

Outdoor Mounted Slip-Over BCT Specific Mounting Application

Application: The ESP is a special application version of our outdoor mounted slip-over BCT, developed specifically for the SP/SPS power circuit breaker. This circuit breaker is one of the most popular in its class up to 72kV and has been in existence since 1980 when it was first manufactured. We are offering this self contained model as a solution to add additional Current Transformers (CTs) when originally supplied with only one per pole, to change out older CTs for system upgrades or to replace aged and failing CTs when retiring the breaker is not an option.

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. The ESP is cast with aluminum mounting hubs which are used to transfer the mounting forces away from the potting compound, and are fixed to align with the existing bolt pattern.

Connections: The primary polarity H1/P1 is identified on its surface by an embossed colored 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 instantaneous polarity reference with respect to H1/P1 and is identified by an embossed colored dot. A cast aluminum conduit box with (2) 1" NPT hubs and blanking plugs is provided with a removable cover.

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

Installation: The ESP is custom designed to fit over the existing bushing (without removal) directly onto the interrupter frame, or onto an existing CT if present. Due to the angle at which the bushings are oriented, the CTs must be carefully lowered to avoid any damage. Typically, due to the height restriction, only 2 CTs can be mounted per pole. If replacing existing CTs, usually the same hardware can be used. If the new stack height exceeds the existing stack, or if adding an additional CT over an existing CT, then a hardware kit will be required. In some instances a 3rd CT may be installed provided the stack height does not exceed the bushing flange height. The top most CT of the stack shall be covered with a custom fitted ground shield.



Handling and Storage: For domestic shipments the ESP is usually palletized with spacers between 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 preferably should be stored indoors until ready for use. Pallets should not be stacked.

Size Selection: The ESP has been designed for a specific mounting arrangement. A standard selection of ratio and accuracy class is shown in the table on the reverse side of this bulletin, with a limited cross-reference to existing Siemens CT part numbers. The list is not complete, nor is it limited to only those shown.

Options:

- Other ratios and accuracies available
- Can be designed to IEC and CSA standards
- Can be designed for 50Hz power frequencies
- Conduit box can be supplied with hub sizes up to 1.5" NPT
- In some cases dual-core units may be possible

To learn more about these options, please consult factory with your requirements.

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CURRENT RATIO	ACCURACY @ 60 Hz	R.F. @ 300C	FIN. HT inches	WEIGHT lbs	MERAMEC PART NO.	EQUIVALENT TO SIEMENS PART NO. **		
						2D51888	72-280-480-	72-281-589-
600:5 MR	C100	3.0	4.00 *	75	M6015100M1018SP	H10		
	C200		4.00	100	M6015200M1018SP	H64	051, 095	012
	C400 / 0.3B1.8		6.00	175	M6015409M1018SP			
1200:5 MR	C200 / 0.3B1.8		3.75	80	M1225209M1018SP	H07		057
	C400 / 0.3B1.8		4.25	110	M1225409M1018SP	H01, H63, H68	050	001, 035
	C800 / 0.3B1.8		6.00	180	M1225809M1018SP	H81	014, 039	005
2000:5 MR	C400 / 0.3B1.8		3.75	90	M2025409M1018SP			
	C800 / 0.3B1.8		5.50	140	M2025809M1018SP	H05, H69, H72	033	003, 007, 084
	C1200 (C800 @ 1200:5)		6.00	185	M2025129M1018SP			048
3000:5 MR	C400 / 0.3B1.8	2.0	3.75 *	65	M3025409M1018SP			053
	C800 / 0.3B1.8		4.50	115	M3025809M1018SP	H11	066	
	C1200 (C800 @ 2000:5)		5.75	145	M3025129M1018SP			004
4000:5 MR	C800 / 0.3B1.8		4.00	95	M4025809M1018SP	H61, H73		023

* UNIT HAS 12" I.D.

** PARTIAL CROSS-REFERENCE LIST, CONSULT FACTORY FOR OTHER RATINGS

Application Note: The maximum CT stack height is based on the physical distance from the live portion at the top of the bushing to the closest ground plane, which may either be the bushing flange or CT ground shield, whichever is higher. There is adequate air space to satisfy Table 3 of IEEE Standard 1427 – IEEE Guide for Recommended Electrical Clearances and Insulation Levels in Air Insulated Electrical Power Substations, for 350kV BIL and lower.

