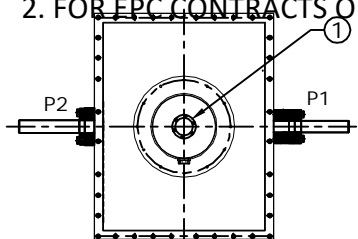


NOTE: 1. DRAWING APPROVAL SUBJECT TO VALID TYPE TEST

REPORTS, TO BE CHECKED DURING ACCEPTANCE TESTS

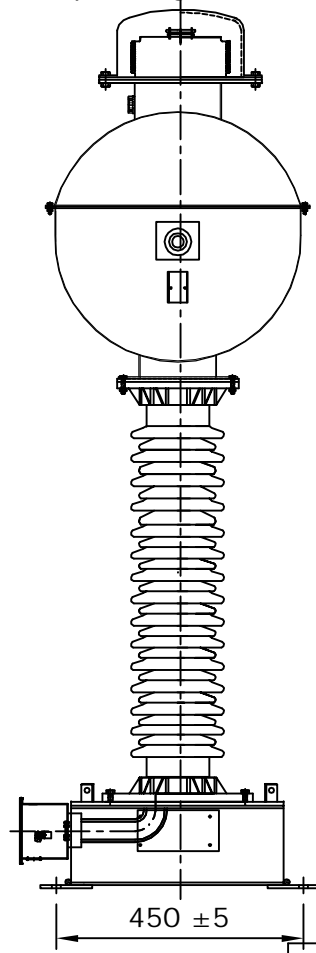
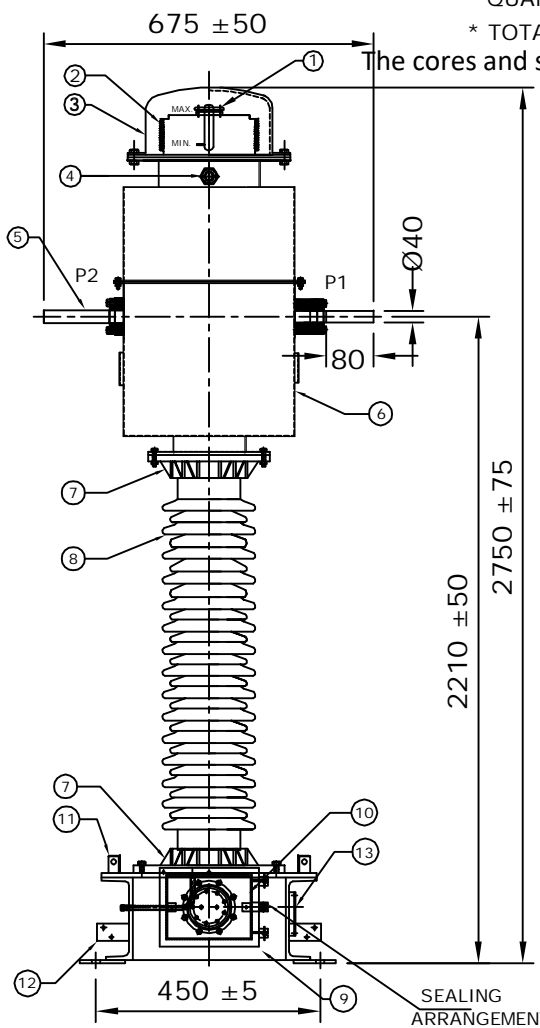
2. FOR EPC CONTRACTS ONLY



