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

7000628/2023/EEMRO-ENE51

IF IN DOUBT ASK

LIST OF STANDARD DRAWINGS

145 KV CURRENT TRANSFORMER			CT RATIO : 800-600-500/1-1A, 800-600-500-300/1A				
SR.NO.	TITLE	DRAWING.NO.	REV.	RECORD			
				APPLICATION		RETURN	
				KIND	DATE	DATE	CC
01	GENERAL ARRANGEMENT DRAWING	145CT HC 800-600-500-1A GA	R0	AA	21.02.2023		
02	RATING & SCHEMATIC DIAGRAM	145CT HC 800-600-500-1A RS	R0	AA	21.02.2023		
03	SECONDARY BOX ASSEMBLY	145CT HC 800-600-500-1A SB	R0	AA	21.02.2023		

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

5VA Burden at 0.5 class only
Factory acceptance test for 0.5 class at 5VA and PX for core 1

TANDU SUDEEVAN KUMAR

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Date: 2023.03.13 12:31:34 +05'30'

Chief Engineer/Projects
APTRANSCO/VS/Vijayawada.

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PACKING DIMENSIONS : L-2850 x W-760 x H-985 mm.
NET WEIGHT : 400 Kg. (Approx.)
GROSS WEIGHT : 550 Kg. (Approx.)

SURFACE FINISH.....
FINISH. :- PU. PAINTED, PAINT SHADE 631 OF IS:5.

Customer : APTRANSCO
Customer Order Ref. :
QUANTITY :

NO	REVISION	SIGN	DATE	NO	REVISION	SIGN	DATE	NO	REVISION	SIGN	DATE
R6				R4				R2			
R5				R3				R1			

	SIGN	NAME
DRN		NVN
CHD		YGW
APPD		SDS
SCALE	N.T.S.	DATE: 21.02.2023

LIST OF DRAWINGS
145 KV CURRENT TRANSFORMER

ALL DIMENSIONS ARE IN mm

CG Power and Industrial Solutions Limited, Aurangabad

DRG.NO: 145CT HC 800-600-500-1A LD/RO

LC2 SHELL

IF IN DOUBT ASK

NOTE: 1. DRAWING APPROVAL SUBJECT TO VALID TYPE TEST REPORTS, TO BE CHECKED DURING ACCEPTEANCE TESTS
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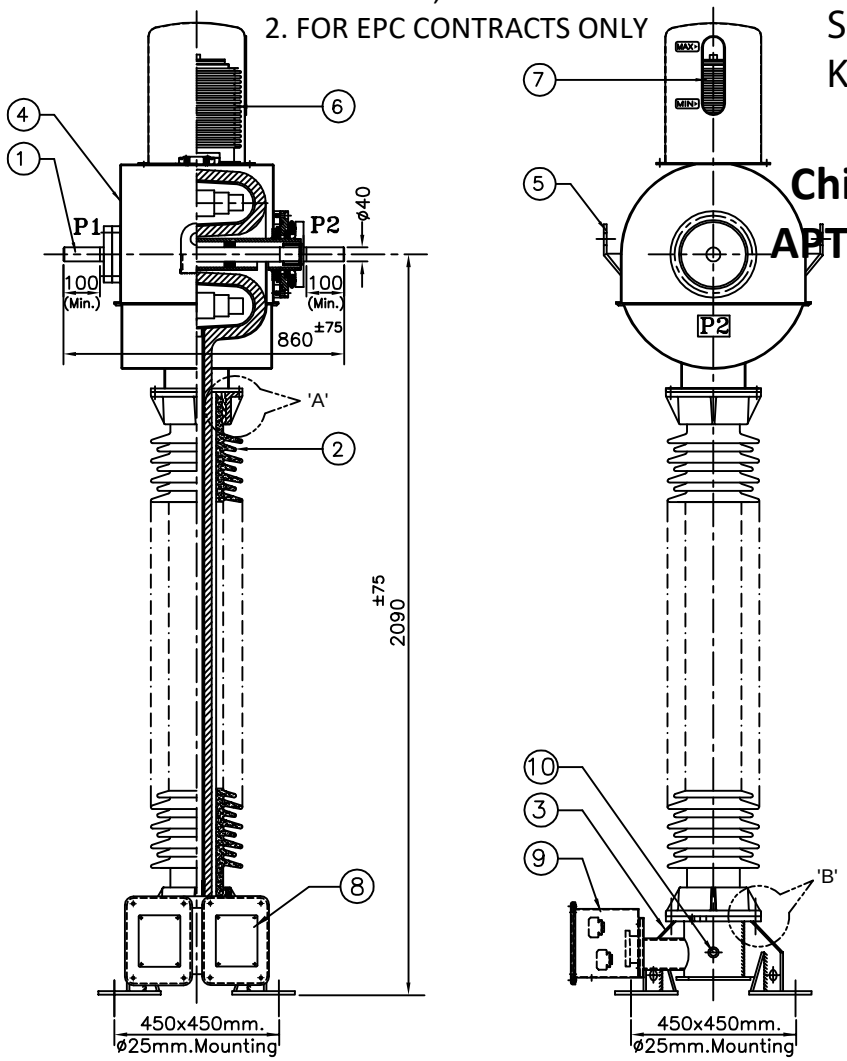
Date: 2023.03.13 12:31:55 +05'30'

