

LOW VOLTAGE TYPE TCE-A SPLIT-CORE RING CURRENT TRANSFORMERS OUTDOOR INSTALLATION

HANDLING, STORAGE, ERECTION, COMMISSIONING AND MAINTENANCE INSTRUCTION

INTRODUCTION

These instructions apply to TCE-A split core ring type low voltage current transformer for outdoor installation. These current transformers are compliant to IEC 61869-2 Standards.

TCE-A is composed by two semi cores:

- **FIXED PART:** the part without secondary terminal
- **MOBILE PART:** the part with secondary terminal box

TCE-A is supplied with the two parts assembled.

RECEIPT OF THE GOODS

On receipt of the goods, carefully verify the packing conditions and after unpacking verify the integrity of the product. If there are damages, a claim must be raised to the forwarder. S.T.E. must be informed as well.

STORAGE

Indoor, in not polluted air and with normal level of humidity. Air temperature must be included between -5°C and +55°C.

INSPECTION BEFORE INSTALLATION

Before installation, transformers should be inspected for physical damage that may have occurred during shipment or handling. Transformers should be dry and the surface of the bushings should be clean.

HANDLING AND MOVING:

Avoid any shocks. Shifting and transport must be done using hoisting belt passed around the body of current transformer.

COMMISSIONING AND INSTALLATION:

The commissioning operations must be done by skilled and qualified technicians, respecting the IEC standards and European safety prescription.

Installation can be done outdoor, ambient air temperature must be included between -25°C and +70°C.



WARNING



WHILE CURRENT TRANSFORMER IS ENERGIZED, ALL SECONDARY TERMINALS MUST BE SHORT CIRCUITED AND GROUNDED OR PROPERLY CONNECTED TO THE CIRCUIT.

DO NOT OPEN THE SECONDARY CIRCUIT WHILE CURRENT TRANSFORMER IS ENERGIZED.

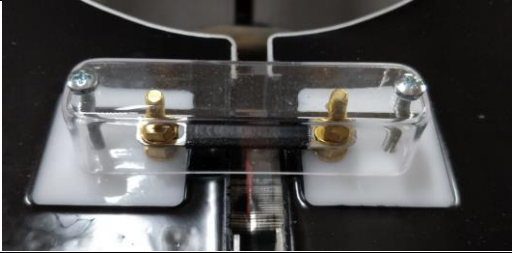

AVOID WORKING WITH OPENED CIRCUIT ON SECONDARY TERMINALS



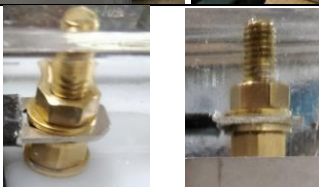


Before putting in operation the current transformer, check the following points:

1. Always consider an instrument transformer as a part of the circuit to which it is connected, and do not touch the leads and terminals or other parts of the transformer unless they are known to be adequately grounded.
2. Always ground the metallic cases, frames, bases, etc., of instrument transformers. The secondaries should be grounded close to the transformers. However, when secondaries of transformers are interconnected, there should be only one grounded point in this circuit to prevent accidental paralleling with system grounding wires.
3. Do not open the secondary circuit of a current transformer while the transformer is energized and do not energize while the secondary circuit is open. Current transformers may develop open-circuit secondary voltages which may be hazardous to personnel or may damage the transformer or equipment connected in the secondary circuit.
4. Identify the product, check the rating plate and terminal markings on the current transformer and properly connect the current transformer.
5. Check that connections were properly performed:
 - a. Secondary terminals are connected to the rated load or that they are short-circuited.
 - b. one secondary terminal is earthed
 - c. all the data indicated in the rating plate (rated primary and secondary current, rated frequency, rated burden, accuracy class) have been respected.


MOUNTING

To mount properly the product:


A	remove the two lateral transparent boxes fixed by M5 screws, if present.	
B	Remove the two connecting plates fixed by M5 bolts, if present.	
C	Fasten the fixed part to the customer's support structure (i.e. angle brackets) using appropriate screws or tie rods	
D	Position the primary cables in the semi circumference of fixed part. It is not necessary that the primary conductors exactly fill the window, but the primary conductors should be centralized.	
E	Check that the two contact surfaces of the two semi cores are perfectly clean. If needed, clean the surface with a soft towel. <u>Debris will increase the magnetic gap, decreasing accuracy.</u>	

<p>F</p> 	<p>Reassembly the mobile part to the fixed part using the appropriate tie rod or screws. <u>Take great care of the alignment of the semi cores surfaces.</u></p>	
<p>G</p>	<p>If present, assembly the two plates by means of M5 bolts using torque of 3Nm. Use the same nuts and washers provided in the same order.</p>	
<p>F</p>	<p>If present, fasten the plastic transparent cover by means of M5 screws.</p>	
<p>H</p> 	<p>Fasten the mobile part to the customer's structure using appropriate screws or tie rods. <u>Pay attention to maintain the perfect alignment of the two parts,</u> and to do not stress and move the contact between the two parts.</p>	

Make sure that the secondary leads are twisted closely together and carried out without passing through the field of the primary conductors. It is not necessary that the primary conductors exactly fill the window, but the primary conductors should be centralized.



WARNING



PRIMARY CABLE MUST BE INSULATED, OR RATED VOLTAGE OF PRIMARY CIRCUIT MUST BE LOWER OR EQUAL TO 0,72KV

POLARITY

When wiring instrument transformer circuits, it is necessary to maintain the correct polarity relationship between the line and the devices connected to the secondaries. For this reason, the relative instantaneous polarity of each winding of a transformer is indicated by a marker.

Where taps are present, all terminals are marked in order. The primary terminals are P1 and P2. The secondary terminals 1S1, 1S2, 1S3, etc. (and 2S1, 2S2, 2S3, etc., if another secondary is used). The marker P1 always indicates the same instantaneous polarity as S1.

When connecting instrument transformers with meters, relays or other devices, refer to the instructions furnished with the device involved.

MAINTENANCE:

Annual check:

- external aspect of the current transformer
- tightening of the screws or the tie rods of the fixing structure
- tightening of the screw of the fixing screws of the two parts
- tighten of terminals and connections
- normal cleaning of the external surface