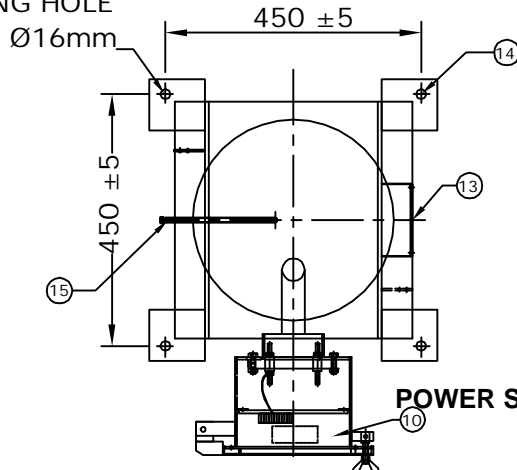
1. MAKE OF BUSHING: IEC/MODERN/ABIL/BHEL/CJI
2. ALL FERROUS PART EXPOSED TO THE ATMOSPHERE SHALL BE PAINTED WITH P.U PAINT SHADE 631 OF IS:5
3. ALL GASKETS SHALL BE FIXED IN PROPERLY MACHINED GROOVES.
4. PRIMARY WINDING SHALL BE BAR TYPE.
5. ALL HARDWARE SHALL BE HOT DIP GALVANIZED.
6. TRANSFORMER OIL AS PER IEC : 60296.
7. ALL GASKETS SHALL BE MADE OF NITRILE BUTYL RUBBER.

- * TOTAL WEIGHT OF CT:-375Kgs (APPROX.)
- * QUANTITY OF OIL:- 90 Ltrs (APPROX.)
- * TOTAL CREEPAGE DISTANCE:- 4495 mm. (MINIMUM)

The cores and secondary windings shall be enclosed in rigid aluminium shell



MOUNTING HOLE



**CHIEF ENGINEER
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APTRANSCO**

MOUNTING DETAILS

S.No.	DESCRIPTION	MATERIAL	QTY
1	OIL FILLING PORT	M.S	1
2	BELLOW	S.S	1
3	BELLOW DOME	M.S/AL	1
4	OIL LEVEL INDICATOR	BRASS/AL.	1
5	PRIMARY TERMINAL Ø40x80mm	ALUMINUM	1
6	OIL TANK WITH COVER	M.S	1
7	BUSHING FLANGE (CEMENTED)	GI/CI	2
8	BUSHING	PORCELAIN	1
9	BASE	M.S	1
10	SECONDARY TERMINAL BOX	M.S	1
11	LIFTING HOOK	M.S	4
12	EARTHING FLAT 80x50x8THICK.	M.S	2
13	NAME AND RATING PLATE	ALUMINUM	1
14	MOUNTING HOLE, Ø16mm ±2	M.S	4
15	OIL DRAIN PLUG	M.S	1

Drawing approval subject to valid vendor registration

RO	FOR APPROVAL	06.01.2021
REV.	REVISION DESCRIPTION	DATED INITIALS

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

UNLESS OTHERWISE SPECIFIED	DATE	NAME	MATERIAL
1. ALL DIMENSIONS ARE IN mm.	DGN. 06.01.2021	SPS	AS ABOVE
2. TOLERANCE WHEREVER NOT INDICATED ±5%	DRN. 06.01.2021	AKASH	
	CHD. 06.01.2021	BLS	
	SCALE:	N.T.S	

TITLE :
GENERAL ARRANGEMENT DRAWING FOR 132KV CURRENT TRANSFORMER RATIO:- 300-600/1-1-1A BAR TYPE CT

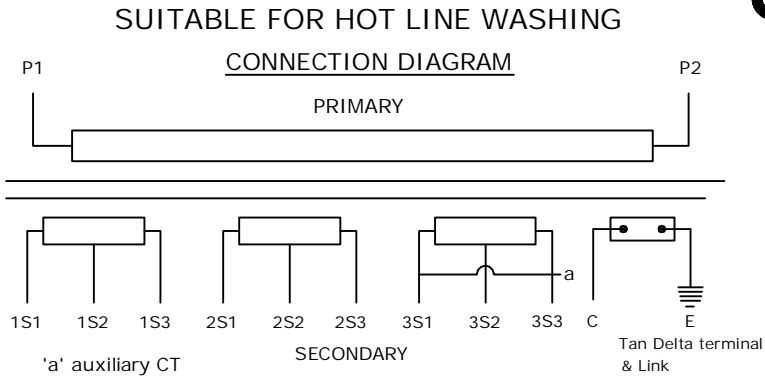
SHEET No. 1 OF 7

MEHRU
MEHRU ELECTRICAL & MECHANICAL ENGINEERS (P) LTD.