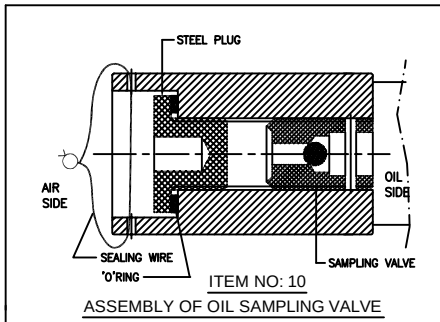
Chief Engineer/Projects
APTRANSCO/VS/Vijayawada.

ITEM	QTY.	DESCRIPTION	MATERIAL
1	2	PRIMARY TERMINAL–ø40x100L(Min.)	ALUMINIUM
2	1	PORCELAIN INSULATOR	PORCELAIN COLOUR–BROWN
3	1	BASE	MILD STEEL
4	1	HOUSING	MILD STEEL
5	2	LIFTING LUG–ø35 HOLE	MILD STEEL
6	1	BELLOWS	STAINLESS STEEL
7	1	BELLOWS LEVEL INDICATOR	POLYCORBONATE
8	1	RATING & SCHEMATIC DIAGRAM	ALUMINIUM
9	1	SECONDARY BOX	MILD STEEL
10	1	OIL FILLING/SAMPLING VALVE	STEEL PLATED

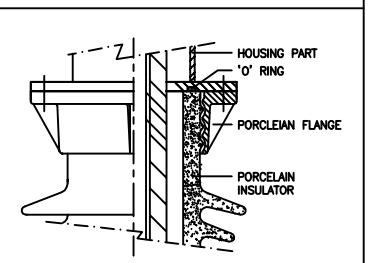


SIDE VIEW

FRONT VIEW

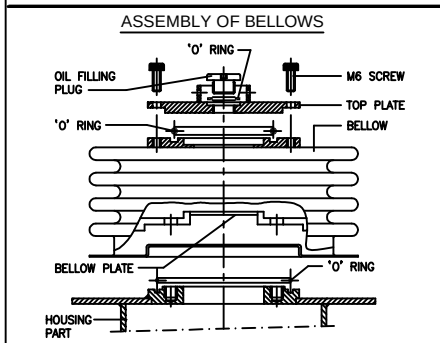


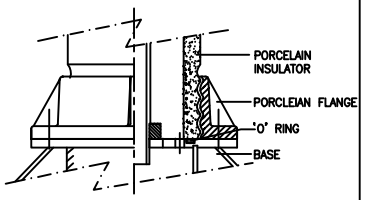
ITEM NO: 10
ASSEMBLY OF OIL SAMPLING VALVE



DETAILS OF 'A'

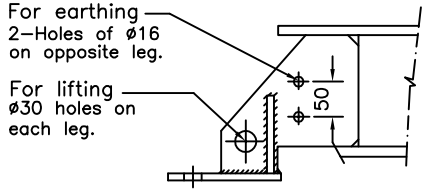
ASSEMBLY OF BELLOWS





DETAILS OF 'B'

EARTHING & LIFTING DETAILS



NOTE : PLEASE REFER INSTRUCTION MANUAL FOR HANDLING & TRANSPORTATION OF CT.
SECONDARY WINDING ENAMEL INSULATION SHALL BE OF CLASS 'H' TYPE
Dimensions shown are tentetive and may change during detailed design/engineering.

