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30 V battery Charger Specification

SPECIFICATION FOR TRIPPING UNIT cum DC CHARGER FOR 11Kv SUBSTATION

Item Description:

1. Self Contained Battery and Charger Unit 30 V DC.
2. 30 VDC Supply output shall keep 30 V constant during charging of battery.

Type : Industrial Battery Charger.

Ambient Conditions : For Indoor use with natural ventilation under highly corrosive and tropical atmosphere having maximum room temperature of 50 deg C without air-conditioning.

Application/Usage :

1. To be used as a trigger and control supply to 11kV Indoor Switchgear units.

Ratings :

1. The tripping unit output voltage shall be 30 V regulated supply.
2. Battery Ampere hour Capacity=20 Ah(minimum).The Ah capacity shall be proved as per IEC 60623& sizing calculation.
3. Charger Output Current= 10 A.
4. Charger Input : Standard 240V ac 50 Hz 13 A socket outlet.

Enclosure (IP-21 grade):

1. Protective coated sheet steel enclosure with sufficient ventilation suitable for natural air cooling conditions.
2. Should contain the facility for wall or floor mounting.

Technical Notes about battery

1. Nickel-Cadmium rechargeable battery (1.2V each). SMF type 25 nos.
2. Battery capacity test shall be conducted at factory and the test report also shall be attached with each unit.
3. The battery capacity test must be conducted to prove 20 Ah capacity in site load condition.
4. The battery shall fully comply with IEC 60623 unless otherwise stated in this specification.
5. The battery output voltage shall be 30 V regulated supply. And the inner battery wiring shall not be less than 6 sq.mm

6. The battery cell enclosure shall not be damaged during gas formation, climatic temperature variation, overvoltage conditions etc.
7. Easy accessibility of all battery cells (for easy maintenance/ replacement)

Technical Notes about Charger

1. Automatic boost charging facility (with configurable time delay for mains fail) During the time the output/load voltage shall remain 30 V DC.
2. Temperature compensation needed.
3. Output alarms/ indications shall be provided with proper isolation links.
4. All indication on the battery charger shall be LED type and the contact for the battery charger fail for remote monitoring facility shall be time delayed for 5 sec.
5. Test facility for battery charge level.
6. Protection of all components , including input and rectifier bank through properly rated MCB & protective/transparent covers.
7. Current and Voltage indicators (analogue type) shall be provided.
8. Load protection and isolation of battery through properly rated MCB.
9. Battery low/high voltage indications shall be provided.
10. The unit shall have proper ventilation with appropriate size of fan and dust proof ventilation space.
11. The MCB Trip and alarm contacts shall be monitored.
12. Interface for remote monitoring facility should be connected to dedicated terminals .For remote monitoring at least the following signals shall be available through potential free 30 V DC rated contact.
    a. AC MCB trip
    b. DC MCB for switchgear supply trip.
    c. DC MCB for SCADA trip.
    d. Output Voltage low
    e. Battery Voltage high
    f. Battery Charger dead
    g. Battery earth fault
13. Engraved label with all the terminal block connection details shall be provided.
14. PCB used shall be dust proof : If required additional heat sinks are to be provided for the same.

General Information Note:

a. For each 6 number of switchgear panels one battery charger shall be provided.
b. Raw material and technical support shall be readily available in the duration of warranty that is three years from the date of supply.