

SIEMENS

Standard Drawing : 145KV SF6 Breaker Drawing (3 Pole)

(with 25mm/kV creepage distance)

Customer Name : Transmission Corporation of Andhra Pradesh Ltd (APTRANSCO)



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**CHIEF ENGINEER
CONSTRUCTION
APTRANSCO**

1/29

Drawing approval subject to valid vendor registration

Drawing approval subject to valid vendor registration

Index	Amendment/Revision	Date	Name
A			
B			
C			
D			

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Sr. No.	Drawing No.	No. of Sh	Brief details of drawings	Amendment to RECORD OF DRAWINGS										Qty of Prints		
				A	B	C	D	E	F	G	H	I	J			
1	(4) G 7 1 A H S - K A 4 0 1 - D 2 3 9 3 -	3	Design Details													
2	(4) G 7 1 A H S - K A 4 0 1 - Z 2 3 9 3 -	2	GA Drawing / Structure													
3	(4) G 7 1 A H S - K A 4 0 1 - N 2 3 9 3 -	1	Rating Plate													
4	(3) G 7 1 A H S - K A 4 0 1 - L 2 3 9 3 -	1	Equipment Layout													
5	(3) G 7 1 A H S - K A 4 0 1 - W 2 3 9 3 -	4	Wiring Diagram													
6	(3) G 7 1 A H S - K A 4 0 1 - W 2 3 9 3 -	7	Terminal Plan													
7	(4) G 7 1 A H S - K A 4 0 1 - E 2 3 9 3 -	8	Equipment List													
8	(4) G 7 1 A H S - K A 4 0 1 - C 2 3 9 3 -	1	Chamber and Support Insulator													
9																
10	()															
11	()															
12	()															

CLIENT : APTRANSCO

Drng Codes	C = Construction Details; D = Design Details / Tech Details; E = Equipment List; L = Equipment Layout (Front, Rear); N = Name Plate / Rating Plate; R = Record of Drawings; W = Wiring Drawing / Power & Control Circuit; Z = Any Drawing not covered by other code.	
Date	02.04.2020	
Prep.	SN	
Ckd.	SB	
Norm		

Descr: 145 KV Circuit Breaker Qty.: Nos. = +

Type: 3AP1FG

Details: RECORD OF DRAWING

Drng No.: (4) G 7 1 A H S - K A 4 0 1 - R 2 3 9 3 - Sh 1

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DESIGN DETAILS

1.0 General

- 1.1 Type Designation Siemens Make 3AP1 FG
- 1.2 Governing Standard IEC 62271-100

2.0 Technical Data

- 2.1 System Parameters
 - .1 Rated Voltage kV 145 kV
 - .2 Service Voltage kV 132 kV
 - .3 Frequency Hz. 50
 - .4 No. of Poles Three
 - .5 Ambient Temperature Range °C -30 to +50

3.0 Operating Data at rated operating Voltage & rated pressure

- 3.1 Type of Operating Mechanism Spring Energy Stored
- 3.2 Mechanism is mechanically gang operated Yes
- 3.3 Operating Data
 - .1 Closing mSec. 61 ± 8
 - .2 Breaking mSec. 60 Max
 - .3 Opening Time mSec. 28 ± 8
 - .4 Arcing Time mSec. ≤21
- 3.4 Switching Data
 - .1 Rated normal current A 3150
 - .2 Rated short circuit breaking current kA 40
 - .3 Rated short time current kA 40, (3sec.)
 - .4 Rated short circuit making current kAp 100
 - .5 First pole to clear factor 1.3/1.5
 - .6 Out-of-phase breaking current kA 10
 - .7 Rated line charging breaking current A 50
 - .8 Rated cable charging breaking current A 160
- 3.5 Rated operating sequence O – 0.3sec – CO – 3min – CO

4.0 Basic Insulation Level

- 4.1 Rated power frequency withstand voltage (1min, 50 Hz)
 - .1 Phase to earth kV 275
 - .2 Across the open breaker kV 275
 - .3 Between phases kV 275
- 4.2 Rated lightning impulse withstand voltage (1.2 / 50 micro sec.)
 - .1 To earth kVp 650
 - .2 Across the open breaker kVp 650
 - .3 Between phases kVp 650

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CLIENT : TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED

				Date: 24.03.2020	Description :- 145kV Circuit Breaker	Sh. 1 3 Sh.
				Prep : SN		
				Ckd : SB		
				Siemens Ltd.		
Issue	Remarks	Date	Name	Office	Work :- 3AP1FG	Details :- DESIGN INSTRUCTIONS
Original/Replacement for/ Replaced by :-					(4) G71AHS-KA401-D2386-	

- 4.3 Creepage distance
 - .1 To earth mm 25mm/kV (3625mm minimum)
 - .2 Across the open breaker mm 25mm/kV (3625mm minimum)

5.0 Construction

- 5.1 Clearance
 - .1 To earth mm 1250
 - .2 Across the open breaker mm 1200
 - .3 Pole to pole center distance mm 1700(Phase to Phase)
- 5.2 Arc quenching Medium
 - .1 Nominal pressure SF6 (@20°C) (Normal) bar 6.0
 - .2 Signal loss of SF6 (@20°C) (Alarm) bar 5.2
 - .3 General lockout (@20°C) (Lockout) bar 5.0
 - .4 Quantity of SF6 gas required per breaker kg 6.6
 - .5 Qty of gas being supplied per breaker, pre filled in the poles. kg 1.41 (0.5 Bar pressure at 20°C)
 - .6 In addition to pre filled gas, qty of gas being sent to site in cylinder kg 6 per CB
- 5.3 Installation Outdoor
- 5.4 Approx. weight of breaker without support structure kg 1300 approx.

