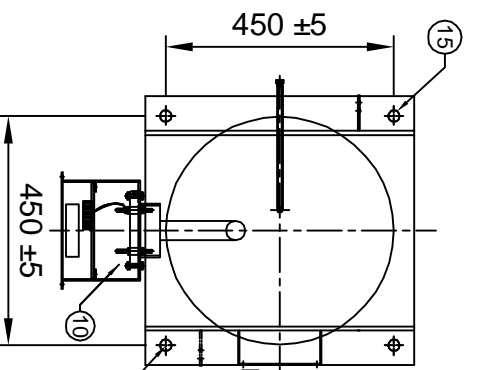
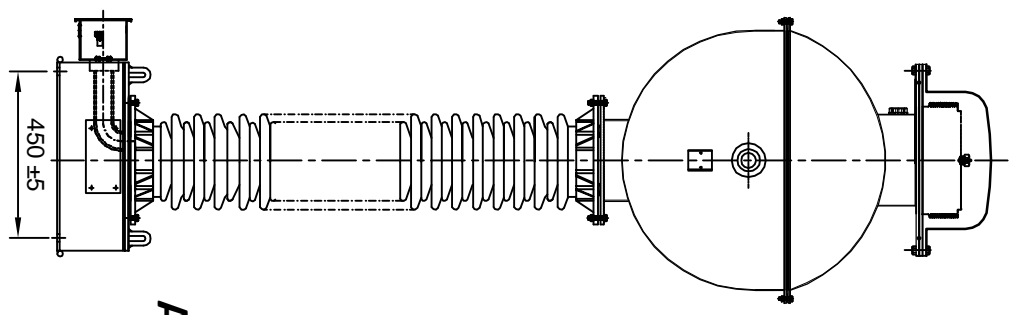
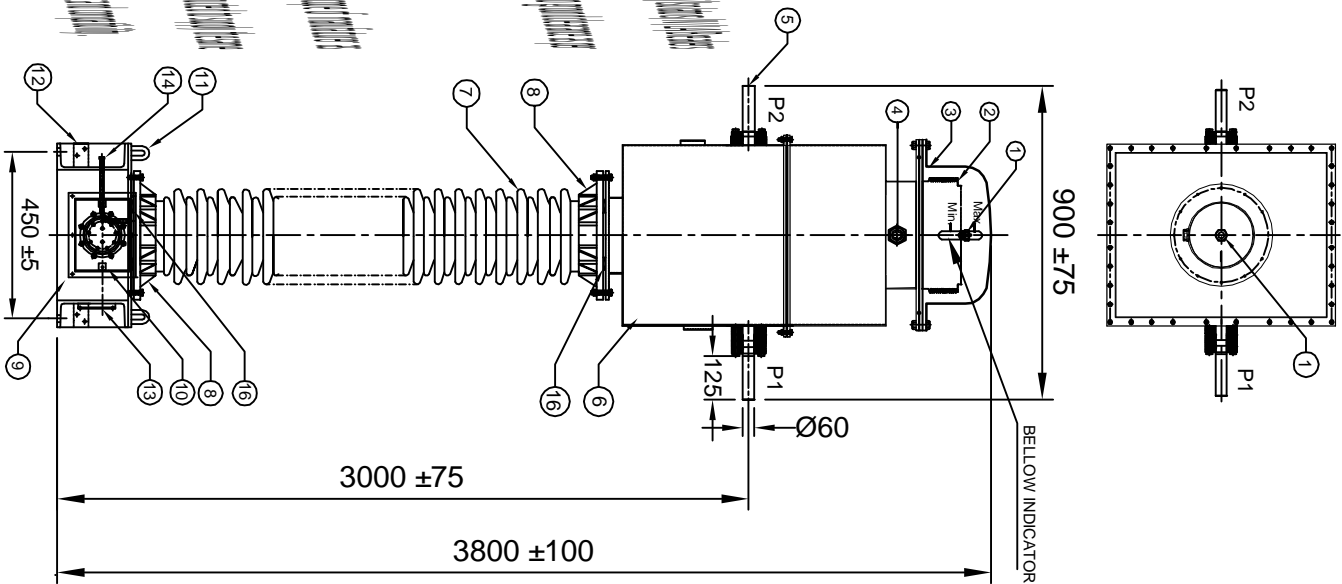


