

DRG.NO: 3-KAD 5351

IF IN DOUBT, ASK

LIST OF STANDARD DRAWINGS APPLICABLE FOR 245 KV CT

SR. NO.	DESCRIPTION	DRG./DOC.NO.	APP. CAT.	REMARKS
01	GENERAL ARRANGEMENT	3-KAD 5352/R0		
02	RATING/SCHEMATIC PLATE	3-KAD 5353/R0		
03	SECONDARY TERMINAL BOX G.A.	3-KAD 5354/R0		
04	SECTIONAL VIEW	3-KAD 5355/R0		

LIST OF VARIABLE DRAWINGS APPLICABLE FOR 245 KV CT

SR. NO.	DESCRIPTION	DRAWING NO.
01	COVER SHEET	AS APPLICABLE
02	RATING/SCHEMATIC PLATE	AS APPLICABLE


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

REMARKS	APPROVAL LETTER NO.

- 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.

CHIEF ENGINEER/CONSTRUCTION  
APTRANSCO

CUSTOMER : APTRANSCO			
4		GEN. TOL.	MATL.: SPEC.:
3		THIRD ANGLE PROJECTION	
2		SCALE: NTS	INITIALS NAME
1		ALL DIMNS. IN MM. UNLESS OTHERWISE SPECIFIED.	ORG NSB CHD SHB APPD USS
NO	REVISION	SIGN	DATE
		DATE : 15.02.2021	
TITLE : LIST OF STANDARD DRGS. / DOCUMENTS APPLICABLE ( FOR 245 KV CT ) (800-1200-1600/1-1-1-1 A)			REV 0
 <b>CG Power and Industrial Solutions Limited</b> S1 - DIVISION, AMBAD, NASHIK			DRG.NO: 3-KAD 5351

All information contained in this document is confidential & should not be used without prior consent of CG Power and Industrial Solutions Limited

