

FORCEBIT SENSOR SOLUTIONS

ACCBIT



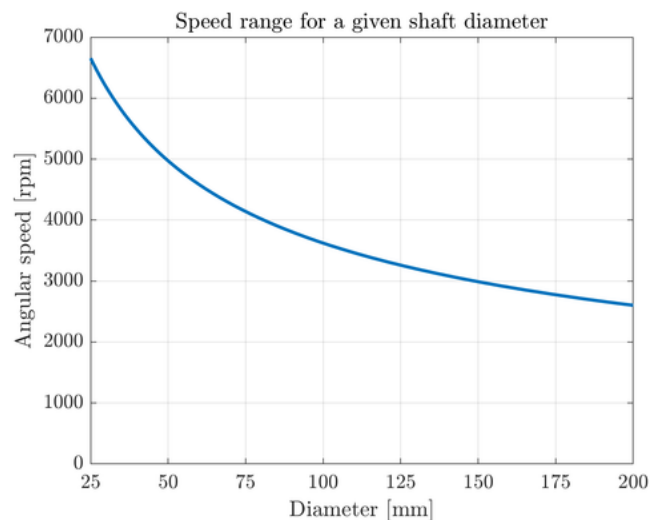
Encoder for rotary drives measuring speed, acceleration and angular displacement

Why Choose the ACCbit Sensor?

The ACCbit sensor outperforms classical encoders by using **MEMS accelerometers** and virtual sensing algorithms. It provides **accurate, real-time measurements** of angular displacement, velocity, and acceleration, eliminating common errors in traditional systems.

It is ideal for **torsional vibration analysis and order tracking**, as it captures data on gravity, centrifugal acceleration, and tangential acceleration to calculate **angle, velocity, and acceleration**. It also detects slipping in belts and sudden load changes, offering valuable machine insights.

With **easy, reference-free** compatibility across **various shaft sizes**, the compact ACCbit ensures optimal performance and reliability, and prevents costly breakdowns.



Choose precision, simplicity, and convenience with our wireless encoders

Ang. displacement accuracy	0.25° for horizontal shafts	Space requirements	18 mm axially, 16 mm radially
Ang. velocity accuracy	< 0.5 RPM	Weight	30 g @ 32 mm diameter
Ang. acceleration accuracy	< 5 rad/s ²	Operating temperature	-40°C to 60°C
Bandwidth	0 - 4.7 kHz	Shaft diameter range	25 mm to 200 mm
Sampling rate	from 25 Hz to 8 kHz	RPM	5000 RPM @ d=50 mm
Time synchronization	10 μs	Autonomy (rechargeable)	56 hours @ 4 kHz
Data format	.csv or .h5	Charging time	135 min for 75% & 315 min for 100%

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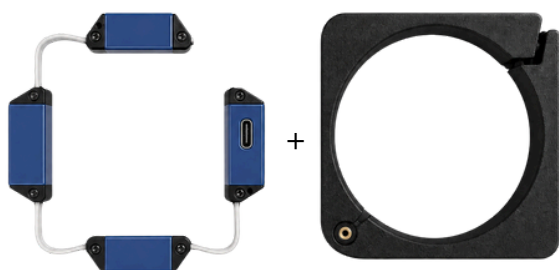
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Sensor modularity

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.



Sensor modules

Collar

Installation procedure

An ACCbit 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.

type	diameter range [mm]
ACCbit_2530	25-30
ACCbit_3060	30-60
ACCbit_6090	60-90
ACCbit_90120	90-120
ACCbit_120150	120-150
ACCbit_150180	150-180
ACCbit_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

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