

## Power Transducer Series LT-UNIT

(CE not available)

### AC VOLTAGE TRANSDUCER

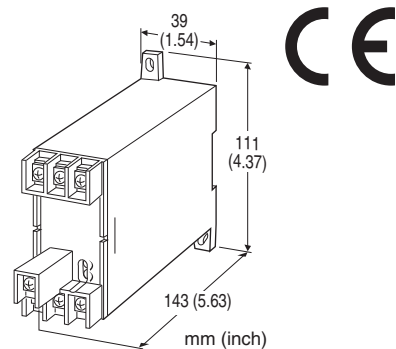
(RMS sensing)

#### Functions & Features

- Converts alternating voltage from a voltage transformer into a standard process signal
- Minimum ripple
- Isolation up to 2000 V AC
- High-density mounting
- Conforms to IEC 60688

#### 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: LTPE-[1][2]-[3][4]

#### ORDERING INFORMATION

- Code number: LTPE-[1][2]-[3][4]

Specify a code from below for each of [1] through [4].

- (e.g. LTPE-5A-K3/T/Q)
- Special input and output ranges (For codes Z & 0)
- Specify the specification for option code /Q (e.g. /C01)

#### [1] INPUT

##### Voltage

- 008:** 0 - 8 V AC (CE not available)
  - 012:** 0 - 12 V AC (CE not available)
  - 1:** 0 - 110 V AC
  - 2:** 0 - 220 V AC
  - 4:** 0 - 90 V AC
  - 5:** 0 - 150 V AC
  - 6:** 0 - 300 V AC
  - 7:** 0 - 550 V AC
  - 0:** Specify voltage (See INPUT SPECIFICATIONS)
- (0 % input must be 0 V.)

#### [2] OUTPUT

##### Current

- A:** 4 - 20 mA DC (Load resistance 500 Ω max.)
- D:** 0 - 20 mA DC (Load resistance 500 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.)
  - P:** 110 V DC  
(Operational voltage range 85 - 150 V, ripple 10 %p-p max.)
- (CE not available)

#### [4] OPTIONS (multiple selections)

##### Terminal Cover

- blank:** Without
- /T:** With

##### Other Options

- blank:** none
- /Q:** Option other than the above (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

**Connection:** M4 screw terminals (torque 1.2 N·m)  
**Screw terminal:** Chrome-plated steel  
**Housing material:** Flame-resistant resin (black)  
**Isolation:** Input to output to auxiliary power  
**Input waveform:** Up to 15 % 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)

**Magnetic field (ext. origin) effect:**  $\pm 0.5\%$  (400 A/m)  
**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)  
**Impulse withstand voltage:** 1.2 / 50  $\mu$ sec.,  $\pm 5$  kV  
 (input to output or ground)

## INPUT SPECIFICATIONS

**AC Voltage:** 0 - 550 V AC  
**Minimum span:** 20 V  
**Frequency:** 50 or 60 Hz  
**Operational range:** 0 - 120 % of rating  
**Overload capacity:** 200 % of rating for 10 sec., 120 % continuous  
**Input burden:** 0.5 VA (1 VA with Input greater than 300 V at 100 %)

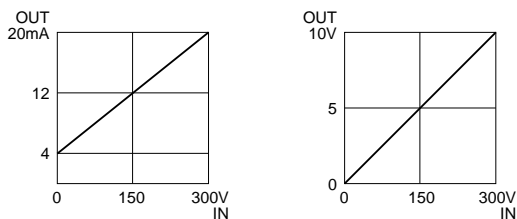
## STANDARDS & APPROVALS

**EU conformity:**  
 EMC Directive  
   EMI EN 61000-6-4  
   EMS EN 61000-6-2  
 Low Voltage Directive  
   EN 61010-1  
   Measurement Category II (input)  
   Installation Category II (auxiliary power)  
   Pollution Degree 2  
 Input to output or auxiliary power: Reinforced insulation (550 V)  
 Output to auxiliary power: Reinforced insulation (300 V)  
 RoHS Directive

## 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)



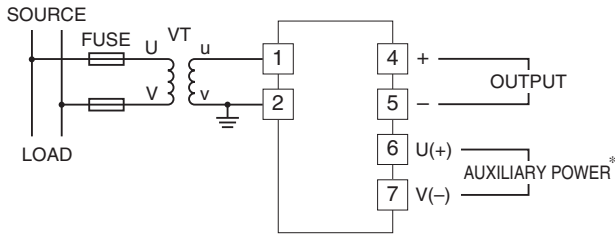
## INSTALLATION

**Power Consumption**  
**AC:** Approx. 2 VA  
**DC:** Approx. 1.7 W (15 mA at 110 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

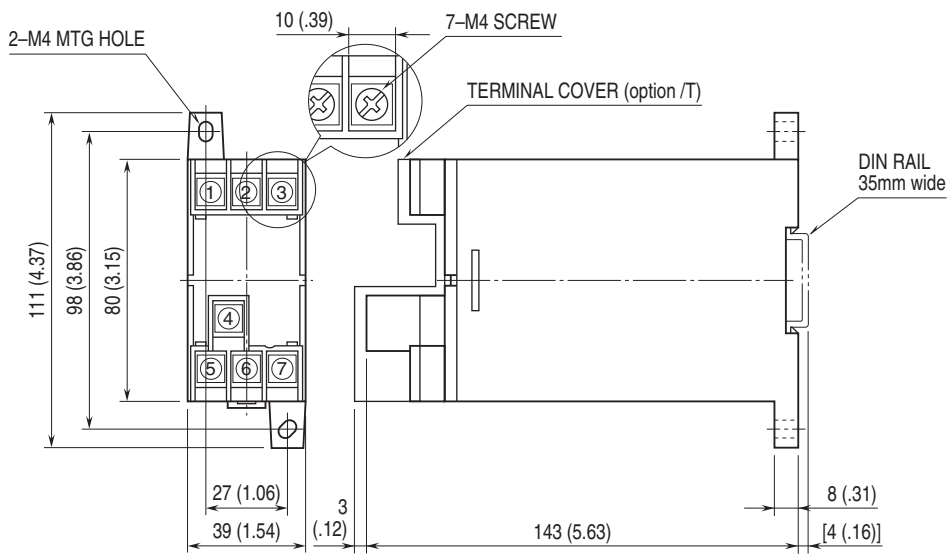
**Accuracy:**  $\pm 0.5\%$  (at 23°C  $\pm 10^\circ$ C or 73.4°F  $\pm 18^\circ$ F, 45 - 65 Hz)

**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]**



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



Specifications are subject to change without notice.