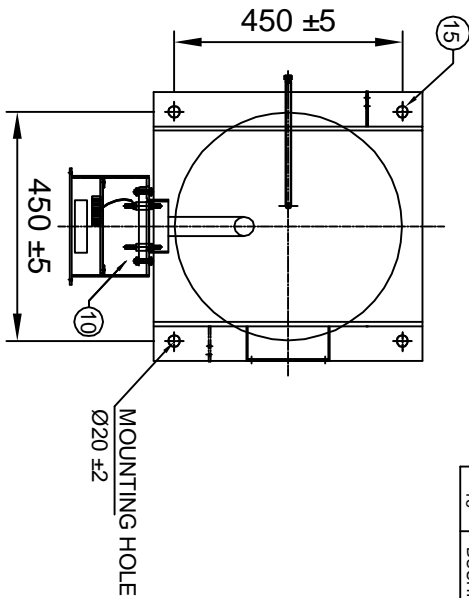


**NOTES :**

1. ALL FERROUS PARTS EXPOSED TO THE ATMOSPHERE SHALL BE PAINTED WITH P.U PAINT SHADE 631 OF IS: 5.
2. MAKE OF BUSHING: IEC/MODERN/BHEL/ABL/CI
3. TOTAL CREEPAGE DISTANCE : - 6125 mm (MIN)
4. QUANTITY OF OIL : - 225 LITRES APPROX.
5. TOTAL WEIGHT OF CT : 940 KGS APPROX.
6. PRIMARY WINDING SHALL BE BAR TYPE.
7. ALL GASKETS SHALL BE FIXED IN PROPERLY MACHINED GROOVES.
8. ALL HARDWARE SHALL BE HOT DIP GALVANIZED.
9. TRANSFORMER OIL AS PER IEC : 60296.
10. ALL GASKETS SHALL BE MADE OF NITRILE BUTYL RUBBER.



**MOUNTING DETAILS**

Chief Engineer  
Power Systems, Planning & Design  
APTranSCO

S.No.	DESCRIPTION	QTY	MATL
1	OIL FILLING PORT	1	M.S
2	BELLOW	1	S.S
3	BELLOW DOME 1.5 mm THICK	1	M.S/ALUMIUM
4	OIL LEVEL INDICATOR	1	AL/BRASS
5	PRIMARY TERMINAL Ø40x80mm	1	ALUMINIUM
6	OIL TANK WITH COVER	1	M.S
7	BUSHING	1	PORCELAIN
8	BUSHING FLANGE (CEMENTED)	2	G/CI
9	BASE	1	M.S
10	SECONDARY TERMINAL BOX	1	M.S
11	LIFTING HOOK	4	M.S
12	EARTHING FLAT 80x50x8THICK	2	M.S
13	NAME AND RATING PLATE	1	AL. ANODIZED
14	OIL DRAIN PLUG	1	M.S
15	MOUNTING HOLES Ø20	4	M.S
16	BUSHING GASKET	2	N.B.R

CLIENT : TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED  
PROJECT NAME : AS APPLICABLE  
UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS ARE IN mm.  
2. TOLERANCE WHEREVER NOT INDICATED ±5%

DATE	NAME	MATERIAL
06.01.2021	SPS	AS ABOVE
06.01.2021	AKASH	
06.01.2021	BLS	
SCALE:	N.T.S	

REV.	REVISION DESCRIPTION	DATED	INITIALS
R0	FOR APPROVAL	06.01.2021	

SHEET No. 1 OF 7

TITLE :  
GENERAL ARRANGEMENT DRAWING  
FOR 220KV CURRENT TRANSFORMER  
RATIO : 300-500/1A,5C  
BAR TYPE CT

DRG.NO ME-220CT-GA-04

MEHRU ELECTRICAL & MECHANICAL ENGINEERS (P) LTD.



