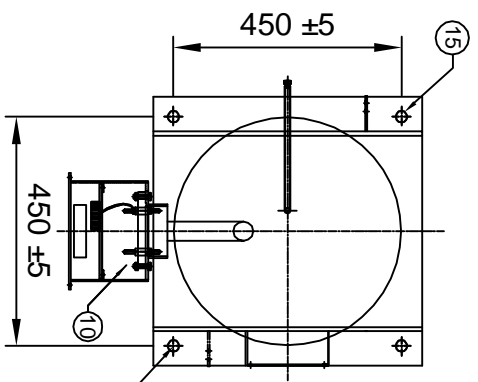
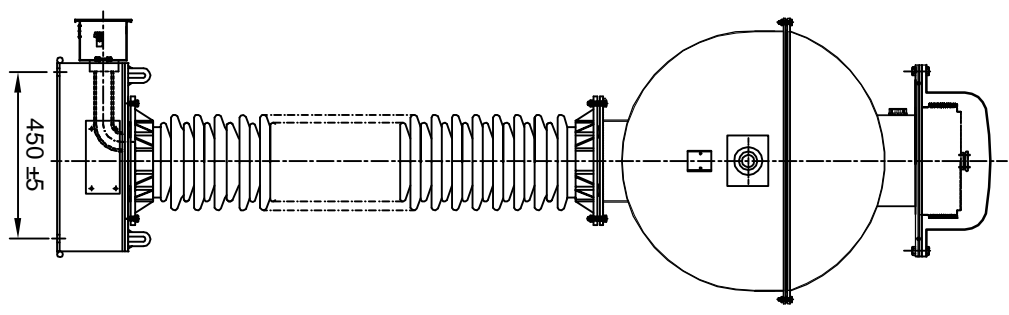
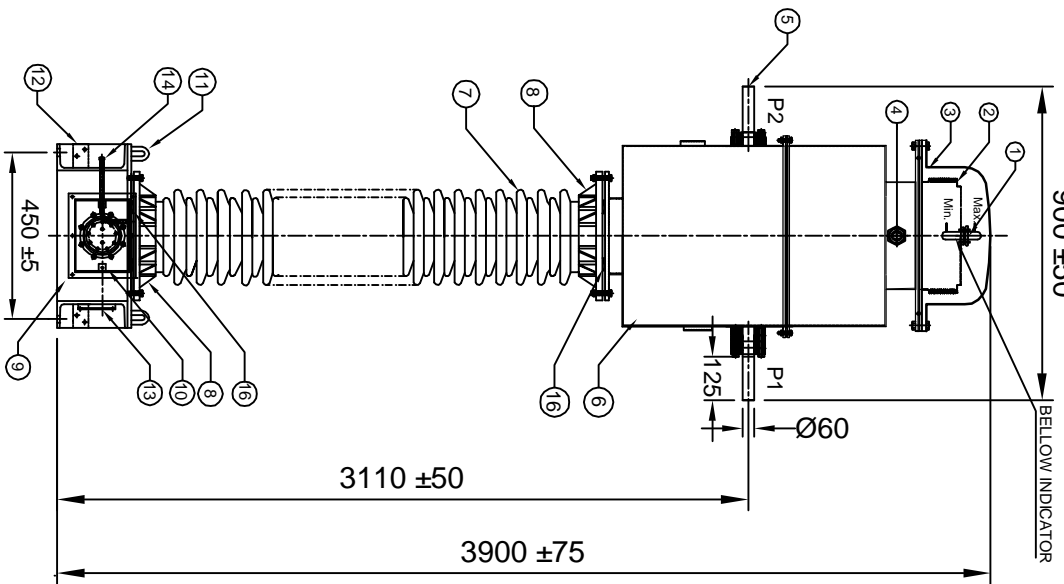
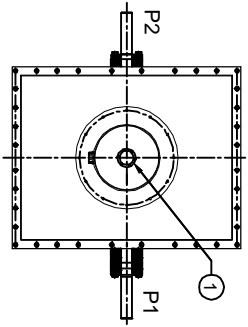