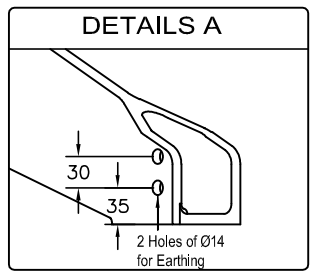
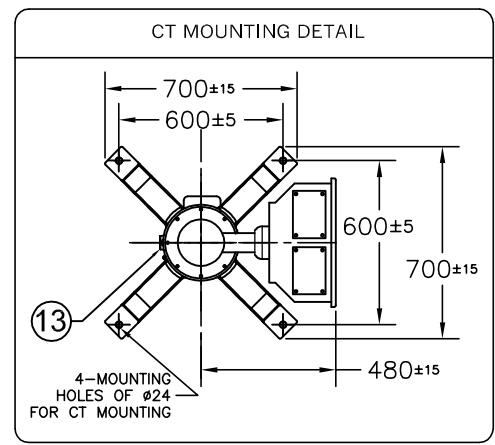
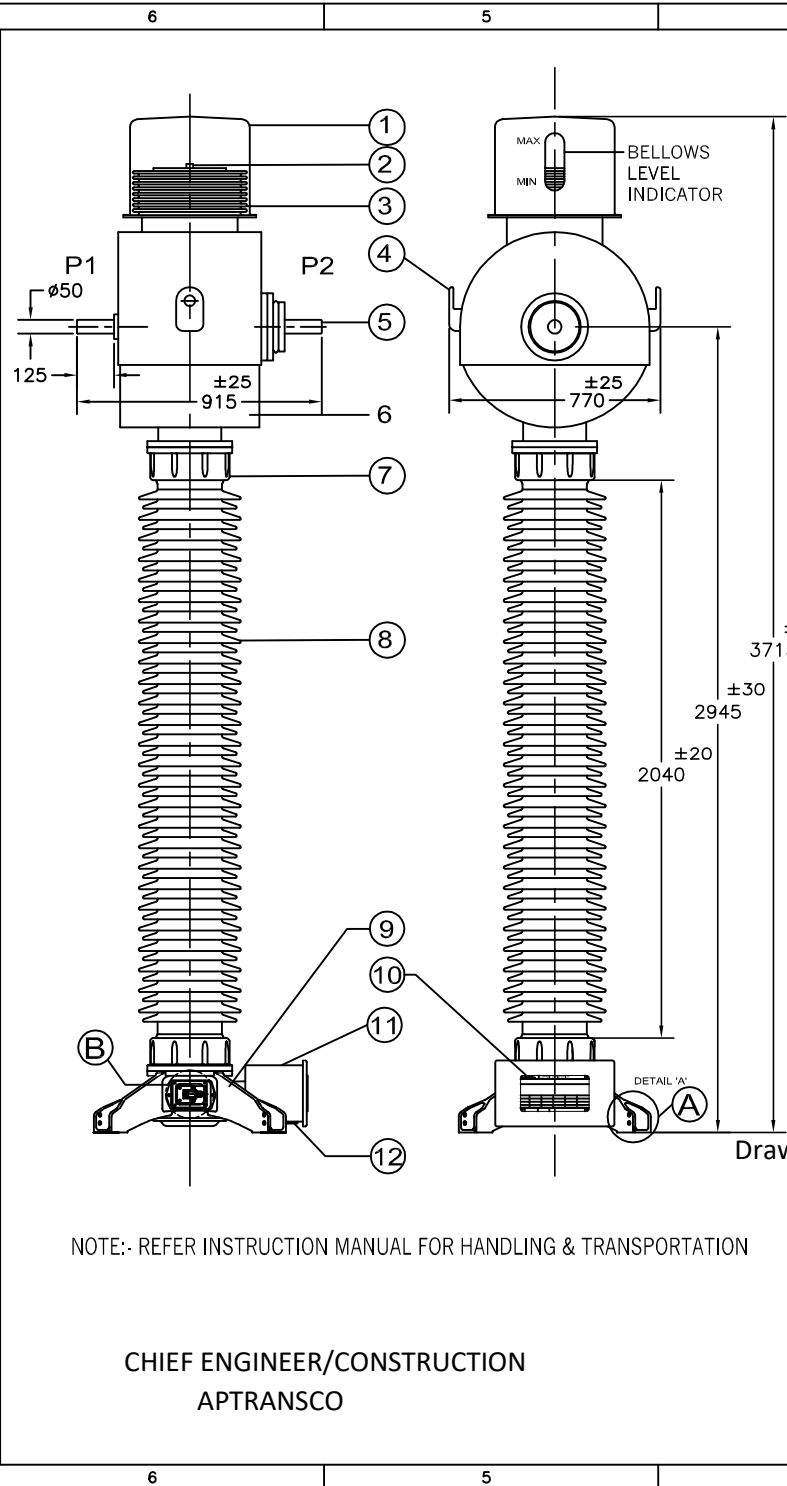
DRG.NO: 3-KAD 5352

IF IN DOUBT, ASK

FRAME:- 382-1T50-6125-NB

CG Power and Industrial Solutions Limited

All information contained in this document is confidential & should not be used without prior consent of CG Power and Industrial Solutions Limited




