



SEC/A.P.TRANSCO/CRR
DATE :5.09.2011.

The Chief Engineer,
CONSTRUCTION,
A.P.TRANSCO,
VIDYUTSODHA,
HYDERABAD

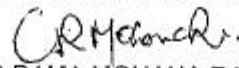
Sir,

SUB ; submission of standard drawings for 132 KV & 220 KV CVTS -REG

We herewith submitting two sets of standard drawings for 132 kv and 220 KV capacitor voltage transformers for standardizing the drawings which required for various projects...

We request you to kindly approve the same

Thanking you,
Yours faithfully,
For AREVA T & D INDIA LIMITED,


(C.RAMA MOHANA RAO)

KUMAR VAIDYANATHAN

MOB NO : 097 409 83903

AREVA T & D

AREVA T & D India Limited, 5-4-187/1st Floor, M.G. Road, Karbala Maidan, Secunderabad - 500 003
Tel : + 91 40 2754 5520/21 Fax : + 91 40 2754 5063. www.areva.com

REGISTERED OFFICE : E - 48/7, OKHLA INDUSTRIALS AREA, PHASE II, NEW DELHI - 110020



CUSTOMER : APTRANSCO
P.O. No. : AS APPLICABLE
PROJECT : AS APPLICABLE
PRODUCT : 132 kV/4400 pF CAPACITOR VOLTAGE TRANSFORMER (CCV-145)

SL. No.	STANDARD DRAWING No.	REV. No.	DESCRIPTION
01	700-A-404	00	STANDARD GUARANTEED TECHNICAL PARTICULARS FOR 132 kV/4400 pF C.V.T (CCV-145)
02	712-B-1006	00	STANDARD DRAWING FOR 132 kV/4400 pF C.V.T (CCV-145) OUTLINE DIAGRAM
03	713-B-1117	00	STANDARD DRAWING FOR 132 kV/4400 pF C.V.T (CCV-145) NAME PLATE
04	714-B-988	00	STANDARD DRAWING FOR 132 kV/4400 pF C.V.T (CCV-145) SECTIONAL VIEW
05	715-B-274	00	STANDARD DRAWING FOR 132 kV/4400 pF C.V.T (CCV-145) TERMINAL CLAMP
06	716-B-1063	00	STANDARD DRAWING FOR 132 kV/4400 pF C.V.T (CCV-145) SECONDARY TERMINAL BOX
07	723-B-556	00	STANDARD DRAWING FOR 132 kV/4400 pF C.V.T (CCV-145) PORCELAIN HOUSING
08	713-A-227	00	STANDARD DRAWING FOR 132 kV/4400 pF C.V.T (CCV-145) SPECIAL NAME PLATE

REV No	DESCRIPTION	CHKD	APPD	DATE
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TITLE : LIST OF STANDARD DOCUMENTS FOR 132 kV/4400 pF
CAPACITOR VOLTAGE TRANSFORMER (CREEPAGE : 25mm. / kV)

CHKD : K.Ammasai
05.09.2011

DOC. No. 700-A-403
REV. 00

APPD : V.S.Nagendra
05.09.2011

**STANDARD GUARANTEED TECHNICAL PARTICULARS FOR
132 kV/4400 pF CAPACITOR VOLTAGE TRANSFORMER (CCV-145)
STD. DCC. No. 700-A-404**

1	Manufacturer's Name and address	Units	AREVA T&D INDIA LIMITED Instrument Transformers Division-India		
2	Manufacturer's type designation		CCV 145		
3	Standards applicable		IS -3156 / IEC-60044-5 & 60358		
4	Rated primary voltage Ur	kV	132/ Sq root 3		
5	Rated secondary voltage	V	winding 1	winding 2	winding 3
6	Number of secondaries		110/ Sq root 3	110/ Sq root 3	110-110/ Sq root 3
7	Rated frequency	Hz	Three		
8	Rated output of each secondary winding	VA	50	50	50
9	Total simultaneous burden	VA	75 VA		
10	Rated total thermal burden	VA	750		
11	Highest system voltage	kV	145		
12	Rated voltage factor and corresponding rated time		1.2 continuous 1.5 Un 30 seconds		
13	Accuracy class of each secondary winding		0.2	0.5	3P
14	Capacitance	pF	4400 + 10% - 5%		
15	Carrier frequency coupling	kHz	> 500		
16	Natural frequency coupling	kHz	> 500		
17	Self tuning frequency coupling	kHz	40 - 500		
18	Band width	kHz	40 - 500		
19	One minute power frequency test voltage of secondary winding	kVrms	3		
20	One minute power frequency test voltage of H.F terminal	kVrms	4		
21	One minute power frequency test voltage of capacitor (dry & wet)	kVrms	275		
22	1.2/50 micro sec impulse withstand test voltage of capacitor	kVp	650		
23	250/2500 micro sec switching surge withstand voltage of capacitor (dry & wet)	kVp	Not applicable		
24	Corona extinction voltage	kVrms	> 92		
25	Max. radio interference voltage at 1.1 Ur/ Sq root 3 at 1.0 MHz (micro volts)		< 2500		
26	Total weight (Approx)	kg	340		
27	Quantity of oil (Approx)	kg	54		
28	Whether CVTs are hermetically sealed if so Furnish arrangement of sealing		Yes by using gaskets		
29	Overall general arrangement drawing of CVT is to be enclosed		Yes Enclosed		
30	Creepage Distance	mm	3525		
31	Exposed Ferrous Parts		Hot dip galvanised		

32) The type tests should have been conducted not earlier than 5 years in the standard third party laboratory. The manufacturer shall produce the type tests reports at the time of acceptance tests.

33) Quality of material held applicable - B.E.S. The manufacturer shall produce the valid B.E.S. certification at the time of acceptance tests.

CHKD. :
K. Ammasai
05.09.2011

APPD. :
V.S.Nagendra
05.09.2011

APPROVED FOR TURNKEY PROJECTS

CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/MIDYUTH SOUDHA/HYD,

Standardised Guaranteed Technical Particulars for 132KV /4400 pF Capacitor Voltage Transformer(ccv-145) (AREVA make)
 STD/GTP-DWG/Approval No. 212-1 Revision No. 0
 Prepared & Approved during October - 2011



Standardised Drawing for 132 KV/4400 pF Current Voltage Transformer(ccv-145) (AREVA make).

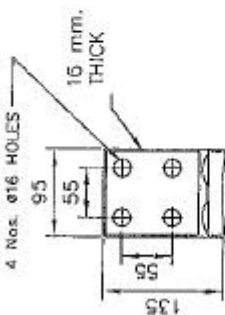
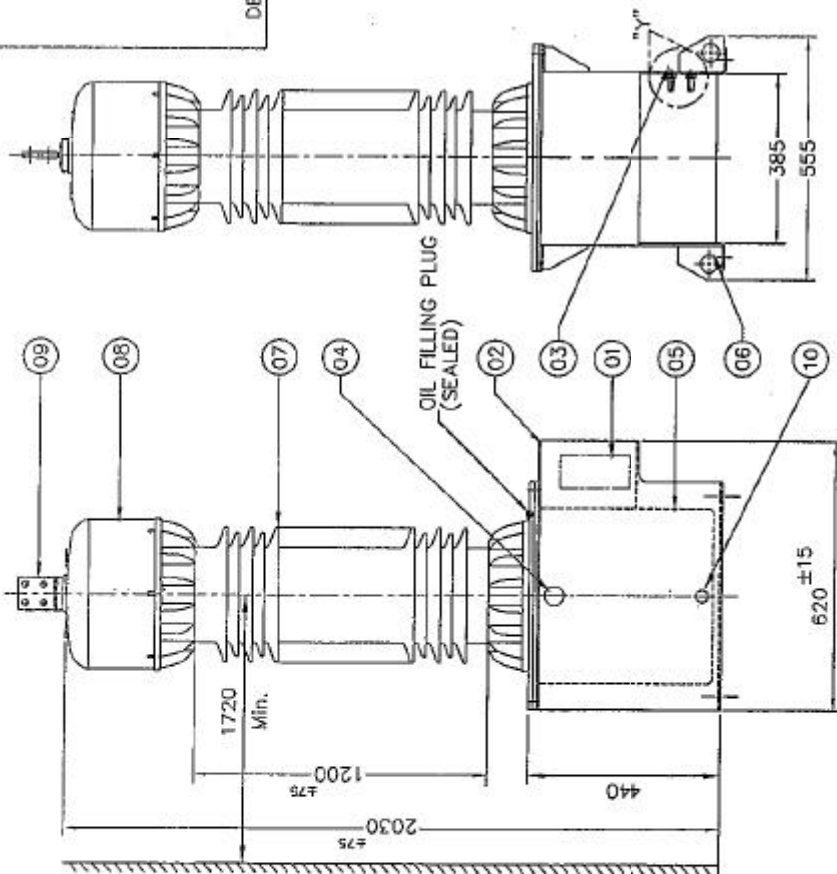
STD/GTP-DWG/Approval No. **212-2-sheet1** Revision No. **0**