NO	REVISION	SIGN	DATE	NO	REVISION	SIGN	DATE
R4				R2			
R3				R1			

	SIGN	NAME
DRN		NVN
CHD		YGW
APPD		SDS

GENERAL ARRANGEMENT DRAWING FOR 145 KV CURRENT TRANSFORMER

SCALE N.T.S. DATE : 21.02.2023 ALL DIMENSIONS ARE IN mm

CG Power and Industrial Solutions Limited, Aurangabad

DRG.NO: 145CT HC 800–600–500–1A GA/R0

Drawing approval subject to valid vendor registration

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NOTE: 1. DRAWING APPROVAL SUBJECT TO VALID TYPE TEST
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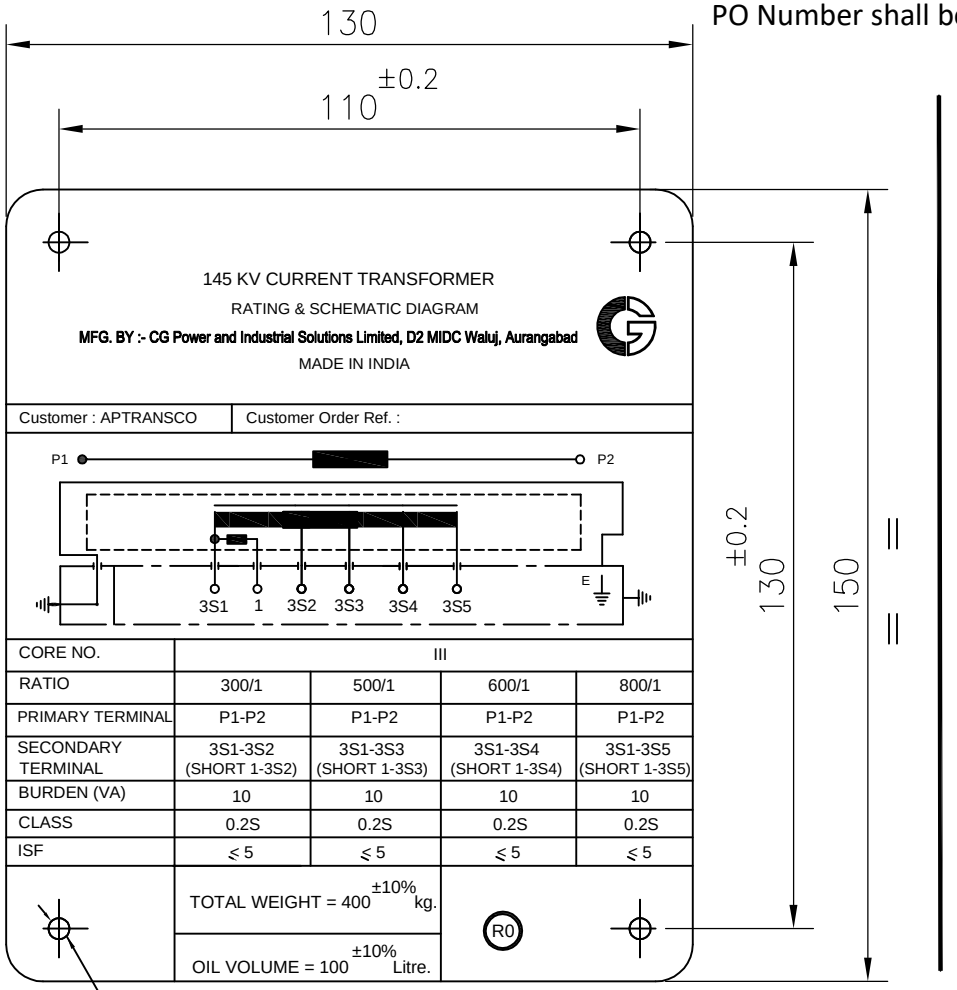
2. FOR EPC CONTRACTS ONLY

PO Number shall be printed

Chief Engineer/Projects
APTRANSCO/VS/Vijayawada.

