

LIST OF STANDARD DRAWINGS

FOR EPC CONTRACTS ONLY

SR.NO.	145 KV CURRENT TRANSFORMER	TITLE	DRAWING.NO.	REV.	CT RATIO : 100/1A	Creepage Distance = 31mm/kV	
						APPLICATION	RETURN
		RECORD					
		KIND	DATE	DATE	CC		
01	GENERAL ARRANGEMENT DRAWING	145CT HC 100-1A GA	R0	29.12.2021			
02	SECTIONAL VIEW	145CT HC 100-1A SV	R0	29.12.2021			
03	RATING & SCHEMATIC DIAGRAM	145CT HC 100-1A RS	R0	29.12.2021			
04	SECONDARY BOX ASSEMBLY	145CT HC 100-1A SB	R0	29.12.2021			

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

- AA : Application for Approval
- RA : Reapplication for Approval
- FD : Final Drawing
- RD : Reference Drawing
- AP : Approved
- AC : Approved with Corrections
- RC : Return for Corrections
- CC : Customer Comments

1). Minimum 300 mm Plinth shall be maintained for Current transformers in the substation during foundation works to ensure safe live to ground clearances as per IE rules.

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

Drawing approval subject to valid vendor registration

SURFACE FINISH.....
FINISH : MS COMPONENT- HOT DIP GALVANISED.

Customer : ATRANSCO
Customer Order Ref. :
QUANTITY :

Chief Engineer
Power Systems, Planning & Design
APTransco

PACKING DIMENSIONS : L-2750 x W-630 x H-1050 mm.
NET WEIGHT : 350 Kg. (Approx.)
GROSS WEIGHT : 450 Kg. (Approx.)

NO	REVISION	SIGN	DATE	NO	REVISION	SIGN	DATE	NO	REVISION	SIGN	DATE	LIST OF DRAWINGS		
												NAME	SSM	SDS
R6				R2				DRN	SSM			145 KV CURRENT TRANSFORMER		
R5				R1				CHD	SSM			TYPE-CT:145/275/650		
								APPD.	SDS					
								SCALE	N.T.S.			DATE: 29.12.2021	ALL DIMENSIONS ARE IN mm	