6.0 Structures, Base Frame

- 6.1 Material Mild Steel
- 6.2 Surface Treatment Hot Dip Galvanized (86 Micron)

7.0 Control Cubicle

- 7.1 Construction
 - .1 Material of enclosure mm CR Sheet Steel
 - .2 Thickness of sheet steel mm 2.5 min
 - .3 Painting for control cubicle Epoxy / Polyester paint
 - .4 External shade 631 AS IS:5
 - Internal shade Glossy White
 - .5 Degree of protection of enclosure IP 55
- 7.2 Wiring
 - .1 Control wiring
 - .1 Size 2.5 sq. mm flexible copper conductor
 - .2 Insulation DC-Grey, AC-Black 1100V Grade
 - .2 Earth Wiring
 - .1 Size 2.5 sq. mm flexible cooper conductor
 - .2 Insulation Yellow/Green 1100V Grade

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CLIENT : TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED

				Date: 24.03.2020	Description :- 145kV Circuit Breaker	Sh. 2 3 Sh.
				Prep : SN		
				Ckd : SB		
				Siemens Ltd.		
Issue	Remarks	Date	Name	Office	Details :- DESIGN INSTRUCTIONS	
Original/Replacement for/ Replaced by :-					(4) G71AHS-KA401-D2386-	

SIEMENS

- 7.3 Control Terminals
- | | | |
|----|------------------------|------------------------------|
| .1 | Type | Stud Type |
| .2 | Make | Connectwell / Jainson/ Elnex |
| .3 | Size | mm ² 4 |
| .4 | Spare unwired terminal | nos. 05 |
- 7.4 Auxiliary Supply

Circuit	Rated Voltage	Source	Range
Spring Charging Motor(Approx 500 Watt)	240V AC	External	85 – 110%
Closing Coil(Max 330 Watt)	220V DC	External	85 – 110%
Trip Coil – 1 & 2(Max330 Watt)	220V DC	External	70 – 110%
Space Heater / Socket / Illumination	240V AC	External	-

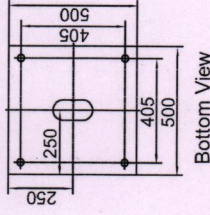
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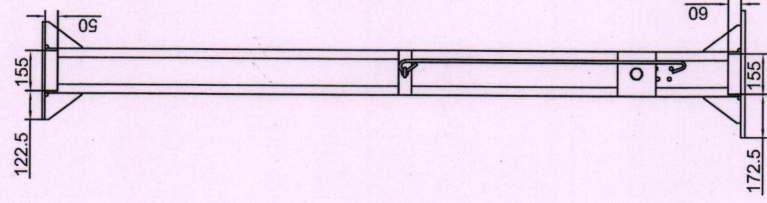
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CLIENT : TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED						
				Date: 24.03.2020	Description :-145kV Circuit Breaker Work :- 3AP1FG Details :- DESIGN INSTRUCTIONS	Sh. 3 3 Sh.
				Prep : SN		
				Ckd : SB		
				Siemens Ltd.		
Issue	Remarks	Date	Name	Office		
Original/Replacement for/ Replaced by :-					(4) G71AHS-KA401-D2386-	

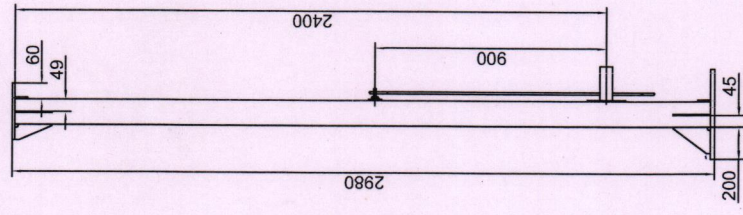
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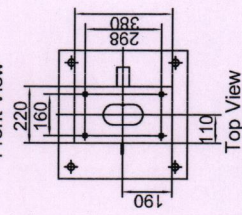
Bottom View



