

Drawing approval subject to valid vendor registration

LIST OF DOCUMENTS:

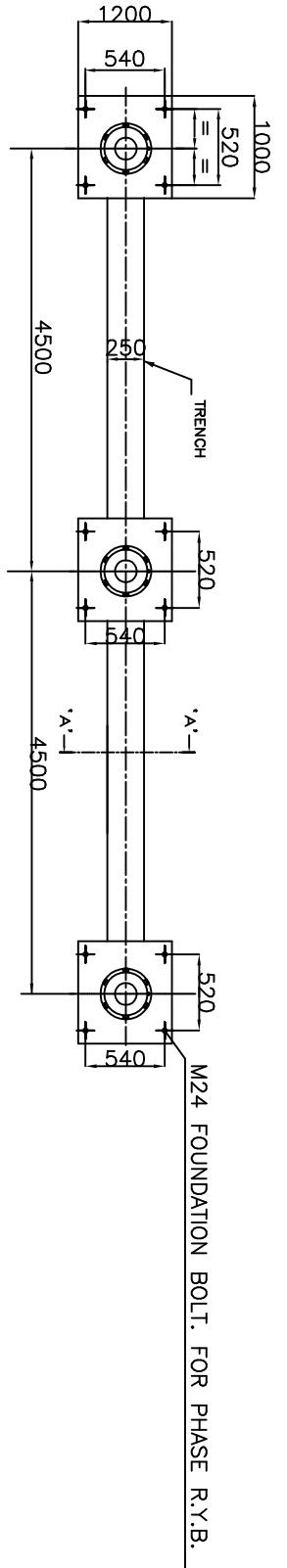
25mm creepage

SR. NO.	LIST OF DRAWINGS/DOCUMENTS.	DRAWING NO.	TOTAL SHEET
1	LIST OF DRAWINGS	EH4-6843-00	1
2	GENERAL ARRANGEMENT	EH4-6843-01	1
3	SCHEMATIC DIAGRAM	EH4-6843-02	6
4	BILL OF MATERIAL	EH4-6843-03	3
5	RATING PLATE DETAILS	EH4-6843-04	1
6	MECHANISM HOUSING ASSY	EH4-6843-05	1
7	MARSHALLING BOX DETAILS	EH4-6843-06	1
8	SUPPORT STRUCTURE	EH4-6843-07	1
9	WIRING DIAGRAM	EH4-6843-08	6

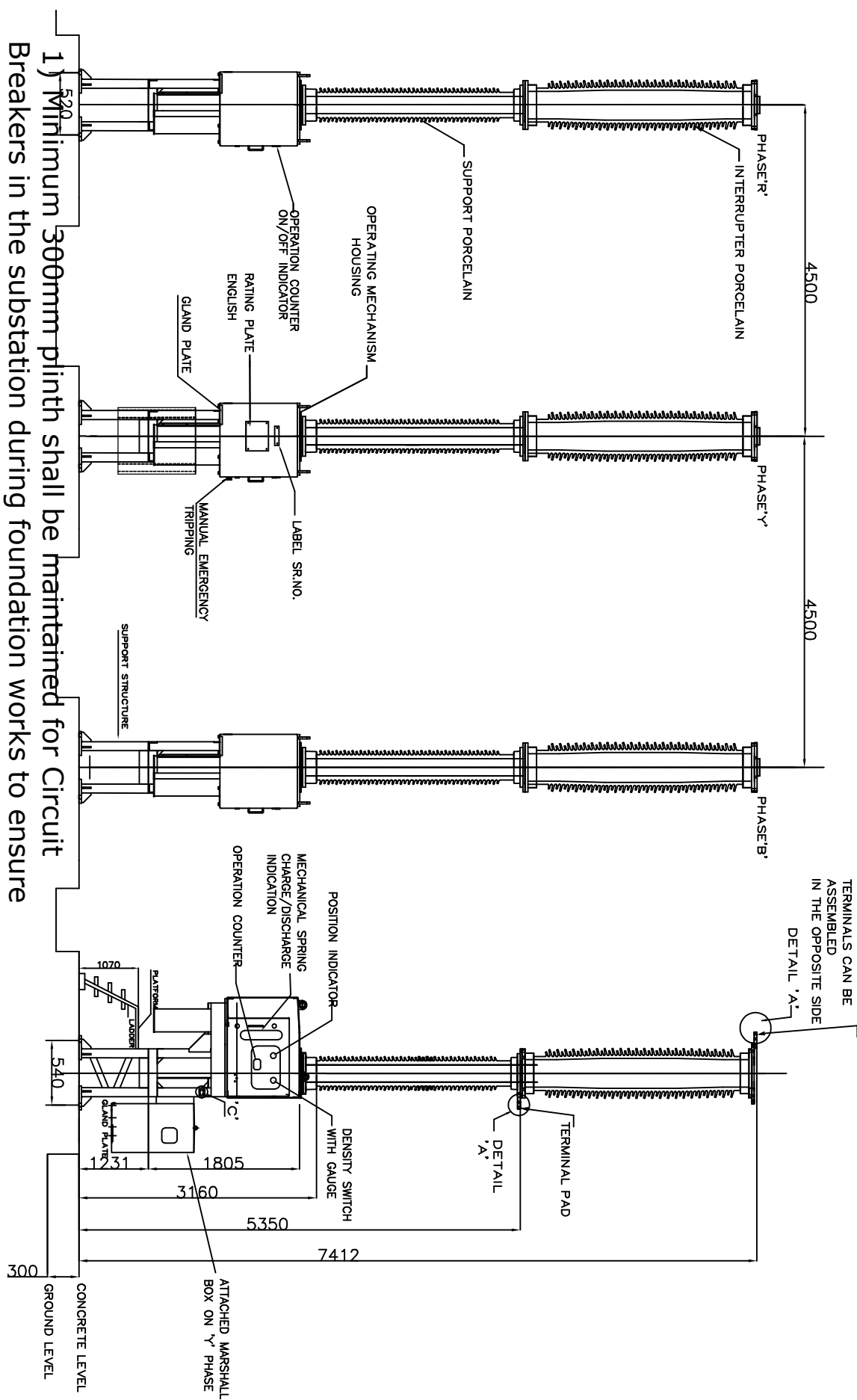
CHIEF ENGINEER/PROJECTS  
 APTRANSCO/VS/VIJAYAWADA

NO	REVISION	NAME	DATE	DATE:	ALL DIMENSIONS ARE IN mm	DRG.NO:	THIRD ANGLE PROJECTION
5						EH4-6843-00	THIRD ANGLE PROJECTION
4		DRN ASD					
3		CHD NSR					
2		APPD GNP					
1		SCALE: N.T.S.					

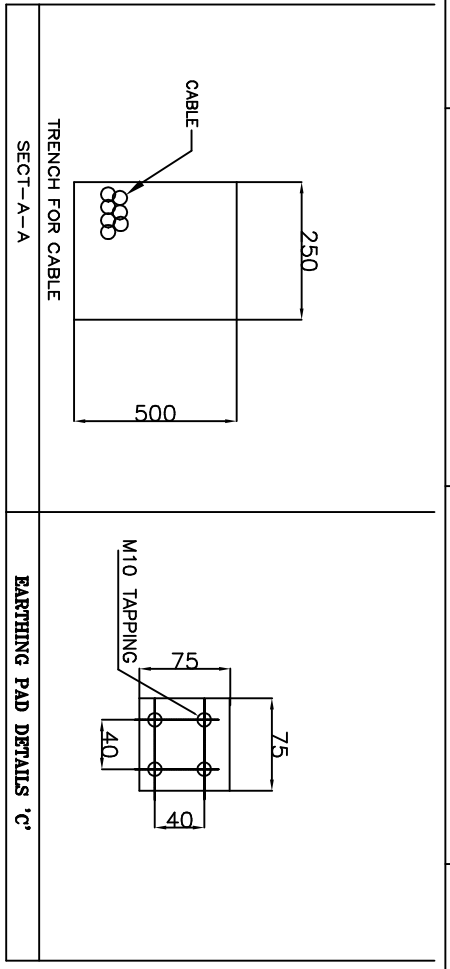




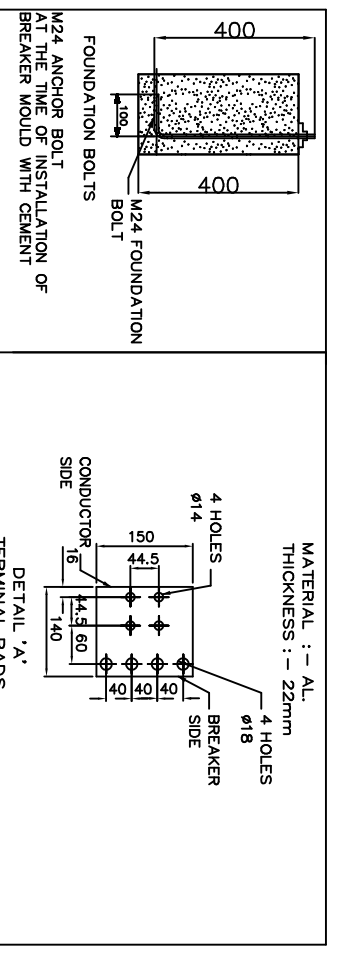
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1) Minimum 300mm plinth shall be maintained for Circuit Breakers in the substation during foundation works to ensure safe live to ground clearances as per IE rules.  
2) Since the supply of terminal connectors is not in the scope of manufacturer as mentioned in the drawings, the EPC contractors shall be instructed to supply the same in line with breaker requirement and compatibility.



- NOTE :-
- 1) TOTAL WEIGHT :- 3750 Kg.(APPROX)
  - 2) SF6 GAS WEIGHT (3 POLE) :-18 Kg.(APPROX)
  - 3) IMPACT LOADING FOR FOUNDATION DESIGN INCLUDE DEAD WEIGHT+ IMPACT VALUE IN OPENING AT MAXIMUM INTERRUPTING RATING EXPRESSED IN TERMS OF EQUIVALENT STATIC LOAD IN Kg. 3000Kg./PHASE DOWNWARD, 2500 Kg./PHASE UPWARD.
  - 4) FINISH :- ALL EXPOSED FERROUS PARTS ARE PAINTED/POWDER COATED WITH SHADE 631 OF IS:5 EXTERNAL & INTERNAL EXCEPT SUPPORT STRUCTURE WHICH IS HDG
  - 5) MINIMUM CREEPAGE DISTANCE :- 6125 mm.
  - 6) HARDWARE EXPOSED TO ATMOSPHERE ARE H.D.G./S.S.
  - 7) RATED OPERATING DUTY :- 0-0.3 SEC-CO-1MIN-CO
  - 8) RATED SF6 GAS PRESSURE :- 6.5 Kg/cm2 (g) AT 20°C
  - 9) CABLE GLANDS & ANCHOR BOLTS ARE IN OUR SCOPE OF SUPPLY.
  - 10) SUPPLY OF INTERPHASE WIRING IS IN OUR SCOPE.
  - 11) PORCELAIN MAKE: MODERN/ABL/IEC/CJ/IEQ
  12. SUPPORT STRUCTURE HOT DIP GALVANISED (THICKNESS 610g/m2)



TITLE: GENERAL ARRANGEMENT

THIRD ANGLE PROJECTION

5	NO	REVISION	2	NAME	DATE	DATE:15.05.23	ALL DIMENSIONS ARE IN mm
4	NO	REVISION	1	NAME	DATE	DATE:15.05.23	ALL DIMENSIONS ARE IN mm
3	NO	REVISION	1	NAME	DATE	DATE:15.05.23	ALL DIMENSIONS ARE IN mm
2	NO	REVISION	1	NAME	DATE	DATE:15.05.23	ALL DIMENSIONS ARE IN mm
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2	NO	REVISION	1	NAME	DATE	DATE:15.05.23	ALL DIMENSIONS ARE IN mm
1	NO	REVISION	1	NAME	DATE	DATE:15.05.23	ALL DIMENSIONS ARE IN mm

APTRANSCO

FOR: 245KV, 50KA, SP-SPR

GCB TYPE: 200-SFM-50AA

DRG.NO:EH4-6843-01

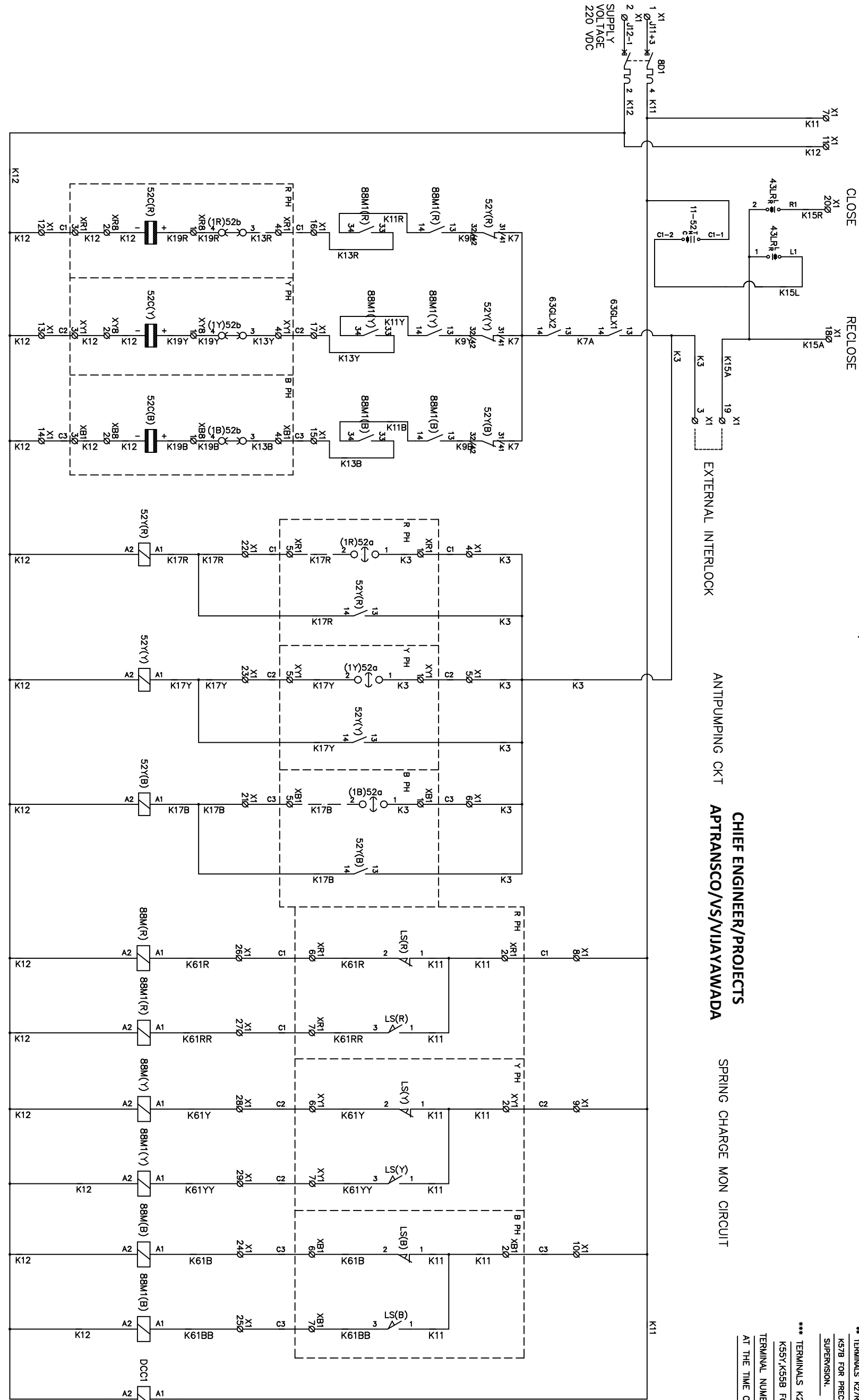
CG Power and Industrial Solutions Limited

SWITCHGEAR DIVISION 53,AMBAD, NASHIK.

NOTE: 1. Drawings Approval subject to valid type test reports, to be checked during acceptance tests.  
2. For EPC contractors only.

NOTE: 1. DRAWING APPROVAL SUBJECT TO VALID TYPE TEST REPORTS, TO BE CHECKED DURING ACCEPTANCE TESTS  
2. FOR EPC CONTRACTORS ONLY

TERMINALS AND CONTACTS OF MECHANISM BOX ARE SHOWN IN DOTTED RECTANGLE.



