

Space-saving Plug-in Signal Conditioners F-UNIT

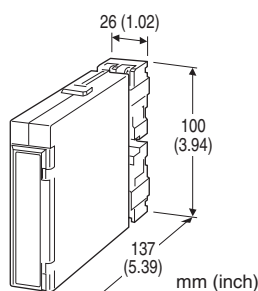
TACHOGENERATOR TRANSMITTER

Functions & Features

- Converting an AC voltage from a tachogenerator (tachometer) into a standard process signal
- Wide input range
- High-density mounting

Typical Applications

- Measuring rotating or moving speed of multispeed motors, belt conveyers, metering pumps



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

ORDERING INFORMATION

- Code number: FTG-[1][2]-[3][4]

Specify a code from below for each of [1] through [4].
(e.g. FTG-AA-L/Q)

- Special input and output ranges (For codes U, Z & O)
- Specify the specification for option code /Q
(e.g. /C01/S01)

[1] INPUT

Voltage

- 1: 0 – 35 V AC (Input resistance 100 k Ω min.)
- 2: 0 – 50 mV AC (Input resistance 100 k Ω min.)
- 3: 0 – 60 mV AC (Input resistance 100 k Ω min.)
- 4: 0 – 100 mV AC (Input resistance 100 k Ω min.)
- 5: 0 – 1 V AC (Input resistance 100 k Ω min.)
- 6: 0 – 10 V AC (Input resistance 100 k Ω min.)
- 7: 0 – 100 V AC (Input resistance 100 k Ω min.)
- 8: 0 – 110 V AC (Input resistance 100 k Ω min.)
- 9: 0 – 150 V AC (Input resistance 100 k Ω min.)
- A: 0 – 200 V AC (Input resistance 100 k Ω min.)
- B: 0 – 250 V AC (Input resistance 100 k Ω min.)
- U: 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 k Ω max.)
- Z: Specify current (See OUTPUT SPECIFICATIONS)

Voltage

- 1: 0 – 10 mV DC (Load resistance 10 k Ω min.)
- 2: 0 – 100 mV DC (Load resistance 100 k Ω min.)
- 3: 0 – 1 V DC (Load resistance 1000 Ω min.)
- 4: 0 – 10 V DC (Load resistance 10 k Ω 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 k Ω 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 $\pm$ 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 M-System's 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

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

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

Span adjustment: 95 to 105 % (front)

INPUT SPECIFICATIONS

• **AC Voltage:** 0 – 250 V AC

Minimum span: 50 mV

Frequency: 15 Hz min., 1 kHz max. with 100 % input

Input resistance: $\geq 100 \text{ k}\Omega$

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 $\geq 0.5 \text{ V}$

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: $\pm 0.4 \%$

Temp. coefficient: $\pm 0.05 \text{ }^\circ\text{C}$ ($\pm 0.03 \text{ }^\circ\text{F}$)

Response time: $\leq 0.7 \text{ sec.}$ (0 – 90 %)

Ripple: 0.5 %p-p max. (100/120 Hz)

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)

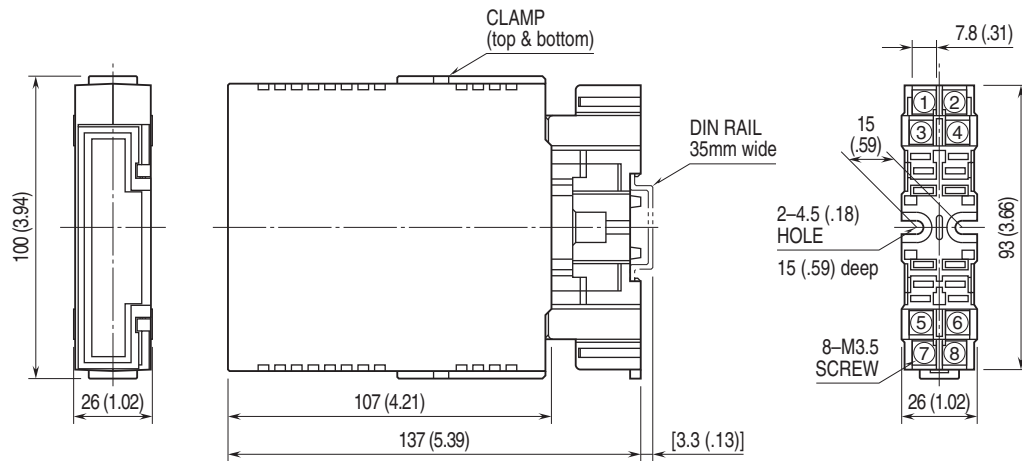
Power input code K, L, P:

1000 V AC @ 1 minute (input to output)

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

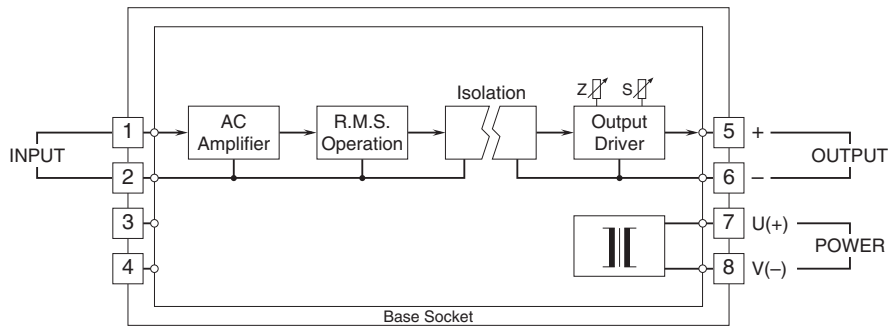
1500 V AC @ 1 minute (I/O to power)

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.