DRG.NO ME-132CT-GA-04

MEHRU LIVE TANK CURRENT TRANSFORMER
MADE TO IS: 16227

HIGHEST SYSTEM VOLTAGE	145 kV	INSULATION LEVEL		275/650 kV
RATED S.T.C	31.5kA for 1 second	RATED FREQUENCY		50Hz
NOMINAL SYSTEM VOLTAGE	132 kV	CORE 1	CORE 2	CORE 3
RATIO	PRIMARY(Amp)	300-600	300-600	300-600
	SECONDARY(Amp)	1	1	1
SECONDARY TERMINALS		1S1-1S2-1S3	2S1-2S2-2S3	3S1-3S2-3S3
RATED BURDEN IN V.A		20 VA	----	20 VA
ACCURACY CLASS		5P	PS	0.2S
ALF / ISF		20	----	≤5 @ All Ratio
Min Knee point voltage @600/1A		----	60I (Rct+10)V	----
Max Rct @ 75° C' @600/1A		----	6 Ω	----
Max Iext @ Vk @600/1A		----	100 mA	----
YEAR OF MANUFACTURE		2021	SERIAL NO.	



FOR RATIO	PRIMARY CONNECTION	SECONDARY CONNECTION		
		CORE I	CORE II	CORE III
300/1A	P1 - P2	1S1-1S2	2S1-2S2	3S1-3S2 Short-3S2-a
600/1A	P1 - P2	1S1-1S3	2S1-2S3	3S1-3S3 Short-3S3-a

- 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

105 ± 15

225 ± 25

RATED CONTINUOUS THERMAL CURRENT: 120% OF THE RATED PRIMARY CURRENT
 * QUANTITY OF OIL: - 90 Ltrs (APPROX.) * TOTAL WEIGHT OF CT:-375Kgs (APPROX.)
 MADE IN INDIA BY * TOTAL CREEPAGE DISTANCE:- 4495 mm. (MINIMUM)
MEHRU ELECTRICAL AND MECHANICAL ENGINEERS (P) LTD.
 SP2/180,RIICO INDUSTRIAL AREA,KEHRANI, BHIWADI - RAJASTHAN - 301019

NOTES:-

1. THICKNESS OF RATING PLATE 1.2 mm
2. MATERIAL OF NAME PLATE SHALL BE AL. ANODIZED.
3. SERIAL NUMBER SHALL BE ENGRAVING BEFORE THE DISPATCH.

- * PRIMARY WINDING AREA : 1257sq.mm
- * CURRENT DENSITY : 0.57 A/sq.mm

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RD	FOR APPROVAL	06.01.2021
REV.	REVISION DESCRIPTION	DATED INITIALS

CLIENT : TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED				PROJECT NAME : AS APPLICABLE	
UNLESS OTHERWISE SPECIFIED	DGN.	06.01.2021	SPS	MATERIAL	AL. ANODIZED
	DRN.	06.01.2021	AKASH		
	CHD.	06.01.2021	BLS		
	SCALE:	N.T.S			
1. ALL DIMENSIONS ARE IN mm.					<p>MEHRU ELECTRICAL & MECHANICAL ENGINEERS (P) LTD.</p>
2. TOLERANCE WHEREVER NOT INDICATED ±5%					
TITLE :					
NAME PLATE DRAWING FOR 132KV CURRENT TRANSFORMER RATIO:- 300-600/1-1-1A BAR TYPE CT					
SHEET No.			DRG.NO		
3 OF 7			ME-132CT-NP-04		