NOTE:-  
\* TERMINALS K23R,K23Y,K23B & K53R,K53Y, K53B FOR PROTECTION TRIP & TRIP SUPERVISION RELAY (POST CLOSING)  
\*\* TERMINALS K27R,K27Y,K27B & K57R,K57Y, K57B FOR PRECLOSING TRIP CIRCUIT SUPERVISION.  
\*\*\* TERMINALS K25R,K25Y,K25B & K55R, K55Y,K55B FOR REMOTE MANUAL TRIP  
TERMINAL NUMBERS MAY CHANGE AT THE TIME OF DETAIL ENGINEERING

NO	REVISION	NAME	DATE	ALL DIMENSIONS ARE IN mm
1			DATE:15.05.23	
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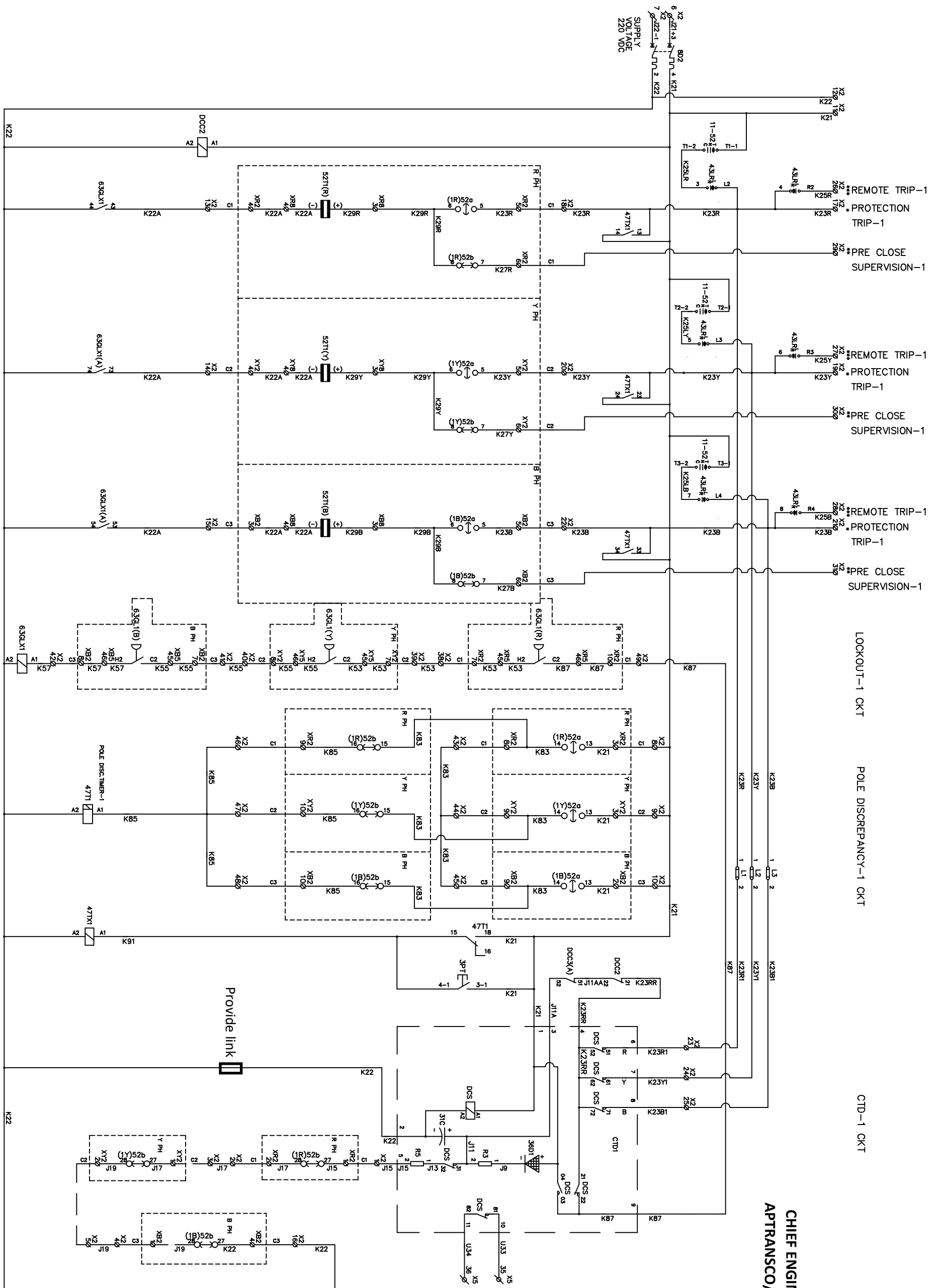
5	NAME	APTRANSCO
4	CUSTOMER:	
3	DRN	ASD
2	CHD	NSR
1	APPD	GNP
	SCALE:	N.T.S.

TITLE:	SCHEMATIC DIAGRAM
FOR:	245KV, 50KA, SP-SPR
GCB TYPE:	200-SFM-50AA
DRG.NO.:	EH4-6843-02

THIRD ANGLE PROJECTION
CG Power and Industrial Solutions Limited
SWITCHGEAR DIVISION 53, AMBAD, NASHIK.



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5	NAME	CUSTOMER:	APTRANSCO
4	DRN	ASD	
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2	APPD	GNP	
1	SCALE:	N.T.S.	

5	TITLE:	SCHEMATIC DIAGRAM
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3	GCB TYPE:	200-SFM-50AA
2	DRG.NO.:	EH4-6843-02

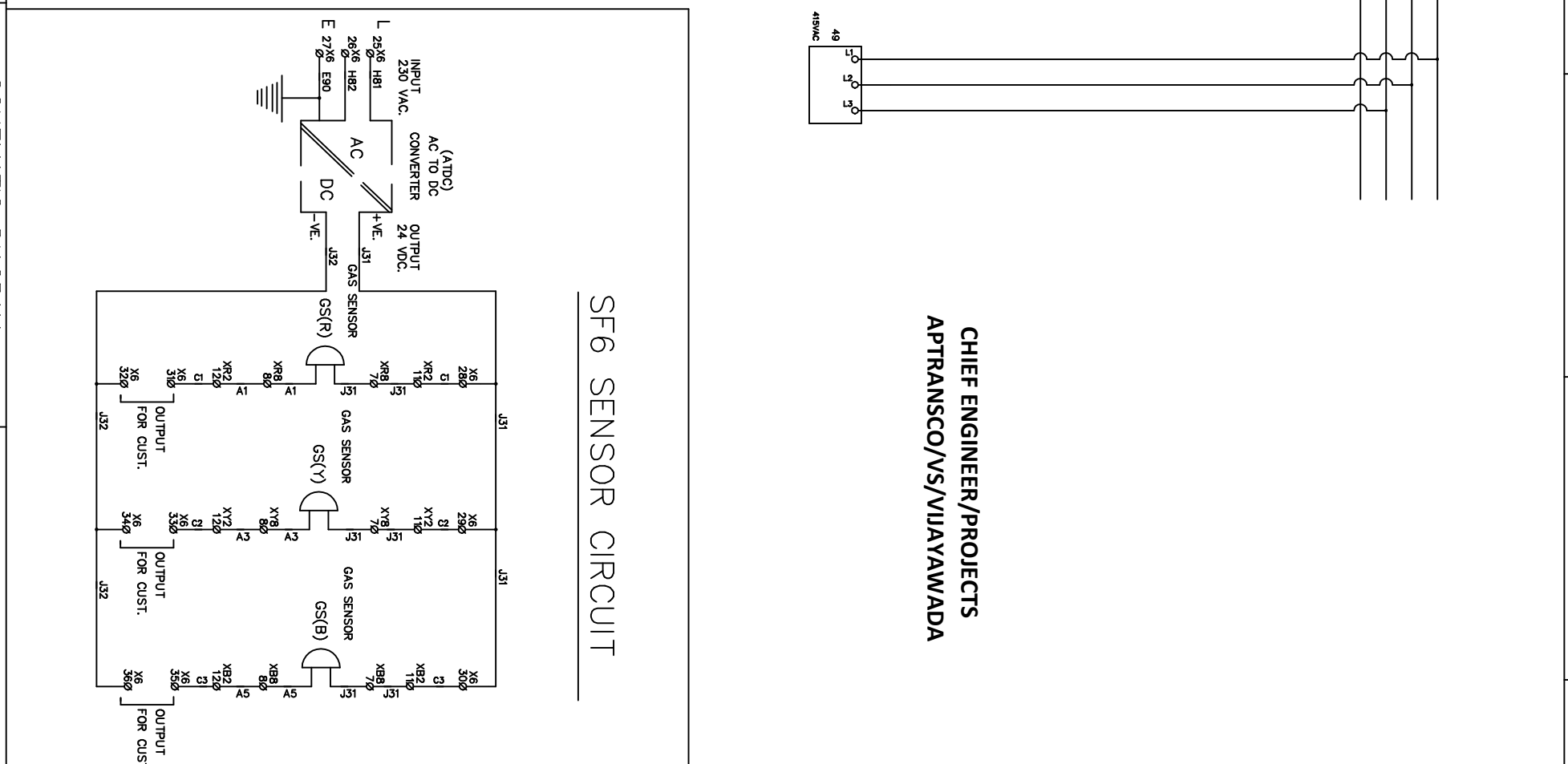
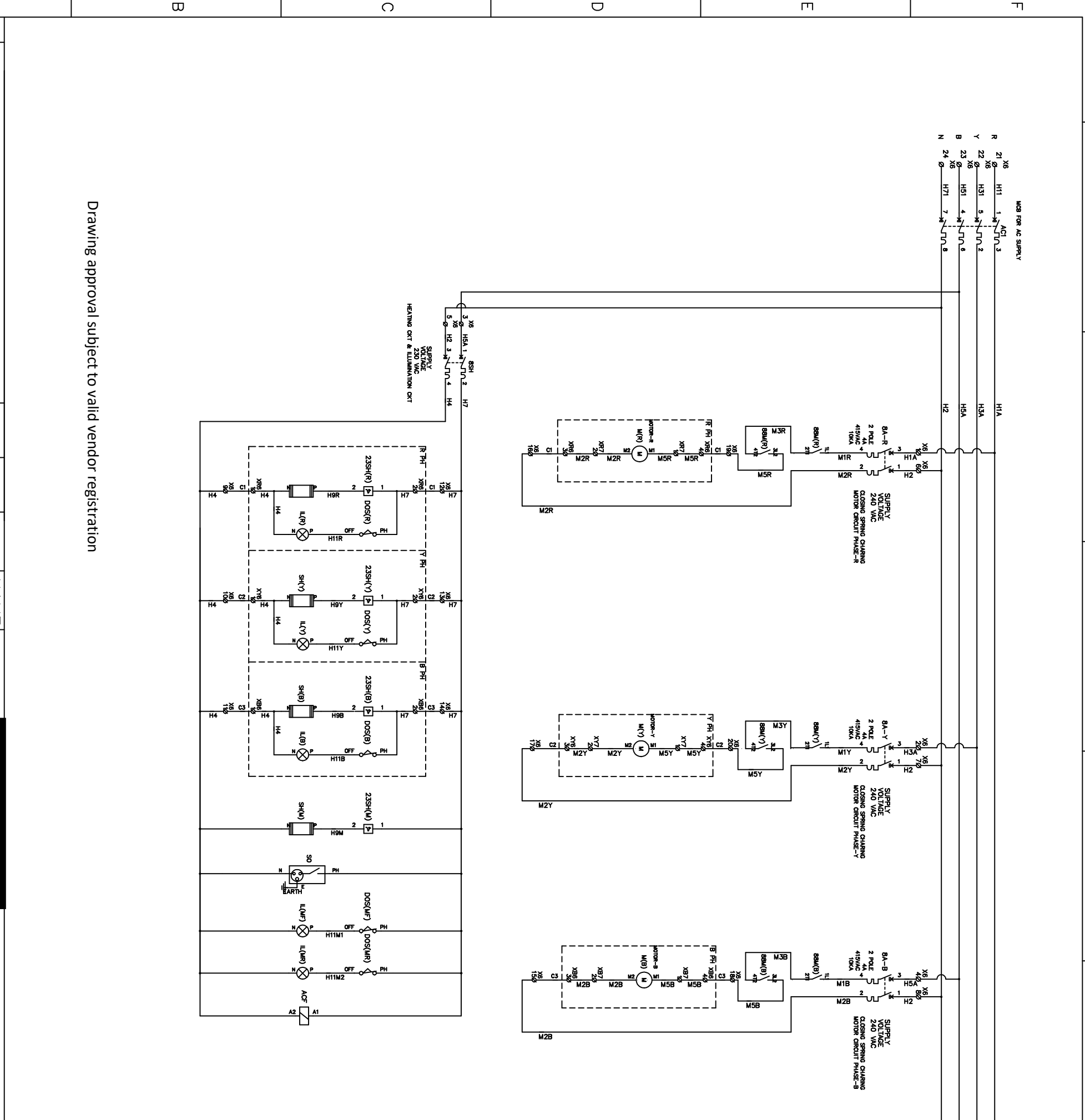
5	THIRD ANGLE PROJECTION
4	CG Power and Industrial Solutions Limited
3	SWITCHGEAR DIVISION, S3, AMBAD, NASHIK.
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NAME	APTRANSCO
CUSTOMER	[REDACTED]
PO.NO.	[REDACTED]
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CHD	NSR
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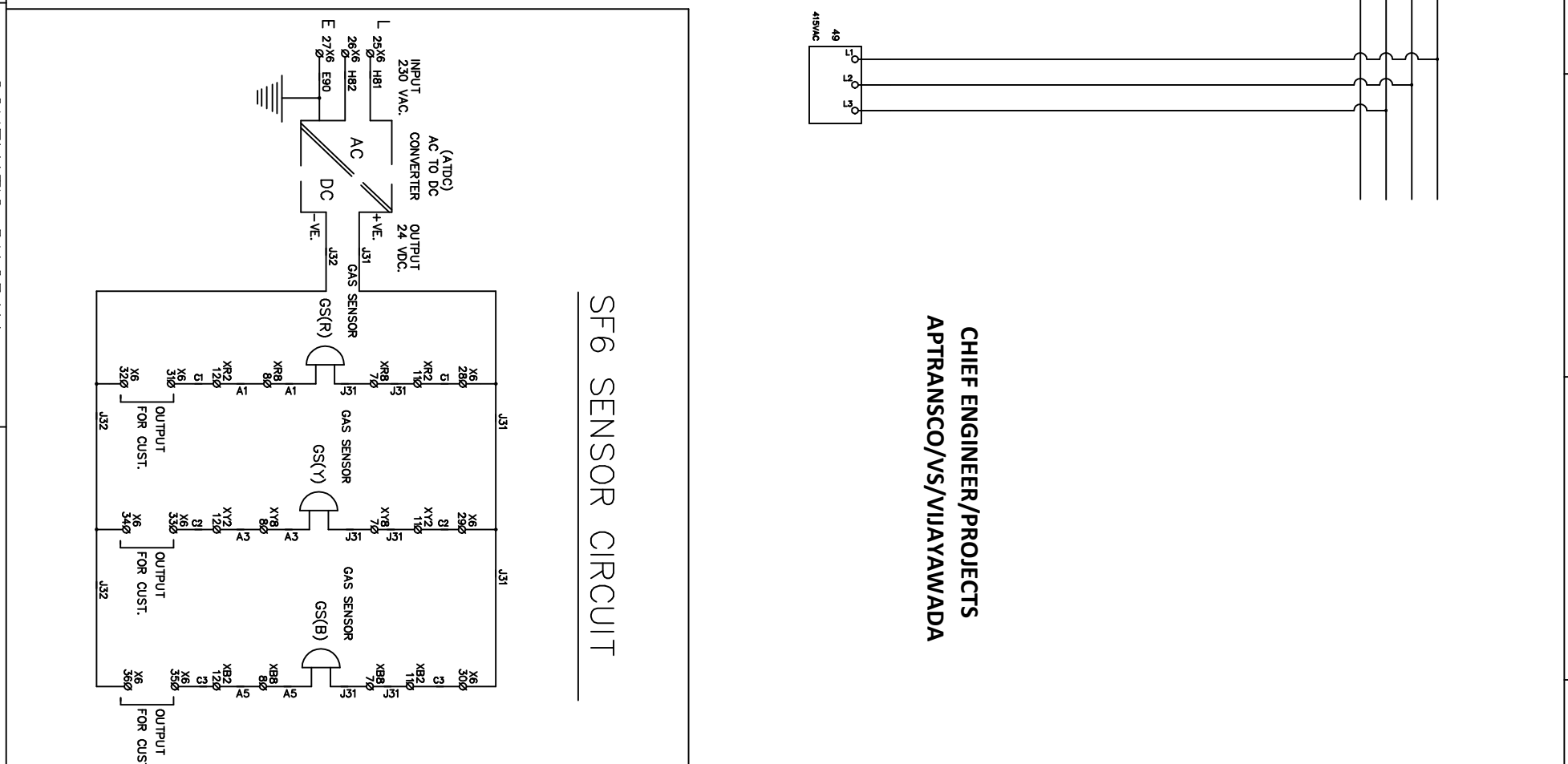