EPC works only

NOTES :-

1. MAKE OF BUSHING: IEC/MODERN/ABL/BHEL/CIJ
2. ALL FERROUS PARTS EXPOSED TO THE ATMOSPHERE SHALL BE PAINTED WITH P.U. PAINT SHADE 631 OF IS-5.
3. ALL HARDWARE SHALL BE HOT DIP GALVANIZED.
4. ALL GASKETS SHALL BE FIXED IN PROPERLY MACHINED GROOVES.
5. ALL GASKETS SHALL BE MADE OF NITRILE BUTYL RUBBER.
6. TRANSFORMER OIL AS PER IEC : 60296.
7. PRIMARY WINDING SHALL BE BAR TYPE.
8. SECONDARY SHALL BE TOTALLY ENCASED IN RIGID METALLIC SHELL.
- * QUANTITY OF OIL :- 225 LITRES APPROX.
- * TOTAL WEIGHT OF CT :- 900 kg. APPROX.
- * TOTAL CREEPAGE DISTANCE:- 6125 mm. MINIMUM



Drawing approval subject to valid vendor registration

MOUNTING DETAILS

Chief Engineer/Projects
APTRANSCO/VS/Vijayawada.
 RATIO : 500-800-1600/1-1-1-A, 300-500-800-1600/1A

S.No.	DESCRIPTION	QTY	MATL
1	OIL FILLING PORT	1	M.S
2	BELLOW	1	S.S
3	BELLOW DOME	1	ALUMINIUM
4	OIL LEVEL INDICATOR	1	AL/BRASS
5	PRIMARY TERMINAL Ø60x125 mm.	2	ALUMINIUM
6	OIL TANK WITH COVER	1	M.S
7	BUSHING	1	PORCELAIN
8	BUSHING FLANGE (CEMENTED)	2	GI/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