NOTE: 1. DRAWING APPROVAL SUBJECT TO VALID TYPE TEST

REPORTS, TO BE CHECKED DURING ACCEPTANCE TESTS

2. FOR EPC CONTRACTS ONLY

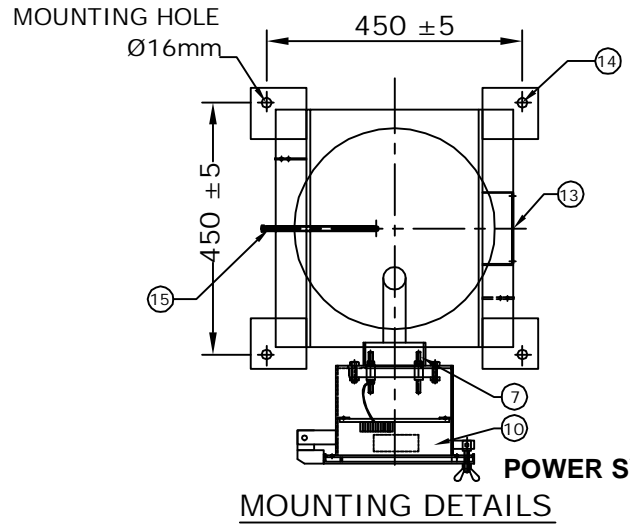
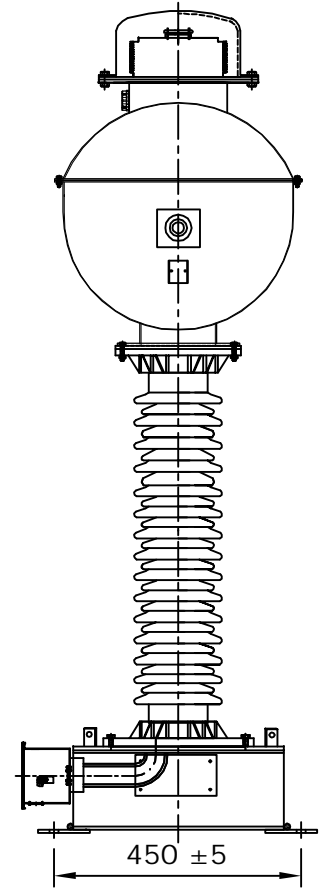
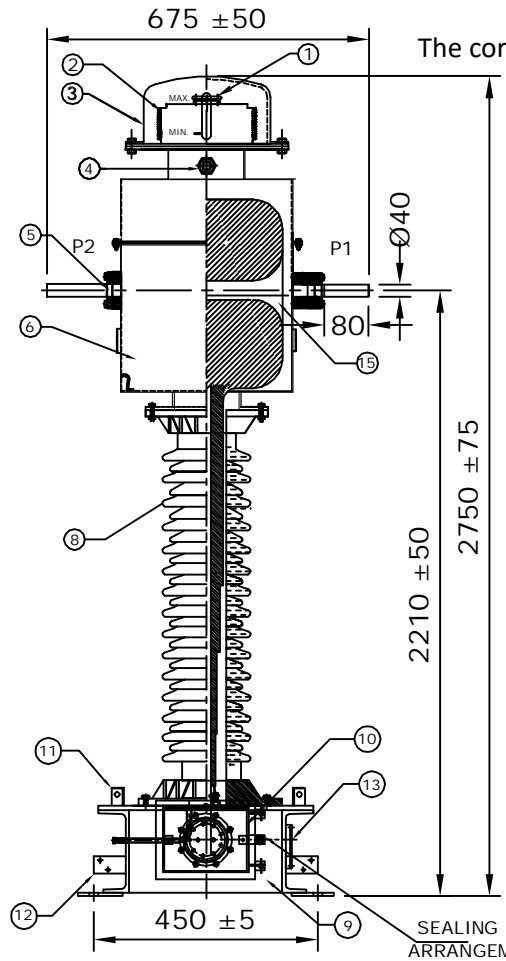
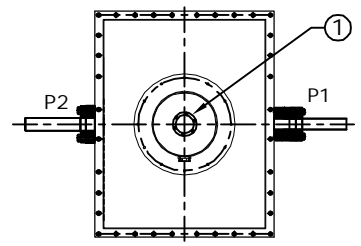
NOTES:-

