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FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

DRG. NO. 3 561 00 5 1565

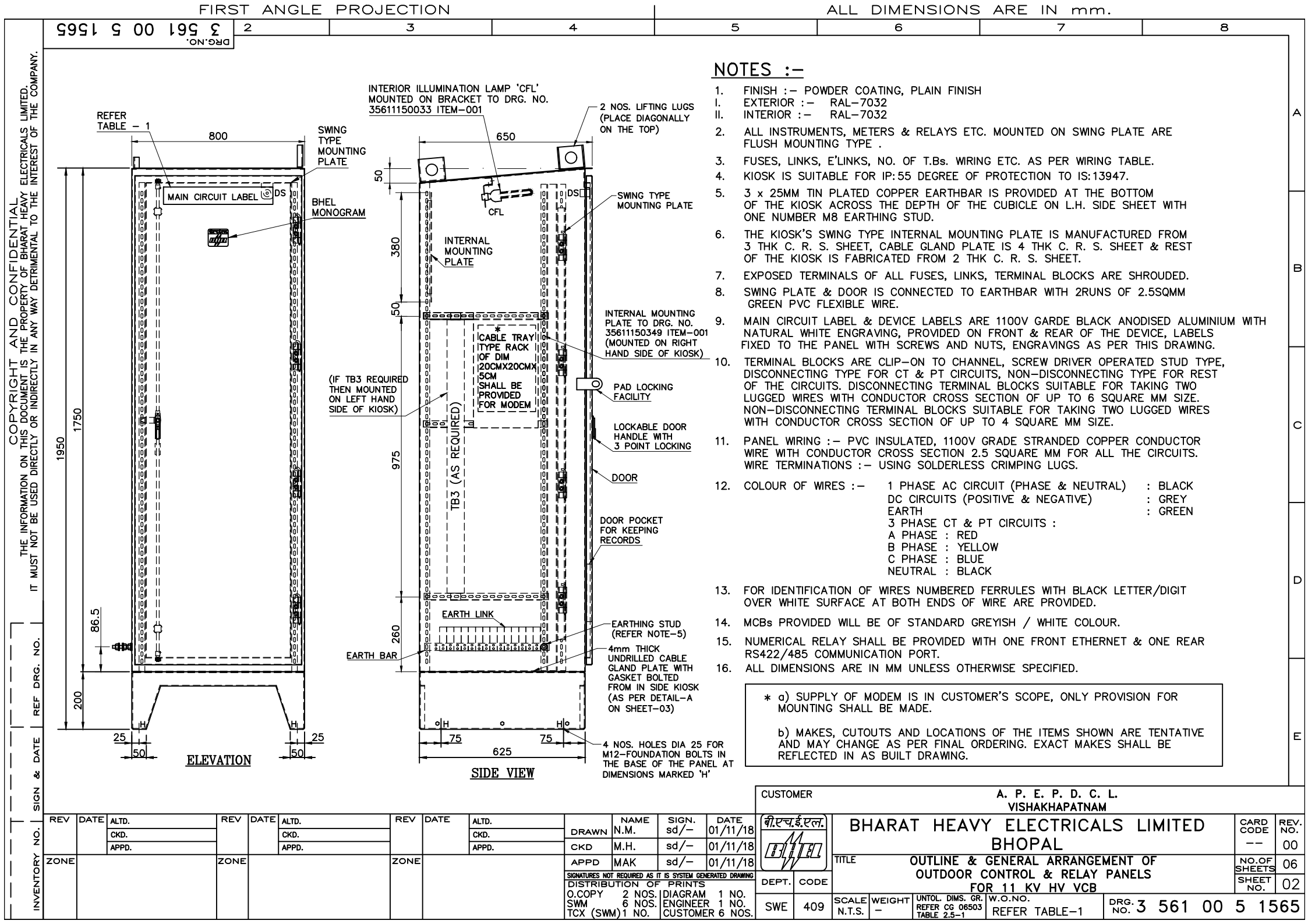
2 3 4 5 6 7 8

STANDARD OUTLINE AND GENERAL ARRANGEMENT DRAWING
OF
OUTDOOR CONTROL & RELAY PANELS FOR 11 KV & 33KV VCB WITH DIFFERENTIAL PROTECTION
FOR
A. P. E. P. D. C. L. VISHAKHAPATNAM

