

CLH 60
Current Instrument Transformer
Assembly instructions

Installation of fixing anchors (supporting feet)

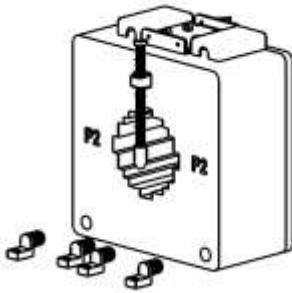


Figure 1: Transformer with the by-pack kit supplied

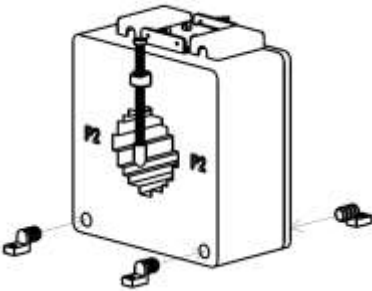


Figure 2: Mounting the anchorage parts

Remove the anchorage parts from the packaging supplied. Then place the parts step-by-step into the bottom holes in the transformer - see Figure 2.

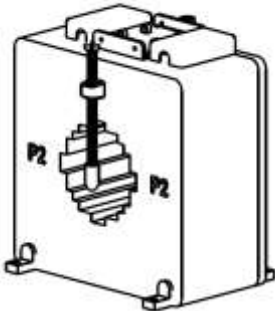


Figure 3: Transformer in a condition prepared for assembly

Transformer made up and prepared for the introduction of primary conductor, or for mounting onto a supporting plate.

Assembly instructions for dismantling the transparent cover of the transformer:

In order to connect the S1 and S2 secondary terminals it is necessary to remove the transparent cover from the transformer.

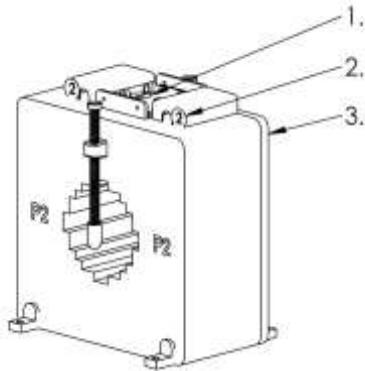


Figure 4: The gripping points

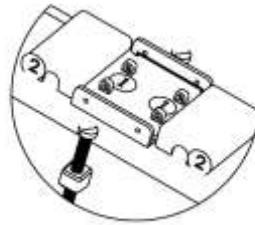


Figure 5: Detailed view of the gripping points 1 and 2

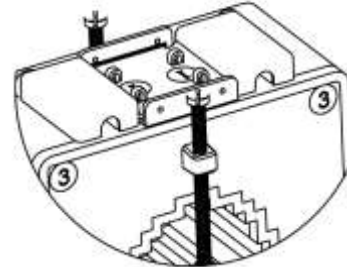


Figure 6: Detailed view of the gripping points 1 and 3

1. Grasp the cover with fingers of your left or right hand, touching the gripping points shown in figures 4 and 6. What finger is to be used is shown in the following table.

Gripping point	Finger
1	index
2	thumb
3	other fingers

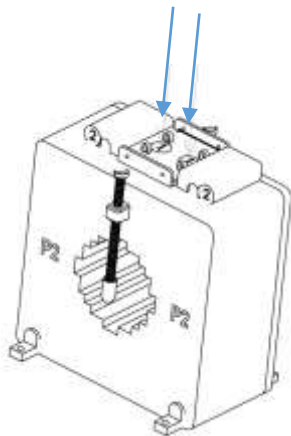


Figure 7: Direction of force acting on the cover at the point specified

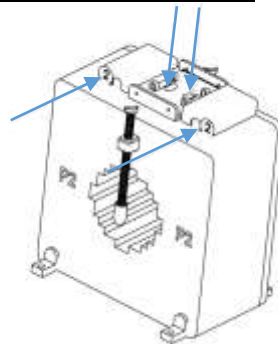


Figure 8: Marking the direction of forces acting in points 1 and 2

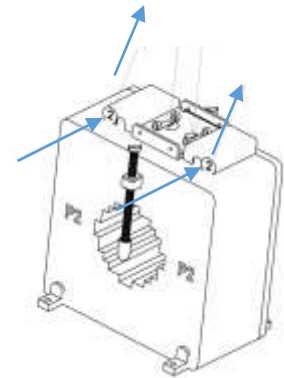


Figure 9: Marking the direction of forces acting on the transformer cover during dismantling

