

## High-density Signal Conditioners 10-RACK

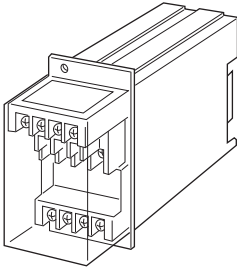
### FREQUENCY TRANSDUCER

#### 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 (input)

#### Typical Applications

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



### MODEL: 10EHZ-[1][2][3]-R[4]

#### ORDERING INFORMATION

- Code number: 10EHZ-[1][2][3]-R[4]
- Specify a code from below for each [1] through [4].  
(e.g. 10EHZ-11A-R/Q)
- Special output range (For codes Z & 0)
  - Specify the specification for option code /Q  
(e.g. /C01)

#### [1] FREQUENCY

- 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)

#### POWER INPUT

##### DC Power

- R: 24 V DC  
(Operational voltage range 24 V  $\pm 10$  %, ripple 10 %p-p max.)

#### [4] OPTIONS

- blank: none
- /Q: With options (specify the specification)

#### SPECIFICATIONS OF OPTION: Q

##### COATING (For the detail, refer to M-System's web site.)

- /C01: Silicone coating
- /C02: Polyurethane coating
- /C03: Rubber coating

#### GENERAL SPECIFICATIONS

**Construction:** Rack-mounted; terminal access via screw terminals at the front and via card-edge connector at the rear; terminal cover provided

##### Connection

**Input:** M3.5 screw terminals (torque 0.8 N·m)  
**Output:** Card-edge connector and M3.5 screw terminals (torque 0.8 N·m)

**Power input:** Supplied from card-edge connector

**Screw terminal:** Nickel-plated 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)

#### INPUT SPECIFICATIONS

**Input burden:** 1 VA max.

**Operational range:** 85 - 120 % of rating

**Overload capacity:** 150 % of rating for 10 sec., 120 % continuous



## OUTPUT SPECIFICATIONS

■ **DC Current:** 0 - 20 mA DC

**Minimum span:** 1 mA

**Offset:** Max. 1.5 times span

**Load resistance:** Output drive 12 V maximum

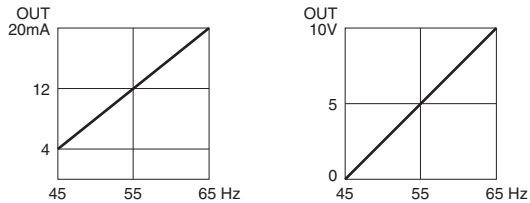
■ **DC Voltage:** 0 - 12 V DC

**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)**



Remark: When there is no input voltage, the transducer outputs as negative (-) overrange.

## INSTALLATION

**Current consumption:** Approx. 80 mA

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

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

**Mounting:** Standard Rack 10BXx

**Weight:** 400 g (0.88 lb)

## PERFORMANCE in percentage of span

**Accuracy:**  $\pm 1.0$  %

**Temp. coefficient:**  $\pm 0.1$  %/°C ( $\pm 0.06$  %/°F)

**Response time:**  $\leq 1$  sec. (0 - 90 %)

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

**Line voltage effect:**  $\pm 0.1$  % over voltage range

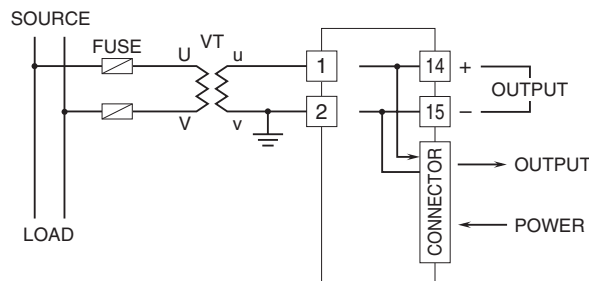
**Insulation resistance:**  $\geq 100$  M $\Omega$  with 500 V DC

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

(input to output or power to ground)

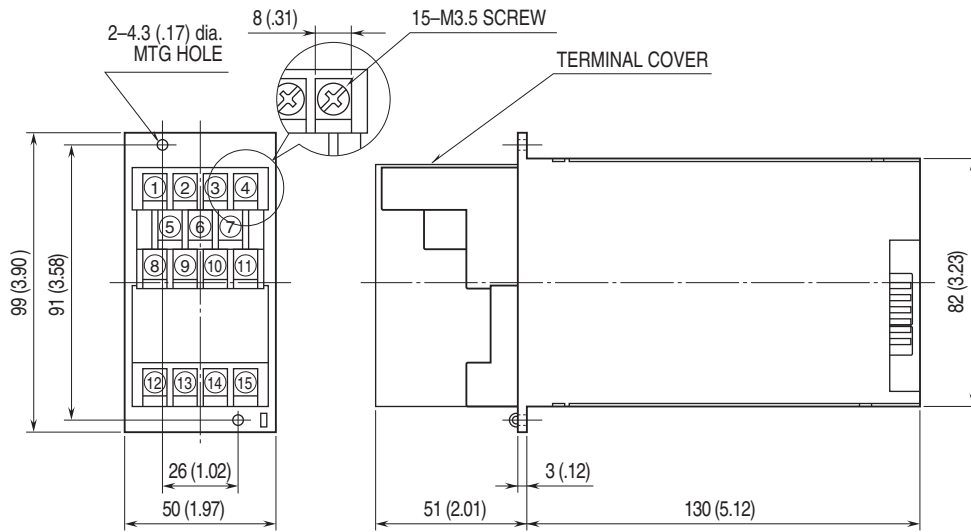
500 V AC @ 1 minute (output to power)

## CONNECTION DIAGRAM



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

Terminals 8 through 11 are deleted.



Specifications are subject to change without notice.

