

GUARANTEED TECHNICAL PARTICULARS FOR OIL IMMERSED 33KV CURRENT TRANSFORMER OF RATIO: 1600-1200-800/1-1-1-1A CT (BAR PRIMARY)

	Client Name	M/s. Transmission Corporation of Andhra Pradesh Limited			
	Drawing No:	33OC05/B(G)			
1.	Type	Single Phase, Oil immersed, Live tank			
2.	Name and Address of Manufacturer.	Straton Electricals Pvt. Ltd., Plot No. 21 & 22, Phase-IV, IDA Jeedimetla, Hyderabad, Telangana-500055			
3.	Reference standard	IS-16227:2016			
4.	Rated Voltage/Highest System Voltage	33KV/36KV			
5.	Rated primary Current	1600-1200-800A			
	Secondary core details:				
	a) Number of cores	Core-I Protection	Core-II Diff. Protection	Core-III Metering	Core-IV Metering
	b) Rated secondary current	1A	1A	1A	1A
	c) Rated Burden	15VA	-	15VA	5VA
	d) Class of accuracy	5P	PX	0.2S	0.2S
	e) Accuracy Limit Factor (ALF)	10	-	-	-
	f) Instrument Security Factor (ISF)	-	-	<5 @all ratios	
	g) Knee Point Voltage (Vk)	-	40I(Rct+10)	-	-
	h) Excitation current (Im)				
		@1600A tap	-	<30mA@Vk	-
		@1200A tap	-	<40mA@Vk	-
		@800A tap	-	<50mA@Vk	-
6.	Method of ratio change and secondary connection details & connection diagram	Secondary tapping			
7.	Primary stud / Secondary stud	Electrolytic Copper stud of 50mm diameter 115mm length / M6 Nickel plated brass			
8.	Current density	0.97A/Sq.mm			
9.	Short time Thermal Current & its duration	25KA/3 sec			
10.	Rated dynamic current (Peak value)	2.5 times of STC			
11.	i) Rated continuous thermal current ii) Temperature rise over ambient	1.2 times continuous <55°C as per IS 16227:2016			
12.	Impulse withstand test voltage kV (Peak)	170 KV (Peak)			
13.	One minute power frequency dry and wet withstand voltage on primary	70 KV (rms)			
14.	One minute power frequency withstand voltage on secondary	3 KV (rms)			
15.	Partial discharge level				
	a) @ 1.2Vm/Rt3	<5pC			
	b) @ Vm	<10pC			
16.	Total creepage distance of the bushing	900 mm (min)			
17.	Live part to ground clearance	400 mm (min)			

NOTE : DRAWING APPROVAL SUBJECT TO VALID TYPE TEST REPORTS.

TO BE CHECKED DURING ACCEPTANCE TESTS.

18.	Gauge of the MS/SS tank with Paint shade 631 as per IS-5	- Min 5 mm for top cover and bottom with MS - Min 3.15mm for tank sides at studs' interface with SS
19.	Hardware exposed to air	Hot dip galvanized
20.	Quantity/Weight of oil	30±5 Liters Approx..
21.	Whether CT is hermitically sealed?	Yes
22.	Whether all O-rings are fixed in properly machined grooves?	Yes
23.	O-rings & gaskets' material	Nitrile Butyl Rubber
24.	Sealing arrangement (Gasket with groove)	1. Insulator flange interfaces at top tank & base. 2. The secondary terminal interface of molded epoxy cast resin monoblock with O-ring. 3. Oil level indicator & primary stud interface with tank
25.	Oil filling arrangement	Oil filling valve on top of the tank & drain valve at the bottom
26.	Insulation Class	A
27.	Make of Porcelain Insulator	CJI / Ravi Kiran / Modern / Any std. make
28.	Type of Insulator construction	Both flanges cemented at the top & bottom of the bushing
29.	Weight of Steel	30 Kgs approx..
30.	Weight of Copper	20 Kgs approx..
31.	Total weight	140 ± 10 Kgs approx..
32.	Mounting details	400mm X 400mm
33.	Overall dimensions	As per GA drawing

