

Plug-in Signal Conditioners M-UNIT

CURRENT LOOP SUPPLY

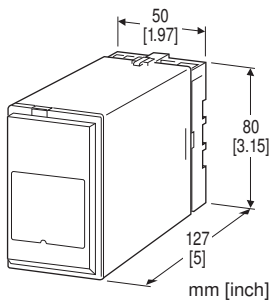
(10 – 50mA loop, isolated)

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 of [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 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

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)
(±1 % with the output suffix codes 4W and 0 selected)

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

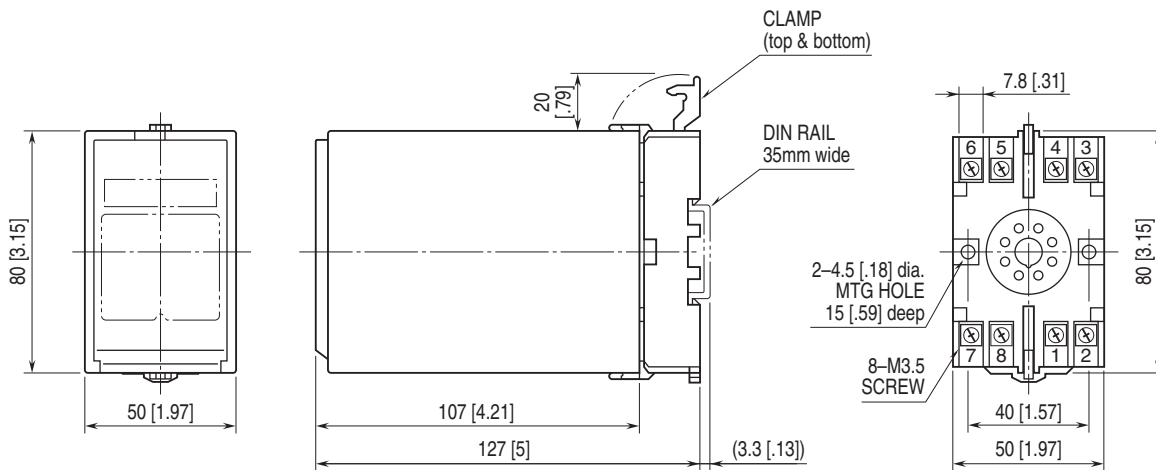
INSTALLATION

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

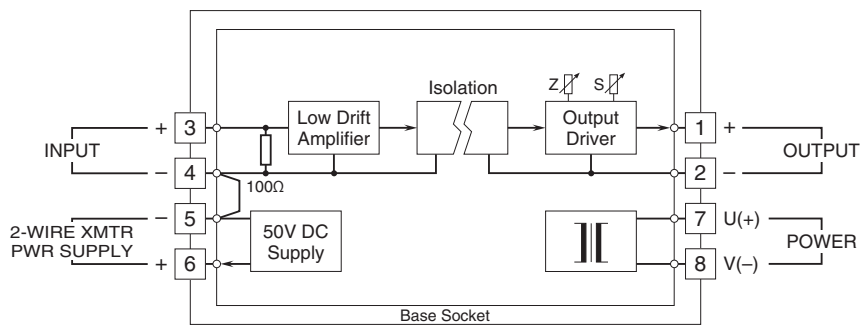
Accuracy: ± 0.1 %
Temp. coefficient: ± 0.02 %/°C (± 0.01 %/°F)
Response time: ≤ 0.5 sec. (0 - 90 %)
Line voltage effect
Supply output: ± 5 % over voltage range
Output signal: ± 0.1 % over voltage range
Insulation resistance: ≥ 100 M Ω with 500 V DC
Dielectric strength: 2000 V AC @1 minute (input to output to power to ground)

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]

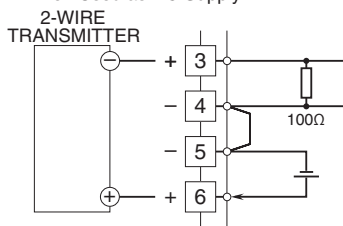


• When mounting, no extra space is needed between units.

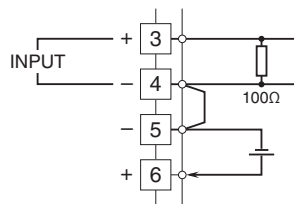
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



■ When Used as DC Supply



■ When Used as Isolator



Specifications are subject to change without notice.