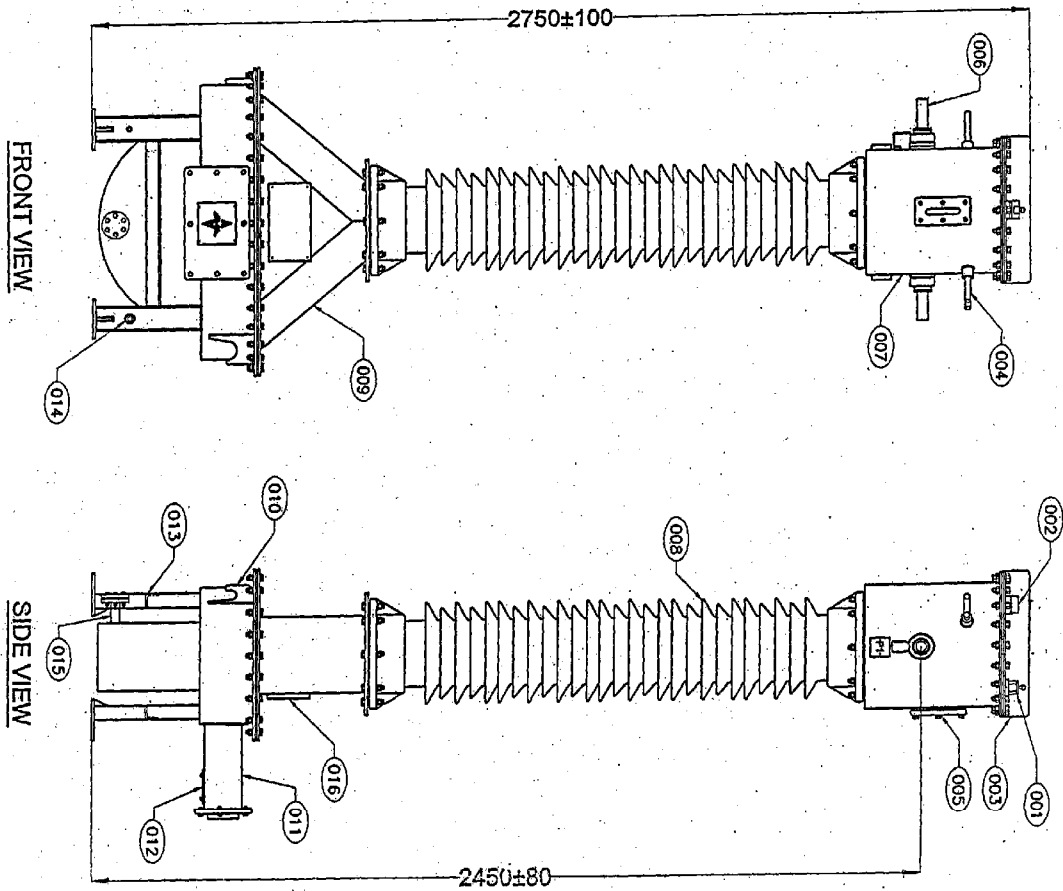


ALL DIMENSIONS ARE IN mm & WEIGHTS ARE IN kg.
UNLESS OTHERWISE SPECIFIED.

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REPRODUCTION OF THESE IN ANY FORM IS TO BE DONE WITH THE SPECIFIC PERMISSION OF THE COMPANY.

C.REF :



FRONT VIEW

SIDE VIEW


NOTE:-
* 01. MIN CREEPAGE DISTANCE : 3625mm (For heavily polluted) / 4495mm (For very heavily polluted).
02. ALL FERROUS PARTS EXPOSED TO ATMOSPHERE ARE ZINC RICH EPOXY PAINTED.

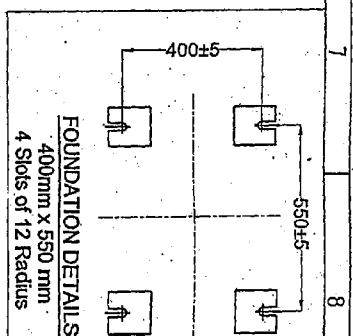
* Exact Creepage Distance will be provided as per customer requirement mentioned in the relevant Technical specification

RATIO: 600-300-150/1-1-1A

APPROVED FOR TURKEY PROJECTS

Chief Engineer/Construction
APTTRANSO, Vijay Soudha, Hyd.