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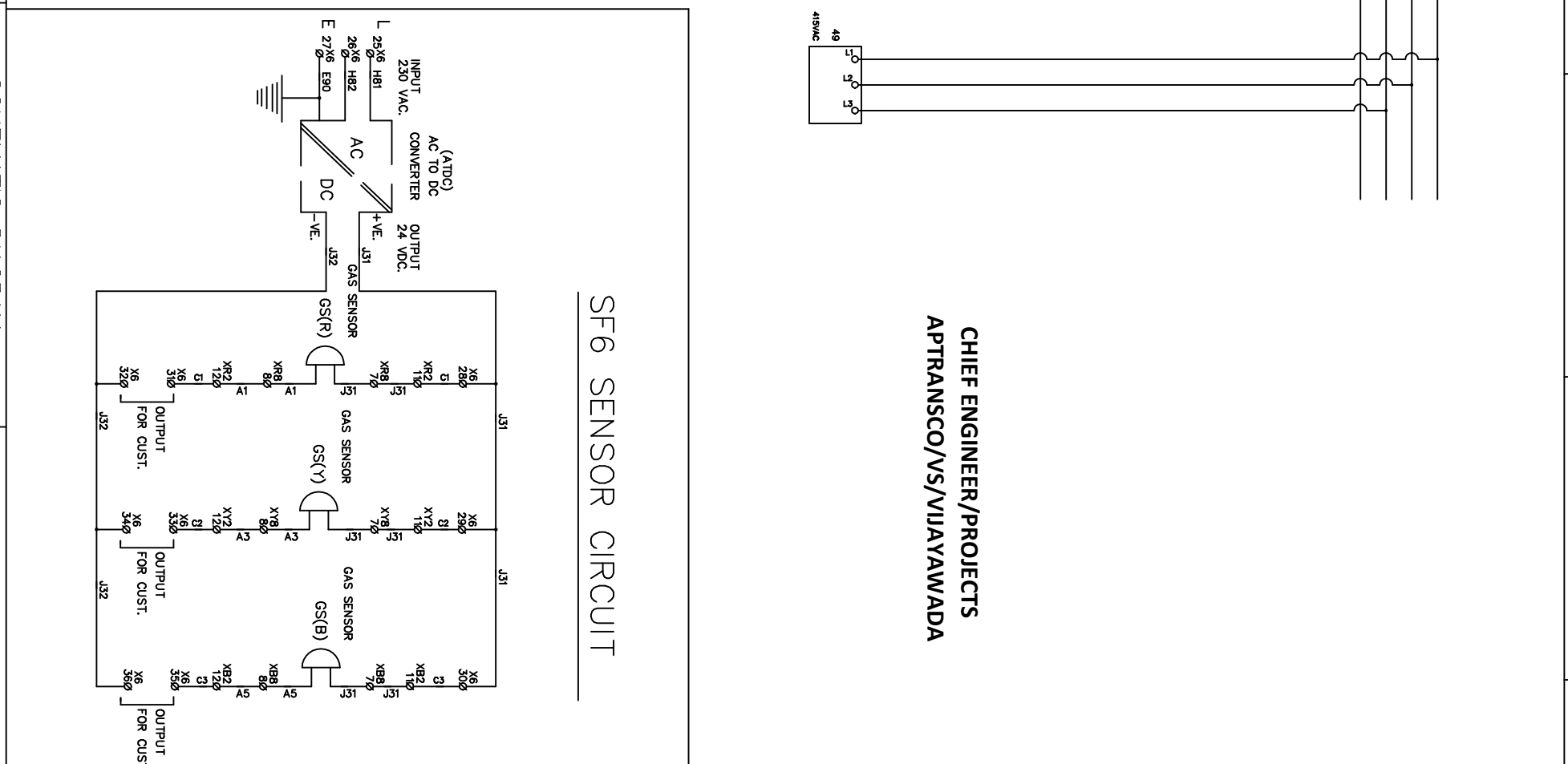


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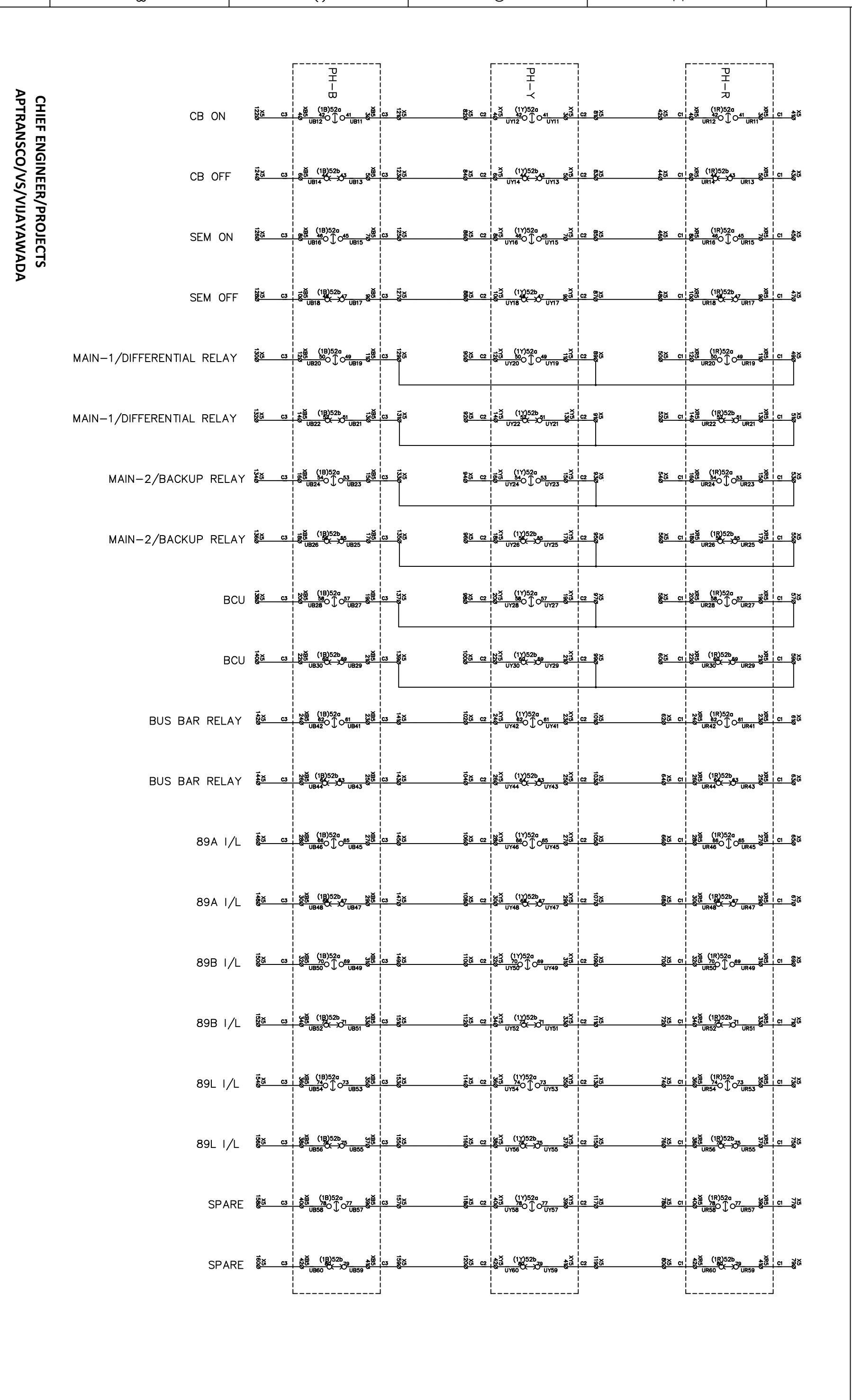
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PO.NO.	[REDACTED]
DRN	ASD
CHD	NSR
APPD	GNP
SCALE	N.T.S.
DATE	15.05.23
ALL DIMENSIONS ARE IN mm	
TITLE	SCHEMATIC DIAGRAM
FOR	245KV, 50KA, SP-SPR
GCB TYPE	200-SFM-50AA
DRG.NO.	EH4-6843-02



CHIEF ENGINEER/PROJECTS  
APTRANSCO/VS/VIJAYAWADA

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		DRN	ASD	CHD	NSR	APPD	GNP	SCALE:	N.T.S.
		NAME	ASD	CHD	NSR	APPD	GNP	SCALE:	N.T.S.
		CUSTOMER:	APTRANSCO						
		PO.NO.:	[REDACTED]						
		TITLE:	SCHEMATIC DIAGRAM						
		FOR:	245KV, 50KA, SP-SPR						
		GCB TYPE:	200-SFM-50AA						
		DRG.NO.:	EH4-6843-02						
		THIRD ANGLE PROJECTION							
		CG Power and Industrial Solutions Limited							
		SWITCHGEAR DIVISION S3,AMBAD, NASHIK.							



SPARE AUX. SWITCH (10NO+10NC)

TAGNAME	CATDESC	VIDDESC	QUANT	RATING1	RATING2	MFG
3PT	PUSH BUTTON (RED) (2NO)	3 PH. TRIP P.B.	1	250VDC	10A	TEKNI/GRAFTECH /DSQUARE
BA-B	MINIATURE CIRUIT BREAKER(MCB), C CURVE	MCB FOR MOTOR	1	2 POLE	4A	SCHNEIDER /SIEMENS /EATON
BA-R	MINIATURE CIRUIT BREAKER(MCB), C CURVE	MCB FOR MOTOR	1	2 POLE	4A	SCHNEIDER /SIEMENS /EATON
BA-Y	MINIATURE CIRUIT BREAKER(MCB), C CURVE	MCB FOR MOTOR	1	2 POLE	4A	SCHNEIDER /SIEMENS /EATON
BD1	MINIATURE CIRUIT BREAKER(DC MCB), C CURVE	MCB FOR CLOSING CKT	1	2 POLE	16A	SCHNEIDER /SIEMENS /EATON
BD2	MINIATURE CIRUIT BREAKER(DC MCB), C CURVE	MCB FOR TRIP-1 CKT	1	2 POLE	16A	SCHNEIDER /SIEMENS /EATON
BD3	MINIATURE CIRUIT BREAKER(DC MCB), C CURVE	MCB FOR TRIP-2 CKT	1	2 POLE	16A	SCHNEIDER /SIEMENS /EATON
BD4	MINIATURE CIRUIT BREAKER(DC MCB), C CURVE	MCB FOR TRIP-3 CKT	1	2 POLE	16A	SCHNEIDER /SIEMENS /EATON
BSH	MINIATURE CIRUIT BREAKER(MCB), C CURVE	MCB FOR HEATER CKT	1	2 POLE	16A	SCHNEIDER /SIEMENS /EATON
11-52	TRIP-NEUTRAL-CLOSE SW. 7 POLE.(71+70) 3 POSITION, 45deg ANGLE, SPRING RETURN.	TRIP-N-CLOSE SW.	1	660V AC/DC	32A	SMITRON
23SH(B)	THERMOSTAT FOR HEATER CONTROL	THERMOSTA	1	230 VAC		APT/VELICO/ELEXPERC
23SH(N)	THERMOSTAT FOR HEATER CONTROL	THERMOSTA	1	230 VAC		APT/VELICO/ELEXPERC
23SH(R)	THERMOSTAT FOR HEATER CONTROL	THERMOSTA	1	230 VAC		APT/VELICO/ELEXPERC
23SH(Y)	THERMOSTAT FOR HEATER CONTROL	THERMOSTA	1	230 VAC		APT/VELICO/ELEXPERC
43LR	LOCAL-REMOTE SWITCH (9L+9R), 2 POSITION, 90deg, STAY PUT TYPE	LOCAL REMOTE SW.	1	660V AC/DC	32A	SMITRON
47T1	POLE DISCREPANCY TIMER	POLE DISC. TIMER-1	1	24V-240V DC/AC	0.1sec-1200h	OMRON/SELEC
47T2	POLE DISCREPANCY TIMER	POLE DISC. TIMER-1	1	24V-240V DC/AC	0.1sec-1200h	OMRON/SELEC
47TX1	AUX. CONTACTOR 4NO	CONT. FOR 47T1	1	220VDC		SCHNEIDER /SIEMENS /EATON
47TX2	AUX. CONTACTOR 4NO	CONT. FOR 47T2	1	220VDC		SCHNEIDER /SIEMENS /EATON
49	PHASE FAILURE RELAY	RELAY FOR MOTOR PH FAILURE	1	415VAC		SCHNEIDER /SIEMENS /EATON
52C(B)	CLOSE COIL FOR 245KV 50KA	CLOSING COIL	1	220 VDC	121 OHM±5%	POWERINST/ECSS/SUN
52C(R)	CLOSE COIL FOR 245KV 50KA	CLOSING COIL	1	220 VDC	121 OHM±5%	POWERINST/ECSS/SUN
52C(Y)	CLOSE COIL FOR 245KV 50KA	CLOSING COIL	1	220 VDC	121 OHM±5%	POWERINST/ECSS/SUN
52T(B)	TRIP COIL(1) FOR 245KV 50KA	TRIP COIL	1	220 VDC	121 OHM±5%	POWERINST/ECSS/SUN
52T(R)	TRIP COIL(1) FOR 245KV 50KA	TRIP COIL	1	220 VDC	121 OHM±5%	POWERINST/ECSS/SUN
52T(Y)	TRIP COIL(1) FOR 245KV 50KA	TRIP COIL	1	220 VDC	121 OHM±5%	POWERINST/ECSS/SUN
52T2(B)	TRIP COIL(1) FOR 245KV 50KA	TRIP COIL	1	220 VDC	121 OHM±5%	POWERINST/ECSS/SUN
52T2(R)	TRIP COIL(1) FOR 245KV 50KA	TRIP COIL	1	220 VDC	121 OHM±5%	POWERINST/ECSS/SUN
52T2(Y)	TRIP COIL(1) FOR 245KV 50KA	TRIP COIL	1	220 VDC	121 OHM±5%	POWERINST/ECSS/SUN
52Y(B)	AUX. CONTACTOR 2NO+2NC	ANTPG.CONTACTOR	1	220VDC		SCHNEIDER /SIEMENS /EATON
52Y(R)	AUX. CONTACTOR 2NO+2NC	ANTPG.CONTACTOR	1	220VDC		SCHNEIDER /SIEMENS /EATON
52Y(Y)	AUX. CONTACTOR 2NO+2NC	ANTPG.CONTACTOR	1	220VDC		SCHNEIDER /SIEMENS /EATON
63GA(B)	GAS DENSITY SWITCH ALARM (NO):ON-6.0 kg/sq.cm,OFF-6.5 kg/sq.cm at 200C	LOW GAS PRESS.ALARM	1			SCHNEIDER /SIEMENS /EATON
63GA(R)	GAS DENSITY SWITCH ALARM (NO):ON-6.0 kg/sq.cm,OFF-6.5 kg/sq.cm at 200C	LOW GAS PRESS.ALARM	1			SCHNEIDER /SIEMENS /EATON
63GA(Y)	GAS DENSITY SWITCH ALARM (NO):ON-6.0 kg/sq.cm,OFF-6.5 kg/sq.cm at 200C	LOW GAS PRESS.ALARM	1			SCHNEIDER /SIEMENS /EATON
63GL1(B)	GAS DENSITY SWITCH LOCKOUT (NO):OFF-5.5 kg/sq.cm,ON-6.0 kg/sq.cm at 200C	LOW GAS PRESS.L/O-1	1			REGENCY ELECTRIC /TRAFAG
63GL1(R)	GAS DENSITY SWITCH LOCKOUT (NO):OFF-5.5 kg/sq.cm,ON-6.0 kg/sq.cm at 200C	LOW GAS PRESS.L/O-1	1			REGENCY ELECTRIC /TRAFAG
63GL1(Y)	GAS DENSITY SWITCH LOCKOUT (NO):OFF-5.5 kg/sq.cm,ON-6.0 kg/sq.cm at 200C	LOW GAS PRESS.L/O-1	1			REGENCY ELECTRIC /TRAFAG
63GL2(B)	GAS DENSITY SWITCH LOCKOUT (NO):OFF-5.5 kg/sq.cm,ON-6.0 kg/sq.cm at 200C	LOW GAS PRESS.L/O-2	1			REGENCY ELECTRIC /TRAFAG
63GL2(R)	GAS DENSITY SWITCH LOCKOUT (NO):OFF-5.5 kg/sq.cm,ON-6.0 kg/sq.cm at 200C	LOW GAS PRESS.L/O-2	1			REGENCY ELECTRIC /TRAFAG
63GL2(Y)	GAS DENSITY SWITCH LOCKOUT (NO):OFF-5.5 kg/sq.cm,ON-6.0 kg/sq.cm at 200C	LOW GAS PRESS.L/O-2	1			REGENCY ELECTRIC /TRAFAG
63GLX1	AUX. CONTACTOR 2NO+2NC	CONT. FOR 63GL1	1	220VDC		SCHNEIDER /SIEMENS /EATON
63GLX1(A)	ADD ON BLOCK (4NO)		1			SCHNEIDER /SIEMENS /EATON
63GLX2	AUX. CONTACTOR 2NO+2NC	CONT. FOR 63GL2	1	220VDC		SCHNEIDER /SIEMENS /EATON
63GLX2(A)	ADD ON BLOCK (4NO)		1			SCHNEIDER /SIEMENS /EATON

NOTES:-

- AUXILIARY SWITCHES ARE SHOWN FOR OPEN BREAKER.
- AUXILIARY CONTACTS ARE SHOWN IN DE-ENERGISED POSITION.
- GAS PRESSURE SWITCH IS SHOWN FOR NO GAS PRESSURE.
- LOCAL REMOTE CHANGEOVER SWITCH IS SHOWN IN REMOTE POSITION.
- ARE OPEN CONTACTS

ARE CLOSE CONTACTS.

