CAPACITIVE VOLTAGE DETECTING EPOXY INSULATORS

APPLICATION:
Capacitive voltage detecting insulators are generally used in medium voltage switchgears. Capacitive voltage detecting insulators are used as high voltage side for voltage detecting systems between medium voltage & Voltage indicating systems. Capacitive voltage detecting insulators works on the principle of capacitive voltage divider.

All items shall be procured from single source on package wise L-1 basis.

MECHANICAL AND ELECTRICAL PROPERTIES:
TABLE:A

Item	H.S.V	R.P.F withstand voltage	Capacitance	Lightning impulse withstand voltage	Creepage distance	Strength	Height
-001	3.6kV	10KV	600 pF.	40KVP	> 200 mm.	300KG	130 mm
-002	12KV	28KV	150 pF.	75KVP	> 200 mm.	300KG	130 mm

Notes:

1. All inserts shall be of steel with zinc plated and passivated and threads of metric coarse pitch. Alternatively brass with threads of metric coarse pitch may be used.
2. Manufacturer's name, style no and date of manufacturer shall be embossed/engraved on each insulator at flange.
3. All test must be in accordance with IS:9431.
4. The material shall be homogeneous and the complete insulator shall have a smooth shining/ glazed surface finish with no surface blemishes. In case machining/ grinding is done surface shall be applied with anti-tracking epoxy varnish.

ITEM-003 **VOLTAGE DETECTING UNITS (VDU)**

APPLICATION:
The integrated voltage detecting system is used for voltage detection according to IEC-61243-5 at medium voltage switchgears for indoor use in standard environment, for intermediate panels of rated voltage from 3.3 kV up to 33 kV / 50Hz.

PRINCIPLE OF OPERATION:
Voltage indicating control units are generally used in H.V panels. They are not used for measurement or protection but they are used for indication of High Voltage of R, Y, B phase. Voltage Indicating control unit basically give LED indication of R , Y , B phase. Voltage Indicating control Unit get 3-phase A.C input signal through capacitive voltage detecting insulator (Item 001 & 002). So when any one phase or all the 3-phases are live then it is indicated by Red bright LED which fitted on the front panel of indicating unit

SPECIFICATION: TABLE (B)

PARAMETER	**REQUIREMENT**	**VENDOR COMPLIANCE**
Dimension	Vendor standards	Vendor to furnish
Cutout Size	Vendor standards	Vendor to furnish
Mounting	Flush Panel Mounting.	
Indicator	RED Neon/LED Indication for R, Y and B Phase.	
Power Supply	220VDC/110VDC	Vendor to inform
Range of voltage to be indicated	(1) 3.3 KV (2) 11 KV	
Earthing	Vendor standards	
Protection	Built-in protection by means of a surge arrester	

ITEM- 004 **CONNECTING CABLE FOR INSULATOR AND VOLTAGE DETECTING UNIT**

- RG-58 Co-axial Cable Conductor Construction: 19/0.18mm. Standard 100mtrs drum.
- Necessary special hardware/ connector required for connecting cable to insulator and VDU shall be provided free of cost.(Approx:1400 connectors)

Documents required along with offer

1. 2 sets of Type test reports as per standard for insulator and VDU.
2. Insulator drawing for review and approval.

Acceptance criteria for insulator

1. Sample lot shall be taken as per appendix-B of IS:9431
2. Dimensional checks as per approved drawing
3. Mechanical strength inline with Table-A
4. Routine Test certificate of Power frequency test
5. Visual examination as per clause 9.14 of IS:9431
6. Deflection load as per standard IS:9431

Acceptance criteria for Voltage detecting Unit

1. Availability of routine test certificate as per IEC-61243
2. Terminal marking as per IEC-61243

Acceptance criteria for cable

1. Type code inline with specification

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