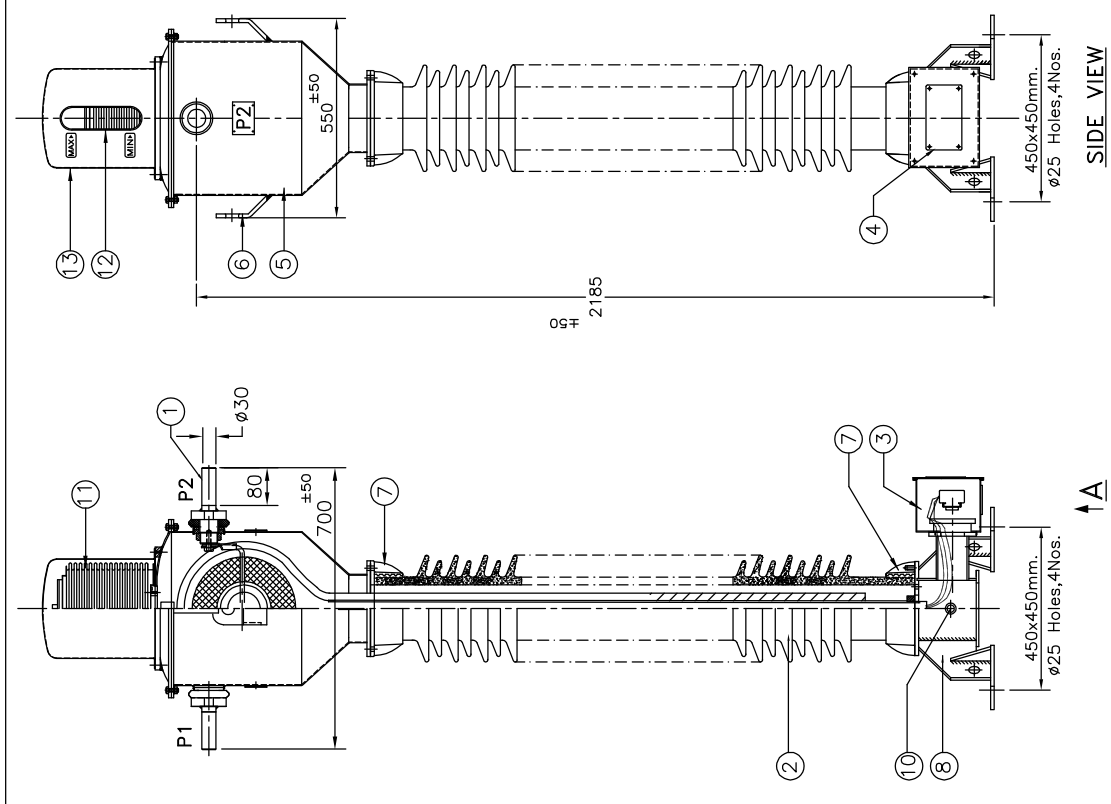


CG Power and Industrial Solutions Limited, Aurangabad
DRG.NO: 145CT HC 100-1A LD/R0

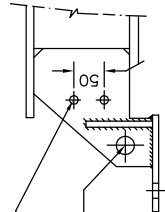
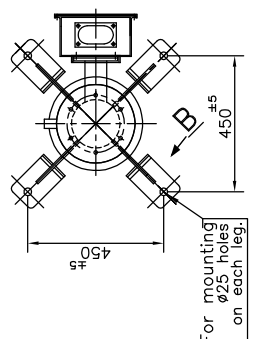
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601 SHELL

IF IN DOUBT ASK



VIEW FROM 'A'



VIEW FROM 'B'

NO.	QTY.	DESCRIPTION	MATERIAL/SPEC
1	2	PRIMARY TERMINAL-ø30x80L(MIN.)	COPPER
2	1	PORCELAIN INSULATOR	PORCELAIN
3	1	SECONDARY TERMINAL BOX	DRG.NO: 145CT HC 100-1A, SB
4	1	RATING & SCHEMATIC DIAGRAM	DRG.NO: 145CT HC 100-1A, RS
5	1	TANK (HOUSING)	MILD STEEL-HDG.
6	2	LIFTING LUG-ø35 HOLE	MILD STEEL-HDG.
7	2	PORCELAIN FLANGE	ALUMINIUM
8	1	BASE	MILD STEEL-HDG.
9	2	EARTHING HOLES	ø14 HOLES
10	1	OIL FILLING/DRAIN PLUG	STEEL PLATED
11	1	BELLOWS	STAINLESS STEEL
12	1	BELLOWS LEVEL INDICATOR	ACRYLIC
13	1	HOOD	ALUMINIUM

TECHNICAL SPECIFICATIONS
132 kV CURRENT TRANSFORMER

SPECIFICATION	UNIT	RATING
HIGHEST SYSTEM VOLTAGE (Ph-Ph)	Kilo Volts	145
HIGHEST SYSTEM VOLTAGE (Ph-E)	Kilo Volts	145/√3
POWER FREQUENCY WITHSTAND VOLTAGE FOR 1 MIN. (DRY & WET)	Kilo Volts	275
LIGHTNING IMPULSE WITHSTAND VOLTAGE	Kilo Volts(Peak)	650
FREQUENCY	Hz	50
TOTAL & NOMINAL	mm	4495
SPECIFIC CREEPAGE DISTANCE	mm/kV	31
TOTAL WEIGHT (±10%)	Kilogram	325
OIL VOLUME (±10%)	Litre	65
APPLICABLE STANDARDS	IS:16227-1&2 / IEC:61869-1&2	

PRIMARY WINDING MATERIAL : PAPER COVERED COPPER ROPE
PRIMARY CROSS SECTION AREA : 175 SQ.MM.(MIN.)