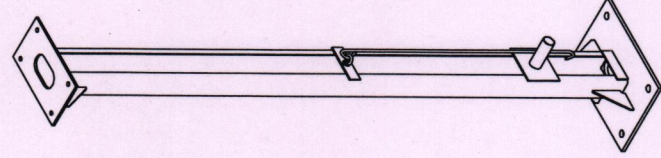
Side View



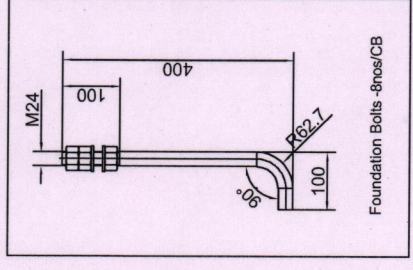
Front View



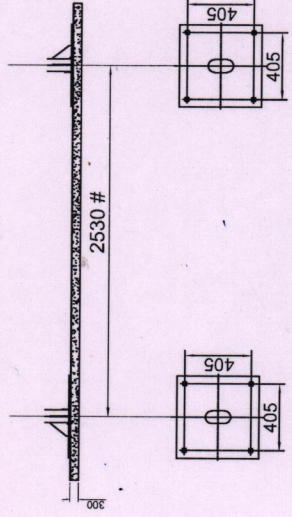
Top View



Isometric View



Foundation Bolts - 8nos/CB



Foundation Details

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- Notes:
- 1) All Steel as per IS-2062
 - 2) Standard angle section as per IS 808
 - 3) Surface Coating-Hot Dip Galvanised average 86 microns thick as per ISO 1461
 - 4) Welding Rods to be of ISI make
 - 5) Approximate weight of structure 81kg

Issue	Remarks	Date	Name	Date	Name	Prep.	SN	Date	04.02.2020	CLIENT-APTRANSCO	Siemens Ltd.	145kV Circuit Breaker	Descr :	3AP1FG	Work :	SUPPORT STRUCTURE	Details :	Sales Ref. :	QTY: Nos.	All dimensions are in MM NOT TO SCALE	56-0218406	
											AURANGABAD	3AP1FG										Sh. 2
																						Sh. 3
																						Sh. 8

ORIGINAL/REPLACEMENT FOR/REPLACED BY :-

NOTES :-

1. ALL AUXILIARY CONTACTS SHOWN WITH CIRCUIT DE-ENERGISED.
2. ALL CONTACTS OF DENSITY MONITOR SHOWN WITH THE LOW PRESSURE CONDITION.
3. CONTACTS OF LIMIT SWITCH OF SPRING CHARGING MOTOR SHOWN WITH SPRING DISCHARGED.
4. MANUFACTURING TOLERANCE APPLICABLE, EQUIPMENT POSITION MAY CHANGE DURING MANUFACTURING.
5. PAGES 2,3&4 OF 4 WITH LAMINATED SHALL BE KEPT INSIDE THE MAR.BOX.

