

132KV LINE-1 PROTECTION PANEL (BAY-B102)

LIST OF DOCUMENTS

DRAWING	DESCRIPTION.	REVISION	DATE	ISSUE
IN-7228081-GL-01	GENERAL ARRANGEMENT & LEGEND	Z	26-11-2018	AS MANUFACTURED
IN-7228081-S-01	SCHEMATIC DRAWINGS	Z	26-11-2018	AS MANUFACTURED

THIS TYPICAL DRAWING IS APPLICABLE FOR THE FOLLOWING CIRCUITS:				
S.NO	CIRCUITS	GA REF	SCHEMATIC REF	PANEL REF
1	132KV LINE-1 PROTECTION PANEL	IN-7228081-GL-01	IN-7228081--S-01	+102LA +102LB
2	132KV LINE-2 PROTECTION PANEL	IN-7228081--GL-02	IN-7228081--S-02	+104LA +104LB

LIST REFERENCE DOCUMENTS:

SI.NO	CIRCUIT	REFERENCE
1	132KV HPPTCL SLD	SIPSH/94-4087-2015/CHAMBI/PSLD/023, REV-00
2	132KV CONTROL ROOM LAYOUT	-
3	132KV SWITCHBOARD GIS DRAWING	-

PANEL TYPES : +102LA, +102LB



CUSTOMER: HPPTCL



CONTRACTOR: SHYAM INDUS POWER SOLUTIONS

PROJECT: CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI

PO. No & Date: PO00365/15-16, DATED: 10.10.2015

Schneider Schneider Electric Infrastructure Ltd
Electric CHENNAI, INDIA

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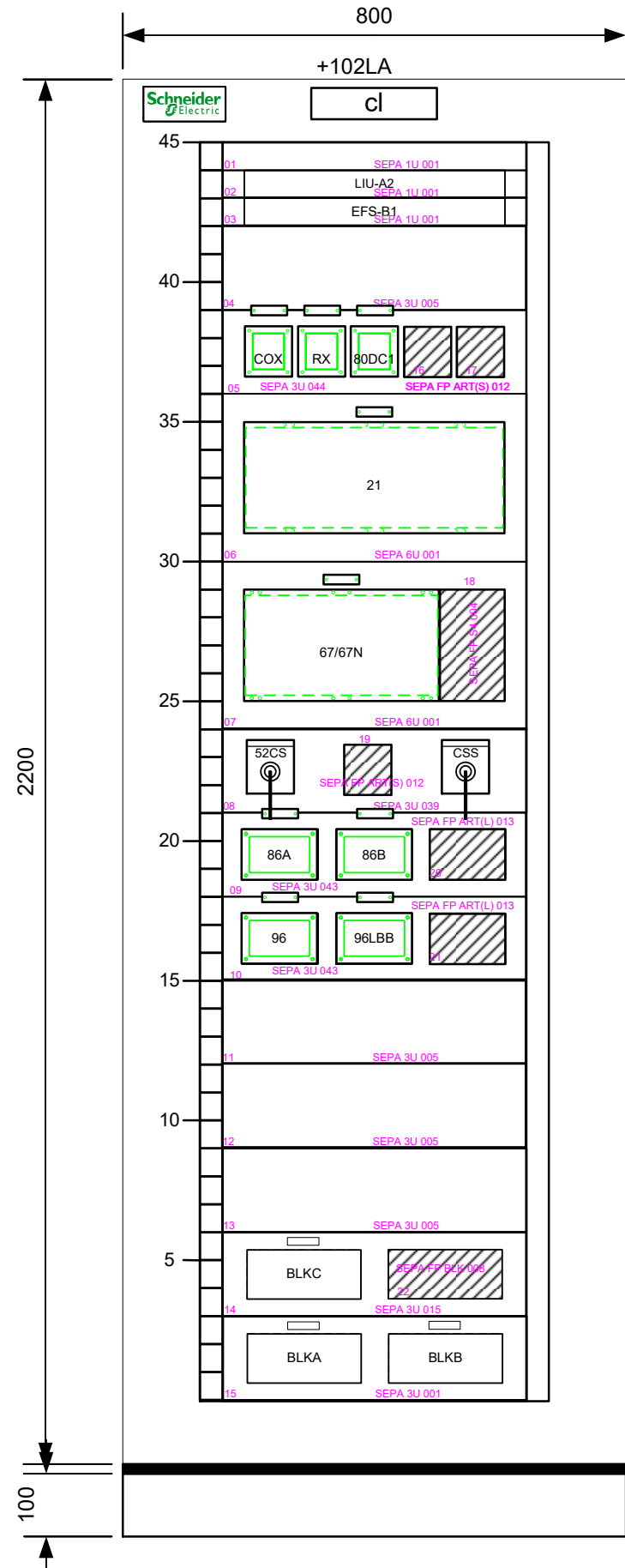
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B									B
C									C
D									D
E									E
F									F