Chief Engineer
Power Systems, Planning & Design
APTrancco

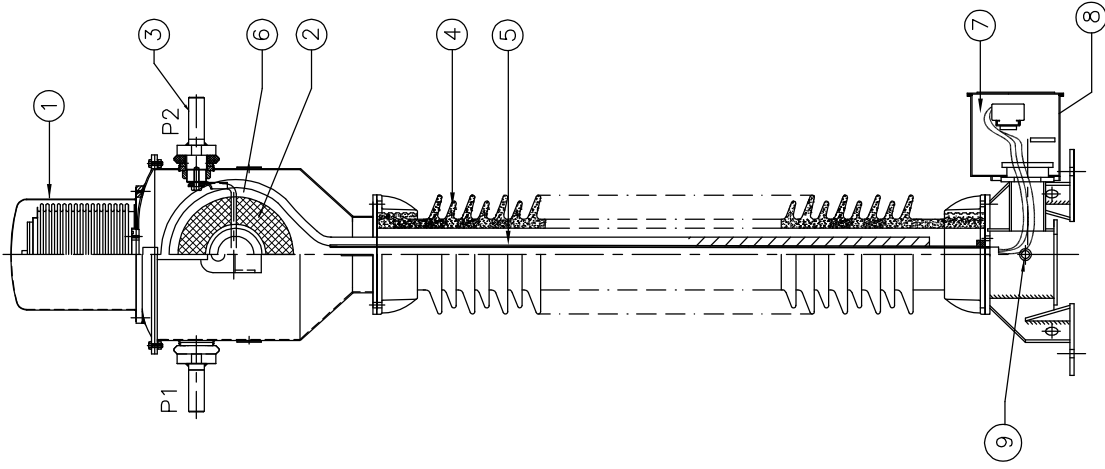
NOTE : PLEASE REFER INSTRUCTION MANUAL FOR HANDLING & TRANSPORTATION OF CT.

NO	REVISION	SIGN	DATE	SCALE	N.T.S.	DATE	REVISION	SIGN	DATE	SCALE	N.T.S.	DATE
R6												
R5												
R4												
R3												
R2												
R1												
NO												



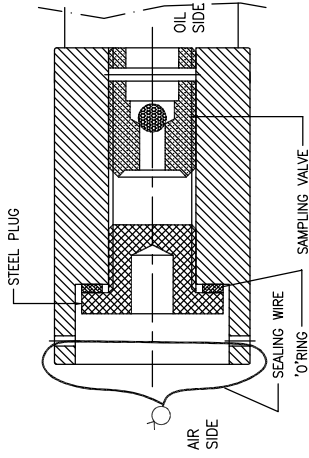
CG Power and Industrial Solutions Limited, Aurangabad
DRG.NO: 145CT HC 100-1A GA/RO

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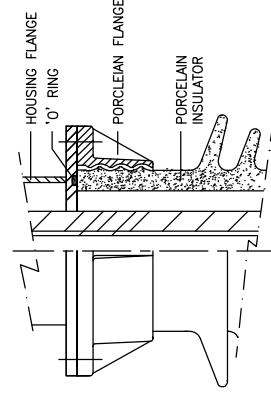
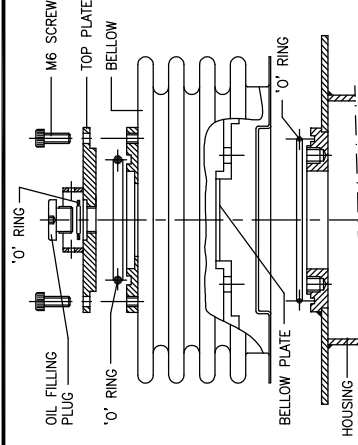


ITEM NO: 9

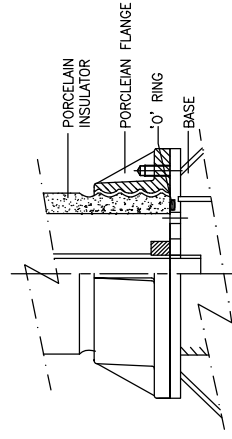
ASSEMBLY OF OIL SAMPLING VALVE



ASSEMBLY OF BELLOWS



DETAILS OF 'A'



