

Clamping Induction Telemetry

Model CIT

- Clamps to any shaft 25 mm or larger
- 1 or 2 channel strain gauge bridge channels
- Inductively powered for continuous use without batteries
- Programmable gain available
- Lightweight and rugged IP67 housing
- Digital 2.4 GHz RF link with error checking for reliable transmission without interference



Description

The Michigan Scientific *Clamping Induction Telemetry (CIT)* is a wireless, inductively powered, signal transmitter for strain gauges that easily mounts to shafts with a minimum diameter of 25 mm or larger, making it very versatile. It can conveniently be strapped to a shaft with load-rated plastic zip ties or stainless steel banding. The primary induction coil (PICT) is mounted on the stationary side and provides power to the *CIT*. The *CIT* provides excitation and signal conditioning to the strain gauges, then digitally transmits the signals via RF in the 2.4 GHz broadcast frequency range. For higher speed shafts when shaft balancing is required, a counter weight can be purchased and should be mounted 180 degrees opposite the *CIT*. With a small and rugged housing, the *CIT* is designed to provide accurate data in hostile environments.

Specifications

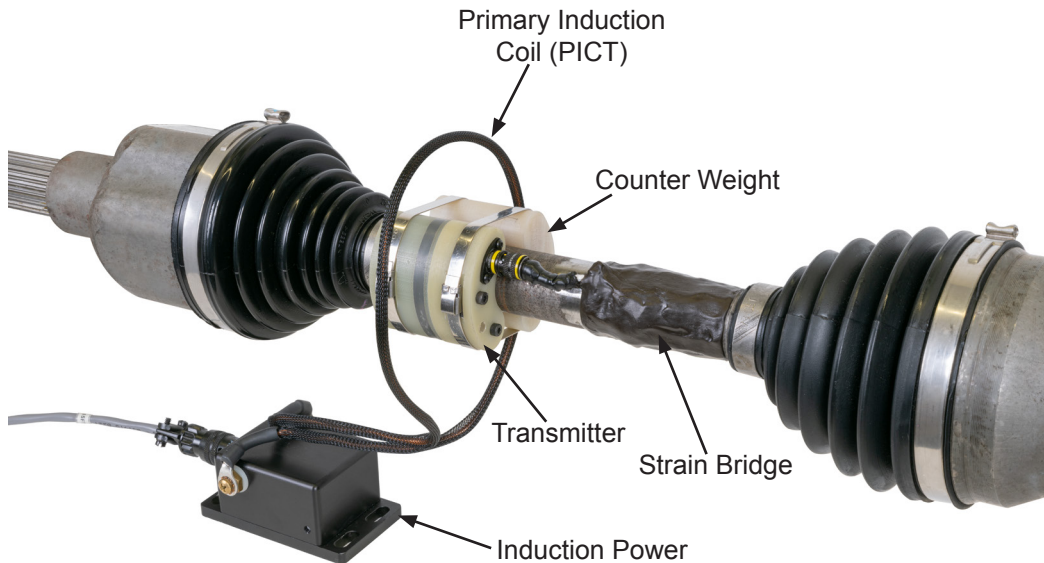
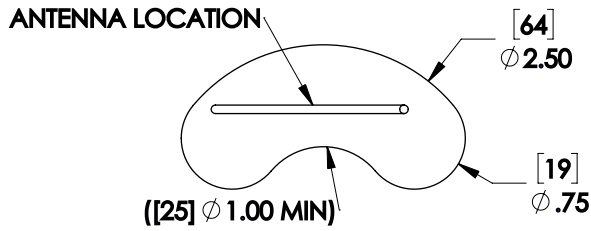
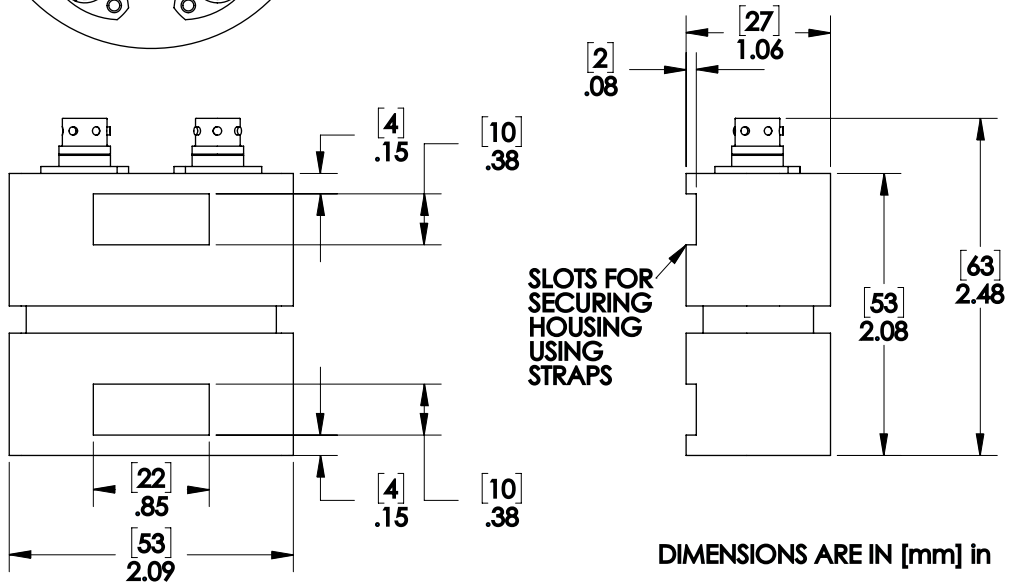
	M320 Telemetry	M540 Telemetry
RF Frequency Range	2.4 GHz	
Channel Type	Strain Gauge, Full Bridge, 350 Ω or higher	
Channel Count	1 or 2	
Programmable Gain	Yes, with USB programmer	No, fixed gain
Input Range	0.1 to 10 mV/V	
Shunt Resistor	Fixed 100 k Ω standard, other shunt resistor values available	
Typical Broadcast Distance	1-2 meters, line of sight	3-4 meters, line of sight
Channel Sampling Rate	3 kHz	7 kHz
Signal Output	± 10 V Analog	
System Resolution	12 Bit	14 Bit
Operating Temperature (CIT & PICT)	(-40 °F to +185 °F) -40 °C to +85 °C	
Power Requirement	9 to 36 Vdc, 2 A	
Total System Delay (Unfiltered Data)	<670 μ s	<300 μ s
RF Channels Available	16	

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Rev. A

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