1. MAKE OF BUSHING: IEC/MODERN/ABIL/BHEL/CJI
2. ALL FERROUS PART EXPOSED TO THE ATMOSPHERE SHALL BE PAINTED WITH P.U PAINT SHADE 631 OF IS:5
3. ALL GASKETS SHALL BE FIXED IN PROPERLY MACHINED GROOVES.
4. PRIMARY WINDING SHALL BE BAR TYPE.
5. ALL HARDWARE SHALL BE HOT DIP GALVANIZED.
6. TRANSFORMER OIL AS PER IEC : 60296.
7. ALL GASKETS SHALL BE MADE OF NITRILE BUTYL RUBBER.

- * TOTAL WEIGHT OF CT:- 375Kgs (APPROX.)
- * QUANTITY OF OIL:- 90 Ltrs (APPROX.)
- * TOTAL CREEPAGE DISTANCE:- 4495 mm. (MINIMUM)

The cores and secondary windings shall be enclosed in rigid aluminium shell

S.No.	DESCRIPTION	MATERIAL	QTY
1	OIL FILLING PORT	M.S	1
2	BELLOW	S.S	1
3	BELLOW DOME	M.S/AL.	1
4	OIL LEVEL INDICATOR	BRASS/AL.	1
5	PRIMARY TERMINAL Ø40x80mm	ALUMINUM	1
6	OIL TANK WITH COVER	M.S	1
7	SECONDARY TERMINAL	BRASS	---
8	BUSHING	PORCELAIN	1
9	BASE	M.S	1
10	SECONDARY TERMINAL BOX	M.S	1
11	LIFTING HOOK	M.S	4
12	EARTHING FLAT 80x50x8THICK.	M.S	2
13	NAME AND RATING PLATE	ALUMINUM	1
14	MOUNTING HOLE, Ø16mm±2	M.S	4
15	OIL DRAIN PLUG	M.S	1