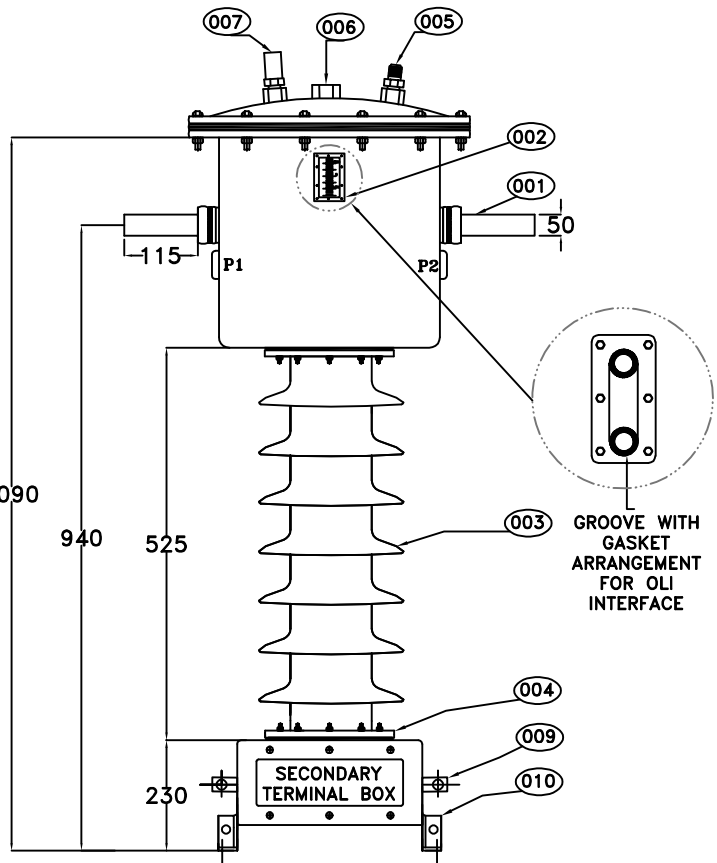
CHIEF ENGINEER / CONSTRUCTION
APTRANSCO

Drawing approval subject to valid vendor registration

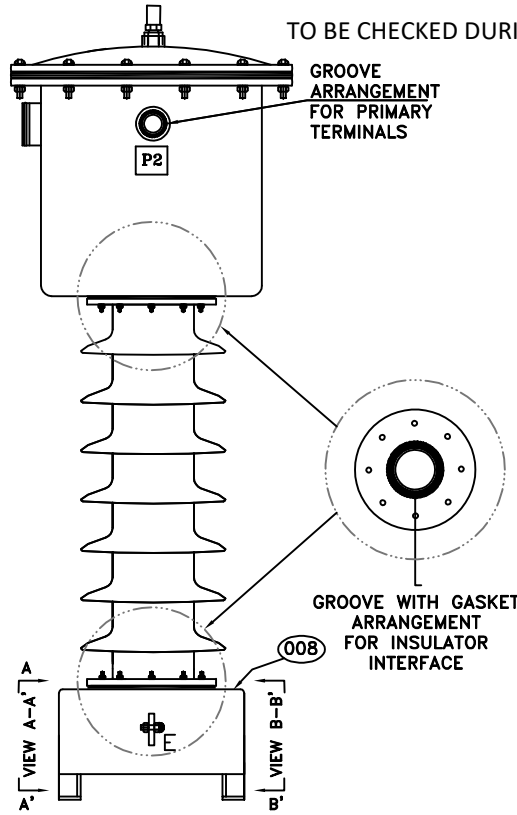
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PROJECTION	
SCALE	: NTS
DATE	: 12-02-2021
DWG #	: 330C05/B(G)



