

# Frequency Transducers

**Frequency:** The rate in cycles per second that an AC voltage alternates or the number of times in one second that the wave repeats its pattern. Hertz (Hz) is the unit of measure. mTech Frequency Transducers measure line frequency, using ultra-stable crystal technology to develop a DC signal output proportional to the input. Different center frequencies and spans are available with outputs being either center or downscale zero.

## Standard Features

- 0.05% accuracy
- Low temperature coefficient
- Exceptional long-term stability
- Low burden
- Transient protected
- Voltage, current, and process outputs
- Standardized wiring and mounting
- ABS DIN rail mount or metal surface mount cases

## Specifications

**Accuracy (@ 25°C ±2°C):** 0.05% of center frequency  
**Temperature Range:** -20°C to +70°C  
**Temperature Coefficient:** 0.001%/°C, 10 ppm typical  
**Operating Humidity:** 0-95% non-condensing  
**Power Factor Range:** Any  
**Operating Voltage Range:** -30% + 25% of nominal  
**Dielectric Test:** 2,000 Vrms for 1 minute  
**Burden:** 1.5 VA (most options)  
**Surge Withstand:** ANSI C37.90a (IEEE 472); BEAMA 219; special 5 kV  
**Response Time:** 200 msec to 90%, 400 msec to 99%  
**Calibration Adjustment:** ±10% standard  
**Zero Adjustment:** ±2% standard

## Available Models – Frequency Transducers

To Order, Specify:

### A. ENCLOSURE

Extruded Aluminum Metal, Surface Mount      H  
 ABS DIN, Rail Mount      DH

### B. CENTER FREQUENCY

400 Hz      4  
 50 Hz      5  
 60 Hz      6  
 Special      X

### C. FREQUENCY SPAN

50/60 Hz	400 Hz	
± 1 Hz	± 10 Hz	1
± 2 Hz	± 20 Hz	2
± 3 Hz	± 30 Hz	3
± 4 Hz	± 40 Hz	4
± 5 Hz	± 50 Hz	5
± 6 Hz	± 60 Hz	6
± 7 Hz	± 70 Hz	7
± 8 Hz	± 80 Hz	8
± 9 Hz	± 90 Hz	9
±10 Hz	±100 Hz	0
Special	Special	X

### D. NOMINAL INPUT VOLTAGE

120 V      0  
 69 V      1  
 240 V      2  
 460 V      3  
 600 V      4  
 Special      X

### E. OUTPUT

0 - 1 mA	0 - 10,000 Ohms	0
0 ± 1 mA	0 - 10,000 Ohms	1
0 ± 0.5 mA	0 - 20,000 Ohms	2
0 ± 50 mV	10 Ohms min.	3
0 ± 100 mV	20 Ohms min.	4
0 ± 1 V	200 Ohms min.	5
0 ± 10 V	2,000 Ohms min.	6
1 - 5 V	1,000 Ohms min.	7
4 - 20 mA	0 - 750 Ohms	8
0 ±10 mA	0 - 1,000 Ohms	9
Special		X

### F. SUFFIX (If Applicable)

25 to 125% Calibration	A
External Power, 120 VAC	E
External Power, 230 VAC	F
Case Ground Terminal <sup>①</sup>	G
DC Aux Power (Please Specify)	K
4 - 20 mA two-wire loop output	T
Special	X

<sup>①</sup> Metal case models only.

**EXAMPLE:** H-6-4-3-7 is the ordering code for a Frequency Transducer in a metal surface mount case, 60 Hz center frequency, ± 4 Hz frequency span, 460 VAC input voltage, 1 - 5 V 1,000 Ohms min. output.

See page 37 for connections.