UNLESS OTHERWISE SPECIFIED
 1. ALL DIMENSIONS ARE IN mm
 2. TOLERANCE WHEREVER NOT INDICATED: -5%

DATE	NAME	MATERIAL
30.05.2023	SPS	SEE TABLE
30.05.2023	K.S	
30.05.2023	BLS	

DGN	DATE	NAME
30.05.2023	30.05.2023	SPS
DRN	30.05.2023	K.S
CHD	30.05.2023	BLS

REV.	REVISION DESCRIPTION	DATED INITIALS
R0	FOR APPROVAL	30.05.2023

TITLE	SCALE
GENERAL ARRANGEMENT DRAWING FOR 220KV CURRENT TRANSFORMER	N.T.S

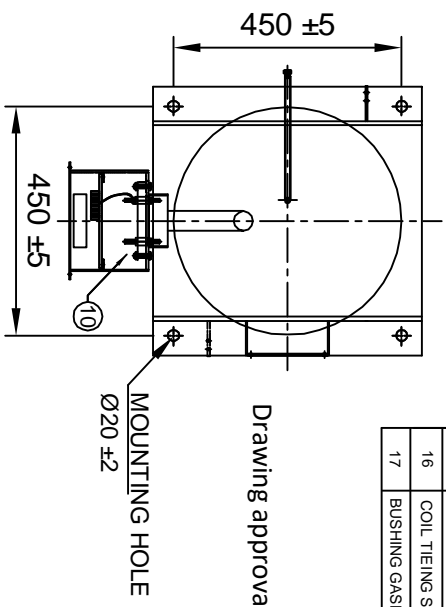
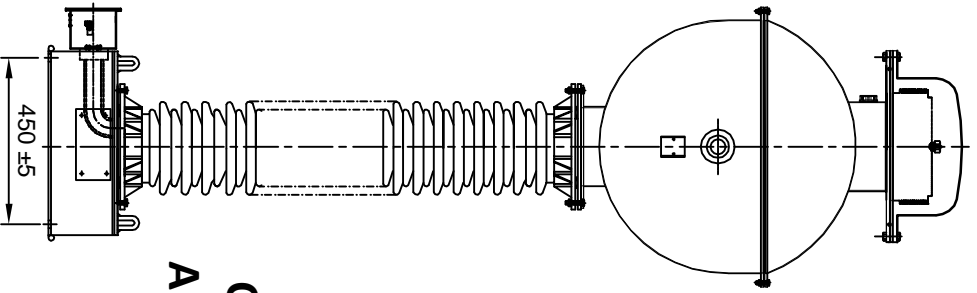
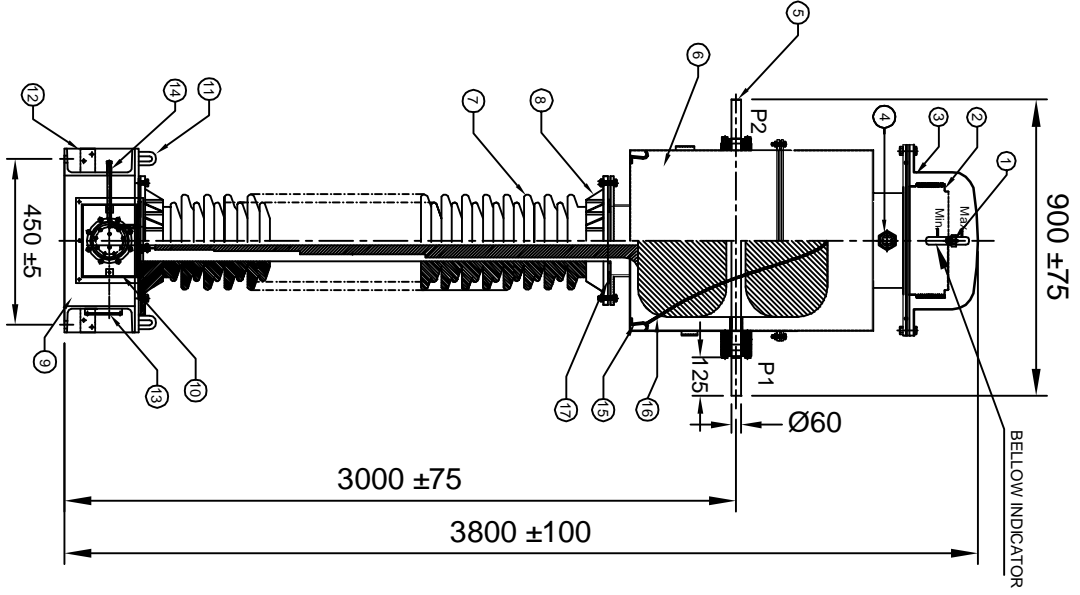
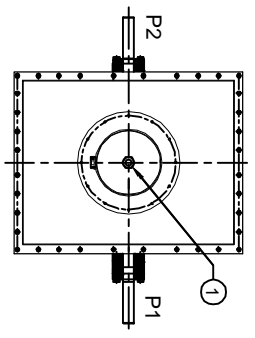
DRG.NO ME-220CT-GA-01

MEHRU ENGINEERS PVT. LIMITED

EPC works only

NOTES :-

1. MAKE OF BUSHING: IEC/MODERN/ABL/BHEL/CJ
 2. ALL FERROUS PARTS EXPOSED TO THE ATMOSPHERE SHALL BE PAINTED WITH P. U. PAINT SHADE 631 OF IS:5
 3. ALL HARDWARE SHALL BE HOT DIP GALVANIZED.
 4. ALL GASKETS SHALL BE FIXED IN PROPERLY MACHINED GROOVES.
 5. ALL GASKETS SHALL BE MADE OF NITRILE BUTYL RUBBER.
 6. TRANSFORMER OIL AS PER IEC : 60296.
 7. PRIMARY WINDING SHALL BE BAR TYPE.
 8. SECONDARY SHALL BE TOTALLY ENCASED IN RIGID METALLIC SHELL.
- * QUANTITY OF OIL :- 225 LITRES APPROX.
 * TOTAL WEIGHT OF CT :- 900 kg. APPROX.
 * TOTAL CREEPAGE DISTANCE:- 6125 mm. MINIMUM



MOUNTING DETAILS

1. Minimum 300mm plinth shall be maintained for CT/PT/CVT/Isolators/IV/LA/Breakers in the Substation during foundation works to ensure safe live to ground clearance as per IE rules.
2. Since the supply of terminal connectors is not in the scope of manufacturer as mentioned in the drawings, The EPC contractor shall be instructed to supply the same in line with CT/PT/CVT/Isolator/IVT/LA/Breakers requirement and compatibility.