REV	DATE	ALTD.	REV	DATE	ALTD.	REV	DATE	ALTD.
		CKD.			CKD.			CKD.
		APPD.			APPD.			APPD.
ZONE			ZONE			ZONE		

DRAWN	NAME	SIGN.	DATE
CKD	M.H.	sd/-	01/11/18
APPD	MAK	sd/-	01/11/18
SIGNATURES NOT REQUIRED AS IT IS SYSTEM GENERATED DRAWING			
DISTRIBUTION OF PRINTS			
O.COPY 2 NOS.		DIAGRAM 1 NO.	
SWM 6 NOS.		ENGINEER 1 NO.	
TCX (SWM) 1 NO.		CUSTOMER 6 NOS.	

CUSTOMER		A. P. E. P. D. C. L. VISHAKHAPATNAM			
		BHARAT HEAVY ELECTRICALS LIMITED BHOPAL			CARD CODE --
DEPT.		TITLE			REV. NO.
CODE		OUTLINE & GENERAL ARRANGEMENT OF OUTDOOR CONTROL & RELAY PANELS FOR 11 KV HV VCB			00
SWE		NO.OF SHEETS			06
409		SHEET NO.			01
SCALE	WEIGHT	UNTOL. DIMS. GR.	W.O.NO.	DRG. NO.	
N.T.S.	-	REFER CG 06503 TABLE 2.5-1	REFER TABLE-1	3 561 00 5 1565	



9951 5 00 195 3
DRG. NO.

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TABLE - 1 MAIN CIRCUIT LABEL (MCL)

SIZE OF LABEL 50 * 380		DRG. NO. 35611150417	IT. NO. 001	MAT. CODE BP9009447222	QTY. OF LABEL PER CUBICLE-001	TOTAL QTY. OF LABELS — 23 NOS.			
MCL REF.	PANEL SL. NO.	L A B E L I N S C R I P T I O N				LINE NO.	LETTER HEIGHT	WIRING TABLE NO.	SCHEME NO.
MCL	REFER TABLE-1	REFER TABLE-1				I LINE II LINE III LINE IV LINE	15 mm 8 mm 6 mm 6 mm	—	—

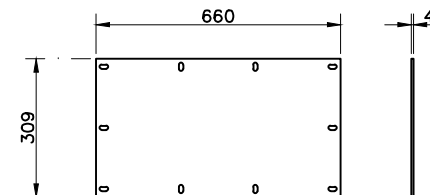
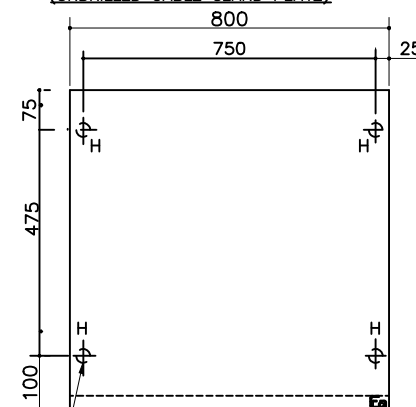
FUSE & MCB MOUNTING
PLATE, 2 THICK * 680 WIDE
* 404 HIGH (35611150683)FRONT
CONNECTED
FUSE & LINK