IF IN DOUBT ASK



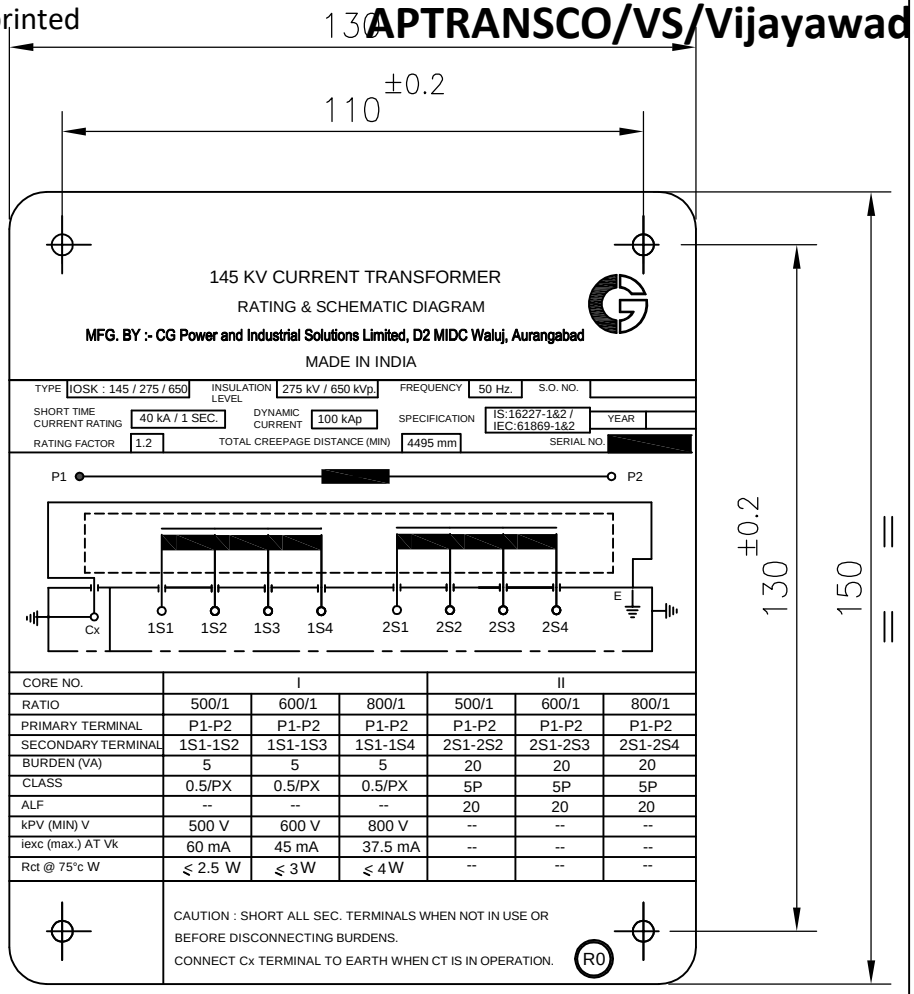
CORE NO.	III			
RATIO	300/1	500/1	600/1	800/1
PRIMARY TERMINAL	P1-P2	P1-P2	P1-P2	P1-P2
SECONDARY TERMINAL	3S1-3S2 (SHORT 1-3S2)	3S1-3S3 (SHORT 1-3S3)	3S1-3S4 (SHORT 1-3S4)	3S1-3S5 (SHORT 1-3S5)
BURDEN (VA)	10	10	10	10
CLASS	0.2S	0.2S	0.2S	0.2S
ISF	≤ 5	≤ 5	≤ 5	≤ 5

TOTAL WEIGHT = 400 ±10% kg.

OIL VOLUME = 100 ±10% Litre.