Prepared & Approved during **October - 2011**

Customer ref : APTRANSCO

Title: Standard Drawings for 132 KV/4400 pF Current Voltage Transformer (ccv-145) out line diagram.

This drawing is the property of APTRANSCO. It is not to be used for any other purpose without the written permission of APTRANSCO.



NOTES :-

01. TOTAL CREEPAGE DISTANCE -- 3625 mm.
02. OIL QUANTITY :-
14 kgs. FOR CAPACITOR UNIT (IEC-867) SYNTHETIC OIL
40 kgs. FOR EMU (IEC-296/S-335) MINERAL OIL
03. WEIGHT OF CVT : 340 kgs.
04. WEIGHTS INDICATED ARE APPROXIMATE
05. FINISH ELECTRO MAGNETIC UNIT TANK AS FOLLOWS :-
TANK SHALL BE HOT DIP GALVANISED
06. GENERAL TOLERANCE AS PER IS:2102 WILL BE APPLICABLE WHERE TOLERANCE IS NOT INDICATED.
07. MAKE OF PORCELAIN : WSI/BHEL/ADITYA BIRLA/IEC/MODERN

2 Nos. M12x30 HEX.BOLT
(STAINLESS STEEL)
(DIAGONALLY OPPOSITE - 2 Sets)

DETAIL - "Y"
(EARTHING BOLT)

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REVISION	DESCRIPTION	NAME	DATE	ALL DIMENSIONS ARE IN mm. UNLESS OTHERWISE SPECIFIED.	SCALE : NTS.
1	CHIEF ENGINEER / CONSTRUCTION	K. Anand	05.08.11	STANDARD DRAWINGS FOR	REF.
2	APTRANSCO/VIDYUTH SOUDHA/HQ.	K.S. Prasad	05.08.11	132KV/4400pF C.V.T (CCV-145)	OUTLINE DIAGRAM
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4 Nos. Ø20 HOLES FOR MOUNTING
CVT TO SUPPORT STRUCTURE.

AREVA T&D India Limited
Instrument Transformers Division-India

DRG. No.
712-B-1006

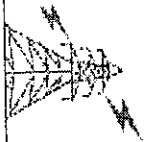
REV. No. 00

145) name plate

Title: Standard Drawings for 132 KV/4400 pF Current Voltage Transformer (ccv-145) name plate

Customer ref : APTRANSCO

APTRANSCO



Standardised Drawing for 132 KV/4400 pF Current Voltage Transformer (ccv-145) (AREVA make).
STD/GTP-DWG/Approval No. 212-2-sheet2 Revision No. 0
Prepared & Approved during October - 2011

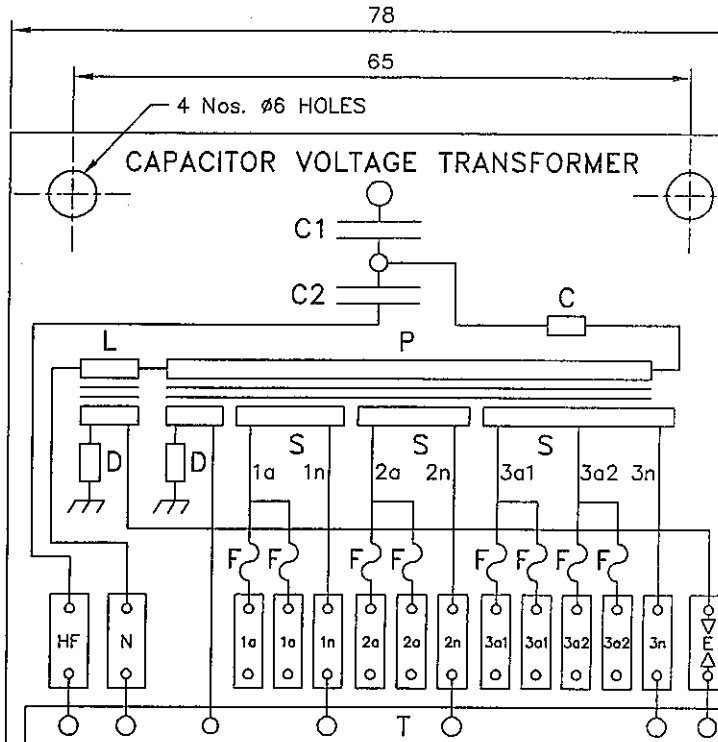
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- NOTES :-
1. WEIGHT INDICATED IN NAME PLATES ARE APPROXIMATE.
 2. MATERIAL OF NAME PLATE - STAINLESS STEEL (0.5 mm. THICK)
 3. FOR OUTDOOR PROOF
 3. FOR GENERAL TOLERANCE REFER COARSE IS: 2102



C : Carrier blocking device
L : Reactor
F : Voltage limiter device
P : Transformer Primary
S : Transformer Secondary
D : Damping device
N : Low voltage terminal of the EMU
HF : Low voltage terminal of the CC
T : Ground terminal
F : Fuse

WEIGHT
340 kg.

YEAR

SL.No.

Standards : IEC-60044-5/60358
Type : CCV 145
Total burden simultaneous : 75 VA
Thermal burden : 750 VA
Rated voltage : 132kV/ $\sqrt{3}$
Highest system voltage : 145kV
Insulation level : 275kV/650kVp
Rated frequency : 50 Hz
Nominal intermediate voltage : 21kV/ $\sqrt{3}$
Voltage factor : 1.2cont. 1.5-30Sec
HF Capacitance : 4400 pF
Primary Capacitance C1 : 5411 pF
Secondary Capacitance C2 : 28192 pF

Connection	Ratio	Burden Accuracy class	Fuse
1a-1n	132000/ $\sqrt{3}$ /110/ $\sqrt{3}$ V	50 VA CI 0.2	10A
2a-2n	132000/ $\sqrt{3}$ /110/ $\sqrt{3}$ V	50 VA CI 0.5	10A
3a1-3a2-3n	132000/ $\sqrt{3}$ /110-110/ $\sqrt{3}$ V	50 VA CI 3P	10A

CAUTION : HF TERMINAL MUST BE EARTHED IF NOT USED FOR CARRIER TRANSMISSION. 'N' TERMINAL SHOULD ALWAYS BE EARTHED.

"APTRANSCO"



AREVA T&D India Limited
Instrument Transformers Division-India

713-B-1117/00

APPROVED FOR TURNKEY PROJECTS

CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/WIDYUTH SOUDHA/HYD.

