

Rack-mounted DCS Signal Conditioners 18-RACK

THERMOCOUPLE CONVERTER

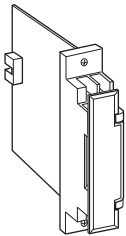
(field-programmable)

Functions & Features

- Accepting direct input from a thermocouple and providing two standard process signals
- Microprocessor based
- Field-programmable T/C type and temperature range
- Linearization
- Burnout protection
- High accuracy cold junction compensation
- Loop testing via hand-held programmer PU-2x
- Second channel output available at the front terminals and at the Standard Rack connector

Typical Applications

- Ideal for quick spare part
- High-accuracy cold junction compensation benefits narrow span measurements
- 0.1µA burnout sensing enables long distance transmission with minimum offset drifts
- Electric furnace (isolation)
- No burnout type can connect to a single T/C in parallel with a recorder



MODEL: 18JT-[1]66-R[2]

ORDERING INFORMATION

- Code number: 18JT-[1]66-R[2]
- Specify a code from below for each [1] and [2] (e.g. 18JT-266-R/BL)
- Temperature range (e.g. 0 - 800°C)
- Default setting will be used if not otherwise specified.
- K thermocouple setting will be used if the input code is not specified.

[1] INPUT THERMOCOUPLE

- 1: (PR) (Usable Range 0 to 1760°C, 32 to 3200°F)
- 2: K (CA) (Usable range -270 to +1370°C, -454 to +2498°F)
- 3: E (CRC) (Usable range -270 to +1000°C, -454 to +1832°F)
- 4: J (IC) (Usable range -210 to +1200°C, -346 to +2192°F)

- 5: T (CC) (Usable range -270 to +400°C, -454 to +752°F)
- 6: B (RH) (Usable range 0 to 1820°C, 32 to 3308°F)
- 7: R (Usable range -50 to +1760°C, -58 to +3200°F)
- 8: S (Usable range -50 to +1760°C, -58 to +3200°F)
- N: N (Usable range -270 to +1300°C, -454 to +2372°F)
- 0: Specify

OUTPUT 1

Voltage

6: 1 - 5 V DC (Load resistance 2000 Ω min.)

OUTPUT 2

Voltage

6: 1 - 5 V DC (Load resistance 2000 Ω min.)

POWER INPUT

DC Power

R: 24 V DC

(Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)

[2] OPTIONS

Burnout

blank: Upscale burnout

/BL: Downscale burnout

/BN: No burnout

RELATED PRODUCTS

- JX configurator connection kit (model: JXCON)
- Programming Unit (model: PU-2x)

GENERAL SPECIFICATIONS

Construction: Rack-mounted; terminal access via screw terminals on the front and connector on the rear; terminal cover provided

Connection

Input: M3.5 screw terminals (torque 0.8 N·m)

Output 1: Connector

Output 2: M3.5 screw terminals (torque 0.8 N·m) and connector

Power input: Supplied from connector

Screw terminal: Nickel-plated steel

Isolation: Input to output 1 to output 2 to power

Overrange output: Approx. -10 to +120 % at 1 - 5 V

Linearization: Standard

Cold junction compensation: CJC sensor attached to the input terminals

Adjustments: Programming Unit (model: PU-2x);

(Refer to the users manual of JXCON for the adjustments configurable with JXCON.)

- T/C type



- temp. range
- zero and span
- simulating output
- Others

Line voltage effect: ± 0.1 % over voltage range

Insulation resistance: ≥ 100 M Ω with 500 V DC

Dielectric strength: 1500 V AC @ 1 minute

(input to output 1 or output 2 or power)

500 V AC @ 1 minute

(output 1 to output 2 to power)

1500 V AC @ 1 minute

(input or output or power to ground)

INPUT SPECIFICATIONS

Minimum span: 3 mV

Offset: Max. 3 times span

Input resistance: 20 k Ω min.

Burnout sensing: 0.1 μ A

Minimum span

(PR): 370°C, 670°F

K (CA): 75°C, 140°F

E (CRC): 50°C, 90°F

J (IC): 60°C, 110°F

T (CC): 75°C, 140°F

B (RH): 780°C, 1410°

R: 360°C, 650°F

S: 380°C, 690°F

N: 110°C, 200°F

Remark: The described accuracy may be partially not satisfied when the temperature ranges below 0°C. Consult factory.

If not specified, the input range is shown below.