CHANGEOVER CONTACT.
- SIZE OF WIRE = 1.5 sq.mm. MULTI STRANDED COPPER(FLEXIBLE) CONDUCTOR PVC INSULATED.
- COLOUR OF WIRE FOR AC CIRCUIT-R,Y,B & BLACK, FOR DC CIRCUIT & SPARE CONTACTS-GRAY & FOR EARTHING-GREEN.
- STUD TYPE TERMINAL BLOCKS ARE PROVIDED.
- CONTINUOUS CURRENT CARRYING CAPACITY OF TRIP COIL IS 50mA TO CATER FOR TRIP COIL SUPERVISION.
- 52g CONTACTS ARE OPEN WHEN BREAKER IS OPEN.
- 52b CONTACTS ARE CLOSE WHEN BREAKER IS OPEN.
- \* TERMINAL ARE WIRED UP TO TERMINAL BLOCKS FOR REMOTE CONTROL PANEL OF CIRCUIT BREAKER.
- THE COMPONENTS IN THIS BILL OF MATERIAL ARE MANUFACTURED BY DIFFERENT OEM'S & MAY HAVE DIFFERENT RATINGS MENTIONED ON COMPONENTS. HOWEVER, CG STANDS FOR THE GUARANTEE FOR THE GUARANTEE FOR ITS PERFORMANCE & SUITABILITY AS PER THE REQUIREMENTS.

APTRANSCO

TITLE: BILL OF MATERIAL

THIRD ANGLE PROJECTION

NO	REVISION	NAME	DATE	DATE:15.05.23	ALL DIMENSIONS ARE IN mm
1					
2					
3					
4					
5					

FOR: 245KV, 50KA, SP-SPR  
GCB TYPE: 200-SFM-50AA

DRG.NO.:EH4-6843-03

CG Power and Industrial Solutions Limited  
SWITCHGEAR DIVISION 53, AMBAD, NASHIK.

CHIEF ENGINEER/PROJECTS  
APTRANSCO/VS/VIJAYAWADA

88M1(B)	AUX. CONTACTOR 3NO+1NC	CONT. FOR MOTOR	1	220VDC		SCHNEIDER/SIEMENS/EATON
88M1(R)	AUX. CONTACTOR 3NO+1NC	CONT. FOR MOTOR	1	220VDC		SCHNEIDER/SIEMENS/EATON
88M1(Y)	AUX. CONTACTOR 3NO+1NC	CONT. FOR MOTOR	1	220VDC		SCHNEIDER/SIEMENS/EATON
88M(B)	POWER CONTACTOR (3NO+1NC)	CONT. FOR MOTOR	1	220VDC		SCHNEIDER/SIEMENS/EATON
88M(R)	POWER CONTACTOR (3NO+1NC)	CONT. FOR MOTOR	1	220VDC		SCHNEIDER/SIEMENS/EATON
88M(Y)	POWER CONTACTOR (3NO+1NC)	CONT. FOR MOTOR	1	220VDC		SCHNEIDER/SIEMENS/EATON
88M1(B)-A	ADD ON BLOCK (2NO)		1			SCHNEIDER/SIEMENS/EATON
88M1(R)-A	ADD ON BLOCK (2NO)		1			SCHNEIDER/SIEMENS/EATON
88M1(Y)-A	ADD ON BLOCK (2NO)		1			SCHNEIDER/SIEMENS/EATON
DOS(B)	DOOR OPERATED SWITCH	SW FOR ILL LAMP	1	230 VAC	5A	BRISK/SURAJ
DOS(R)	DOOR OPERATED SWITCH	SW FOR ILL LAMP	1	230 VAC	5A	BRISK/SURAJ
DOS(Y)	DOOR OPERATED SWITCH	SW FOR ILL LAMP	1	230 VAC	5A	BRISK/SURAJ
(1B)52	BKR AUXILIARY SWITCH (20NO+20NC)	AUX SWITCH	1			SHIRKE/H.K INDUSTRIES
(1R)52	BKR AUXILIARY SWITCH (20NO+20NC)	AUX SWITCH	1			SHIRKE/H.K INDUSTRIES
(1Y)52	BKR AUXILIARY SWITCH (20NO+20NC)	AUX SWITCH	1			SHIRKE/H.K INDUSTRIES
AC1	MINIATURE CIRCUIT BREAKER(MCB), C CURVE	MOB FOR AC SUPPLY	1	4 POLE	16A	SCHNEIDER/SIEMENS/EATON
ACF	AUX. CONTACTOR 2NO+2NC	AC SUPERVISION CONT	1	240VAC		SCHNEIDER/SIEMENS/EATON
BL	LED BLUE	SPRING CHARGING IND	1	24V-250V AC/DC		TEKNIC/CRAFTECH/D SQUARE
CON(R),CON(Y),CON(B)	4 DIGIT DIGIALCOUNTER	COUNTER	3	90-270V DC/AC	4-9999	SELEC/OMRON
CTD1	CTD(220VDC)	CAP TRIP DEVICE-1	1			CGPISL/PARAM/SUN/BHARAT
CTD2	CTD(220VDC)	CAP TRIP DEVICE-2	1			CGPISL/PARAM/SUN/BHARAT
DCC1	AUX. CONTACTOR 2NO+2NC	CLOSING CKT SUPERV CONT	1	220VDC		SCHNEIDER/SIEMENS/EATON
DCC2	AUX. CONTACTOR 2NO+2NC	TRIP-1 CKT SUPERV CONT	1	220VDC		SCHNEIDER/SIEMENS/EATON
DCC2(A)	ADD ON BLOCK (2NC)		1			SCHNEIDER/SIEMENS/EATON
DCC3	AUX. CONTACTOR 2NO+2NC	TRIP-2 CKT SUPERV CONT	1	220VDC		SCHNEIDER/SIEMENS/EATON
DCC3(A)	ADD ON BLOCK (2NC)		1			SCHNEIDER/SIEMENS/EATON
DCC4	AUX. CONTACTOR 2NO+2NC	INDICATION CKT SUPERV CON	1	220VDC		SCHNEIDER/SIEMENS/EATON
DOS(MF)	DOOR OPERATED SWITCH	SW FOR ILL LAMP	1	230 VAC	5A	BRISK/SURAJ
DOS(MR)	DOOR OPERATED SWITCH	SW FOR ILL LAMP	1	230 VAC	5A	BRISK/SURAJ
GL	LED GREEN	BKR OFF IND	1	24V-250V AC/DC		TEKNIC/CRAFTECH/D SQUARE
IL(B)	ILLUMINATION LAMP (LED)	ILL. LAMP	1	230 VAC	6W	CRAFTECH/D SQUARE
IL(MF)	ILLUMINATION LAMP (LED)	ILL. LAMP	1	230 VAC	6W	CRAFTECH/D SQUARE
IL(MR)	ILLUMINATION LAMP (LED)	ILL. LAMP	1	230 VAC	6W	CRAFTECH/D SQUARE
IL(R)	ILLUMINATION LAMP (LED)	ILL. LAMP	1	230 VAC	6W	CRAFTECH/D SQUARE
IL(Y)	ILLUMINATION LAMP (LED)	ILL. LAMP	1	230 VAC	6W	CRAFTECH/D SQUARE
L1	FUSE LINK		1	16A		EATON/BUSSMAN/ISHWARI/CGPISL
L2	FUSE LINK		1	16A		EATON/BUSSMAN/ISHWARI/CGPISL
L3	FUSE LINK		1	16A		EATON/BUSSMAN/ISHWARI/CGPISL
L4	FUSE LINK		1	16A		EATON/BUSSMAN/ISHWARI/CGPISL
L5	FUSE LINK		1	16A		EATON/BUSSMAN/ISHWARI/CGPISL
L6	FUSE LINK		1	16A		EATON/BUSSMAN/ISHWARI/CGPISL
LS(B)	LIMIT SWITCH (1C/O)	LIMIT SWITCH	1			OMRON
LS(R)	LIMIT SWITCH (1C/O)	LIMIT SWITCH	1			OMRON
LS(Y)	LIMIT SWITCH (1C/O)	LIMIT SWITCH	1			OMRON
M(B)	UNIVERSAL MOTOR FR SPRING CHARGING	MOTOR-B	1	230 VDC/AC	1/P750W-0/P360W	KPT
M(R)	UNIVERSAL MOTOR FR SPRING CHARGING	MOTOR-R	1	230 VDC/AC	1/P750W-0/P360W	KPT
M(Y)	UNIVERSAL MOTOR FR SPRING CHARGING	MOTOR-Y	1	230 VDC/AC	1/P750W-0/P360W	KPT
RL	LED RED	BKR ON IND	1	24V-250V AC/DC		TEKNIC/CRAFTECH/D SQUARE

**CHIEF ENGINEER/PROJECTS**  
**APTTRANSCO/VS/VIJAYAWADA**

APTTRANSCO

TITLE: BILL OF MATERIAL

THIRD ANGLE PROJECTION

5

4

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NO

REVISION

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RO

APTTRANSCO

FOR: 245KV, 50KA, SP-SPR

GCB TYPE: 200-SFM-50AA

DRG.NO:EH4-6843-03

CG Power and Industrial Solutions Limited

SWITCHGEAR DIVISION 53,AMBAD, NASHIK.



IF IN DOUBT ASK!

DRG.NO.:EH4-6843-04

1 / 1 RO



MADE IN INDIA

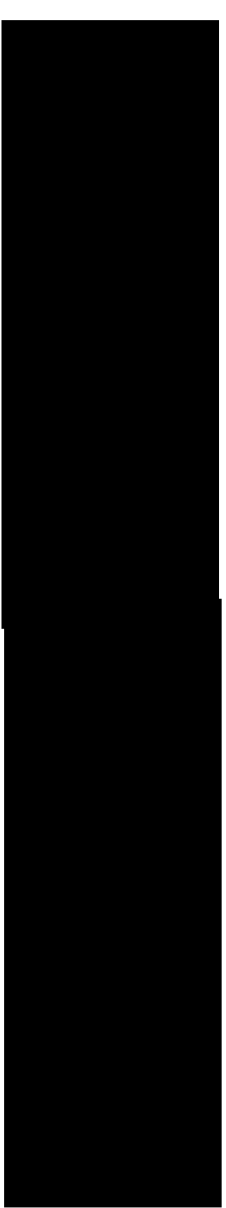
# GAS CIRCUIT BREAKER

TYPE: 200-SFM-50AA	STD. IEC62271-100
RATED VOLTAGE 245KV.	RATED LIGHTNING IMPULSE WITHSTAND VOLTAGE 1050KV/P
RATED FREQUENCY 50 HZ	
RATED NORMAL CURRENT 3150A	RATED SHORT CIRCUIT BREAKING CURRENT 50 KA
FIRST POLE TO CLEAR FACTOR 1.3	
RATED SF6 GAS PRESSURE 6.5 kg/cm <sup>2</sup> g(AT 20°C)	RAT. OPR. SEQ. 0-0.3SEC-CO-3MIN-CO
RATED DURATION OF SHORT CIRCUIT CURRENT 50 KA / 3 SEC.	RATED SHORT-CIRCUIT MAKING CURRENT 125KA
TOTAL WT. 3750 Kg. GAS WT 18 Kg	RATED LINE CHARGING BREAKING CURRENT 125A
SF6 GAS MAXIMUM WORKING PRESSURE 6.5 kg/cm <sup>2</sup> g(AT 20°C)	SF6 GAS ALARM PRESSURE 6.0 kg/cm <sup>2</sup> g(AT 20°C)
SF6 LOCKOUT PRESSURE 5.5 kg/cm <sup>2</sup> g(AT 20°C)	MINIMUM CREEPAGE DISTANCE:  mm. 6125 MM

SR. NO. : \*

NOTE :-

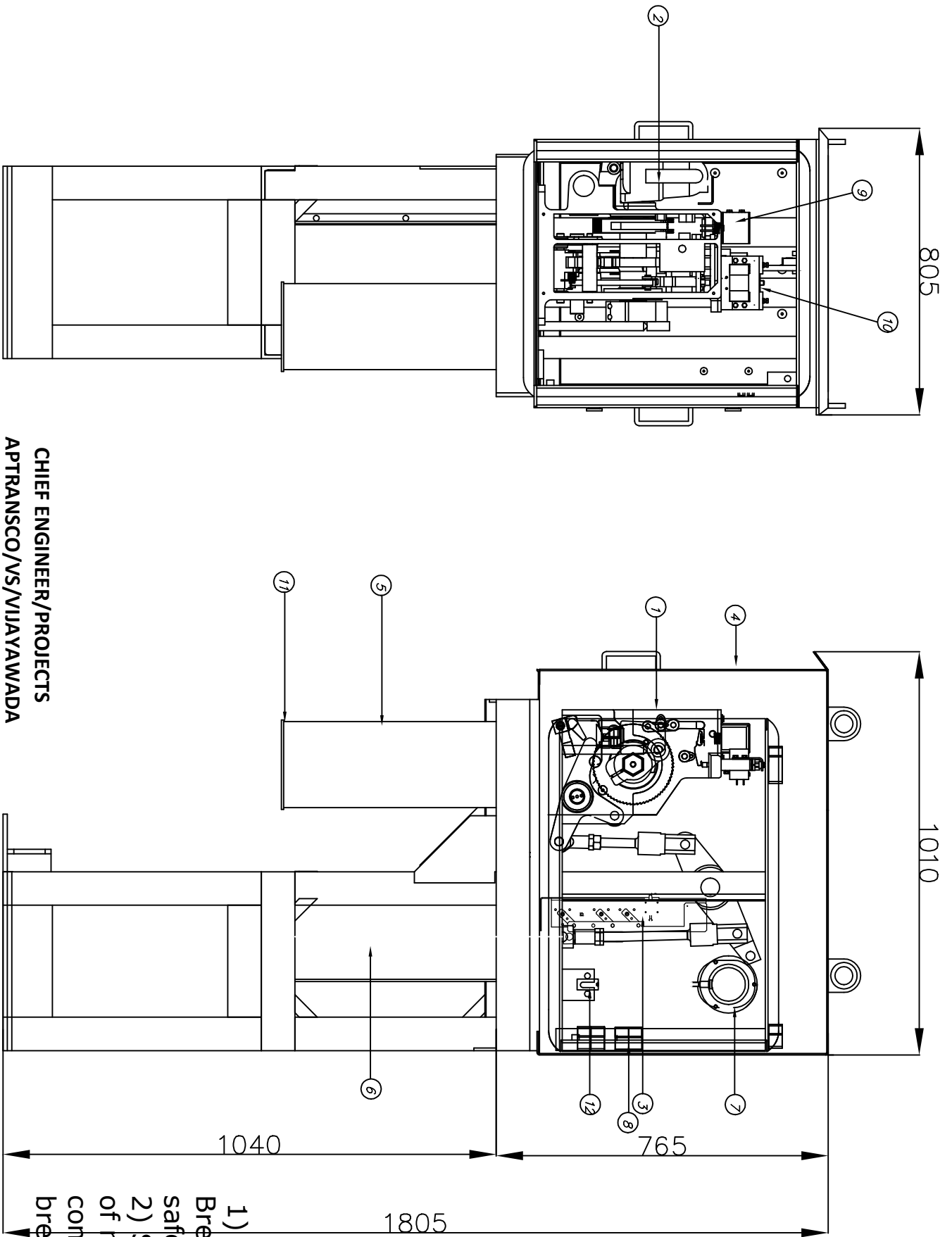
MATERIAL: S.S 2.0 THK  
 \*,\* SERIAL NO. -  
 APTRANSCO  
 \*\*, \* - PUT CURRENT YEAR



