

Space-saving Plug-in Signal Conditioners F-UNIT

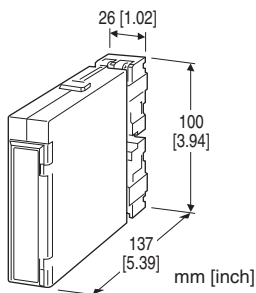
AC TRANSMITTER

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][4]

ORDERING INFORMATION

- Code number: FAC-[1][2]-[3][4]
- Specify a code from below for each of [1] through [4].
(e.g. FAC-A1A-K/Q)
- Special input and output ranges (For codes AZ, A8, Z & 0) through [3].
- Specify the specification for option code /Q
(e.g. /C01/S01)

[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 (See INPUT SPECIFICATIONS)
(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.)

[4] OPTIONS

- blank:** none
- /Q:** With options (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

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
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.
■ AC Current: 0 - 1 A AC; input resistor incorporated
Minimum span: 1 mA
Input resistance
 Span 1 mA: 1 k Ω
 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

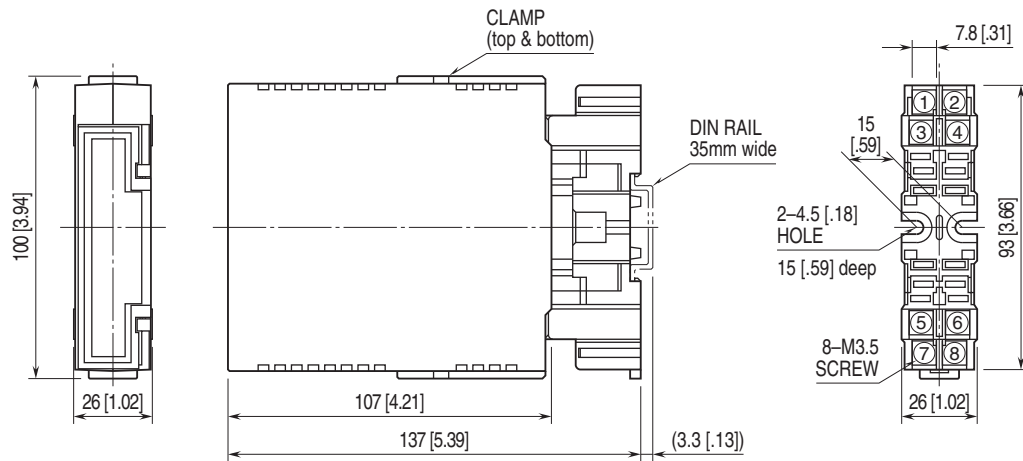
INSTALLATION

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 lb)

PERFORMANCE in percentage of span

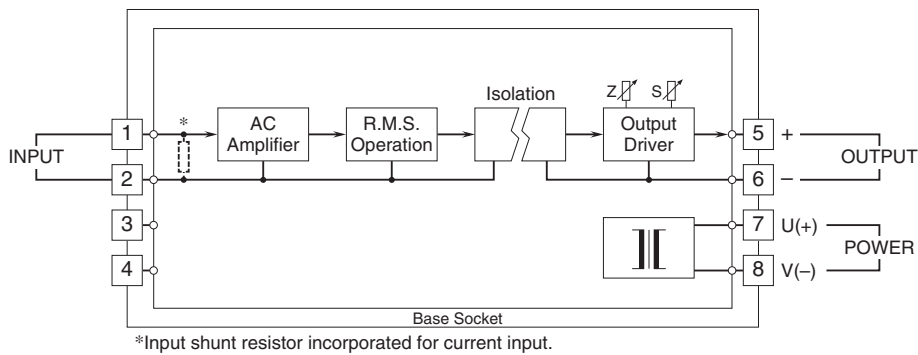
Accuracy: ± 0.4 %
Temp. coefficient: ± 0.05 %/°C (± 0.03 %/°F)
Response time: ≤ 0.7 sec. (0 - 90 %)
Ripple: 0.6 %p-p max. (50/60 Hz)
Line voltage effect: ± 0.1 % over voltage range
Insulation resistance: ≥ 100 M Ω with 500 V DC
Dielectric strength
Power input code R:
 1000 V AC @ 1 minute (input to output)
 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.