**LIVE TANK CURRENT TRANSFORMER**

MADE TO IS: 16227

HIGHEST SYSTEM VOLTAGE	245 KV	INSULATION LEVEL	460/1050 KV
RATED S.T.C	40 KA for 1 Sec	RATED FREQUENCY	50Hz
NOMINAL SYSTEM VOLTAGE	220 KV	CORE 1	CORE 2
RATIO	PRIMARY(Amp)	300-500	300-500
SECONDARY	TERMINALS	1S1-1S2-1S3	2S1-2S2-2S3
RATED BURDEN	20 VA	PS	PS
ACCURACY CLASS	SP	5VA/0.5 @500A TAP	PS
ALF / ISF	20	40(Oct+10) @ 500/1A	80(Oct+5) @ 500/1A
Min Knee point voltage	-----	8 Ohms @500/1A	8 Ohms @500/1A
Max Ret at 75 DEG C	-----	50 mA @ 500/1A	50 mA @ 500/1A
Max Ixct at VK	-----	500/1A	500/1A
Year OF MANUFACTURE	2021	SERIAL NO.	-----

\* Rated cont. thermal current=120% of the rated primary current . \* Total weight of CT : 940 KGS APPROX.  
 \* Total creepage distance : - 6125 mm (MIN) , \* Quantity of oil : -225 LITRES APPROX.  
 MADE IN INDIA BY

**MEHRU ELECTRICAL AND MECHANICAL ENGINEERS (P) LTD.**

SP2/180,RIICO INDUSTRIAL AREA,KEHRANI, BHIWADI - RAJASTHAN - 301019

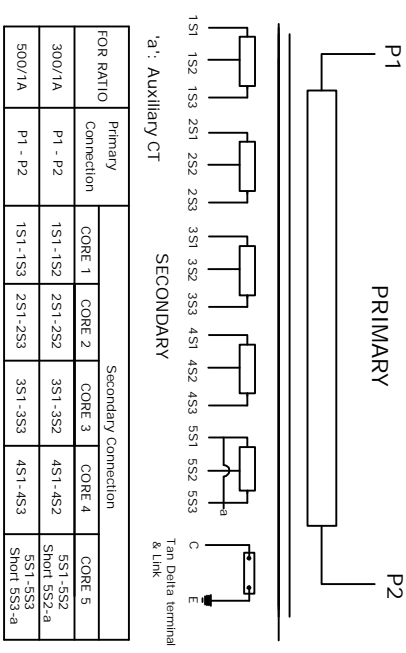
**NOTE : DRAWING APPROVAL SUBJECT TO VALID TYPE TEST REPORTS, TO BE CHECKED DURING ACCEPTANCE TESTS.**

250 ± 20

**NOTES:-**

1. MATERIAL OF NAME PLATE : ANODIZED ALUMINUM
  2. THICKNESS OF NAME PLATE : 1.2 mm.
  3. SERIAL NO. SHALL BE ENGRAVE BEFORE DISPATCH.
- \* PRIMARY WINDING AREA : 1257 sq.mm  
 \* CURRENT DENSITY : 0.48 A/sq.mm

**SUITABLE FOR HOT LINE WASHING CONNECTION DIAGRAM**



- CAUTION**
- I. Secondary terminals should be short circuited before the burden is disconnected.
  - II. Tan delta terminal 'C' must be shorted to be earth when operation
  - III. Do not remove earth link when in operation

**Chief Engineer**  
**Power Systems, Planning & Design**  
**APTransco**

CLIENT : TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED  
 PROJECT NAME : AS APPLICABLE  
 UNLESS OTHERWISE SPECIFIED

DGN	06.01.2021	SPS	AL. ANODIZED
DRN	06.01.2021	AKASH	
CHD	06.01.2021	BLS	

SCALE : N.T.S.