(PR): 0 to 1600°C

K (CA): 0 to 1000°C

E (CRC): 0 to 500°C

J (IC): 0 to 500°C

T (CC): 0 to 300°C

B (RH): 0 to 1800°C

R: 0 to 1600°C

S: 0 to 1600°C

N: 0 to 1000°C

INSTALLATION

Power consumption

•DC: Approx. 60 mA

Operating temperature: -5 to +55°C (23 to 131°F)

Operating humidity: 30 to 90 %RH (non-condensing)

Mounting: Standard Rack 18BXx or 18KBXx

Weight: 150 g (0.33 lbs)

PERFORMANCE in percentage of span

Accuracy: ± 0.1 %

Linearization accuracy: ± 0.05 %

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

(at 20°C ± 10 °C or 68°F ± 18 °F)

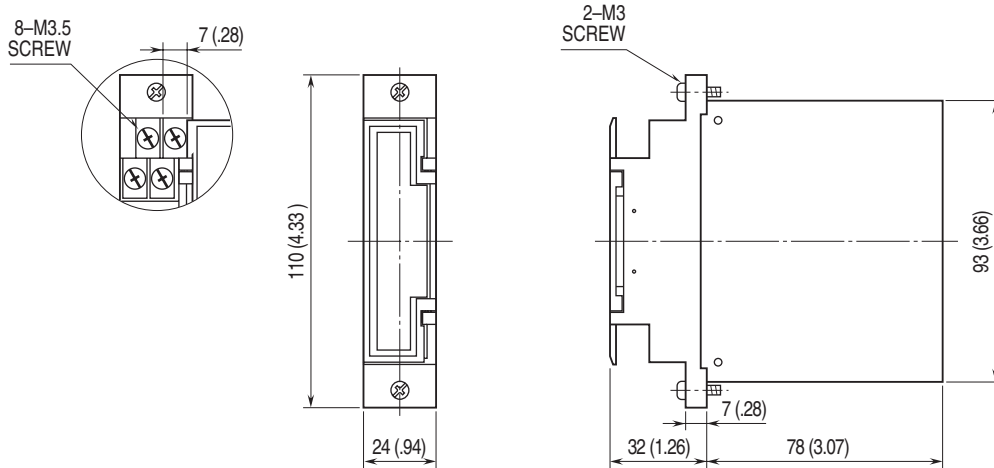
Temp. coefficient: ± 0.015 %/°C (± 0.008 %/°F)

Response time: ≤ 0.8 sec. (0 - 90 %)

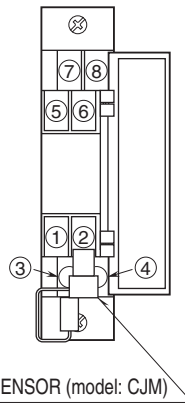
Burnout response: ≤ 10 sec.



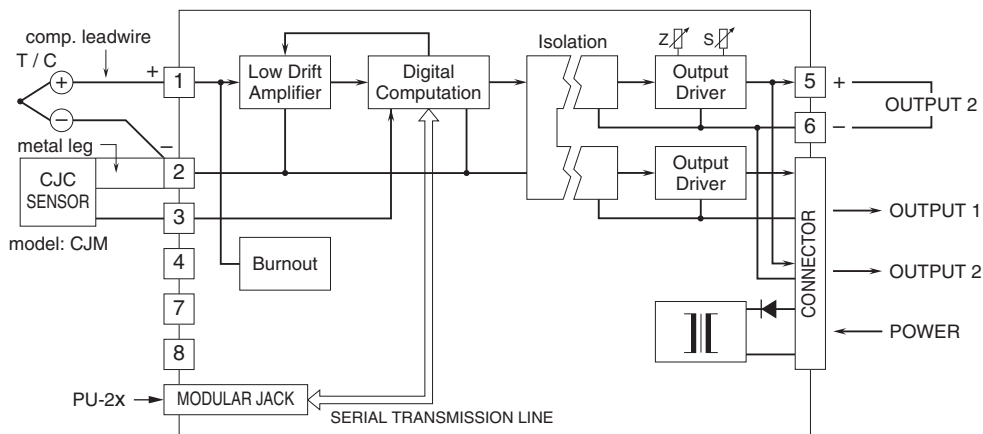
DIMENSIONS unit: mm (inch)



TERMINAL ASSIGNMENTS



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.