

Highly Accurate • Lineman Friendly

# GEN2

## Post Insulator Sensors

**Advanced Current & Voltage Sensors  
for Smart Grid Applications**

15 kV to 35 kV



**LINDSEY**

Touching High Voltage Every Day



# GEN2 Post Insulator Sensors

## The Accuracy you need. The Reliability you want.

For over 30 years, Lindsey current and voltage sensing post insulators have been the standard for smart grid applications. Lindsey GEN2 line post sensors incorporate the same high accuracy and reliability of their Polysil® insulation-based forbearers, while adding many subtle improvements to increase their utility.

### New Lineman Friendly Features

- Less than 1/2 the weight of Lindsey Polysil-based sensors.
- Hotstick friendly conductor keeper\* with washer-less bolts accomodates a wide range of conductor sizes.
- Glove friendly cable with bayonet-style water proof connectors that “snap” when closed, eliminating over- and under-tightening.

• \*Patent Pending

### Advanced Performance Characteristics

- 0.5% voltage accuracy, with flat harmonic response, and no phase shift. The high accuracy of GEN2 sensors make them ideal for today’s advanced metering and Volt/VAR-control applications where precise knowledge of feeder voltage is critical for economic success.
- 1% current accuracy with no phase shift.
- Voltage and current accuracy is independent of weather and conductor diameter.
- Safe, low voltage, very low current, outputs.
- Hydrophobic cycloaliphatic epoxy construction provides superior performance in high pollution and wet environments.
- 30% increase in leakage distance.
- Physical construction that meets all the electrical and mechanical requirements of post insulators providing endless installation options.



Figure 1:

New glove friendly cable with bayonet-style water proof connectors that “snap” when closed, eliminating risk of over- and under-tightening. Sealed from the environment, the connectors are waterproof even if left exposed to the elements.

### Safety and Reliability: Hallmarks of Lindsey Post Insulator Sensors

#### >30 Years

Lindsey post insulator sensors have been the industry standard for over 30 years.

#### >10,000 Years

GEN2 sensor reliability is built-in by using the same internal design that has demonstrated a 10,000 year MTBF over the past 30 years.

#### <1mA

Compared to open circuited CTs, the GEN2 output of only 10V and less than 1mA ensures safe handling.

# GEN2 - Post Insulator Sensor

## Specifications

Electrical Ratings			
Catalog Number Sequence	9E650/...	9E660/...	9E670/...
Insulation Class	15 kV	25 kV	35 kV
Impulse (BIL)	110 kV	150 kV	200 kV
Leakage Distance (in./mm)	19.9/505	29.4/747	36.5/927
Dry Arc Distance (in./mm)	8.8/223	11.9/302	15.1/385
Overall Height (in./mm)	12.4/315	15.5/395	18.7/475
Withstand* (60Hz, 1 min.)	34 kV	40 kV	50 kV
Corona (extinction)	11 kV	19 kV	26 kV
Operating Temperature	-40° C to + 65° C		
Conductor Diameter	Two sided keeper accommodates 0.18" - 1.25" (4.6-32mm) diameter		
Construction	Hydrophobic cycloaliphatic epoxy		

**\*NOTE:** Withstand test is not performed on sensors with voltage sensing. Specify 50 Hz or 60 Hz.

**NOTE:** Calibration of current and voltage signals is virtually unaffected by conductor material, size, temperature, armor rod, adjacent phases, line angle or insulator contamination.

Voltage Signal Output	
Ratio	By catalog number
Output Impedance	Calibrated for a 1 MΩ load
Accuracy**	+/- 0.5%
Phase Shift	0 degrees for sensors with ratios of 1400:1 or greater, +/- 2 degrees for lower ratios

Current Signal Output	
Ratio	600A : 10 Volts
Output Burden/Load	Calibrated for 1 MΩ or greater load
Accuracy**	+/- 1%
Phase Shift	0 degrees nominal, +/- 1.5 degrees
Open Circuit Voltage	10V at 600A line current

Mechanical Ratings			
Insulation Class	15 kV	25 kV	35 kV
Cantilever Strength (lbs./kg)	2800/1270	2800/1270	2800/1270
Weight (lbs./kg)	18 / 8.2	20 / 9.1	24 / 10.9
Shipping Weight (lbs./kg)	20 / 9.1	22 / 10.0	26 / 11.8

**\*\*NOTE:** Accuracy guaranteed only when used with Lindsey supplied cables.



**Figure 2:**

GEN2 sensors feature Lindsey's familiar Multicore-style drop-in conductor placement. Once mounted on a cross-arm, pole, etc., the conductor is placed into the groove on top of the sensor (left). No conductor cutting is required.