Drawing approval subject to valid vendor registration

**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/LABL/CJI
3. TOTAL CREEPAGE DISTANCE :- 6125 mm (MIN)
4. QUANTITY OF OIL :-225 LITRES APPROX.
5. TOTAL WEIGHT OF CT : 950 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**

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 Ø60x125 mm.	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

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

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 ±9%	
DATE	NAME
06.01.2021	SPS
06.01.2021	AKASH
06.01.2021	B.S
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 : 800-1200-1600/1A,5C BAR TYPE CT			
DRG NO	MEHRU ELECTRICAL & MECHANICAL ENGINEERS (P) LTD.		
ME-220CT-GA-03			



**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	CORE 3	CORE 4
RATIO	PRIMARY (Amp)	800-1200-1600	800-1200-1600	800-1200-1600	800-1200-1600
	SECONDARY (Amp)	1	1	1	1
SECONDARY TERMINALS		1S1-1S2-1S3-1S4	2S1-2S2-2S3-2S4	3S1-3S2-3S3-3S4	4S1-4S2-4S3-4S4
RATED BURDEN IN VA		***	***	***	***
ACCURACY CLASS		PS	PS	PS	PS
ALF / SF @ All taps		***	***	***	***
Min Knee point voltage		800/1200/1600 V	800/1200/1600 V	800/1200/1600 V	800/1200/1600 V
Max Rct at 75 DEG C		4/6/8 Ohms	4/6/8 Ohms	4/6/8 Ohms	4/6/8 Ohms
Max Ixct at Yk @ 1600/1A		30 mA	30 mA	30 mA	30 mA
Year OF MANUFACTURE		2021	SERIAL NO.		

\* RATED CONT. THERMAL CURRENT 120% OF RATED PRIMARY CURRENT ; \* TOTAL CREEPAGE DISTANCE :- 6125 mm.(MINIMUM)  
 \* TOTAL WEIGHT OF CT : 950 KGS APPROX. , \* QUANTITY OF OIL :- 225 LITRES APPROX.  
 MADE IN INDIA BY

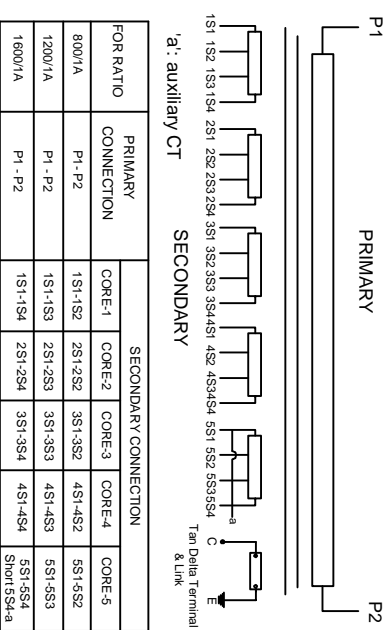
**MEHRU ELECTRICAL AND MECHANICAL ENGINEERS (P) LTD.**  
 SP-2/180, RIICO INDUSTRIAL AREA KHARANI EXT. BHIWADI-301019, RAJASTHAN (INDIA)

250 ±25

**NOTES:-**

1. MATERIAL OF NAME PLATE : ANODIZED ALUMINIUM
  2. THICKNESS OF NAME PLATE : 1.2 mm.
  3. SERIAL NO. SHALL BE ENGRAVE BEFORE DISPATCH.
- \* PRIMARY WINDING AREA : 2827.8 sq.mm  
 \* CURRENT DENSITY : 0.68 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 short circuited when operation  
 III. Do not remove earth link when in operation