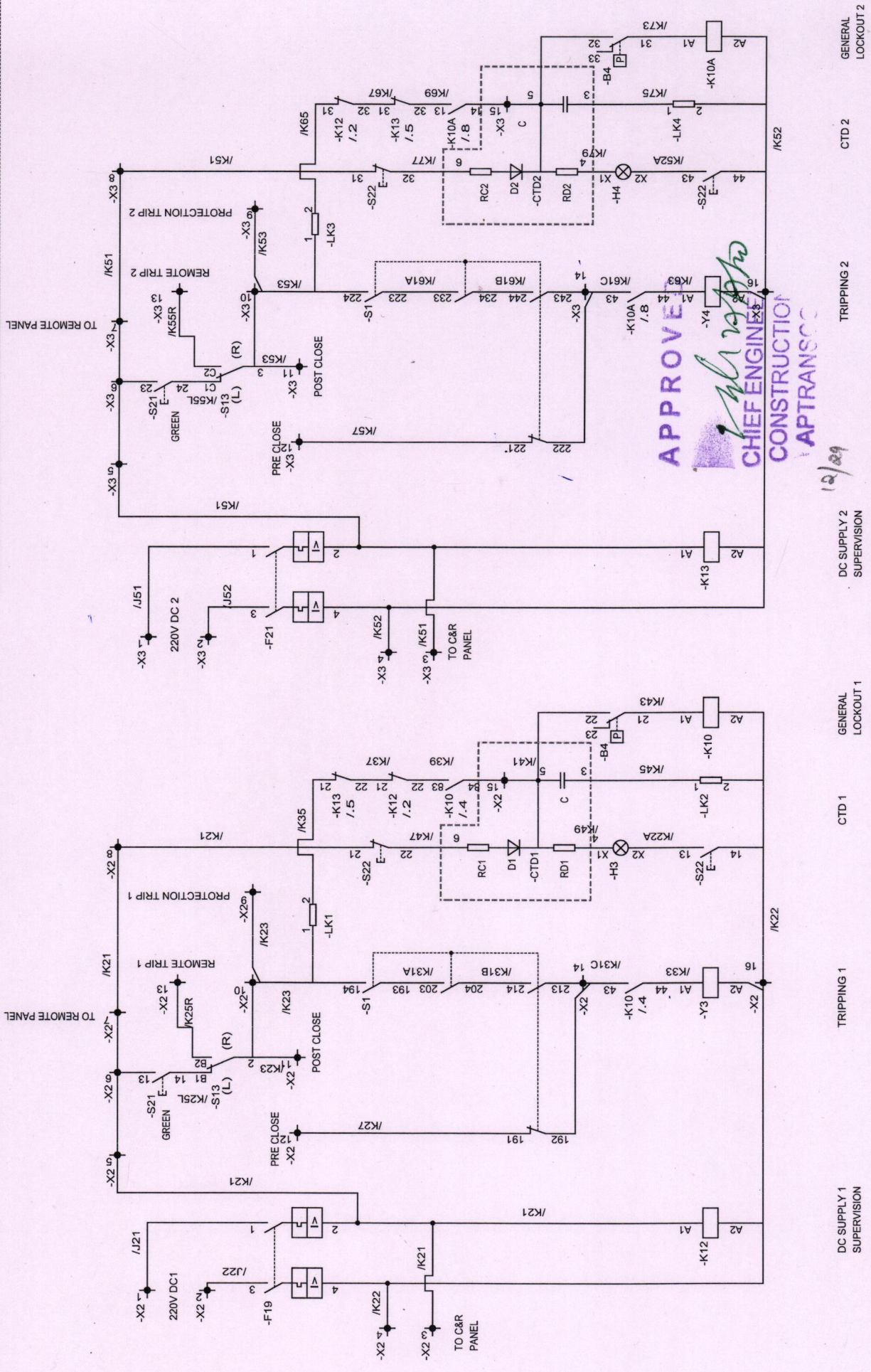
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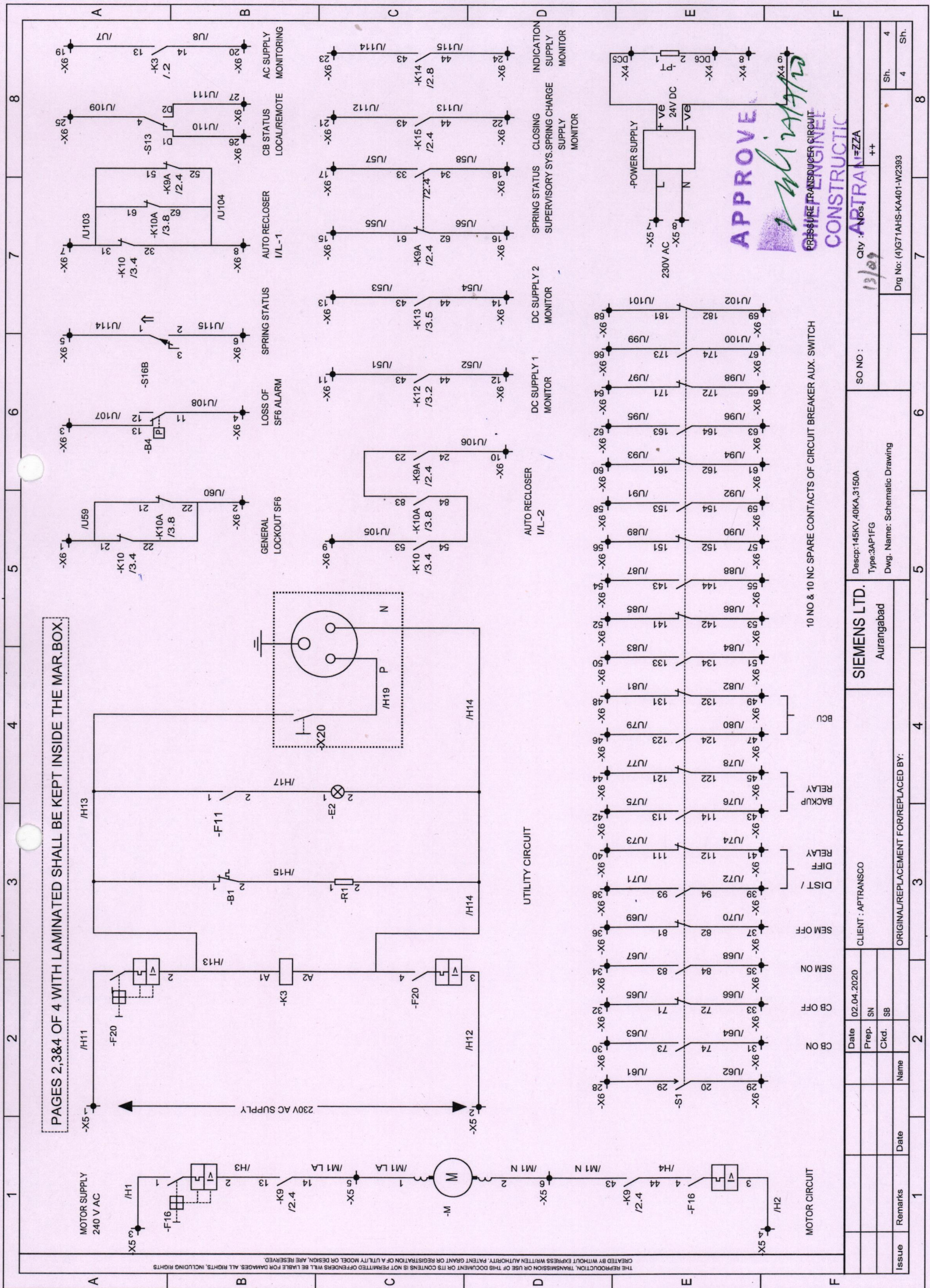
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Issue	Remarks	Date	Name	2		3		4		5		6		7		8	
	ORIGINAL/REPLACEMENT FOR/REPLACED BY:													1		2	
Date				02.04.2020		CLIENT : APTRANSCO		SIEMENS LTD. Aurangabad		Descp: 145KV, 40KA, 3150A Type: 3AP1FG		SO NO :		Qty :- Nos. /		-ZZA ++	
Prep. SN										Dwg. Name: Schematic Drawing		Drg No: (4)G71AHS-KA401-W2393		Sh. 4		Sh. 1	
Ckd. SB																	

PAGES 2,3&4 OF 4 WITH LAMINATED SHALL BE KEPT INSIDE THE MAR.BOX.