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APTRANSCO**

Drawing approval subject to valid vendor registration

REV.	REVISION DESCRIPTION	DATED INITIALS
RO	FOR APPROVAL	06.01.2021

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

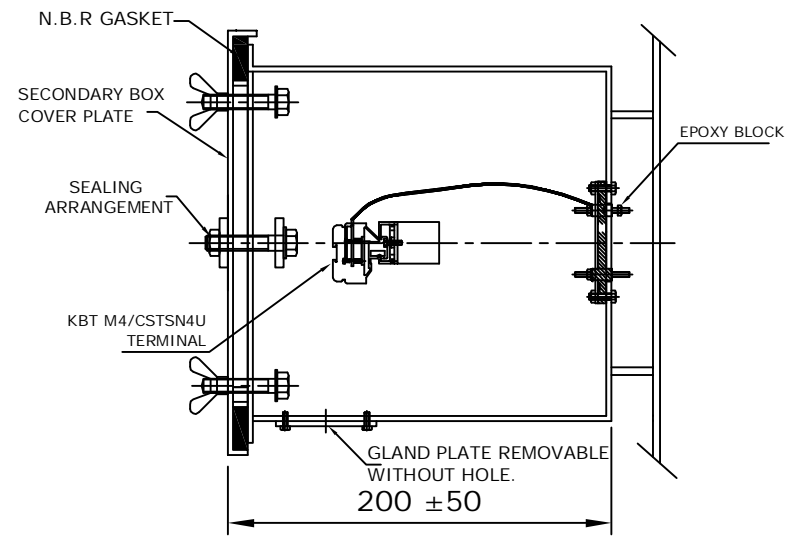
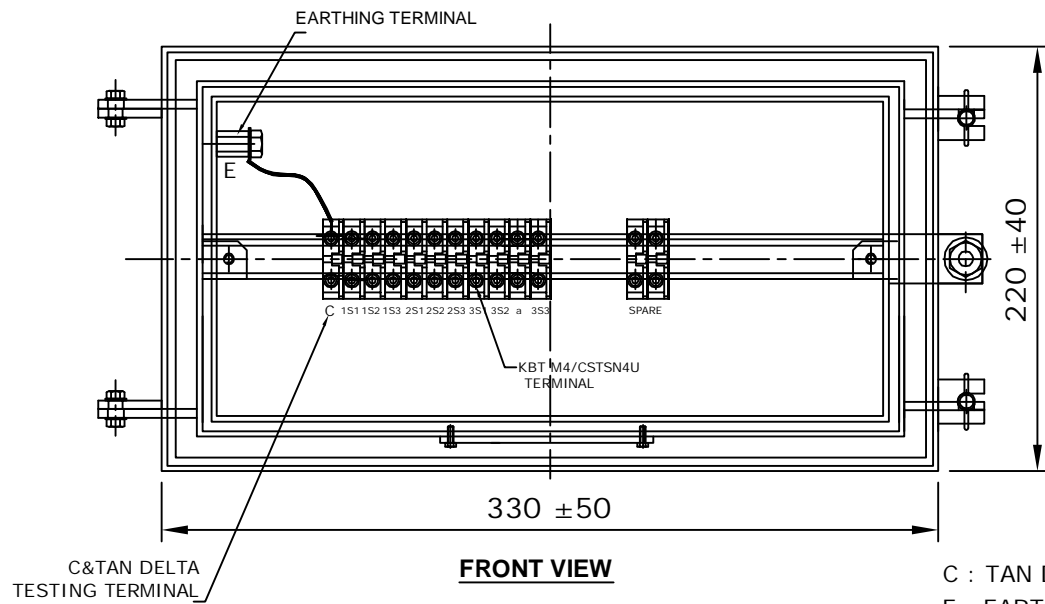
UNLESS OTHERWISE SPECIFIED	DGN.	DATE	NAME	MATERIAL
1. ALL DIMENSIONS ARE IN mm. 2. TOLERANCE WHEREVER NOT INDICATED ±5%	DRN.	06.01.2021	SPS	AS ABOVE
	CHD.	06.01.2021	AKASH	
	SCALE:	N.T.S		
	TITLE :			

SECTIONAL ARRANGEMENT DRAWING FOR 132KV CURRENT TRANSFORMER
RATIO:- 300-600/1-1-1A
BAR TYPE CT

MEHRU
MEHRU ELECTRICAL & MECHANICAL ENGINEERS (P) LTD.

DRG. NO
ME-132CT-SE-04

SHEET No. 2 OF 7



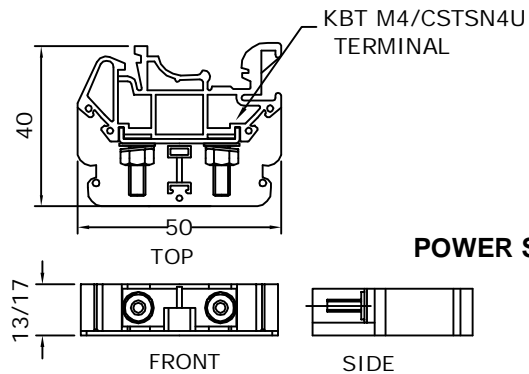
C : TAN DELTA TESTING TERMINAL
 E : EARTHING TERMINAL
 'a' auxiliary CT

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.

