

RATIOS : 1) 200/1A, 1C  
2) 400/1A, 1C  
3) 600/1A, 1C

Standardised Drawing for 220 KV Current Transformers  
(C/Ms Vijai Electrical Limited)  
STD/GTT-DVWC/Approval No. 214-2 01 sheet Revision No.0  
Prepared & Approved during December - 2013  
Customer ref : APTKANSO  
Title: GA Drawing of 245 CT (ratio: 1) 200/1A, 1C, 2) 400/1A, 1C, 3) 600/1A, 1C

APPROVED FOR TURNKEY PROJECTS  
Chief Engineer Construction  
APTRANSO, Wajra Boudha, Hyd.

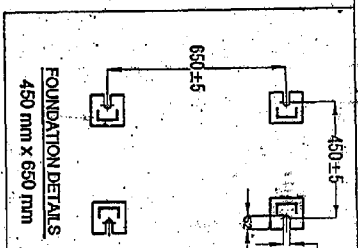
FRONT VIEW

SIDE VIEW

NOTE:-

- \* 01. MIN. CREEPAGE DISTANCE : 6125mm (For heavily polluted) / 7565mm (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



ITEM	QTY	FINISH	ITEM	DESCRIPTION	DRAWING No.	V. VAR	MATERIAL CODE	REMARKS
01	-	-	016	CABLE GLAND PLATE	-	-	MS	
01	-	-	015	RATING PLATE	-	-	AL ANODISED	
01	-	-	014	ON. DRAIN PLUG	-	-	MS	
02	-	-	013	EARTHING BOLT	-	-	MS	
01	-	-	012	FOUNDATION CHANNEL ASSY	-	-	MS	
01	-	-	011	TERMINAL BOX	-	-	MS	
04	-	-	010	LETING LUGS	-	-	MS	
01	-	-	009	BOTTOM TANK	-	-	MS	
01	-	-	008	INSULATOR	-	-	MS	
01	-	-	007	TOP TANK	-	-	MS	
02	-	-	006	PRIMARY TERMINAL (FORBIDDEN)	-	-	TINNED COPPER	
01	-	-	005	ON. LEVEL GAUGE	-	-	PREPARED	
04	-	-	004	SLING GUIDE	-	-	MS	
01	-	-	003	RAIN SHIELD	-	-	ALUMINIUM	
01	-	-	002	NITROGEN FILLING VALVE	-	-	BRASS	
01	-	-	001	PRESSURE RELEASE DEVICE	-	-	BRASS	

REV	DATE	REASON	QA

TYPE OF PRODUCT  
OR  
NAME OF CUSTOMER/PROJECT  
Vijai Electricals Ltd.  
Switchgear Products Division  
Hyderabad.

REV	DATE	REASON	QA

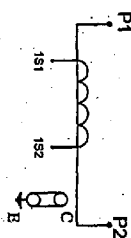
GRADE OF TOL. DIM  
C/N/E P/NO OF LINE  
SCALE: N.T.S.  
TITLE: GA DRAWING OF 245KV CT.  
DRAWING No. 3-216-00-386  
SHEET No. 01 OF 01 SHEETS

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

# CURRENT TRANSFORMER

STANDARD	IS:2705-1992.	HIGHEST SYSTEM VOLTAGE	245KV
FREQUENCY	50 Hz	RATED SYSTEM VOLTAGE	220KV
RATED S.T.C	40 VA ms / 1 Sec.	TYPE DESIGNATION	DT245
WT.	100 KGP	INSULATION LEVEL	460/1050 MM/KV
QTY. OF OIL	1500 KGS (APPRX)	WT. OF CT	900 KGS (APPRX)
CORE		RATED THERMAL CURRENT	480 A.
RATIO		PRIMARY (A)	400
		SECONDARY (A)	1
RATED BURDEN (VA)			5
ACCURACY CLASS			0.2S
I.S.F / A.L.F			< 10 / -
KNEE POINT VOLTAGE (V)			-
RESISTANCE AT 75°C (Ohm)			-
MAG. CURRENT at V <sub>k</sub> (mA)			-

RATIO	PRIMARY CONNECTION	SECONDARY CONNECTION
400 / 1	P1-P2	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



Vijai Electricals Ltd., Hyderabad, INDIA.

