

# NGFS Electric Field Sensor

## PERFORMANCE

Bandwidth to accurately reproduce harmonics and transients.

## ALL OPTICAL

Passive optics at line potential with complete galvanic isolation between instrumentation and high voltage environment.

## ANALOG & DIGITAL

61850-9-2 digital out with high resolution data recording, PMU and low energy analog outputs.



- Passive optical primary sensor for long term reliability and stability (no electronics at line potential)
- > 100 kHz bandwidth, suitable for high-precision traveling-wave fault location
- Local triggering and recording of high resolution waveforms.
- Visibility for renewables integration at distribution and transmission voltages
- Compact sensor with accessories available for a range of voltages, or for indoor/outdoor installation

The NGFS Electric Field Sensor is a highly flexible tool for adding visibility to voltage related phenomena at critical points on the grid. The NGFS is installed without a ground connection in an open fashion at any voltage. It is highly linear with wide bandwidth. It will reproduce transient events and accurately show harmonics relative to the fundamental. NGFS can be used as temporary investigative tool or installed permanently in conjunction with a voltage transformer as a high-bandwidth measurement solution.

Each system has an advanced electronics package which outputs a scaled representation of the primary voltage including all harmonic detail in digital format. The NGFS accepts an external timing signal and can also act as a voltage PMU or give an analog output as required.

Housing available for convenient use in high voltage environments. Adapter plate enables connection to common industry standard bus and line clamps.

The NGFS is designed for safety, with complete optical isolation between the primary sensor and all secondary equipment.



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910-0007 revD

# NGFS Specifications



## System

Linearity	$\pm 0.2\%$
Rated Frequency	50/60 Hz
Bandwidth (depends on output)	$>100$ kHz

## Primary Sensor

Voltage Range	5 kV to 800 kV
Fiber Optic Cable	All-dielectric connectorized cable
Standard Cable Length	80 feet (24 m)
Max Cable Length	3 miles (5 km)
Weight	8.8 lb (4.0 kg)
Dimensions LxWxH	6x6x6 inches (152x152x152 mm)
Operating Temperature	$-40^{\circ}\text{C}$ to $+50^{\circ}\text{C}$

## Secondary Converter

Power Input	24 V <sub>dc</sub>
Analog Signal Output	$\pm 10$ V <sub>peak</sub>
Digital Output	IEC 61850-9-2
PMU	P Class to 60/s
Timing Input	IEEE 1588 / IEC 61588 PTP or IRIG-B



*L-bracket mounting kit available*



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