

TB 358 – Cable screens passing through current transformers in Distribution Ring Main Units

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Background

Through fault indication maloperations have occurred due to cable screens being incorrectly terminated after passing through a current transformer (CT) resulting in incorrect phase current measurement during fault conditions. Maloperations of this type occur when the cable screens are not taken back through the CT before being terminated to earth. Consequently, the detection:

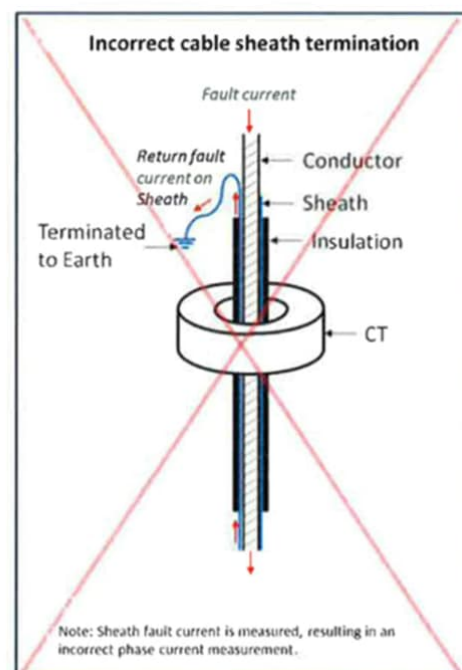
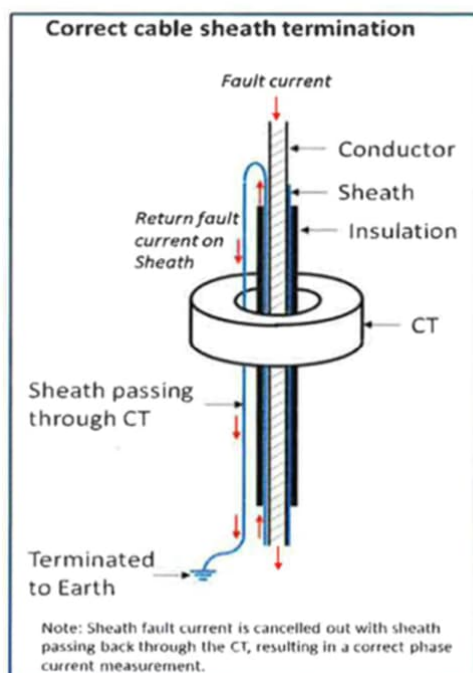
- May not detect an earth fault on the circuit being measured. This occurs because the earth fault current through the cable may fully or partly return via the sheath, and these two currents (phase and sheath) will cancel each other out resulting in a reduction in the net current being measured.
- May operate unintentionally for faults on another item of plant or feeder. This occurs because some of the earth fault current from another fault can return via this cable screen and is incorrectly measured as fault current on the associated ring main unit (RMU) switch.

Since the introduction of automated RMUs in the distribution network, it has come to our attention that some jointers have not passed the cable screens through the CTs in automated RMUs.

Actions

All jointers and installers of distribution RMUs must ensure the cable screens are properly terminated by passing through the CTs in switch units of automated RMUs and in circuit breaker RMUs. The CTs must be mounted concentric and perpendicular to the cables.

Please adhere to the following diagram and photos.



This check will be included in Table L of SDI 120 as part of the pre-commissioning checks of the cable termination but for now District Operators and Regional switchers please inspect CTs in automated RMUs, prior to commissioning the RMU.



Correctly installed CTs in an ABB Safelink



Incorrectly installed CTs in Siemens 8DJH

Implementation

The contents of this Technical Bulletin are applicable to all distribution RMUs. This TB reinforces key messages in TB0297A that are applicable to **all distribution RMUs**. TB0297A focused on 8DJH circuit breakers only.

Impacted Standards

The contents of this technical bulletin will be included in the next update or has been updated:

- TB 0297A (published on 10.11.22)
- SDI 120
- SDI 182 (published on 8.12.23)
- SDI 207
- SDI 210
- SDI 211

Contacts

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