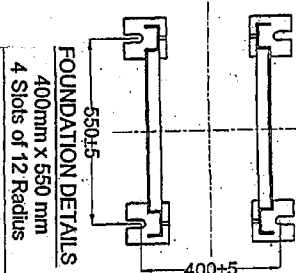



Chief Engineer/Construction-I
APTRANSCO, Vidut Soudha, Hyd

RATIOS: 1) 150/1A, 1C
2) 300/1A, 1C




Standardised Drawing for 145 kV Current Transformers
(M/s Vijai Electrical Limited)
STD/GTP-DWG/Approval No. 278-3-01 sheets Revision No.0
Prepared & Approved during December – 2013
Customer ref : APTRANSCO
Title: GA Drawing of 145kV CTs (Ratio 1) 150/1A,1C, 2/300/1A, 1C)

QTY.	VAR. NO.	FINISH	ITEM No.	DESCRIPTION	DRAWING No.	VAR. ITEM No.	MATERIAL SPEC.	ANALYSIS QTY.
01	—		016	RATING PLATE	—		AL ANODISED	
01	—		015	OIL DRAIN PLUG	—		MS	
02	—		014	EARTHING BOLT	—		MS (HDI)	
04	—		013	FOUNDATION CHANNELS	—		MS	
01	—		012	CABLE GLAND PLATE	—		MS	
01	—		011	TERMINAL BOX	—		MS	
02	—		010	LIFTING LUGS	—		MS	
01	—		009	BOTTOM TANK	—		MS	
01	—		008	INSULATOR	—		PORCELAIN	
01	—		007	TOP TANK	—		MS	
02	—		006	PRIMARY TERMINAL (0750x60L)	—		TINNED COPPER	
01	—		005	OIL LEVEL GAUGE	—		PRISMATIC	
02	—		004	SLING GUIDE	—		MS	
01	—		003	RAIN SHIELD	—		ALUMINIUM	
01	—		002	NITROGEN FILLING VALVE	—		BRASS	
01	—		001	PRESSURE RELEASE DEVICE	—		BRASS	

DISTRIBUTION OF PRINTS	
PPC	QA
REV	DATE:
	ALTERED:
	CHECKED:

NOTE:-

* 01. MIN. CREEPAGE DISTANCE : 3625mm (For heavily polluted)

4495mm (For very heavily polluted).
ALL FERROUS PARTS EXPOSED TO ATMOSPHERE
ARE ZINC RICH EPOXY PAINTED.

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

DR		TRANSMISSION CORPORATION OF ANDHRA PRADESH	
NAME OF CUSTOMER/PROJECT		Vijal Electricals Ltd.	
GRADE OF TOLUEN C/AFS 44 MS. OF 1 0010		Switchgear Products Division Hyderabad.	
		SCALE: NTS	
IDEE:		DRAWING No.	
GA DRAWING OF 145 KV CT		3-315-00-371	
SHEET No.		11	
INSTR SHEETS		13	

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

CURRENT TRANSFORMER

STANDARD	IS:2705:1992	HIGHEST SYSTEM VOLTAGE	145 kV
FREQUENCY	50 Hz	RATED SYSTEM VOLTAGE	132 kV
RATED S.T.C	31.5 VA ms / 1 Sec.	TYPE DESIGNATION	DT145
Idy	78.75 kAP	INSULATION LEVEL	275/650 kV/MV
QTY. OF OIL	110 Ltrs (54.4 pps) / WT. OF CT	500 Kg ± 15% (Appx) / RATED THERMAL CURRENT	150 A
CORE - I			
RATIO	PRIMARY (A)	SECONDARY (A)	150
RATED BURDEN (VA)	1	5	
ACCURACY CLASS		0.2S	
LS / F / ALL F		< 10 / -	
KNEE POINT VOLTAGE (V)		-	
RESISTANCE AT 75°C (Ohm)		-	
MAG. CURRENT at VA (mA)		-	



Vijai Electricals Ltd., Hyderabad, INDIA.

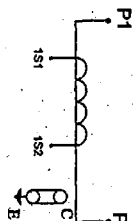
YEAR OF MANUFACTURING

Sl No.

