

**Power Transducer Series L-UNIT**

**PT/CT TRANSDUCER**

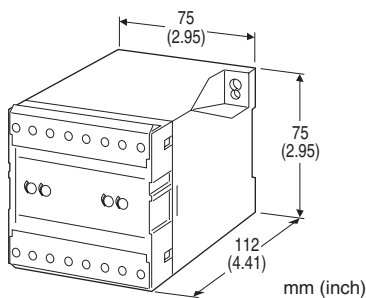
(RMS sensing)

**Functions & Features**

- VT and CT transducers combined in one housing
- Minimum ripple
- Isolation up to 2000 V AC
- High-density mounting

**Typical Applications**

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



**MODEL: LPCE-[1][2][3]-[4][5]**

**ORDERING INFORMATION**

- Code number: LPCE-[1][2][3]-[4][5]
- Specify a code from below for each [1] through [5]. (e.g. LPCE-55A-C/Q)
- Special output range (For codes Z & 0)
- Specify the specification for option code /Q (e.g. /C01/S01)

**[1] VT INPUT**

**Voltage**

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

**[2] CT INPUT**

**Current**

- 1: 0 - 1 A AC
- 5: 0 - 5 A AC

**[3] 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)

**[4] AUXILIARY POWER SUPPLY**

**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**

- R: 24 V DC
- V: 48 V DC

**[5] 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:** 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

channels

**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)

**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)

## INPUT SPECIFICATIONS

**Frequency:** 50 or 60 Hz

### • VT Input

**Input burden:** 0.3 VA

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

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

### • CT Input

**Input burden:** 0.5 VA

**Overload capacity:** 1000 % of rating for 3 sec., 200 % for 10  
sec., 120 % continuous

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

## PERFORMANCE in percentage of span

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

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

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

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

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

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

(input to output to auxiliary power to ground, between  
channels)

**Impulse withstand voltage:** 1.2 / 50  $\mu\text{sec.}$ ,  $\pm 5\ \text{kV}$   
(input to output or ground)

## 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

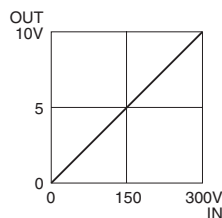
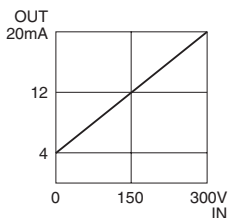
**Minimum span:** 5 mV

**Offset:** Max. 1.5 times span

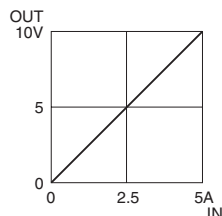
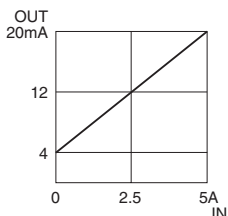
**Load resistance:** Output drive 1 mA max.; at  $\geq 0.5\ \text{V}$

■ **OPERATION DIAGRAM (example)**

### •VT Input



### •CT Input



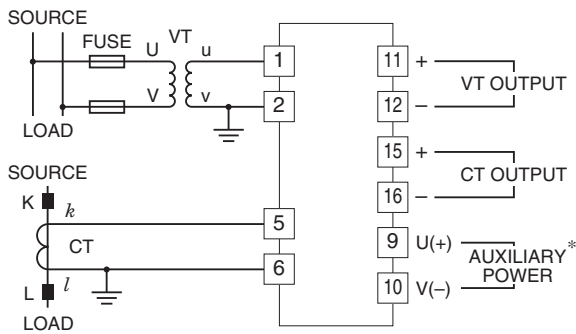
## INSTALLATION

### Auxiliary power supply

•**AC:** Operational voltage range: rating -15/+10 %, 50/60 Hz, approx. 3 VA

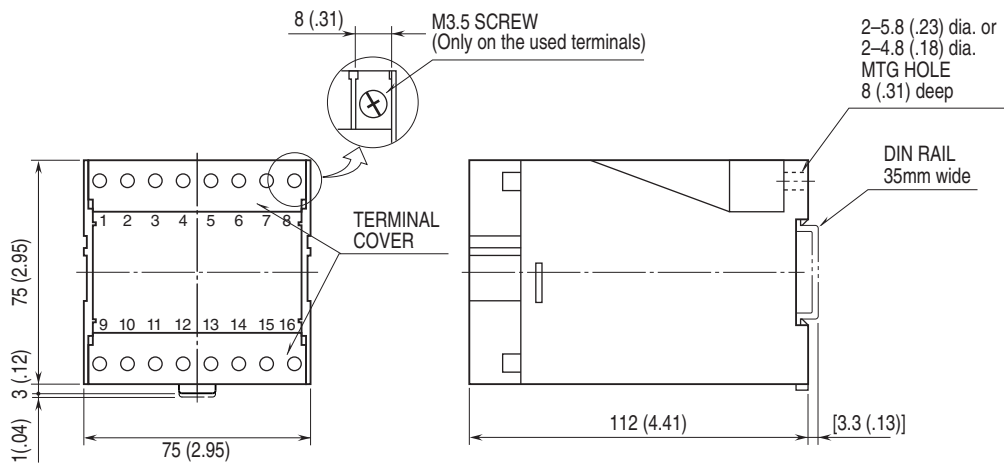
•**DC:** Operational voltage range: rating  $\pm 10\%$  ripple 10 %p-p max., approx. 3 W (125 mA at 24 V)

**CONNECTION DIAGRAM**



\* The transducer can be powered from the input voltage when the voltage is sufficiently stable and meets other supply voltage requirements.

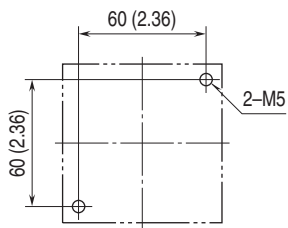
**EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)**



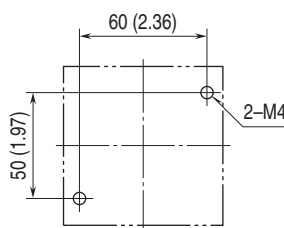
•When mounting, no extra space is needed between units.

**MOUNTING REQUIREMENTS unit: mm (inch)**

■ M5 SCREWS



■ M4 SCREWS



Specifications are subject to change without notice.