TOTAL MASS = 800±10% kg  
TOTAL OIL MASS = 200±10% kg  
CREEPAGE DISTANCE = 6125 mm

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

Drawing approval subject to valid vendor registration

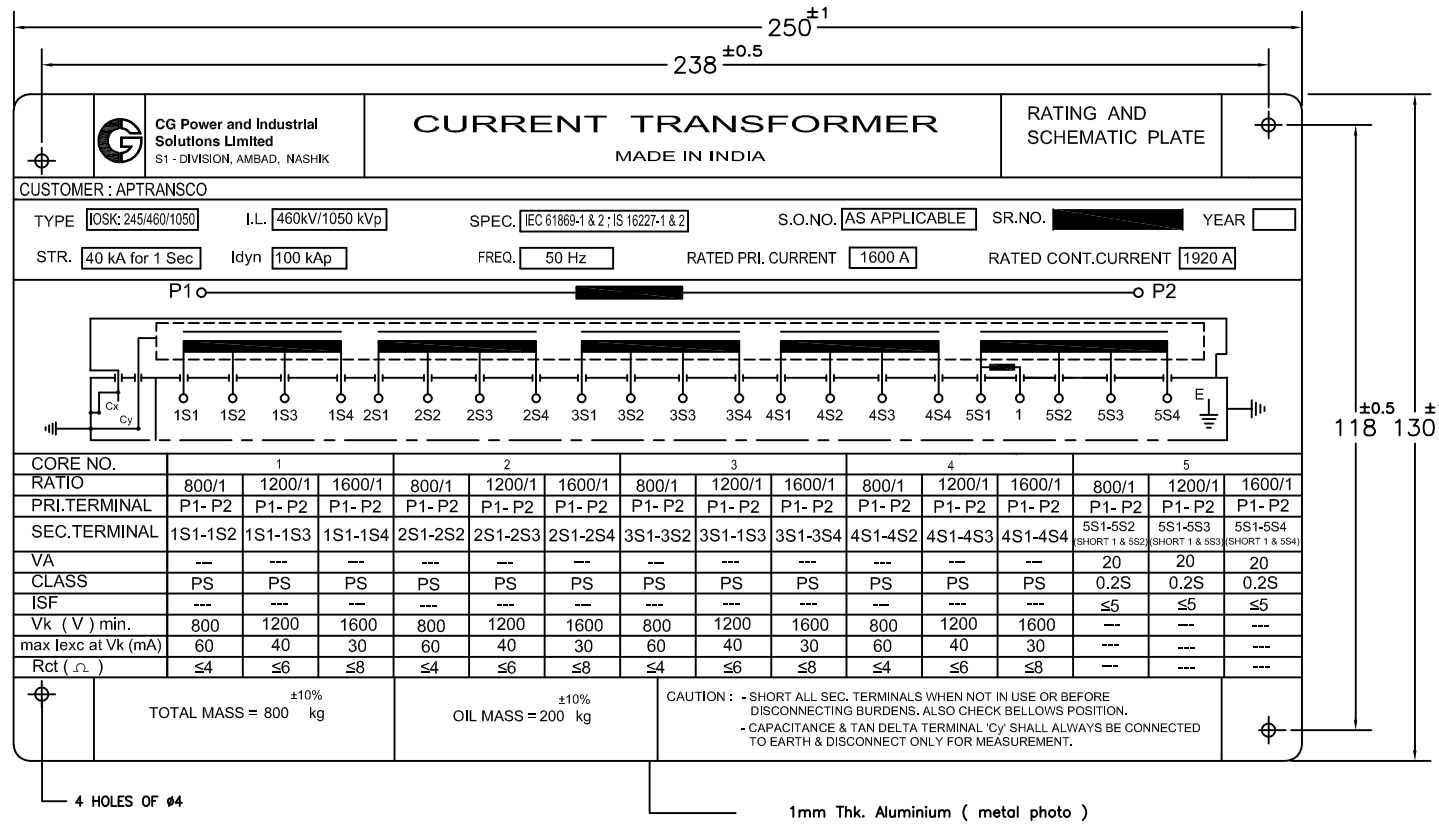
NO.	QTY.	DESCRIPTION	MATERIAL
1	1	HOOD	ALUMINIUM
2	1	OIL PRESENCE INDICATOR	POLY CARBONATE
3	1	BELLOWS	STAINLESS STEEL
4	2	LIFTING LUG Ø 40	ALUMINIUM
5	2	PRIMARY TERMINAL	ALUMINIUM
6	1	HOUSING	ALUMINIUM
7	2	PORCELAIN FLANGE	ALUMINIUM
8	1	PORCELAIN INSULATOR	PORCELAIN
9	1	BASE	ALUMINIUM
10	1	RATING PLATE	ALUMINIUM
11	1	SECONDARY TERMINAL BOX	STEEL HDG
12	2	GLAND PLATE	STEEL HDG
13	1	OIL FILLING/SAMPLING VALVE	STEEL EG
14	1	CAPACITANCE & TAN DELTA MEASUREMENT TERMINAL Cy	BRASS
15	1	WARNING STICKER	ALUMINIUM
16	1	COVER	ALUMINIUM
17	1	EARTHING LINK	COPPER (NICKEL PLATED)