Chief Engineer/Projects
APTRANSCO/VS/Vijayawada.

RATIO : 500-800-1600/1-1-1-1A, 300-500-800-1600/1A

S.No.	DESCRIPTION	QTY	MATL
1	OIL FILLING PORT	1	M.S
2	BELLOW	1	S.S
3	BELLOW DOME	1	ALUMINUM
4	OIL LEVEL INDICATOR	1	AL/BRASS
5	PRIMARY TERMINAL Ø60x125mm.	2	ALUMINUM
6	OIL TANK WITH COVER	1	M.S
7	BUSHING	1	PORCELAIN
8	BUSHING FLANGE (CEMENTED)	2	GI/CI
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	ALUMINUM 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.B.R

Drawing approval subject to valid vendor registration

REV.	FOR APPROVAL	DATED	REVISION DESCRIPTION	INITIALS
R0		30.05.2023		

UNLESS OTHERWISE SPECIFIED	DATE	NAME	MATERIAL
1. ALL DIMENSIONS ARE IN mm	DGN 30.05.2023	SPS	SEE TABLE
2. TOLERANCE WHEREVER NOT INDICATED: -5%	DRN 30.05.2023	K.S	
	CHD 30.05.2023	BLS	

TITLE	SCALE
SECTIONAL ARRANGEMENT DRAWING FOR 220kV CURRENT TRANSFORMER	N.T.S
	DRG.NO ME-220CT-SE-01





LIVE TANK CURRENT TRANSFORMER
MADE TO IS: 16227

HIGHEST SYSTEM VOLTAGE	245 KV	INSULATION LEVEL			460/1050 KV
RATED S.T.C	50 kA for 1 sec	RATED FREQUENCY			50 Hz
NOMINAL SYSTEM VOLTAGE	220 KV	CORE 1	CORE 2	CORE 3	CORE 4
RATIO	PRIMARY (Amp) SECONDARY (Amp)	500-800-1600	500-800-1600	500-800-1600	300-500-800-1600
SECONDARY TERMINALS	1	1	1	1	1
RATED BURDEN IN VA	1S1-1S2-1S3-1S4	2S1-2S2-2S3-2S4	3S1-3S2-3S3-3S4	4S1-4S2-4S3-4S4	5S1-5S2-5S3-5S4
ACCURACY CLASS	PX	PX	PX	PX	10 VA
ALF /ISF	---	---	---	---	<5@All Ratio
Min Knee point voltage	500/800/1600 V	500/800/1600 V	500/800/1600 V	500/800/1600 V	---
Max Rct at 75 DEG C	2.5/4/8 Ohms	2.5/4/8 Ohms	2.5/4/8 Ohms	2.5/4/8 Ohms	---
Max Ict at V _k	80/50/25mA	80/50/25mA	80/50/25mA	80/50/25mA	---
YEAR OF MANUFACTURE	2024	SERIAL NO.	---		

RATED CONTINUOUS THERMAL CURRENT 120% OF RATED PRIMARY CURRENT,
 * TOTAL WEIGHT OF CT :- 900 kg. APPROX., * QUANTITY OF OIL :- 225 LITRES APPROX. * RATED THERMAL CURRENT: 120%
 * TOTAL CREEPAGE DISTANCE :- 6125 mm MINIMUM. * RATED EXTENDED CURRENT: 120%

