Ω with 500 V DC

Dielectric strength: 2000 V AC @1 minute

(input to output to ground)

STANDARDS & APPROVALS**CE conformity:**

EMC Directive (2004/108/EC)

EMI EN 61000-6-4: 2007

EMS EN 61000-6-2: 2005



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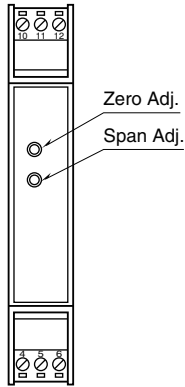
FAX : (02)2596-2331

E-mail : info@xintop.com

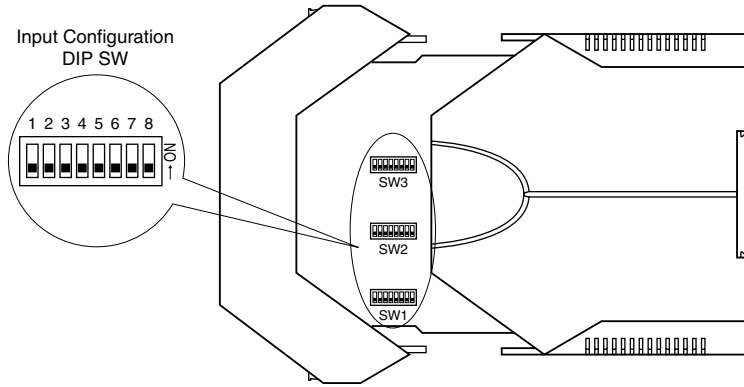
Website : www.xintop.com

EXTERNAL VIEW

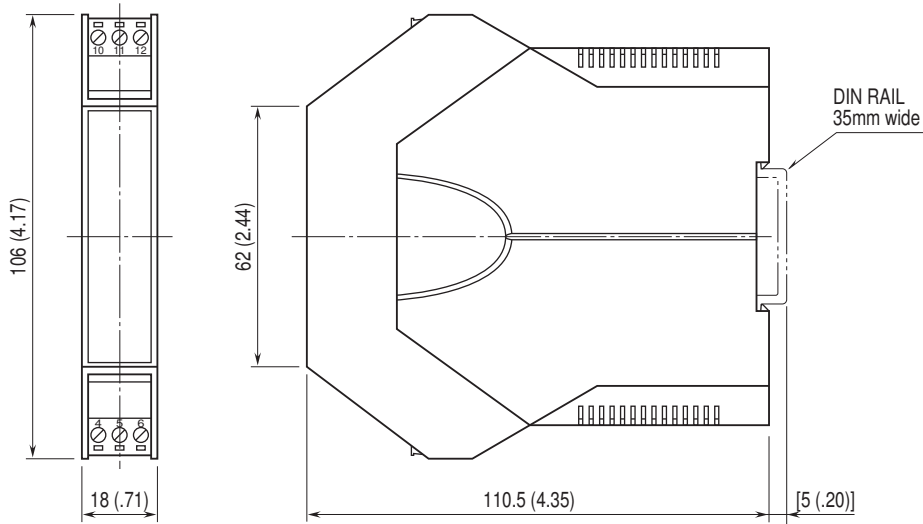
■ FRONT VIEW



■ SIDE VIEW

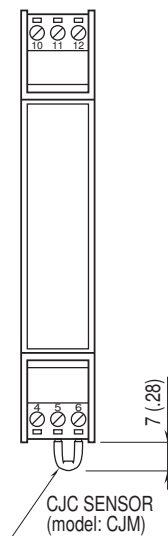


DIMENSIONS unit: mm (inch)

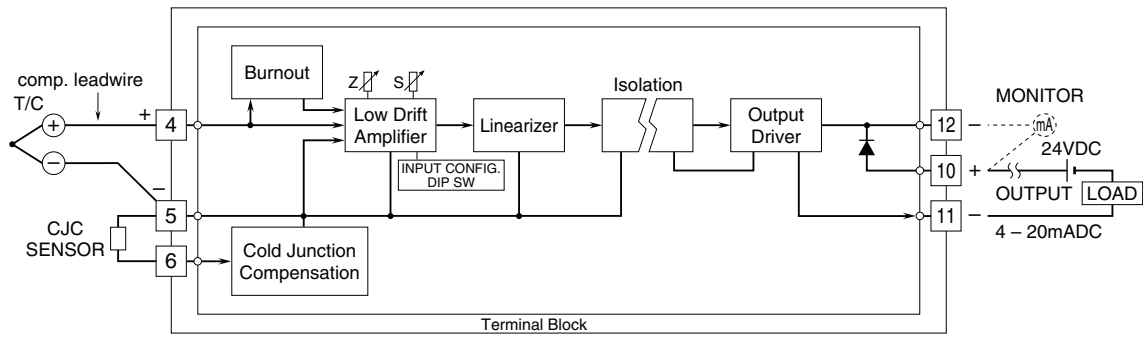


• When mounting, no extra space is needed between units.

TERMINAL ASSIGNMENTS unit: mm (inch)



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.