	
Standardised Drawing for 145 kV Current Transformers (M/s Vijai Electrical Limited)	
STD/GTP-DWG/Approval No. 277-2.01 sheet Revision No.0	
Prepared & Approved during December - 2013	
Customer ref : APTTRANSO	
Title: GA Drawing of 145kV CT (ratio: 600-300-150/1-1-1A)	



QTY	FINISH	ITEM No.	DESCRIPTION	DRAWING No.	ITEM No.	MATERIAL SPEC.
01	---	016	RATING PLATE	---	---	AL ANODISED
01	---	015	OIL DRAIN PLUG	---	---	M.S
02	---	014	EARTHING BOLT	---	---	M.S (H08)
04	---	013	FOUNDATION CHANNELS	---	---	M.S
01	---	012	CABLE GLAND PLATE	---	---	M.S
01	---	011	TERMINAL BOX	---	---	M.S
02	---	010	LIFTING LUGS	---	---	M.S
01	---	009	BOTTOM TANK	---	---	M.S
01	---	008	INSULATOR	---	---	PORCELAIN
01	---	007	TOP TANK	---	---	M.S
02	---	006	PRIMARY TERMINAL (230x200)	---	---	TINNED COPPER
01	---	005	OIL LEVEL GAUGE	---	---	PRISMATIC
02	---	004	SLING GUIDE	---	---	M.S
01	---	003	RAIN SHIELD	---	---	ALUMINIUM
01	---	002	NITROGEN FILLING VALVE	---	---	BRASS
01	---	001	PRESSURE RELEASE DEVICE	---	---	BRASS
VAR	---	---	---	---	---	---
QTY	---	---	---	---	---	---

DISTRIBUTION OF PRINTS	
P/C	Q/A
REV	DATE
---	---
---	---
---	---



Vijai Electricals Ltd.
Switchgear Products Division
Hyderabad.

DATE	NAME	DATE	NAME
---	---	---	---
---	---	---	---
---	---	---	---

GRADE OF TOLERANCE	
C/D	REF TO ASSY Dwg
---	---
SCALE: NTS	
GA DRAWING OF 145 kV CT	
DRAWING No. 3-315-00-370	
SHEET No. 01 No. of SHEETS. 01	

C.REF :
ALL DIMENSIONS ARE IN mm & WEIGHTS ARE IN kg UNLESS OTHERWISE SPECIFIED. DIV: SWITCH GEAR UNIT.

CURRENT TRANSFORMER

STANDARD	IS:2706:1992.	HIGHEST SYSTEM VOLTAGE	145 kV
FREQUENCY	50 Hz	RATED SYSTEM VOLTAGE	132 kV
RATED S.T.C	31.5 kA rms / 1 sec.	TYPE DESIGNATION	DT 145
IdV	78.75 kA ^p	INSULATION LEVEL	275/650 kV/MV
QTY. OF OIL	130 Ltrs (15 kVA) / 170 Ltrs (25 kVA)	RATED THERMAL CURRENT	720 A
RATIO	CORE - I PRIMARY (A) SECONDARY (A)	CORE - II 600-300-150	CORE - III 600-300-150
RATED BURDEN (VA)	20		20
ACCURACY CLASS	5P	PS	0.2
I.S.F / A.L.F	- / 20		< 5 / -
KNEE POINT VOLTAGE (V)	-	60 (Rd + 10) at 150/1A *	-
RESISTANCE AT 75°C (Ohm)	-	< 4 at 150/1A *	-
MAG. CURRENT at V _k (mA)	-	< 100	-

* Knee Point Voltage shall be calculated on the basis of measured secondary winding resistance at the mentioned tap.



Vijai Electricals Ltd., Hyderabad, INDIA.

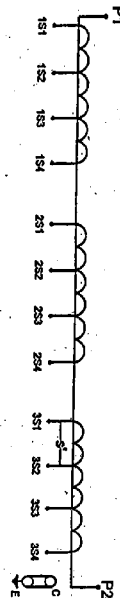
CUSTOMER:
P.O. No.:

YEAR OF MANUFACTURING

SL. No.