21/06/11

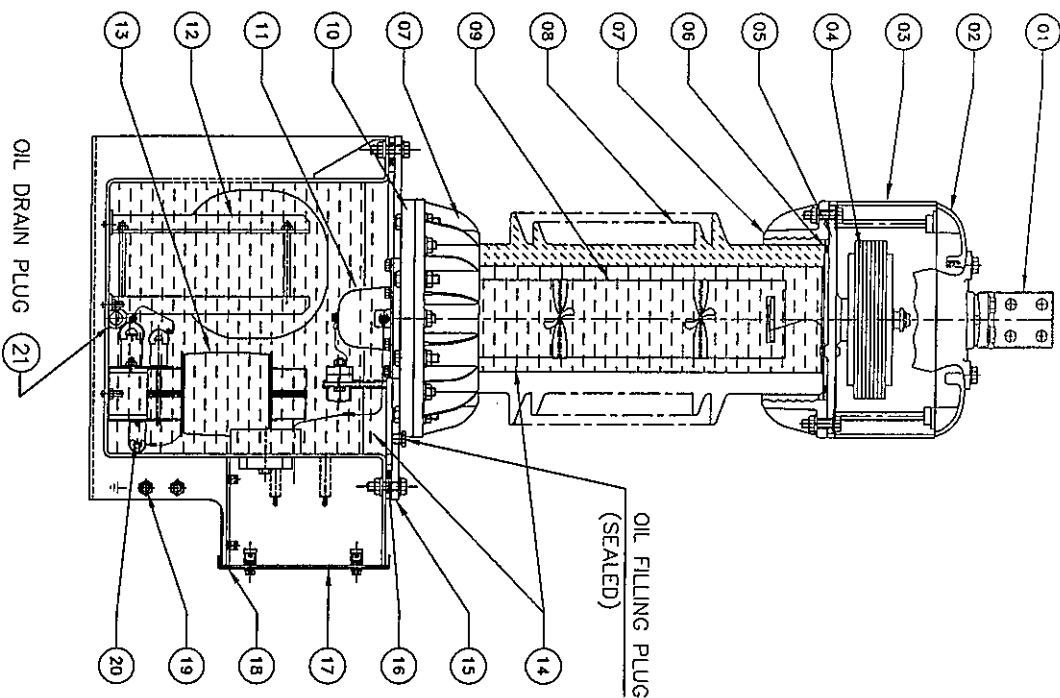
NAME	DATE	ALL DIMENSIONS ARE IN mm. UNLESS OTHERWISE SPECIFIED.	SCALE : NTS.
DRN. K.Ammesl	05.09.11	STANDARD DRAWINGS FOR	REF.
CHD.		132KV/4400pF C.V.T (CCV-145)	
APPD. V.S.Nagend	05.09.11	NAME PLATE	
AREVA AREVA T&D India Limited Instrument Transformers Division-India			
DRG. No. 713-B-1117	REV. No. 00		

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Sl.No.	DESCRIPTION
01	H.V. TERMINAL PAD
02	H.V. TERMINAL PLATE
03	SHIELD
04	BELLOW
05	BOTTOM PLATE FOR BELLOW
06	GASKET FOR PORCELAIN TO PLATE
07	END FLANGE
08	PORCELAIN INSULATOR
09	CAPACITOR STACK ASSEMBLY
10	BOTTOM PLATE FOR STACK ASSY
11	L.V. BUSHING
12	TRANSFORMER ASSEMBLY
13	REACTOR ASSEMBLY
14	OIL
15	TANK COVER PLATE
16	GASKET FOR TANK
17	SECONDARY TERMINAL BOX
18	GASKET FOR SEC. TERMINAL BOX
19	EARTH BOLT
20	DAMPING CIRCUIT
21	OIL DRAIN PLUG

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CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/VIDYUTH SOUDHA/HYD.



Standardised Drawing for 132 KV/4400 pF Current Voltage
Transformer(ccv-145) (AREVA make).
STD/GTP-DWG/Approval No. 212-2-sheets3 Revision No. 0
Prepared & Approved during October - 2011

Customer ref : APTRANSCO

Title: Standard Drawings for 132 KV/4400 pF Current Voltage Transformer (ccv-145) sectional view

NAME	DATE	ALL DIMENSIONS ARE IN mm, UNLESS OTHERWISE SPECIFIED.	SCALE : NTS.
DRN. K.Ammsol	05.09.11	STANDARD DRAWINGS FOR	REF.
CHD.		132KV/4400pF C.V.T (CCV-145)	
APPD. V.S.Nagendran	05.09.11	SECTIONAL VIEW	

AREVA AREVA T&D India Limited
Instrument Transformers Division-India

DRG. No. 714-B-988
REV. No. 00

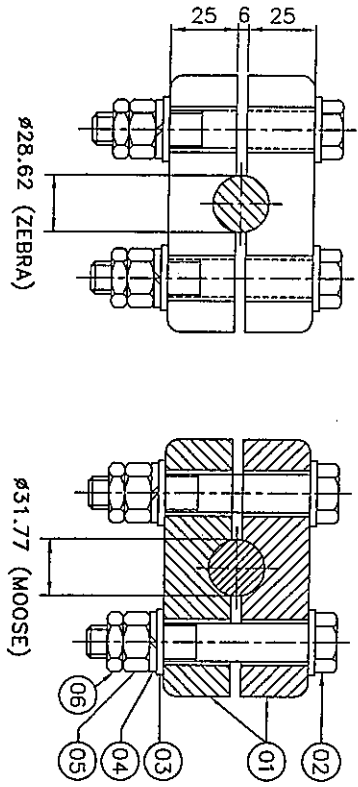
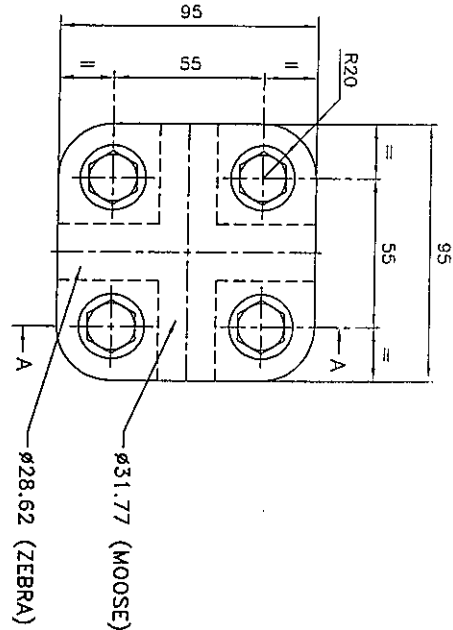
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SECTION - "AA"

- NOTES:-**
01. REFERENCE I.S:5561-1970
 02. FOR GENERAL TOLERANCE REFER COARSE I.S:2102 (Part-1) 1993
 03. MAKE OF TERMINAL CLAMP : MEGA ENG. / VENSUN ENGG.
 04. TERMINAL CLAMP SHALL BE SUITABLE FOR BOTH HORIZONTAL AND VERTICAL TAKE-OFF.

IT.No.	DESCRIPTION	QTY.	STOCK SPECN.	MATERIAL	REMARKS
06	HEX. LOCK NUT	4	M12	M.S HOT DIP GALVANISED	
05	HEX. NUT	4	M12	M.S ELECTRO GALV.	
04	SPRING WASHER	4	FOR M12 BOLT	M.S ELECTRO GALV.	
03	FLAT WASHER	8	FOR M12 BOLT	M.S HOT DIP GALVANISED	
02	HEX.BOLT	4	M12x100	M.S HOT DIP GALVANISED	
01	CLAMP PIECE	2	95x95x25	AL ALLOY 4600 (A6) To IS:617 - 1975	

APPROVED FOR TURNKEY PROJECTS

CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/VIDYUTH SOUDHA/HYD.

