LIST OF STANDARD DRAWINGS

FOR EPC CONTRACTS ONLY

145 KV CURRENT TRANSFORMER		CT RATIO : 100/1A		Creepage Distance = 25mm/kV			
SR.NO.	TITLE	DRAWING.NO.	REV.	RECORD			
				APPLICATION		RETURN	
				KIND	DATE	DATE	CC
01	GENERAL ARRANGEMENT DRAWING	145CT 100-1A GA	R0	AA	29.12.2021		
02	SECTIONAL VIEW	145CT 100-1A SV	R0	AA	29.12.2021		
03	RATING & SCHEMATIC DIAGRAM	145CT 100-1A RS	R0	AA	29.12.2021		
04	SECONDARY BOX ASSEMBLY	145CT 100-1A SB	R0	AA	29.12.2021		

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

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.

Drawing approval subject to valid vendor registration

PODIUM SURYACHANDRAM

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Date: 2022.01.19 11:02:49 +05'30'

Chief Engineer
Power Systems, Planning & Design
APTransco

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

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

Customer : APTRANSCO
Customer Order Ref. :
QUANTITY :

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

	SIGN	NAME
DRN		SSM
CHD		SSM
APPD		SDS
SCALE	N.T.S.	DATE: 29.12.2021

LIST OF DRAWINGS
145 KV CURRENT TRANSFORMER
TYPE–CT:145/275/650

ALL DIMENSIONS ARE IN mm

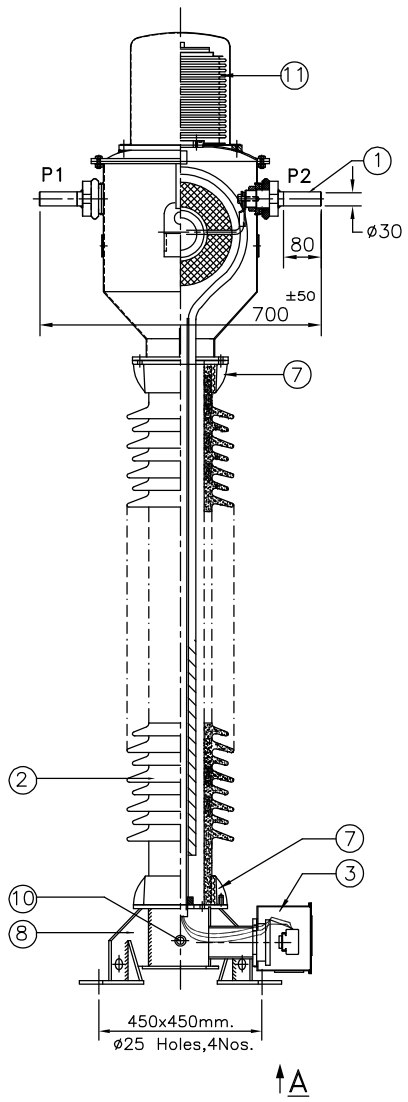
CG Power and Industrial Solutions Limited, Aurangabad

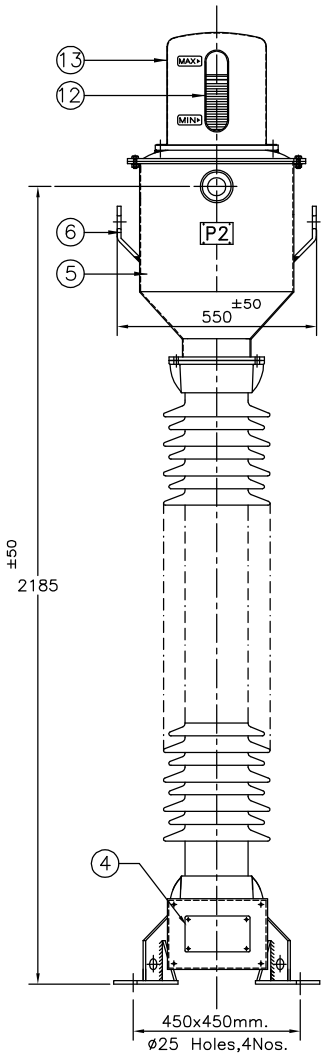
DRG.NO: 145CT 100–1A LD/R0

IF IN DOUBT ASK

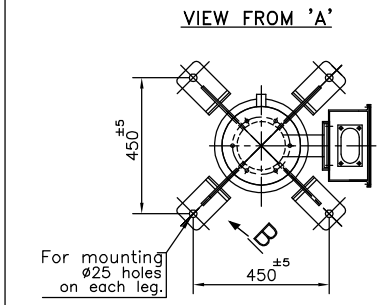
601 SHELL

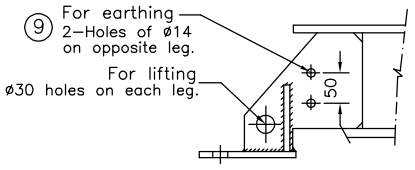
IF IN DOUBT ASK





SIDE VIEW





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 100-1A SB
4	1	RATING & SCHEMATIC DIAGRAM	DRG.NO: 145CT 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 SPECIFIC CREEPAGE DISTANCE	mm	3625
	mm/kV	25
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.)