690

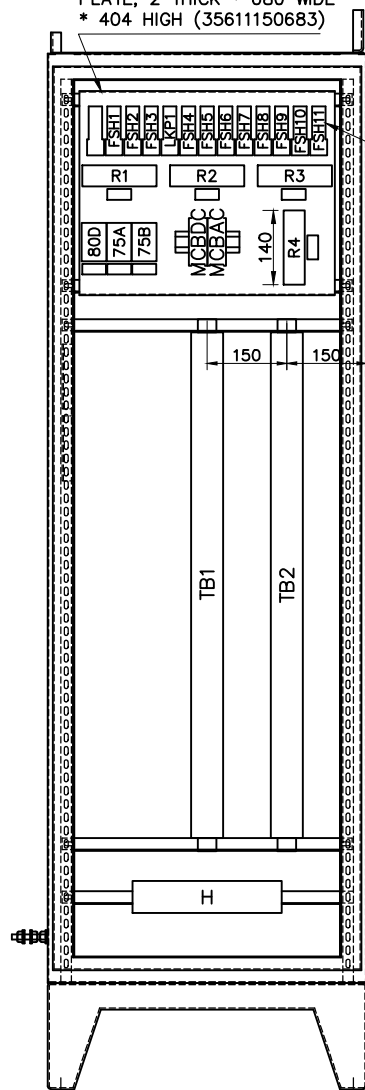
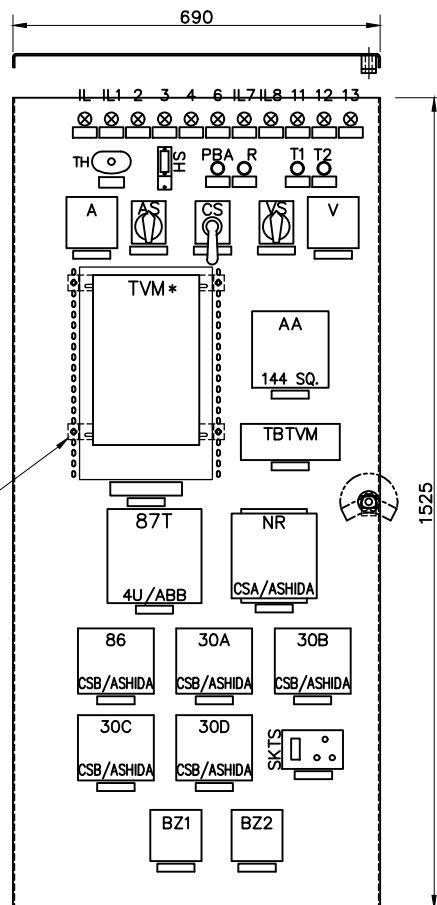
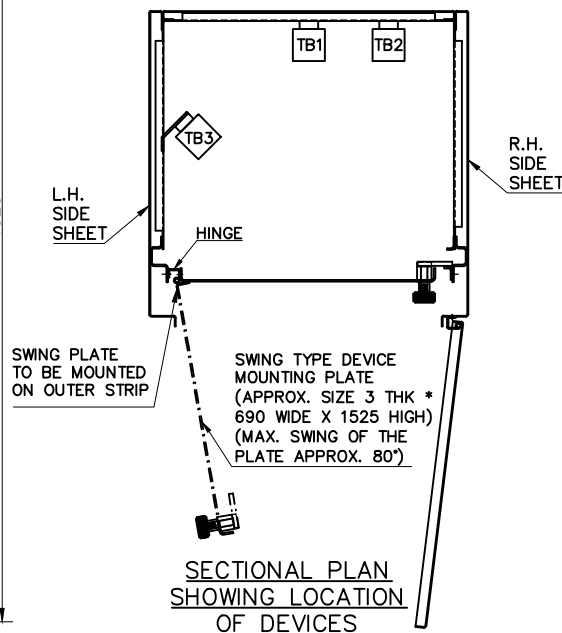
TVM MTG. BKT
TO DRG. NO.
45611150142
ITEM-001
(2 NOS.)

NOTE :-

* SUPPLY OF TVM IS IN
APEPDCL'S SCOPE, ONLY
CUTOUT ON SWING PLATE
FOR MOUNTING & WIRING
TO BE PROVIDED.
(MAKE OF TVM IS ER300P
OF L&T SHALL BE MADE).

