

Space-saving Plug-in Signal Conditioners F-UNIT

CURRENT LOOP SUPPLY

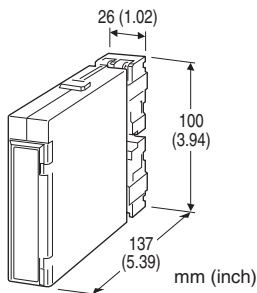
(with square root extractor; non-isolated)

Functions & Features

- Powering a 4 – 20 mA DC current loop
- Square root extraction
- Shortcircuit protection
- Applicable to smart transmitters
- High-density mounting

Typical Applications

- Various 2-wire transmitters



MODEL: FDL-24-[1]

ORDERING INFORMATION

- Code number: FDL-24-[1]
- Specify a code from below for [1]
(e.g. FDL-24-L)

SUPPLY OUTPUT

24: 24 V DC

INPUT

Current

4 – 20 mA DC (Input resistance 250 Ω)

OUTPUT

Voltage

1 – 5 V DC (Load resistance 10 kΩ min.)

[1] 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 ±10 %, ripple 10 %p-p max.)

P: 110 V DC

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

GENERAL SPECIFICATIONS

Construction: Plug-in

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

Screw terminal: Nickel-plated steel

Housing material: Flame-resistant resin (black)

Isolation: Input or output to power

Overrange output: 0 to 120 % at 1 – 5 V

Zero adjustment: -5 to +5 % (front)

Span adjustment: 95 to 105 % (front)

Low-end cutout: Approx. 10 % (output)

SUPPLY OUTPUT

Output voltage: 24 – 28 V DC with no load

Current rating: ≤ 22 mA DC

- Shortcircuit Protection

Current limited: 30 mA max.

Protected time duration: No limit

INPUT SPECIFICATIONS

- DC Current: Input resistor incorporated

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: 200 g (0.44 lbs)

PERFORMANCE in percentage of span

Accuracy: ±0.3 % (input 1 – 100 %)

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

Response time: ≤ 0.5 sec. (0 – 90 %)

Line voltage effect

Supply output: ±3 % over voltage range

Output signal: ±0.1 % over voltage range

Insulation resistance:

≥ 100 MΩ with 500 V DC

Dielectric strength

Power input code R:

2000 V AC @ 1 minute (input or output or power to ground)

500 V AC @ 1 minute (I/O to power)

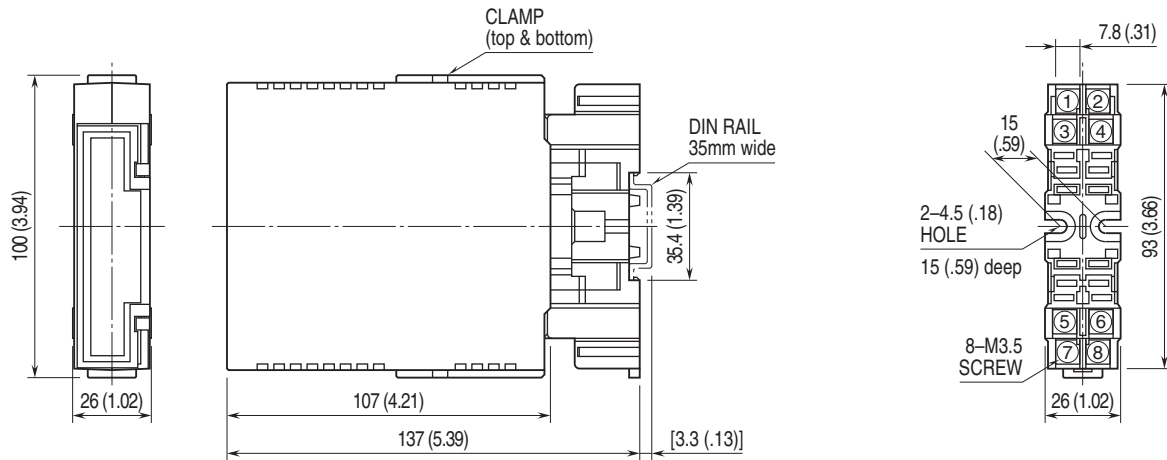
Power input code K, L, P:



2000 V AC @ 1 minute (input or output or power to ground)

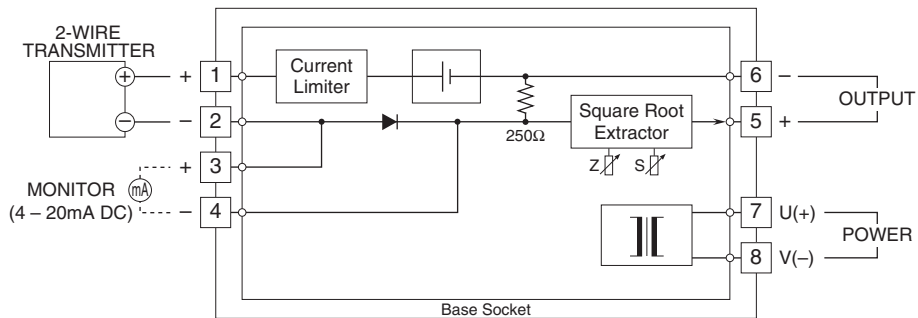
1500 V AC @ 1 minute (I/O to power)

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



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

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.