

# YR Turbine Wireless Sensor



## CONDITION MONITORING

Vibration issues or elevated turbomachinery bearing temperatures are early indicators of underlying equipment problems. Effective condition monitoring of vibration and bearing temperatures can mean the difference between long-term operation and equipment failure.

Elliott's YR turbine wireless sensor allows rotating equipment operators to monitor conditions using wireless sensors that are mounted directly on each bearing housing. These sensors collect and transmit vibration and temperature data that can be analyzed in real time from a designated personal computer (PC) at the facility. When the data reveals abnormal activity or off-spec operation, equipment operators can determine the root cause and resolve the issue before it becomes more serious or leads to equipment failure.

### Benefits

- Collects accurate bearing housing vibration and temperature data
- Trend data sample rate is programmable
- Provides quick indication of the equipment run state
- Enables data-driven decisions to resolve equipment issues
- Minimizes the risk of downtime
- Easy to install
- Cost-effective solution that can be implemented on a large scale



## WIRELESS DATA COLLECTION

Elliott's YR turbine wireless sensor system is a durable system that is designed to withstand harsh industry environments. The system can be deployed on all Elliott YR turbines, other prime movers, and driven equipment at your facility.

The system includes wireless sensors, Elliott bearing housing adapters, a gateway, and Elliott's monitoring software that can be installed on a PC at your facility. The wireless sensors are easily installed on most rotating equipment bearing housings. The gateway is mounted on the factory floor, near the equipment.

As the machine operates, the sensor collects data and transmits it to the gateway in real time. The data is then securely sent from the gateway to the designated PCs via Wi-Fi or a hardwired Ethernet cable. Multiple sensors can transmit data to the same gateway as long as they are within the appropriate range.



## ■ CONFIGURABLE TO MEET YOUR MONITORING NEEDS

The Elliott YR turbine wireless sensor system can be configured to effectively monitor vibration and temperature based on your specific monitoring needs. You can measure the data on-demand or in timed intervals. There are also pre-configured measurement and calculation settings built into the system for effective data collection. The system has a configurable alarm, a configurable danger level, and capabilities for trending and exporting data.



### *Features*

- ♦ Wireless functionality
- ♦ Accurately measures bearing housing acceleration and temperature
- ♦ Securely transmits vibration and temperature data in real time
- ♦ Highly configurable to meet your specific monitoring needs
- ♦ Designed for simple installation and easy configuration
- ♦ Installation on older Elliott equipment is easily accomplished at site or at Elliott Service Centers
- ♦ Elliott's Engineered Solutions group can work with plant personnel to design the correct adapter for non-Elliott equipment

### *Immediate Issue Resolution*

When you implement the Elliott YR turbine wireless sensor system at your facility, you have the added assurance that plant vibration experts have the data they need to immediately resolve issues before they lead to equipment failure. Contact Elliott today to learn how the YR turbine wireless sensor system can be quickly and easily implemented on all of your facility's turbines.

## ■ TECHNICAL SPECIFICATIONS

### *Temperature*

- ♦ Measurement range -40°C to +100°C
- ♦ Resolution 0.1°C
- ♦ Accuracy +/- 3°C (mounting dependent)
- ♦ Repeatability +/- 0.1°C

### *Vibration*

- ♦ Acceleration measurement on 3 axes
- ♦ Axial, horizontal, and radial
- ♦ Dynamic range +/- 4G
- ♦ Configurable to 2, 4, 8, or 16
- ♦ Frequency range 10 – 1000 Hz
- ♦ Sampling rate 6,600 Hz
- ♦ Resolution 16 bit
- ♦ FFT resolution 1 Hz/bin

### *Hazardous Area Classification - Designed for ATEX*

- ♦ 6-kHz ATEX II 2 G Ex ib IIC T4 Zone 1 & 2
- ♦ -40°C ≤ Ta ≤ +60°C

### *Environment*

- ♦ Operating -40°C to + 85°C
- ♦ Storage 30°C maximum
- ♦ IP67 (dust-tight and resistant to water up to 1m)

### *Dimensions*

- ♦ 78.5 x 28 mm
- ♦ Mounting to M8 thread
- ♦ Weight 129g
- ♦ Cover material 316 SS
- ♦ Top cap material PE HD

### *Wireless communication*

- ♦ 2.4 GHz/Wirepas mesh

### *Battery*

- ♦ 3.6V lithium thionyl chloride
- ♦ Estimated 3- to 5-year battery life (dependent on operating temperature and configuration)



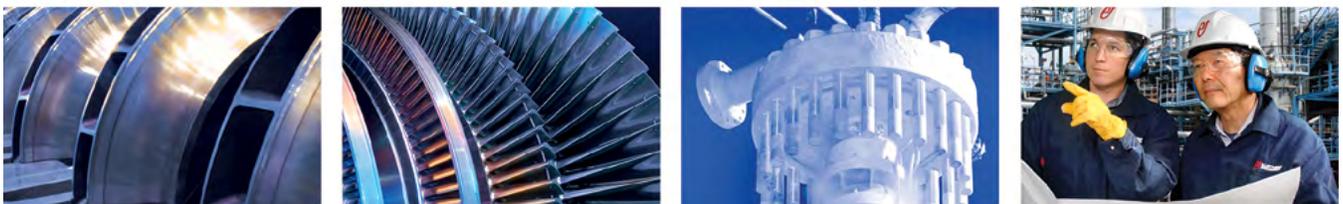
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Elliott Group is a wholly owned subsidiary of Ebara Corporation, a major industrial conglomerate headquartered in Tokyo, Japan.



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T H E W O R L D T U R N S T O E L L I O T T



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