

Plug-in Signal Conditioners K-UNIT

CURRENT LOOP SUPPLY

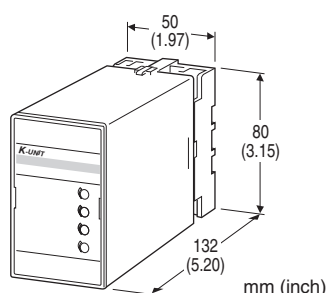
(two isolated outputs)

Functions & Features

- Powering a 4 – 20 mA DC current loop
- Shortcircuit protection
- Applicable to smart transmitters
- Isolation up to 2000 V AC
- High-density mounting

Typical Applications

- Various 2-wire transmitters
- Isolation application (4 – 20 mA input)



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

ORDERING INFORMATION

- Code number: KWDY-[1][2]-[3][4]
- Specify a code from below for each of [1] through [4].
(e.g. KWDY-A6-B/Q)
- Special output ranges (For codes Z & 0)
- Specify the specification for option code /Q
(e.g. /C01/S01)

Note: When the user requires a current and a voltage output, specify the current to be the Output 1 which allows a greater load.

INPUT

Current

4 – 20 mA DC (Input resistance 250 Ω)

[1] OUTPUT 1

Current

- A: 4 – 20 mA DC (Load resistance 600 Ω max.)
- B: 2 – 10 mA DC (Load resistance 1200 Ω max.)
- C: 1 – 5 mA DC (Load resistance 2400 Ω max.)
- D: 0 – 20 mA DC (Load resistance 600 Ω max.)
- E: 0 – 16 mA DC (Load resistance 750 Ω max.)
- F: 0 – 10 mA DC (Load resistance 1200 Ω max.)

G: 0 – 1 mA DC (Load resistance 12 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)

[2] OUTPUT 2

Current

- A: 4 – 20 mA DC (Load resistance 350 Ω max.)
- B: 2 – 10 mA DC (Load resistance 700 Ω max.)
- C: 1 – 5 mA DC (Load resistance 1400 Ω max.)
- D: 0 – 20 mA DC (Load resistance 350 Ω max.)
- E: 0 – 16 mA DC (Load resistance 430 Ω max.)
- F: 0 – 10 mA DC (Load resistance 700 Ω max.)
- G: 0 – 1 mA DC (Load resistance 7000 Ω max.)
- Z: Specify current (See OUTPUT SPECIFICATIONS)

Voltage

Same range availability as Output 1

[3] POWER INPUT

AC Power

- B: 100 V AC
- C: 110 V AC
- D: 115 V AC
- F: 120 V AC
- G: 200 V AC
- H: 220 V AC
- J: 240 V AC

DC Power

- S: 12 V DC
- R: 24 V DC

[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
Screw terminal: Chromated steel (standard) or stainless steel
Housing material: Flame-resistant resin (black)
Isolation: Input to output 1 to output 2 to power
Overrange output: Approx. -10 to +120 % at 1 - 5 V
Zero adjustment: -5 to +5 % (front)
Span adjustment: 95 to 105 % (front)
 Adjustable individually for each output 1 and output 2.

Line voltage effect: ± 0.1 % over voltage range
Insulation resistance: $\geq 100 \text{ M}\Omega$ with 500 V DC
Dielectric strength: 2000 V AC @1 minute
 (input to output to power to ground)
 1000 V AC @ 1 minute (output 1 to output 2)

SUPPLY OUTPUT

(Across the terminals 4 - 5)
Output voltage: 24 - 28 V DC with no load
 18 V DC min. at 20 mA
Current rating: $\leq 22 \text{ mA DC}$
 • **Shortcircuit Protection**
Current limited: 35 mA max.
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 12 V max. for Output 1;
 7 V max. for Output 2
 ■ **DC Voltage:** -10 - +12 V DC
Minimum span: 5 mV
Offset: Max. 1.5 times span
Load resistance: Output drive 1 mA max. at $\geq 0.5 \text{ V}$