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 PRESSURE TRANSDUCER CIRCUIT
 CONSTRUCTIVE
 City: APTRAI-ZZZA
 13/09

Issue	Remarks	Date	Name	2	3	4	5	6	7	8
		02.04.2020	SN							
			SB							
CLIENT : APTRANSCO				SIEMENS LTD.						
ORIGINAL/REPLACEMENT FOR/REPLACED BY:				Aurangabad						
SO NO :				Descp:145KV,40KA,3150A Type:3AP1FG						
Dwg. Name: Schematic Drawing				Dwg. Name: Schematic Drawing						
SO NO :				SO NO :						
City: APTRAI-ZZZA				City: APTRAI-ZZZA						
Drg No: (4)G71AHS-KA401-W2393				Drg No: (4)G71AHS-KA401-W2393						
Sh. 4				Sh. 4						

1		2		3		4		5		6		7		8	
CABLE DESTINATION		TYPE, CORE NO., CROSS SECTION		DEST./ITEM DES.		LEVEL		A C D B OO OO OO		TERMIN 4XCSTSNBU 4XCSB3		LINE-UP TERMINAL TYPE		TYPE OF WIRING	
CABLE CONNECTION TO TERMINATION		TERMINATION A/C		DESTINATION/ITEM DESIGNATION		TERMINAL STRIP -X5		TYPE		TERMINATION B/D		DESTINATION/ITEM DESIGNATION			
LINK		NO.													
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
<p>SCREEN BUS N-BUS PE-BUS USED CORES TOTAL CONTINUED ON SHEET</p> <p>FIXED LINK INSERTABLE JUMPER INSULATING WASHER X- INSULATING WASHER SHORT CIRCUIT LINK SECTION INSULATING WASHER X-X COVER</p>															

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18/12/2020

Fahim Al-Hadi

CHIEF ENGINEER

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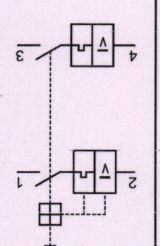





APTRANS

Issue	Remarks	Date	Name	Date	Name	Date	Name
CLIENT : APTRANS AURANGABAD				SIEMENS LTD. AURANGABAD			
Date: 02.04.2020 Prep: SN Ckd: SB				Descp: 145KV, 40KA, 3150A Type: 3AP1FG Dwg. Name: Terminal Plan			
SO NO :				Qty :- Nos.			
Drg No: (4)G71AHS-KA401-W2393				Sh. 5 7 8			

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1		2		3		4		5		6		7		8		
CABLE DESTINATION		TYPE, CORE NO., CROSS SECTION		DEST./ITEM DES.		LEVEL		A C D B O O O O		TERMINATION 74xCSB3		LINE-UP TERMINAL TYPE EQUIPMENT WIRING		TYPE OF WIRING		
1		2		3		4		5		6		7		8		
CABLE DESTINATION		TYPE, CORE NO., CROSS SECTION		DEST./ITEM DES.		LEVEL		A C D B O O O O		TERMINATION 74xCSB3		LINE-UP TERMINAL TYPE EQUIPMENT WIRING		TYPE OF WIRING		
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																
CABLE CONNECTION TO TERMINATION																
A B C D																
TERMINATION A/C DESTINATION/ITEM DESIGNATION																
-X6																
LINK NO.																
TYPE																
TERMINATION B/D DESTINATION/ITEM DESIGNATION																
1	U59	-K10	21													CSB3
2	U60	-K10A	22													CSB3
3	U107	-B4	13													CSB3
4	U108	-B4	11													CSB3
5	U114	-S16B	1													CSB3
6	U115	-S16B	2													CSB3
7	U103	-K10	31													CSB3
8	U104	-K10	32													CSB3
9	U105	-K10	53													CSB3
10	U106	-K9A	24													CSB3
11	U51	-K12	43													CSB3
12	U52	-K12	44													CSB3
13	U53	-K13	43													CSB3
14	U54	-K13	44													CSB3
15	U55	-K9A	61													CSB3
16	U56	-K9A	62													CSB3
17	U57	-K9A	33													CSB3
18	U58	-K9A	34													CSB3
19	U7	-K3	13													CSB3
20	U8	-K3	14													CSB3
21	U112	-K15	43													CSB3
22	U113	-K15	44													CSB3
23	U114	-K14	43													CSB3
24	U115	-K14	44													CSB3
25	U109	-S13	4													CSB3
26	U110	-S13	D1													CSB3
27	U111	-S13	D2													CSB3
28	U61	-S1	29													CSB3
29	U62	-S1	20													CSB3
30	U63	-S1	73													CSB3
31	U64	-S1	74													CSB3
32	U65	-S1	71													CSB3
33	U66	-S1	72													CSB3
34	U67	-S1	83													CSB3
35	U68	-S1	84													CSB3
36	U69	-S1	81													CSB3
37	U70	-S1	82													CSB3
38	U71	-S1	93													CSB3
39	U72	-S1	94													CSB3
40	U73	-S1	111													CSB3
SCREEN BUS N-BUS PE-BUS USED CORES TOTAL CONTINUED ON SHEET																
APPROVED																
CHIEF ENGINEER																
CONSTRUCTO																
APTRANSCO																
19/09																
FIXED LINK																
INSERTABLE JUMPER																
INSULATING WASHER																
SECTION INSULATING WASHER																
COVER																
SHORT CIRCUIT LINK																
SO NO. : #ZZA ++																
Qty :- Nos.																
Drwg No: (4)G71AHS-KA401-W2393																
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Prep. SN																
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ORIGINAL/REPLACEMENT FOR/REPLACED BY:																
Name																
Date																
Remarks																
Issue																

