

## Plug-in Signal Conditioners K-UNIT

### CURRENT LOOP SUPPLY

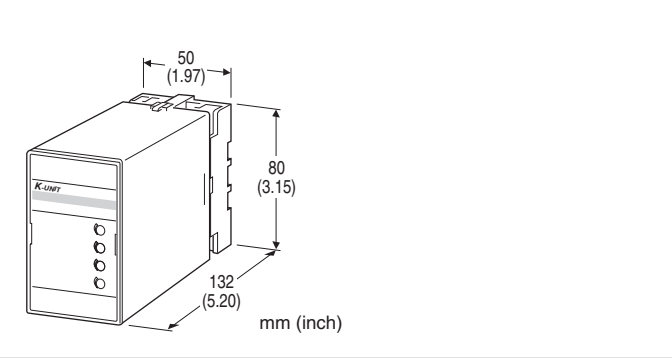
(two isolated outputs)

#### 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 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 1000 Ω min.)
- 4: 0 - 10 V DC (Load resistance 10 kΩ 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 kΩ 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 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 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:**  $\pm 0.1$  % over voltage range  
**Insulation resistance:**  $\geq 100$  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:**  $\leq 22$  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  $\geq 0.5$  V

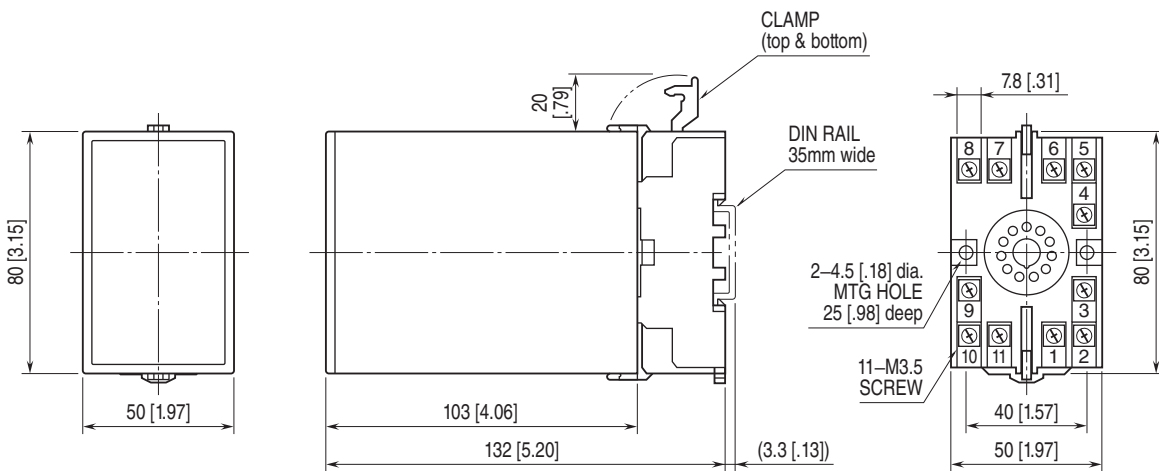
## INSTALLATION

**Power input**  
• **AC:** Operational voltage range: rating  $\pm 10$  %, 50/60  $\pm 2$  Hz, approx. 3 VA  
• **DC:** Operational voltage range: rating  $\pm 10$  % 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

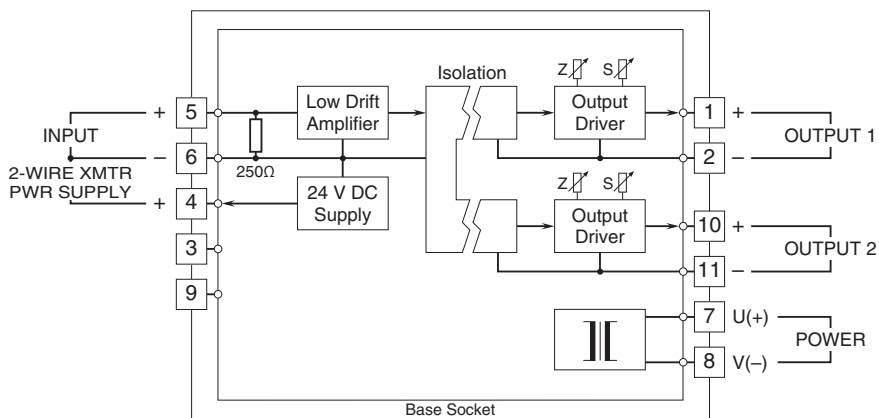
**Accuracy:**  $\pm 0.1$  %  
**Temp. coefficient:**  $\pm 0.02$  %/°C ( $\pm 0.01$  %/°F)  
**Response time:**  $\leq 0.5$  sec. (0 - 90 %)

## EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]

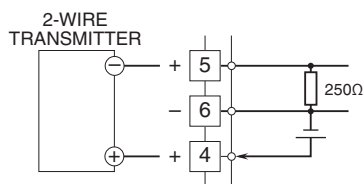


• When mounting, no extra space is needed between units.

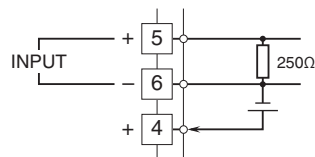
## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



■ When Used as DC Supply



■ When Used as Isolator



Specifications are subject to change without notice.