

## Plug-in Signal Conditioners K-UNIT

### FREQUENCY TRANSDUCER

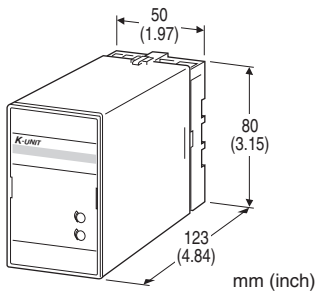
(self-powered)

#### Functions & Features

- Providing a DC output signal in proportion to deviation ( $\pm 5$  Hz) from center frequency (50 Hz or 60 Hz)
- DC output containing little ripple is ideal for computer input
- Isolation up to 2000 V AC
- High-density mounting
- No auxiliary power source required

#### Typical Applications

- Centralized monitoring and control of power management system in manufacturing facility or building
- Measuring frequency for UPS



**MODEL: KEHZN-[1][2][3][4]**

### ORDERING INFORMATION

- Code number: KEHZN-[1][2][3][4]
- Specify a code from below for each of [1] through [4].  
(e.g. KEHZN-11A/Q)
- Special output range (For codes Z & 0)
- Specify the specification for option code /Q  
(e.g. /C01/S01)

#### [1] INPUT

- 1: 45 – 55 Hz
- 2: 55 – 65 Hz
- 3: 45 – 65 Hz

#### [2] INPUT

- 1: 110 V AC
- 2: 220 V AC

### [3] OUTPUT

#### Current

- A: 4 – 20 mA DC (Load resistance 600  $\Omega$  max.)
- D: 0 – 20 mA DC (Load resistance 600  $\Omega$  max.)
- E: 0 – 16 mA DC (Load resistance 750  $\Omega$  max.)
- F: 0 – 10 mA DC (Load resistance 1200  $\Omega$  max.)
- G: 0 – 1 mA DC (Load resistance 12 k $\Omega$  max.)
- J: 0 – 5 mA DC (Load resistance 2400  $\Omega$  max.)
- Z: Specify current (See OUTPUT SPECIFICATIONS)

#### Voltage

- 1: 0 – 10 mV DC (Load resistance 10 k $\Omega$  min.)
- 2: 0 – 100 mV DC (Load resistance 100 k $\Omega$  min.)
- 3: 0 – 1 V DC (Load resistance 1000  $\Omega$  min.)
- 4: 0 – 10 V DC (Load resistance 10 k $\Omega$  min.)
- 5: 0 – 5 V DC (Load resistance 5000  $\Omega$  min.)
- 6: 1 – 5 V DC (Load resistance 5000  $\Omega$  min.)
- 0: Specify voltage (See OUTPUT SPECIFICATIONS)

### [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

**Computation:** One-shot

**Overrange output:** Approx. -10 to +120 % at 1 – 5 V

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

**Span adjustment:** 95 to 105 % (front)

### INPUT SPECIFICATIONS

**Input burden:** 3 VA

**Overload capacity:** 110 % of rating (continuous)

**Operational range:** 85 – 110 % of rating

### 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.

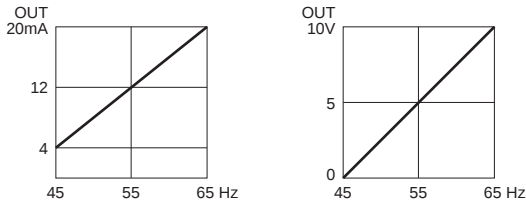
■ **DC Voltage:** 0 - 12 V DC

**Minimum span:** 5 mV

**Offset:** Max. 1.5 times span

**Load resistance:** Output drive 1 mA max.; at  $\geq 0.5$  V

■ **OPERATION DIAGRAM (example)**



## INSTALLATION

**Operating temperature:** -10 to +55°C (14 to 131°F)

**Operating humidity:** 30 to 85 %RH (non-condensing)

**Mounting:** Surface or DIN rail

**Weight:** 300 g (0.66 lb)

## PERFORMANCE in percentage of span

**Accuracy:**  $\pm 1$  % (at 23°C  $\pm 10^\circ\text{C}$  or 73.4°F  $\pm 18^\circ\text{F}$ )

**Response time:**  $\leq 1$  sec. (0 - 100 %  $\pm 1$  %)

**Ripple:** 0.5 %p-p max.

**Insulation resistance:**  $\geq 100$  M $\Omega$  with 500 V DC

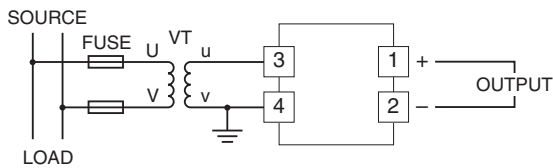
**Dielectric strength:** 2000 V AC @1 minute

(input to output to ground)

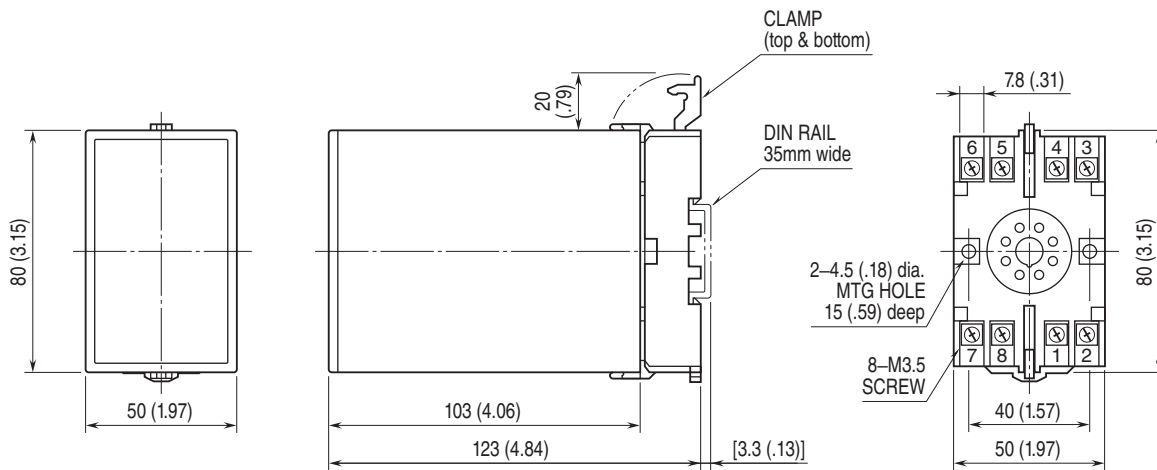
**Impulse withstand voltage:** 1.2 / 50  $\mu\text{sec.}$ ,  $\pm 5$  kV

(input to output or ground)

## CONNECTION DIAGRAM



## EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



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



Specifications are subject to change without notice.