

## Space-saving Plug-in Signal Conditioners F-UNIT

### SQUARE ROOT EXTRACTOR

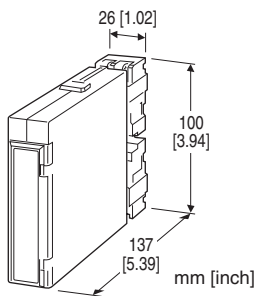
(non-isolated)

#### Functions & Features

- Provides a DC output proportional to the root of input signal
- Low-end cutout

#### Typical Applications

- Converting differential pressure to flow



### MODEL: FFL-[1]6-[2][3]

#### ORDERING INFORMATION

- Code number: FFL-[1]6-[2][3]

Specify a code from below for each of [1] through [3].

- (e.g. FFL-66-K/Q)
- Specify the specification for option code /Q (e.g. /C01/S01)

#### [1] INPUT

Current

**A:** 4 - 20 mA DC (Input resistance 250 Ω)

**B:** 2 - 10 mA DC (Input resistance 500 Ω)

**C:** 1 - 5 mA DC (Input resistance 1000 Ω)

**H:** 10 - 50 mA DC (Input resistance 100 Ω)

Voltage

**6:** 1 - 5 V DC (Input resistance 100 kΩ min.)

#### OUTPUT

Voltage

**6:** 1 - 5 V DC (Load resistance 10 kΩ 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.)

#### [3] 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)

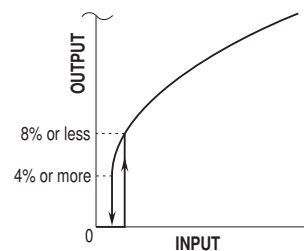
**Isolation:** Input or output to power

**Overrange output:** 0 - 105 % at 1 - 5 V

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

**Span adjustment:** 95 to 105 % (front)

**Low-end cutout:** Approx. 4 - 8 % (output)



#### INPUT SPECIFICATIONS

##### ■ DC Current:

Shunt resistor attached to the input terminals (0.5 W)

#### INSTALLATION

**Power consumption**

• **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)

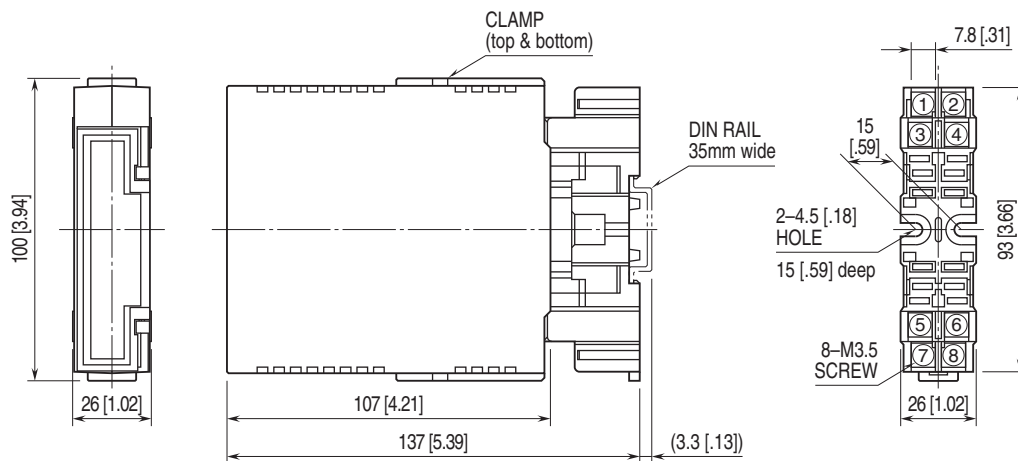
**Operating humidity:** 30 to 90 %RH (non-condensing)

**Mounting:** Surface or DIN rail; Standard Rack Mounting  
 Frame BX-16H available  
**Weight:** 200 g (0.44 lb)

## PERFORMANCE in percentage of span

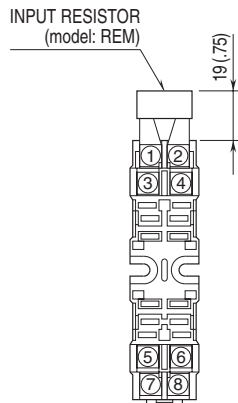
**Accuracy:**  $\pm 0.1\%$  (input 1 - 100 %)  
**Temp. coefficient:**  $\pm 0.015\%/^{\circ}\text{C}$  ( $\pm 0.008\%/^{\circ}\text{F}$ )  
**Response time:**  $\leq 0.5$  sec. (0 - 90 %)  
**Line voltage effect:**  $\pm 0.1\%$  over voltage range  
**Insulation resistance:**  $\geq 100\text{ M}\Omega$  with 500 V DC  
**Dielectric strength**  
**Power input code R:**  
 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 unit: mm [inch]



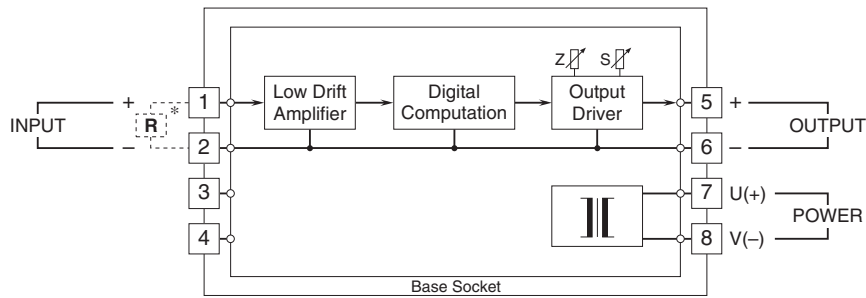
•When mounting, no extra space is needed between units.

## TERMINAL ASSIGNMENTS unit: mm [inch]



Input shunt resistor attached for current input.

**SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM**



\*Input shunt resistor attached for current input.



Specifications are subject to change without notice.