R0

ø4.5 Holes,4Nos.
Material–AL. (Photo metallic)



CORE NO.	I			II		
RATIO	500/1	600/1	800/1	500/1	600/1	800/1
PRIMARY TERMINAL	P1-P2	P1-P2	P1-P2	P1-P2	P1-P2	P1-P2
SECONDARY TERMINAL	1S1-1S2	1S1-1S3	1S1-1S4	2S1-2S2	2S1-2S3	2S1-2S4
BURDEN (VA)	5	5	5	20	20	20
CLASS	0.5/PX	0.5/PX	0.5/PX	5P	5P	5P
ALF	--	--	--	20	20	20
kPV (MIN) V	500 V	600 V	800 V	--	--	--
iexc (max.) AT Vk	60 mA	45 mA	37.5 mA	--	--	--
Rct @ 75°c W	≤ 2.5 W	≤ 3W	≤ 4W	--	--	--

CAUTION : SHORT ALL SEC. TERMINALS WHEN NOT IN USE OR BEFORE DISCONNECTING BURDENS.
CONNECT Cx TERMINAL TO EARTH WHEN CT IS IN OPERATION.

R0

CT SR.NOs :

Drawing approval subject to valid vendor registration

NO	REVISION	SIGN	DATE
R6			
R5			
R4			
R3			
R2			
R1			

	SIGN	NAME
DRN		NVN
CHD		YGW
APPD		SDS

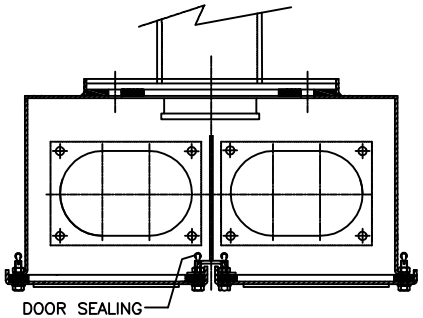
RATING & SCHEMATIC DIAGRAM FOR 145 kV CURRENT TRANSFORMER

CG Power and Industrial Solutions Limited, Aurangabad

SCALE N.T.S. | DATE: 21.02.2023 | ALL DIMENSIONS ARE IN mm | DRG.NO: 145CT HC 800–600–500–1A RS/R0

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

SL NO.	QTY	ITEM	RM SIZE/SPECIFICATION
3	1	SECONDARY BOX.	MILD STEEL
2	2	GLAND PLATE	MILD STEEL
1	15+3	SECONDARY TERMINAL BLOCK WITH MARKER	MAKE: ELMEX OR EQUIL.



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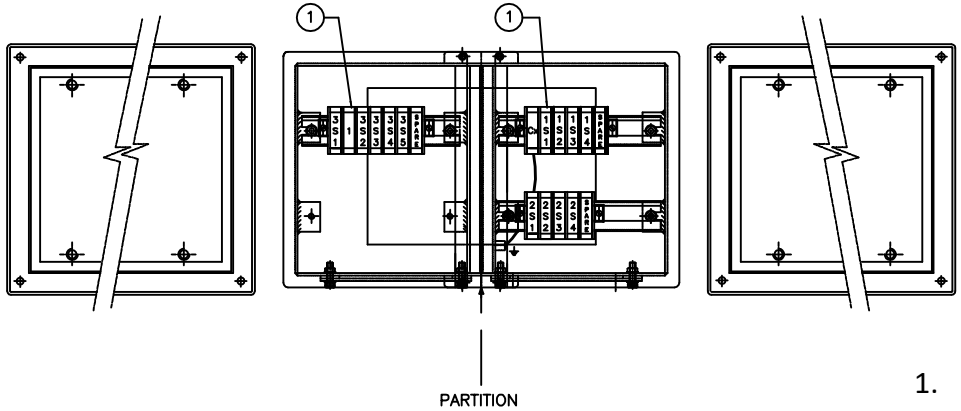
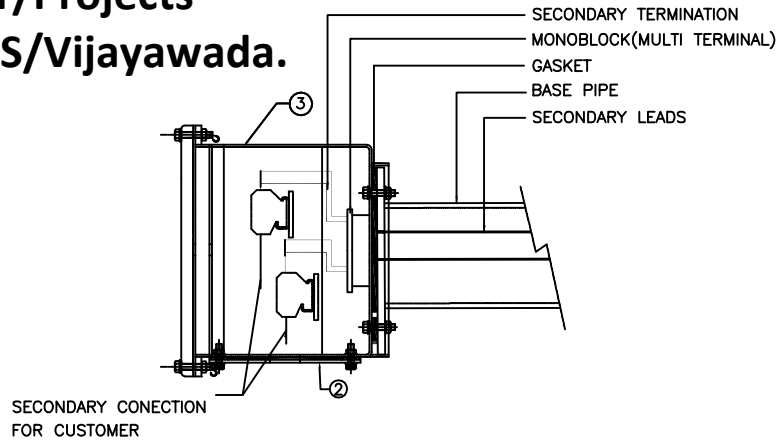
Chief Engineer/Projects
APTRANSCO/VS/Vijayawada.