MAKE OF PORCELAIN : MODERN/IEC/CJI/RAVIKIRAN

CUSTOMER : APTRANSCO			
GEN. TOL.	MATL.:	TITLE : STANDARD DRAWINGS	
	SPEC.:	GENERAL ARRANGEMENT	
THIRD ANGLE PROJECTION		(FOR 245 kV CT)	
SCALE: NTS	INITIALS	NAME	(800-1200-1600/1-1-1-1 A)
ALL DIMNS. IN MM. UNLESS OTHERWISE SPECIFIED.	DRN	NSB	 CG Power and Industrial Solutions Limited S1 - DIVISION, AMBAD, NASHIK
	CHD	SHB	
	APPD	USS	
NO	REVISION	SIGN	DATE
DATE : 15.02.2021			DRG.NO: 3-KAD 5352
			REV 0

DRG.NO: 3-KAD 5353

IF IN DOUBT, ASK



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

CHIEF ENGINEER/CONSTRUCTION  
APTRANSCO

2			
1			
NO	REVISION	SIGN	DATE

CUSTOMER : APTRANSCO

GEN. TOL.	MATL.:	TITLE : STANDARD DRAWINGS RATING/SCHEMATIC PLATE (FOR 245 kV CT) (800-1200-1600/1-1-1-1 A)
	SPEC.:	
THIRD ANGLE PROJECTION		
SCALE: NTS	INITIALS	NAME
ALL DIMNS. IN MM. UNLESS OTHERWISE SPECIFIED.	DRN	NSB
	CHD	SHB
	APPD	USS
DATE : 15.02.2021		DRG.NO: 3-KAD 5353
		REV 0

