

Space-saving Plug-in Signal Conditioners F-UNIT

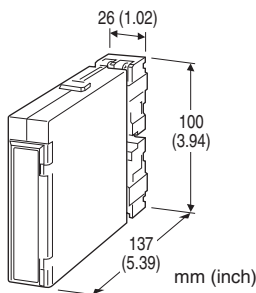
AC TRANSMITTER

Functions & Features

- Converting an alternating current/voltage into a standard process signal
- True RMS sensing
- High-density mounting

Typical Applications

- Converting high AC current in combination with a shunt resistor, or narrow span AC voltage



MODEL: FAC-[1][2]-[3]

ORDERING INFORMATION

- Code number: FAC-[1][2]-[3]
- Specify a code from below for each [1] through [3] (e.g. FAC-A1A-L)
- Special input and output ranges (For codes AZ, A8, Z & 0)

[1] INPUT

Current

- AA:** 0 - 10 mA AC (Input resistance 100 Ω)
- AB:** 0 - 50 mA AC (Input resistance 20 Ω)
- AC:** 0 - 100 mA AC (Input resistance 10 Ω)
- AD:** 0 - 500 mA AC (Input resistance 1 Ω)
- AZ:** Specify current (See INPUT SPECIFICATIONS)
- (0 % input must be 0 mA.)

Voltage

- A1:** 0 - 100 mV AC (Input resistance Approx. 100 kΩ min.)
- A2:** 0 - 500 mV AC (Input resistance Approx. 100 kΩ min.)
- A3:** 0 - 1 V AC (Input resistance Approx. 100 kΩ min.)
- A4:** 0 - 5 V AC (Input resistance Approx. 100 kΩ min.)
- A5:** 0 - 10 V AC (Input resistance Approx. 100 kΩ min.)
- A6:** 0 - 120 V AC (Input resistance Approx. 100 kΩ min.)
- A7:** 0 - 150 V AC (Input resistance Approx. 100 kΩ min.)
- A8:** Specify voltage (Input resistance Approx. 100 kΩ min.)
- (0 % input must be 0 V.)

[2] OUTPUT

Current

- A:** 4 - 20 mA DC (Load resistance 750 Ω max.)
- B:** 2 - 10 mA DC (Load resistance 1500 Ω max.)
- C:** 1 - 5 mA DC (Load resistance 3000 Ω max.)
- D:** 0 - 20 mA DC (Load resistance 750 Ω max.)
- E:** 0 - 16 mA DC (Load resistance 900 Ω max.)
- F:** 0 - 10 mA DC (Load resistance 1500 Ω max.)
- G:** 0 - 1 mA DC (Load resistance 15 kΩ max.)
- Z:** Specify current (See OUTPUT SPECIFICATIONS)

Voltage

- 1:** 0 - 10 mV DC (Load resistance 10 kΩ min.)
- 2:** 0 - 100 mV DC (Load resistance 100 kΩ min.)
- 3:** 0 - 1 V DC (Load resistance 1000 Ω min.)
- 4:** 0 - 10 V DC (Load resistance 10 kΩ min.)
- 5:** 0 - 5 V DC (Load resistance 5000 Ω min.)
- 6:** 1 - 5 V DC (Load resistance 5000 Ω min.)
- 4W:** -10 - +10 V DC (Load resistance 10 kΩ min.)
- 5W:** -5 - +5 V DC (Load resistance 5000 Ω min.)
- 0:** Specify voltage (See OUTPUT SPECIFICATIONS)

[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 ±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 to output to power
- Input waveform**
 - RMS sensing:** Up to 15 % of 3rd harmonic content
- Overrange output:** 0 to 120 % at 1 - 5 V
- Zero adjustment:** -5 to +5 % (front)
- Span adjustment:** 95 to 105 % (front)

INPUT SPECIFICATIONS

- Frequency:** 40 Hz min., 1 kHz max. with 100% input
- **AC Current:** 0 - 1 A AC; input resistor incorporated
- Minimum span:** 1 mA
- Input resistance**
 - Span 1 mA: 1 kΩ



Span \leq 2 mA: 500 Ω
Span \leq 5 mA: 200 Ω
Span \leq 10 mA: 100 Ω
Span \leq 20 mA: 50 Ω
Span \leq 50 mA: 20 Ω
Span \leq 100 mA: 10 Ω
Span \leq 500 mA: 1 Ω
Span \leq 1 A: 0.5 Ω

■ **AC Voltage:** 0 - 250 V AC

Minimum span: 50 mV

Input resistance: Approx. 100 k Ω min.