2. Apply pressure to point 1, using fingers - see Figure 7. There will be a sag in the cover and just in that moment start applying force to the point No. 2 as shown in Fig. 8, and at the same time apply another pressure to points 2 in direction shown in Fig. 9. Before a condition shown in Fig. 10 is achieved

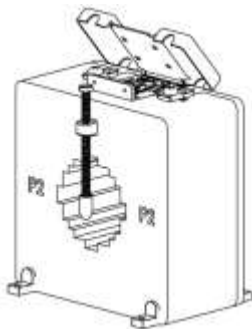


Figure 10: Cover lifted up

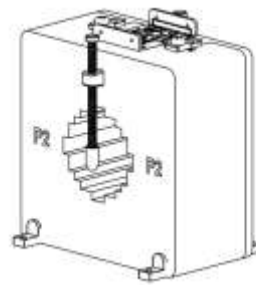


Figure 11: Transformer without cover

3. Remove the cover. At this moment the transformer is ready for the installation of conductors.

Assembly instructions for mounting the primary conductor

1. Screw out the centering bolts along the sides of the transformer - see Fig. 23 to 27. The bolts are to be screwed out as far as creating an opening adequate for free passage of the primary conductor (cable) through the opening.



Figure 22: Transformer with installed anchorage

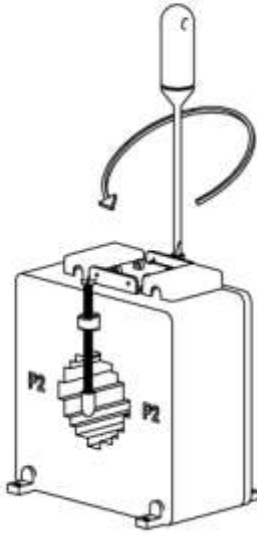


Figure 23: Turning out the centering screw on the P1 side

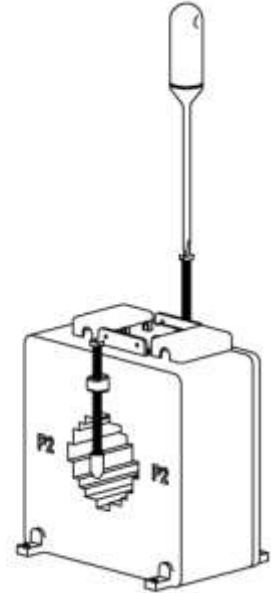


Figure 24: Centering screw completely turned out on the P1 side

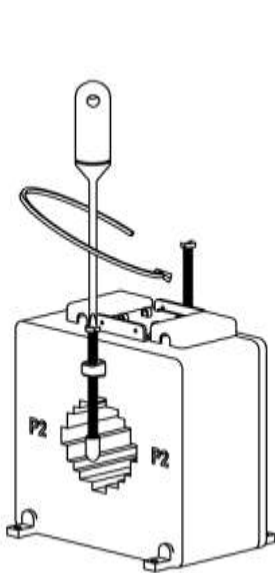


Figure 25: Turning out the centering screw on the P2 side

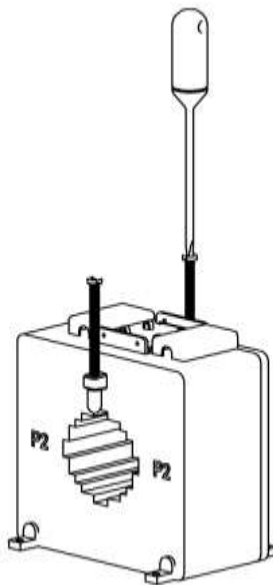


Figure 26: Centering screw completely turned out on the P2 side

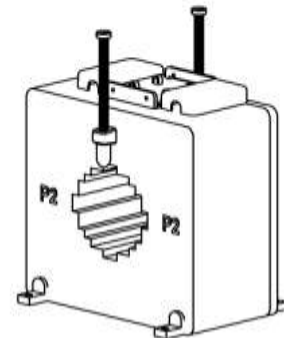


Figure 27: Transformer ready for the installation of primary conductor

2. Pull on the transformer on the primary conductor as shown in Fig. 28. When pulling the transformer on the primary conductor it has to be placed in the same position to each other as it will later on be mounted (with the conductor positioned perpendicular to the transformer).