RATED COIL VOLTAGE- TRIPPING 220VDC	RATED COIL VOLTAGE- CLOSING 220VDC
MOTOR VOLTAGE 230V AC	AUX CIRCUIT VOLTAGE 1φ, 230V AC, 50HZ.
YEAR: **	W.O. NO.: HS6843
CUSTOMER:	APTTRANSCO
PO.NO:	
Contractor as applicable	

CHIEF ENGINEER/PROJECTS  
 APTTRANSCO/VS/VIJAYAWADA

5				NAME	CUSTOMER:	APTTRANSCO	TITLE: RATING PLATE DETAILS	THIRD ANGLE PROJECTION
4				DRN	ASD		FOR: 245KV, 50KA, SP-SPR	<b>CG Power and Industrial Solutions Limited</b> SWITCHGEAR DIVISION 53, AMBAD, NASHIK.
3				CHD	NSR		GCB TYPE: 200-SFM-50AA	
2				APPD	GNP			
1				SCALE: N.T.S.				
NO	REVISION	2	3	NAME	DATE	DATE: 15.05.23	ALL DIMENSIONS ARE IN mm	1 / 1 RO




QTY.	ITEM	DESCRIPTION
1	1	MECHANISM ASSEMBLY
1	2	MOTOR
1	3	AUX.SWITCHES ASSEMBLY
1	4	MECHANISM HOUSING ASSEMBLY
1	5	CLOSING SPRING ASSEMBLY
1	6	TRIPPING SPRING ASSEMBLY WITH SHOCK ABSORBER
1	7	GAS PRESSURE GAUGE* / GAS PRESSURE SWITCH & GAUGE**
1	8	TERMINAL BLOCKS
1	9	CLOSING COIL ASSEMBLY
1	10	TRIPPING COIL ASSEMBLY
1	11	COVER FOR CLOSING SPRING
1	12	GAS FILLING PORT

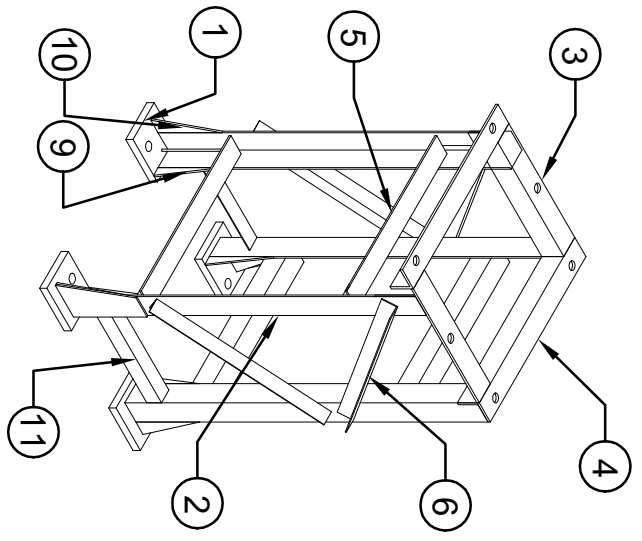
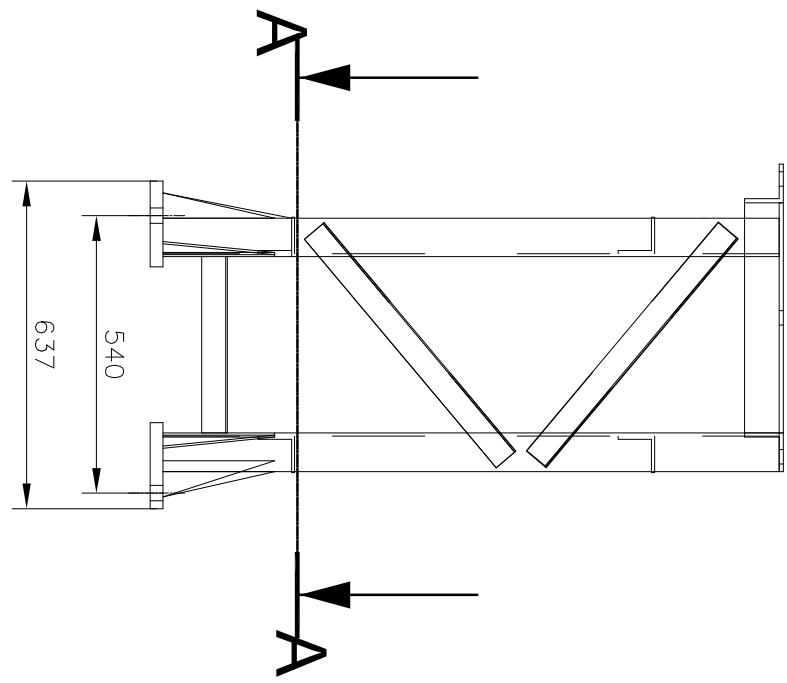
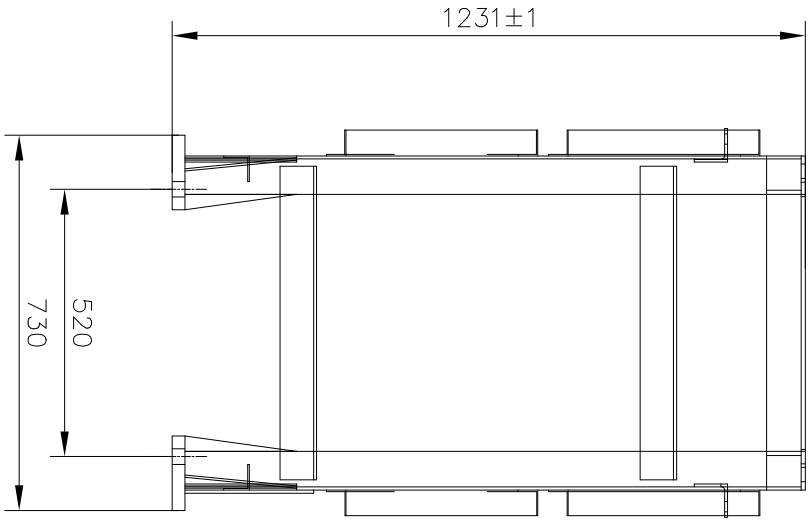
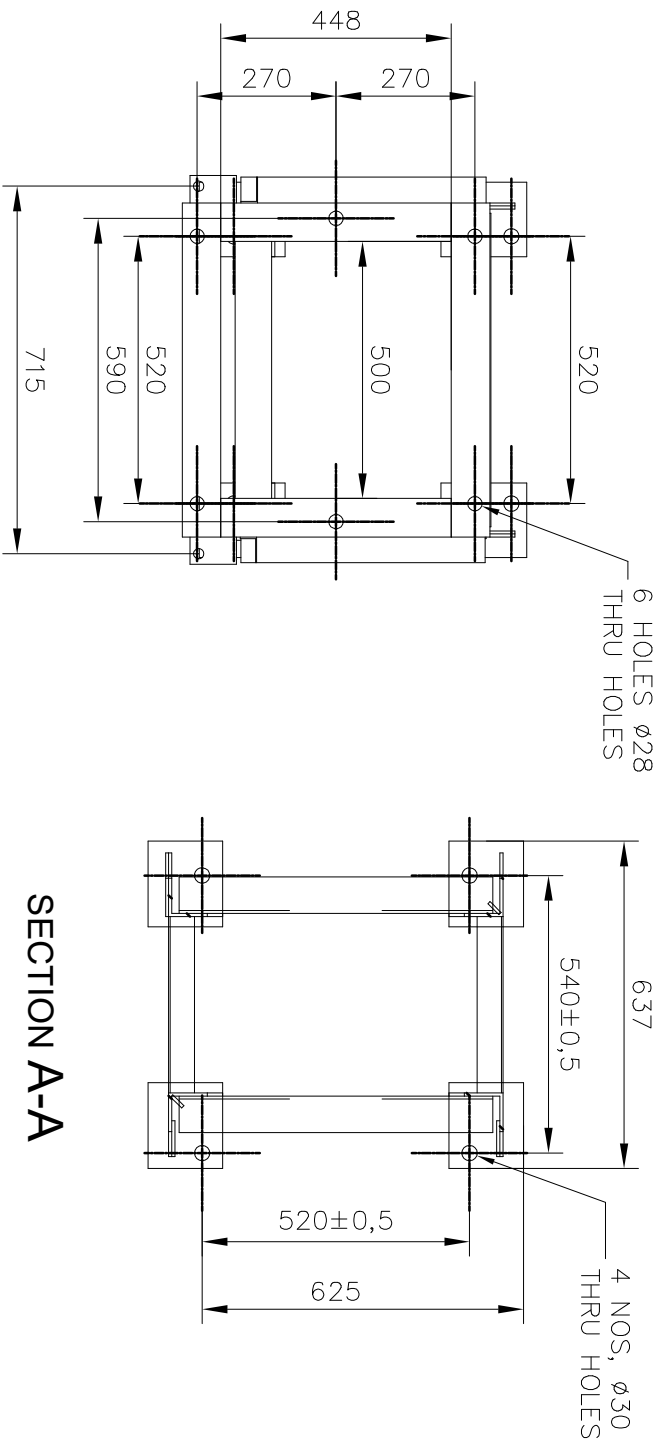
1) Minimum 300mm plinth shall be maintained for Circuit Breakers in the substation during foundation works to ensure safe live to ground clearances as per IE rules.  
 2) Since the supply of terminal connectors is not in the scope of manufacturer as mentioned in the drawings, the EPC contractors shall be instructed to supply the same in line with breaker requirement and compatibility.

CHIEF ENGINEER/PROJECTS  
 APTRANSCO/VS/VIJAYAWADA

- NOTE:-
- 1) FINISH: PAINTED/POWDER COATED WITH SHADE 631 OF IS 5 EXTERNAL & INTERNAL
  - 2) IN CASE OF GAS DENSITY SWITCH : \* FOR SAGINOMIYA MAKE GAUGE & SWITCH ARE SEPARATE/ \*\* FOR REGENCY ELETRIC MAKE GAUGE & SWITCH ARE COMBINE.
  - 3) MOUNTING OF COMPONENT SHOWN TENTATIVE, SUBJECT TO CHANGE DURING MANUFACTURING
  - 4) GENERAL TOLERANCE SPECIFIED  $\pm 2\%$  FOR ALL DIMENSIONS.
  - 5) HOUSING MATERIAL: HR(3MM)

NO	REVISION	NAME	DATE	DATE:	ALL DIMENSIONS ARE IN mm	TITLE: MECHANISM HSG. ASSY.	THIRD ANGLE PROJECTION
5		DRN	ASD	15.05.23	APTANSCO		
4		CHD	NSR			FOR: 245KV, 50KA, SP-SPR	 <b>CG Power and Industrial Solutions Limited</b> SWITCHGEAR DIVISION 53,AMBAD, NASHIK.
3		APPD	GNP			GCB TYPE: 200-SFM-50AA	
2							
1							





CHIEF ENGINEER/PROJECTS  
APTRANSCO/VS/VIAVAVAWADA

PC NO	DESCRIPTION	QTY
11	HORZ ANGLE 2-50X50X343L,3THK	2
10	GUSSET 2	2
9	GUSSET	6
8	GUSSET	4
7	GUSSET 3	1
6	CROSS ANGLE 50X50X580L,3THK	4
5	HORZ SUPPORT 65X65X610L,6THK	4
4	TOP SIDE ANGLE 75X75X448L,8THK	2
3	TOP FRONT ANGLE 75X75X650L,8THK	2
2	MAIN ANGLE 75X75X1198L,6THK	4
1	BASE PLATE	4

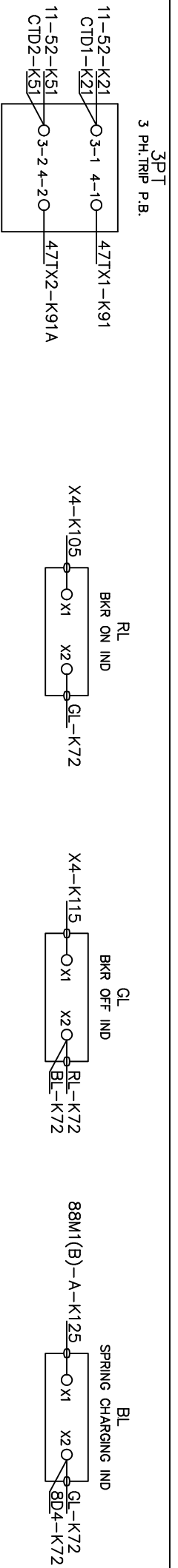
NOTES: FINISH: HDG MIN 90 MICRON  
TOLERANCE ON DIMENSION ±2%

UNSPECIFIED TOLERANCE			
MACHINE CUT	MEDIUM	COARSE	
NOMINAL SIZE	±0.1	±0.3	±0.5
1 TO 4	±0.1	±0.2	±0.5
OVER 4 TO 16	±0.2	±0.3	±0.7
OVER 16 TO 63	±0.3	±0.5	±1.2
OVER 63 TO 250	±0.5	±0.8	±2.0
OVER 250 TO 1000	±0.8	±1.2	±3.0
OVER 1000 TO 2000	±1.2	±1.8	±4.5
OVER 2000 TO 4000	±1.8	±2.5	±6.0

