

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

### CURRENT LOOP SUPPLY

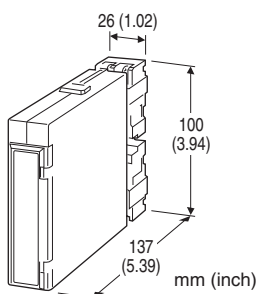
(10 - 50 mA loop)

#### Functions & Features

- Powering a 10 - 50 mA DC current loop
- Isolation
- Shortcircuit protection
- Applicable to smart transmitters
- High-density mounting

#### Typical Applications

- Various 2-wire transmitters



### MODEL: FDU-24-[1][2]

#### ORDERING INFORMATION

- Code number: FDU-24-[1][2]
- Specify a code from below for each of [1] and [2].  
(e.g. FDU-24-K/Q)
- Specify the specification for option code /Q  
(e.g. /C01/S01)

#### SUPPLY OUTPUT

24: 24 V DC

#### INPUT

##### Current

10 - 50 mA DC

#### OUTPUT

##### Voltage

1-5 V DC (Load resistance 50 kΩ min.)

#### [1] 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.)

#### [2] 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: Approx. -10 to +120 % at 1 - 5 V

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

Span adjustment: 95 to 105 % (front)

#### SUPPLY OUTPUT

Output voltage: 24 - 28 V DC with no load

Current rating: ≤ 55mA DC

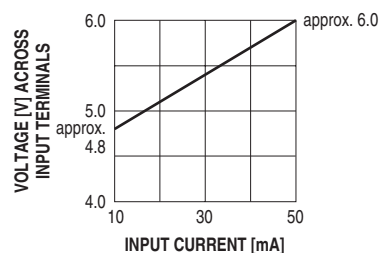
- Shortcircuit Protection

Current limited: Approx. 65 mA

Protected time duration: No limit

#### INPUT SPECIFICATIONS

Equivalent input impedance: Approx. 100 Ω at 50 mA



## 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:**  $\pm 0.1\%$

**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

**Supply output:**  $\pm 3\%$  over voltage range

**Output signal:**  $\pm 0.1\%$  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)

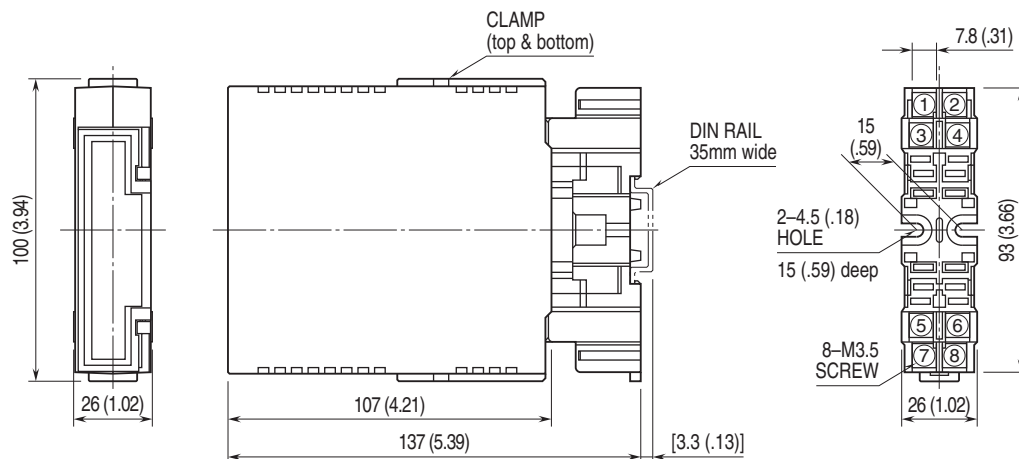
#### Power input code K, L, P:

1000 V AC @ 1 minute (input to output)

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

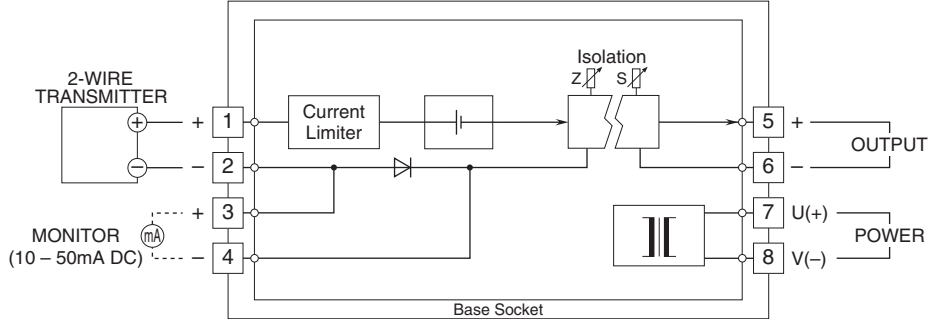
1500 V AC @ 1 minute (I/O to power)

## 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.