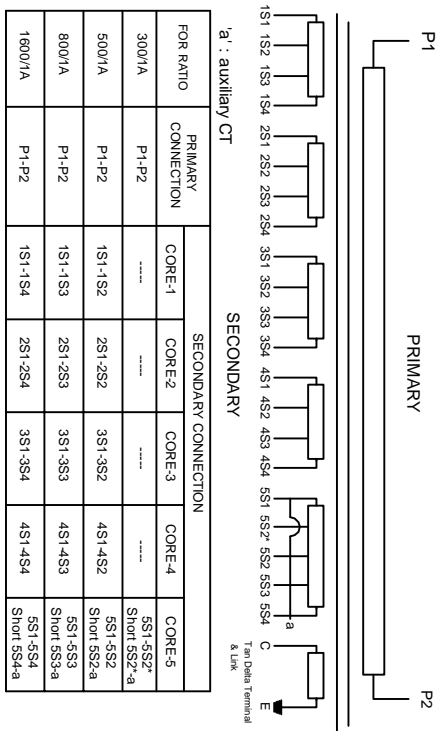
MADE IN INDIA BY
MEHRU ELECTRICAL AND MECHANICAL ENGINEERS (P) LTD.
 SP-2/180, RIICO INDUSTRIAL AREA, KEHRANI, BHIWADI-301019, RAJASTHAN (INDIA)

250 ±20

EPC works only

SUITABLE FOR HOT LINE WASHING

CONNECTION DIAGRAM



CAUTION

- I. SHORT CIRCUIT AND EARTH ALL SECONDARY TERMINALS ARE NOT IN USE.
- II. ALWAYS KEEP TAN DELTA TESTING TERMINAL C SHORTED TO EARTH DURING OPERATION.
- III. DO NOT REMOVE EARTH LINK WHEN IN OPERATION.

115 ±15

NOTES :-

1. MATERIAL OF NAME PLATE : ANODIZED ALUMINIUM
2. THICKNESS OF NAME PLATE : 1.2 mm.
3. SERIAL NO. SHALL BE ENGRAVED BEFORE DISPATCH.

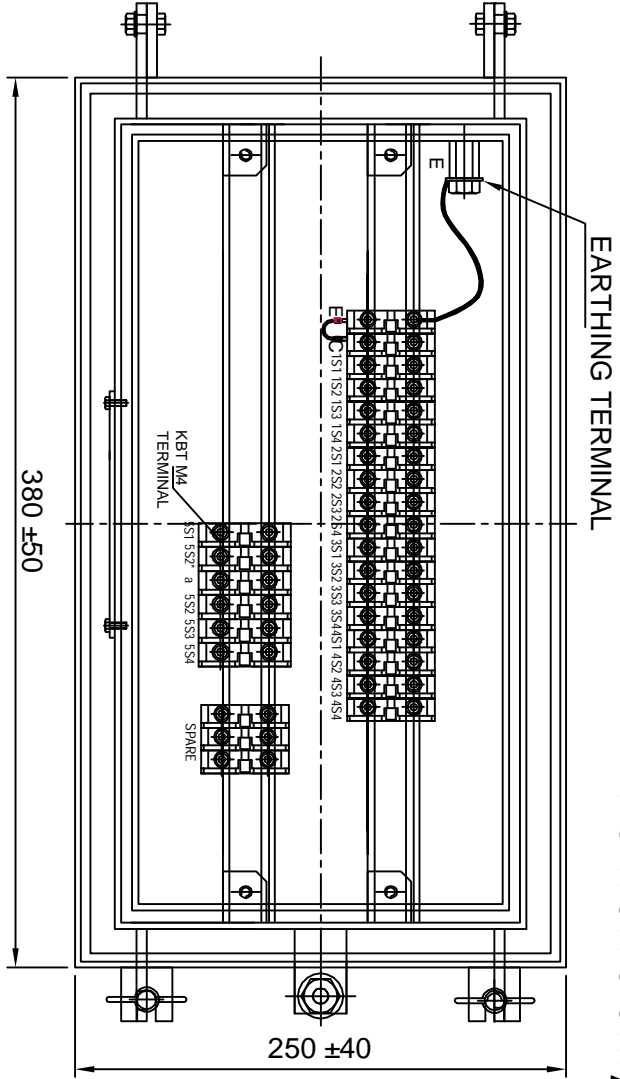
Drawing approval subject to valid vendor registration

Chief Engineer/Projects
APTRANSCO/Vs/Vijaywada.