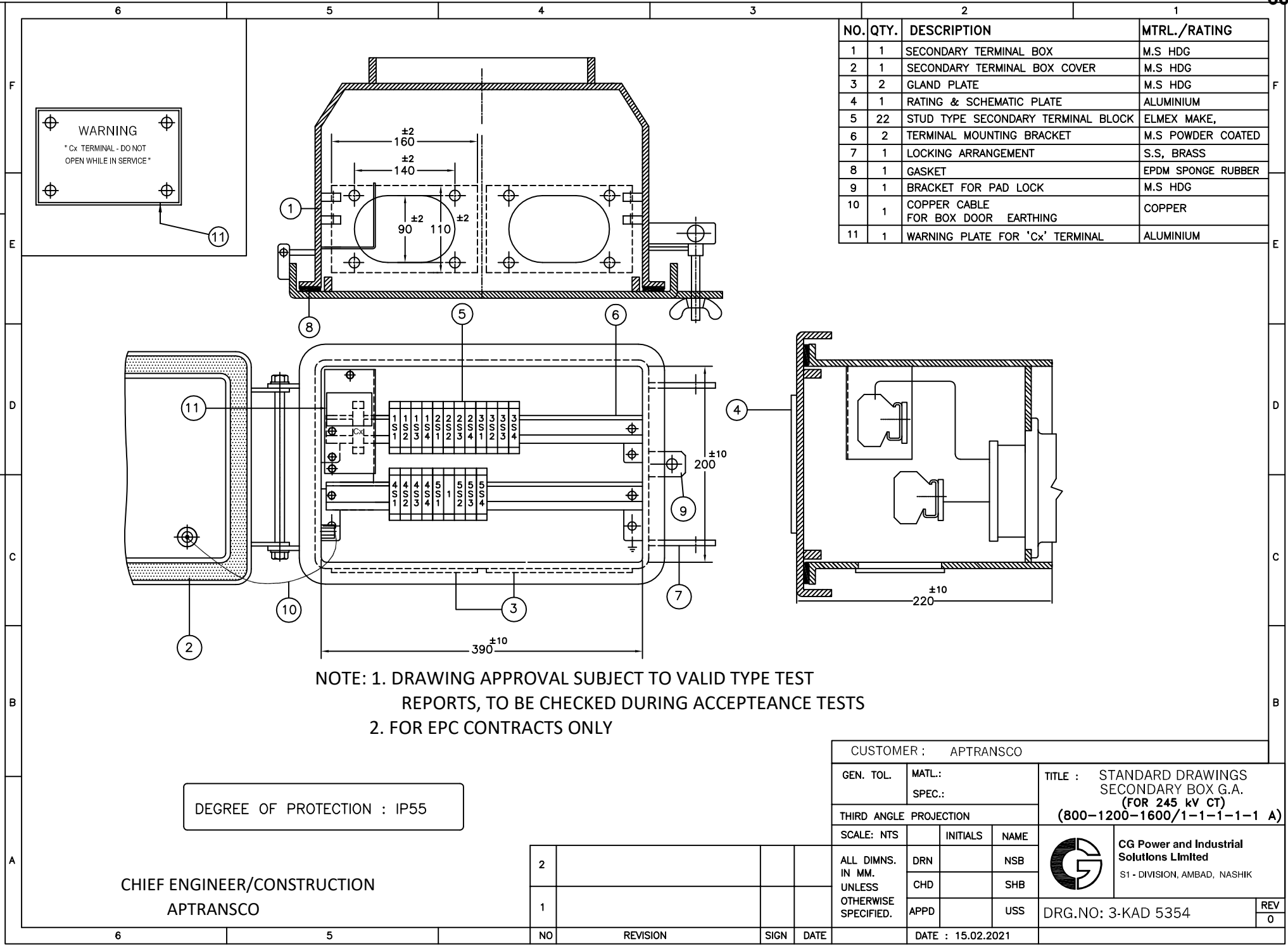
**CG Power and Industrial Solutions Limited**  
S1 - DIVISION, AMBAD, NASHIK

All information contained in this document is confidential & should not be used without prior consent of CG Power and Industrial Solutions Limited

DRG.NO. : 3-KAD 5354

IF IN DOUBT, ASK

All information contained in this document is confidential & should not be used without prior consent of CG Power and Industrial Solutions Limited




NO.	QTY.	DESCRIPTION	MTRL./RATING
1	1	SECONDARY TERMINAL BOX	M.S HDG
2	1	SECONDARY TERMINAL BOX COVER	M.S HDG
3	2	GLAND PLATE	M.S HDG
4	1	RATING & SCHEMATIC PLATE	ALUMINIUM
5	22	STUD TYPE SECONDARY TERMINAL BLOCK	ELMEX MAKE,
6	2	TERMINAL MOUNTING BRACKET	M.S POWDER COATED
7	1	LOCKING ARRANGEMENT	S.S, BRASS
8	1	GASKET	EPDM SPONGE RUBBER
9	1	BRACKET FOR PAD LOCK	M.S HDG
10	1	COPPER CABLE FOR BOX DOOR EARTHING	COPPER
11	1	WARNING PLATE FOR 'Cx' TERMINAL	ALUMINIUM

