

M E L C O N

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Installation and Commissioning Manual for Distribution Transformers

MELCON transformers are designed, manufactured and tested to high standards of practice and are reputed for their quality and reliability in service. The instructions provided in the manual are given for information and guidance. The Company can not accept any responsibility for its scope and for the manner in which they are observed, and for any consequences thereof.

The transformers from our works are despatched completely filled with oil and ready for service.

Following is the check-list for installation and commissioning of our transformers.

1. While unloading the transformers check that it is properly balanced and avoid any damages to its parts.
2. Avoid commissioning in rains, as to avoid moisture absorption by the transformer.
3. Transformers not installed immediately are likely to absorb moisture. Hence it is desirable to erect and commission the transformer with minimum delay.
4. Check, if any damage to the LV/HV Bushings during the transit or installation. It has to be replaced, in case of cracks/breakage.
5. Check for any breakage in the oil level gauge glass.
6. Check whether all the fasteners are tightened.
7. Check for any oil leakages.
9. Plain surfaced platform to hold the transformer should be strong enough to hold its weight and jerk unloading.
9. Where rollers are fitted, suitable rail track should be provided and all wheels should be locked by some masonry block or some locking arrangement to prevent accidental movement of the transformer, while installation and in service.
10. Check whether oil is filled up to the required level by observing oil level gauge and observing the oil physically in the conservator by opening the conservator lid.

11. Check meggar value (IR Value) between winding and between winding to earth if required check oil dielectric strength. Proper earthing should be ensured. Neutral to earth at two separate earth-points. Body to earth at minimum 2 separate earth-points.
12. Check that proper phase sequences are observed $\frac{B - Y - R - N}{2W - 2V - 2U - N}$
13. Check LT cable connecting the transformer to the main bus-bar/main switch, for continuity and IR (megger) value. Set the protective relays to the minimum extent possible.
14. Horizontal type G.O to be preferred.
15. check for proper connection, fitment and working of G.O. and D.O
16. Connection between HV and Lightning arrestor should be checked.
17. Breather is supplied separately with the transformers. Breather pipe is capped till such time the breather is fitted. While commissioning, check the "blue" sillicagel in the breather and fit the breather before commissioning.
18. Setting time of at least 24 hours for oil, Release air form all the points, as the air inside causes un-due pressure built-up, sludge formation in oil and increase in winding temperature.
19. **Transformers are to be energised (charged) without giving any load on LT side (LT side disconnected for at least 24-48 hours)** with the tap changer at normal position. Check whether primary voltages and current are balanced. Also check, if there is any un-due noise, vibrations or temperature rise.
20. if any abnormalities are observed while charging, immediately stop the charging and abnormalities should be corrected. Constant vigil is required while charging the transformer.
21. **After charging the transformer the gradual load should be given on the LT side.**

For further trouble free service and maintenance of the transformer, please refer to the Operation and Maintenance Manual.