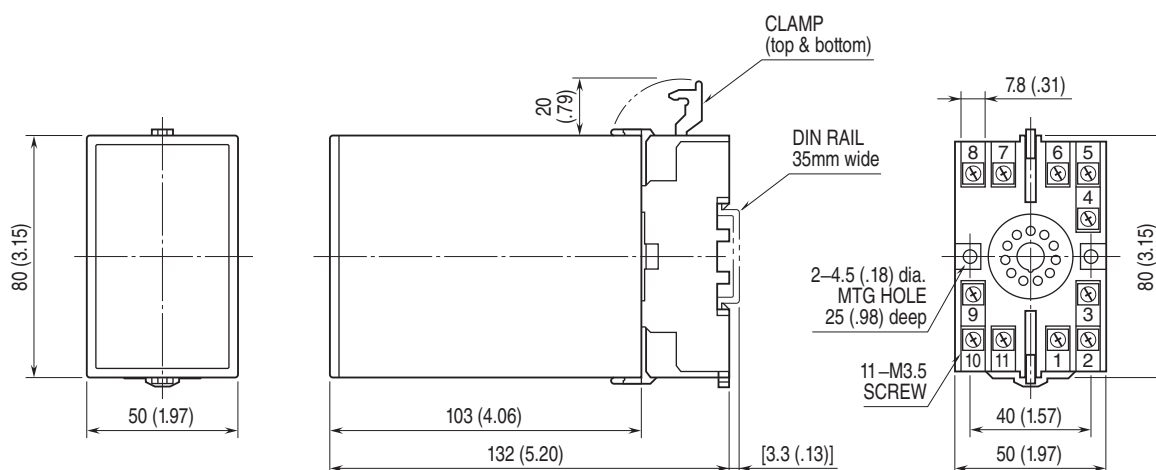
INSTALLATION

Power input
 • **AC:** Operational voltage range: rating ± 10 %, 50/60 ± 2 Hz, approx. 3 VA
 • **DC:** Operational voltage range: rating ± 10 % ripple 10 %p-p max., approx. 3 W (125 mA at 24 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

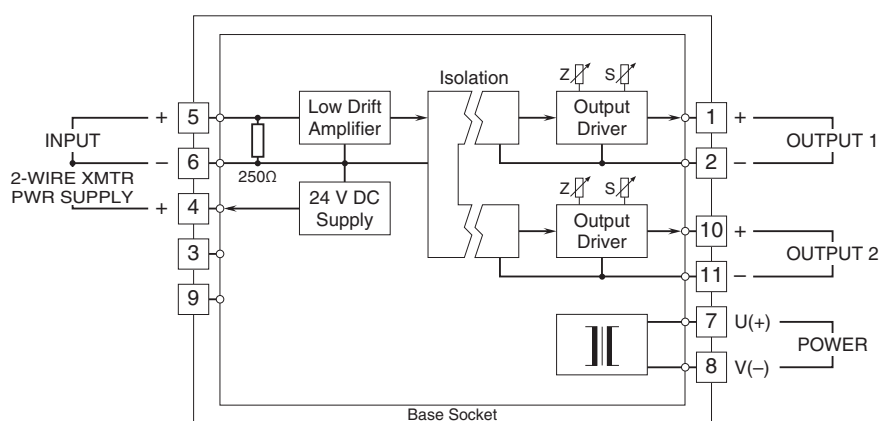
Accuracy: ± 0.1 %
Temp. coefficient: $\pm 0.02 \text{ } \%/^{\circ}\text{C}$ ($\pm 0.01 \text{ } \%/^{\circ}\text{F}$)
Response time: $\leq 0.5 \text{ sec.}$ (0 - 90 %)

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)

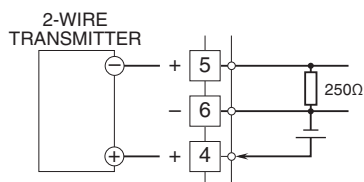


- When mounting, no extra space is needed between units.

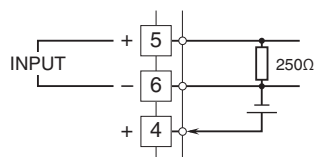
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



■ When Used as DC Supply



■ When Used as Isolator



Specifications are subject to change without notice.