LINDSEY

# Installation Guidelines

## Substation Style Current and Voltage Sensor

| Insulation Class | Current Only P/N | Current & Voltage P/N |
|---|---|---|
| 15kV | 965x/Syz00 | 965x/Syz01 |
| 25kV | 966x/Syz00 | 966x/Syz01 |
| 35kV | 967x/Syz00 | 967x/Syz01 |
| 46kV | 9680/Syz00 | 9680/Syz01 |

### DANGER

The sensor must be solidly grounded to earth before it is energized. Connection to the phase conductor will energize the sensor and will result in high voltage across the output unless grounded. Failure to ground before energizing can result in serious injury or death.

### DANGER

Sensor must be applied within its electrical and mechanical ratings. Application of sensor in excess of its ratings can result in immediate or delayed electrical or mechanical failure. Failure to apply the sensor within its ratings can result in serious injury or death, or in premature failure of the sensor.

### DANGER

Do not drop. While extremely durable, the sensor is cast from a material that can fracture if dropped onto a hard surface. Fractures can result in either catastrophic failure of the sensor upon energization resulting in serious injury or death, or in premature failure of the sensor.

### CAUTION

Sensor must remain in packaging during transportation to installation site. Transportation of the sensor without its protective packaging may result in chips, cracks, or fractures to the sensor body. Physical damage can result in premature failure of the sensor or reduced electrical ratings.

### CAUTION

Both the sensor cable connectors and the cable connector located on the sensor must remain dry and protected from inclement weather. The connectors are weatherproof once joined, but may allow moisture in the cable when the male or female connectors are left exposed to the elements. Moisture in the cable will result in inaccurate measurement readings.

### WARNING

**DO NOT HIPOT**. HIPOT (high potential) testing will thermally damage the resistor assemblies in the sensor causing permanent damage. HIPOT testing voids the sensor's warranty. If a HIPOT test is necessary, contact Lindsey for alternate product intended for HIPOT.

## Specifications:

| ELECTRICAL RATINGS | | | | |
|---|---|---|---|---|
| Catalog Number Sequence | 965x/Syz0... | 966x/Syz0... | 967x/Syz0... | 9680/Syz0... |
| Insulation Class | 15kV | 25kV | 35kV | 46kV |
| Impulse (BIL) | 110kV | 150kV | 200kV | 250kV |
| Leakage Distance | 15.0 in. | 19.3 in. | 28.1 in. | 39.0 in. |
| Dry Arc Distance | 8.3 in. | 10.6 in. | 15.0 in. | 17.1 in |
| Overall Height | 14.1 in. | 16.2 in. | 20.6 in. | 22.5 in. |
| Withstand* (60Hz, 1 min.) | 34kV | 40kV | 50kV | 65kV |
| Corona (extinction) | 11kV | 19kV | 26kV | 33kV |

*Current only sensors

| MECHANICAL RATINGS | | | | |
|---|---|---|---|---|
| Insulation Class | 15kV | 25kV | 35kV | 46kV |
| Cantilever Strength | 2,800 lbs. | 2,800 lbs. | 2,800 lbs. | 2,800 lbs. |
| Weight | 37 lbs. | 45 lbs. | 59 lbs. | 52 lbs. |
| Shipping Weight | 40 lbs. | 48 lbs. | 62 lbs. | 61 lbs. |

## Characteristics:

The Lindsey Tube-Top Style Current and Voltage Monitoring Insulator (CVMI) is designed to be installed on a de-energized line. The conductor passes through the central tube produces current sensing. Clamping of the conductor to the central tube connects to the voltage sensing circuit. No clamping is required for current only sensors. The CVMI can be installed in either a horizontal or vertical line post configuration, depending on the accessory hardware used. Following the instructions below will insure a safe and simple installation.

### Table 1: Accessories for Tube-Top Style Sensor

| PART # | DESCRIPTION |
|---|---|
| 2004 | Horizontal mounting base |
| R-13109SS | Stainless steel U-bolt clamp for use with voltage sensing tube top CVMI |
| 2040 | ¾" x 2 3/16" mounting stud for metal cross-arms |
| 2041 | ¾" x 7" mounting stud for wood cross-arms |

## Installation:

1. Using the sensor catalog number, use the Specifications tables to ensure the sensor is being applied in accordance with its ratings.
2. Pre-assemble the hardware accessories to the insulator. This may include the bottom-mounting stud and/or the horizontal mounting base. See Table 1. The actual hardware will depend on the specific installation.
3. If the CVMI is replacing an existing insulator, raise the conductor away from the insulator using approved utility practices and remove the existing insulator.
4. Mount the Lindsey CVMI with H1 identification labeled on the sensor body (opposite side of connector) closest to the supply or the substation direction.
5. Connect the base of the CVMI to ground.
6. Plug the signal cable from the base of the pole into the connector at the base of the insulator.
7. Pass the bare conductor through the stainless steel tube in the head of the CVMI.
8. If the stainless steel tube of the CVMI is equipped with an optional "U"-bolt clamp, install and tighten the clamp. All normal procedures to minimize contact resistance, such as brushing the conductor and applying anti-corrosion grease, should be used.

   **NOTE:** If the CVMI is a voltage sensing unit the clamp (P/N R-13109SS) must be used to obtain proper sensing.

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