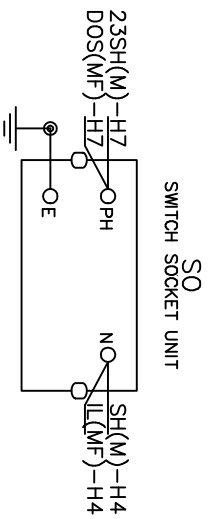
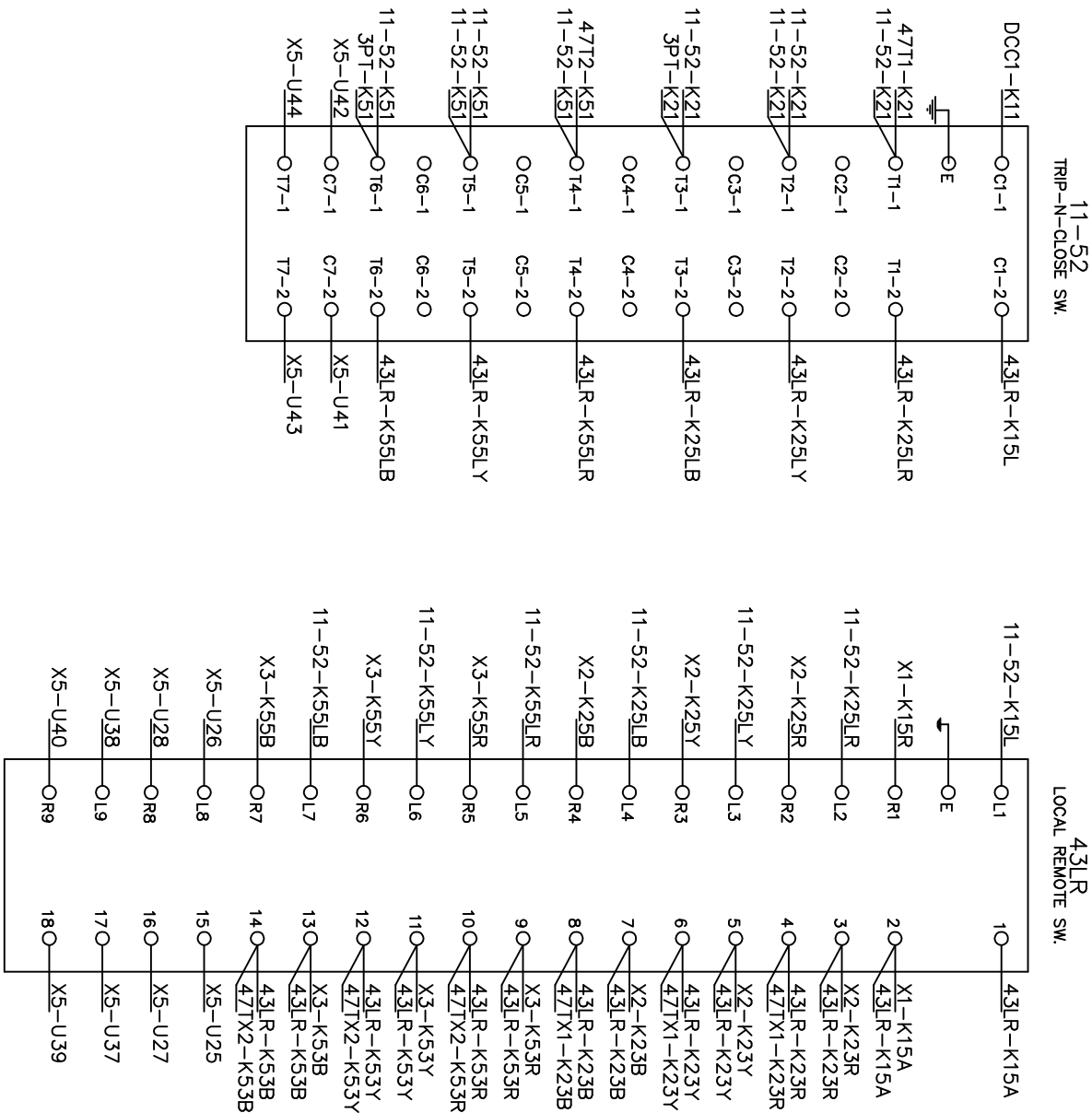
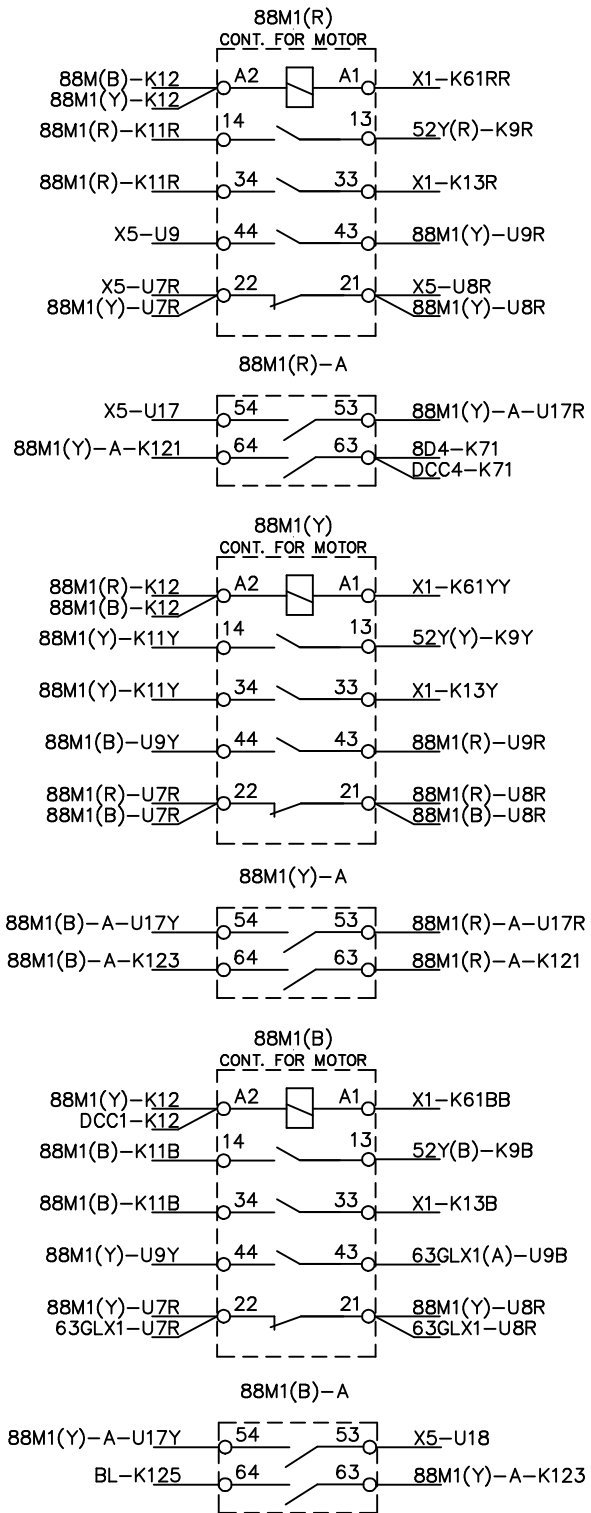
5	NO	REVISION	2	NAME	DATE	DATE:15.05.23	ALL DIMENSIONS ARE IN mm
4	A			DRN	ASD		
3				CHD	NSR		
2				APPD	GNP		
1				SCALE:	N.T.S.		
TITLE: SUPPORT STRUCTURE FOR: 245KV, 50KA, SP-SPR GCB TYPE: 200-SFM-50AA DRG.NO.:EH4-6843-07							
APTRANSCO PO.NO: ██████████							
THIRD ANGLE PROJECTION							



COMPONENTS ON HINGED MOUNTING PLATE LOWER SIDE



COMP. ON REAR SIDE OF CONTACTORS TOP PLATE ROW 2



TOTAL CONNECTIONS  
M. BOX+R+Y+B-1436

NAME CUSTOMER: APTRANSCO

TITLE: WIRING DIAGRAM FOR M BOX MTG PLATE

THIRD ANGLE PROJECTION

NO	REVISION	NAME	DATE
1			
2			

NO	REVISION	NAME	DATE
1			
2			

NO	REVISION	NAME	DATE
1			
2			

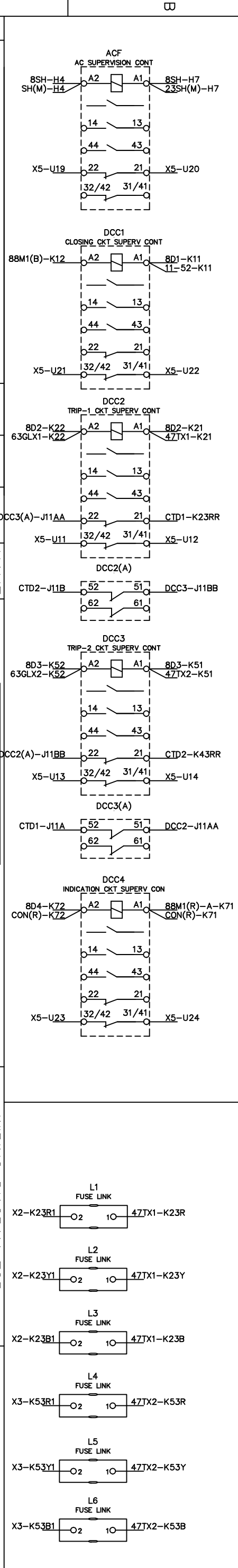
NO	REVISION	NAME	DATE
1			
2			

CHIEF ENGINEER /PROJECTS  
APTRANSCO/VS/VIJAYAWADA

Drawing approval subject to valid vendor registration

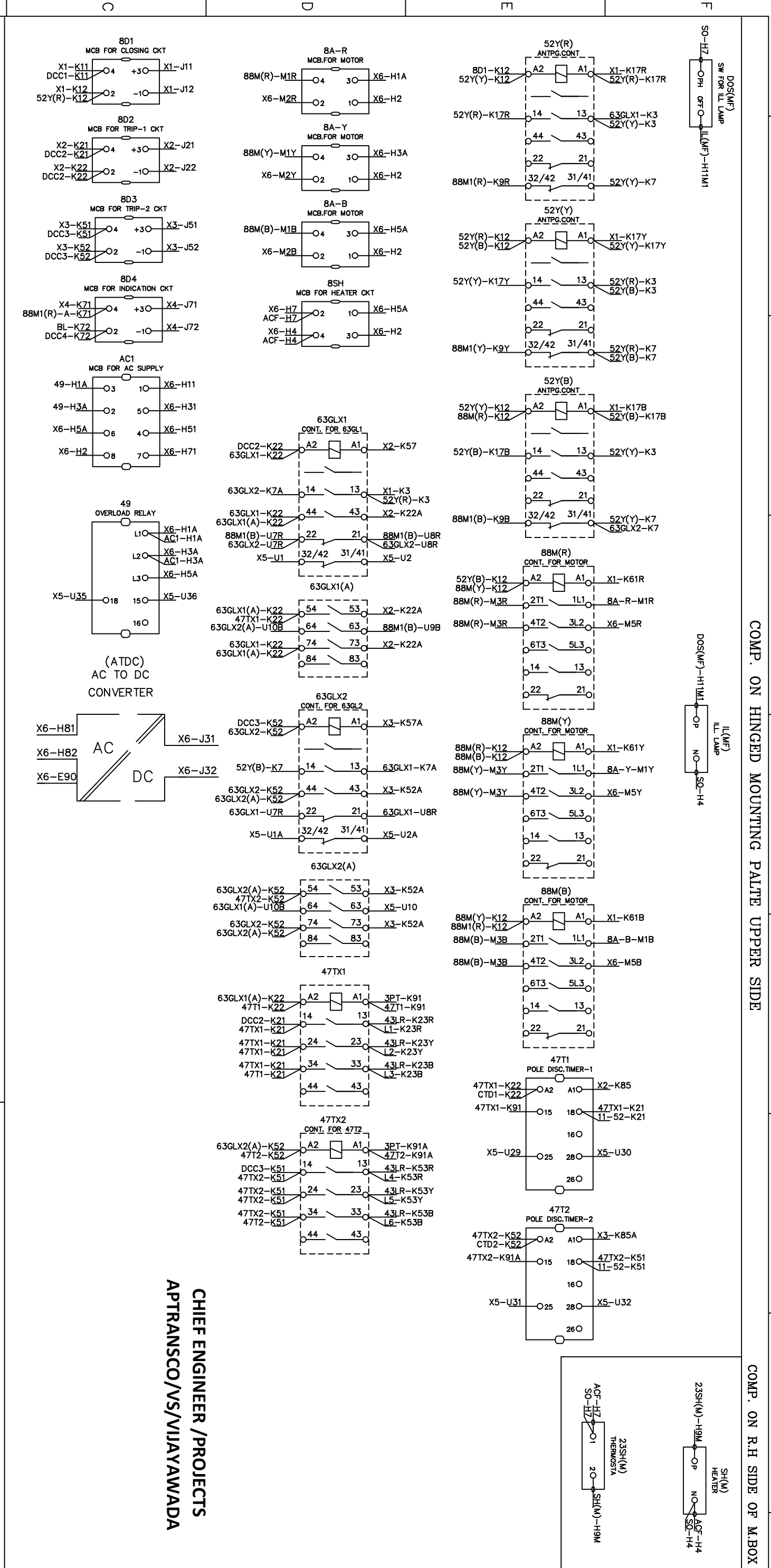


NO	1	2	3	4	5	6	7	8
REVISION								
NAME	DATE	NAME	DATE	NAME	DATE	NAME	DATE	NAME
	15.05.23							
DRN	ASD	CHD	NSR	APPD	GNP			
SCALE:	N.T.S.							
ALL DIMENSIONS ARE IN mm								
DRG.NO.:EH4-6843-08								

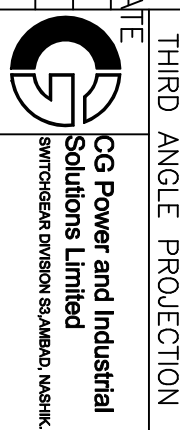


COMP. ON REAR SIDE OF CONTACTORS PLATE ROW 1

COMP. ON REAR SIDE OF CONTACTORS PLATE ROW 3



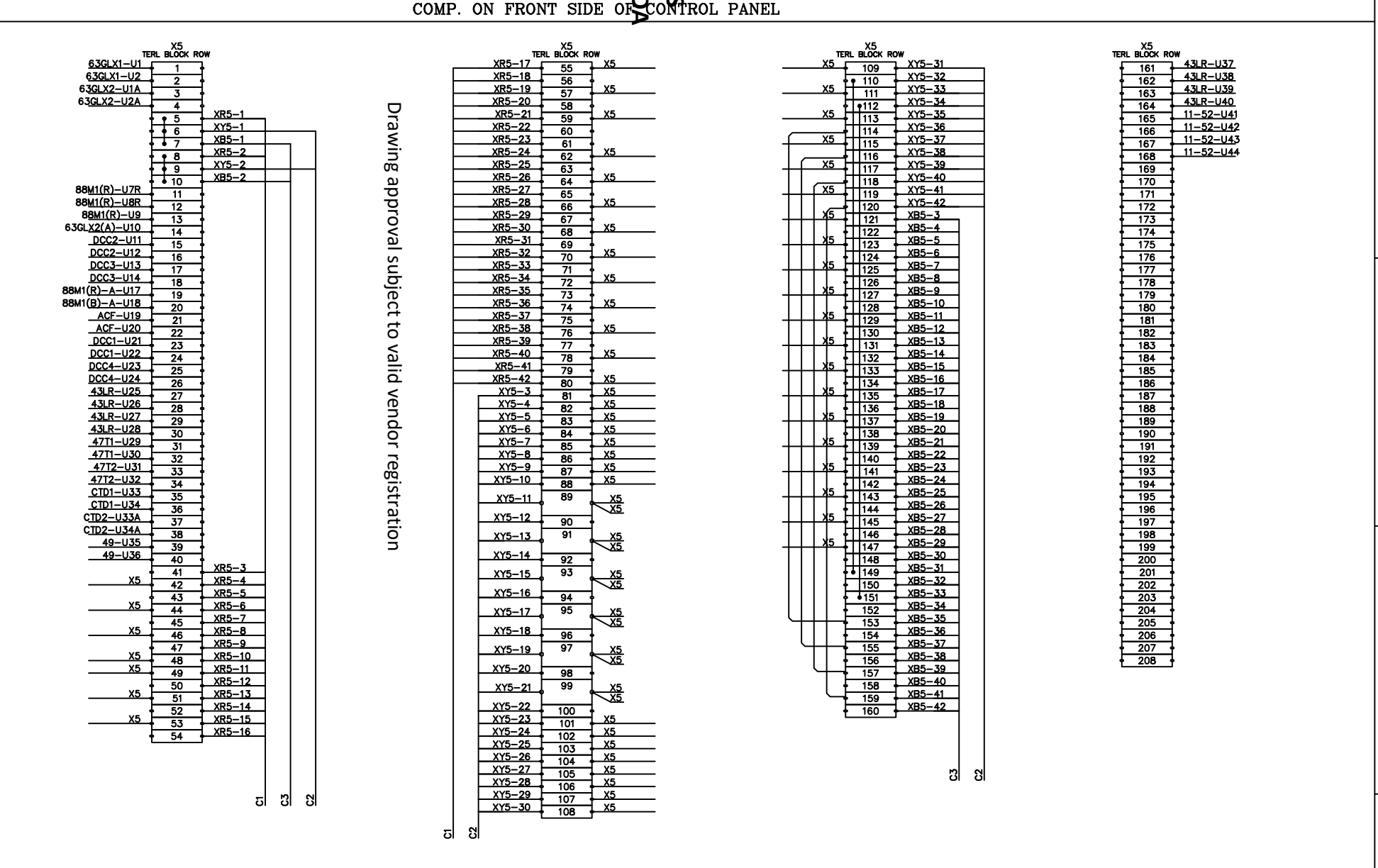
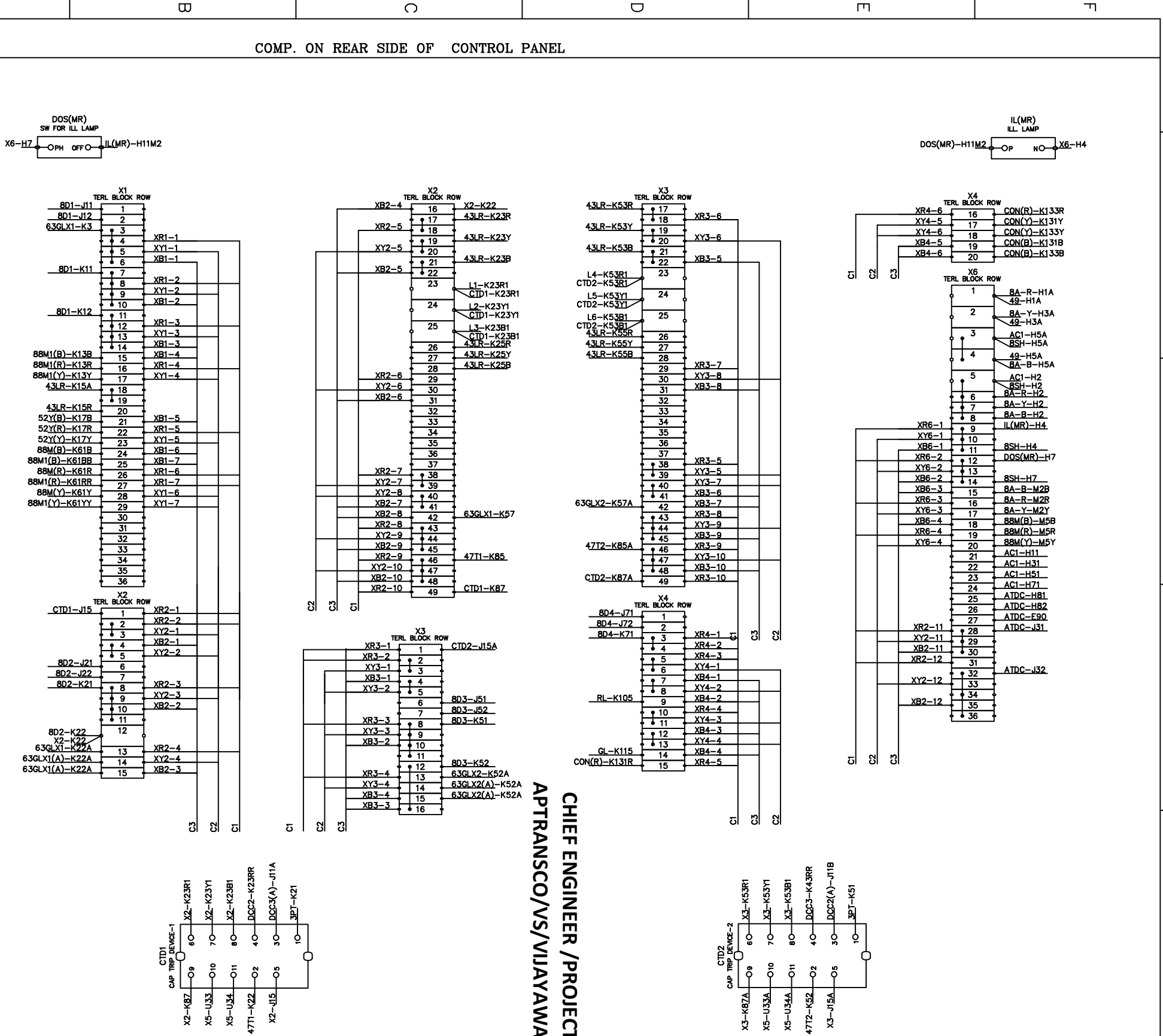
CHIEF ENGINEER /PROJECTS  
APTRANSCO/VS/VIJAYAWADA