TITLE : NAME PLATE DRAWING FOR 220KV CURRENT TRANSFORMER RATIO : 300-500/1A,5C BAR TYPE CT

DRG.NO ME-220CT-NP-04

REV	REVISION DESCRIPTION	DATED INITIALS
RO	FOR APPROVAL	06.01.2021

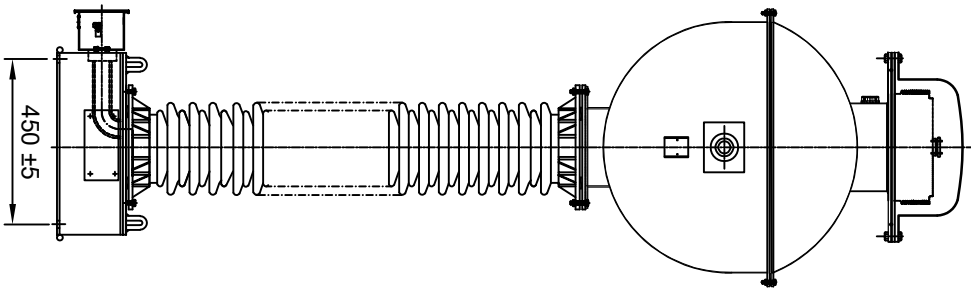
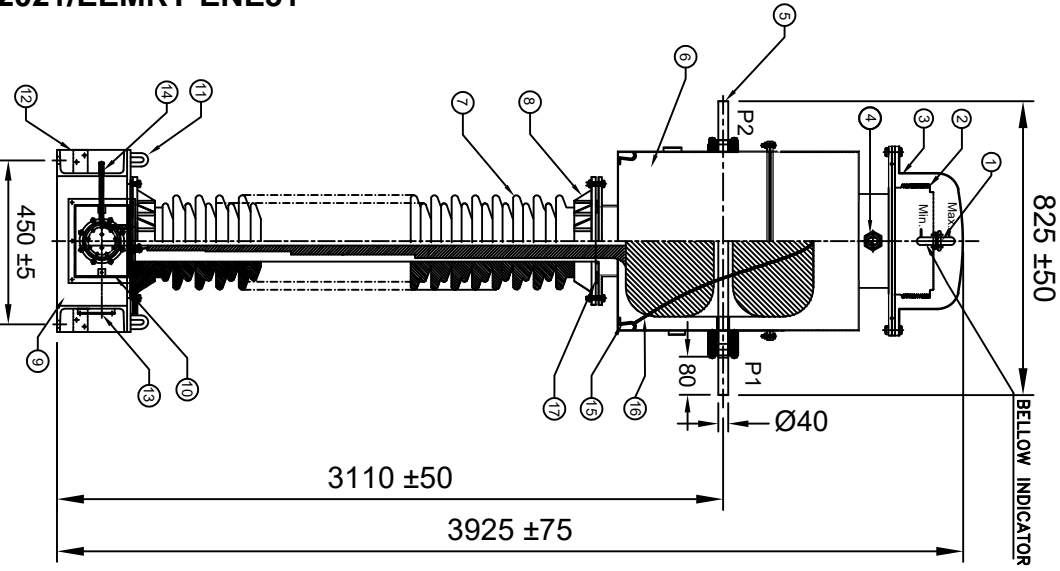
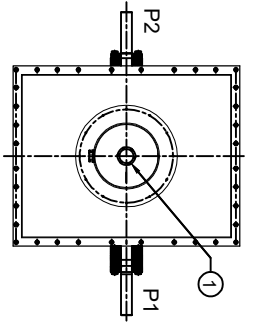
1. ALL DIMENSIONS ARE IN mm.
2. TOLERANCE WHEREVER NOT INDICATED ±5%

SHEET No. 3 OF 7



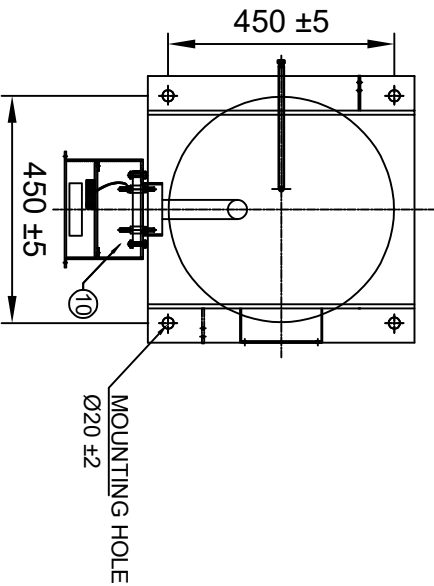
MEHRU ELECTRICAL & MECHANICAL ENGINEERS (P) LTD.