DETAILS OF 'B'

Chief Engineer
Power Systems, Planning & Design
APTransco

ITEM	QTY.	DESCRIPTION
1	1	OIL LEVEL INDICATOR
2	1	CORE WITH SECONDARY WINDING
3	2	PRIMARY TERMINAL(ø30x80mm.Long.))
4	1	PORCELAIN INSULATOR
5	1	COND. BUSHING
6	1	METALLIC SHELL
7	3	SECONDARY TERMINALS
8	1	GLAND PLATE
9	1	OIL SAMPLING VALVE

REVISION	NO	DATE	SIGN	SCALE	N.T.S.	DATE	SCALE	DATE	SIGN	REVISION	NO	DATE	SIGN	REVISION	NO	DATE	SIGN	
R6																		
R5																		
NO																		

SECTIONAL VIEW DRAWING	NAME	DRN	SCALE	DATE	SCALE	DATE	SCALE	DATE	SCALE
FOR 145 KV CURRENT TRANSFORMER	SSM	CHD							
TYPE-CT:145/275/650	SSM	APPD							
	SDS								

SECTIONAL VIEW DRAWING	NAME	DRN	SCALE	DATE	SCALE	DATE	SCALE	DATE	SCALE
FOR 145 KV CURRENT TRANSFORMER	SSM	CHD							
TYPE-CT:145/275/650	SSM	APPD							
	SDS								

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TYPE-CT:145/275/650	SSM	APPD							
	SDS								

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TYPE-CT:145/275/650	SSM	APPD							
	SDS								

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	SDS								

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	SDS								

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	SDS								

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TYPE-CT:145/275/650	SSM	APPD							
	SDS								

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	SDS								

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TYPE-CT:145/275/650	SSM	APPD							
	SDS								

SECTIONAL VIEW DRAWING	NAME	DRN	SCALE	DATE	SCALE	DATE	SCALE	DATE	SCALE
FOR 145 KV CURRENT TRANSFORMER	SSM	CHD							
TYPE-CT:145/275/650	SSM	APPD							
	SDS								

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TYPE-CT:145/275/650	SSM	APPD							
	SDS								

SECTIONAL VIEW DRAWING	NAME	DRN	SCALE	DATE	SCALE	DATE	SCALE	DATE	SCALE
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TYPE-CT:145/275/650	SSM	APPD							
	SDS								

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	SDS								

SECTIONAL VIEW DRAWING	NAME	DRN	SCALE	DATE	SCALE	DATE	SCALE	DATE	SCALE
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TYPE-CT:145/275/650	SSM	APPD							
	SDS								

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	SDS								

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	SDS								

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TYPE-CT:145/275/650	SSM	APPD							
	SDS								

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FOR 145 KV CURRENT TRANSFORMER	SSM	CHD							
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	SDS								

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	SDS								

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	SDS								

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	SDS								

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TYPE-CT:145/275/650	SSM	APPD							
	SDS								

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TYPE-CT:145/275/650	SSM	APPD							
	SDS								

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FOR 145 KV CURRENT TRANSFORMER	SSM	CHD							
TYPE-CT:145/275/650	SSM	APPD							
	SDS								

SECTIONAL VIEW DRAWING	NAME	DRN	SCALE	DATE	SCALE	DATE	SCALE	DATE	SCALE
FOR 145 KV CURRENT TRANSFORMER	SSM	CHD							
TYPE-CT:145/275/650	SSM	APPD							
	SDS								

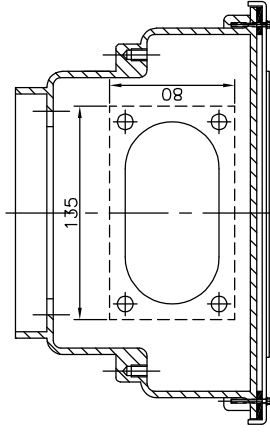
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FOR 145 KV CURRENT TRANSFORMER	SSM	CHD							
TYPE-CT:145/275/650	SSM	APPD							
	SDS								