115 ±15

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

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

UNLESS OTHERWISE SPECIFIED

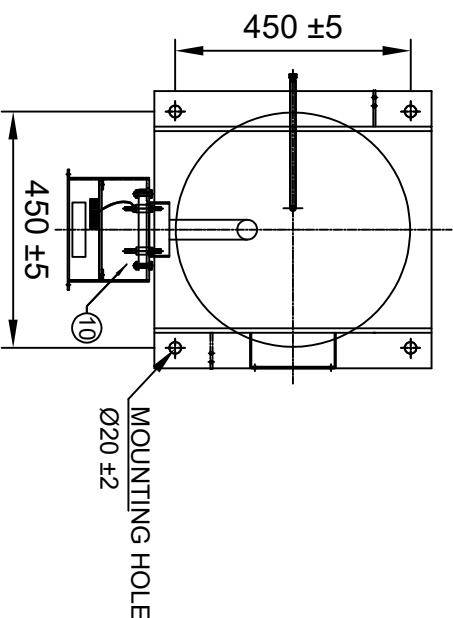
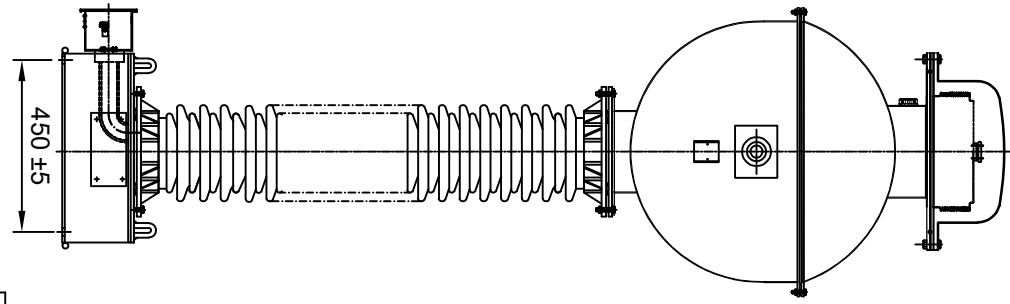
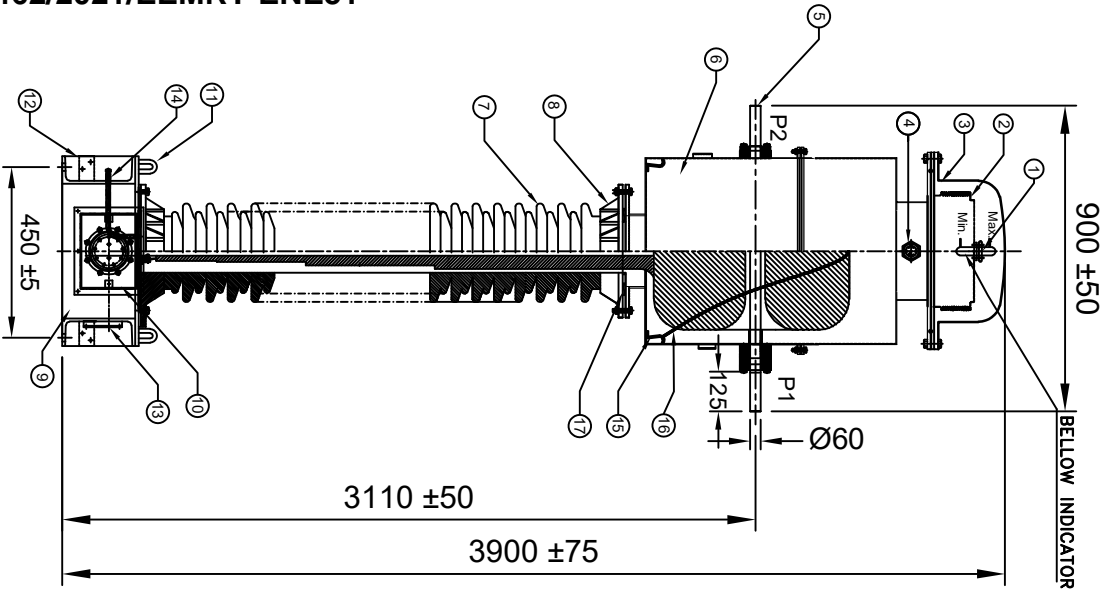
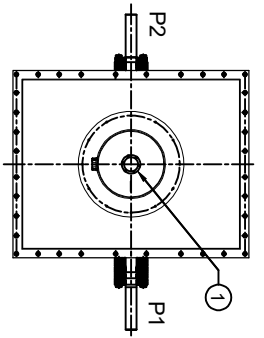
1. ALL DIMENSIONS ARE IN mm.  
 2. TOLERANCE WHEREVER NOT INDICATED ±5%