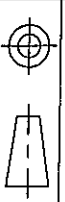
NAME	DATE	ALL DIMENSIONS ARE IN mm. UNLESS OTHERWISE SPECIFIED.	SCALE : NTS.
DRN. K.Ammasol	05.09.11	STANDARD DRAWINGS FOR	REF.
CHD.		132KV/4400PF C.V.T (CCV-145)	
APPD. V.S.Nagendran	05.09.11	TERMINAL CLAMP	

AREVA AREVA T&D India Limited
Instrument Transformers Division-India



Standardised Drawing for 132 KV/4400 pF Current Voltage Transformer(ccv-145) (AREVA make).
STD/GTP-DWG/Approval No. 212-2-sheet4 Revision No. 0
Prepared & Approved during October - 2011

Customer ref : APTRANSCO
Title: Standard Drawings for 132 KV/4400 pF Current Voltage Transformer (ccv-145) terminal clamp



DRG. No. 715-B-274
REV. No. 00

Signature _____
Date _____

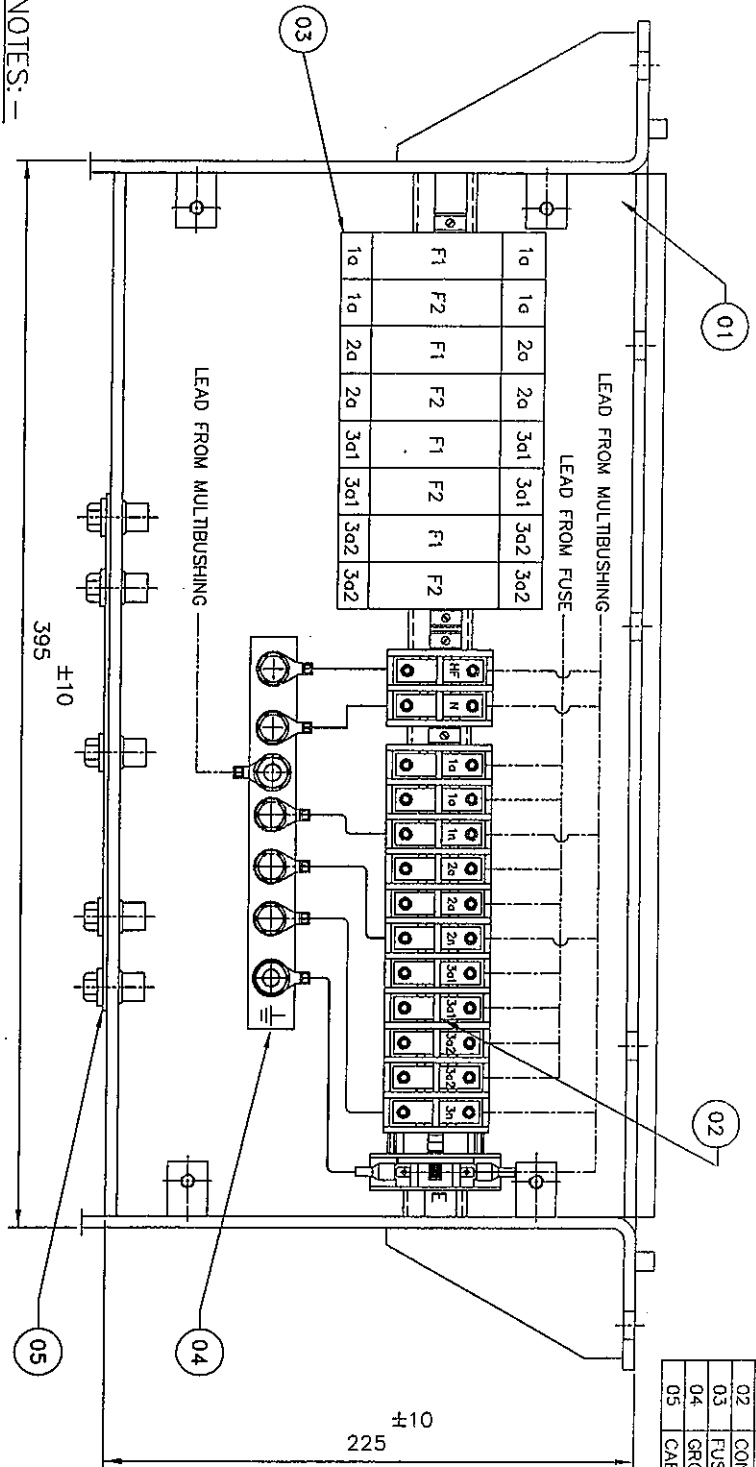
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NOTES:-

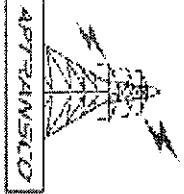
1. F1 & F2 - 10 Amps FUSE
2. HF - LOW VOLTAGE TERMINAL OF THE CC
3. N - LOW VOLTAGE TERMINAL OF THE EMU
4. E - VOLTAGE LIMITER DEVICE
5. ENCLOSURE PROTECTION CLASS OF SECONDARY TERMINAL BOX CONFORM TO IP-55 AS PER IS-13947-(PART-I)-1993
6. 4 Nos. 3/4 inch CABLE GLAND (UNDER SCOPE OF AREVA SUPPLY)



Sl. No.	DESCRIPTION	QTY.
01	TANK ASSEMBLY	1
02	CONNECTOR ASSEMBLY	1
03	FUSE	8
04	GROUNDING STRIP	1
05	CABLE GLAND PLATE	1

APPROVED FOR TURNKEY PROJECTS

CHIEF ENGINEER / CONSTRUCTION-1
APTTRANSCO/VIDYUTH SOUDHA/HYD,



Standardised Drawing for 132 KV/4400 pF Current Voltage
Transformer(ccv-145) (AREVA make).
STD/GTP-DWG/Approval No. 212-2-sheets-Revision No. 0
Prepared & Approved during October - 2011

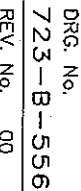
Customer ref : APTTRANSCO

Title: Standard Drawings for 132 KV/4400 pF Current Voltage Transformer (ccv-145) secondary terminal box

NAME	DATE	ALL DIMENSIONS ARE IN mm, UNLESS OTHERWISE SPECIFIED.	SCALE : NTS.
DRN. K. Arinasi	05.09.11	STANDARD DRAWINGS FOR	REF.
CHD.		132KV/4400pF C.V.T (CCV-145)	
APPD. V.S. Nagesh	05.09.11	SECONDARY TERMINAL BOX	
AREVA T&D India Limited Instrument Transformers Division-India			DRG.No. 716-B-1063 REV. No. 00

Signature_____

Date_____



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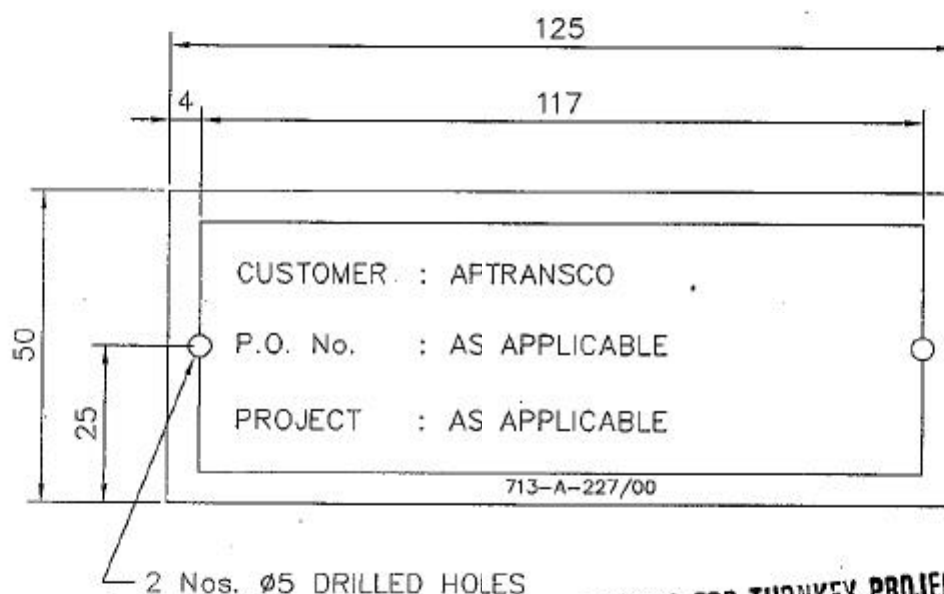
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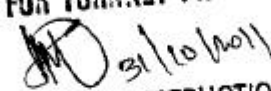
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It is not to be used for any other purpose nor