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FOR 145 KV CURRENT TRANSFORMER	SSM	CHD							
TYPE-CT:145/275/650	SSM	APPD							
	SDS								

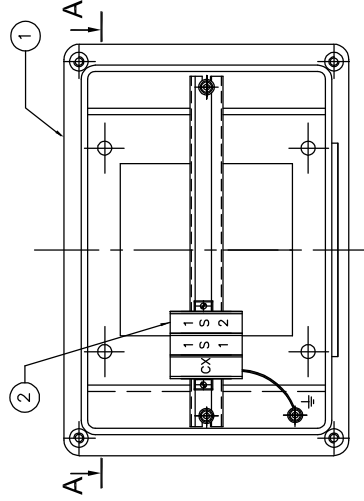
SECTIONAL VIEW DRAWING	NAME	DRN	SCALE	DATE	SCALE	DATE	SCALE	DATE	SCALE

Drawing approval subject to valid vendor registration

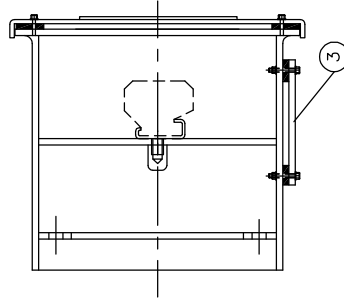
SL.NO.	QTY.	ITEM	MATERIAL	RM. SIZE / SPECIFICATION
1	1	SECONDARY BOX ASSEMBLY	ALUMINIUM	DRG.NO.-480684
2	3	SEC.TERMINAL BLOCK WITH MARKER	MELAMINE	MAKE: ELMEX KBT -M5-15
3	1	GLAND PLATE	ALUMINIUM	1.35x80 mm.
4	1	RATING & SCHEMATIC DIAGRAM	ALUMINIUM ANOD.	--



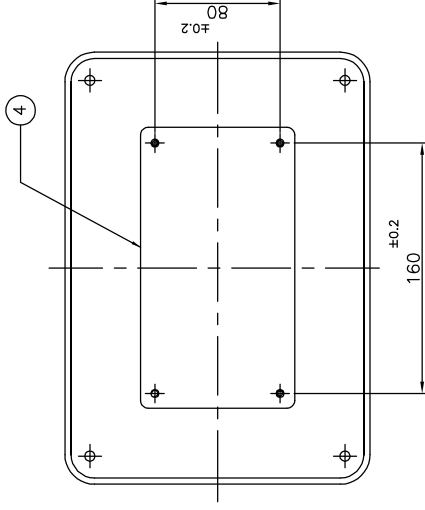
TOP VIEW (SECTION A-A)



ELEVATION



SIDE VIEW



COVER

IF IN DOUBT ASK

NOTES :-
 1) SECONDARY BOX ASSEMBLY TO CONFIRM IP55 AS PER IS:13947
 2) Cx:TERMINAL FOR CAPACITANCE & TAN DELTA MEASUREMENT ONLY. SHOULD BE KEPT EARTHED WHEN NOT IN USE.

Chief Engineer
 Power Systems, Planning & Design
 APTransco

NO	REVISION	SIG	DATE	SCALE	N.T.S.	DATE	29.12.2021	SIGN	DATE	29.12.2021	ALL DIMENSIONS ARE IN mm
R6				R2				DRN			SECONDARY BOX ASSEMBLY FOR 45 KV CURRENT TRANSFORMER TYPE-CT:45I275/650
R5				R1				CHD			
								APPD			
NO											



CS Power and Industrial Solutions Limited, Anaragabbai
 DRGNO: 145CT HC 100-1A SB/RO

CG Power and Industrial Solutions Limited
Vacuum Interrupters and Instrument Transformers Division: Power Systems
D-2, MIDC, Waluj, Aurangabad 431 136, Maharashtra, India
T: +91 240 255 8000 F: +91 240 255 4697