**NOTES :**

1. ALL FERROUS PARTS EXPOSED TO THE ATMOSPHERE SHALL BE PAINTED WITH P.U PAINT SHADE 631 OF IS: 5.
2. MAKE OF BUSHING: IEC/MODERN/BHEL/VAB/UCI
3. TOTAL CREEPAGE DISTANCE :- 6125 mm (MIN)
4. QUANTITY OF OIL :- 225 LITRES APPROX.
5. TOTAL WEIGHT OF CT : 940 KGS APPROX.
6. PRIMARY WINDING SHALL BE BAR TYPE.
7. ALL GASKETS SHALL BE FIXED IN PROPERLY MACHINED GROOVES.
8. ALL HARDWARE SHALL BE HOT DIP GALVANIZED.
9. TRANSFORMER OIL AS PER IEC : 60296.
10. ALL GASKETS SHALL BE MADE OF NITRILE BUTYL RUBBER.
11. CORE/SECONDARY WINDINGS SHALL BE ENCASED IN ALUMINIUM SHELL.



**MOUNTING DETAILS**

Chief Engineer  
Power Systems, Planning & Design  
APTansco

S.No.	DESCRIPTION	QTY	MATL
1	OIL FILLING PORT	1	M.S
2	BELLOW	1	S.S
3	BELLOW DOME	1	M.S/ALUMINIUM
4	OIL LEVEL INDICATOR	1	AL/BRASS
5	PRIMARY TERMINAL Ø40x80mm	1	ALUMINIUM
6	OIL TANK WITH COVER	1	M.S
7	BUSHING	1	PORCELAIN
8	BUSHING FLANGE (CEMENTED)	2	GICI
9	BASE	1	M.S
10	SECONDARY TERMINAL BOX	1	M.S
11	LIFTING HOOK	4	M.S
12	EARTHING FLAT (80x50x8x Thick.)	2	M.S
13	NAME AND RATING PLATE	1	ALUMINIUM ANODIZED
14	OIL DRAIN PLUG	1	M.S
15	HOOK FOR COIL TIGHTENING	4	M.S
16	COIL TIENG STRING	--	NYLON
17	BUSHING GASKET	2	N.B.R

CLIENT : TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED  
PROJECT NAME : AS APPLICABLE  
UNLESS OTHERWISE SPECIFIED  
1. ALL DIMENSIONS ARE IN mm.  
2. TOLERANCE WHEREVER NOT INDICATED ±5%

DGN.	DATE	NAME	MATERIAL
06.01.2021	06.01.2021	SPS	AS ABOVE
DRN.	06.01.2021	AKASH	
CHD.	06.01.2021	BLS	

MEHRU ELECTRICAL & MECHANICAL ENGINEERS (P) LTD.