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

PODIUM SURYACHANDRAM

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Date: 2022.01.19 11:03:05 +05'30'

Chief Engineer
Power Systems, Planning & Design
APTransco

NO	REVISION	SIGN	DATE
R6			
R5			
R4			
R3			
R2			
R1			

	SIGN	NAME
DRN		SSM
CHD		SSM
APPD		SDS

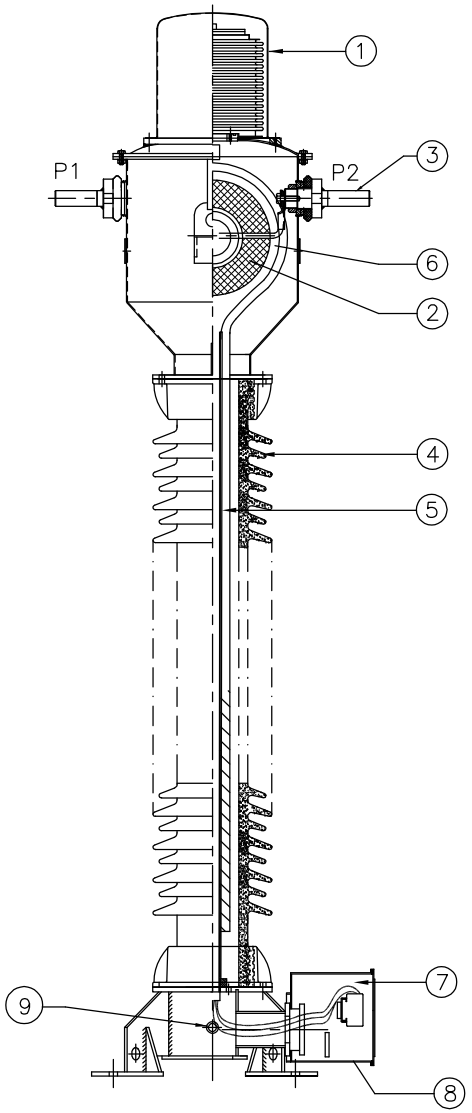
GENERAL ARRANGEMENT DRAWING
132 kV CURRENT TRANSFORMER
TYPE-CT:145/275/650

SCALE N.T.S. DATE : 29.12.2021 ALL DIMENSIONS ARE IN mm

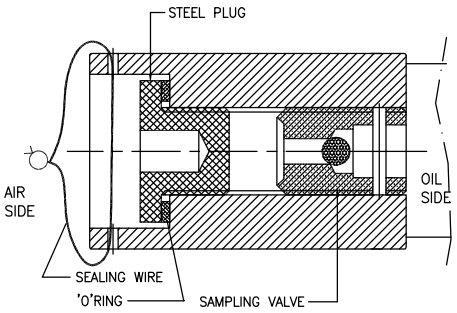
CG Power and Industrial Solutions Limited, Aurangabad

DRG.NO: 145CT 100-1A GA/R0

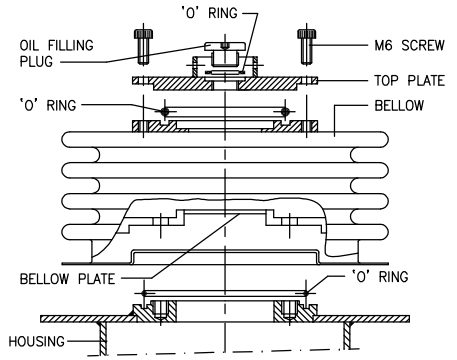
IF IN DOUBT ASK



ITEM NO: 9
ASSEMBLY OF OIL SAMPLING VALVE



ASSEMBLY OF BELLOWS



ITEM	QTY.	DESCRIPTION
1	1	OIL LEVEL INDICATOR
2	1	CORE WITH SECONDARY WINDING
3	2	PRIMARY TERMINAL(ø30x80mm.Long.Nos)
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