Page 1 of 2

**GUARANTEED TECHNICAL PARTICULARS FOR
CURRENT TRANSFORMERS**

REF.	145 KV CT	100/1A	High Creepage	Revision:	R0
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Sr#	Particulars	Unit	Values
1	Type/ Installation		Single Phase, Oil impregnated, Hermetically sealed, Outdoor Current Transformer. LIVE Tank Type
2	Manufacturer's Name and Country of Manufacture		CG Power and Industrial Solutions Limited Aurangabad, India
3	Manufacturers Type designation		CT:145/275/650
4	Highest System Voltage (Phase to phase)	kV	145
5	Type of insulation used		Class A (Oil Impregnated Paper)
6	Rated Frequency	Hz	50
7	Suitable for Altitude (Max)	Meters	1000
8	Conforming to Standard		IS: 16227-1&2 / IEC: 61869-1&2
9	Rated System Voltage (Phase to Earth)	kV	132/V3
10	Rated Primary Current	Amps	Refer Table on Page-2
11	Rated Secondary Current	Amps	Refer Table on Page-2
12	Details of Cores		Refer Table on Page-2
13	Rated Continuous current rating		120% of Rated Current
14	Ratio selection (taps) by		Secondary Taps Only.
15	No. of Secondary Cores		1
16	Rated Short Time withstand Current & duration	kAmps/secs	31.5 kA for 1 Sec.
17	Dynamic peak withstand current	kA peak	78.75
18	One minute Power Frequency (Wet & Dry) withstand Voltage on Primary Winding	kV rms	275
19	1.2/50 micro sec. Lightning Impulse withstand Voltage	kV peak	650
20	One minute Power Frequency withstand Voltage on Secondary Winding	kV rms	3
21	Total Creepage distance	mm (mm/kV)	4495 (31 mm/kV)
22	Primary Terminal material & details		Copper ϕ 30 x 80 mm long
23	Surface Finish of MS components exposed to atmosphere		Hot Dip Galvanised.
24	Secondary Terminal Box arrangement		Single Door Box.
25	Volume of Oil	Litres	65 +/-10%
26	Total weight of equipment	kg	350 +/-10%
27	Mounting details	mm	4 Holes of Dia. 25 mm. @ 450x450 mm.
28	Material of Tank/Housing		Mild Steel
29	Dielectric Dissipation Factor (Tan-Delta)		< 0.005
30	Measurement of Partial Discharge @ 1.2 UM/ $\sqrt{3}$	pC	< 5
31	Measurement of Partial Discharge @ UM	pC	< 10

145LT601MS

Registered Office:
CG House, 6th Floor, Dr Annie Besant Road, Worli, Mumbai 400 030, India
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Corporate Identity Number: L99999MH1937PLC002641

Drawing approval subject to valid vendor registration

Chief Engineer
Power Systems, Planning & Design
APTransco

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Vacuum Interrupters and Instrument Transformers Division: Power Systems
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Page 2 of 2

REF.	145 KV CT	100/1A	Revision:	R0
32	RIV @ 1.1 UM/ Root3		< 2500 micro Volts	
33	Sesmic Acceleration		0.3 g	
34	Porcelain Make		CJI/IEC/RCPL/Modern	

TABLE - CORE DETAILS

CORE NO.	I				
PRIMARY CURRENT	100				
SEC. CURRENT (Amps)	1				
PRIMARY TERMINALS	P1 - P2				
SEC. TERMINALS	1S1 - 1S2				
ACCURACY CLASS	0.2S				
BURDEN (VA)	5				
ISF (for METERING)	≤ 5				
ALF (For PROTECTION)					
KNEE POINT VOLTAGE					
I _{exc} (MAX), mA					

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

- 1). Minimum 300 mm Plinth shall be maintained for Current transformers in the substation during foundation works to ensure safe live to ground clearances as per IE rules.
- 2). Since the supply of terminal connectors is not in the scope of CT Manufacturer as mentioned in the drawings, the EPC contractors shall be instructed to supply the same in line with the CT requirement and compatibility.

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Chief Engineer
 Power Systems, Planning & Design
 APTransco