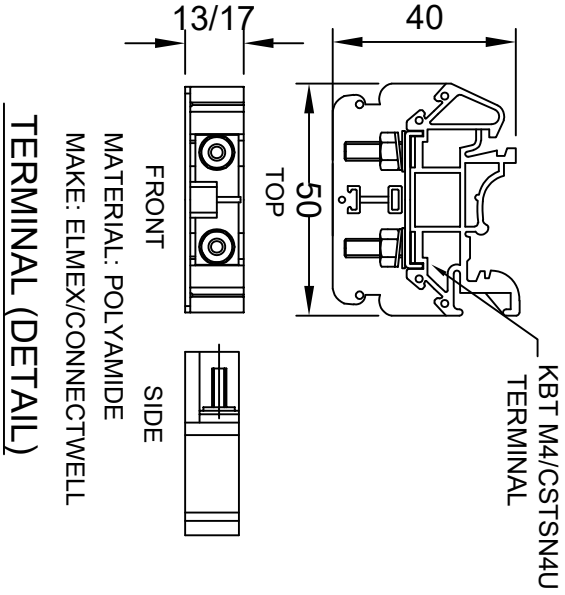
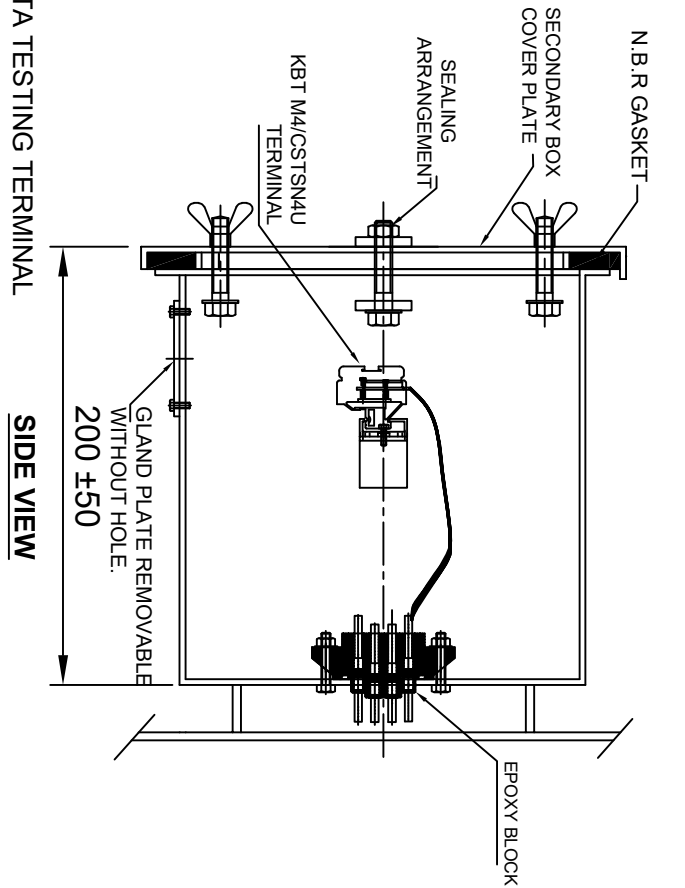
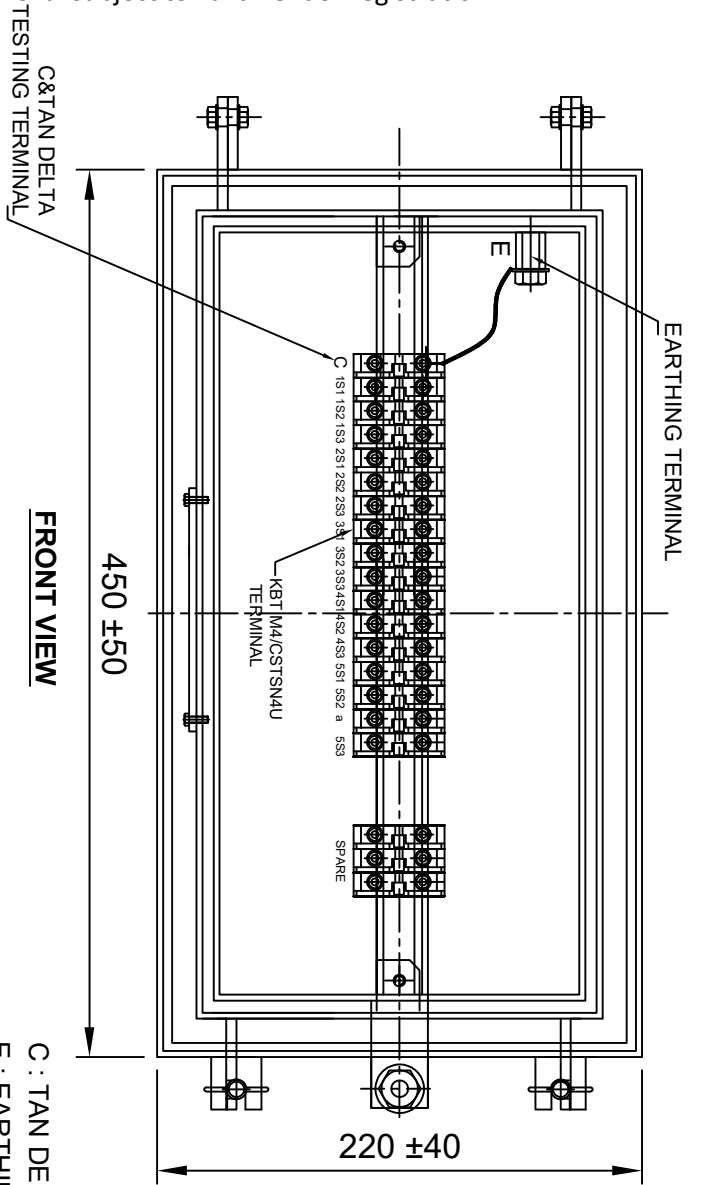
REV.	REVISION DESCRIPTION	DATED INITIALS
R0	FOR APPROVAL	06.01.2021

