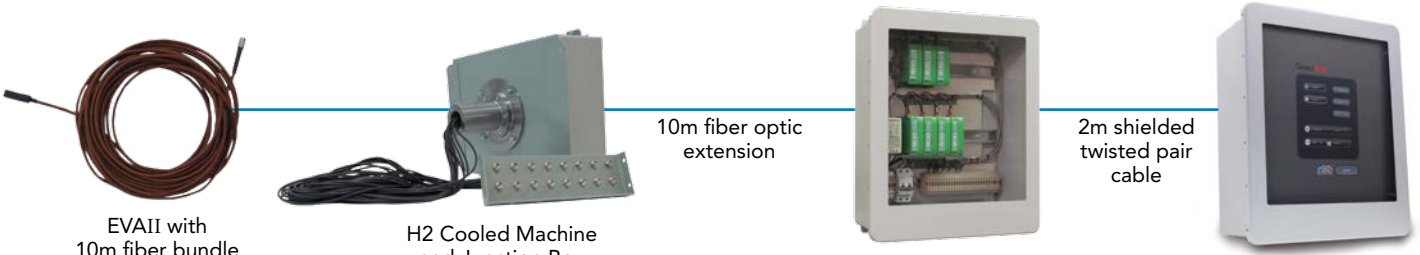
Iris Power Endwinding Vibration Accelerometer (EVAII) Kit for Hydrogen-Cooled Generators

Generator stator endwinding vibration can lead to machine failure if it is not caught at an early stage. Non-metallic accelerometers are required to measure and trend this endwinding vibration. Iris Power supplies reliable endwinding accelerometers based on fiber optic technology. These sensors are permanently installed and can be used with the Iris Power EVTracII™, the GuardII™ monitoring systems or other spectrum analyzers. Sensors can be of the single axis or the dual axis type. Dual axis sensors can simultaneously measure vibration in the radial and tangential directions. The kits are for use with hydrogen-cooled machines.

Each Kit includes EVAII sensors with 10 m of fiber optic cable, a hydrogen-tight generator frame feedthrough, 10m of fiber optic extension cable used between the feedthrough and a box containing electro-optical drivers plus an installation guide. Kits can include one additional single axis type EVAII for installation on the stator core to quantify the effect of core vibration on the endwinding structure. A sensor install kit (with lashing materials and resins) is also included.



FEATURES

- Single or dual axis sensing directions
- Single optical fiber for each sensing axis
- Flexible optical cables
- Dual axis sensor has low cross sensitivity increasing accuracy
- Safe in high voltage and high magnetic fields
- EVAII maximum continuous operation to 200C
- Low sensitivity to cable vibration
- Accelerometer reliability extensively evaluated using accelerated life testing at high temperature and high vibration levels
- Electro-Optical Drivers (EOD) are not part of the feedthrough and are not mounted on the generator frame, ensuring a longer life and easier maintenance
- Optical Fiber from sensor to Electro- Optical Driver ensuring no RF interference
- Electro-Optical Driver test point enables calibration with fine adjust buttons
- Any EVAII sensor can be paired with any EOD
- Calibrated using Back-to-Back comparison per ISO 16063-21
- Standard 100 mV/g electrical output compatible with any standard vibration monitoring instrument

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SENSOR SPECIFICATIONS

Sensitivity:	100 mV/g	
Frequency Range:	5-500 Hz (+/- 0.5 dB)	5-1000 Hz (+/- 1 dB)
Dynamic Range:	0-50 g	
Transverse Sensitivity:	< 4 %	
Residual Noise:	< 1 mV rms	
Operating Temperature:	-50 C to +200 C	
Resolution:	< 0.007 g pk	<0.24 µm pk-pk at 120 Hz
Minimum Cable Bending Radius:		5 cm (2")

ELECTRO OPTICAL DRIVER SPECIFICATIONS:

- Operating Temperature: -20 C to +60 C
- Electro-Optical Drivers are interchangeable with sensors
- 1 per sensor axis
- +12 VDC, 110 mA per driver

HYDROGEN PENETRATION SPECIFICATIONS:

- Multichannel feedthrough consists of 8 or 14 fiber connectors on each side of the penetration
- Embedded in a cured resin providing a unique self reinforcing seal
- Frame hole diameter required is 25.4 mm (1")
- Hydrostatic pressure tested to 400 psi (2800 kPa)

SELECT FROM THE FOLLOWING KITS:

- 6 single axis sensors
- 7 single axis sensors (6 for the endwinding, one for the stator core)
- 13 single axis sensors (12 for the endwinding, one for the stator core)
- 6 dual axis sensors
- 6 dual axis sensors for the endwinding, plus one single axis sensor for the stator core
- 12 dual axis sensors for endwinding, plus one single axis sensor for the stator core
- EVA installation material included with all sensor kits

QUALITROL-IRIS POWER HAS BEEN THE WORLD LEADER IN MOTOR AND GENERATOR WINDING DIAGNOSTICS SINCE 1990, PROVIDING A FULL LINE OF ON-LINE AND OFF-LINE TOOLS, AS WELL AS COMMISSIONING AND CONSULTING SERVICES.

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