

High-density Signal Conditioners 10-RACK

THERMOCOUPLE TRANSMITTER

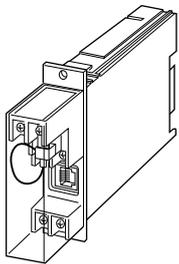
(field-programmable)

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: 10JT-[1][2][3]-R[4]

ORDERING INFORMATION

- Code number: 10JT-[1][2][3]-R[4]

Specify a code from below for each of [1] through [4].

(e.g. 10JT-2A6-R/BL/Q)

- Temperature range (e.g. 0 - 800°C)

K thermocouple setting will be used if the input code is not specified.

- Specify the specification for option code /Q (e.g. /C01)

[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

[2] OUTPUT 1

Current

A: 4 - 20 mA DC (Load resistance 600 Ω max.)

Voltage

6: 1 - 5 V DC (Load resistance 500 Ω min.)

[3] OUTPUT 2

0: None

Voltage

6: 1 - 5 V DC (Load resistance 5000 Ω min.)

POWER INPUT

DC Power

R: 24 V DC

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

[4] OPTIONS (multiple selections)

Burnout

blank: Upscale burnout

/BL: Downscale burnout

/BN: No burnout

blank: none

/Q: With options (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

RELATED PRODUCTS

- Programming Unit (model: PU-2x)

- PC configurator software (model: JXCON)

Downloadable at our web site.

A dedicated cable is required to connect the module to the PC. Please refer to the internet software download site or the users manual for the PC configurator for applicable cable types.

GENERAL SPECIFICATIONS

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

Connection

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

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

Power input: Supplied from card-edge connector

Screw terminal: Nickel-plated steel

Housing material: Flame-resistant resin (black)

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

INPUT SPECIFICATIONS

Minimum span: 3 mV

Offset: Max. 3 times span

Input resistance: 20 kΩ min.

Burnout sensing: 0.1 μA

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°F

R: 360°C, 650°F

S: 380°C, 690°F

N: 110°C, 200°F

Note: 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

Current consumption: Approx. 60 mA with voltage output 1
Approx. 90 mA with current output 1

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

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

Mounting: Standard Rack 10BXx

Weight: 220 g (0.49 lb)

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.

Line voltage effect: ±0.1 % over voltage range

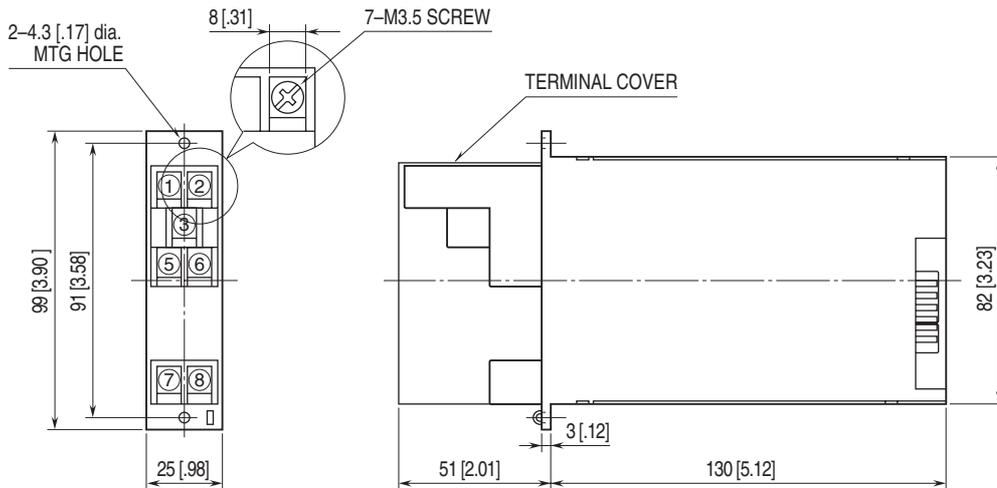
Insulation resistance: ≥ 100 MΩ with 500 V DC

Dielectric strength: 500 V AC @ 1 minute

(input to output 1 to output 2 to power)

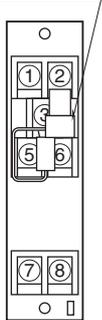
1500 V AC @ 1 minute (input or output or power to ground)

DIMENSIONS unit: mm (inch)

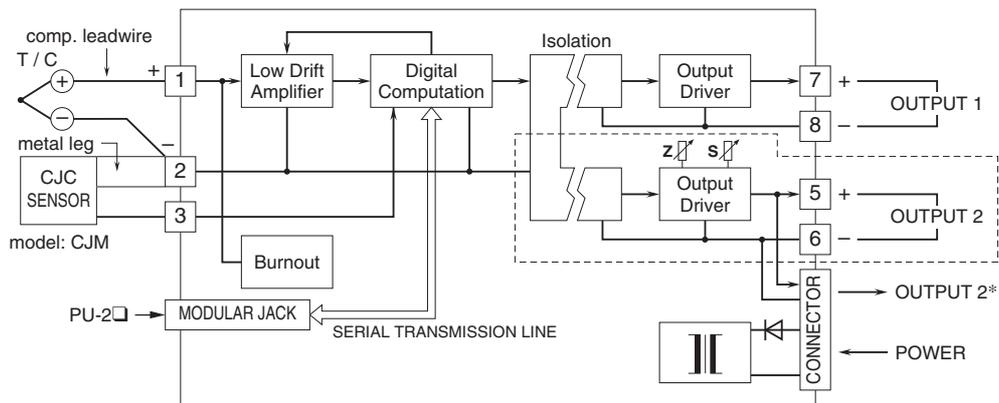


TERMINAL ASSIGNMENTS

CJC SENSOR
(model: CJM)



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*1 output type has the output 1 connected to the card-edge connector in parallel.
Remark 1) The section enclosed by broken line is only for 2nd output channel.



Specifications are subject to change without notice.