

Plug-in Signal Conditioners M-UNIT

CURRENT LOOP SUPPLY

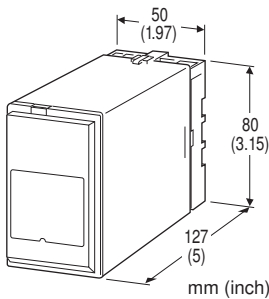
(10 – 50mA loop, isolated)

Functions & Features

- Powering a 10 – 50 mA DC current loop
- Switching constant current circuit employed for shortcircuit protection, beneficial for low heat radiation
- Usable as isolator for 10 – 50 mA DC signals
- Isolation up to 2000 V AC
- High-density mounting

Typical Applications

- Retrofitting a system with 10 – 50 mA DC



MODEL: YVDU-50[1]-[2][3]

ORDERING INFORMATION

- Code number: YVDU-50[1]-[2][3]
- Specify a code from below for each [1] through [3]. (e.g. YVDU-506-K3/Q)
- Special output range (For codes Z & 0)
- Specify the specification for option code /Q (e.g. /C01/S01)

SUPPLY OUTPUT

50: 50 V DC

INPUT

Current

10 – 50 mA DC (Input resistance approx. 100 Ω)

[1] 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 100 Ω min.)

4: 0 – 10 V DC (Load resistance 1000 Ω min.)

5: 0 – 5 V DC (Load resistance 500 Ω min.)

6: 1 – 5 V DC (Load resistance 500 Ω min.)

4W: -10 – +10 V DC (Load resistance 2000 Ω min.)

5W: -5 – +5 V DC (Load resistance 1000 Ω min.)

0: Specify voltage (See OUTPUT SPECIFICATIONS)

[2] POWER INPUT

AC Power

K3: 100 – 120 V AC

(Operational voltage range 90 – 132 V, 47 – 66 Hz)

L3: 200 – 240 V AC

(Operational voltage range 180 – 264 V, 47 – 66 Hz)

DC Power

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 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

Screw terminal: Chromated 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: 50 – 59 V DC with no load

Current rating: 60mA



• **Shortcircuit Protection**

Current limited: ≤ 75 mA

Protected time duration: No limit

INPUT SPECIFICATIONS

■ **DC Current:** Input resistor incorporated

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 10 mA max.; 5 mA for negative voltage output; at ≥ 0.5 V

INSTALLATION

Power consumption

• **AC:** Approx. 12 VA

• **DC:** Approx. 5 W (45 mA at 110 V)

Operating temperature: -5 to +55°C (23 to 131°F)

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

Mounting: Surface or DIN rail

Weight: 400 g (0.88 lb)

PERFORMANCE in percentage of span

Accuracy: ± 0.1 %

Temp. coefficient: ± 0.02 %/°C (± 0.01 %/°F)

Response time: ≤ 0.5 sec. (0 - 90 %)

Line voltage effect

Supply output: ± 5 % over voltage range

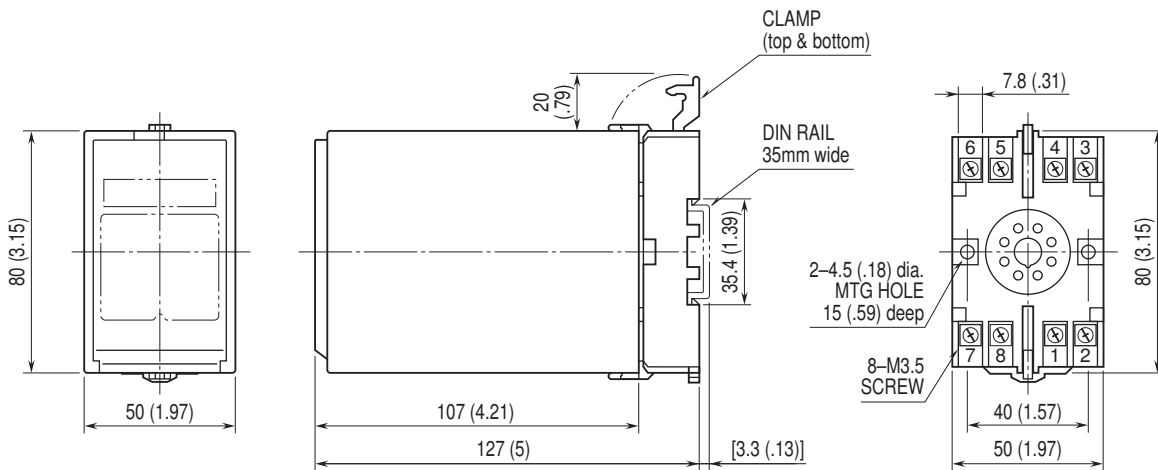
Output signal: ± 0.1 % over voltage range

Insulation resistance: ≥ 100 M Ω with 500 V DC

Dielectric strength: 2000 V AC @1 minute (input to output to power to ground)

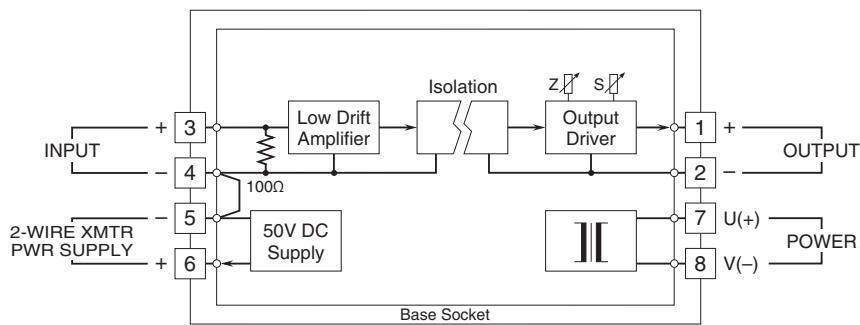


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)

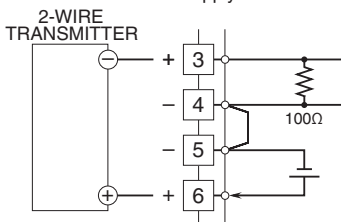


• When mounting, no extra space is needed between units.

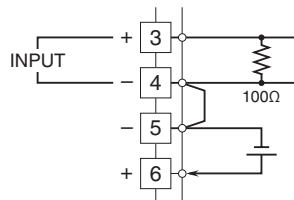
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



■ When Used as DC Supply



■ When Used as Isolator



Specifications are subject to change without notice.