SHEET No. 2 OF 7

TITLE :  
SECTIONAL ARRANGEMENT DRAWING FOR 220KV CURRENT TRANSFORMER RATIO : 300-500/1A,5C BAR TYPE CT

DRG.NO ME-220CT-SE-04

4609468/2021/EEMRT-ENE51



FRONT  
MATERIAL: POLYAMIDE  
MAKE: ELMEX/CONNECTWELL  
TERMINAL (DETAIL)

**NOTES:-**

1. SECONDARY TERMINAL BOX SHALL BE PROVIDE GLAND PLATE REMOVABLE WITHOUT HOLE.
2. SECONDARY TERMINAL BOX SHALL BE PROVIDED WITH COVER.
3. M.S SHEET THICKNESS FOR TERMINAL BOX 3.0mm & FOR COVER 2.0mm.
4. MATERIAL OF GASKET : NITRILE BUTYL RUBBER GASKET.
5. DEGREE OF PROTECTION : IP 55
6. 20% SPARE TERMINAL SHALL BE PROVIDED.

C : TAN DELTA TESTING TERMINAL  
E : EARTHING TERMINAL  
'a' : AUXILIARY CT

Chief Engineer  
Power Systems, Planning  
APTranSCO

CLIENT : TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED		PROJECT NAME : AS APPLICABLE	
UNLESS OTHERWISE SPECIFIED		DATE	
1. ALL DIMENSIONS ARE IN MM.		DGN	06.01.2021
2. TOLERANCE WHEREVER NOT INDICATED ±5%		DEN	06.01.2021
		CHD	06.01.2021
		SCALE	N.T.S
TITLE :		NAME	
SECONDARY TERMINAL BOX DRAWING		M.S	
FOR 220KV CURRENT TRANSFORMER		RATIO : 300-500/1A,5C	
BAR TYPE CT		DRG NO	
		ME-220CT-STB-04	
SHEET No. 4 OF 7		MEHRU ELECTRICAL & MECHANICAL ENGINEERS (P) LTD.	
FOR APPROVAL		MEHRU	
REVISION DESCRIPTION		MEHRU ELECTRICAL & MECHANICAL ENGINEERS (P) LTD.	
DATED INITIALS			
REV.			