SHEET	DESCRIPTION
00	TOP SHEET
000	INDEX SHEET
001	GENERAL ARRANGEMENT : +102LA
002	BILL OF MATERIALS
003	BILL OF MATERIALS
004	BILL OF MATERIALS
005	GENERAL ARRANGEMENT : +102LB
006	BILL OF MATERIALS
007	BILL OF MATERIALS
008	BILL OF MATERIALS

CUSTOMER HPPTCL PROJECT CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI PO. No. & Date: PO00365/15-16, DATED: 10.10.2015	CONTRACTOR : SHYAM INDUS POWER SOLUTIONS PVT. LTD		TITLE : 132KV LINE-1 PROTECTION PANEL (BAY-B102) INDEX SHEET	PREPARED : MK	REVISION: Z	SHT :000
				REVIEWED : DSS	DATE: 26-11-2018	CONT:001
				DRG. NO.: IN-7228081-GL-01		

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THIS TYPICAL DRAWING IS APPLICABLE FOR THE FOLLOWING CIRCUITS:			
S.NO	CIRCUITS	GA REF	PANEL REF
1	132KV LINE-1 PROTECTION PANEL	3269PP716-GL-01	+102LA
2	132KV LINE-2 PROTECTION PANEL	3269PP716-GL-02	+104LA

132KV CIRCUITS		
BAY	EFS	LIU
102	EFS-B1 (+102LA)	LIU-A2 (+102LA)
104	EFS-B2 (+104LA)	LIU-A3 (+104LA)

Designation	Material	Description
01	SEPA 1U 001	1U BLANKING PLATE
02	SEPA 1U 001	1U BLANKING PLATE
03	SEPA 1U 001	1U BLANKING PLATE
04	SEPA 3U 005	TYPICAL 3U BLANKING PLATE
05	SEPA 3U 044	3U PLATE WITH CUTOUT FOR 5 NOS ARTECH RELAY (80HX75W)
06	SEPA 6U 001	6U MOUNTING PLATE WITH CUTOUT
07	SEPA 6U 001	6U MOUNTING PLATE WITH CUTOUT
08	SEPA 3U 039	3U PLATE WITH CUTOUT 1 NO'S METER 96X 96 & 2 NO'S SWIRON SWITCH
09	SEPA 3U 043	3U PLATE WITH CUTOUT FOR 3 NOS (RAAS8/RAAS8F/RAXH8/RAXSL8) HORIZONTAL MOUNTING
10	SEPA 3U 043	3U PLATE WITH CUTOUT FOR 3 NOS (RAAS8/RAAS8F/RAXH8/RAXSL8) HORIZONTAL MOUNTING
11	SEPA 3U 005	TYPICAL 3U BLANKING PLATE
12	SEPA 3U 005	TYPICAL 3U BLANKING PLATE
13	SEPA 3U 005	TYPICAL 3U BLANKING PLATE
14	SEPA 3U 015	3U PLATE WITH CUTOUT FOR 1TEST BLOCK (BLK Areva/Nestler) WITH FILLING PLATE
15	SEPA 3U 001	3U PLATE WITH CUTOUT FOR 2 TEST BLOCK (BLK Areva/Nestler)
16	SEPA FP ART(S) 012	SEPA FP ART(S) 012
17	SEPA FP ART(S) 012	SEPA FP ART(S) 012
18	SEPA FP S4 004	FILLING PLATES-MIDOS RELAYS SIZE:4/E4
19	SEPA FP ART(S) 012	SEPA FP ART(S) 012
20	SEPA FP ART(L) 013	SEPA FP ART(L) 013
21	SEPA FP ART(L) 013	SEPA FP ART(L) 013
22	SEPA FP BLK 008	BLANKING PLATES-BLK