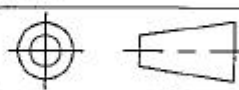
Signature _____ Date _____	REVISION	 Standardised Drawing for 132 KV/4400 pF Current Voltage Transformer(ccv-145) (AREVA make). STD/GTP-DWG/Approval No. 212-2-sheet7 Revision No. 0 Prepared & Approved during October - 2011 Customer ref : APTRANSCO Title:: Standard Drawings for 132 KV/4400 pF Current Voltage Transformer (ccv-145) special name plate
	DESCRIPTION	
	IT.	

NOTES :-

1. MATERIAL OF NAME PLATE - STAINLESS STEEL (0.5 mm.THICK)
FOR OUTDOOR PROOF
2. FOR GENERAL TOLERANCE REFER COARSE I.S 2102



APPROVED FOR TURNKEY PROJECTS

CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/VIDYUTH SOUDHA/HYD.

	NAME	DATE	ALL DIMENSIONS ARE IN mm. UNLESS OTHERWISE SPECIFIED.	SCALE : NTS.
DRN.	K.Ammasai	05.09.11	STANDARD DRAWING FOR 132kV/4400pF C.V.T (CCV-145) SPECIAL NAME PLATE	REF.
CHD.				
APPD.	V.S.Nagendra	05.09.11		
			AREVA T&D India Limited Instrument Transformers Division-India	DRG. No. 713-A-227 REV. No. 00



CUSTOMER : APTRANSCO
P.O. No. : AS APPLICABLE
PROJECT : AS APPLICABLE
PRODUCT : 220 kV/4400 pF CAPACITOR VOLTAGE TRANSFORMER (CCV-245)

SL. No.	STANDARD DRAWING No.	REV. No.	DESCRIPTION
01	700-A-406	00	STANDARD GUARANTEED TECHNICAL PARTICULARS FOR 220 kV/4400 pF C.V.T (CCV-245)
02	712-B-1007	00	STANDARD DRAWING FOR 220 kV/4400 pF C.V.T (CCV-245) OUTLINE DIAGRAM
03	713-B-1118	00	STANDARD DRAWING FOR 220 kV/4400 pF C.V.T (CCV-245) NAME PLATE
04	714-B-989	00	STANDARD DRAWING FOR 220 kV/4400 pF C.V.T (CCV-245) SECTIONAL VIEW
05	715-B-275	00	STANDARD DRAWING FOR 220 kV/4400 pF C.V.T (CCV-245) TERMINAL CLAMP
06	716-B-1064	00	STANDARD DRAWING FOR 220 kV/4400 pF C.V.T (CCV-245) SECONDARY TERMINAL BOX
07	723-B-557	00	STANDARD DRAWING FOR 220 kV/4400 pF C.V.T (CCV-245) PORCELAIN HOUSING
08	713-A-228	00	STANDARD DRAWING FOR 220 kV/4400 pF C.V.T (CCV-245) SPECIAL NAME PLATE

REV No	DESCRIPTION	CHKD	APPD	DATE
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TITLE : LIST OF STANDARD DOCUMENTS FOR 220 kV/4400 pF CAPACITOR VOLTAGE TRANSFORMER (CREEPAGE : 25mm. / kV)

CHKD : K.Ammasai
 05.09.2011

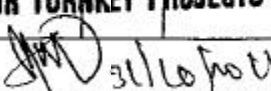
DOC. No. 700-A-405
 REV. 00

APPD : V.S.Nagendra
 05.09.2011

GUARANTEED TECHNICAL PARTICULARS FOR 220 kV/4400 pF CAPACITOR VOLTAGE TRANSFORMER STD. DOC. No. 700-A-406									
1	Manufacturer's Name and address	Units	AREVA T&D INDIA LIMITED Instrument Transformers Division-India						
2	Manufacturer's type designation		CCV 245						
3	Standards applicable		IS -3156 / IEC-60044-5 & 60358						
4	Rated primary voltage U_r	kV	220/ $\sqrt{3}$ root 3						
5	Rated secondary voltage	V	<table><tr><th>winding 1</th><th>winding 2</th><th>winding 3</th></tr><tr><td>110/ $\sqrt{3}$ root 3</td><td>110/ $\sqrt{3}$ root 3</td><td>110-110/ $\sqrt{3}$ root 3</td></tr></table>	winding 1	winding 2	winding 3	110/ $\sqrt{3}$ root 3	110/ $\sqrt{3}$ root 3	110-110/ $\sqrt{3}$ root 3
winding 1	winding 2	winding 3							
110/ $\sqrt{3}$ root 3	110/ $\sqrt{3}$ root 3	110-110/ $\sqrt{3}$ root 3							
6	Number of secondaries		Three						
7	Rated frequency	Hz	50						
8	Rated output of each secondary winding	VA	50						
9	Total simultaneous burden	VA	100 VA						
10	Rated total thermal burden	VA	750						
11	Highest system voltage	kV	245						
12	Rated voltage factor and corresponding rated time		1.2 continuous 1.5 Un 30 seconds						
13	Accuracy class of each secondary winding		0.2						
14	Capacitance		0.5						
15	Carrier frequency coupling	pF	4400 + 10% - 5%						
16	Natural frequency coupling	kHz	> 500						
17	Self tuning frequency coupling	kHz	> 500						
18	Band width	kHz	40 - 500						
19	One minute power frequency test voltage of secondary winding	Vrms	3						
20	One minute power frequency test voltage of H.F terminal	Vrms	4						
21	One minute power frequency test voltage of capacitor (dry & wet)	Vrms	460						
22	1.2/50 micro sec impulse withstand test voltage of capacitor	kVp	1050						
23	250/2500 micro sec switching surge withstand voltage of capacitor (dry & wet)	kVp	Not applicable						
24	Corona extinction voltage	kVrms	> 156						
25	Max. radio interference voltage at 1.1 U_r / $\sqrt{3}$ root 3 at 1.0 MHz (micro volts)		< 2500						
26	Total weight (Approx)	kg	410						
27	Quantity of oil (Approx)	kg	62						
28	Whether CVTs are hermetically sealed if so Furnish arrangement of sealing		Yes by using gaskets						
29	Overall general arrangement drawing of CVT is to be enclosed		Yes Enclosed						
30	Creepage Distance	mm	6125						
31	Exposed Ferrous Parts		Hot dip galvanised						

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CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/VIDYUTH SOUDHA/HYD.

CHKD :
K. Ammasai
05.09.2011

APPD :
V.S.Nagendra
05.09.2011

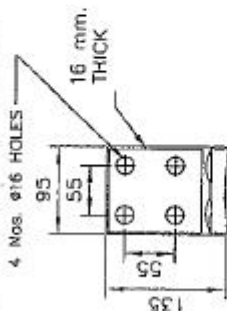
32) The type tests should have been conducted not earlier than 5 years in the standard third party laboratory.
 The manufacturer shall produce the type test reports at the time of acceptance tests.
 33) Quality of material held applicable standard - B.P.S. The manufacturer shall produce the valid VTS certification at the time of acceptance tests.