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

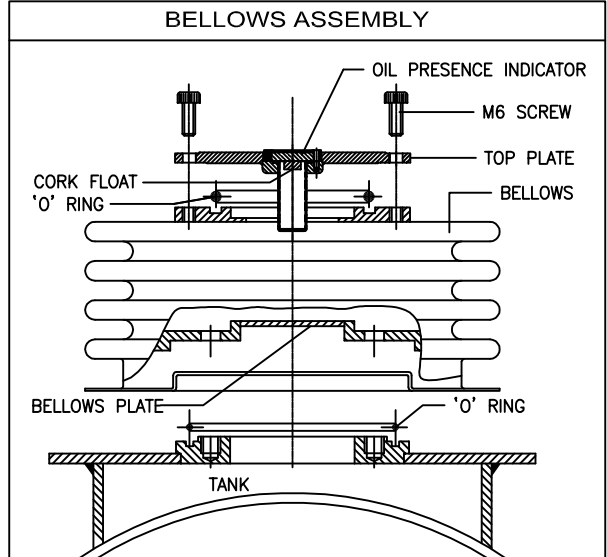
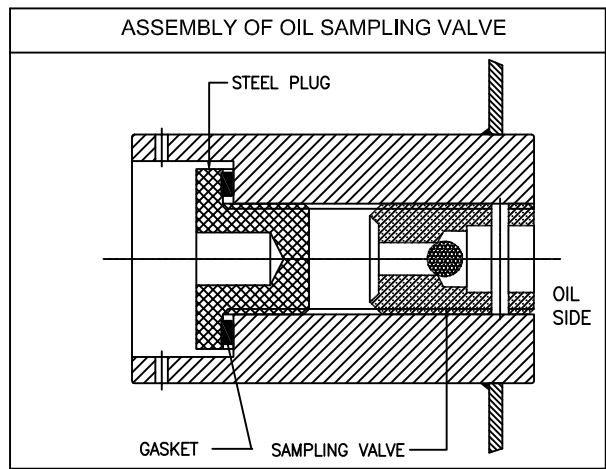
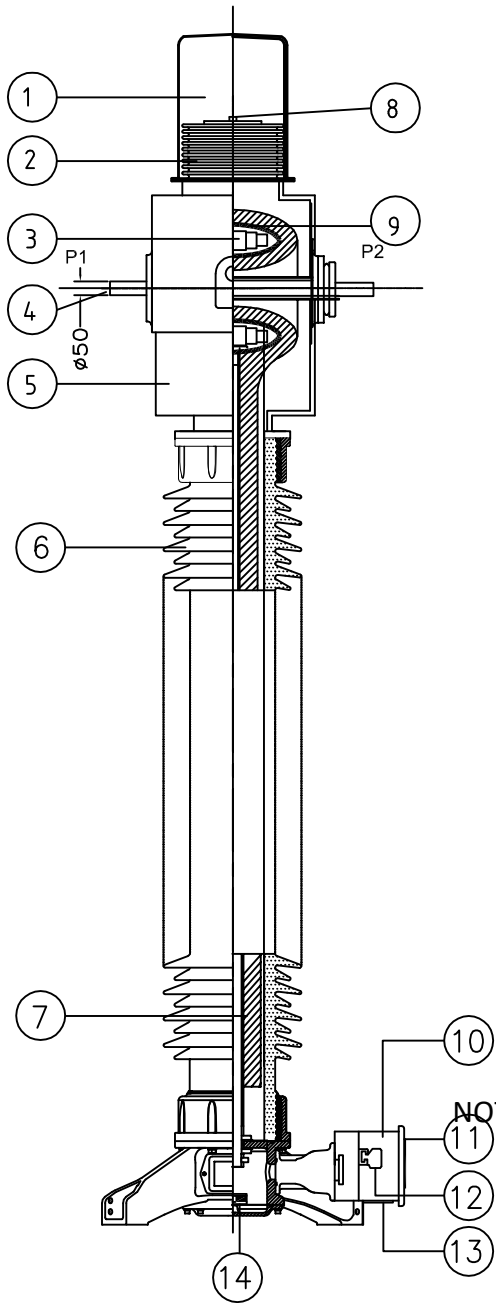
DEGREE OF PROTECTION : IP55