FRONT VIEW

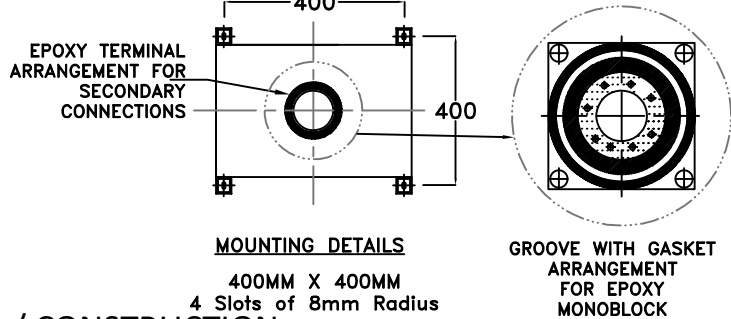
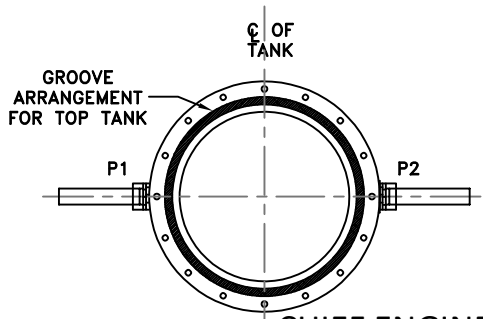


SIDE VIEW

SPECIFICATIONS	
SYSTEM VOLTAGE/HSV	33/36kV
BASIC INSULATION LEVEL	36/70/170kVp
TYPE	OIL IMMERSED LIVE TANK
STC & DURATION	25kA/3sec
NO. OF CORES	4
RATIO	1600-1200-800/1-1-1-1A
CLASS	5P10, PX, 0.2S, 0.2S
BURDEN	15VA, -, 15VA, 5VA
Vk FOR PS CORE/lex<30mA	40I(Rct+10); lex<30mA@1600A, lex<40mA@1200A, lex<50mA@800A
REF. STANDARD	IS 16227:2016
TOTAL WEIGHT	140±10 Kgs.

S.NO	ITEM DESCRIPTION	MATERIAL	QTY
001	HT TERMINALS	50mm DIA. COPPER BAR	02
002	OIL LEVEL INDICATOR (OLI)	AL. DIE CASTED	01
003	INSULATOR	PORCELAIN	01
004	BUSHING TYPE	CEMENTED FLANGE TYPE	02
005	N2 FILLING VALVE	BRASS	01
006	OIL FILLING VALVE	MILD STEEL	01
007	PRESSURE RELIEF VALVE	BRASS	01
008	MOUNTING BASE	MILD STEEL	01
009	EARTH BUSBAR	MILD STEEL(50x8x60(L)mm	02
010	LIFTING HOLES	MILD STEEL	04

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MOUNTING DETAILS
400MM X 400MM
4 Slots of 8mm Radius

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TOP TANK
(TOP COVER OPEN)

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		SIGN	DATE
DRAWN	SG		
CHECKED	SR		
APPROVED	PD		