Standardised Guaranteed Technical Particulars for **220KV**
/4400 pF Capacitor Voltage Transformer(ccv-245)(AREVA
make)

STD/GTP-DWG/Approval No. **212-3** Revision No. **0**

Prepared & Approved during **October - 2011**



DETAILS OF LINE TERMINAL SL.No.09

- NOTES : —
01. TOTAL CREEPAGE DISTANCE — 6125 mm.
 02. OIL QUANTITY : —
22 kgs. FOR CAPACITOR UNIT (IEC-B67) SYNTHETIC OIL
40 kgs. FOR EMU (IEC-236/S-335) MINERAL OIL
 03. WEIGHT OF CVT : 410 kgs.
 04. WEIGHTS INDICATED ARE APPROXIMATE
 05. FINISH ELECTRO MAGNETIC UNIT TANK AS FOLLOWS : —
TANK SHALL BE HOT DIP GALVANISED
 06. GENERAL TOLERANCE AS PER IS:2102 WILL BE
APPLICABLE WHERE TOLERANCE IS NOT INDICATED.
 07. MAKE OF PORCELAIN : WSI/BHEL/ADITYA BIRLA/IEC/MODERN

2 Nos. M12x30 HEX.BOLT
(STAINLESS STEEL)
(DIAGONALLY OPPOSITE - 2 Sets)

DETAIL—"Y"
(EARTHING BOLT)

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APPROVED FOR TURNKEY PROJECTS

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

ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE SPECIFIED.

SCALE : NTS.

REF.

DRG. No.

712-B-1007

REV. No. 00

AREVA T&D India Limited
Instrument Transformers Division—India

A REVA

CHIEF ENGINEER / CONSTRUCTION
A.P.TRANSCO/VIDYUTH Soudha/HY

4 Nos. $\phi 20$ HOLES FOR MOUNTING
C/V T TO SUPPORT STRUCTURE.



Standardised Drawing for 220 KV/4400 pF Current Voltage Transformer(ccv-245) (AREVA make).

STD/GTP-DWG/Approval No. **212-4-sheet1** Revision No. 0

Prepared & Approved during October – 2011

Customer ref : APTRANSCO

Title: Standard Drawings for 220 KV/4400 pF Current Voltage Transformer (ccv-245) out line diagram.

This drawing is the property of the submitter and is not to be used for

Customer ref : **APTTRANSOCO**

Title: Standard Drawings for 220 KV/4400 pF Current Voltage Transformer (ccv-245) name plate

Standardised Drawing for 220 KV/4400 pF Current Voltage Transformer(ccv-245) (AREVA make).

STD/GTP-DWG/Approval No. 212-4-sheet2 Revision No. 0

Prepared & Approved during October - 2011

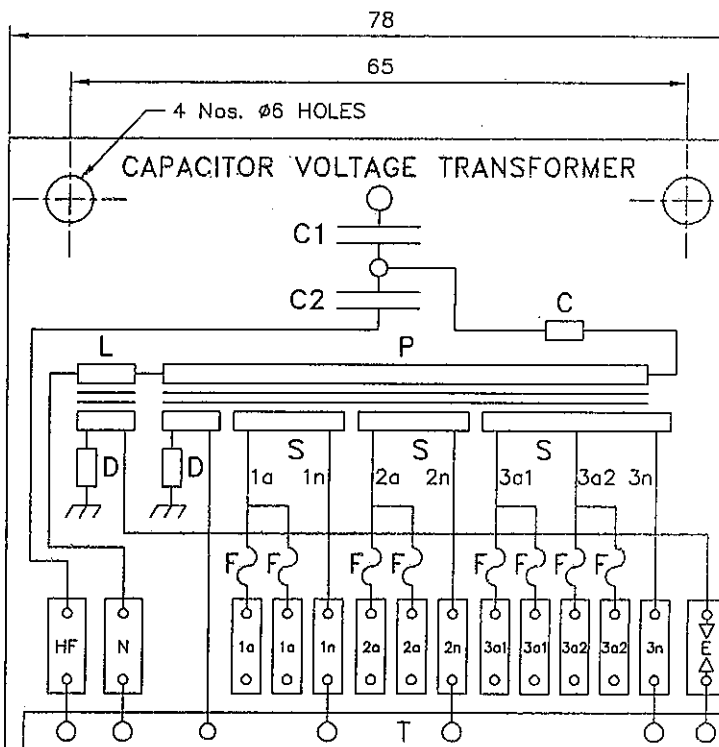
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Date _____

NOTES :- 1. WEIGHT INDICATED IN NAME PLATES ARE APPROXIMATE.

2. MATERIAL OF NAME PLATE - STAINLESS STEEL (0.5 mm. THICK)
FOR OUTDOOR PROOF

3. FOR GENERAL TOLERANCE REFER COARSE IS: 2102



C : Carrier blocking device
L : Reactor
V : Voltage limiter device
P : Transformer Primary
S : Transformer Secondary
D : Damping device
N : Low voltage terminal of the EMU
HF : Low voltage terminal of the CC
T : Ground terminal
F : Fuse

WEIGHT
410 kg.

YEAR

SL.No.

Standards : IEC-60044-5/60358
Type : CCV 245
Total burden simultaneous : 100 VA
Thermal burden : 750 VA
Rated voltage : 220kV/ $\sqrt{3}$
Highest system voltage : 245kV
Insulation level : 460kV/1050kVp
Rated frequency : 50 Hz
Nominal intermediate voltage : 21kV/ $\sqrt{3}$
Voltage factor : 1.2cont. 1.5-30Sec
HF Capacitance : 4400 pF
Primary Capacitance C1 : 4881 pF
Secondary Capacitance C2 : 47186 pF

Connection	Ratio	Burden Accuracy class	Fuse
1a-1n	220000/ $\sqrt{3}$ /110/ $\sqrt{3}$ V	50 VA CI 0.2	10A
2a-2n	220000/ $\sqrt{3}$ /110/ $\sqrt{3}$ V	50 VA CI 0.5	10A
3a1-3a2-3n	220000/ $\sqrt{3}$ /110-110/ $\sqrt{3}$ V	50 VA CI 3P	10A

CAUTION : HF TERMINAL MUST BE EARTHED IF NOT USED FOR CARRIER TRANSMISSION. 'N' TERMINAL SHOULD ALWAYS BE EARTHED.

"APTRANSOCO"



AREVA T&D India Limited
Instrument Transformers Division-India

713-B-1118/00

APPROVED FOR TURKEY PROJECTS
CHIEF ENGINEER / CONSTRUCTION-1
APTTRANSOCO/MIDYUTH SUDHA/HYD.

NAME : AREVA T&D India Limited
DATE : 05.09.11
ALL DIMENSIONS ARE IN mm. UNLESS OTHERWISE SPECIFIED.