DETAIL-A
(UNDRILLED CABLE GLAND PLATE)DOOR
(MAX. SWING 120°)

FOUNDATION PLAN

ELEVATION
DOOR & SWING PANEL REMOVEDSWING TYPE DEVICE MOUNTING PLATE
TO DRG. NO. 35641150025, VAR-00, REV-04SECTIONAL PLAN
SHOWING LOCATION
OF DEVICES

CUSTOMER

A. P. E. P. D. C. L.
VISHAKHAPATNAMBHARAT HEAVY ELECTRICALS LIMITED
BHOPALTITLE
OUTLINE & GENERAL ARRANGEMENT OF
OUTDOOR CONTROL & RELAY PANELS
FOR 11 KV HV VCBCARD
CODE
--REV.
NO.
00NO. OF
SHEETS
06SHEET
NO.
03DEPT. CODE
SWE 409SCALE
N.T.S.WEIGHT
-UNTOL. DIMS. GR.
REFER CG 06503
TABLE 2.5-1W.O.NO.
REFER TABLE-1DRG.
NO. 3 561 00 5 1565

REV	DATE	ALTD.	REV	DATE	ALTD.	REV	DATE	ALTD.
		CKD.			CKD.			CKD.
		APPD.			APPD.			APPD.

ZONE	ZONE	ZONE

SIGNATURES NOT REQUIRED AS IT IS SYSTEM GENERATED DRAWING
DISTRIBUTION OF PRINTS
O.COPY 2 NOS. DIAGRAM 1 NO.
SWM 6 NOS. ENGINEER 1 NO.
TCX (SWM) 1 NO. CUSTOMER 6 NOS.

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

9951 S 00 195 S
DRG. NO.

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SCHEDULE OF APPARATUS & LABEL DETAILS

