

# Outdoor Mounted Slip-Over Bushing Current Transformer

## Offerings:

- **Inner diameter:** 4" [102mm] to 36" [915mm]
- **Outer diameter:** 10" [254mm] to 46" [1168mm]
- **Primary currents:** 25 – 8,000 Amps
- **Secondary current:** 1 & 5 Amps typ, others avail.
- **Frequency:** 50 and 60 Hz
- **Rating Factors:** Up to 5.0 @ 30°C Ambient.
- **Relaying class:** Up to C800 / 5P20-200VA standard, up to C1200 and higher as non-standard.
- **Metering class:** 0.15S thru 2.4 / 0.2S thru 5.0
- **Burdens:** B0.1 thru B1.8 / 2.5 – 45 VA
- Available in a variety of winding arrangement, Single Ratio (SR), Dual Ratio (DR) or Multi Ratio (MR).
- **NOTE:** Sizes and accuracy class depend on current ratio.

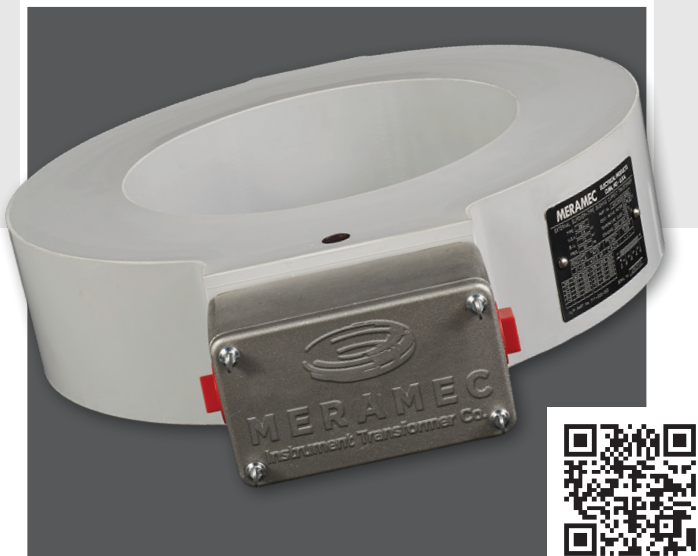
**Application:** The outdoor mounted slip-over BCT is self contained and designed to be mounted externally over the high voltage terminal bushing of power transformers, power circuit breakers and cable terminators (potheads). In most cases the slip-over BCT, with its ease of installation, is a reliable and economical solution when upgrading system protection and adding additional metering points. When properly installed, the slip-over BCT can be used on higher system voltage levels while maintaining its own mere 600 Volt class rating. Its simple construction provides a low leakage product with virtually unlimited short circuit capabilities, far surpassing its stand alone wound-type counterpart.

**Construction:** The toroidal core is continuously tape wound using cold rolled grain oriented electrical grade silicon steel, which receives a full stress relief anneal after it is wound to its specified dimensions. The secondary winding is then wound of insulated copper magnet wire over the insulated core with the turns equally spaced around the core periphery. When taps are pulled, they are wound in a manner that assures a fully distributed winding between any connections. The coil is then fully encapsulated in an ANSI 70 (sky grey) resin system that has been developed and tested for outdoor use. The potting compound is U.V. stabilized, is flexible to allow for expansions caused by temperature variations from -50°C to +65°C, has good chemical resistance, high dielectric strength, rugged physical properties to endure mechanical shock, and overall excellent weather resistance.

**Connections:** The primary polarity H1/P1 is identified on its surface by an embossed white dot. The secondary terminals are ¼-20 silicone bronze studs provided with hex nuts and cupped washers. Terminal identification is permanently embossed with dual designations "X" and "S" for compatibility in the global market. The X1/S1 terminal represents the

## Options:

- Dual-core configurations may be possible, same ratings or mixed, with 3kV isolation between coils.
- Other conduit openings are available - threaded up to 1.5" NPT or non-threaded holes up to 52mm.
- Designs can be engineered to match existing CT characteristics.
- Gapped cores for remanence control and transient response.
- Air core linear couplers.



instantaneous polarity reference with respect to H1/P1 and is identified by a white dot. A cast aluminum conduit box with (2) 1" NPT hubs and blanking plugs is provided with a removable cover. The size of the box allows adequate passing of wires from adjacent phases.

**Nameplate:** An aluminum nameplate with all required information and ratings, along with a serial number and connection diagram, is affixed to each unit.

**Installation:** The SBCT is custom designed to fit over any bushing. It can be supported by mounting clamps with standard 5/8" bolt arm assembly & hardware for vertical adjustment. The placement of the bolts can be configured from either the ID or OD, and attached to the apparatus tank top. The number of clamps required is dependent on physical size and weight of the SBCT. Custom mounting that permits attachment of clamping brackets directly to the bushing flange can also be provided – consult the factory for this option. In addition, a custom fitted ground shield may be installed on the top of the SBCT and secured by the mounting clamps. This is highly recommended to direct any possible flash-over to the ground, thus bypassing the SBCT preventing destruction of the SBCT and connected equipment. Installation instructions are provided.

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**Size Selection:** Each unit is custom designed for its application. In addition to the current ratio, accuracy class and power frequency, some information regarding the equipment must be provided. Since there are countless configurations of equipment in the field, a site survey is recommended to aide with the proper sizing of the SBCT. Often OEM outline drawings do not provide enough detail to determine this. We suggest submitting the original bushing drawing, digital photographs of each terminal and its immediate surroundings, and if possible some field measurements to locate potential obstacles such as conduit runs, oil gauges, manhole covers, lifting lugs, etc. Meramec Engineering will lay out the details using CADD tools that will verify the size and strike clearances. Installation drawings will be provided for all custom mounted installations.

**Handling and Storage:** For domestic shipments, the SBCT is usually palletized with spacers between the units and the pallet to allow for lifting. Ideally they should be lifted using endless slings in a 2-point or 3-point arrangement, lifting by fork lift or overhead hoist, one unit at a time. Caution should be employed while moving to avoid damaging or chipping the insulation, and, any sudden impacts to the unit or the conduit box. The units are outdoor rated so they may be left outside as originally packaged, but they should preferably be stored indoors until ready for use. Pallets should not be stacked.