

# NGFS Open Voltage Sensor

## PERFORMANCE

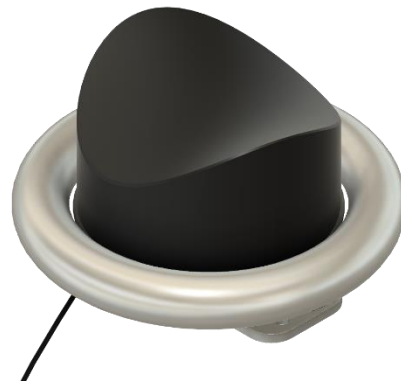
Bandwidth to accurately reproduce harmonics and transients.

## ALL OPTICAL

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

## ANALOG & DIGITAL

Low energy analog output, as well as digital 61850-9-2 and PMU outputs.



- Passive optical primary sensor for long term reliability and stability (no electronics at line potential)
- 100 kHz bandwidth
- Visibility for renewables integration at distribution and transmission voltages
- Optional analog output for ease of interface to legacy instrumentation system
- Compact sensor with accessories available for a range of voltages, or for indoor/outdoor installation

The NGFS Open Voltage 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.



NuGrid Power Corp.

info@nugridpower.com  
www.nugridpower.com

# NGFS Specifications



## System

Linearity	+/- 0.2%
Rated Frequency	50/60 Hz
Bandwidth (depends on output)	>100 kHz

## Primary Sensor

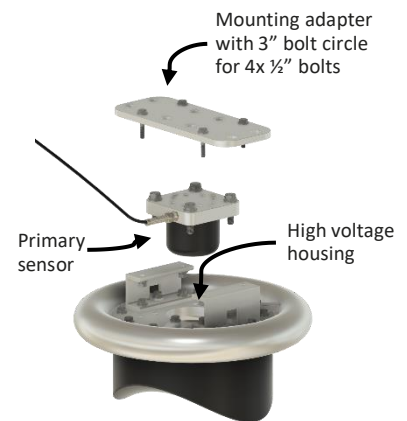
Voltage Range	5 kV to 800 kV
Fiber Optic Cable	All-dielectric connectorized cable
Standard Cable Length	80 feet (24 m)
Max Cable Length	3 miles (5 km)
Weight	1 lb (0.5 kg)
Dimensions LxWxH	4x4x3 inches (102x102x76 mm)
Operating Temperature	-40°C to +60°C



Sensor scales for medium voltage to EHV, with all-dielectric versions available.

## Housing for Use >100 kV

Weight	20 lb (9 kg)
Height	8.4 inches (212 mm)
Diameter	13.4 inches (341 mm)



Sensor can mount inside housing for higher voltage or harsher environment use.

## Secondary Converter

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



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info@nugridpower.com  
www.nugridpower.com

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