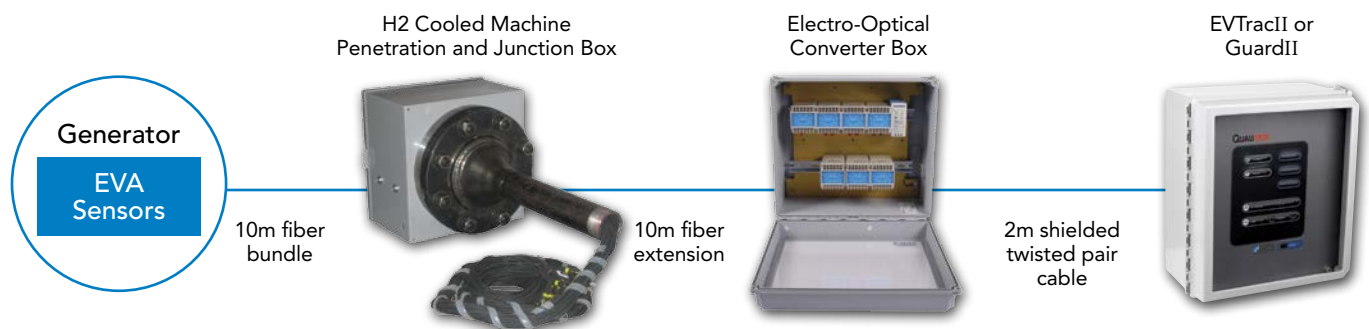


# Iris Power Endwinding Vibration Accelerometer (EVA) Kit for Hydrogen-Cooled Generators

Motor and 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 endwinding accelerometers based on fiber optic technology. These sensors are permanently installed and are used with the Iris Power EVTracII or the GuardII monitoring systems. 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 EVA sensors with 10 m of fiber optic cable, a hydrogen-tight generator frame feedthrough, 10 m of fiber optic extension cable used between the feedthrough and the junction box, a box containing electro-optical electronics plus an installation guide. Kits include one additional single axis type EVA for installation on the core frame to quantify the effect of core vibration on the endwinding structure. A sensor install kit (with lashing materials and resins) is also included. For vibration monitoring at both ends of the stator, two separate kits should be purchased.



## FEATURES

- Uses Light Modulating MEMs (LMM) technology
- Single (EVA-S) or dual (EVA-D) sensing directions
- Dual axis sensor has low cross sensitivity increasing accuracy
- Safe in high voltage and high magnetic fields
- EVA sensor maximum continuous operation to 135 C
- Very low noise compared to cantilevered-beam style sensors
- Low sensitivity to cable vibration
- Electro-optical components are not part of the feedthrough and are not mounted on the motor or generator frame, ensuring a longer life and easier maintenance
- Fiber from sensor to Electro-Optical Unit ensuring no RF interference
- Electro-Optical Unit test point enables calibration with fine adjust buttons
- Standard 100 mV/g electrical output compatible with any standard vibration monitoring instrument.
- Hydrogen penetration technology in use for over 20 years by Iris Power

# Iris Power Endwinding Vibration Accelerometer (EVA) Kit

## SENSOR SPECIFICATIONS:



Sensitivity:	100mV/g
Frequency:	5-1000 Hz (+/- 3dB)
Dynamic Range:	0-50g
Operating Temperature:	-20C to +135C
Resolution (pk-pk):	<0.1µm at 100 Hz
Resonance Frequency:	>2.5kHz
Minimum Cable Bending Radius:	5cm (2")

## ELECTRO OPTICAL CONVERTER BOX SPECIFICATIONS:



- Nema 4X, 406 mm (16") x 355 mm (14") x 203 mm (8")
- Contains up to 7 electro-optical units that convert optical signals to electrical signals
- Electro-Optical Units are serialized with sensors
- 120/240 VAC, +12 DC, 50/60 Hz, 1 A power required



## HYDROGEN PENETRATION SPECIFICATIONS:

- Consists of up to 29 fibers imbedded in a cured resin
- Multichannel feedthrough
- Fiber optic connectors on each side of the penetration
- Frame hole diameter required is 49 mm (1.9")
- Hydrostatic pressure tested to 400 psi (2800 kPa)
- Operating temperature range 20-120 C
- 254mm (10") x 254mm (10") x 152.4mm (6")
- Contains junction for up to 7 sensor cables to extension cables

## 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

*Iris Power EVTracII and GuardII are trademarks of Qualitrol-Iris Power.*

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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