DRN. : K.Ammasol
CHD. : 05.09.11
STANDARD DRAWINGS FOR
220KV/4400PF C.V.T (CCV-245)
NAME PLATE

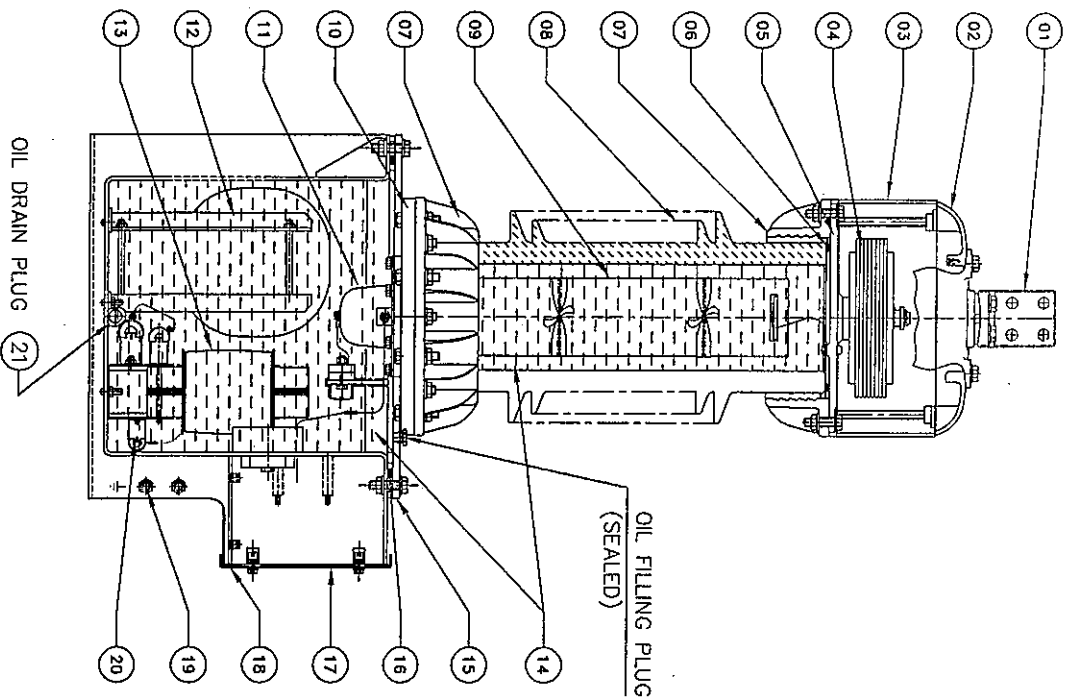
SCALE : NTS.

REF. : 713-B-1118

REV. No. : 00

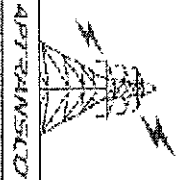
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Date _____



Sl.No.	DESCRIPTION
01	H.V. TERMINAL PAD
02	H.V. TERMINAL PLATE
03	SHIELD
04	BELLOW
05	BOTTOM PLATE FOR BELLOW
06	GASKET FOR PORCELAIN TO PLATE
07	END FLANGE
08	PORCELAIN INSULATOR
09	CAPACITOR STACK ASSEMBLY
10	BOTTOM PLATE FOR STACK ASSY
11	L.V. BUSHING
12	TRANSFORMER ASSEMBLY
13	REACTOR ASSEMBLY
14	OIL
15	TANK COVER PLATE
16	GASKET FOR TANK
17	SECONDARY TERMINAL BOX
18	GASKET FOR SEC. TERMINAL BOX
19	EARTH BOLT
20	DAMPING CIRCUIT
21	OIL DRAIN PLUG

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CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/VIDYUTH SODHA/HYD.



Standardised Drawing for 220 KV/4400 pF Current
Voltage Transformer(ccv-245) (AREVA make).
STD/GTP-DWG/Approval No. 212-4-sheets3 Revision No. 0
Prepared & Approved during October – 2011

Customer ref : APTRANSCO

Title: Standard Drawings for 220 KV/4400 pF Current Voltage Transformer (ccv-245) sectional view

NAME	DATE	ALL DIMENSIONS ARE IN mm, UNLESS OTHERWISE SPECIFIED.	SCALE : NTS.
DRN. K.Armasel	05.09.11	STANDARD DRAWINGS FOR	REF.
CHD.		220KV/4400pF C.V.T (CCV-245)	
APPD. V.S.Nagendro	05.09.11	SECTIONAL VIEW	

AREVA AREVA T&D India Limited
Instrument Transformers Division-India

DRG. No. 714-B-989
REV. No. 00

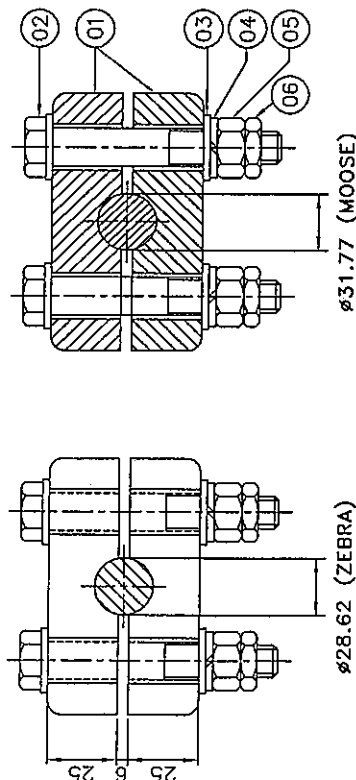
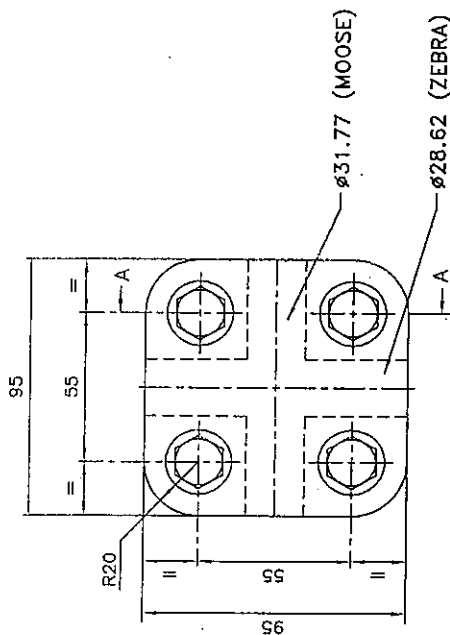
01. REFERENCE I.S: 5561-1970
02. FOR GENERAL TOLERANCE REFER COARSE I.S: 2102 (Part-1) 1993
03. MAKE OF TERMINAL CLAMP : MEGHA ENGG. / VENSUN ENGG.
04. TERMINAL CLAMP SHALL BE SUITABLE FOR BOTH HORIZONTAL AND VERTICAL TAKE-OFF.

06	HEX. LOCK NUT	4	M12	M.S HOT DIP GALVANISED	REMARKS
05	HEX. NUT	4	M12		
04	SPRING WASHER	4	FOR M12 BOLT	M.S ELECTRO GALV.	
03	FLAT WASHER	8	FOR M12 BOLT		
02	HEX.BOLT	4	M12x100	M.S HOT DIP GALVANISED	
01	CLAMP PIECE	2	95x95x25	ALL ALLOY. 4600 (A8) TO IS 617 - 1975	
I.T.No.	DESCRIPTION	QTY.	STOCK SPECN.	MATERIAL	

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CHIEF ENGINEER / CONSTRUCTION -
APTRANSCO/VIDYUTH SOUDHA/HYD.

	NAME	DATE	ALL DIMENSIONS ARE IN mm. UNLESS OTHERWISE SPECIFIED.	SCALE : NTS.
DRN.	K.Ammasal	05.09.11	STANDARD DRAWINGS FOR	REF.
CHD.			220kV/4400pF C.V.T (CCV-245)	
APPD.	V.S.Nagendra	05.09.11	TERMINAL CLAMP	
 AREVA T&D India Limited Instrument Transformers Division-India			DRG. No.	715-B-275
			REV. No.	00



SECTION - "AA"

Standardised Drawing for 220 KV/4400 pF Current Voltage Transformer(ccv-245) (AREVA make).