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1	2	3	4	5	6	7	8
DESIGNATION / TECHNICAL DATA	QTY.	ITEM DESIGNATION	FUNCTIONS	TOTAL ITEM REPRESENTATION AND OTHER TECHNICAL DATA			
MCB 2 POLE 5SL7210-8RC 10A 400VAC SIEMENS	2.00						
		=ZZA++F16	MOTOR CONTROL	=WD&EFS/4.1 =WD&EFS/4.1			
		=ZZA++F20	MCB FOR UTILITY CIRCUIT	=WD&EFS/4.2 =WD&EFS/4.2			
INDICATING LAMP 220 VDC AMBER SIEMENS/TEKNIC/EQ	2.00						
		=ZZA++H3	CTD HEALTHY INDICATION	=WD&EFS/3.4			
		=ZZA++H4	CTD HEALTHY INDICATION	=WD&EFS/3.7			
INDICATING LAMP 220 VDC BLUE SIEMENS/TEKNIC/EQ	1.00						
		=ZZA++H2	SPRING CHARGED INDICATION	=WD&EFS/2.7			
INDICATING LAMP 220 VDC GREEN SIEMENS/TEKNIC/EQ	1.00						
		=ZZA++H0	BREAKER OFF INDICATION	=WD&EFS/2.7			
INDICATING LAMP 220 VDC RED SIEMENS/TEKNIC/EQ	1.00						
		=ZZA++H1	BREAKER ON INDICATION	=WD&EFS/2.7			
IMPULSE COUNTER 220VDC NON-RESETTABLE GIC	1.00						
		=ZZA++P1	COUNTER	=WD&EFS/2.6			
			<p>APPROVED</p> <p><i>[Signature]</i> CHIEF ENGINEER CONSTRUCTION APTRANSCO</p>				
Issue		Remarks	Date	Name	SO NO : Descp: 145KV, 40KA, 3150A Type: 3AP1FG Dwg. Name: Equipment List		
Prep.		SN	Qty :- Nos. 02/20				
Ckd.		SB	Dwg No: (4)G71AHS-KA401-E2383				
Name		Sh. 8 Sh. 2					

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1	2	3	4	5	6	7	8
DESIGNATION / TECHNICAL DATA	QTY.	ITEM DESIGNATION	FUNCTIONS	TOTAL ITEM REPRESENTATION AND OTHER TECHNICAL DATA			
AUXILIARY CONTACTOR 3RH2122-1AP00 230V AC SIEMENS	1.00	=ZZA+++K3	AC SUPPLY MONITORING				
AUXILIARY CONTACTOR 3RH2122-1BM40 220V DC SIEMENS	5.00	=ZZA+++K9	MOTOR CONTROL				
AUXILIARY CONTACTOR 3RH2122-1BM40 & 3RH2911-1HA22 220V DC SIEMENS	3.00	=ZZA+++K10	GENERAL LOCKOUT 1				
		=ZZA+++K10A	GENERAL LOCKOUT 2				
		=ZZA+++K75	ANTI-PUMPING CIRCUIT				
AUXILIARY CONTACTOR 3RH2140-1BM40 & 3RH2911-1GA04 220V DC SIEMENS	1.00	=ZZA+++K9A	FOR SPRING CHARGED STATUS				

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City :- Nobs.

SO NO :

Descp:148KV,40KA,3150A
Type:3AP1FG
Dwg. Name:Equipment List

SIEMENS LTD.
Aurangabad

CLIENT : APTRANSCO

Date
Prep. SN
Ckd. SB

Issue Remarks Date Name

Sh. 3
8
Sh.