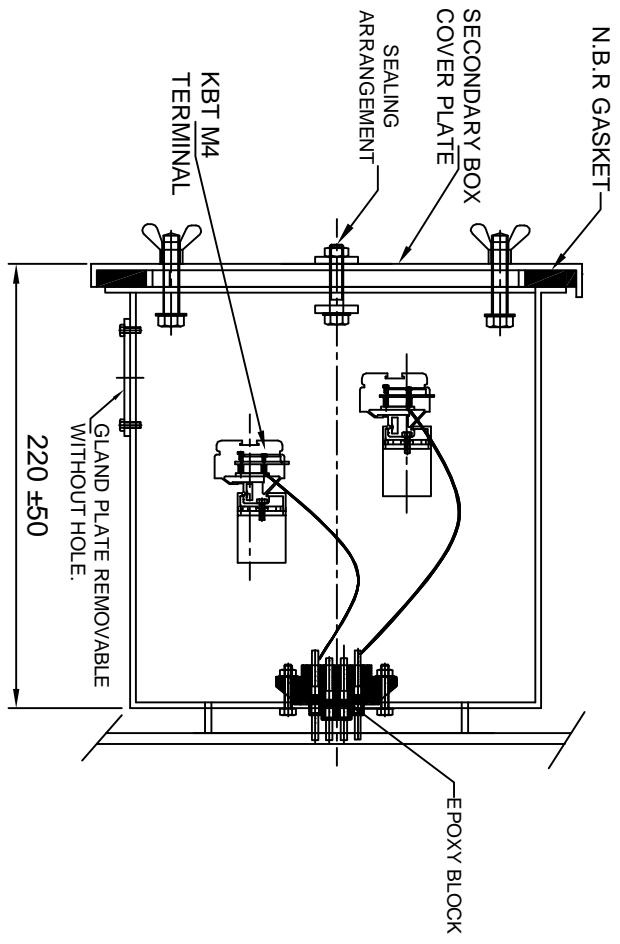
R0	FOR APPROVAL	30.05.2023
REV.	REVISION DESCRIPTION	DATED INITIALS

UNLESS OTHERWISE SPECIFIED		DATE		NAME		MATERIAL	
1. ALL DIMENSIONS ARE IN mm		DGN.	30.05.2023	SPS	AL. ANODIZED		
2. TOLERANCE WHEREVER NOT INDICATED: ±5%		DRN.	30.05.2023	K.S			
		CHD.	30.05.2023	BLS			
TITLE		NAME PLATE DRAWING FOR		SCALE		MEHRU ELECTRICAL & MECHANICAL ENGINEERS PVT. LIMITED	
220KV CURRENT TRANSFORMER				N.T.S		MEHRU	
DRG.NO		ME-220CT-NP-01					

EPC works only



FRONT VIEW



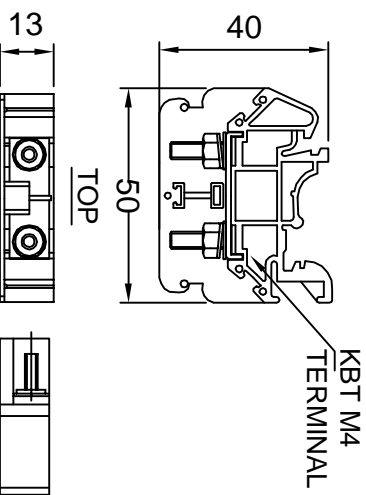
SIDE VIEW

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

NOTES:-

1. SECONDARY TERMINAL BOX SHALL BE PROVIDED WITH REMOVABLE GLAND PLATE WITHOUT HOLE.
2. SECONDARY TERMINAL BOX SHALL BE PROVIDED WITH COVER.
3. SHEET THICKNESS FOR TERMINAL BOX SHALL BE 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



MATERIAL : POLYAMIDE
 MAKE : ELMEX
 TERMINAL (DETAIL)

Chief Engineer/Projects

APTRANSCO/VS/Vijayawada.