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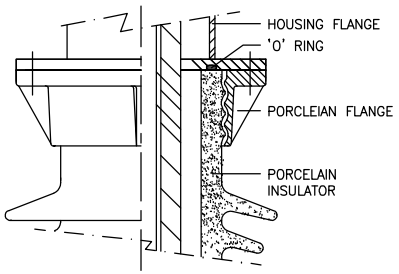
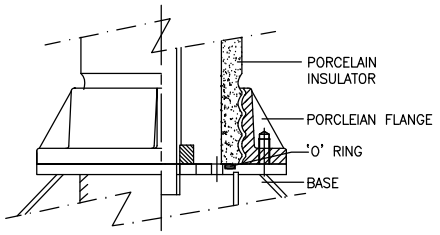


DETAILS OF 'A'



DETAILS OF 'B'

NO	REVISION	SIGN	DATE
R6			
R5			
R4			
R3			
R2			
R1			

	SIGN	NAME
DRN		SSM
CHD		SSM
APPD		SDS
SCALE	N.T.S.	DATE : 29.12.2021

SECTIONAL VIEW DRAWING
FOR 145 kV CURRENT TRANSFORMER
TYPE-CT:145/275/650

ALL DIMENSIONS ARE IN mm

CG Power and Industrial Solutions Limited, Aurangabad

DRG.NO:-145CT 100-1A SV/R0

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

Drawing approval subject to valid vendor registration

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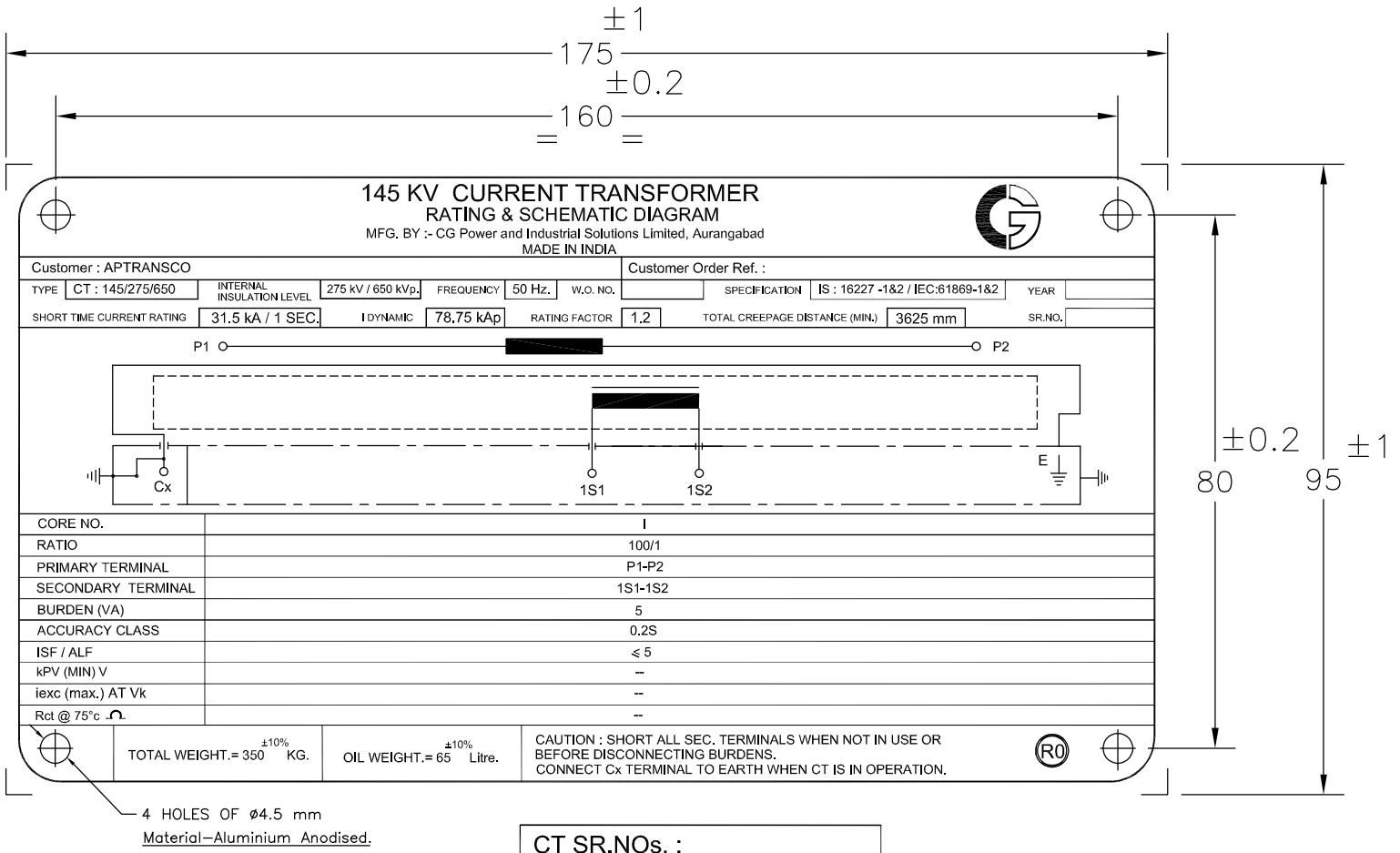
IF IN DOUBT ASK