CHIEF ENGINEER/CONSTRUCTION  
APTRANSCO

CUSTOMER : APTRANSCO			
GEN. TOL.	MATL.:	TITLE : STANDARD DRAWINGS	
	SPEC.:	SECONDARY BOX G.A.	
THIRD ANGLE PROJECTION		(FOR 245 kV CT)	
SCALE: NTS	INITIALS	NAME	(800-1200-1600/1-1-1-1-1 A)
ALL DIMNS. IN MM. UNLESS OTHERWISE SPECIFIED.	DRN	NSB	 <b>CG Power and Industrial Solutions Limited</b> S1 - DIVISION, AMBAD, NASHIK
	CHD	SHB	
	APPD	USS	
NO	REVISION	SIGN	DATE
DATE : 15.02.2021			DRG.NO: 3-KAD 5354
			REV 0

DRG.NO: 3-KAD 5355

IF IN DOUBT, ASK



SR.NO.	DESCRIPTION	MATERIAL
1	HOOD	ALUMINIUM
2	BELLOWS	STAINLESS STEEL
3	CORE WITH SECONDARY WINDING	*
4	PRIMARY TERMINAL	ALUMINIUM
5	HOUSING	ALUMINIUM
6	INSULATOR	PORCELAIN
7	CONDENSER BUSHING	KRAFT PAPER (OIP)
8	OIL PRESENCE INDICATOR	POLY CARBONATE
9	SHELL	ALUMINIUM
10	SECONDARY TERMINAL BOX	M.S. HDG.
11	RATING/SCHEMATIC PLATE	ALUMINIUM
12	SECONDARY TERMINALS	STUD TYPE
13	GLAND PLATE	M.S. HDG.
14	AUXILIARY CORE	NANO-CRYSTALLINE

NOTE.....  
 INSULATING OIL SHALL BE EHV GRADE AS PER IS 335, IEC 296  
 \* CORE - CRGO Si-Fe/EQUIVALENT HIGH PERMEABILITY MATERIAL, MU-METAL, NANO-CRYSTALLINE  
 \* SEC. WINDING - ENAMELLED COPPER

CHIEF ENGINEER/CONSTRUCTION  
 APTRANSCO

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

GEN. TOL.		MATERIAL SPEC.		TITLE : STANDARD DRAWINGS SECTIONAL VIEW (FOR 245 kV CT) (800-1200-1600/1-1-1-1 A)	
THIRD ANGLE PROJECTION				<b>CG Power and Industrial Solutions Limited</b> S1 - DIVISION, AMBAD, NASHIK	
SCALE: NTS	INITIALS	NAME			
ALL DIMNS. IN MM. UNLESS OTHERWISE SPECIFIED.	ORG	NSB	SHB		
	CHD	USS		DRG.NO: 3-KAD 5355	
	APPD			REV 0	
DATE : 15.02.2021					

Drawing approval subject to valid vendor registration

NO	REVISION	SIGN	DATE
2			
1			

All information contained in this document is confidential & should not be used without prior consent of CG Power and Industrial Solutions Limited