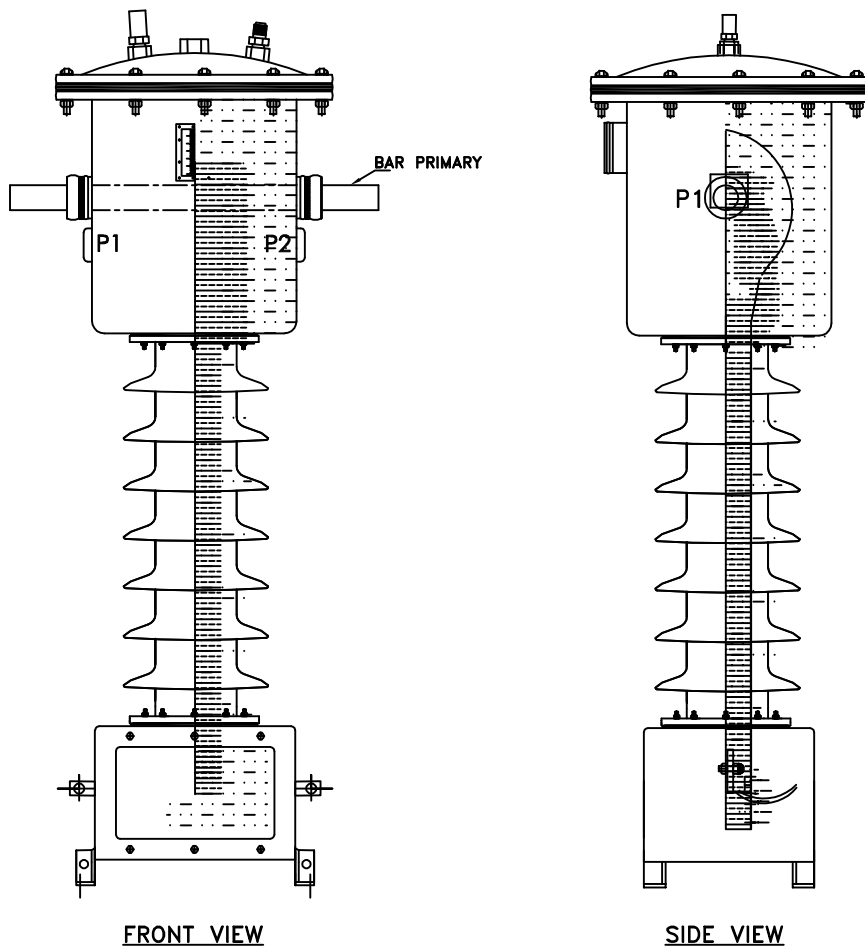
STRATON

TITLE:
GENERAL ARRANGEMENT DRAWING FOR
33kV OIL IMMERSED CT OF RATIO
1600-1200-800/1-1-1-1A
(BAR PRIMARY)

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NOTE : DRAWING APPROVAL SUBJECT TO VALID TYPE TEST REPORTS.
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PROJECTION	
SCALE	: NTS
DATE	: 12-02-2021
DWG #	: 330C05/B(G)



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Vk FOR PS CORE/lex<30mA	40I(Rct+10); lex<30mA@1600A, lex<40mA@1200A, lex<50mA@800A
REF. STANDARD	IS 16227:2016
TOTAL WEIGHT	140±10 Kgs.

DESIGN DATA:

PRIMARY WINDING:

- a. Area of Crossection: 1962.5 Sq.mm
- b. No. of turns: Single (Bar Primary)
- c. Conductor material: Electrolytic Copper
- d. Weight of conductor: 15Kgs approx.

SECONDARY WINDING:

- a. Area of Crossection:
 - Core-I: 20SWG (0.655Sq.mm)
 - Core-II: 21SWG (0.518Sq.mm)
 - Core-III: 20SWG (0.655Sq.mm)
 - Core-IV: 21SWG (0.518Sq.mm)
- b. No. of secondary turns:
 - Core-I: 1600 with taps at 1200 & 800 Turns
 - Core-II: 1600 with taps at 1200 & 800 Turns
 - Core-III: 1600 with taps at 1200 & 800 Turns
 - Core-IV: 1600 with taps at 1200 & 800 Turns
- c. Conductor material: Super enameled Copper wire

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TITLE:
CROSSSECTIONAL VIEW OF
33kV OIL IMMERSED CT OF RATIO
1600-1200-800/1-1-1-1A
(BAR PRIMARY)