## 4609468/2021/EEMRT-BNE51 - Specified Technical Particulars for 220kV Current Transformer

Sl. No.	Item Description	Unit	GTP as per Bid
<b>E</b>	<b>CURRENT TRANSFORMER</b>		
1	Make		Mehru Electrical & Mechanical Engineers (P) Ltd, Bhiwadi, (Raj), Inida
2	Type and Designation		Outdoor, Oil Cooled Live Tank Type, Current Transformer
3	Applicable standards		IS 16227
4	Class		A
5	Rated Voltage	220 kV	220 kV
6	Rated Primary current	Amps	300-500A
7	Rated Secondary current	Amps	1
8	Rated output (Burden)	VA	Core:1 & 5 : - 20VA
9	Class of accuracy		Core: 3 & 4 - PS, Core:-1: 5P, Core:-5:0.2S,Core-2 : PS 5VA/0.5@500A tap
10	Accuracy limit factor		Core:-1:20
11	Knee point voltage	Volts	For Core-2: 40(Rct+10)@500/1A Core:-3 & 4: 80(Rct+5)@500/1A
12	CT Resistance of secondary winding corrected to 75 deg.C	Ohms	Core- 2,3 & 4:- 8 Ohms @500/1A
13	Magnetising current at knee-voltage point		Core- 2,3 & 4:- 50 mA@500/1A
14	secondary limiting voltage	kV	As per IS 16227
15	Instrument security factor for winding meant for metering		<5 at all ratio for Core-5
16	One minute Power Frequency withstand test voltage of		
a)	Primary winding	kV (rms)	460
b)	Secondary winding	kV (rms)	3
17	Impulse withstand voltage of primary winding	kV (peak)	1050
18	One minute dry P.F. withstand voltage of primary winding	kV (rms)	460
19	Creepage distance	mm	25mm/kV i.e. 6125mm (Min.)
20	Rated continuous thermal current	Amps	120% of rated primary current
21	Ratios available at highest taps		Yes
22	Rated short time thermal current	kA (rms)	40 kA
23	Rated time for above	Sec.	1
24	Rated dynamic current for primary	kA (Peak)	100
25	Class of insulation		A
26	Max. Temperature rise over ambient of 50 deg.C at any part of oil	deg.C	50c max

Chief Engineer  
Power Systems, Planning & Design  
APTransco

Drawing approval subject to valid vendor registration

27	4609468/2021/EEMRT-ENE51		
a)	Radio interference voltage		As per IS 16227 Clause 6.11.2 <2500uV
b)	Partial discharge level		<10 pC at Um & <5 pc at 1.2Um/√3
28	Temp. rise after passing short time thermal current for one second	deg.C	50c max
29	Current density in primary winding at		
a)	Normal rating		0.48 Amp/sqmm
b)	Short time rating of 1 Sec.		31.84 Amp/sqmm
c)	Dynamic rating		79.6 Amp/sqmm
30	Type of primary winding		Aluminum
31	No. of primary turns		1
32	No. of secondary turns		300+200
33	Flux density at knee point		1.4 Tesla
34	Mounting details		450±5 x 450±5 mm
35	Source/grade of oil and standard with which it complies		EHV Grade Transformer Oil as per IS 335/IEC 60296 of any reputed make
36	Quantity of insulating oil	Litres	225 Ltr Approx
37	Weight of Oil	kg	180 Kgs Approx
38	Total Weight including Oil	kg	940kG Approx
39	Overall dimensions (mm)		3925±75 x 825±50 x 450±5 mm
40	Wheather sealed (if so, type of sealing)		Yes, By SS BELLOW
41	Tan delta		<0.005
42	a) Weight of Steel		160 kgs (Approx.)
	b) Wight of Aluminum		22 kgs (Approx.)
	c) Weight of copper		20 kgs (Approx.)

**NOTE : DRAWING APPROVAL SUBJECT TO VALID TYPE TEST REPORTS, TO BE CHECKED DURING ACCEPTANCE TESTS.**

Since the supply of terminal connectors is not in the scope of manufacturer as mentioned in the drawings, the EPC contractors shall be instructed to supply the same in line with CT/IVT/CVT requirement and compatibility.

**FOR EPC CONTRACTS ONLY**

Drawing approval subject to valid vendor registration

Chief Engineer  
Power Systems, Planning & Design  
APTransco