CT SR.NOs. :

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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NO	REVISION	SIGN	DATE
R6			
R5			
R4			
R3			
R2			
R1			

	SIGN	NAME
DRN		SSM
CHD		SSM
APPD		SDS

RATING & SCHEMATIC DIAGRAM FOR 145 kV CURRENT TRANSFORMER TYPE–CT:145/275/650

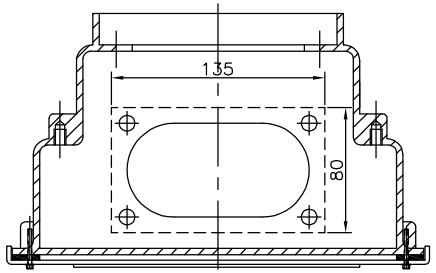
SCALE N.T.S. DATE :29.12.2021 ALL DIMENSIONS ARE IN mm

CG Power and Industrial Solutions Limited, Aurangabad

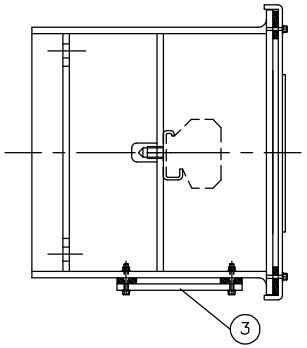
DRG.NO:- 145CT 100-1A RS/R0

IF IN DOUBT ASK

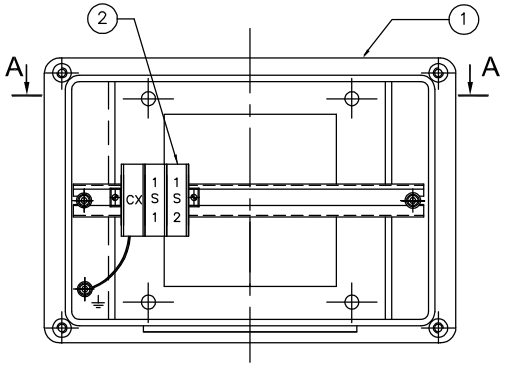
SL.NO.	QTY	ITEM	MATERIAL	RM SIZE/SPECIFICATION
1	1	SECONDARY BOX ASSEMBLY	ALUMINIUM	DRG.NO.–480684
2	3	SEC.TERMINAL BLOCK WITH MARKER	MELAMINE	MAKE: ELMEX KBT M5–15
3	1	GLAND PLATE	ALUMINIUM	135x80 mm.
4	1	RATING & SCHEMATIC DIAGRAM	ALUMINIUM ANOD.	––



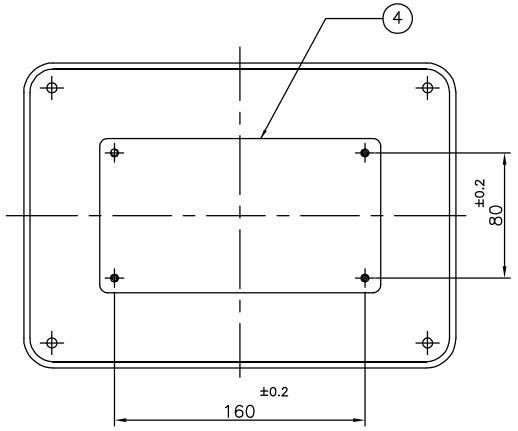
TOP VIEW (SECTION A-A)



SIDE VIEW



ELEVATION



COVER

PODIUM SURYACHANDRAM

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Date: 2022.01.19 11:03:45 +05'30'

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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.

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

	SIGN	NAME
DRN		SSM
CHD		SSM
APPD		SDS

SECONDARY BOX ASSEMBLY
FOR 145 kV CURRENT TRANSFORMER
TYPE-CT:145/275/650

SCALE N.T.S. DATE: 29.12.2021 ALL DIMENSIONS ARE IN mm

CG Power and Industrial Solutions Limited, Aurangabad

DRG.NO: 145CT 100-1A SB/R0

5418739/2022/EEMRT-ENE51

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	100/1A	Normal 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		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/√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		**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)	3625 (25 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/ √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
T: +91 22 2423 7777 F: +91 22 2423 7733 W: www.cgglobal.com
Corporate Identity Number: L99999MH1937PLC002641

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

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Chief Engineer
Power Systems, Planning & Design
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FOR EPC CONTRACTS ONLY

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Drawing approval subject to valid vendor registration

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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	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						
Iexc (MAX), mA						

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

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