Drawing approval subject to valid vendor registration

**NOTE: 1. DRAWING APPROVAL SUBJECT TO VALID TYPE TEST REPORTS, TO BE CHECKED DURING ACCEPTANCE TESTS
 2. FOR EPC CONTRACTS ONLY**



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

**CHIEF ENGINEER
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 APTRANSCO**

RO	FOR APPROVAL	06.01.2021
REV.	REVISION DESCRIPTION	DATED INITIALS

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.	06.01.2021	SPS	M.S	MEHRU ELECTRICAL & MECHANICAL ENGINEERS (P) LTD.
	DRN.	06.01.2021	AKASH		
	CHD.	06.01.2021	BLS		
	SCALE:	N.T.S			
SHEET No. 4 OF 7			TITLE : SECONDARY TERMINAL BOX DRAWING FOR 132KV CURRENT TRANSFORMER RATIO: - 300-600/1-1-1A BAR TYPE CT		DRG.NO ME-132CT-STB-04

NOTE: 1. DRAWING APPROVAL SUBJECT TO VALID TYPE TEST

4496528/2021/EEMRT-ENE51 REPORTS, TO BE CHECKED DURING ACCEPTANCE TESTS

2. FOR EPC CONTRACTS ONLY

Guaranteed Technical Particulars for 132kV Current Transformer			
Sl. No.	Item Description	Unit	GTP as per Bid
E	CURRENT TRANSFORMER		
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	132 kV	132 kV
6	Rated Primary current	Amps	300-600A
7	Rated Secondary current	Amps	1
8	Rated output (Burden)	VA	Core:-1 20VA, Core 2: NA, Core;3: 20VA,
9	Rated output at 0.8 lag. p.f.	VA	N/A
10	Class of accuracy		Core:1 - 5P, Core: 2 - PS, Core:-3: 0.2S
11	Accuracy limit factor		Core1: 20
12	Knee point voltage @highest tap	Volts	Core:2: 60(Rct+10)V
13	CT Resistance of secondary winding corrected to 75 deg.C @highest tap	Ohms	Core- 2-6ohms
14	Magnetising current at knee-voltage point @highest tap		Core-2-100mA
15	secondary limiting voltage	kV	As per IS 16227
16	Instrument security factor for winding meant for metering		Core-3 ≤ 5 at all taps
17	One minute Power Frequency withstand test voltage of		
a)	Primary winding	kV (rms)	275
b)	Secondary winding	kV (rms)	3
18	1.2/50 Impulse wave withstand voltage of primary winding	kV (peak)	650
19	One minute dry P.F. withstand voltage of primary winding	kV (rms)	275
20	Creepage distance	mm	31mm/kV i.e. 4495mm (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)	31.5 kA
24	Rated time for above	Sec.	1
25	Rated dynamic current for primary	kA (Peak)	78.75
26	Class of insulation		A
27	Max. Temperature rise over ambient of 50 deg.C at any part of oil	deg.C	50c max

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4496528/2021/EEMRT-ENE51

REPORTS, TO BE CHECKED DURING ACCEPTANCE TESTS

2. FOR EPC CONTRACTS ONLY

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/√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		0.57 Amp/sqmm (max)
b)	Short time rating of 1 Sec.		25.1 Amp/sqmm(max.)
c)	Dynamic rating		63 Amp/sqmm (max.)
31	Type of primary winding		Aluminium
32	No. of primary turns		1
33	No. of secondary turns		600
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±5 x 450±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	90 Ltr Approx
40	Weight of Oil	kg	72 kgs Approx
41	Total Weight including Oil	kg	375kG Approx
42	Overall dimensions (mm)		2750±75 x 675±50 x 450±5 mm
43	Wheather sealed (if so, type of sealing)		Yes, By SS BELLOW
44	Tan delta		<0.005
45	a) Weight of Steel		104 kgs (Approx.)
	b) Wight of Aluminum		2.9 kgs (Approx.)
	c) Weight of copper		4.8 kgs (Approx.)

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