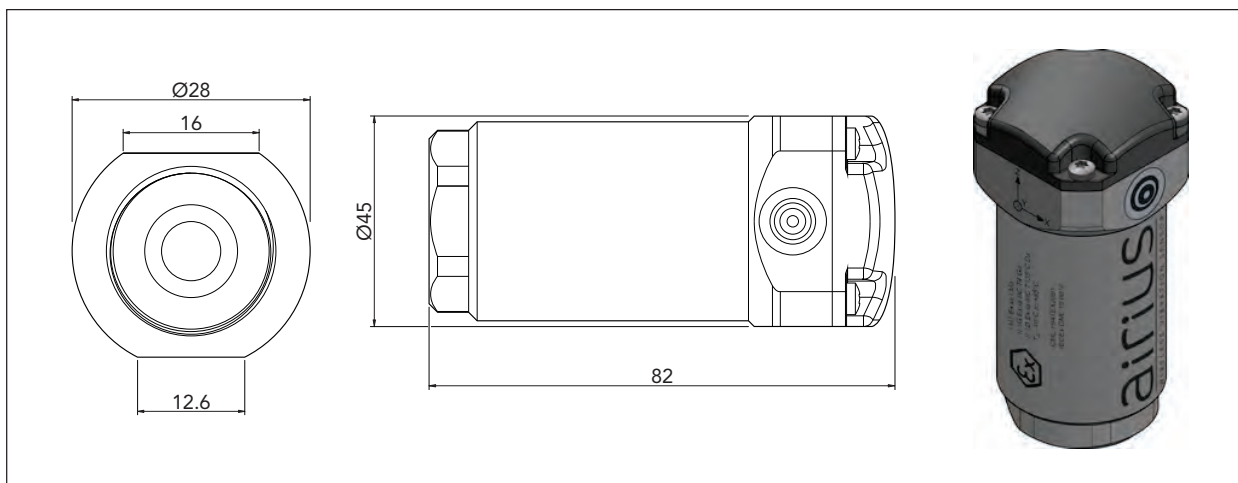# Airius – Wireless vibration sensor, Ex

Airius is a wireless, battery-powered sensor designed for vibration monitoring of industrial machines in areas with potentially explosive atmosphere. It performs a user-defined number of vibration measurements per day in the 10-1000 Hz or the 2-1000/10-5000 Hz frequency range. The MEMS (micro-electro-mechanical-systems) type sensor with digital output measures triaxial vibration and temperature.

The vibration sensor is optimal for use on standard production equipment, such as pumps and fans. Airius provides warning of vibration-related problems, such as imbalance, misalignment, impeller and fan blade issues, resonance, and cavitation, as well as gear and bearing faults. The sensor is ideal wherever wireless transmission of vibration data is practical or a matter of safety, as in inaccessible machines or machines placed in hostile or risky environments.

The favorable choice of battery technology, along with the careful design, ensure four-year battery life at four measurements a day under ideal conditions.

Airius is compatible with both Condmaster.NET, the cloud-based application providing easy access to measurement data through a user-friendly interface, and the analysis and diagnostic software Condmaster Ruby.

The SPM Connect app, downloadable for mobile devices, is used to configure the parameters required to connect to Condmaster Entity Server (CES) or SPM Cloud. Only certified mobile devices are allowed to be used in Ex-hazardous areas. The app allows you to
• search for Airius vibration sensors via Bluetooth
• verify server connection
• set up connection to Wi-Fi and CES/SPM Cloud.

Marking

I M1 Ex ia I Ma
II 1G Ex ia IIC T4 Ga
II 1D Ex ia IIIC T135 °C Da
Ta –40 °C to +85 °C
CML 19ATEX2081
IECEx CML 19.0018

Technical specifications

Approvals/Certificates:	ATEX, IECEX, CE
	FCC, Canadian RSS, China MIIT,
	Japan MIC, Korean CRM, Taiwan NCC
	WiFi Alliance, Bluetooth SIG
Enclosure:	stainless steel body, acid proof;
	plastic cover, ESD protected
Weight:	220 g
Power supply:	replaceable Lithium battery,
	SPM 18425 only
Frequency range:	10-1000 Hz or 2-1000/10-5000 Hz
Readings:	RMS, peak, peak-to-peak, crest,
	kurt, skew, temperature
Spectrum lines:	400, 800, 1600 lines
Measurement range, temperature:	–40° to +85 °C (–40° to +185 °F) (accuracy +/– 2 °C)
Ambient temperature:	
Operational	–20° to +85 °C (–4° to +185 °F)
Ex safety	–40° to +85 °C (–40° to +185 °F)
Storage	–40° to +100 °C (–40° to +212 °F)
Relative humidity:	0 to 100% (non-condensing)
Maximum altitude:	2000 m
Condition evaluation:	ISO10816 Part 2, 3, 4 >600 rpm
Protection class:	IP69
Wi-Fi:	802.11 b/g/n, 2.4 GHz
Wi-Fi Security:	WPA/WPA2 PSK/WPA2 Enterprise (PEAP-MSCHAPv2 and TTLS-MSCHAPv2 without certificates)
Bluetooth:	v4.2 BLE
Glue installation:	Installation foot 18466, glue and activator (Loctite 326 and 7649)
Screw installation:	Installation foot, screw (M4, M6, M8, 1/4" UNF)

Part numbers

AIR01-01-EX Airius Ex sensor, 10-1000 Hz
AIR01-10-EX Airius Ex sensor, 2-1000 Hz and 10-5000 Hz

Accessories

18470 Installation kit (installation foot, M4 screw, M4 washer, M6 screw)
18471 Installation kit (installation foot, M8 screw)
18466 Installation foot, glue installation

Spare parts

18524 Cover kit (cover, gasket, 4xM3 screws)
18425 Battery assembly