

Ultra-High Voltage Sensor Optical Means of High Reliability

SM, PM, MM



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Based on a patent-pending optical sensor design, the High Voltage Sensing System (HVSS) offers a reliable, safe, and precise method for measuring ultra-high voltages. The sensor is a fully passive device, interrogated via a single optical fiber, making it inherently immune to damage in high-voltage environments. Designed for direct mounting onto high-voltage conductor lines, the HVSS delivers key advantages: highly accurate voltage measurement independent of temperature variations, zero phase shift, low-noise flat frequency response up to the 20th harmonic, lightweight construction, and cost-effective optical readout.

The standard readout system is a benchtop unit with remote connectivity via USB, RS232, Ethernet, or wireless interfaces, and supports power inputs of 5VDC or 100–240VAC. An optional all-in-one customer unit is available, featuring a cable-mountable sensor with an integrated inductive energy harvester and Bluetooth communication to a nearby transmission unit—eliminating the need for external power or physical connectivity.

Features

- Up To 300kV
- High Accuracy: $\pm 0.5\%$
- Temperature Independent Measurement
- Zero Phase Shift
- Self-Powered
- Bluetooth Data Interface
- Lightweight
- Cost Effective LED System

Specifications

Parameter	Min	Typical	Max	Unit
Measured Voltage		up to 250		kV
Voltage Accuracy		$< \pm 2$		%
Frequency Response	0.05		5	kHz
Phase Shift		0		
Insulation Class		35		kV
Power		Self		
Communication		Bluetooth		
Operating Temperature	-45		65	$^{\circ}\text{C}$
Weight		2		lbs
Conductor Diameter Range	0.25		2	inch



Note: The specifications provided are for general applications with a cost-effective approach. If you need to narrow or expand the tolerance, coverage, limit, or qualifications, please [click this link](#):

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Ordering Information (Part Number)

Prefix	Type	Voltage	1	1	Readout	Conductor Diameter	1
HVSS-	Standard = 300 Special = 000	15kv = 1 25kv = 2 35kv = 3 45kv = 4 60kv = 6 70kv = 7 Special = 0			Benchtop USB = SB Benchtop RS232 = RS Benchtop Ethernet = ET Benchtop Bluetooth = BL Special = 00	0.25 inch = 1 0.45 inch = 2 0.65 inch = 3 0.85 inch = 4 1.05 inch = 5 1.25 inch = 6 1.45 inch = 7 1.65 inch = 8 1.85 inch = 8 2 inch = 9	

Red is special order