YEAR OF MANUFACTURING	SI. No.
CUSTOMER:	
P.O. No.:	

APPROVED FOR TURNKEY PROJECTS

Chief Engineer/Construction  
APTRANSCO, Vijay Soudha, Hyd.

## NOTE :-

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

196  
205

RATIO : 400 / 1A, 1C

4 Nos OF Ø2 HOLES

REVISION OF PRINTS			
REV	DATE	BY	REASON

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

TYPE OF PRODUCT  
OR  
NAME OF CUSTOMER/PROJECT  
Transmission Corporation of Andhra Pradesh Ltd., Hyderabad.

Vijai Electricals Ltd.  
Switchgear Products Division  
Hyderabad.

GRADE OF TOLDIM	SCALE	NTS	DRAWING No.	3-316-00-386
Chf. P. No.			SHEET No.	03
RATING & CONNECTING DIAGRAM FOR 245KV CT		No. OF SHEETS: 04		

Customer : APTRANSCO, Hyderabad

**GUARANTEED TECHNICAL PARTICULARS FOR CURRENT TRANSFORMER  
(220kV CTs of ratio 400/1A, 1C) - USED FOR EXCLUSIVE METERING.**

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	240 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)	220
7	Rated highest voltage (kV rms)	245
8	Rated frequency (Hz)	50
9	Rated primary current (A)	400
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 x Rated voltage (µV)	< 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 / ABI / WSI / CJI / 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 3.1.14A)	Yes
22	Acceptable limit of temperature	As per IS: 2705 / IEC:60044-1
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)	40
25	Rated dynamic withstand current (kAp)	100
26	Rated continuous thermal current (pu) where pu = rated current	1.2
27	Impulse withstand voltage (kVp)	1050
28	One minute power frequency withstand voltage (kV rms) of primary winding (Dry)	460

*Signature*  
14/11/13

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14.11.13

Customer : APTRANSCO, Hyderabad			
GUARANTEED TECHNICAL PARTICULARS FOR CURRENT TRANSFORMERS (220kV CTs of ratio 400/1A, 1C) - USED FOR EXCLUSIVE METERING.			
29		One minute power frequency withstand voltage of secondary winding (kV rms)	3
30	a	Minimum total creepage distance of insulator bushing (mm)	* Min 6125mm (For Heavily Polluted) / 7595 mm (For Very Heavily Polluted).
	b	Protected creepage of distance of bushing (mm)	NA
31		Details of Cores Core No.	CORE - I
	31.1	Current Ratios A/A	400 / 1
	31.2	Output burden (VA)	5
	31.3	Class of accuracy	0.2S
	31.4	Accuracy limit factor	-
	31.5	Min. knee point voltage (kV)	-
	31.6	Secondary resistance corrected to 75 deg.C	-
	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.)	243 ±15% (Approx.)
33		Total Weight (Kg.)	900 ±15% (Approx.)
34		Mounting details	Refer Enclosed GA Drawing: 3-316-00-386 / R01
35		Overall dimensions	
36		Characteristics (whether graphs enclosed):	APPROVED FOR TURNKEY PROJECTS
	a	Ratio and phase angle curves	-
	b	Magnetisation curves	-
37	c	Ratio correction factor curves	NA
		Core	
37	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 Creepage Distance will be provided as per customer requirement mentioned in the relevant Technical specification.

*[Signature]*  
14/11/13

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*[Signature]*  
14-11-13

Standardised Drawing for 220 kV Current Transformers ( M/s Vijai Electrical Limited)
STD/GTP-DWG/Approval No. 275-1 02 sheets Revision No.0
Prepared & Approved during December - 2013
Customer ref : APTRANSCO