

NOTE: 1. Drawings Approval subject to valid type test reports, to be checked during
7543561/2023/EEMRT-ENE51
acceptance tests.

2.For EPC contractors only.

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**GUARANTEED TECHNICAL PARTICULARS FOR OIL IMMERSED
33KV POTENTIAL TRANSFORMER OF RATIO: 33KV/RT3//110V/RT3**

	Client Name	M/s. Transmission Corporation of Andhra Pradesh Limited
	Drawing No:	33OV03
1.	Type	Single Phase, Oil immersed, Dead tank
2.	Name and Address of Manufacturer.	Straton Electricals Private Limited. Sy No. 42/A1/1, Alinagar, Gadda Potaram (GP), Jinnaram(M), Sangareddy (Dist.), Hyderabad-502319, Telangana, India.
3.	Reference standard	IS 16227:2015
4.	Rated Voltage/Highest System Voltage	33KV/36KV
5.	Rated primary voltage	33kV/rt3
6.	Rated secondary voltage	110V/rt3
7.	Insulation Class	A
	Secondary winding details:	
	a) Number of windings	1
	b) Rated Burden	50VA
	c)Class of accuracy	0.2
8.	Basic Insulation Level	36/70/170kVp
9.	Primary stud / Secondary stud	Nickle Plated Copper stud of 30mm diameter 80mm length / M6 Nylon stud type terminal blocks
10.	Rated voltage factor	1.2 continuous & 1.5 for 30sec
11.	Temperature rise over ambient	< 55°C as per IS 16227:2015
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) @ 1.2Um/Rt3	<5pC
	b) @ Um	<10pC
16.	Total creepage distance of the bushing	31mm/KV (min)
17.	Live part to ground clearance	400 mm (min)
18.	Gauge of the MS tank with Paint shade 631 as per IS 5	- Min 5mm for top cover and bottom - Min 3.15mm for tank sides at studs interface
19.	Hardware exposed to air	Hot dip galvanized
20.	Quantity/Weight of oil	30±5 Liters Approx.
21.	Whether all O-rings are fixed in properly machined grooves?	Yes
22.	Sealing arrangement (Gasket with groove)	1. Insulator flange interfaces at top tank & base.

