

Instruction Bulletin

CSH120 and CSH200 Zero Sequence Current Transformers (CTs)

Install Sheet

Retain for future use.

Function

The specifically designed CSH120 and CSH200 zero sequence current transformers (CTs) measure direct residual current (I_r). The only difference between them is the diameter. Due to their low voltage insulation, they are used only on fully insulated cables.

Characteristics

Figure 1: CSH120 and CSH200 Zero Sequence CTs



	CSH120	CSH200
Inner diameter	4.7 in (120 mm)	7.9 in (200 mm)
Weight	1.32 lb (0.6 kg)	3.09 lb (1.4 kg)
Accuracy	±5% at 68°F (20°C)	
	±6% max. from -13°F to +158°F (-25°C to 70°C)	
Transformation ratio	1/470	
Maximum permissible current	20 kA - 1 s	
Operating temperature	-13°F to +158°F (-25°C to +70°C)	
Storage temperature	-40°F to +185°F (-40°C to +85°C)	

Figure 2: CSH Dimensions

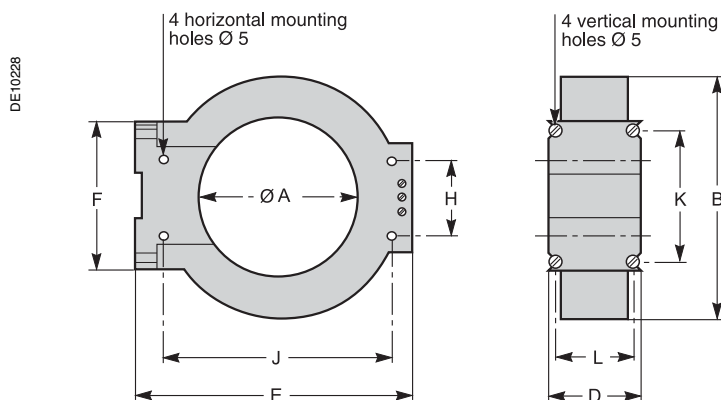


Table 1: Dimensions for CSH120 and CSH200

Dimensions	A	B	D	E	F	H	J	K	L
CSH120 (in)	4.75	6.46	1.73	7.48	2.99	1.57	6.54	2.44	1.38
(mm)	(120)	(164)	(44)	(190)	(76)	(40)	(166)	(62)	(35)
CSH200 (in)	7.87	10.1	1.81	10.8	4.72	2.36	10.1	4.09	1.46
(mm)	(200)	(256)	(46)	(274)	(120)	(60)	(257)	(104)	(37)

Assembly

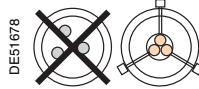
⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

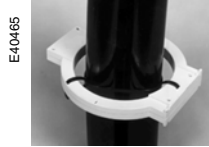
- Only qualified electrical workers should install this equipment. Such work should be performed only after reading this entire set of instructions.
- NEVER work alone.
- Before performing visual inspections, tests, or maintenance on this equipment, disconnect all sources of electric power. Assume that all circuits are live until they have been completely de-energized, tested, and tagged. Pay particular attention to the design of the power system. Consider all sources of power, including the possibility of backfeeding.
- Always use a properly rated voltage sensing device to confirm that all power is off.
- Only CSH120, CSH200, and CSH280 zero sequence CTs are used for direct residual current measurement. Other residual current sensors require the use of an intermediate device, CSH30, ACE990 or CCA634.
- Install the zero sequence CTs on insulated cables.
- Cables with a rated voltage of more than 1000 V must also have a grounded shielding.

Failure to follow these instructions will result in death or serious injury.

1. Group the MV cable(s) in the middle of the zero sequence CT.



2. Use non-conductive binding to hold the cables.
3. Insert the three medium voltage cable shielded grounding cables through the zero sequence CT.



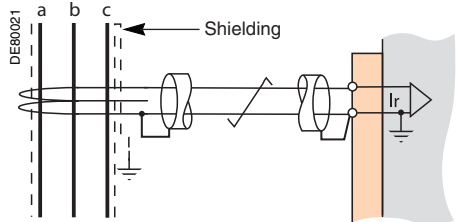
Assembly on MV cables

CAUTION

HAZARD OF NON-OPERATION

Do not connect the secondary circuit of the CSH zero sequence CTs to ground. This connection is made in Sepam.

Failure to follow this instruction can cause the Sepam relay to operate incorrectly.



Connecting to Sepam™ Series 20 and Series 40

To Ir input on relay connector (A), terminals 19 and 18 (shielding).

Connecting to Sepam™ Series 80

- To Ir input on relay connector (E), terminals 15 and 14 (shielding)
- To I'r input, on relay connector (E), terminals 18 and 17 (shielding)

CAUTION

ESD SENSITIVE COMPONENTS

- Before touching the Memory Cartridge you must ground yourself and discharge any static charge
- Ground yourself every time before touching the memory cartridge

Failure to follow this instruction can result in equipment damage.

Recommended Cable	
Sheathed cable, shielded by tinned copper braid	
Cable cross-section	
Minimum	AWG 18 (0.93 mm ²)
Maximum	AWG 12 (2.5 mm ²)
Resistance per unit length	less than 100 mΩ/m (30.5 mΩ/ft)
Minimum dielectric strength	1000 V (700 Vrms)

1. Connect the cable shielding in the shortest manner possible to Sepam.
2. Flatten the connection cable against the metal frames of the cubicle.
3. The maximum resistance of the Sepam connection wiring must not exceed 4 Ω (66 ft maximum for 30.5 mΩ/ft or 20 m maximum for 100 mΩ/m).
4. The connection cable shielding is grounded in Sepam. Do not ground the cable by any other means.

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Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

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