

MATERIAL SPECIFICATIONS CELL

TECHNICAL SPECIFICATION

OF

PRIMARY CURRENT INJECTION KIT OF 400 AMPS

FOR

MSEDCL NABL LAB

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1. SCOPE

The offered equipment should be able to inject at least 400 A (continuous) current at an open-circuit voltage of at least 6V. The Kit should be able to carry out primary injection testing of Current Transformer. The equipment must incorporate an LCD/ LED display to indicate supply Voltage, % of output Current is to be displayed. If the timer is provided to measure the time interval using NO-NC contacts, these contacts shall be potential free. The equipment should be portable and may be supplied with a trolley for easy transportation.

2. CLIMATIC CONDITIONS

Maximum Ambient Air Temperature	55°C
Minimum Ambient Air Temperature	05°C.
Maximum Relative Humidity	Upto 95% (non-condensing)
Storage Temperature	-20°C to 70°C
Storage Humidity	Upto 95% (non condensing)
Max. Altitude	1000 meter

3. APPLICABLE STANDARDS

- EN 61010-1:2001, 61010-031 CAT III 600V for Safety requirement for electrical equipment for measurement, control & laboratory use
- EN 61326-1:2006 for EMI & EMC requirement for electrical equipment for measurement, control & laboratory use.
- IEC 60529 for Ingress Protection (IP 54 Required).
- CISPR 16-1 and 16-2 for Radiated emission for enclosure
- IEC 61000-4-2 for Electrostatic Discharge (ESD)
- IEC 61000-4-3 RF Electromagnetic Field
- IEC 60068-2-2/IS 9000 Part 3/Sec3 for Dry Heat Test
- IEC 60068-2-78/IS 9000 Part 4 for for Steady State Damp Test
- IEC 60068-2-14/IS 9000 Part 14/Sec 1 for Change of temperature
- IEC 60068-2-6/IS 9000 Part 8 for Vibration test
- IEC 60068-2-29/IS 9000 Part 7/Sec 2 for Bump Test
- IEC 60068-2-27/IS 9000 Part 7/Sec 1 for Mechanical Shock test

4. TECHNICAL REQUIREMENTS

4.01 It should meet the following minimum specifications.

Sl. No.	Features	Technical Details
01.	Applications	CT
02.	Input Supply	1-Ø, 240V AC ± 20% ,50Hz
03.	Output Current (Current	0-400Amps

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	Display on actual Amp range Ammeter)	
05.	Burden capacity in KVA OR Open circuit Voltage At output terminals	Minimum 1.5 kVA
06.	Protections	Kit is well protected by: <ul style="list-style-type: none"> • MCB • HRC fuse to prevent short circuit • Zero interlock protection.
07.	Indications-	Bright LED indicators for input & Output indications
08.	Single / Double Unit-Control & Loading	Single Enclosure
09.	Digital Display Metering	Digital Display Metering(LED Type)
10.	Display Accuracy of current meter	±2 % of full scale reading ± 2 digits
12.	Duty Cycle	Standard : 10 Min ON and 20 Min OFF
14.	Cooling type	Air cooling
15.	Timer Accuracy	+/- 0.05%
16.	Output Current Cable:-	2 x 15 Mtrs
	Multi strand Flexible Copper Cable	120 Sq.mm
17.	Display	3 ½ digits

4.02 Kit should be sturdy, easily portable and modular type and each module weight should not exceed 10 kg for easy handling.

4.03 Necessary interconnecting cables should be supplied along with the kit

4.04 The kit should be provided with metallic / plastic robust enclosure.

4.05 Kit shall be supplied along with all accessories including Copper cable set, clamps, connectors, indication lamps, power supply cable etc. all that is required for carrying out measurement for one unit

4.06 Test Cable should be long enough to inject the output current on a fully erected CT (Around 5 meter from ground level)

4.07 Documentation

Sufficient no. of Operating/Service Manuals shall be provided along with supplied material

4.08 After sales support: The after – sales service support / warranty services has to be provided.

4.09 Technical evaluation: Technical evaluation of offer of the equipment shall be carried out

5. CALIBRATION CERTIFICATE

The calibration of equipment shall be carried out at approved laboratory by National Board of Accreditation of Laboratories (NABL).

The manufacturers calibration certificates for all other equipment under supply with report from NABL approved laboratory shall be submitted for approval of C.E. (Testing & QC) before commencement of supply. Validity of calibration certificate shall be one year.

The equipment shall be type tested for IP 54 degree of protection as per IS: 12063/ IEC 60529 against ingress of dust, moisture & vermin. The type test certificate shall be submitted along with the offer

6. PRE - DESPATCH INSPECTION:

The inspection shall be carried out at the place of manufacturer unless otherwise specially agreed upon by the manufacturer and purchaser at the time of purchases. The manufacturer shall offer to the inspector representing the purchaser all the reasonable facilities, free of charge for inspection and testing, to satisfy him that the material is being supplied in accordance with this specification.

7. NAME PLATE & MARKING:

Equipment shall have name plate clearly visible, effectively secured against removal and indelibly and distinctly marked with all essential particulars as per relevant standards. Following details shall be marked on the Name Plate

Manufacturer's name & address:

Serial no.

Purchase Order No.

Month and Year of manufacture

Name of purchaser: MSEDCL

Guarantee: Five Years

ISI mark if applicable

8. GUARANTEE:

The instrument shall be guaranteed for the period of **Five** years from the date of Dispatch.

9. PACKING:

The instrument shall be suitably packed in order to avoid damage or disturbance during transit or handling. Each instrument may be suitably packed in the first Instance to prevent ingress of moisture and dust and then placed in a cushioned carton of a suitable material to prevent damage due to shocks during transit. The lid of the carton may be suitably sealed. A suitable number of sealed cartons may be packed in a case adequate strength with extra cushioning if considered necessary. The cases may then be properly sealed against accidental opening in

transit. The packing cases may be marked to indicate the fragile nature of the contents.

The following information shall be furnished with the consignment:

- a. Name of consignee.
- b. Details of consignment
- c. Destination
- d. Total Weight of consignment.
- e. Sign showing upper / lower side of the crate.
- f. Sign showing fragility of the material.
- g. Handling and unpacking instructions

10. TRAINING OF ENGINEERS:

The successful supplier shall train Engineers of MSEDCL free of charge at their works for familiarization of design, operation and maintenance of testing equipments.

Details of Guaranteed Technical Particulars of

CT Injection Kit 0 -400 A

Sr. No.	Particulars	Required	Offered
1.	Manufacturer name & Country of manufacture		
2.	Type / Model details of the Equipment		
3.	Input Supply	1-Ø, 240V AC \pm 20% ,50Hz	
4.	Output Current (Current Display on actual Amp range Ammeter)	0-400Amps	
5.	Burden capacity in KVA OR Open circuit Voltage At output terminals	Minimum 1.5 kVA	
6.	Displays	3 ½ digit LED	
7.	Indications-	Bright LED indicators for input & Output indications	
8.	Digital Display Metering	Digital Display Metering(LED Type)	
9.	Display Accuracy of current meter	\pm 2 % of full scale reading \pm 2 digits	
10.	Duty Cycle	Standard : 10 Min ON and 20 Min OFF	
11.	Cooling type	Air cooling	
12.	Timer Accuracy	+/- 0.05%	
13.	Calibration certificate of the equipment submitted	Yes	
14.	Weight not exceed 20 kg	Shall not exceed 10 kg	