DEVICE REFERENCE	DESCRIPTION	TYPE / MAKE	INSCRIPTION ON LABEL IN FRONT OF DEVICE			INSCRIPTION ON LABELS AT THE REAR OF DEVICE	QTY. OF LABELS/PANEL (FOR TOTAL QTY OF PANELS REFER TABLE 1)		BLANK LABEL REF.
			I LINE	II LINE	III LINE		FRONT	REAR	
IL	LED TYPE INDICATING LAMP, AMBER	-/BCH, SIEMENS, ESSEN DEINKI, L&T, ESBEE, VAISHNO, KAYCEE OR TEKNIC	FAULT	ALARM	IL	IL	1	1	L4
IL1	LED TYPE INDICATING LAMP, RED	-/BCH, SIEMENS, ESSEN DEINKI, L&T, ESBEE, VAISHNO, KAYCEE OR TEKNIC	CIRCUIT BREAKER	CLOSED	IL1	IL1	1	1	L4
IL2	LED TYPE INDICATING LAMP, GREEN	-/BCH, SIEMENS, ESSEN DEINKI, L&T, ESBEE, VAISHNO, KAYCEE OR TEKNIC	CIRCUIT BREAKER	OPEN	IL2	IL2	1	1	L4
IL3	LED TYPE INDICATING LAMP, WHITE	-/BCH, SIEMENS, ESSEN DEINKI, L&T, ESBEE, VAISHNO, KAYCEE OR TEKNIC	SPRING	CHARGED	IL3	IL3	1	1	L4
IL4	LED TYPE INDICATING LAMP, AMBER	-/BCH, SIEMENS, ESSEN DEINKI, L&T, ESBEE, VAISHNO, KAYCEE OR TEKNIC	AUTO TRIP	IL4	-	IL4	1	1	L4
IL6	LED TYPE INDICATING LAMP, BLUE	-/BCH, SIEMENS, ESSEN DEINKI, L&T, ESBEE, VAISHNO, KAYCEE OR TEKNIC	CONTROL SUPPLY	HEALTHY	IL6	IL6	1	1	L4
IL7	LED TYPE INDICATING LAMP, AMBER	-/BCH, SIEMENS, ESSEN DEINKI, L&T, ESBEE, VAISHNO, KAYCEE OR TEKNIC	CB TC-1	HEALTHY	IL7	IL7	1	1	L4
IL8	LED TYPE INDICATING LAMP, AMBER	-/BCH, SIEMENS, ESSEN DEINKI, L&T, ESBEE, VAISHNO, KAYCEE OR TEKNIC	CB TC-2	HEALTHY	IL8	IL8	1	1	L4
IL11	LED TYPE INDICATING LAMP, RED, 63.5V AC	-/BCH, SIEMENS, ESSEN DEINKI, L&T, ESBEE, VAISHNO, KAYCEE OR TEKNIC	PT R-PHASE	HEALTHY	IL11	IL11	1	1	L4
IL12	LED TYPE INDICATING LAMP, YELLOW, 63.5V AC	-/BCH, SIEMENS, ESSEN DEINKI, L&T, ESBEE, VAISHNO, KAYCEE OR TEKNIC	PT Y-PHASE	HEALTHY	IL12	IL12	1	1	L4
IL13	LED TYPE INDICATING LAMP, BLUE, 63.5V AC	-/BCH, SIEMENS, ESSEN DEINKI, L&T, ESBEE, VAISHNO, KAYCEE OR TEKNIC	PT B-PHASE	HEALTHY	IL13	IL13	1	1	L4
PBA	PUSH BUTTON SWITCH WITH BLACK ACTUATOR	-/BCH, SIEMENS, ESSEN DEINKI, L&T, SALZER, KAYCEE OR TEKNIC	ALARM	ACCEPT	PBA	PBA	1	1	L4
PBR	PUSH BUTTON SWITCH WITH BLACK ACTUATOR	-/BCH, SIEMENS, ESSEN DEINKI, L&T, SALZER, KAYCEE OR TEKNIC	ALARM	RESET	PBR	PBR	1	1	L4
PBT1	PUSH BUTTON SWITCH WITH BLACK ACTUATOR	-/BCH, SIEMENS, ESSEN DEINKI, L&T, SALZER, KAYCEE OR TEKNIC	TRIP CIRCUIT-1	CHECK	PBT1	PBT1	1	1	L4
PBT2	PUSH BUTTON SWITCH WITH BLACK ACTUATOR	-/BCH, SIEMENS, ESSEN DEINKI, L&T, SALZER, KAYCEE OR TEKNIC	TRIP CIRCUIT-2	CHECK	PBT2	PBT2	1	1	L4
CS	CONTROL SELECTOR SWITCH	-/KAYCEE, L&T, SALZER, RECOM, SWITRON OR SETON	CONTROL	SELECTOR SWITCH	CS	CS	1	1	L7
AS	AMMETER SELECTOR SWITCH	-/KAYCEE, RECOM OR SWITRON	AMMETER	SELECTOR SWITCH	AS	AS	1	1	L7
VS	VOLTMETER SELECTOR SWITCH	-/KAYCEE, RECOM OR SWITRON	VOLTMETER	SELECTOR SWITCH	VS	VS	1	1	L7
TVM	ENERGY METER, (SUPPLY IN CUSTOMER'S SCOPE)	-	TRIVECTOR METER	TVM	-	TVM	1	1	L7
BZ1	BUZZER	-/CANDS, JVS, VESTAL ELECTRONICS, KAYCEE OR MATHURA	PROTECTION ALARM	BUZZER	BZ1	BZ1	1	1	L7
BZ2	BUZZER	-/CANDS, JVS, VESTAL ELECTRONICS, KAYCEE OR MATHURA	TRIP / NON TRIP	PROTECTION BUZZER	BZ2	BZ2	1	1	L7
A	DIGITAL AMMETER, ACCU. CLASS 0.5	-/AE, RISHABH, MECO, SELEC OR PYROTECH	AMMETER	A	-	A	1	1	L7
V	DIGITAL VOLTMETER, ACCU. CLASS 0.5	-/AE, RISHABH, MECO, SELEC OR PYROTECH	VOLTMETER	V	-	V	1	1	L7
AA	6 WAY ALARM ANNUNCIATOR	- / JVS	ALARM	ANNUNCIATOR	AA	AA	1	1	L7

REV	DATE	ALTD.	REV	DATE	ALTD.	REV	DATE	ALTD.	DRAWN	NAME	SIGN.	DATE	CUSTOMER A. P. E. P. D. C. L. VISHAKHAPATNAM		CARD	REV.	
		CKD.			CKD.			CKD.	CKD	M.H.	sd/-	01/11/18	BHARAT HEAVY ELECTRICALS LIMITED BHOPAL		CODE	NO.	
		APPD.			APPD.			APPD.	APPD	MAK	sd/-	01/11/18	TITLE OUTLINE & GENERAL ARRANGEMENT OF OUTDOOR CONTROL & RELAY PANELS FOR 11 KV HV VCB		NO.OF SHEETS	06	
ZONE			ZONE			ZONE			SIGNATURES NOT REQUIRED AS IT IS SYSTEM GENERATED DRAWING DISTRIBUTION OF PRINTS O.COPY 2 NOS. DIAGRAM 1 NO. SWM 6 NOS. ENGINEER 1 NO. TCX (SWM) 1 NO. CUSTOMER 6 NOS.				DEPT.	CODE	SHEET NO.	04	
										SWE	409	SCALE N.T.S.	WEIGHT -	UNTOL. DIMS. GR. REFER CG 06503 TABLE 2.5-1	W.O.NO. REFER TABLE-1	DRG. NO.	3 561 00 5 1565