GEN2 sensors can be installed on energized lines. The low voltage, low current sensor outputs eliminates the risk of high voltages as may found with conventional CT-based sensors.



**Figure 3:**

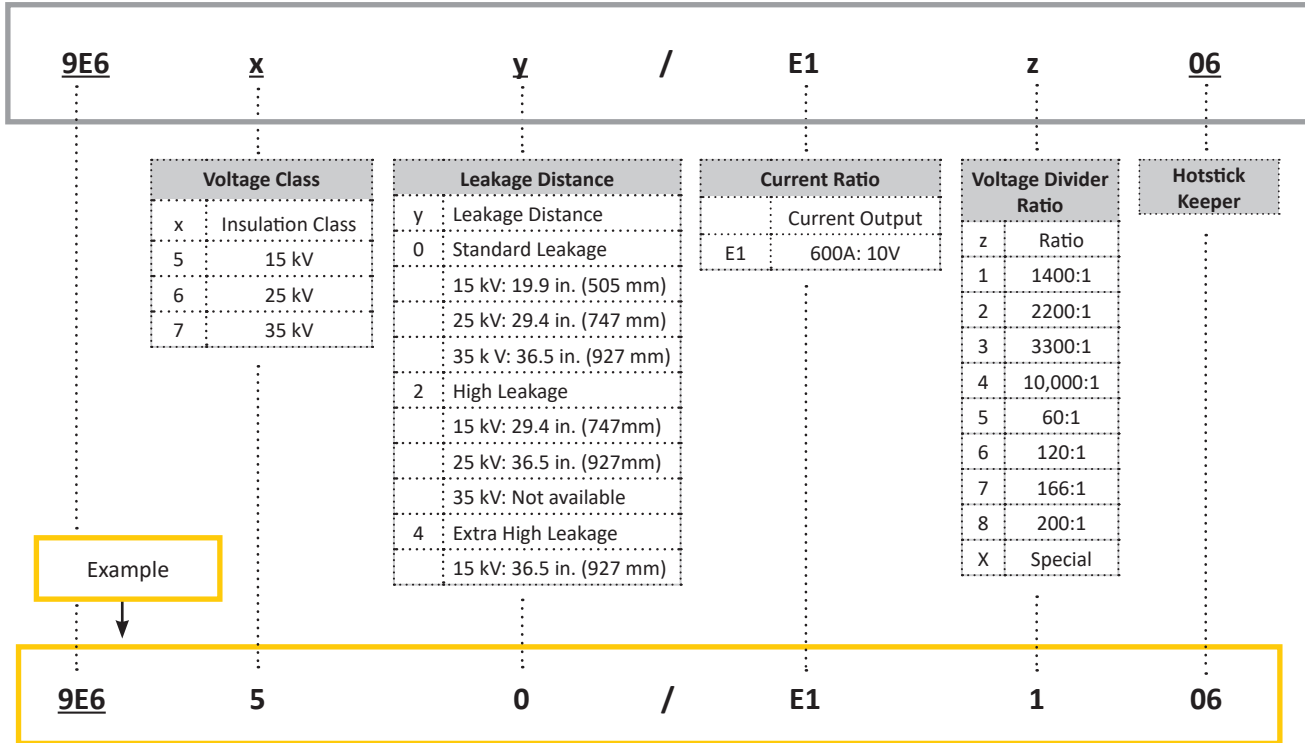
The conductor keeper can be closed by appropriately gloved hand or hotstick using the convenient ring (above).

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# GEN2 - Post Insulator Sensor

## Lindsey GEN2 Ordering Table

Part Number Sequence: 9E6 x y / E1 z 06



### Order Example:

The **9E650/E1106** is a GEN2 sensor, 15 kV class, standard leakage distance, with a 600A:10V current output ratio, and a 1400:1 voltage output ratio. The sensor includes the hotstick keepers. Cable must be ordered separately (See Table 2.)

**Table 1: Accessories for GEN2 Sensors**

Part #	Description
2004	Horizontal mounting base
2040	3/4" x 2 3/16" mounting stud for metal cross-arms
2041	3/4" x 7" mounting stud for wood cross-arms
R-23741	Extra Hotstick keeper set (2 keepers and bolts)

**Table 2: Standard Cables**

Male bayonet connector on sensor side to pigtail on opposite end

Part #	Description
9620/20	20 ft. (6 m) cable
9620/35	35 ft. (10.7 m) cable
9620/50	50 ft. (15.2 m) cable

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