

Hubbell® Line Post Sensors

Part Numbers Covered: PSC8201XXXX

Quick Start Installation Guide

DANGER

The sensor **MUST** be solidly grounded to earth before it is energized. Connection to the phase conductor will energize the sensor and may result in high output voltage (floating) unless grounded properly. Failure to ground before energizing can result in serious injury or death.

DANGER

The 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 the sensor. The sensor is cast from a cycloaliphatic epoxy 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.

WARNING

Sensor must remain in packaging during transportation to installation site. Transporting the sensor without the 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.

ELECTRICAL & MECHANICAL RATINGS

Voltage Class	15kV - PSC82011XXX	27kV - PSC82012XXX	35kV - PSC82014XXX
Max Line to Ground Voltage (kV)	8.66	15.59	20.21
Impulse Rating (BIL) (kV)	110	150	170
Leakage Distance (In)	23.2	35.4	35.4
Dry Arcing Distance (In)	9.7	13.2	13.2
Overall Height (In)	12.3	15.8	15.8
Withstand Rating (kV)	34	40	50
PD Test Voltages (kV)	11	20	27.4
Cantilever Strength (lbs)	2800	2800	2800
Weight (lbs)	17	21	21

Installation Instructions

Hubbell Power Systems Line Post Sensors are designed for 15kV, 27kV and 35kV outdoor pole or structure mounting applications. These sensors are used to measure voltage, current, or both, and provide a low voltage output at $\pm 1\%$ or better accuracy proportional to the primary current and/or voltage being measured. This product is designed to greatly simplify the installation process, by allowing installation without the need to de-energize or cut the main conductor. The design includes a lay-in groove and clamps for optimal positioning the primary conductor for measurement. The sensor is also designed to replace the functionality of in-line vertical or horizontal insulators.

Step 1: Sensor Mounting & Orientation

The sensor is primarily intended for vertical or horizontal tangent conductor mounting and is not intended for use to dead-end the primary conductor. When mounting the sensor, the molded-in "H1" designation on the side of the sensor must be toward the source of power or feeder source for correct signal polarity. If reversed, the current output signal will be 180° out of phase.

The line post sensor can be mounted either on an iron pin or on a metal cross arm or other apparatus surface. The mounting inserts in the bottom of the sensor are all electrically connected internal to the product and must be grounded before energizing.

For surface or equipment mounting, use the four 1/2"-13 3-inch bolt circle pattern inserts excluding the mounting plate.

For pin mounting, attach the base grounding plate using the flat-head socket cap screws. Mount the sensor on the stud using the 3/4"-10 bolt-hole insert. Both mounting options are threaded to accommodate the use of galvanized hardware. Please note that the 3/4" inch stud for mounting must be ordered separately and is not included along with the sensor.

Step 2: Sensor Grounding

The line post sensor **MUST** be grounded before it is energized. The following are 2 different grounding procedures that could be followed to ensure a solid ground connection.

Standard Grounding Method:

1. Position the grounding plate on the base of the sensor and use the 1/2"-13 flat head socket cap screws to tighten the grounding plate to the 3 inch bolt circle inserts on the base.
2. Install the sensor on center pin on the cross arm using a 3/4" stud.
3. The grounding plate contains a slot for accommodating ground wire diameters from 0.102" [2.8] to 0.322" [8.2].
4. Insert the ground wire through the slot and tighten the grounding screw to secure the grounding wire in position.
5. Connect the grounding jumper to a low resistance pole ground.

Alternate Grounding Method:

1. A solid ground connection must be maintained at all times during operation.
2. Position the grounding plate on the base of the sensor and use the 1/2"-13 flat head socket cap screws to tighten the grounding plate to the 3 inch bolt circle inserts on the base.
3. Install sensor on center pin on the cross arm.
4. On the bottom of the cross arm, add two square washers, a double coil lock washer, and a square nut to the stud; loop a No.6 (typical) solid copper ground wire between the washers and tighten the nut.
5. Connect the grounding jumper to a low resistance pole ground.



Step 3: Signal Cable Connection

Connect signal cable to the sensor. Hand-tighten it to 18-20 ft-lb and secure with wood staples to crossarm (or) route inside conduit being careful not to crimp or damage the signal cable. Connect cable to controller.

The signal cables for sensors need to be ordered separately. Please contact your Hubbell representative for ordering information on the cables.



Step 4: Primary Conductor Clamping

The primary "swing style" dual-clamp hardware to hold the conductor in the groove can be found in the hardware kit packed with each sensor. The clamps are reversible and can support different ranges of conductor diameter (954 MCM TO #6 AWG). The clamps are cast in A356-T6 aluminum and each clamp is provided with 2 sets of lock washer and bolts for holding and tightening the main conductor in position. The "swing-style" motion of the clamps provides an easy way to secure the primary conductor in the lay-in saddle. If preferred, armor rod may be used without affecting accuracy. Tighten clamping bolts.

Recommended Bolt Torque – 17-18 ft lb.



Step 5: Installation is complete