CUSTOMER:

P.O No.:

RATIO	PRIMARY CONNECTION	SECONDARY CONNECTION
150 / 1	P1-P2	CORE - I 1S1-1S2



CAUTION
1. SECONDARY TERMINALS MUST BE SHORTED AND EARTHED WHEN NOT IN USE / BEFORE DISCONNECTING THE BURDEN
2. TAN DELTA TERMINAL 'C' MUST BE GROUNDED WHILE CT IS IN OPERATION

4 Nos of Ø2 HOLES

- 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.

APPROVED FOR TURKEY PROJECTS

RATIO : 150 / 1A

Chief Engineer/Construction-1
APTRANSCO, Vijay Soudha, Hyd.

DISTRIBUTION OF POINTS			
REV	DATE	ALTERED	ORIGIN

VAR QTY	FINISH	ITEM No.	DESCRIPTION	DRAWING No.	VAR ITEM No.	MATERIAL CODE	REMARKS

TYPE OF PRODUCT
OR
NAME OF CUSTOMER/PROJECT

TRANSMISSION CORPORATION OF ANDHRA PRADESH

Vijai Electricals Ltd.
Switchgear Products Division
Hyderabad.

SCALE: NTS

GRADE OF TOL DIM
C/M/F

DATE

DRAWING No.
3-315-00-371

SHEET No. 02

No. OF SHEETS. 03

REV 01

Customer ref : APTRANSCO

Standardised Drawing for 145 kV Current Transformers
(M/s Vijai Electrical Limited)
STD/GTP-DWG/Approval No. 278-4 01 sheets Revision No.0
Prepared & Approved during December - 2013

Customer : APTRANSCO, Hyderabad

**GUARANTEED TECHNICAL PARTICULARS FOR CURRENT TRANSFORMERS
(145kV CTs of ratio 150 / 1A, 1C) - USED FOR EXCLUSIVE METERING.**

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 Grade 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	190 sq.mm
	ii) Area of cross section of secondary winding	19 SWG (0.82 sq.mm)
c	Material used for providing secondary terminals	TIN PLATED BRASS
6	Rated primary voltage (kV rms)	132
7	Rated highest voltage (kV rms)	145
8	Rated frequency (Hz)	50
9	Rated primary current (A)	150
10	Rated secondary current (A)	1
11	Ratio taps (on secondary side only)	On Secondary Side
12	Type of insulation	Oil impregnated Paper
13	Seismic acceleration (g)	0.5
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 its 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)	< 10
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	< 10 pC
24	Rated short time withstand current for 1 sec. duration (kA rms)	31.5
25	Rated dynamic withstand current (kAp)	78.75
26	Rated continuous thermal current (pu) where pu = rated current	1.2 times rated primary current
27	impulse withstand voltage (kVp)	650
28	One minute power frequency withstand voltage (kV rms) of primary winding (Dry)	275
29	One minute power frequency withstand voltage of secondary winding (kV rms)	3
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-

Signature
14/11/13

Page 02 of 02

Signature
14.11.13

Customer : APTRANSCO, Hyderabad			
GUARANTEED TECHNICAL PARTICULARS FOR CURRENT TRANSFORMERS (145kV CTs of ratio 150/1A, 1C) - USED FOR EXCLUSIVE METERING.			
31		Details of Cores Core No.	I
	31.1	Current Ratios A/A	150
	31.2	Output burden (VA)	5
	31.3	Class of accuracy	0.2S
	31.4	Accuracy limit factor	--
	31.5	Min. knee point voltage (kpv) at lowest tap	--
	31.6	Secondary resistance corrected to 75 deg.C at lowest tap	--
	31.7	Max. exciting current at	
		20% of knee point voltage	--
		50% of knee point voltage	--
		100% of knee point voltage	--
	31.8	Application	Metering
32		Weight of oil (Kg.)	99 ± 15% (Approx.)
33		Total Weight (Kg.)	500 ± 15% (Approx.)
34		Mounting details	Refer Enclosed Drg. No: 3-315-00-371 / 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.	< 1.2 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.


14/11/13

APPROVED FOR TURNKEY PROJECTS

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

Page 02 of 02

14/11/13

	Standardised Drawing for 145 kV Current Transformers (M/s Vijai Electrical Limited)
	STD/GTP-DWG/Approval No. 278-1 02 sheets Revision No.0
	Prepared & Approved during December - 2013
	Customer ref : APTRANSCO
Title: GTP for CTs (145kV CTs of ratio 150/1A, 1C) used for exclusive metering	