

**Power Transducer Series *LT-UNIT***

**FREQUENCY TRANSDUCER**

**MODEL LTHZ**

**MODEL & SUFFIX CODE SELECTION**

LTHZ-□□□-□□

**MODEL** \_\_\_\_\_

**FREQUENCY** \_\_\_\_\_

1 : 45 – 55 Hz

2 : 55 – 65 Hz

3 : 45 – 65 Hz

**VT INPUT** \_\_\_\_\_

1 : 100, 110, 115, 120V AC

2 : 190, 200, 210, 220, 230, 240V AC

4 : 380, 400, 415, 430, 440, 480V AC

**OUTPUT** \_\_\_\_\_

**Current**

A : 4 – 20mA DC

D : 0 – 20mA DC

F : 0 – 10mA DC

G : 0 – 1mA DC

J : 0 – 5mA DC

Z : Specify current

**Voltage**

1 : 0 – 10mV DC

2 : 0 – 100mV DC

3 : 0 – 1V DC

4 : 0 – 10V DC

5 : 0 – 5V DC

6 : 1 – 5V DC

0 : Specify voltage

**AUXILIARY POWER SUPPLY** \_\_\_\_\_

**AC Power**

K3: 100 – 120V AC

L3: 200 – 240V AC

**DC Power**

R : 24V DC

V : 48V DC

P : 110V DC \*1

\*1. CE marking unavailable

**OPTIONS** \_\_\_\_\_

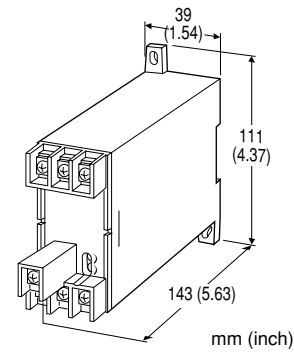
/T : Terminal cover

**ORDERING INFORMATION**

Specify code number and variables.

• **Code number** (e.g. LTHZ-11A-R/T)

• **Special output range** (For codes Z & 0)



**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 2000V AC
- High-density mounting
- Conforms to IEC 688

**Typical Applications**

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

**GENERAL SPECIFICATIONS**

**Construction:** stand-alone; terminal access at the front

**Connection:** M4 screw terminals

(chrome-plated steel; torque 1.2 N·m)

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

**Isolation:** input to output to power

**Computation:** one-shot

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

**Front adjustments:** zero and span;  $\pm 5\%$

**INPUT & OUTPUT****INPUT**

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

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

**Input burden:** 1VA

**OUTPUT**

• **DC Current:** 0 – 20mA DC

**Minimum span:** 1mA

**Zero suppression/elevation:** max. 1.5 times span

**Load resistance:** output drive 10V maximum

Output	Load Resistance
4 – 20mA	: 500 ( $\Omega$ maximum)
0 – 20mA	: 500
0 – 10mA	: 1000
0 – 1mA	: 10k
0 – 5mA	: 2000

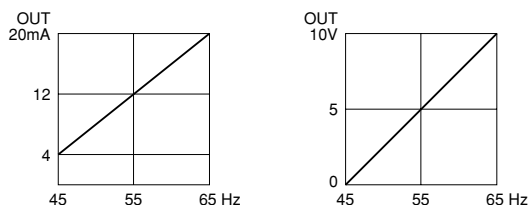
• **DC Voltage:** 0 – 12V DC

**Minimum span:** 5mV

**Zero suppression/elevation:** max. 1.5 times span

**Load resistance:** output drive 1mA maximum at  $\geq 0.5V$

Output	Load Resistance
0 – 10mV	: 10k ( $\Omega$ minimum)
0 – 100mV	: 100k
0 – 1V	: 1000
0 – 10V	: 10k
0 – 5V	: 5000
1 – 5V	: 5000

**OPERATION DIAGRAM (example)****INSTALLATION****Power input**

**AC:** operational voltage range for K3: 90 – 132V or L3: 180 – 264V  
47 – 66 Hz, approx. 2VA

**DC:** operational voltage range for R, V: rating  $\pm 10\%$  or P: 85 – 150V; ripple 10% p-p max.  
approx. 2W (18mA at 110V)

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

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

**Mounting:** surface or DIN rail

**Dimensions:** W39×H111×D143 mm (1.54"×4.37"×5.63")  
\*D147 mm (5.79") with terminal cover  
See General Spec. Sheet Figure A-1.

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

**Terminal assignment:** See General Spec. Sheet Figure B-1.

**PERFORMANCE in percentage of span**

**Accuracy:**  $\pm 0.2\%$  (at 23°C  $\pm 10^\circ\text{C}$  or 73.4°F  $\pm 18^\circ\text{F}$ ,  
45 – 65 Hz)

**Magnetic field (ext. origin) effect:**  $\pm 0.2\%$  (400A/m)

**Response time:**  $\leq 1$  second (0 – 100%  $\pm 1\%$ )

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

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

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

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

(input to output to power to ground)

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

(input to output or ground)

**STANDARDS & APPROVALS**

**CE conformity:** EMC Directive (89/336/EEC)

EMI EN61000-6-4

EMS EN61000-6-2

Low Voltage Directive (73/23/EEC)

Installation category II

Pollution degree 2

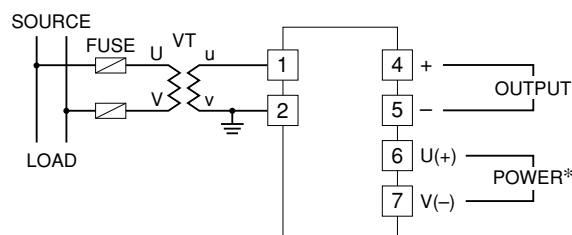
Input to output or power – Reinforced insulation

Max. operating voltage 550V

Output to power – Reinforced insulation

Max. operating voltage 300V

**IEC Standard:** IEC 60688

**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.