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm.

9951 5 00 195 5
DRG. NO.

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SCHEDULE OF APPARATUS & LABEL DETAILS

DEVICE REFERENCE	DESCRIPTION	TYPE / MAKE	INSCRIPTION ON LABEL IN FRONT OF DEVICE			INSCRIPTION ON LABELS AT THE REAR OF DEVICE	QTY. OF LABELS/PANEL (FOR TOTAL QTY. OF PANELS REFER TABLE 1)		BLANK LABEL REF.
			I LINE	II LINE	III LINE		FRONT	REAR	
NR	NUMERICAL OVER CURRENT & EARTH FAULT RELAY	241 / ASHIDA	OVER CURRENT &	EARTH FAULT RELAY	NR	NR	1	1	L7
87T	NUMERICAL TRANSFORMER DIFFERENTIAL PROTECTION RELAY	RET615 / ABB	TRANSF. DIFF.	PROTN. RELAY	87T	87T	1	1	L7
86	MASTER TRIP RELAY	AVJh / ASHIDA	MASTER	TRIP RELAY	86	86	1	1	L7
30A	TWO ELEMENT AUXILIARY RELAY	AVA21 / ASHIDA	AUXILIARY RELAY	FOR WDG. TEMP.	30A	30A	1	1	L7
30B	TWO ELEMENT AUXILIARY RELAY	AVA21 / ASHIDA	AUXILIARY RELAY	FOR OIL TEMP.	30B	30B	1	1	L7
30C	TWO ELEMENT AUXILIARY RELAY	AVA21 / ASHIDA	AUXILIARY RELAY	FOR BUCHHOLZ	30C	30C	1	1	L7
30D	TWO ELEMENT AUXILIARY RELAY	AVA21 / ASHIDA	AUXILIARY RELAY	FOR PRV TRIP	30D	30D	1	1	L7
TBTVM	TEST LINK BLOCK	- / ENNKAY / L&T / SECURE / JVS / DAV	TEST BLOCK	FOR TVM	TBTVM	TBTVM	1	1	L7
75A	AUXILIARY CONTACTOR / PLUG IN RELAY	- / SCHNEIDER, ABB, BCH, SIEMENS, L&T, C&S, JYOTI OR GUARDIAN	ALARM CANCELLATION	CONTACTOR-A	75A	-	1	-	L4
75B	AUXILIARY CONTACTOR / PLUG IN RELAY	- / SCHNEIDER, ABB, BCH, SIEMENS, L&T, C&S, JYOTI OR GUARDIAN	ALARM CANCELLATION	CONTACTOR-B	75B	-	1	-	L4
80D	AUXILIARY CONTACTOR	- / SCHNEIDER, ABB, BCH, SIEMENS, L&T OR C&S	DC SUPPLY SUPVN.	CONTACTOR	80D	-	1	-	L4
R1	VARIABLE RESISTOR, 0.300 OHMS	- / BHEL APPROVED	RESISTOR	R1	-	-	1	-	L4
R2	VARIABLE RESISTOR, 0.300 OHMS	- / BHEL APPROVED	RESISTOR	R2	-	-	1	-	L4
R3	VARIABLE RESISTOR, 0.300 OHMS	- / BHEL APPROVED	RESISTOR	R3	-	-	1	-	L4
R4	VARIABLE RESISTOR, 0.300 OHMS	- / BHEL APPROVED	RESISTOR	R4	-	-	1	-	L4
H	SPACE HEATER	- / BHEL APPROVED	HEATER	H	-	-	1	-	L4
HS	PIANO TYPE HEATER ON/OFF SWITCH	- / BHEL APPROVED	HEATER	SWITCH	HS	-	1	-	LP
TH	THERMOSTAT FOR HEATER	- / BHEL APPROVED	THERMOSTAT	FOR HEATER	TH	-	1	-	L4
SKTS	3 PIN 5/15 AMPS DOMESTIC SOCKET WITH SWITCH	- / BHEL APPROVED	240V AC SUPPLY	OUTLET	SKTS	-	1	-	L7
CFL	COMPACT FLUORESCENT LAMP	- / BHEL APPROVED	-	-	-	-	-	-	-
DS	DOOR OPERATED SWITCH FOR CFL ON/OFF	- / BHEL APPROVED	-	-	-	-	-	-	-
MCBAC	MINIATURE CIRCUIT BREAKER, 16 AMPS	- / SCHNEIDER, LEGRAND, L&T, C&S OR INDOASIAN	AC	SUPPLY	FROM ACDB	MCBAC	1	-	LP
MCBDC	MINIATURE CIRCUIT BREAKER, 16 AMPS	- / SCHNEIDER, LEGRAND, L&T, C&S OR INDOASIAN	DC	SUPPLY	FROM DCDB	MCBDC	1	-	LP