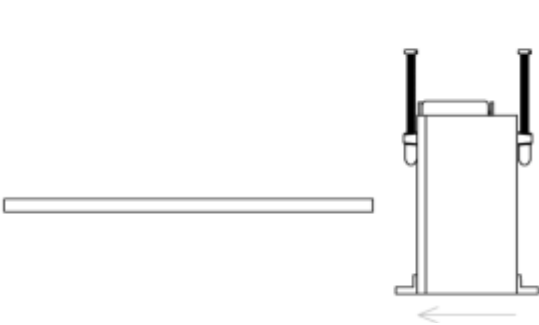


Figure 28: Pulling the transformer on the primary conductor

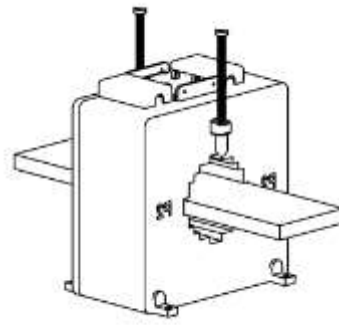


Figure 29: Assembly of transformer with the primary conductor

3. In order to achieve appropriate mechanical rigidity the transformer is fixed to the supporting plate of a switchboard or other structure via anchoring elements, in accordance with the designer's specification. The fixation may be carried out using M5 screws or other type of screws of external diameter not exceeding 4 mm. The use of other screws than those above may result in a deformation of the anchoring element or the transformer, for which the transformer manufacturer cannot be held accountable. The progress of the assembly works is shown in Fig. 30.

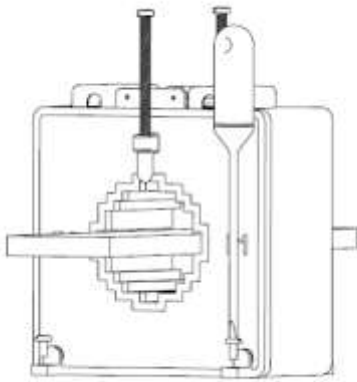


Figure 30: Fixing the transformer to a rest



Figure 31: Correct positioning of the primary conductor and the centering screw

4. The transformer is equipped with centering screws. Proper functioning of these screws requires to have them screwed up with proper torque - see Fig. 32 to 35. The highest torque is **2.5 Nm**. When this limit is exceeded the transformer casing may become irretrievably damaged.

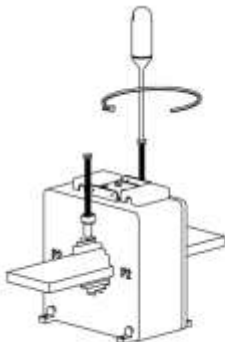


Figure 32: Screwing in the centering screw on the P1 side

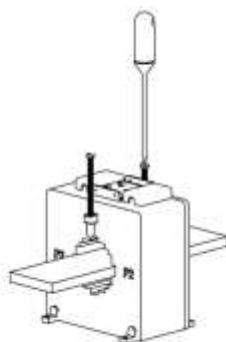


Figure 33: Tightening the centering screw on the P1 side

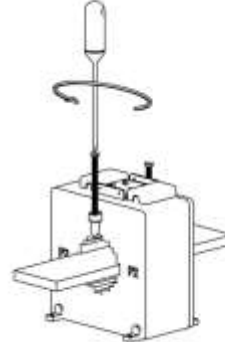


Figure 34: Screwing the centering screw on the P2 side

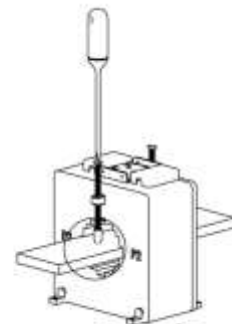


Figure 35: Tightened centering screw on the P2 side

Connecting the transformer secondary terminals

1. Remove the cover from the transformer, following the same procedure as described for dismantling the transformer cover