REV.	FOR APPROVAL	DATED
R0		30.05.2023
REV.	REVISION DESCRIPTION	DATED INITIALS

RATIO : 500-800-1600/1-1-1-1A, 300-500-800-1600/1A

UNLESS OTHERWISE SPECIFIED
 1. ALL DIMENSIONS ARE IN mm
 2. TOLERANCE WHEREVER NOT INDICATED: ±5%

UNLESS OTHERWISE SPECIFIED	DATE	NAME	MATERIAL
DGN.	30.05.2023	SPS	M.S
DRN.	30.05.2023	K.S	
CHD.	30.05.2023	BLS	

TITLE

SECONDARY TERMINAL BOX DRG.
 FOR 220KV CURRENT TRANSFORMER



MEHRU ELECTRICAL & MECHANICAL ENGINEERS PVT. LIMITED



SCALE N.T.S
 DRG.NO ME-220CT-STB-01

Guaranteed Technical Particulars for 220kV Current Transformer			
Sl. No.	Item Description	Unit	
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	220 kV	220 kV
6	Rated Primary current	Amps	500-800-1600A,300-500-800-1600A
7	Rated Secondary current	Amps	1
8	Rated output (Burden)	VA	Core:-5: 10VA,
9	Rated output at 0.8 lag. p.f.	VA	N/A
10	Class of accuracy		Core:1,2,3 & 4 - PX, Core:-5: 0.2S
11	Accuracy limit factor		NA
12	Knee point voltage	Volts	Core-1,2,3&4-500-800-1600
13	CT Resistance of secondary winding corrected to 75 deg.C	Ohms	Core-1,2,3&4-2.5/4/8
14	Magnetising current at knee-voltage point		Core-1,2,3&4-80/50/25mA
15	Secondary limiting voltage	kV	As per IS 16227
16	Instrument security factor for winding meant for metering		Core-5 ≤ 5@all ratio
17	One minute Power Frequency withstand test voltage of		
a	Primary winding	kV (rms)	460
b	Secondary winding	kV (rms)	3
18	1.2/50Hz Impulse wave 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)	50 kA
24	Rated time for above	Sec.	1
25	Rated dynamic current for primary	kA (Peak)	125
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			
a)	Radio interference voltage		As per IS 16627 Clause -6.11.2<2500uV
b)	Partial discharge level		<10 pC at Um & <5 pc at 1.2 Um/√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		0.56 Amp/sqmm
b)	Short time rating of 1 Sec.		17.69 Amp/sqmm
c)	Dynamic rating		44.23 Amp/sqmm
31	Type of primary winding		Aluminum
32	No. of primary turns		1
33	Type of secondary winding		Copper

Drawing approval subject to valid vendor registration

Chief Engineer/Projects
APTRANSCO/VS/Vijayawada.

34	Radio interference voltage	(micro volts)	
a)	with terminal connector mountd		<2500uV
b)	under test condition		<2500uV
35	Mounting details		450±5 x 450±5 mm
36	Source/grade of oil and standard with which it complies		EHV Grade Transformer Oil as per IS 335 /IEC 60296 of any reputed make
37	Quantity of insulating oil	Litres	225 Ltr Approx
38	Weight of Oil	kg	180 Kgs Approx
39	Total Weight including Oil	kg	900kG Approx
40	Overall dimensions (mm)		3800±100 x 900±75 x 450±5 mm
41	Wheather sealed (if so, type of sealing)		Yes, By SS BELLOW
42	Tan delta		<0.005
43	Height of supporting structure		Not in our scope of supply
44	Whether the following are enclosed with the tender		
a)	All type test reports		Yes
b)	Drawings as per the specification		Yes
c)	Technical literature for C.T.		Yes

1. Minimum 300mm plinth shall be maintained for CT/PT/CVT/Isolators/IV/LA/Breakers in the Substation during foundation works to ensure safe live to ground clearance as per IE rules.

2. Since the supply of terminal connectors is not in the scope of manufacturer as mentioned in the drawings. The EPC contractor shall be instructed to supply the same in line with CT/PT/CVT/Isolator/IVT/LA/Breakers requirement and compatibility.

EPC works only

**Chief Engineer/Projects
APTRANSCO/VS/Vijayawada.**