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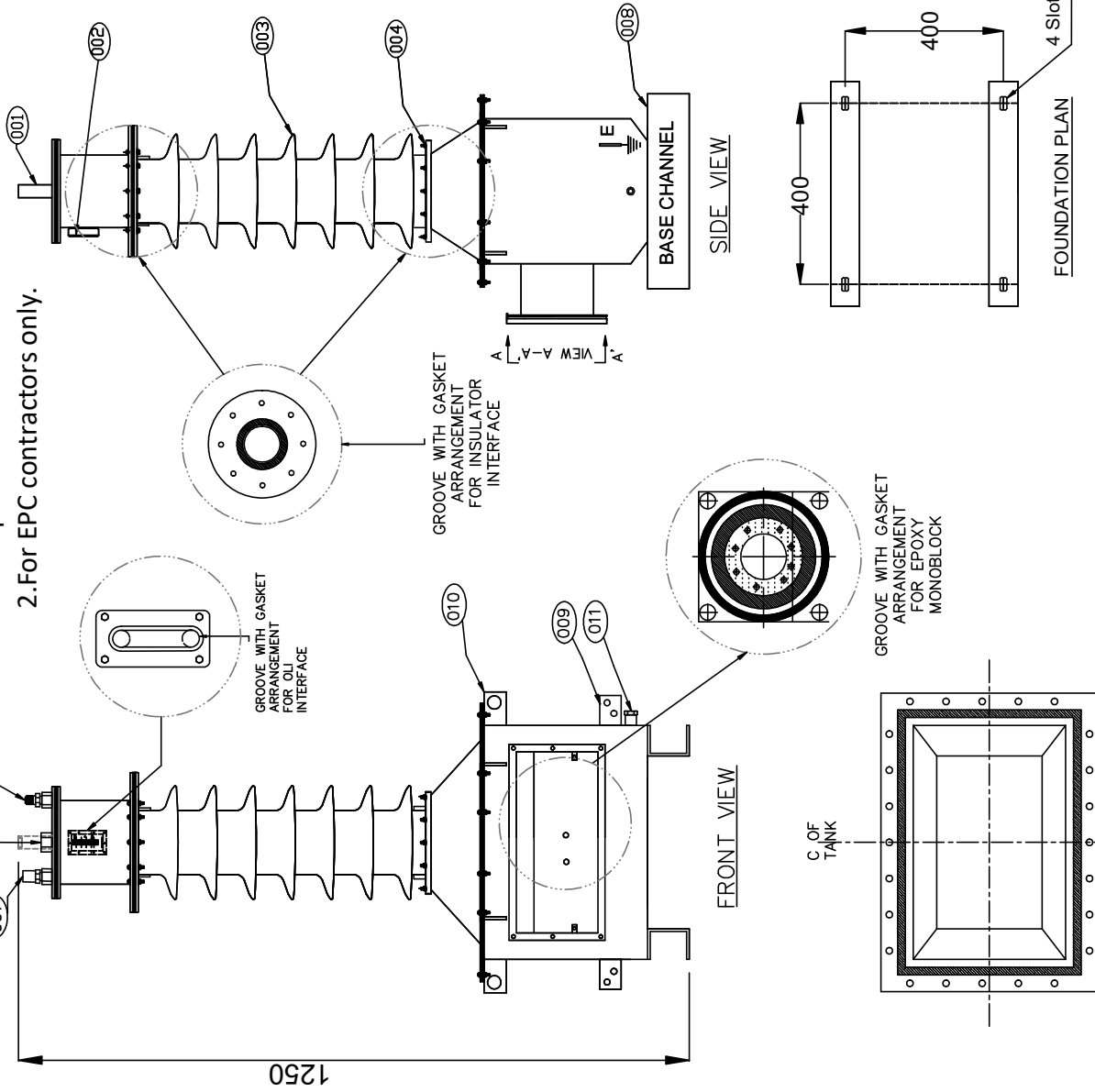
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		2. The secondary terminal interface of molded epoxy cast resin monoblock with O-ring. 3. Oil level indicator & primary stud interface with tank
23.	O-rings & gaskets' material	Nitrile Butyl Rubber
24.	Oil filling arrangement	Oil filling valve on top of the tank & drain valve at the bottom
25.	Insulation Class	A
26.	Make of Porcelain Insulator	CJI / Ravi Kiran / Modern / Any std. make
27.	Type of Insulator construction	Both flanges cemented at the top & bottom of the bushing
28.	Weight of Steel	35 Kgs approx..
29.	Weight of Copper	6 Kgs approx..
30.	Total weight	120 ± 10 Kgs approx..
31.	Mounting details	400mm X 400mm
32.	Overall dimensions	As per GA drawing.

1. Minimum 300mm plinth shall be maintained for CT/PT/CVT/Isolators/IV/LA/Breakers in the substation during foundation works to ensure safe live to ground clearance 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 line with CT/PT/CVT/Isolator/IVT/LA/Breaker's requirement and compatibility.

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SPECIFICATIONS

SYSTEM VOLTAGE/HSV	33/36kV
BASIC INSULATION LEVEL	36/70/170kVp
TYPE	OIL IMMERSED DEAD TANK
VOLTAGE FACTOR	1.2 CONT. & 1.5 FOR 30secs
NO. OF SEC. WINDINGS	1
RATIO	33KV/RT3/110V/RT3
CLASS	0.2
BURDEN	50VA
TOTAL CREEPAGE DISTANCE	31mm/kV
REF. STANDARD	IS 16227:2015
TOTAL WEIGHT	120±10 Kgs.