Figure 36: Transformer without cover



Figure 37: Loosening the S2 terminal

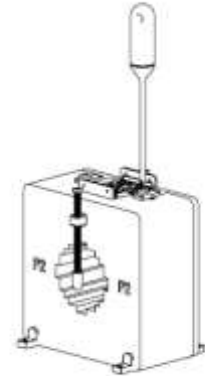


Figure 38: Loosening the S1 terminal

2. Loosening the S1 and S2 terminals - see Fig. 34 and 35

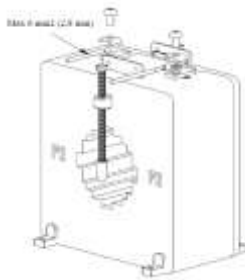


Figure 39: One of possible options of how to establish contact to the secondary terminals of transformer

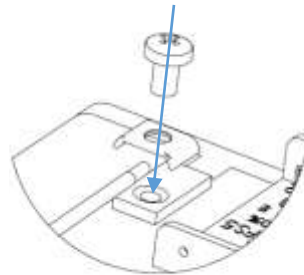


Figure 40: Establishing contact using solid conductor

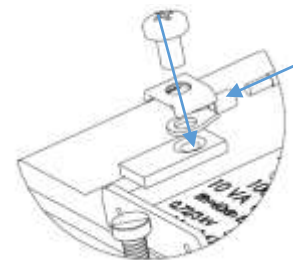


Figure 41: Establishing contact using cable lugs

3. It is recommended to connect the secondary outlets using cable lugs of a size corresponding to the conductor size used. The cross-section of the later should not exceed 10 mm^2 . It is also possible to connect solid wires. The highest allowed diameter of a solid conductor is 2.8 mm (conductor cross-section of 6 mm^2). The transformer is delivered with two M5 screws that are screwed in already into the secondary terminals. After connecting the cable lug the further procedure follows in line with the Fig. 38. The connection of solid wire is shown in Fig. 37.

Highest torque of the secondary terminals: **2.7 Nm**.

Examples of how to connect the secondary terminal board of a current instrument transformer

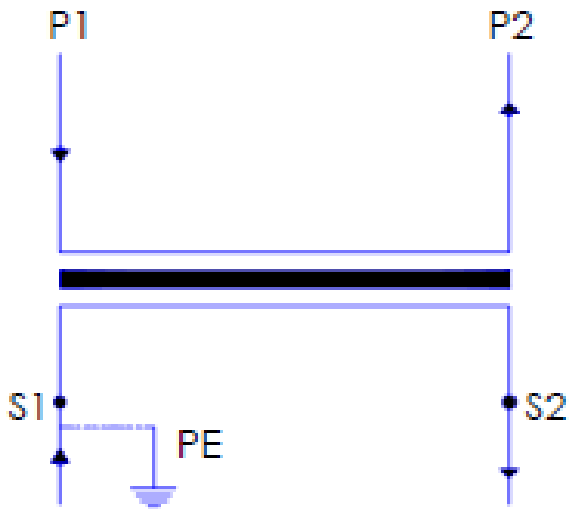


Figure 42: General wiring diagram of current instrument transformers

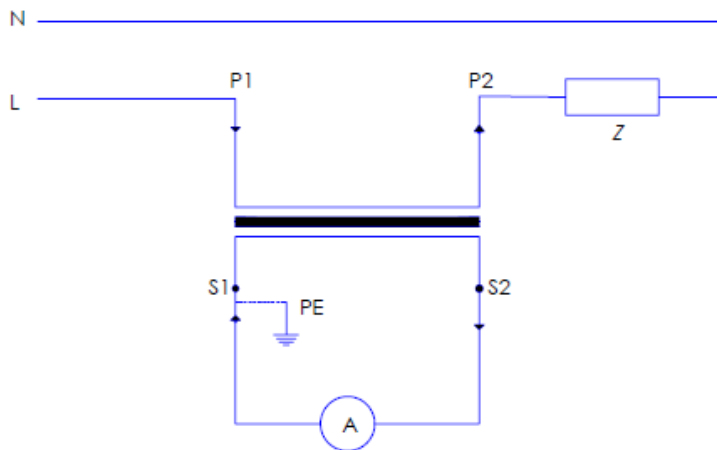


Figure 43 : Example of how to connect an A-meter to the current instrument transformer

Note: the above wiring diagrams should only be used there where no another connection diagram has been recommended for use by the system designer.