

Clamping Battery Telemetry

Model CBT-mini

- Clamps to any shaft 25 mm or larger
- Small Package
- 1 strain gauge bridge channels
- Up to 28 hours of battery life
- Lightweight rugged IP67 housing
- Digital 2.4 GHz RF link for reliable transmission without interference or spikes



Description

The Michigan Scientific Clamping Battery Telemetry (CBT-mini) is a wireless, battery powered, signal transmitter for strain gages that easily mounts to shafts with a minimum diameter of 25mm or larger, making it ideal for shaft mounting and very versatile. The Michigan Scientific Telemetry provides reliable signal transmission without interference or signal spikes. The CBT-mini can conveniently be strapped to any shaft with load rated plastic zip ties, steel banding, or hose clamp. The CBT-mini provides excitation and signal conditioning to the strain gages, 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 CBT-mini. The CBT-mini is a small rugged housing and is designed for hostile environments.

Specifications

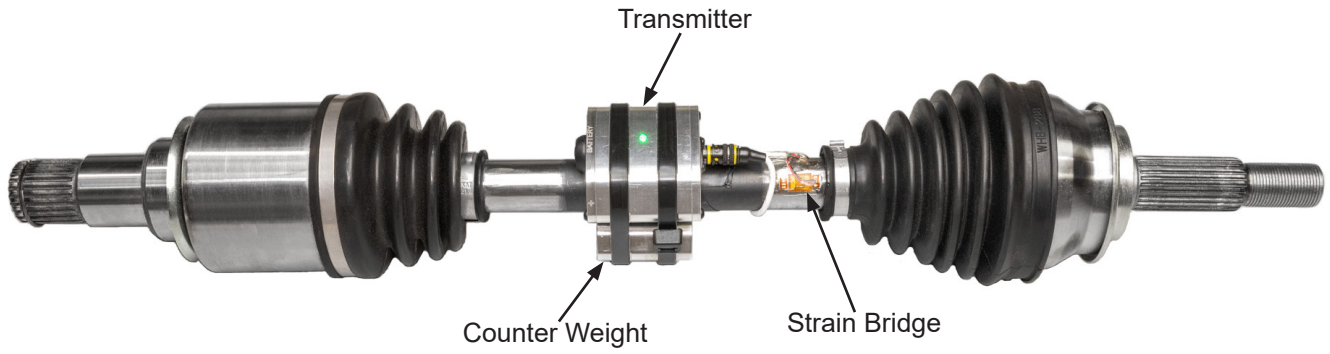
| | CBT - 540 |
|----------------------------|--|
| RF Frequency Range | 2.4 GHz |
| Channel Type | Strain Gauge, Full Bridge, 350 Ω or higher |
| Channel Count | 1 |
| Battery Type | Two CR123a lithium batteries |
| Continuous Battery Life | 28 hours for non-rechargeable. 15 hours for re-chargeable |
| Weight | 145 grams (181 grams with batteries installed) |
| Gain Type | Fixed gain |
| Input Type | 0.1 to 10 mV/V |
| Shunt Resistor | Fixed 100 k Ω standard, other shunt resistor values available |
| Typical Broadcast Distance | 3-4 meters, line of sight |
| Channel Sampling Rate | 7 kHz |
| Signal Output | \pm 10 Volt Analog |
| System Resolution | 14 Bit |
| Operating Temperature | -40 $^{\circ}$ C to +60 $^{\circ}$ C (battery temperature limit) |
| Power Requirement | 9 to 36 VDC, 4.5 Watts |
| Total System Delay | <200 μ s |
| RF Channels Available | 16 |

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Rev. A

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