Sh. 8

Sh. 3

Sh. 8

Sh. 3

Sh. 2


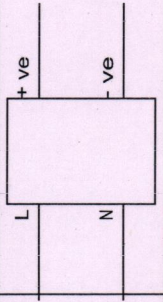
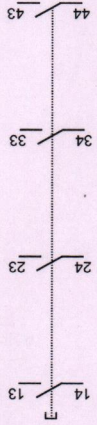

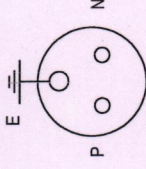
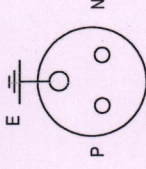
Sh. 1

Sh. 8

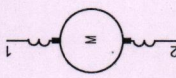
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1	2	3	4	5	6	7	8
DESIGNATION / TECHNICAL DATA	QTY.	ITEM DESIGNATION	FUNCTIONS	TOTAL ITEM REPRESENTATION AND OTHER TECHNICAL DATA			
DENSITY MONITOR SF6; 6BAR, 3 POLE COMDE/TRAFAQ	1.00						
LIMIT SWITCH FOR SPRING CHARGING 1NO+1NC TECHNIC MAKE/EO.	2.00	=ZZA+++B4	SF6 MONITORING	=WD&EFS/4.6	=WD&EFS/3.4	=WD&EFS/3.8	
ILLUMINATION LAMP LED 240VAC 8W BAJAJ	1.00						
<p>APPROVED</p> <p><i>[Signature]</i> CHIEF ENGINEER CONSTRUCTION APTRANSCO</p>							
Issue		Remarks		Date		Name	
1							
Date		02.04.2020		CLIENT : APTRANSCO		SIEMENS LTD. Aurangabad	
Prep.		SN		SO NO :		25/29 Qty :- Nos.	
Ckd.		SB		Descp: 145KV,40KA,3150A		Type:3AP1FG	
Date				Dwg. Name: Equipment List		8 Sh.	
Name				Dwg No: (4)G71AHS-KA401-E2393		5 Sh.	

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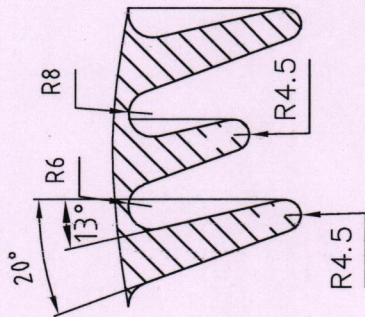
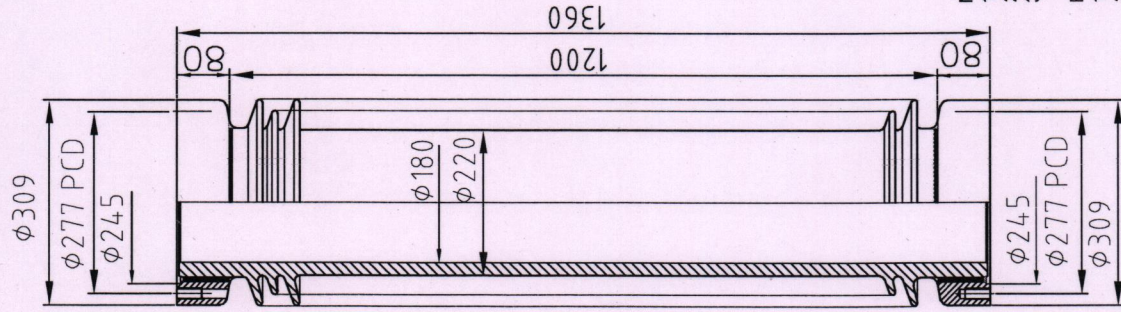
1	2	3	4	5	6	7	8
DESIGNATION / TECHNICAL DATA	QTY.	ITEM DESIGNATION	FUNCTIONS	TOTAL ITEM REPRESENTATION AND OTHER TECHNICAL DATA			
ON/OFF SWITCH 5A, 240VAC ANCHOR	1.00	=ZZA++F11	ON/OFF SWITCH	 =WD&EFS/4.3			
VOLTAGE ADAPTOR PSB2/24/24/1 230VAC/24VDC CONNECTWELLEQ	1.00	=ZZA++POWER SUPPLY	VOLTAGE ADAPTER	 =WD&EFS/4.8			
PUSH BUTTON 3SB5000-0AC01 & 3SB5400-0E RED 4NO SIEMENS / TEKNIC / EQ.	1.00	=ZZA++S21	OPENING	 =WD&EFS/3.3 =WD&EFS/3.6			
PUSH BUTTON 3SB5000-0AE01 & 3SB5400-0E GREEN 2NO SIEMENS / TEKNIC / EQ.	1.00	=ZZA++S20	CLOSING	 =WD&EFS/2.3			
RESISTOR 100WATT 230VAC XPOSE/VELICO	1.00	=ZZA++R1	SPACE HEATER	 =WD&EFS/4.3			
SOCKET 240V 5A ANCHOR/IEQ	1.00	=ZZA++X20	SOCKET	 =WD&EFS/4.5			
Issue	Remarks	Date	Name	<p style="text-align: center;">APPROVE</p> <p style="text-align: center;"><i>Zully 20/11/20</i> CHIEF ENGINEER CONSTRUCTION LAPTRANSCC</p>			
Date		D2.04.2020		SO NO :		Qty :- Nos.	
Prep.		SN		Descp: 145KV, 40KA, 3150A		Type: 3AP1FG	
Ckd.		SB		Dwg. Name: Equipment List		Sh. 6	
Date		Name		Drg No: (4)G71AHS-KA401-E2383		Sh. 8	
Date		Name		Drg No: (4)G71AHS-KA401-E2383		Sh. 8	

