

Space-saving Plug-in Signal Conditioners F-UNIT

POTENTIOMETER TRANSMITTER

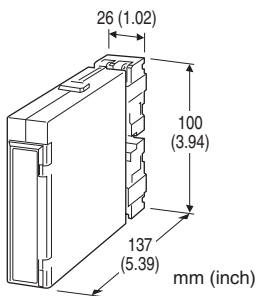
(field-programmable)

Functions & Features

- Providing a DC output proportional to a potentiometer or slidewire position input
- Microprocessor based
- Constant voltage excitation allows use with pots with total resistances from 100 Ω - 10 kΩ without affecting accuracy
- 75 % zero/span adjustments with minimal interaction
- Linearization data programmable via hand-held programmer PU-2x
- Loop testing via hand-held programmer PU-2x
- High-density mounting

Typical Applications

- Tank levels
- Positions: Compensating non-linear signal from the linking mechanism of a position detector



MODEL: FJM-1[1]-[2]

ORDERING INFORMATION

- Code number: FJM-1[1]-[2]

Specify a code from below for each [1] and [2] (e.g. FJM-1A-L)

- Linearization data (max. 16 points)

Use Ordering Information Sheet (No. ESU-1669) to specify linearization data when the I/O signals are non-linear.

INPUT POTENTIOMETER

1: Total resistance 100 Ω - 10 kΩ

[1] OUTPUT

Current

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

Voltage

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

[2] 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.)

RELATED PRODUCTS

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

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 to output to power

Linearization: 16 points max. within the range of -15.00 - +115.00 % input or output; represented as percentage of full-scale

Adjustments: Programming Unit (model: PU-2x); linearization data (Unused resistance of the potentiometer's total resistance can be programmed with the linearization table.), zero and span, simulating output, etc. (Refer to the users manual of JXCON for the adjustments configurable with JXCON.)

INPUT SPECIFICATIONS

Minimum span: 25 % of total resistance (set with the Programming Unit [model: PU-2x] or JX Configurator Connection Kit [model: JXCON])

Excitation: 0.25 V DC

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 lbs)



PERFORMANCE in percentage of span

Accuracy: $\pm 0.1\%$ with segment gain ≤ 1 [$\pm 0.1\% \times$ gain]
with segment gain ≥ 1

Temp. coefficient: $\pm 0.015\%/^{\circ}\text{C}$ ($\pm 0.008\%/^{\circ}\text{F}$)

Response time: ≤ 0.5 sec. (0 - 90 %)

Line voltage effect: $\pm 0.1\%$ over voltage range

Insulation resistance: $\geq 100\text{ M}\Omega$ 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)

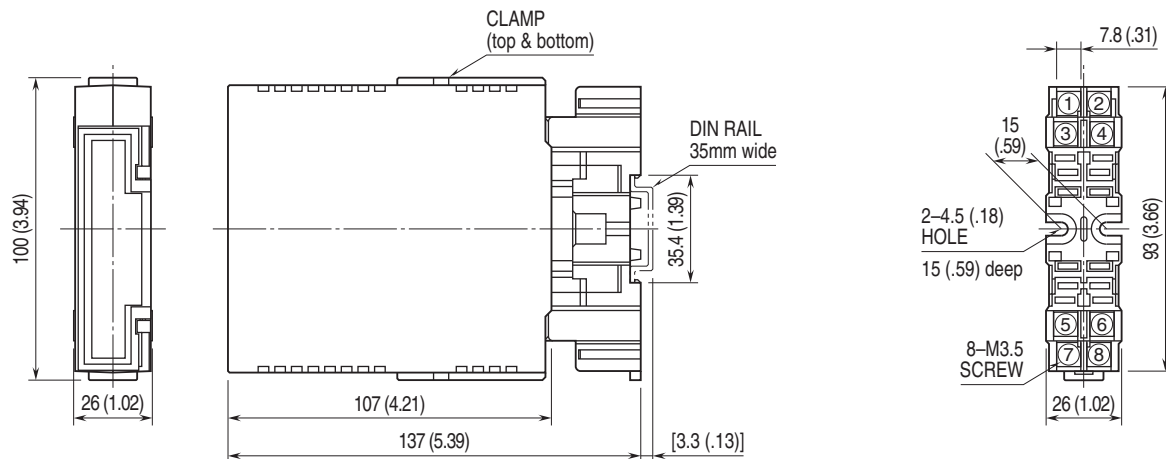
Power input code K, L, P:

1000 V AC @ 1 minute (input to output)

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

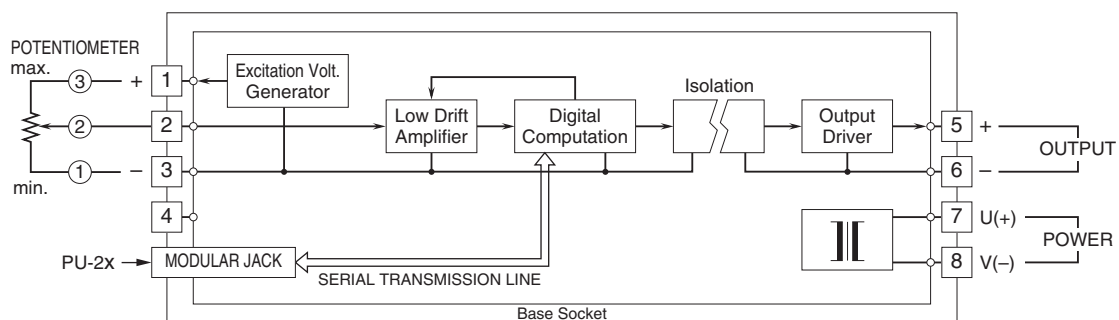
1500 V AC @ 1 minute (I/O to power)

EXTERNAL DIMENSIONS & 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.



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