STD/GTP-Approval No. 212-4-sheet4 Revision No. 0

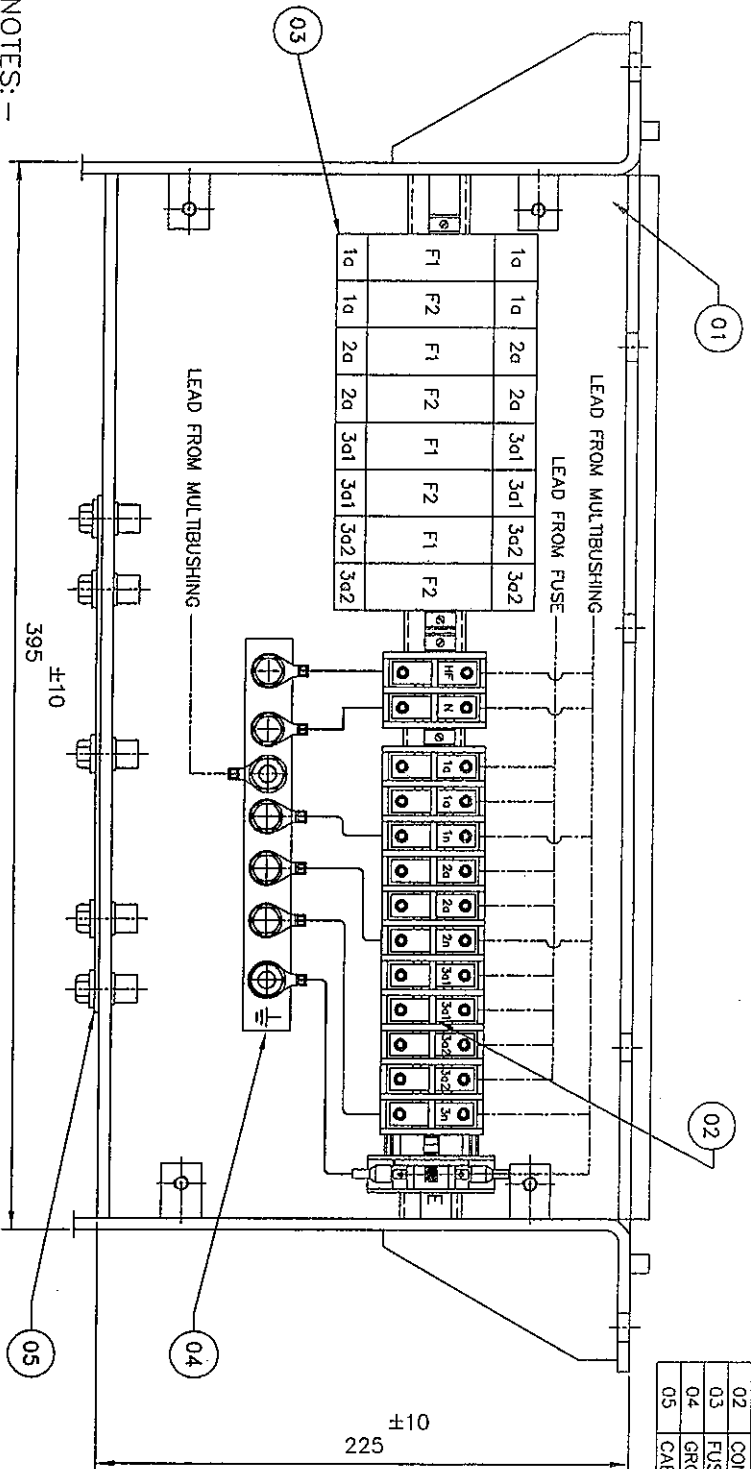
Prepared & Approved during October – 2011

Customer ref : APTRANSCO

Title: Standard Drawings for 220 KV/4400 pF Current Voltage Transformer (ccv-

245) Terminal clamp

Sl.No.	DESCRIPTION	QTY.
01	TANK ASSEMBLY	1
02	CONNECTOR ASSEMBLY	1
03	FUSE	8
04	GROUNDING STRIP	1
05	CABLE GLAND PLATE	1



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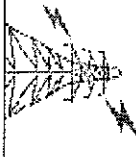
Signature _____
Date _____

NOTES:-

1. F1 & F2 - 10 Amps FUSE
2. HF - LOW VOLTAGE TERMINAL OF THE CC
3. N - LOW VOLTAGE TERMINAL OF THE EMU
4. E - VOLTAGE LIMITER DEVICE
5. ENCLOSURE PROTECTION CLASS OF SECONDARY TERMINAL BOX CONFORM TO IP-55 AS PER IS-13947-(PART-I)-1993
6. 4 Nos. 3/4 inch CABLE GLAND (UNDER SCOPE OF AREVA SUPPLY)

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CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/WIDYUTH SOUDHA/HYD.



APTRANSCO

Customer ref : APTRANSCO

Title: Standard Drawings for 220 KV/4400 pF Current Voltage Transformer (ccv-245) secondary terminal box

Standardised Drawing for 220 KV/4400 pF Current Voltage Transformer(ccv-245) (AREVA make).
STD/GTP-DWG/Approval No. 212-4-sheets5 Revision No. 0
Prepared & Approved during October - 2011

NAME	DATE	ALL DIMENSIONS ARE IN mm, UNLESS OTHERWISE SPECIFIED	SCALE : NTS.
DRN. K.Ammasai	05.03.11	STANDARD DRAWINGS FOR	REF.
CHD.		220KV/4400pF C.V.T (CCV-245)	
APPD. V.S.Nagendra	05.03.11	SECONDARY TERMINAL BOX	

AREVA AREVA T&D India Limited
Instrument Transformers Division-India
DRG.No. 716-B-1064
REV. No. 00

Signature _____

Date _____

REVISION

DESCRIPTION



Standardised Drawing for 220 KV/4400 pF Current Voltage Transformer(ccv-245) (AREVA make).

STD/GTP-DWG/Approval No. 212-4-sheet7 Revision No. 0

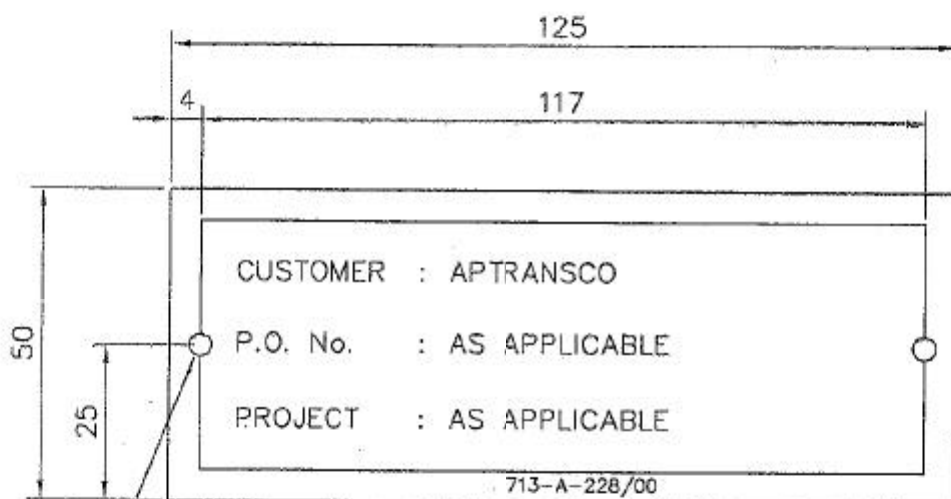
Prepared & Approved during **October - 2011**

Customer ref : APTRANSCO

Title: Standard Drawings for 220 KV/4400 pF Current Voltage Transformer (ccv-245) special name plate

NOTES :-

1. MATERIAL OF NAME PLATE - STAINLESS STEEL (0.5 mm.THICK) FOR OUTDOOR PROOF
2. FOR GENERAL TOLERANCE REFER COARSE I.S 2102



2 Nos. $\phi 5$ DRILLED HOLES

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CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/VIDYUTH SOUDHA/HYD

	NAME	DATE	ALL DIMENSIONS ARE IN mm. UNLESS OTHERWISE SPECIFIED.	SCALE : NTS.
DRN.	K.Ammasal	05.09.11	STANDARD DRAWING FOR 220kV/4400pF C.V.T (CCV-245) SPECIAL NAME PLATE	REF.
CHD.				
APPD.	V.S.Nagendra	05.09.11		
AREVA T&D India Limited Instrument Transformers Division-India			DRG. No. 713-A-228	REV. No. 00

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