

## Power Transducer Series L-UNIT

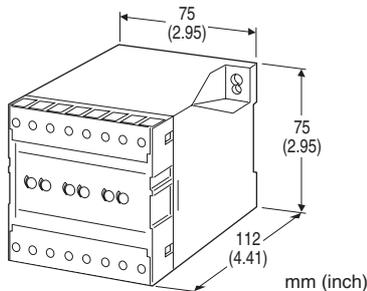
### TRIPLE AC VOLTAGE TRANSDUCER

#### Functions & Features

- Converting an alternating voltage from a potential (voltage) transformer into a standard process signal
- 3 transducers housed in one enclosure
- Minimum ripple
- Isolation up to 2000 V AC
- Highdensity mounting

#### Typical Applications

- Centralized monitoring and control of power line and power supply voltages measured at switch boards
- Monitoring abnormal voltage drops for detecting overload



## MODEL: L3PK-[1][2]-[3][4]

### ORDERING INFORMATION

- Code number: L3PK-[1][2]-[3][4]
- Specify a code from below for each of [1] through [4].  
(e.g. L3PK-5A-K3/Q)
- Special output range (For codes Z & 0)
  - Specify the specification for option code /Q  
(e.g. /C01/S01)

#### [1] INPUT

Voltage

- 5: 0 - 150 V AC
- 6: 0 - 300 V AC

#### [2] OUTPUT

Current

- A: 4 - 20 mA DC (Load resistance 500 Ω max.)
- D: 0 - 20 mA DC (Load resistance 500 Ω max.)
- E: 0 - 16 mA DC (Load resistance 625 Ω max.)
- F: 0 - 10 mA DC (Load resistance 1000 Ω max.)
- G: 0 - 1 mA DC (Load resistance 10 kΩ max.)

- J: 0 - 5 mA DC (Load resistance 2000 Ω 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.)
- 0: Specify voltage (See OUTPUT SPECIFICATIONS)

### [3] AUXILIARY POWER SUPPLY

AC Power

K3: 100 - 120V AC

(Operational voltage range 85 - 132 V, 47 - 66 Hz)

L3: 200 - 240V AC

(Operational voltage range 170 - 264 V, 47 - 66 Hz)

DC Power

R: 24 V DC

(Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)

V: 48 V DC

(Operational voltage range 48 V ± 10 %, ripple 10 % p-p max.)

### [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:** Stand-alone; terminal access at the front

**Connection:** M3.5 screw terminals (torque 0.8 N·m)

**Screw terminal:** Nickel-plated steel (standard) or stainless steel

**Housing material:** Flame-resistant resin (black)

**Isolation:** Input to output to auxiliary power, between the outputs

**Input waveform**

**RMS sensing:** Up to 5 % of 3rd harmonic content

**Overrange output:** 0 to 120 % at 1 - 5 V

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

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

## INPUT SPECIFICATIONS

**Frequency:** 50 or 60 Hz

**Input burden:** 0.3 VA per channel

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

**Operational range:** 0 - 120 % of rating

## OUTPUT SPECIFICATIONS

■ **DC Current:** 0 - 20 mA DC

**Minimum span:** 1 mA

**Offset:** Max. 1.5 times span

**Load resistance:** Output drive 10 V max.

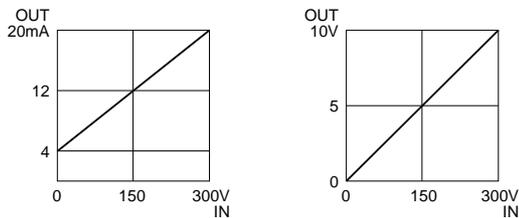
■ **DC Voltage:** 0 - 12 V DC

**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

### Power consumption

• **AC:** Approx. 3.5 VA

• **DC:** Approx. 3.5 W (146 mA at 24 V)

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

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

**Mounting:** Surface or DIN rail

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

## PERFORMANCE in percentage of span

**Accuracy:**  $\pm 0.5$  % (at 23°C  $\pm 10$ °C or 73.4°F  $\pm 18$ °F, 45 - 65 Hz)

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

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

**Line voltage effect:**  $\pm 0.25$  % over voltage range

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

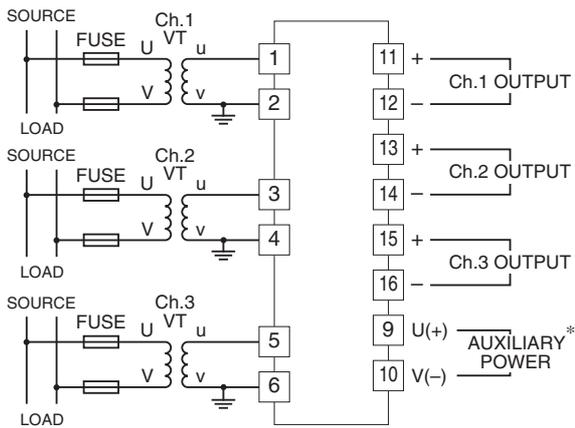
**Dielectric strength:** 2000 V AC @ 1 minute

(input to output to auxiliary power to ground, between the outputs)

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

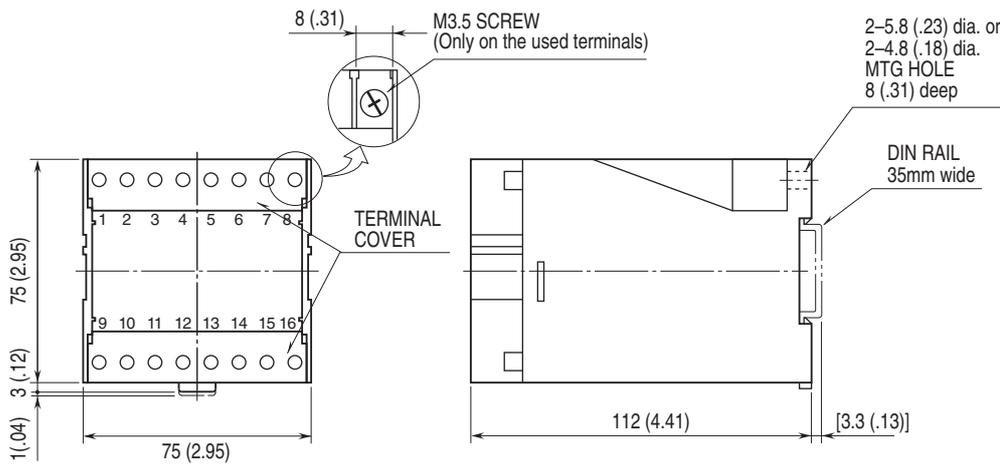
(input to output or ground)

## CONNECTION DIAGRAM



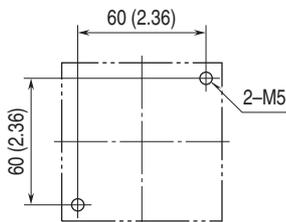
\* The transducer can be powered from the input voltage when the voltage is sufficiently stable and meets within the range of auxiliary power supply of the unit specified in the data sheet/instruction manual.

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

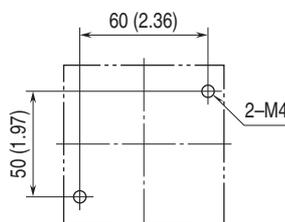


## MOUNTING REQUIREMENTS unit: mm [inch]

### ■ M5 SCREWS



### ■ M4 SCREWS



Specifications are subject to change without notice.