196
205

RATIO	PRIMARY CONNECTION	CORE I	CORE II	CORE III
600/1	P1-P2	1S1-1S4	2S1-2S4	3S1-3S4-S'
300/1	P1-P2	1S1-1S3	2S1-2S3	3S1-3S3-S'
150/1	P1-P2	1S1-1S2	2S1-2S2	3S1-3S2-S'



CAUTION
1. SECONDARY TERMINALS MUST BE SHORTED AND EARTHED WHEN NOT IN USE.
2. TAP DELTA TERMINAL 'C' MUST BE GROUNDED WHILE CT IS IN OPERATION.

NOTE: S' TERMINAL SHALL BE CONNECTED TO 3S2 OR 3S1 OR 3S4 WHICH EVER IS UNDER USE.

RATIO : 600-300-150/1-1-1A

APPROVED FOR TURKEY PROJECTS

Chief Engineer/Construction
APTRANSCO, Vijay Soudha, Hyd.

- NOTE:-
1. MATERIAL: ALUMINIUM ANODISED.
 2. DETAILS: BY ETCHING PROCESS, WHITE LETTERS - BLACK BACKGROUND.
 3. THICKNESS 0.5mm (MIN.)
 4. WHITE BACKGROUND SHALL BE PROVIDED FOR YEAR OF MANUFACTURING & SL NO BLANK SPACES.

Standardised Drawing for 145 kV Current Transformers
(M/s Vijai Electricals Limited)
STD/GTP-DWG/Approval No. 277-3-01 sheet Revision No.0
Prepared & Approved during December - 2013
Customer ref : APTRANSCO
Title: Rating & connecting Diagram for 145kV CT (ratio: 600-300-150/1-1-1A)

REV	DATE	ALTERED	BY

VAR QTY.	FINISH	ITEM	DESCRIPTION	DRAWING No.	YEAR	MATERIAL CODE	MODIFICATION
							QTY.

TYPE OF PRODUCT
OR
NAME OF CUSTOMER/PROJECT

TRANSMISSION CORPORATION OF ANDHRA PRADESH

Vijai Electricals Ltd.
Switchgear Products Division
Hyderabad.

SCALE: NTS

TITLE: RATING & CONNECTING DIAGRAM FOR 145kV CT

DRAWING No. 3-315-00-370

SHEET No. 02

REV 01

Customer : APTRANSCO, Hyderabad

**GUARANTEED TECHNICAL PARTICULARS FOR CURRENT TRANSFORMERS
(145kV CTs of ratio 600-300-150 / 1-1-1A)**

Sl.No	Description	Details
1	Type of tank/Installation	Dead Tank / Out door
2	Type of mounting	Pole / Structure Mounting
3	Manufacturer's Name and address and Country of Manufacture	M/s Vijai Electricals Ltd., Rudraram, Patancheru, Medak Dt.
4	Conforming to standard	IS - 2705-1992.
5	a i) Primary and Secondary winding made out of (As per clause 4.12,4.13,4.14)	EC Grde Copper
	ii) Primary windings - Design density for short circuit current - Conductivity of metal used.	180 A/ sq.mm - 97 %
	b i) Area of cross section of primary winding	240 sq.mm
	ii) Area of cross section of secondary winding	20 SWG (0.66 sq.mm) & 22SWG (0.4 sq.mm)
	c Material used for providing secondary terminals	TIN PLATED BRASS
6	Rated primary voltage (kV rms)	132kV
7	Rated highest voltage (kV rms)	145kV
8	Rated frequency (Hz)	50 Hz
9	Rated primary current (A)	600-300-150A
10	Rated secondary current (A)	1-1-1 A
11	Ratio taps (on secondary side only)	On Secondary Side
12	Type of insulation	Oil impregnated Paper
13	Seismic acceleration (g)	0.5g
14	RIV at 1.1 Um/V3 (μ v)	< 500
15	Tank material and Tank coating (As per clause 3.1.3 & 3.1.4)	MS of min. 3mm thickness / Zinc Rich Epoxy Painted.
16	Hardware exposed to atmosphere (As per clause 3.1.4)	Hot Dip Galvanized
17	Bolts, Nuts and Washers (As per clause 3.1.4)	Stainless Steel
18	Porcelain housing and it make (Single piece only as per clause 3.1.2)	MODERN / CJI / ADITYA BIRLA / RAVIKIRAN / IEC
19	Sealing (Nitrogen gas cushion/Metal bellow as per clause 3.1.7)	Nitrogen Gas cushion
20	Instrument security factor (As per clause 4.10)	< 5
21	Whether test tap provided (As per clause 3.1.14)	Yes
22	Acceptable limit of temperature rise	< 55 deg. C
23	Acceptable partial discharge level at 1.1 times the rated voltage	< 10pC
24	Rated short time withstand current for 1 sec. duration (kA rms)	31.5 kA rms
25	Rated dynamic withstand current (kAp)	78.75 kAP
26	Rated continuous thermal current (pu) where pu = rated current	1.2 times rated primary current
27	Impulse withstand voltage (kVp)	650 kVP
28	One minute power frequency withstand voltage (kV rms) of primary winding (Dry)	275 kV
29	One minute power frequency withstand voltage of secondary winding (kV rms)	3 kV
30	a Minimum total creepage distance of insulator bushing (mm)	* Min 3625mm (For Heavily Polluted) / 4495 mm (For Very Heavily Polluted).
	b Protected creepage of distance of bushing (mm)	—NA—

