

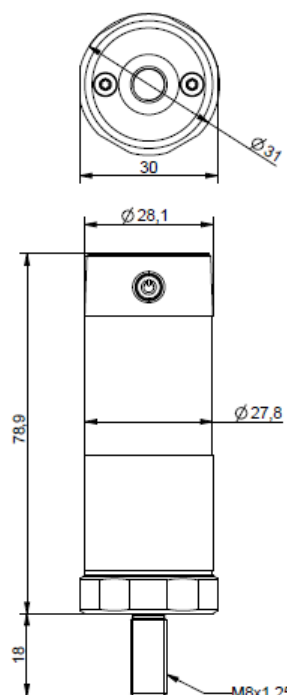
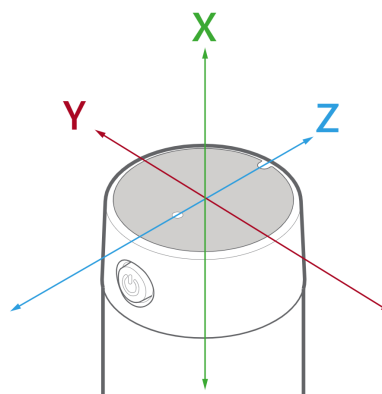
m/s² **INDUSTRIAL NODE**
Vibration & Temperature Sensor

Industrial Nodes operate in a wireless mesh network for easy, cost efficient deployment and continuous monitoring of tens or hundreds of machines.

A wireless condition monitoring sensor that is cost-efficient and easy to deploy. It measures tri-axial vibration and surface temperature of rotating equipment, such as pumps, motors, and compressors. Industrial Node enables identifying abnormal vibrations or high temperatures, which are early signs of machine failure due to component imbalance, misalignment, wear, or improper use of equipment.

FEATURES

- Frequency range up to 1kHz.
- 3-axis accelerometer and temperature sensor.
- Advanced signal processing on the edge calculating key vibration KPIs such as RMS, PEAK, kurtosis, and crest factor - from acceleration and velocity or root-cause analysis through FFTs.
- Battery operated sensor - no wiring needed.
- Wide operating temperature -40°C to +85°C.
- Edge calculation
Choice to process the vibration data already in the Industrial Node, send less data but get the same value.
- Long battery life
Large battery, with an estimated lifetime of up to 6 years, depending on the configuration and operating environment.
- Configurable
Select your own measurement parameters, update intervals and what data to send to make it your own. One size does not fit all.
- Durable
Marked with an IP67 rating, which allows the device to withstand harsh factory conditions.
- Plug & Play
Fast and easy to deploy on a large scale. Mount the sensors, and just press the on button. That's it.





COMMON SPECIFICATIONS

DIMENSIONS	WEIGHT	MOUNTING
78.5 x 28mm	129g	M8 x 1.25 thread
Materials		
Cover material	316ss	
Top cap material	PA	
Environment		
Operating Temperature	-40°C to +85°C	
Storage Temperature	+10°C to +30°C	
IP rating	IP68	

TECHNICAL SPECIFICATIONS

Wireless communication

- 2.4GHz / Wirepas Mesh

Battery

- 3.6V lithium thionyl chloride
- Battery lifetime up to 3 years

Software

- Fully configurable data delivery and integration to major clouds
- Customer cloud application
- Device management

Vibration

- Acceleration measurement on 3-axis Axial, Horizontal and Radial.
- Dynamic range +/- 4G (configurable to 2, 4, 8 or 16)
- Frequency range 10-1000Hz
- Sampling rate 6600Hz
- Resolution 16-bit
- FFT resolution 1Hz/bin

Certifications

- CE, FCC, ISED, BIS (India)

Temperature

- Measurement range -40°C to +150°C
- Resolution 0.1°C
- Accuracy +/- 0.3°C (mounting dependent)
- Repeatability +/- 0.1°C

Key performance indicators

- Velocity: RMS, PEAK, kurtosis
- Acceleration: RMS, PEAK, crest factor

Sample amounts

- Samples per axis 4096

FFT Calculation

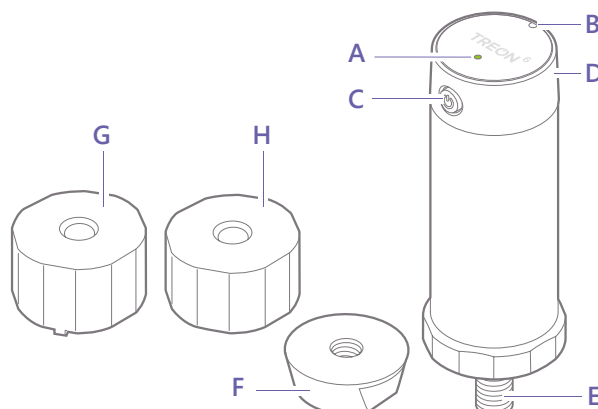
- Sample amount 4096
- Lines of resolution 1000
- Averages 4
- Windowing Hanning
- FFT resolution 1Hz/bin

Software

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PARTS AND KEYS OF THE NODES

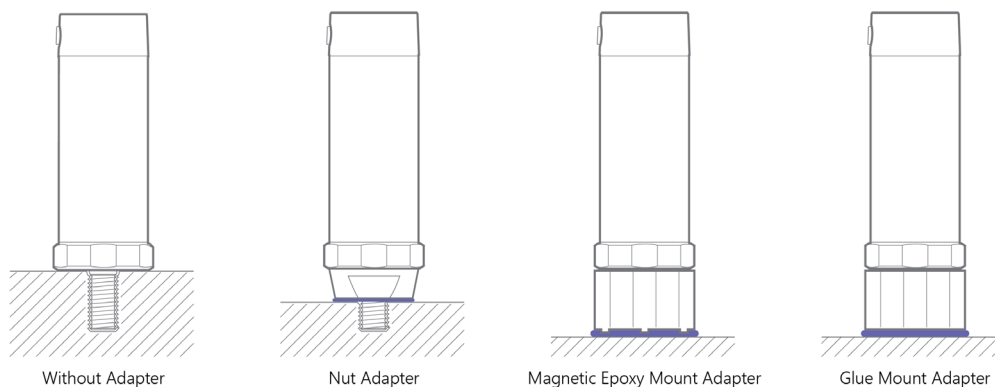
- A. Status light
- B. Orientation notch
- C. Power button
- D. NFC tag
- E. M8 bolt
- F. Nut adapter*
- G. Magnetic epoxy mount adapter*
- H. Glue mount adapter*



* Note that adapters F, G, and H are not included in standard sales box.

MOUNTING OPTIONS

There are four possible installation methods for the nodes: without adapter, with nut adapter, with magnetic adapter and with glue mount adapter. The best place to mount the sensor depends on the machine and the source of vibration being monitored. Ideally, the contact surface on the machine should be completely flat, smooth, and larger than the base of the sensor.



In case you would also like to measure the temperature of the machine, the optimal installation method is without an adapter. Only with this way the measurement point of the Industrial Node or Industrial Node 6 is deep enough below the machine surface to measure the temperature accurately. For detailed information about the different types of installation, please check the quickstart guide.