S.NO	ITEM DESCRIPTION	MATERIAL	QTY
001	HT TERMINAL	ø30mm NICKEL PLATED COPPER	01
002	OIL LEVEL INDICATOR (OIL)	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	SS (50x8x70(L)mm)	02
010	LIFTING HOLES	MILD STEEL	04
011	OIL DRAIN PLUG	MILD STEEL	01

CHIEF ENGINEER/PROJECTS
APTRANSCO/VS/VIJAYAWADA



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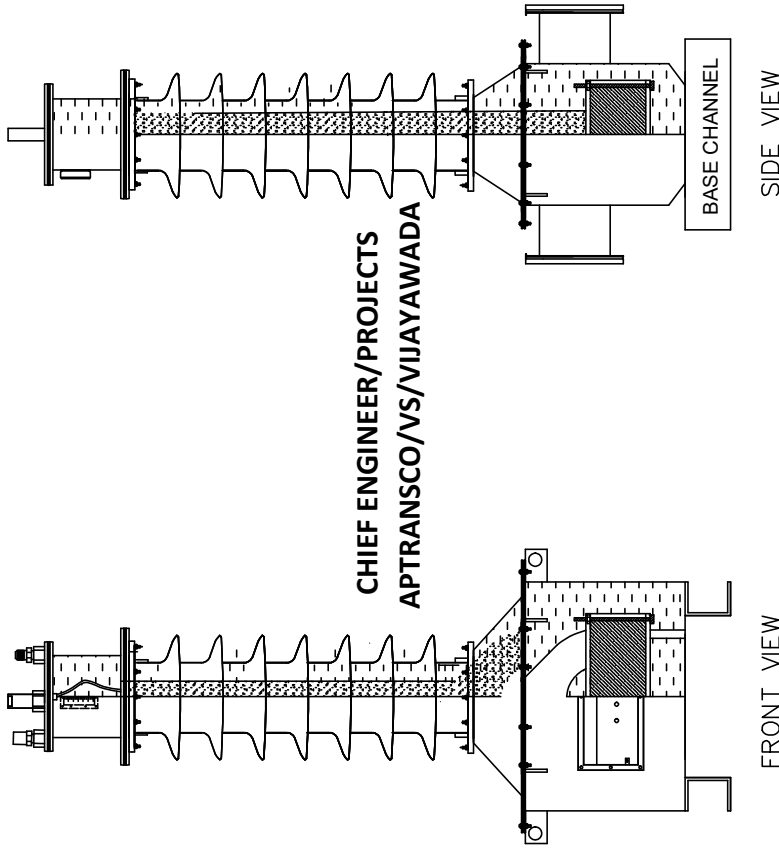
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TITLE:

GENERAL ARRANGEMENT DRAWING FOR
 33KV OIL IMMERSED IVT (0.2/50VA)

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CLASS	0.2
BURDEN	50VA
TOTAL CREEPAGE DISTANCE	31mm/kV
REF. STANDARD	IS 16227:2015
TOTAL WEIGHT	120±10 Kgs.

DESIGN DATA:

PRIMARY WINDING:

- a. Area of Crossection: 0.29Sq.mm
- b. Conductor material: Super enameled Copper wire
- c. Weight of conductor: 4.5Kgs approx.

SECONDARY WINDING:

- a. Area of Crossection:
Winding-I: 14&16SWG (5.25Sq.mm)
- b. Conductor material: Super enameled Copper wire
- c. Weight of conductor: 1.1Kg approx.

STRATON		TITLE: CROSSSECTIONAL VIEW OF 33kV OIL IMMERSED IVT (0.2/50VA)	
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ALL DIMENSIONS ARE IN mm			
9	8	7	6
DIMENSIONAL TOLERANCES ± 5mm		5	
Page No. 4 of 6		4	
9		3	
8		2	
7		1	

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NAME PLATE DETAILS

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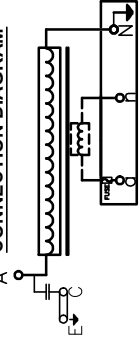
INDUCTIVE VOLTAGE TRANSFORMER

Made in India

Make	Straton Electricals Pvt Ltd.	
Type	33kV Outdoor Oil Immersed IVT	
Ref Std	IS 16227(Part 1&3).	
HSV	36 kV	Ins Level(kV/kVp) 70/170
Ins Class	A	Voltage 1.2 cont.&
Freq.	50Hz	Factor 1.5/30sec
Temp. cat.	-5/50°C	Weight 120±10 Kgs
Oil Qty	30±5Ltrs	Oil Confirms to IS 335
Minimum Creepage distance	1116 mm	