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Page 01 of 02

Customer : APTRANSCO, Hyderabad					
GUARANTEED TECHNICAL PARTICULARS FOR CURRENT TRANSFORMERS (145kV CTs of ratio 600-300-150/1-1-1A)					
	Details of Cores	Core No.	I	II	III
31	31.1	Current Ratios A/A	600-300-150	600-300-150	600-300-150
	31.2	Output burden (VA)	20	--	20
	31.3	Class of accuracy	5P	PS	0.2
	31.4	Accuracy limit factor	20	--	--
	31.5	Min. knee point voltage (kV) at lowest tap	--	60I(Rct+10) at 150/1A	--
	31.6	Secondary resistance corrected to 75 deg.C at lowest tap	--	< 4 at 150/1A #	--
	31.7	Max. exciting current at		--	
		20% of knee point voltage	--	< 40 mA	--
		50% of knee point voltage	--	< 60 mA	--
		100% of knee point voltage	--	< 100 mA	--
	31.8	Application	OL PROTECTION	Distance Protection	METERING
32		Weight of oil (Kg.)	117±15% (Approx.)		
33		Total Weight (Kg.)	600±15% (Approx.)		
34		Mounting details	Refer Enclosed Drg. No: 3-315-00-370 / R01		
35		Overall dimensions			
36		Characteristics (whether graphs enclosed):			
	a	Ratio and phase angle curves			
	b	Magnetisation curves			
	c	Ratio correction factor curves	NA		
37		Core			
	a	Area of cross section	As per Design Requirements		
	b	Flux density at rated primary current and rated burden.	< 1.7 Tesla	< 1.45 Tesla	< 1.2 Tesla
38		The type tests should have been conducted not earlier than 5 years in the standard third party laboratory. The manufacturer shall produce the type test reports at the time of acceptance test	Complied		
39		Quality of material and applicable standard-BIS. The manufacturer shall produce the valid BIS certification at the time of acceptance.	Will furnish type test reports as per relevant IS / IEC standards		
40		The provision for measurement of Capacitance & Dielectric Dissipation factor (Tan Delta) shall be provided. The procedure & measuring of Capacitance & Tan Delta shall be as per IEC: 60044 & IEC:61869	Provided		

* Exact Crepage Distance will be provided as per customer requirement mentioned in the relevant Technical specification.

Note: Knee point voltage shall be calculated on the basis of measured secondary winding resistance at mentioned tap.


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APPROVED FOR TURNKEY PROJECTS

Page: 02 of 02

Signature
Chief Engineer/Construction-I
APTRANSCO, Vidyut Soudha, Hyd.

	Standardised Drawing for 145 kV Current Transformers (M/s Vijai Electrical Limited)
	STD/GTP-DWG/Approval No. 277-1 02 sheets Revision No.0
	Prepared & Approved during December - 2013
	Customer ref : APTRANSCO
Title: GTP for CTs (145kV CTs of ratio 600-300-150/1-1-1A)	