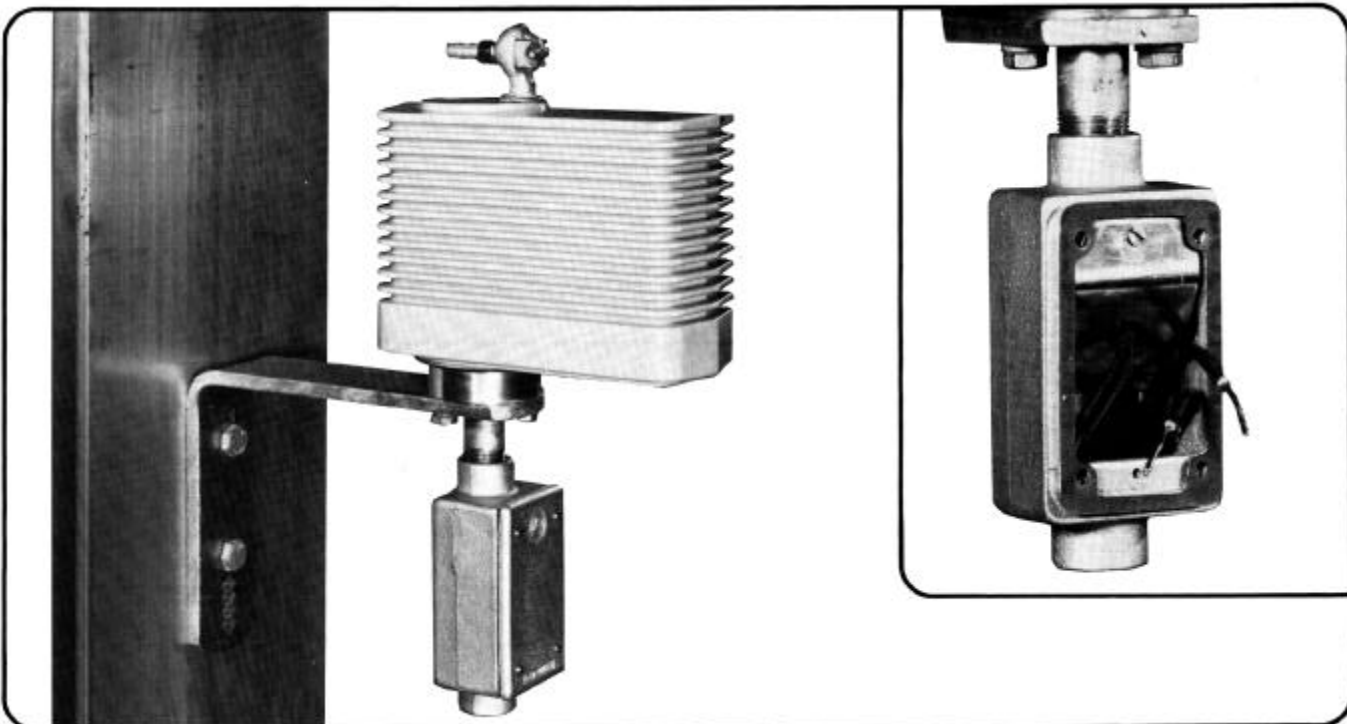


The S&C Outdoor Voltage Sensor is a capacitance-type voltage-monitoring device intended only for neutral-to-ground connection applications on ungrounded wye-connected shunt capacitor banks. It is typically used with the S&C Bankgard™ Relay - Type LUC for protection of small- to medium-sized station-type banks on 60-hertz* systems rated through 34.5 kv.

The outdoor voltage sensor is essentially a Cypoxy™† encapsulated assembly consisting of a high-voltage capacitor series-connected to the primary side of a dry-type transformer. For surge protection, an internal gas-filled spark gap is provided in parallel with the primary winding to limit transient overvoltages at the transformer. A hanger bracket with a backup member and mounting bolts is furnished for clamp mounting to a horizontal structural member - or the

* For 50-hertz applications, refer to the nearest S&C Sales Office.

† Cypoxy is the S&C trademark for S&C's cycloaliphatic epoxy resin system. Cypoxy is self-scouring, nontracking, nonweathering . . . there's never a compromise of insulation integrity.

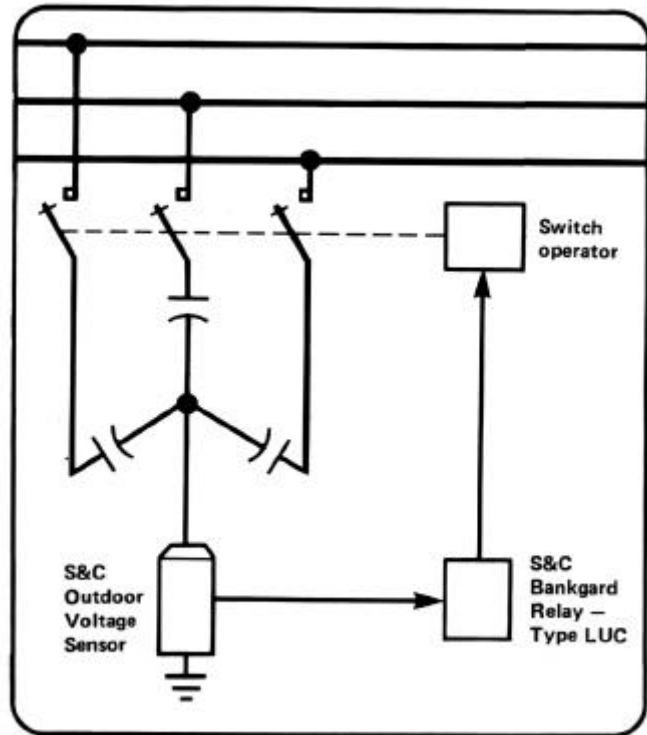


S&C Outdoor Voltage Sensor clamp-mounted on horizontal structural member (top) and bolted directly to a vertical structural member (bottom). Note that, for bolting directly to a structure, the hanger bracket is turned 180 degrees to provide additional electrical clearance. Inset photo shows secondary leads within conduit-junction box.