1. Minimum 300mm plinth shall be maintained for CT/PT/CVT/ Isolators/IVT 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 /IVTs requirement and compatibility.

NOTES :
1) SECONDARY BOX ASSEMBLY TO CONFIRM IP55 AS PER IS:13947
2) Cx:TERMINAL FOR CAPACITANCE & TAN DELTA MESUREMENT ONLY. SHOULD BE KEPT EARTHED WHEN NOT IN USE.
3) Dimensions shown are tentetive and may change during detailed design/engineering.

NO	REVISION	SIGN	DATE
R6			
R5			
R4			
R3			
R2			
R1			

	SIGN	NAME
DRN		NVN
CHD		YGW
APPD		SDS
SCALE	N.T.S.	DATE: 21.02.2023

SECONDARY BOX ASSEMBLY FOR 145 kV CURRENT TRANSFORMER

ALL DIMENSIONS ARE IN mm

CG Power and Industrial Solutions Limited, Aurangabad

DRG.NO: 145CT HC 800-600-500-1A SB/R0

IF IN DOUBT ASK

Drawing approval subject to valid vendor registration

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

GUARANTEED TECHNICAL PARTICULARS FOR CURRENT TRANSFORMERS

REF.	145 KV CT	800-600-500/1-1A & 800-600-500-300/1A	High Creepage.	Revision:	R0

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		IOSK: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/√3
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		**3**
16	Rated Short Time withstand Current & duration	kAmps/secs	*40 kA for 1 Sec.*
17	Dynamic peak withstand current	kA peak	100
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		Aluminium, ϕ 40 x 100 mm long
23	Surface Finish of MS components exposed to atmosphere		PU. Painted.
24	Secondary Terminal Box arrangement		Single Door Box.
25	Volume of Oil	Litres	100 +/-10%
26	Total weight of equipment	kg	400 +/-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/ √3	pC	< 5
31	Measurement of Partial Discharge @ UM	pC	< 10

145LTLC2ALFF

Registered Office:
CG House, 6th Floor, Dr Annie Besant Road, Worli, Mumbai 400 030, India
T: +91 22 2423 7777 F: +91 22 2423 7733 W: www.cgglobal.com
Corporate Identity Number: L99999MH1937PLC002641

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5VA Burden at 0.5 class only

Factory acceptance test for 0.5 class at 5VA and PX for core 1

PO Number shall be printed

TANDU SUDEEVAN KUMAR

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Date: 2023.03.13 12:32:52 +05'30'

Chief Engineer/Projects
APTRANSCO/VS/Vijayawada.

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

REF.	145 KV CT	800-600-500/1-1A & 800-600-500-300/1A	High Creepage.	Revision:	R0

TABLE - CORE DETAILS

CORE NO.	I	II	III			
PRIMARY CURRENT	500-600-800	500-600-800	300-500-600-800			
SEC. CURRENT (Amps)	1	1	1			
PRIMARY TERMINALS	P1 - P2	P1 - P2	P1 - P2			
SEC. TERMINALS	1S1 - 1S2 - 1S3 - IS4	2S1 - 2S2 - 2S3 - 2S4	3S1 - 3S2 - 3S3 - 3S4 - 3S5			
ACCURACY CLASS	0.5 / PX	5P	0.2S			
BURDEN (VA)	5	20	10			
ISF (for METERING)	-		≤ 5			
ALF (For PROTECTION)	-	20				
KNEE POINT VOLTAGE	500-600-800					
Iexc (MAX), mA	60-45-37.5 @ Vk					
RCT @ 75 Deg. Cel.	≤ 2.5-3-4					

1. Minimum 300mm plinth shall be maintained for CT/PT/CVT/ Isolators/IVT 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 /IVTs requirement and compatibility.

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Date: 2023.03.13 12:33:10 +05'30'

Chief Engineer/Projects
APTRANSCO/VS/Vijayawada.

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