COMP. ON HINGED MOUNTING PLATE UPPER SIDE

COMP. ON R.H SIDE OF M.BOX

NO	1	2	3	4	5
REVISION					
NAME	DATE	SCALE	APPD	CHD	DRN
DATE: 15.05.23		N.T.S.	GNP	NSR	ASD
ALL DIMENSIONS ARE IN mm					
APTRANSCO TITLE: WIRING DIAGRAM FOR M.BOX TERMINAL BLOCK					
FOR: 245KV, 50KA, SP-SPR					
GCB TYPE: 200-SFM-50AA					
DRG.NO.:EH4-6843-08					
THIRD ANGLE PROJECTION					
CG Power and Industrial Solutions Limited					
SWITCHGEAR DIVISION SJ,AMBAD, NASHIK					



Drawing approval subject to valid vendor registration

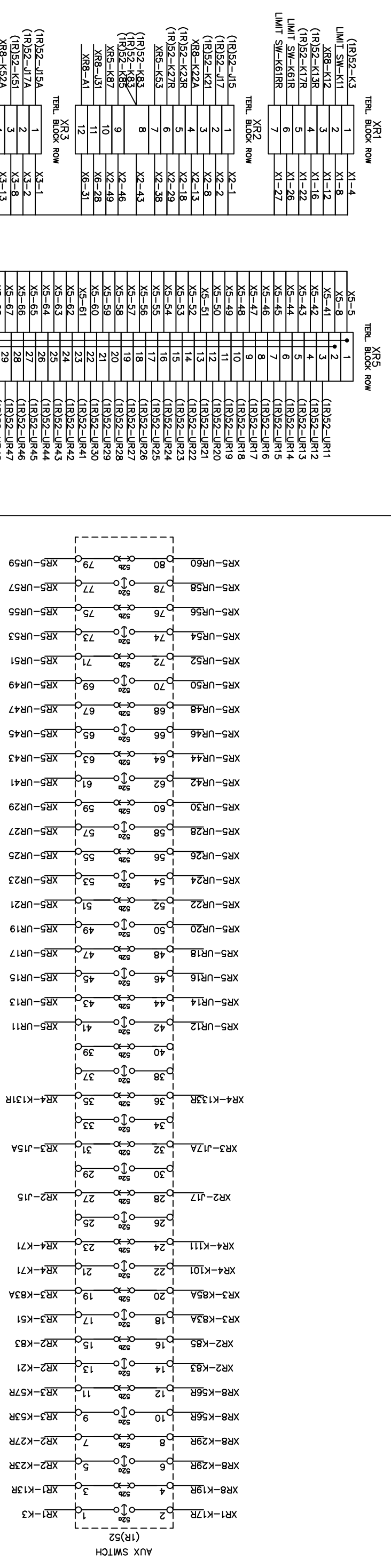
CHIEF ENGINEER / PROJECTS  
APTRANSCO/VS/VIJAYAWADA



CG Power and Industrial Solutions Limited  
SWITCHGEAR DIVISION SJ,AMBAD, NASHIK

COMPONENTS MECH. HOUSING REAR OF HSG

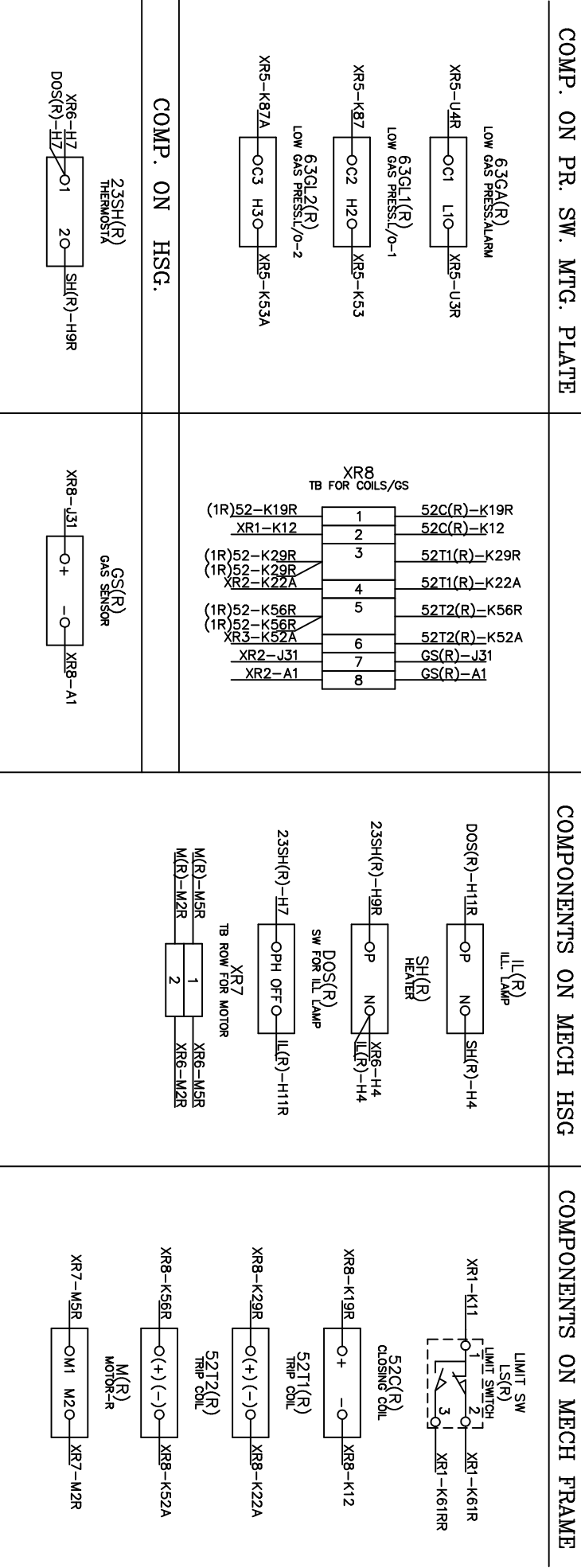
COMPONENTS ON AUX SW MTG PLATE



CHIEF ENGINEER/PROJECTS  
APTRANSCO/VS/VIJAYAWADA

TERL. BLOCK ROW	TERL. BLOCK ROW	TERL. BLOCK ROW
1 (1R)52-K3	X1-4	X5-5
2 (1R)52-K11	X1-8	X5-8
3 (1R)52-K12	X1-12	X5-12
4 (1R)52-K13R	X1-16	X5-16
5 (1R)52-K17R	X1-22	X5-22
LIMIT SW-K61R	X1-26	X5-26
LIMIT SW-K61RR	X1-27	X5-27
7	X1-27	X5-27
8 (1R)52-J15	X2-1	X5-49
9 (1R)52-J17	X2-2	X5-48
10 (1R)52-K21	X2-8	X5-50
11 (1R)52-K22A	X2-10	X5-51
12 (1R)52-K22R	X2-13	X5-52
1 (1R)52-K23R	X2-18	X5-52
2 (1R)52-K27R	X2-29	X5-54
3 (1R)52-K53	X2-38	X5-55
4 (1R)52-K83	X2-43	X5-56
5 (1R)52-K85	X2-46	X5-57
6 (1R)52-K86	X2-49	X5-58
7 (1R)52-K87	X2-49	X5-59
8 (1R)52-K87A	X2-49	X5-59
9 (1R)52-K87A	X2-49	X5-59
10 (1R)52-K87A	X2-49	X5-59
11 (1R)52-K87A	X2-49	X5-59
12 (1R)52-K87A	X2-49	X5-59
1 (1R)52-J15A	X3-1	X5-63
2 (1R)52-J17A	X3-2	X5-64
3 (1R)52-K51	X3-8	X5-65
4 (1R)52-K52A	X3-13	X5-66
5 (1R)52-K53A	X3-18	X5-67
6 (1R)52-K53R	X3-38	X5-68
7 (1R)52-K57R	X3-43	X5-69
8 (1R)52-K83A	X3-46	X5-70
9 (1R)52-K85A	X3-46	X5-71
10 (1R)52-K87A	X3-46	X5-72
11 (1R)52-K87A	X3-46	X5-73
12 (1R)52-K87A	X3-46	X5-74
1 (1R)52-K71	X4-3	X5-76
2 (1R)52-K101	X4-4	X5-77
3 (1R)52-K111	X4-5	X5-78
4 (1R)52-K131R	X4-10	X5-79
5 (1R)52-K131R	X4-15	X5-80
6 (1R)52-K133R	X4-16	X5-80
1 (1R)52-K71	X4-3	X5-76
2 (1R)52-K101	X4-4	X5-77
3 (1R)52-K111	X4-5	X5-78
4 (1R)52-K131R	X4-10	X5-79
5 (1R)52-K131R	X4-15	X5-80
6 (1R)52-K133R	X4-16	X5-80

TERL. BLOCK ROW	TERL. BLOCK ROW	TERL. BLOCK ROW
1 SH(R)-H4	X6-9	XR6
2 23SH(R)-H7	X6-12	XR6
3 XR7-M2R	X6-16	XR6
4 XR7-M5R	X6-19	XR6
1 (1R)52-K71	X4-3	X5-76
2 (1R)52-K101	X4-4	X5-77
3 (1R)52-K111	X4-5	X5-78
4 (1R)52-K131R	X4-10	X5-79
5 (1R)52-K131R	X4-15	X5-80
6 (1R)52-K133R	X4-16	X5-80



NO	REVISION	NAME	DATE	DATE: 15.05.23	ALL DIMENSIONS ARE IN mm	DRG.NO.:EH4-6843-08
1						
2						
3						
4						
5						

TITLE: WIRING DIAGRAM FOR MECH HSG PHASE-R

FOR: 245KV, 50KA, SP-SPR

GCB TYPE: 200-SFM-50AA

CG Power and Industrial Solutions Limited

SWITCHGEAR DIVISION SJ,AMBAD, NASHIK.

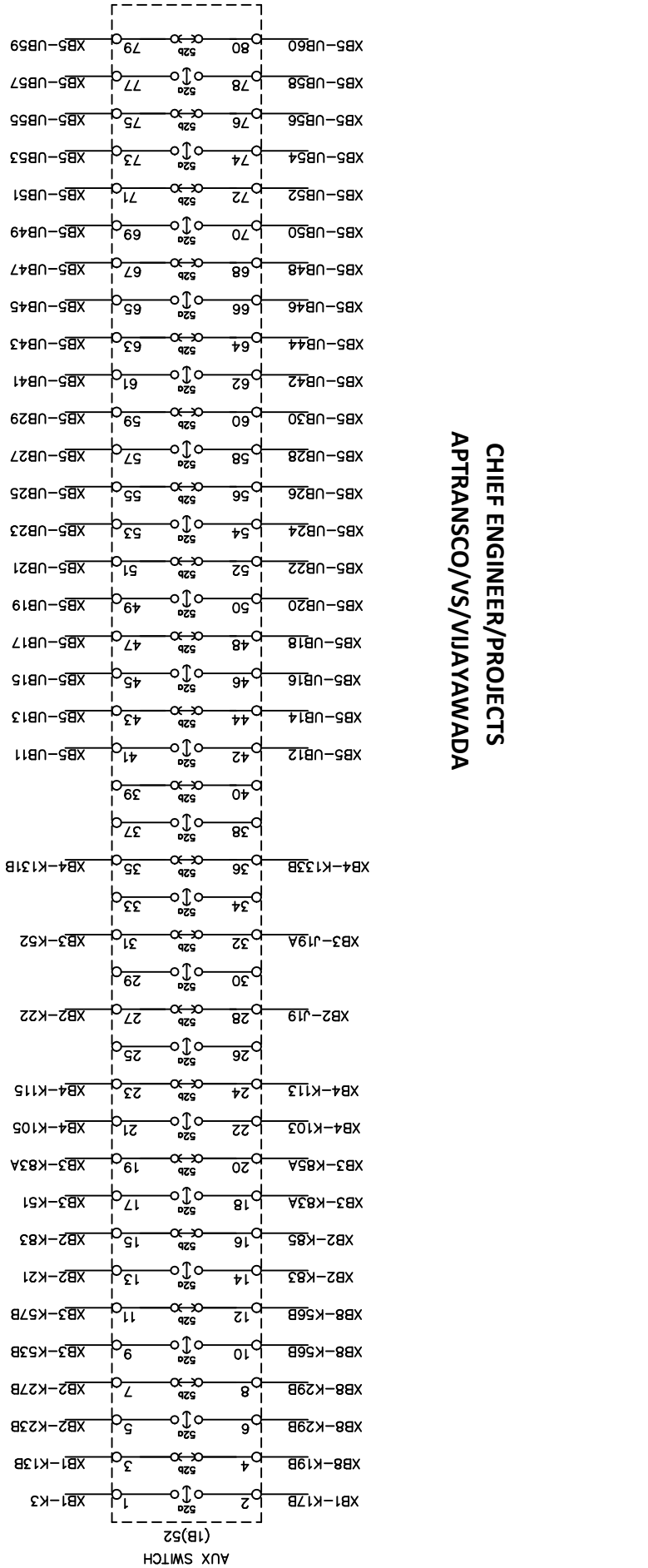


COMPONENTS MECH. HOUSING REAR OF HSG

COMPONENTS ON AUX SW MTG PLATE

TERL. BLOCK ROW	XB1	XB5
1	(1B)52-K3	X5-7
2	LIMIT SW-K11	X5-10
3	XB8-K12	X5-121
4	(1B)52-K13B	X5-122
5	(1B)52-K17B	X5-123
6	LIMIT SW-K61B	X5-124
7	LIMIT SW-K61BB	X5-125
8		X5-126
9		X5-127
10		X5-128
11		X5-129
12		X5-130
13		X5-131
14		X5-132
15		X5-133
16		X5-134
17		X5-135
18		X5-136
19		X5-137
20		X5-138
21		X5-139
22		X5-140
23		X5-141
24		X5-142
25		X5-143
26		X5-144
27		X5-145
28		X5-146
29		X5-147
30		X5-148
31		X5-149
32		X5-150
33		X5-151
34		X5-152
35		X5-153
36		X5-154
37		X5-155
38		X5-156
39		X5-157
40		X5-158
41		X5-159
42		X5-160
43		
44		
45		
46		
47		
48		

