

Space-saving Plug-in Signal Conditioners F-UNIT

THERMOCOUPLE TRANSMITTER

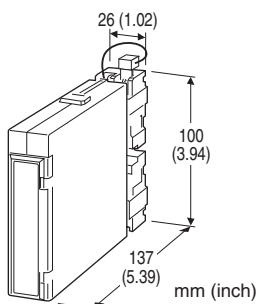
(field-programmable)

Functions & Features

- Accepting direct input from a thermocouple and providing a standard process signal
- Micro-processor 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
- High-density mounting

Typical Applications

- Ideal for quick spare part
- High-accuracy cold junction compensation benefits narrow span measurements
- 0.1 μ A 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 recorder



MODEL: FJT-[1][2]-[3][4]

ORDERING INFORMATION

- Code number: FJT-[1][2]-[3][4]
- Specify a code from below for each of [1] through [4].
(e.g. FJT-2A-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/S01)

[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)
- 9: WRe 5-26 (Usable range 0 to 2320°C, 32 to 4200°F)
- N: N (Usable range -270 to +1300°C, -454 to +2372°F)
- 0: Specify

[2] OUTPUT

Current

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

Voltage

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

[3] POWER INPUT

AC Power

K: 85 - 132 V AC

(Operational voltage range 85 - 132 V, 47 - 66 Hz)

L: 170 - 264 V AC

(Operational voltage range 170 - 264 V, 47 - 66 Hz)

DC Power

R: 24 V DC

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

P: 110 V DC

(Operational voltage range 85 - 150 V, ripple 10 %p-p max.)

[4] OPTIONS (multiple selections)

Burnout

blank: Upscale burnout

/BL: Downscale burnout

/BN: No burnout

Other Options

blank: none

/Q: Option other than the above (specify the specification)

SPECIFICATIONS OF OPTION: Q (multiple selections)

COATING (For the detail, refer to our web site.)

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating

TERMINAL SCREW MATERIAL

/S01: Stainless steel

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.

S: 0 to 1600°C
WRe 5-26: 0 to 2000°C
N: 0 to 1000°C

GENERAL SPECIFICATIONS

Construction: Plug-in
Connection: M3.5 screw terminals (torque 0.8 N·m)
Screw terminal: Nickel-plated steel (standard) or stainless steel
Housing material: Flame-resistant resin (black)
Isolation: Input to output 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 in °C and °F
(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
WRe 5-26: 200°C, 360°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

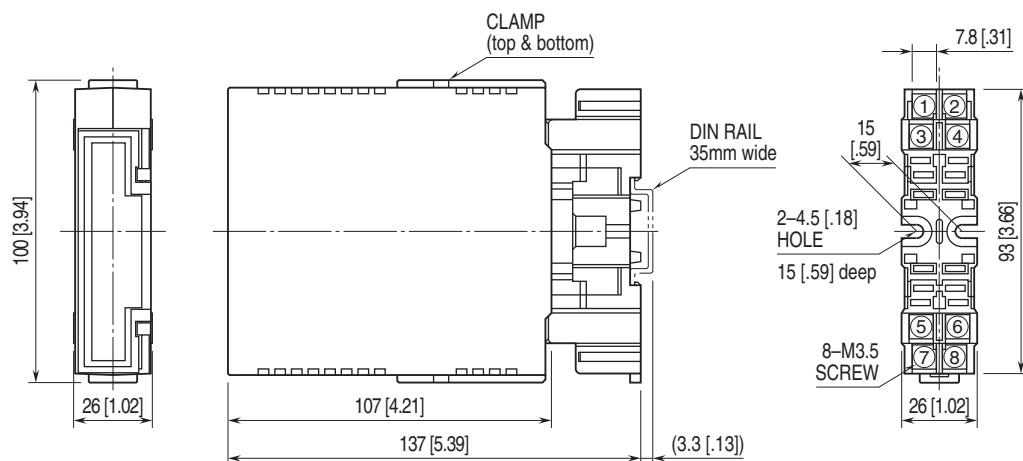
INSTALLATION

Power input
 • **AC:** Approx. 4.5 VA
 • **DC:** 24 V approx. 70 mA
 110 V approx. 20 mA
Operating temperature: -5 to +55°C (23 to 131°F)
Operating humidity: 30 to 90 %RH (non-condensing)
Mounting: Surface or DIN rail; Standard Rack Mounting
 Frame BX-16H available
Weight: 220 g (0.49 lb)

PERFORMANCE in percentage of span

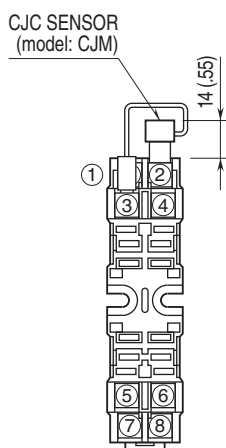
Accuracy: ±0.1 %
Linearization accuracy: ±0.05 %
Cold junction compensation error: ±0.5°C or ±0.9°F
 (at 20°C ±10°C or 68°F ±18°F)
Temp. coefficient: ±0.015 %/°C (±0.008 %/°F)
Response time: ≤ 0.8 sec. (0 - 90 %)
Burnout response: ≤ 10 sec.
Line voltage effect: ±0.1 % over voltage range
Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength
Power input code R:
 1000 V AC @ 1 minute (input to output)
 2000 V AC @ 1 minute (input or output or power to ground)
 500 V AC @ 1 minute (I/O to power)
Power input code K, L, P:
 1000 V AC @ 1 minute (input to output)
 2000 V AC @ 1 minute (input or output or power to ground)
 1500 V AC @ 1 minute (I/O to power)

EXTERNAL DIMENSIONS unit: mm [inch]

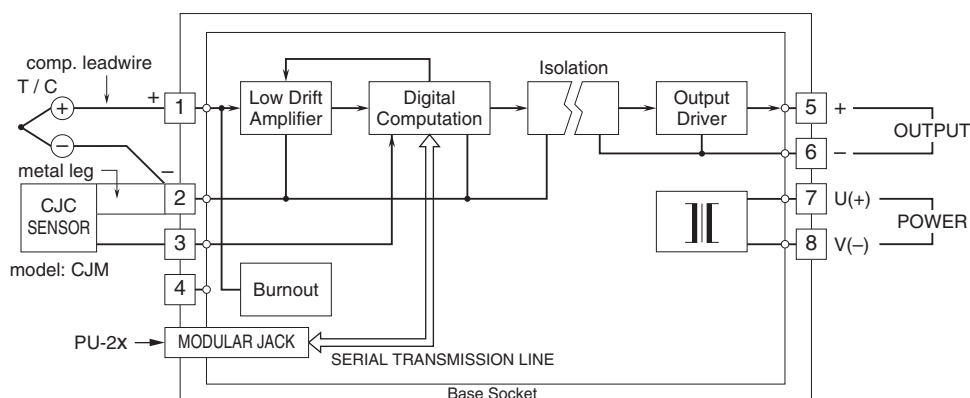


•When mounting, no extra space is needed between units.

TERMINAL ASSIGNMENTS unit: mm [inch]



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.