DGN.	DATE	NAME	MATERIAL
06.01.2021	06.01.2021	SPS	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 : 800-1200-1600/1A,5C BAR TYPE CT

DRG. NO ME-220CT-NP-03

RO	FOR APPROVAL	06.01.2021
REV.	REVISION DESCRIPTION	DATED INITIALS



- 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/BIL/CJI
  - 3. TOTAL CREEPAGE DISTANCE :- 6125 mm (MIN)
  - 4. QUANTITY OF OIL :-225 LITRES APPROX.
  - 5. TOTAL WEIGHT OF CT : 950 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.

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 Ø80x125mm.	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 (80x50x8 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 TIEING STRING	-	NYLON
17	BUSHING GASKET	2	N.BR

**MOUNTING DETAILS**

Chief Engineer  
Power Systems, Planning & Design  
APTranSCO

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

UNLESS OTHERWISE SPECIFIED	DATE	NAME	MATERIAL
DGN.	06.01.2021	SPS	
DRN.	06.01.2021	AKASH	
CHD.	06.01.2021	BLS	

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

SCALE: N.T.S

TITLE : SECTIONAL ARRANGEMENT DRAWING FOR 220KV CURRENT TRANSFORMER RATIO : 800-1200-1600/1A,5C BAR TYPE CT

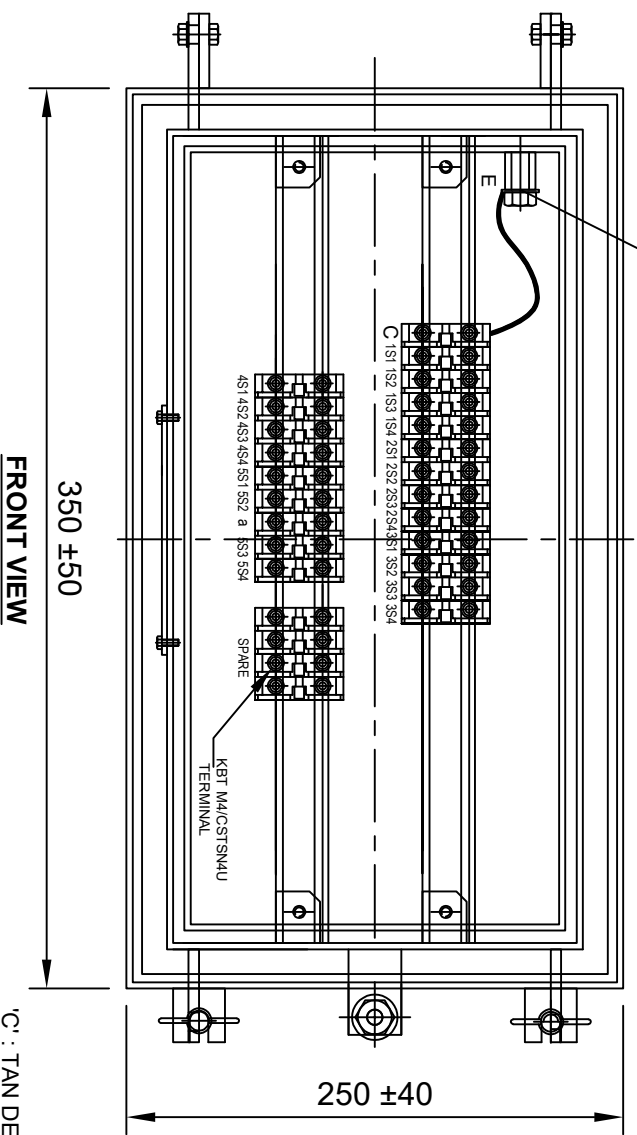
SHEET No. 2 OF 7

REV.	REVISION DESCRIPTION	DATED INITIALS
R0	FOR APPROVAL	06.01.2021

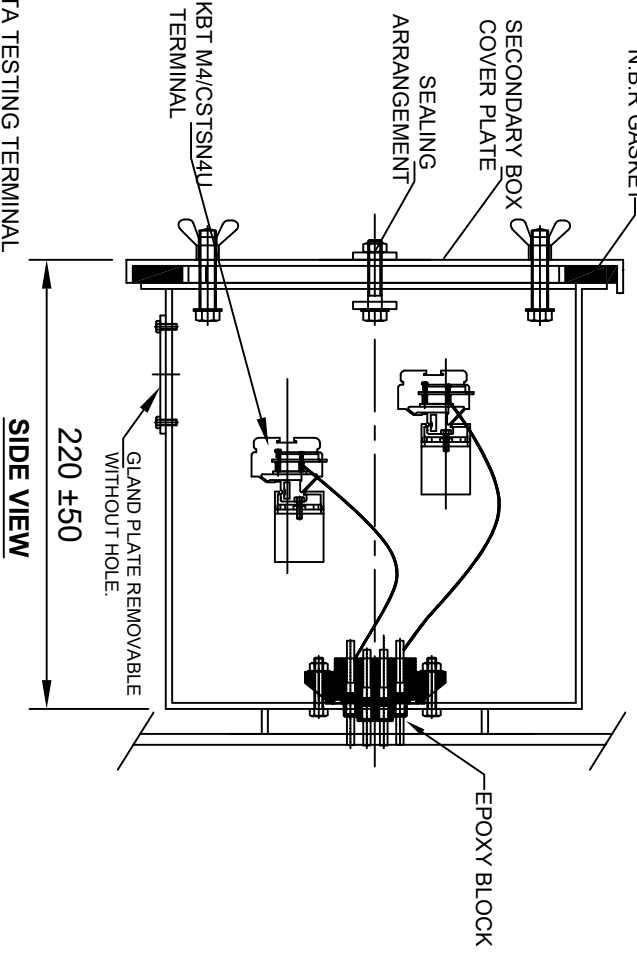
MEHRU MEHRU ELECTRICAL & MECHANICAL ENGINEERS (P) LTD.

DRG.NO ME-220CT-SE-03

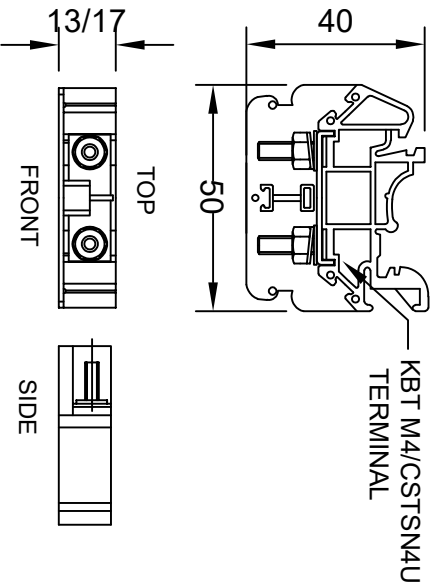
EARTHING TERMINAL Drawing approval subject to valid vendor registration