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REF. DRG. NO.

SIGN & DATE

INVENTORY NO.

REV	DATE	ALTD.	REV	DATE	ALTD.	REV	DATE	ALTD.	DRAWN	NAME	SIGN.	DATE
		CKD.			CKD.			CKD.			sd/-	01/11/18
		APPD.			APPD.			APPD.			sd/-	01/11/18
ZONE			ZONE			ZONE			APPD	MAK	sd/-	01/11/18
SIGNATURES NOT REQUIRED AS IT IS SYSTEM GENERATED DRAWING												
DISTRIBUTION OF PRINTS												
O.COPY 2 NOS. DIAGRAM 1 NO.												
SWM 6 NOS. ENGINEER 1 NO.												
TCX (SWM) 1 NO. CUSTOMER 6 NOS.												

CUSTOMER						A. P. E. P. D. C. L. VISHAKHAPATNAM						CARD CODE	REV. NO.
						BHARAT HEAVY ELECTRICALS LIMITED BHOPAL						--	00
						TITLE OUTLINE & GENERAL ARRANGEMENT OF OUTDOOR CONTROL & RELAY PANELS FOR 11 KV HV VCB						NO.OF SHEETS	06
												SHEET NO.	05
						DEPT.	CODE	SCALE	WEIGHT	UNTOL. DIMS. GR. REFER CG 06503 TABLE 2.5-1	W.O.NO. REFER TABLE-1	DRG. NO.	3 561 00 5 1565
						SWE	409	N.T.S.	-				

SCHEDULE OF APPARATUS & LABEL DETAILS

[illegible]

LABEL SPECIFICATION :-

[illegible]

REV	DATE	ALTD.	REV	DATE	ALTD.	REV	DATE	ALTD.	DRAWN	NAME	SIGN.	DATE	BHARAT HEAVY ELECTRICALS LIMITED										CARD	REV.	
		CKD.			CKD.			CKD.	CKD	M.H.	sd/-	01/11/18	BOPAL										CODE	NO.	
		APPD.			APPD.			APPD.	APPD	MAK	sd/-	01/11/18	TITLE OUTLINE & GENERAL ARRANGEMENT OF												
ZONE			ZONE			ZONE			SIGNATURES NOT REQUIRED AS IT IS SYSTEM GENERATED DRAWING				DEPT.		CODE	FOR 11 KV HV VCB						NO.OF			
									DISTRIBUTION OF PRINTS				SWE		409	SCALE N.T.S.						WEIGHT -	UNTOL. DIMS. GR.	DRG.	
									O.COPY 2 NOS. DIAGRAM 1 NO.							W.O.NO.									
									SWM 6 NOS. ENGINEER 1 NO.							REFER CG 06503									
									TCX (SWM) 1 NO. CUSTOMER 6 NOS.							REFER TABLE-1									
																3 561 00 5 1565									