NOTE: 1. DRAWING APPROVAL SUBJECT TO VALID TYPE TEST

4403765/2021/EEMRT-ENE51

REPORTS, TO BE CHECKED DURING ACCEPTANCE TESTS

2. FOR EPC CONTRACTS ONLY

S.No	Particulars	Units	Data
<b>B</b>	<b>SUPPLIER DATA</b>		<b>245KV Current Transformers</b>
1	Name of Manufacturer		CG Power and Industrial Solutions Limited, Nasik
2	Type		IOSK:245/460/1050
3	Reference Standard		IEC:- 61869-1 & 2
4	Oil Standard		IS : 335 (2018) / IEC -60296
5	Whether it is Live tank or Dead tank		Live Tank CT
6	Service		Outdoor Type, Single Phase CT
6.1	Primary Winding		<b>Aluminium</b>
<b>7</b>	<b>System details</b>		
7.1	Highest system voltage		245kV
7.2	No. of phase		Single
7.3	Rated Frequency		50HZ
7.4	System neutral		Solidly Earthed
<b>8</b>	<b>CT ratings:</b>		
9	Voltage Class	KV	245kV
10	Rated continuous thermal current		120% of rated primary current
11	Insulation Level		
11.1	1 Minute 50 Hz withstand		
11.1.1	HV terminal & earth	KV r.m.s	460
11.1.2	Secondary wiring	KV	5kV
11.2	1.2/50 micro second Lightning Impulse withstand voltage	KV Peak	1050 kV peak
11.3	250/2500 second Switching Impulse withstand voltage	KV Peak	Not Applicable
12	Short-time current		
12.1	Rated 1 second current	kA rms	40 rms
12.2	Rated Dynamic current	kA p	100 kA peak
13	Insulation Class	Class	A class
14	Temperature rise	°C	
14.1	Design ambient temperature	°C	55
14.2	Limit of temperature rise / Max Temperature rise over ambient		55
15	Minimum Creepage Distance ( mm/kV)	mm/kV	<b>6125 mm</b>
16	Corona extinction voltage	kV rms	156
17	Maximum radio interference voltage at $1.1U_{rated}/\text{sq. rt. } 3$ at 1 MHz	micro volts	2500 $\mu$ V
18	Partial discharge level at $U_m$	pC (max.)	<10 PC @ $U_m$ , <5PC @ $1.2U_m/\sqrt{3}$
19	Mounting		As per Drawings Hot Dip Galvanised
20	Seismic Acceleration	g	0.3 g
21	Cantilever strength of CT at the terminal	kg	350
22	Whether it is possible to adjust the tap settings of any core independent of other cores?		Yes
23	As per specification. CT to be provided with oil level gauge, Pressure relief device / Stainless steel bellows		CT will come with Oil Level gauge & Stainless Steel Bellow. CGL don't have PRD design in its CTs.
24	As per specification, an inert gas cushion / stainless steel bellow shall be provided on top for expansion of the oil.		Stainless Steel Bellow
25	As per specification, N2 sealing cover is required.		Stainless Steel Bellow, No gas cushioning given in our CT design
26	Whether GA & foundation drawings are furnished along with the offer for each type of CT?		Attached
27	Ttan delta		< 0.005.

CHIEF ENGINEER/CONSTRUCTION

APTRANSCO

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

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

kV Class	STC Rating	Insulation Level (kV)	Rated Current (Amps)	Rated Extended Current (Amps)	Primary Winding	Insulator
245	40kA-1sec	460/-/1050	1600	1920	Aluminium	Porcelain

Item - 1600	Core 1	Core 2	Core 3	Core 4	Core 5
Current Ratios A/A	1600-1200-800/1A				
Output burden (VA)	--	--	--	--	20
Class of accuracy	PS	PS	PS	PS	0.2S
Accuracy limit factor	--	--	--	--	< 5 @All Ratios
Min. knee point voltage (kpv)	1600 @ 1600/1A, 1200 @ 1200/1A, 800 @ 800/1A	1600 @ 1600/1A, 1200 @ 1200/1A, 800 @ 800/1A	1600 @ 1600/1A, 1200 @ 1200/1A, 800 @ 800/1A	1600 @ 1600/1A, 1200 @ 1200/1A, 800 @ 800/1A	--
Rct( $\Omega$ )	$\leq 8$ @ 1600/1A, $\leq 6$ @ 1200/1A, <4 @ 800/1A	$\leq 8$ @ 1600/1A, $\leq 6$ @ 1200/1A, <4 @ 800/1A	$\leq 8$ @ 1600/1A, $\leq 6$ @ 1200/1A, <4 @ 800/1A	$\leq 8$ @ 1600/1A, $\leq 6$ @ 1200/1A, <4 @ 800/1A	--
Max. excitation current in mA @ V <sub>k</sub>	30 @ 1600/1A, 40 @ 1200/1A, 60 @ 800/1A	30 @ 1600/1A, 40 @ 1200/1A, 60 @ 800/1A	30 @ 1600/1A, 40 @ 1200/1A, 60 @ 800/1A	30 @ 1600/1A, 40 @ 1200/1A, 60 @ 800/1A	--

CHIEF ENGINEER/CONSTRUCTION  
APTRANSCO

Drawing approval subject to valid vendor registration

- 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.