

FORCEBIT SENSOR SOLUTIONS TELBIT



Wireless telemetry system for rotary drives measuring speed, acceleration and angular displacement

TELbit is an **all-in-one system** for monitoring rotating shafts, measuring **speed, acceleration, and angular displacement**. It features 6 configurable channels and supports **strain gauges** and **resistance temperature sensors (Pt1000)** or thermocouples. Each channel has a fixed gain tailored to your application.

Key Benefits:

- **Plug & Play:** Pre-balanced, easy installation with no fixed reference point
- **Wide Compatibility:** Fits various shaft sizes with custom holders
- **Integrated Design:** Battery pack, wireless transmission, and signal conditioning

Why TELbit stands out:

- **Pre-Balanced:** Minimizes risk at high speeds by offering a balanced setup from the start
- **Rechargeable Battery:** USB-C rechargeable for extended use without disassembly
- **Critical Measurements:** Real-time data on strain, torsional vibrations, and temperature for detailed insights into machine performance

TELbit provides a clean, safe, reliable and fast installation.

Ang. displacement accuracy	0.25° for horizontal shafts	Space requirements	35 mm axially, 16 mm radially
Ang. velocity accuracy	< 0.5 RPM	Weight	<35 g @ 32 mm diameter
Ang. acceleration accuracy	< 5 rad/s ²	Operating temperature	-40°C to 60°C
Bandwidth	0 - 4 kHz	Shaft diameter range	25 mm to 200 mm
Sampling rate	from 25 Hz to 4 kHz	RPM	5000 RPM @ d=50 mm
Strain/temperature sampling	12-bit	Autonomy	50 hours @ 4 kHz
Time synchronization	10 μs	Channel gain	default 1000
Data format	.csv or .h5	Charging time	135 min for 75% & 315 min for 100%

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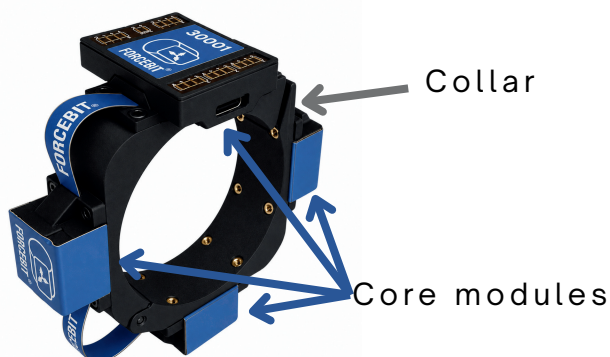
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Sensor modularity

The sensor is available in different versions to cover specific diameter ranges. Within the range, the modules can be re-used and only the collar needs to be re-ordered. For every purchase, additional collars can be bought on request



type	diameter range [mm]
TELbit_2530	25-30
TELbit_3060	30-60
TELbit_6090	60-90
TELbit_90120	90-120
TELbit_120150	120-150
TELbit_150180	150-180
TELbit_180210	180-210

Diameter [mm]	Maximum measurable speed [RPM]	Maximum allowable speed [RPM]
25	6700	9000
30	6200	9000
50	5000	7500
70	4250	6375
90	3750	5625
120	3320	5000
150	3000	4500
180	2750	4125
210	2600	3900

Installation procedure

A TELbit sensor can be easily mounted to the shaft using a single screw without dismantling the shaft. After installation, an automatic calibration procedure can be performed by rotating the system through a speed and acceleration profile that covers the intended operating range.

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