

Technical Specification of 3000A Primary Injection Kit

General

The Primary Injection Kit to be used for the injection of high current to the Primary side of the CT as per the guidelines of IEC 60044/IEC 60076. The kit can be in single or two units. The kit should be supplied along with all necessary clamps, cables and accessories required for the complete functioning of the kit.

Technical Requirements

1. The kit should be able to inject up to 3000A or more into the primary side of the fully erected CT or Busbar (height of around 10-12m from the ground) with loading unit (if any) resting at ground level.
3. The kit should be able to inject the current continuously into the test object for at-least 10 to 15 minutes.
4. The kit should be acceptable only if the kit is capable of injecting the desired current (minimum 3000A) into the CT Terminals in fully erected condition with loading unit (if any) resting at ground level.
5. The user should be able to Raise or Lower the Output Current through the UP / DOWN button or similar arrangement available in the control panel of the kit.
6. The fine control of the output current should be done through a rotating knob or similar arrangement available in the control panel of the kit.
7. The injected current into the primary side of the CT should be measured and displayed in the control panel of the kit through LED / LCD display.
8. The resolution of this display should be 1A or less with Current measurement accuracy less than or equal to $\pm 0.5\%$ of reading $\pm 0.5\%$ of range.
9. Current developed in the Secondary Side of the CT as an effect of the injection of the Primary Current should be measured and displayed through LED / LCD display in the Control Unit. Necessary clamps with cables should be provided with the kit.
10. If an inbuilt meter is not provided in the kit, a high accuracy leakage current meter with 0 to 20A range should be provided with the kit.
11. Resolution of the secondary current measurement meter should be 1mA or less with Current measurement less than or equal to $\pm 0.5\%$ of reading $\pm 0.5\%$ of range.
12. Instrument should be with inbuilt timer function.
13. The kit can be a single unit or multiple units (Control Unit, Loading Unit and Cables & Accessories) for easy transportation and handling.
14. Kit should be sturdy, easily portable and modular type for easy transportaion
15. The output current carrying cables should be of atleast 10 metres length.
16. Necessary interconnecting cables along with suitable C-clamps for each cable should be supplied along with the kit.
17. The input power supply cable of minimum 5 m length should be supplied along with the kit.
18. Necessary output copper cable (multiple parallel very flexible copper cables in pairs of minimum 720 sqmm equivalent cross section in total) should be supplied along with the kit to carry the rated current into the CT Primary. The cables should be provided with lugs at both ends. C-clamps of adequate capacity for carrying the rated output test current for output cable connection to be provided along with the kit.

19. The input Power supply cable of the kit should be of at least 5 m in length.
20. The interconnecting cables (in case of two units) should be of minimum 2 m length.
21. The kit should be provided with metallic / plastic robust original enclosure from manufacturer. Locally made enclosure is not acceptable.
22. Kit shall have safety features like input supply fuses, MCBs, Power ON indications etc.
23. The kit should be trolley / wheel mounted for easy transportation.
24. Input Power Supply should be 1phase, 230V $\pm$ 10% AC, 50Hz $\pm$ 5%Hz
25. The operating environment of the kit will be as below:
 - a. Operating Temperature : 0°C to 50°C
 - c. Relative Humidity : Up to 90% (non-condensing)
26. Kit shall be supplied along with all accessories including Copper cable set, clamps, connectors, suitable C-Clamps for carrying rated output current, indication lamps, power supply cables etc. all that is required for carrying out measurement for one unit.
27. Test Cable should be long enough to inject the output current on a fully erected CT (Around 10 to 12 meter from ground level) with loading unit (if any) resting at ground level.
28. Unit shall be duly calibrated before supply and the date of calibration shall not be older than two months from the date of inspection/supply of the kit.
29. Factory Test and Calibration Report (Traceable to NABL / NPL Standards) should be supplied along with the kit.
30. Warranty / Guarantee : 18 months from the date of delivery or 12 months from the date of successful & complete commissioning at end user sub-station, whichever is earlier. All the materials, including accessories, cables etc. are to be covered under warranty / guarantee. If the kit needs to be shifted to supplier's works for repairs within warranty / guarantee period, suppliers will have to bear the cost of repairs, spares and transportation of kit for repair at service center / works.
31. Training : Supplier shall have to ensure that the kit is made user friendly. During the detailed demonstration at site, the supplier shall also have to arrange necessary training to end user engineers free of cost.
32. Successful bidder will have to commission the instrument to the satisfaction of end users. Successful Bidder Has to carry out the demonstration / training at customer's site after supply of the kit as described in the special conditions of contract of this tender.