OUTPUT SPECIFICATIONS

■ **DC Current:** 0 - 20 mA DC

Minimum span: 1 mA

Offset: Max. 1.5 times span

Load resistance: Output drive 15 V max.

■ **DC Voltage:** -10 - +12 V DC

Minimum span: 5 mV

Offset: Max. 1.5 times span

Load resistance: Output drive 1 mA max.; at \geq 0.5 V

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: \pm 0.4 %

Temp. coefficient: \pm 0.05 %/°C (\pm 0.03 %/°F)

Response time: \leq 0.7 sec. (0 - 90 %)

Ripple: 0.6 %p-p max. (50/60 Hz)

Line voltage effect: \pm 0.1 % over voltage range

Insulation resistance: \geq 100 M Ω 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:

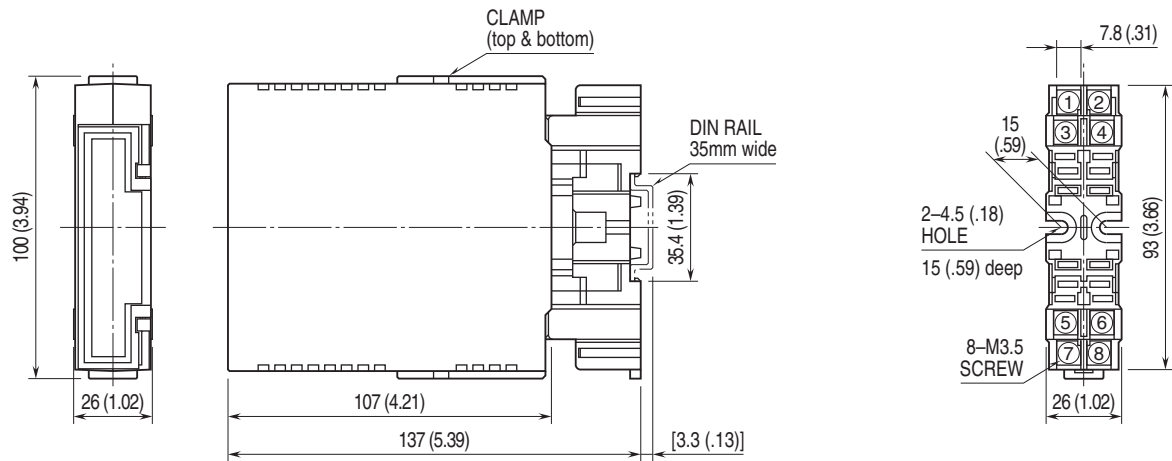
1000 V AC @ 1 minute (input to output)

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

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

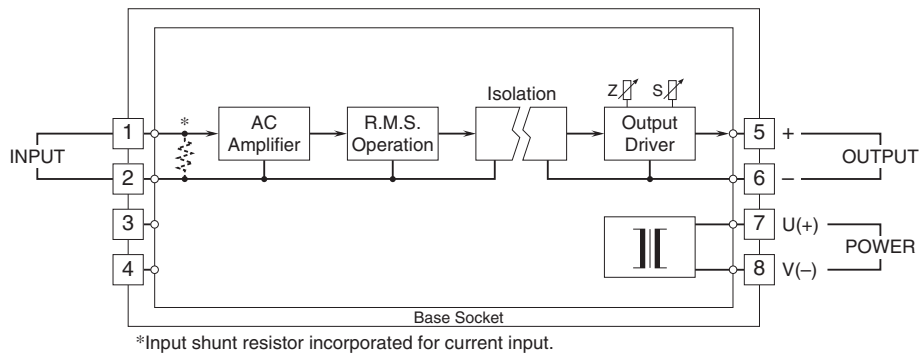


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



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

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.