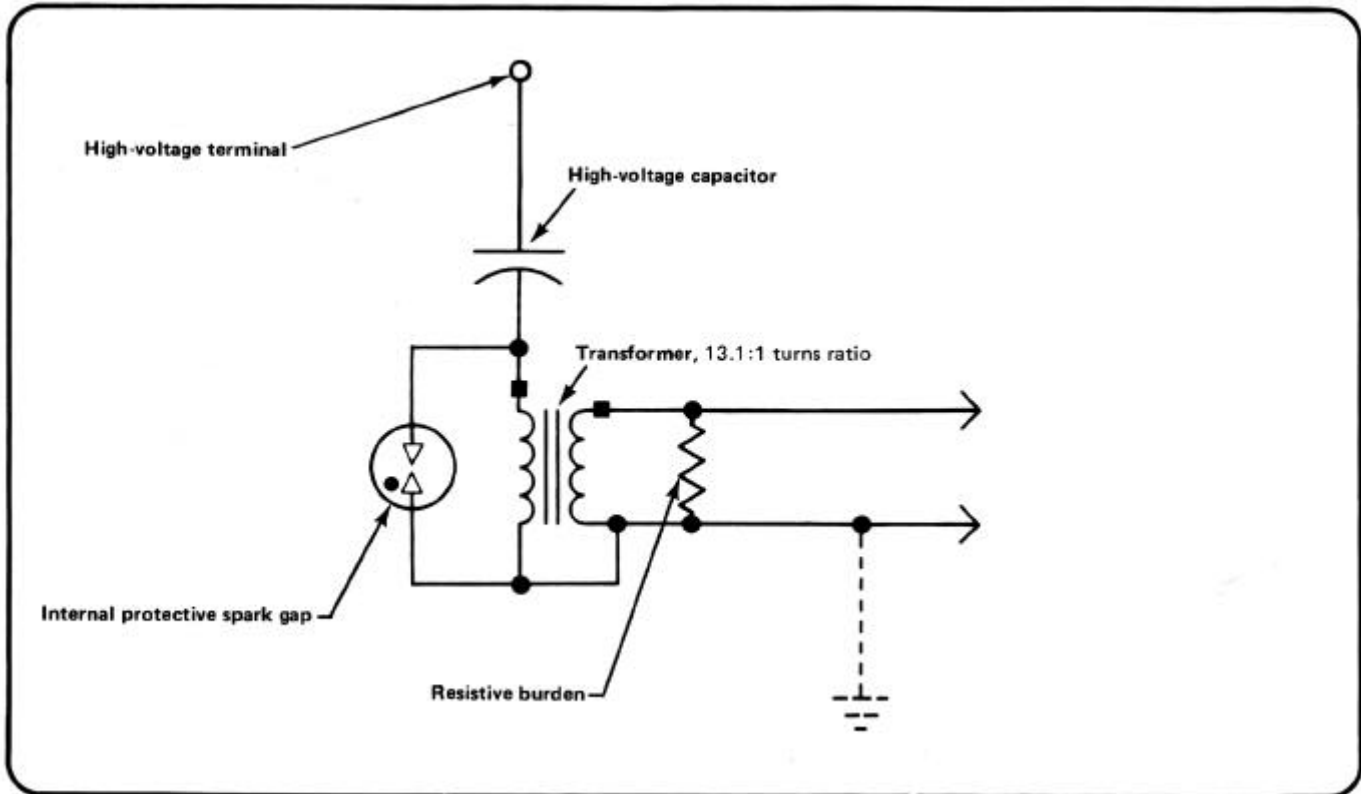
hanger bracket can be attached directly to a structure. An eyebolt connector accommodating conductors from number 6 solid through 250 kc mil stranded copper or aluminum, or 4/0 ACSR, is included for the high-voltage input termination. Secondary leads, stripped for wire-nut interconnection with the protective relay, are provided in the conduit-junction box which is attached to the low-voltage end of the voltage sensor.

The S&C Outdoor Voltage Sensor has relay accuracy over an ambient temperature range of -40°F to $+160^{\circ}\text{F}$. It is a constant-current-output device, like a current transformer, and therefore primary fusing - which is required by a voltage transformer - is eliminated. However, as with a current transformer, a resistive burden is required. This burden is provided by fixed resistors located in the conduit-junction box and factory-connected to the secondary of the outdoor voltage sensor's transformer. The resistance value of the burden selected provides an input-to-output ratio of 130:1 for a 14.4-kv outdoor voltage sensor; 200:1 for a 25-kv outdoor voltage sensor when connected to a high-impedance device such as the S&C Bankgard Relay. Neutral-sensing applications with other solid-state, low-burden devices may be permissible.†

† Refer to the nearest S&C Sales Office.



Application diagram.



Schematic diagram of S&C Outdoor Voltage Sensor.