IVT Ratio	33000V/rt3/110V/rt3	Mfg Year	2023
Winding #	33000V/rt3/110V/rt3		
Ratio (V/V)	A-N		
Primary Terminals	a-n		
Secondary Terminals	50		
Output VA	0.2		
Acc. Class			

A CONNECTION DIAGRAM



CAUTION:

1. ENSURE LV TERMINALS ARE NOT SHORT CIRCUITED WHEN IVT IS IN OPERATION.

Serial #

Owner M/s. TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED.

Made in India by: Straton Electricals Pvt Ltd., sy.No:42/A1/1, Gaddapotharam, Jinnaram, Sangareddy, Hyd, T.S. -502319. EMail: info@stratonelectricals.com

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TITLE:

NAME PLATE DETAILS OF
33kV OIL IMMERSED IVT (0.2/50VA)

Page No. 5 of 6

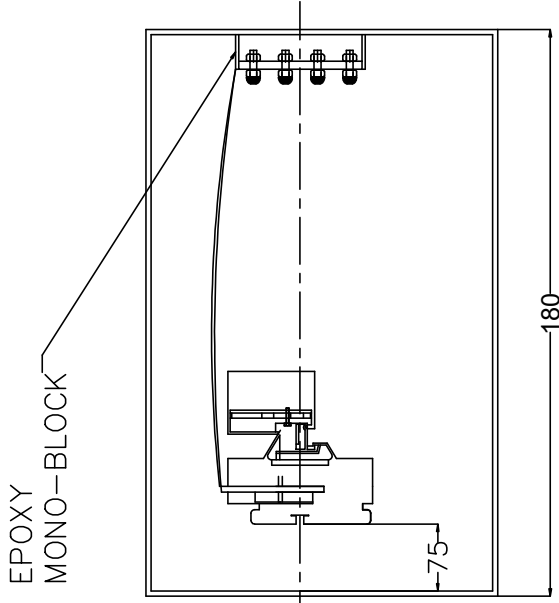
DIMENSIONAL TOLERANCES ± 5mm

ALL DIMENSIONS ARE IN mm

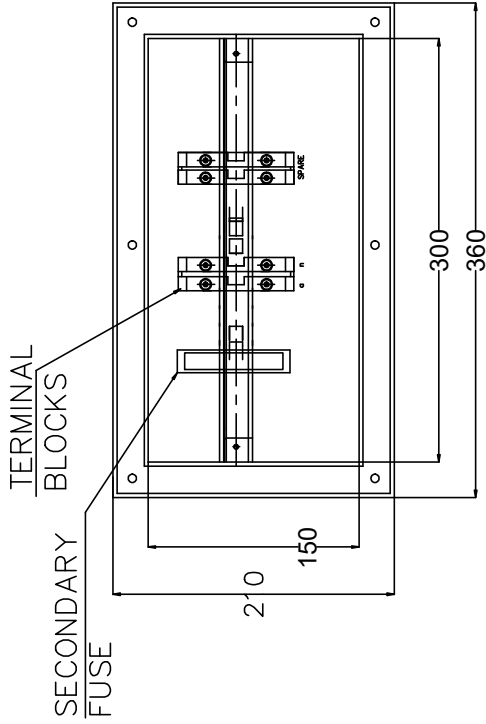
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SIDE VIEW



VIEW A-A'

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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.
4. DEGREE OF PROTECTION FOR SECONDARY TERMINAL SHALL BE IP55
6. 20% SPARE TERMINALS SHALL BE PROVIDED

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<p>Page No. 6 of 6</p>		<p>ALL DIMENSIONS ARE IN mm</p>			
<p>DIMENSIONAL TOLERANCES ± 5mm</p>		8	7	6	5
		9	4	3	2
					1



TITLE:
 SECONDARY TERMINAL BOX DETAILS OF
 33KV OIL IMMERSED IVT (0.2/50VA)