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1	2	3	4	5	6	7	8
DESIGNATION / TECHNICAL DATA	QTY.	ITEM DESIGNATION	FUNCTIONS	TOTAL ITEM REPRESENTATION AND OTHER TECHNICAL DATA			
MOTOR UNIVERSAL 1PH 220VDC/AC 500W KPT/AGN/IEQ	1.00						
		=ZZA+++M	SPRING CHARGING	=WD&EFS/4.1			
Drawing approval subject to valid vendor registration							
<p style="font-size: 2em; color: purple; margin: 0;">APPROVED</p> <p style="font-size: 1.5em; color: green; margin: 0;"><i>28/11/2020</i></p> <p style="font-size: 1.2em; color: purple; margin: 0;">CHIEF ENGINEER CONSTRUCTION APTRANSCO</p> <p style="font-size: 1.2em; color: black; margin: 0;">28/12/19</p>							
Issue		Remarks		Date		Name	
Date		02.04.2020		CLIENT : APTRANSCO		SIEMENS LTD. Aurangabad	
Prep.		SN		SO NO :		Descp: 145KV, 40KA, 3150A Type: 3AP1FG	
Ckd.		SB		Dwg. Name: Equipment List		Qty :- Nos.	
Date						Sh. 7	
Remarks						Sh. 8	
						Dwg No: (4)G71AHS-KA401-E2383	

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Chamber Insulator



MECHANICAL CHARACTERISTICS:
 1. Mechanical routine test: Pressure test 30 bar / 1 min
 2. Mechanical routine test: Bending test F = 5147 N / 10 sec / 4 x 90°
 3. Design pressure 10 bar

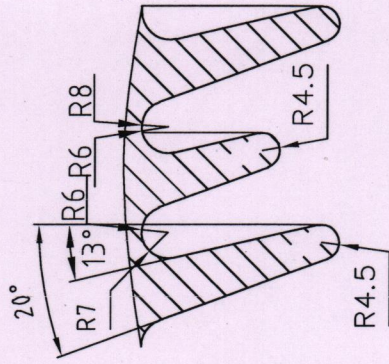
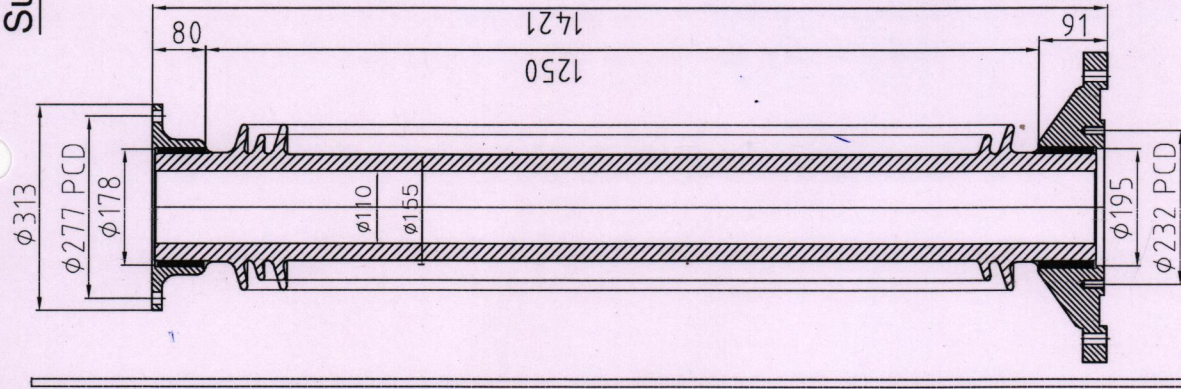
ELECTRICAL PARAMETERS FOR COMPLETE CB:
 1. 1 MIN. P.F. withstand voltage = 275 kV
 2. Lightning Impulse withstand voltage = 650 kV

Min. creepage distance : 3625 mm

All unspecified dimensional tolerances are as per IEC 62155

NOTES:
 Material :
 Glaze colour : Brown
 Make : ABIL/MODERN/IEC.
 Qty Per pole : 1 No.
 Qty Per CB : 3 No.
 Shed Profile as per IEC 60815

Support Insulator



MECHANICAL CHARACTERISTICS:
 1. Mechanical routine test: Pressure test 30 bar / 1 min
 2. Mechanical routine test: Bending test F = 2338 N / 10 sec / 4 x 90°
 3. Design pressure 10 bar

ELECTRICAL PARAMETERS FOR COMPLETE CB:
 1. 1 MIN. P.F. withstand voltage = 275 kV
 2. Lightning Impulse withstand voltage = 650 kV

Min. creepage distance : 4495 mm

All unspecified dimensional tolerances are as per IEC 62155

APPROVED
29/12/20
CHIEF ENGINEER
CONSTRUCTION
APTRANSCO

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Date	02.04.2020	CLIENT	APTRANSCO
Prep	SN	Descr :	145KV Circuit Breaker
Ckd.	SB	Type :	3AP1FG
Date	Name	Details :	Chamber & Support insulator
Remarks		Original/Replacement/Replaced by :-	
Issue			
Sales Ref :-		QTY:-	Nos.
ALL DIMENSION ARE IN mm		NOT TO SCALE	
Sh. 1		Sh. 1	
1		1	

Siemens Ltd.
 AURANGABAD

Sh. 1
 1