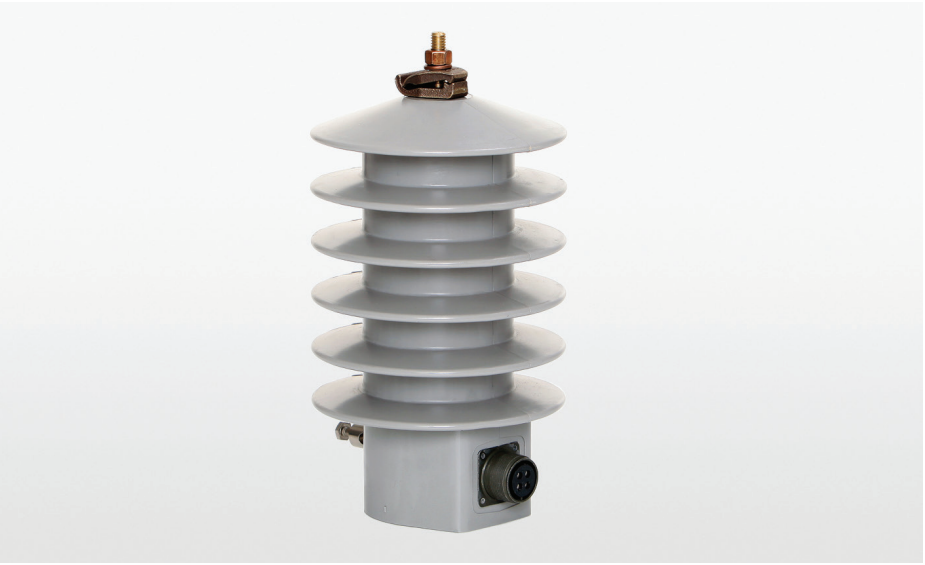
DISTRIBUSENSE® SENSORS

VLS-110

15 kV outdoor voltage sensor



The VLS-110 outdoor voltage sensor is designed to connect with meters, relays, and various controllers for real time data acquisition to achieve grid modernization objectives.

Overview

Today, utilities experience unprecedented challenges associated with power delivery. An aging grid infrastructure coupled with increasing consumer demand, stringent regulations, avoiding peak-time cost penalties, and integrating distributed energy sources are factors utilities must consider to improve power delivery and reliability. More data collection points from feeder locations to substations ensures the grid is optimized to address these challenges.

Voltage sensors are ideal for providing feeder intelligence that drives decision-making for a variety of important grid modernization applications. Utilities benefit from increased reliability and efficiency by decreasing energy costs, protecting revenue, avoiding costly regulatory penalties, and boosting customer satisfaction. Maximizing these benefits requires understanding grid conditions throughout the entire length of the feeder.

Applications

The VLS-110 is designed to connect with meters, relays, and various controllers for real time data acquisition to achieve grid modernization objectives. It can be applied in the following ways to enhance the effectiveness of new or existing distribution automation solutions:

- Sensing at capacitor banks for Volt/VAr optimization through voltage control
- Sensing at reclosers and overhead switches for fault detection, isolation, and restoration schemes
- Feeder sensing at the head and end of the feeder for conservation voltage regulation

To ensure accurate measurement and proper performance, the sensor and IED must be compatible. Due to the wide variety of relays and controllers offered in the market today, contact the factory or your ABB sales representative to ensure sensor compatibility.

Benefits

- Standard ratios provide several outputs for accurate voltage sensing
- Small and lightweight
- Provides accurate, reliable voltage readings at points throughout the grid
- Integrates with a variety of controllers
- HCEP construction ensures long product life
- Constructed with military-grade amphenol connectors to ensure long product life

Construction features

The VLS-110 design implements embedded resistive voltage divider technology. This provides the voltage output directly proportional to the primary line-ground voltage with high linearity and accuracy. Standard distribution voltage ratios are available with a wide voltage range to ensure compatibility with a wide range of controllers.

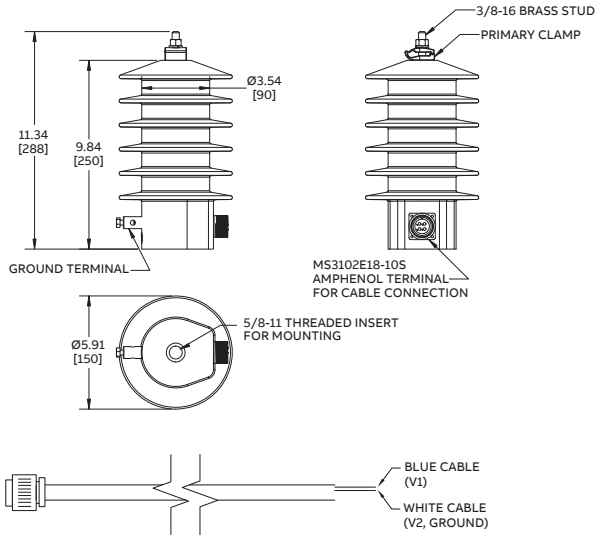
Installation

The VLS-110 is bolt mounted to the crossarm or outdoor apparatus. The voltage clamp at the top of the sensor is connected by tapping to the primary conductor. A built-in connector and secondary shielded cable attach the sensor to the controller. A separate, self-locking screw terminal provides the simple ground connection to the sensor.

Product details	
System voltage class (L-L)	15 kV
BIL	110 kV
Accuracy	<1%
Frequency	60 Hz
Insulating material	Hydrophobic cycloaliphatic epoxy (HCEP)
Load instrument impedance	1 MΩ
Strike	9.7" (246 mm)
Creep	20.3" (515 mm)
Weight	10 lbs. (4.5 kg)
Temperature range	-40°C to 85°C
Power frequency withstand	34 kV
Installation	Crossarm mounted
Standard cable lengths**	16.4' (5 m), 32.8' (10 m), or 49.2' (15 m)

Note: Performance is optimized with cable length provided from the factory. Cutting or using a different cable can impact accuracy. Contact the factory before modifying the cable.

Unit dimensions (inches [mm]) and cable drawing



VLS-110 selection guide				
Primary voltage	**Voltage ratio**	**Voltage Output**	**Cable length**	**Style number**
			5 m	E-923A527G01
			10 m	E-923A526G01
7200	60:1	120	15 m	E-923A523G01
			5 m	E-923A527G02
			10 m	E-923A526G02
7620	63.5:1	120	15 m	E-923A523G02
			5 m	E-923A527G03
			10 m	E-923A526G03
8400	70:1	120	15 m	E-923A523G03

Voltage output is stated at nominal primary voltage.

Available with 3-in-1 cable to connect 3-phase sensors to IED using one cable.

Additional styles available upon request. Contact your ABB sales representative or call +1-252-827-3212 for more information.

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