TERL. BLOCK ROW	XB2	XB5
1	(1B)52-J19	X2-4
2	(1B)52-K21	X2-10
3	XB8-K22A	X2-15
4	(1B)52-K22	X2-16
5	(1B)52-K23B	X2-22
6	(1B)52-K27B	X2-31
7	XB5-K55	X2-41
8	XB5-K57	X2-42
9	(1B)52-K83	X2-45
10	(1B)52-K83A	X2-48
11	(1B)52-K83B	X6-30
12	XB8-J31	X6-35
13	XB8-A5	



TERL. BLOCK ROW	XB3	XB5
1	(1B)52-J19A	X3-4
2	(1B)52-K51	X3-10
3	(1B)52-K52	X3-16
4	XB8-K52A	X3-15
5	(1B)52-K53B	X3-22
6	XB5-K55A	X3-41
7	XB5-K57A	X3-42
8	(1B)52-K57B	X3-31
9	(1B)52-K83A	X3-45
10	(1B)52-K83A	X3-48

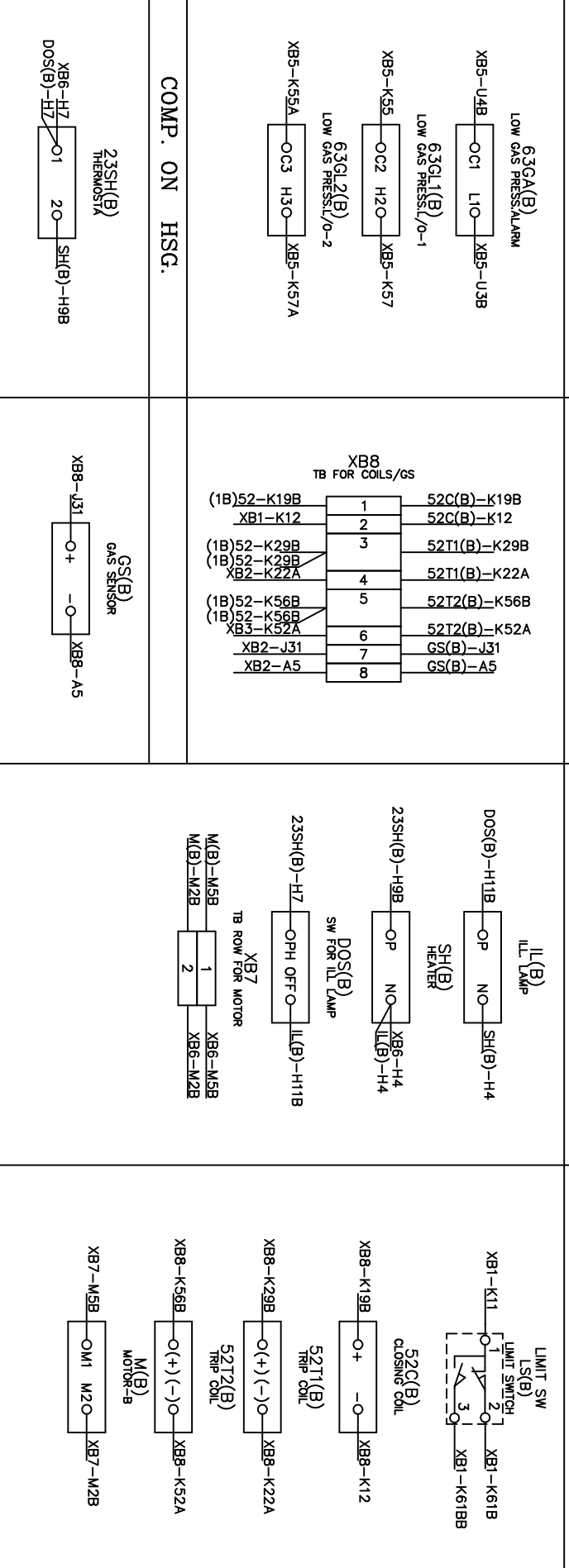
TERL. BLOCK ROW	XB4	XB5
1	(1B)52-K103	X4-7
2	(1B)52-K105	X4-9
3	(1B)52-K113	X4-12
4	(1B)52-K115	X4-14
5	(1B)52-K131B	X4-19
6	(1B)52-K133B	X4-20

TERL. BLOCK ROW	XB6	XB5
1	SH(B)-H4	X6-11
2	23SH(B)-H7	X6-14
3	XB7-M2B	X6-15
4	XB7-M5B	X6-18

COMP. ON PR. SW. MTG. PLATE

COMPONENTS ON MECH HSG

COMPONENTS ON MECH FRAME



Drawing approval subject to valid vendor registration

NO	REVISION	NAME	DATE
1			
2			

NO	REVISION	NAME	DATE
1			
2			

NO	REVISION	NAME	DATE
1			
2			

NO	REVISION	NAME	DATE
1			
2			



TITLE: WIRING DIAGRAM FOR MECH HSG PHASE-B  
FOR: 245KV, 50KA, SP-SPR  
GCB TYPE: 200-SFM-50AA

NAME: APTRANSCO  
CUSTOMER: [REDACTED]  
PO.NO: [REDACTED]  
SCALE: N.T.S.  
DATE: 15.05.23

DRG.NO.:EH4-6843-08

Title : Guaranteed Technical Particulars			
	<b>Equipment : SF6 Gas Circuit Breaker</b>		Spring-Spring Type: 200-SFM-50AA
	<b>GENERAL</b>	<b>Unit</b>	
a)	Name of the Manufacturer		CG Power and Industrial Solutions Limited
b)	Country of Manufacture		India
c)	Type of Circuit Breaker		SF6 Gas Insulated
d)	Manufacturer's type designation		200-SFM-50AA
e)	Standard applicable		IEC 62271-100
f)	Rated Voltage	kV (rms)	245
g)	Rated short circuit Current	Ka	50
i.	under normal condition at 40 degree C ambient	A	3150A
ii.	under site condition at 50 degree C ambient	A	3150A
h)	Rated Frequency	Hz	50
i)	Number of poles	No.	3
j)	Whether gang operated?		
i.	Electrically		Yes
ii.	Mechanically		No
k)	Whether dead tank or live tank?		Live tank
l)	Type of installation		Outddor
m)	Number of breaks per pole	No	1
n)	Latching current	kAp	125
	<b>GUARANTEED RATINGS</b>		
a)	Rated short circuit breaking currents		
i.	Symmetrical component at rated voltage	kA	50
ii.	DC component	%	48.03%
iii.	Asymmetrical breaking current at rated voltage	kA	60.4
iv.	Rated symmetrical breaking capacity	MVA	21217
v.	Rated asymmetrical breaking capacity	MVA	25649
b)	Rated short circuit making current OR Short circuit peak withstand current		
i.	at higher rated voltage	kA (peak)	125
ii.	at lower rated voltage	kA (peak)	125
c)	Break time		
i.	Rated Break time	ms	</= 60
ii.	Maximum total break time under any duty condition for any current up to rated breaking current with limiting conditions of voltage and pressure	ms	</= 65
d)	Rated Closing time	ms	</= 100
e)	Rated Opening time	ms	</= 35
f)	Rated maximum Opening time under any condition with limiting voltage and pressure	ms	</= 35
g)	Rated Arcing time	ms	</= 20
h)	First pole to clear factor		1.3
i)	Rated Close open time	ms	</= 70 ms
j)	Rated Short-time withstand current		
i.	1 second	kA	50
ii.	3 second	kA	50
k)	Rated operating duty		O-0.3s-CO-3min-CO

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l)	Maximum breaking capacity under kilometric faults and rated TRV characteristics		L90 & L75 As per IEC-62271-100			
m)	Rated out-of-phase breaking current OR Rated breaking capacity under asynchronous condition	kA	12.5			
n)	Rated line charging breaking current	A	125			
.	Rated cable charging breaking current	A	250			
p)	Rated single capacitor bank breaking current	A	400			
q)	Corresponding over voltage during breaking capacitive current	p.u.	< 2.3			
r)	Rated shunt reactor breaking current	A	315			
s)	Maximum arc duration and corresponding breaking current under lockout pressure	ms, kA	20, 50			
t)	Rated Small fault current breaking capacity	kA	5			
u)	Maximum temperature rise for main contacts over an ambient temperature of 50 degree C	°C	As Per IEC- 62271-100			
v)	Rated supply voltage and pick up range for					
i.	Trip coil	V DC	220VDC, (70 to 110%)			
ii.	Close coil	V DC	220VDC, (85 to 110%)			
w)	Normal power consumption at rated supply voltage of					
i.	Trip Coil	W	3 x 2 x 400W at 220 VDC			
ii.	Close Coil	W	400W at 220 VDC			
x)	Rated pressure and limits of operation for extinguishing medium at 20 deg.C	(kg/cm <sup>2</sup> )	6.5; 5.5 to 6.5			
y)	Minimum dead time for					
i.	Three phase reclosing	ms	NA			
ii.	Single phase reclosing	ms	300			
z)	Data on Restriking voltage					
i.	Rated Breaking currents	%	100%	60%	30%	10%
ii.	TRV Peak	kV (peak)	420	450	462	459
iii.	Amplitude factor		1.4	1.5	1.54	1.53
iv.	First pole to clear factor		1.3	1.3	1.3	1.3
v.	Rate of rise of restriking voltage	kV/μS	2	3	5	7
aa)	No. of breaker operations before maintenance					
i.	at rated interrupting capacity		10			
ii.	at 50% of rated interrupting capacity		20			
iii.	at rated normal current		1000			
iv.	at 50% of rated normal current		3000			
bb)	Maximum pole discrepancy during					
i.	Opening	ms	</=3.3			
ii.	Closing	ms	</=5			
cc)	Minimum time interval between each make / break operations	ms	Suitable for Operating seq.O-0.3sec-CO-3min-CO			
	<b>DIELECTRIC WITHSTANDS OF COMPLETE BREAKER</b>					
a)	One minute dry and wet power withstand voltage					
i.	Between live terminal	kV (rms)	460			
ii.	Between terminal with breaker contacts open & ground	kV (rms)	460			
b)	1.2/50 micro second lightning impulse withstand voltage					
i.	Between live terminal	kV (peak)	1050			
ii.	Between terminal with breaker contacts open & ground	kV (peak)	1050			
c)	Creeepage distance					
i.	To earth	mm	6125			
ii.	Across interruptor	mm	6125			
d)	Maximum radio interference voltage (micro V) at 1.1 Ur /root 3	μV	</=1000 @ 156 kV			
e)	Visible Corona discharge voltage	kV (rms)	No corona observed at 245KV			

	<b>OPERATING MECHANISM</b>		
4.1	<b>SPRING CHARGING MECHANISM</b>		
a)	Type of operating mechanism		Motorised Spring charged mechanism
i.	Closing		Spring
ii.	Opening		Spring
b)	Type Designation		LEM
c)	No. of operations possible with stored energy		O-C-O
4.2	<b>DETAILS OF SPRING CHARGING MOTOR</b>		
a)	Type of Motor		Universal
b)	Type of Mounting		Neck Mounted
c)	Direction of rotation as viewed from non-driving end		Counter Clockwise
d)	Rated supply voltage and operating range	V AC	1 Ph, 240, 85-110%
e)	Input Motor Wattage (Max.)	W	750
f)	Rated speed at rated voltage and frequency on no load	rpm	775
g)	Full load current at rated voltage and frequency	A	3.4 at 240V, 50Hz AC
h)	Efficiency of motor at rated voltage and frequency (Max.)	%	50
i)	Starting current		< 600% at full load current
j)	Stator winding insulation class		B
k)	Weight	kg	3 approx.
l)	Maximum time for charging the spring	sec.	15
m)	Whether indication of spring charged condition provided in control cabinet		Yes
n)	Make of Motor		KPT / MEIWA
	<b>DATA ON SF6 GAS</b>		
a)	Quantity of SF6 per pole	kg	6
b)	Guaranteed maximum leakage rate	%/annum	Less than 1% per annum
c)	Rated pressure of SF6 gas in operating chamber at 20 °C - gauge	kg/cm <sup>2</sup>	6.5
d)	Operating pressure range	kg/cm <sup>2</sup>	5.5 - 6.5
f)	Capacity of SF6 gas cylinder	kg	25/37
g)	Spare gas provided		20%
h)	Whether breakers are dispatched filled with gas		Partially filled to 0.5 to 1 kg/cm <sup>2</sup> dispatched filled with gas for transportation & storage to be topped at site
i)	Parameters of SF6 gas		As per IEC-60376
j)	Gas pressure settings at 20 °C)		
i.	Low pressure alarm at	kg/cm <sup>2</sup>	6.0 +/- 0.3
ii.	Lockout pressure for		
	a) Opening	kg/cm <sup>2</sup>	5.5 +/- 0.3
	b) Closing	kg/cm <sup>2</sup>	5.5 +/- 0.3
	<b>GENERAL DIMENSIONS</b>		
a)	Over all Dimensions		
i.	Length	mm	As per GA Drawing
ii.	Width	mm	As per GA Drawing
iii.	Height	mm	As per GA Drawing
b)	Weight of complete breaker for foundation design	kg	As per GA Drawing
c)	Weight of each pole	kg	As per GA Drawing
d)	Weight of Mechanism + Housing	kg	As per GA Drawing
e)	Weight of the heaviest part of the breaker	kg	As per GA Drawing
f)	Impact loading for foundation design		

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i.	Downwords	kg	3000
ii.	Upwords	kg	2500
g)			
i.	Cantilver strength - Horizontal	kg	125
ii.	Cantilver strength - Vertical	kg	125
h)	Seismic level	g	0.5
i)	Minimum clearance in air		
i.	Between live parts	mm	3960
ii.	Between phases (Centre to Centre)	mm	4500
iii.	Live parts to earth	mm	2100
iv.	Live parts to ground level including plinth of 300 mm	mm	As per GA Drawing
j)	Noise level distance of		
i.	0M from the breaker	db	< 140
ii.	50M from the breaker	db	< 140
iii.	100M from the breaker	db	< 140
iv.	150M from the breaker	db	< 140
	<b>CONSTRUCTIONAL DETAILS</b>		
a)	Weight of absorbant per pole	gm	600
b)	Whether arcing contacts are provided		Yes
c)	Type and material of arcing contacts		Tulip, Copper-Tungsten
d)	Type and Material of main contacts		Multifinger crown, Copper-Ag alloy
e)	Whether main contacts are silver plated / Silver plating thickness		Yes / 15 microns
f)	Contact pressure on main contacts	kg/mm <sup>2</sup>	0.3
g)	Length of contact separation	mm	104
h)	Length of contact travel	mm	140 <sup>(+2,-3)</sup>
i)	Whether the making & breaking contacts are hermetically sealed		Yes
j)	No. of spare auxiliary contacts provided for Owner's use		
i.	Normally Open when breaker is open		10
ii.	Normally Closed when breaker is open		10
k)	Rated voltage of auxiliary contacts	V DC	220
l)	Type of auxiliary contacts		Rotary
m)	Continuous Current Carrying Capacity	A	20 for contact in series with coil and 10A for all other and spare contacts
n)	DC breaking current with 20 ms time constant	A	7.5 A at 264 VDC for contact in series with coil and 2A for all other and spare contacts
o)	Whether auxiliary contacts are silver plated		Yes
p)	Finish of exposed ferrous parts		Hardware are HDG/SS/DACRO
q)	Finish paint		As per customer requirement
i.	Offered to Domestic Customer's		Shade 631 of IS 5
r)	Finish for Support Structure OR Columns		Hot Dip Galvanised
s)	Make of support porcelains		ARGILON-GERMANY/LIAONING SHUANGLING/FUSHUN HIGH TECH ELECTRIC/ LILING HUAXIN/LILING PUKOU INSULATORS/PRATHAMESH CERAMICS/IEC/ MODERN/ABIL
	Insulation class for Porcelain		B

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Drawing approval subject to valid vendor registration