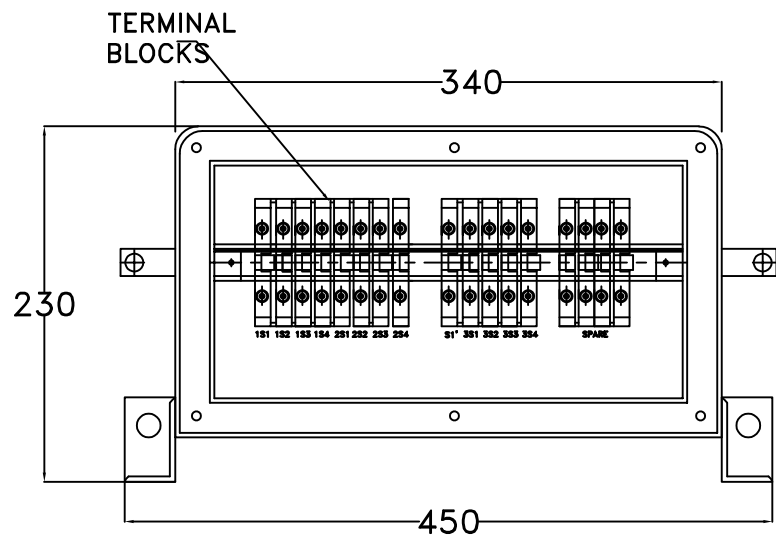
DIMENSIONAL TOLERANCES ± 5mm

ALL DIMENSIONS ARE IN mm

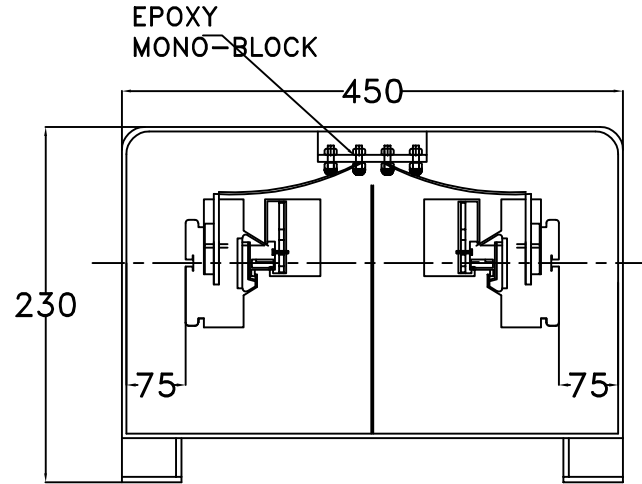
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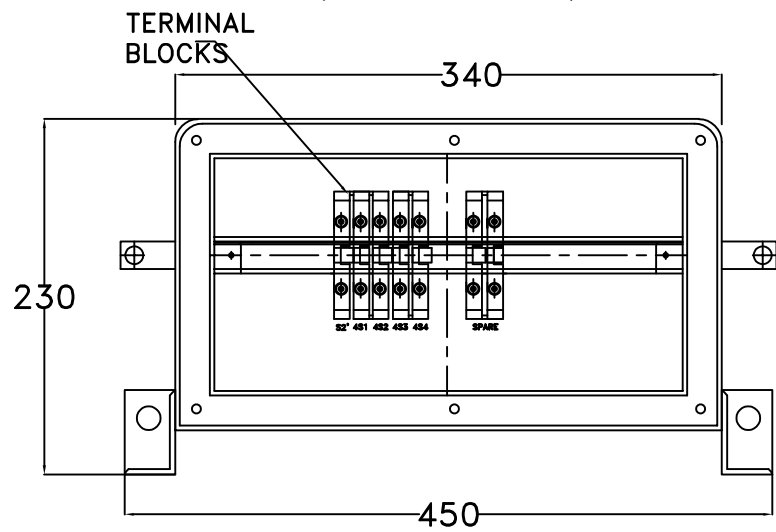
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VIEW A-A'
(FOR CORE-I,II&III)



SIDE VIEW



VIEW B-B'
(FOR CORE-IV)

NOTES:

1. SECONDARY TERMINAL BOX SHALL BE PROVIDE REMOVABLE GLAND PLATE WITHOUT HOLE.
2. SECONDARY TERMINAL BOX SHALL BE PROVIDED WITH COVER WITH EPDM GASKET.
3. SECONDARY TERMINAL BOX FOR CORE-IV(0.2S, 5VA) SHALL BE SEPARATE WITH SEALING ARRANGEMENT
4. DEGREE OF PROTECTION FOR SECONDARY TERMINAL SHALL BE IP55
5. 20% SPARE TERMINALS SHALL BE PROVIDED

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TITLE:
SECONDARY TERMINAL BOX DETAILS OF
33kV OIL IMMERSER CT OF RATIO
1600-1200-800/1-1-1-1A
(BAR PRIMARY)