FRONT VIEW



SIDE VIEW



TOP

FRONT

SIDE

KBT M4/CSTSN4U  
TERMINAL

NOTES:-

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

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

Chief Engineer  
Power Systems, Planning & Design

APTtransco

REV.	REVISION DESCRIPTION	DATED	INITIALS
R0	FOR APPROVAL	06.01.2021	

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
DRN.	06.01.2021	SPS	M.S
CHD.	06.01.2021	AKASH	
SCALE:	N.T.S		
TITLE : SECONDARY TERMINAL BOX DRAWING FOR 220KV CURRENT TRANSFORMER RATIO : 800-1200-1600/1A,5C BAR TYPE CT			
DRG.NO	MEHRU ELECTRICAL & MECHANICAL ENGINEERS (P) LTD.		
ME-220CT-STB-03			

## 4609462/2021-22/EMRE/ENE51 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	800-1200-1600A
7	Rated Secondary current	Amps	1
8	Rated output (Burden)	VA	Core:-5: 20VA,
9	Rated output at 0.8 lag. p.f.	VA	N/A
10	Class of accuracy		Core:1,2,3 & 4 - PS, Core:-5: 0.2S
11	Accuracy limit factor		NA
12	Knee point voltage	Volts	Core-1,2,3,4-800/1200/1600
13	CT Resistance of secondary winding corrected to 75 deg.C	Ohms	Core-1,2,3,4-4/6/8
14	Magnetising current at knee-voltage point @highest tap		Core-1,2,3,4-30mA
15	secondary limiting voltage	kV	As per IS 16227
16	Instrument security factor for winding meant for metering		Core-5- $\leq$ 5 at all taps
17	One minute Power Frequency withstand test voltage of		
a)	Primary winding	kV (rms)	460
b)	Secondary winding	kV (rms)	3
18	Impulse withstand voltage of primary winding	kV (peak)	1050
19	One minute dry P.F. withstand voltage of primary winding	kV (rms)	460
20	Creepage distance	mm	25mm/kV i.e. 6125mm (Min.)
21	Rated continuous thermal current	Amps	120% of rated primary current
22	Ratios available at highest taps		Yes
23	Rated short time thermal current	kA (rms)	40 kA
24	Rated time for above	Sec.	1
25	Rated dynamic current for primary	kA (Peak)	100

Drawing approval subject to valid vendor registration

4609462/2021/EEMRT-ENE51

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

26	Class of insulation		A
27	Max. Temperature rise over ambient of 50 deg.C at any part of oil	deg.C	50c max
28			
b)	Radio interference voltage		As per IS 16227 Clause 6.11.2 <2500uV
c)	Partial discharge level		<10 pC at Um & <5 pc at 1.2Um/ $\sqrt{3}$
29	Temp. rise after passing short time thermal current for one second	deg.C	50c max
30	Current density in primary winding at		
a)	Normal rating		0.68 Amp/sqmm
b)	Short time rating of 1 Sec.		14.15 Amp/sqmm
c)	Dynamic rating		35.5 Amp/sqmm
31	Type of primary winding		Aluminum
32	No. of primary turns		1
33	No. of secondary turns		800+400+400
34	Flux density at knee point		1.4 Tesla
35	Radio interference voltage	(micro volts)	
a)	with terminal connector mountd		<2500uV
b)	under test condition		<2500uV
36	Variation in ratio and phase angle error due to variation in		
a)	Voltage by 1%		N/A
b)	Frequency by 1 Hz.		N/A
37	Mounting details		450 $\pm$ 5 x 450 $\pm$ 5 mm
38	Source/grade of oil and standard with which it complies		EHV Grade Transformer Oil as per IS 335/IEC 60296 of any reputed make
39	Quantity of insulating oil	Litres	225 Ltr Approx
40	Weight of Oil	kg	180 Kgs Approx
41	Total Weight including Oil	kg	950kG Approx
42	Overall dimensions (mm)		3900 $\pm$ 75 x 900 $\pm$ 50 x 450 $\pm$ 5 mm
43	Wheather sealed (if so, type of sealing)		Yes, By SS BELLOW

Drawing approval subject to valid vendor registration

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**

Chief Engineer  
Power Systems, Planning & Design  
APTransco