NOTE: EFS / LIU WILL BE SHOWN MOUNTED AS PER STSTEM ARCHITECTURE

CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

CONTRACTOR : SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE : 132KV LINE-1 PROTECTION PANEL (BAY-B102)
GENERAL ARRANGEMENT : +102LA FRONT VIEW

PREPARED : MK
 REVIEWED : DSS
 APPROVED : RVN
 REVISION: Z
 DATE: 26-11-2018
 SHT :001
 CONT:002
DRG. NO.: IN-7228081-GL-01

BILL OF MATERIALS FOR FRONT VIEW EQUIPMENTS : +102LA

DESIGNATION	MANUFACTURER	MATERIAL	DESCRIPTION	COMMENT
21	SCHNEIDER ELECTRIC	E546316B6M0B08K	AUX VOTL: 110-250V DC/100-240V AC, INOM:1A/5A, VNOM:100-120V AC, OPTO I/P: 24, O/P CONTACT: 32, WITH DISTANCE, PROTOCOL: IEC61850 + COURIER VIA REAR RS485 PORT, CH1=1300nm SINGLE-MODE, FLUSH MOUNTING.	DISTANCE PROTN.
52CS	SWITRON	GBSS3NLSLAPGW00	CB CONTROL SWITCH 16 WAY 3 POSITION NON-LOCK SPRING RETURN WITH LOST MOTION DEVICE DEVICE WITH PISTOL GRIP HANDLE	CB CONTROL SWITCH
67/67N	SCHNEIDER	E143316G6M0468J	AUX VOTL: 110-250V DC/100-240V AC, INOM:1A/5A, VNOM:100-120V AC, OPTO I/P: 16, O/P CONTACT: 30,PROTOCOL: IEC61850 + COURIER VIA REAR K-BUS/RS485 PORT, CASE:60TE, FLUSH MOUNTING.	BACKUP DIRECTIONAL, O/C & E/F PROTN.
80DC1	SCHNEIDER ELECTRIC	GBINSEVD1X220	DC SUPERVISION RELAY, 4 C/O, SELF RESET CONTACTS WITH LED INDICATION, 220V DC (+10-20% OF UN), DROP OUT TIME DELAY>=200msecs, FLUSH MOUNTING.	DC-1 SUPERVISION RELAY
86A	SCHNEIDER ELECTRIC	GBINSEBAXBH8220	HIGH SPEED TRIP RELAY, 8 C/O, ER/HR CONTACTS WITH FOLLOWING FLAG, 220V DC.	MASTER TRIP RELAY-GROUP A
86B	SCHNEIDER ELECTRIC	GBINSEBAXBH8220	HIGH SPEED TRIP RELAY, 8 C/O, ER/HR CONTACTS WITH FOLLOWING FLAG, 220V DC.	MASTER TRIP RELAY-GROUP B
96	SCHNEIDER ELECTRIC	GBINSEBAXBH8220	HIGH SPEED TRIP RELAY, 8 C/O, ER/HR CONTACTS WITH FOLLOWING FLAG, 220V DC.	BUSBAR TRIP RELAY
96LBB	SCHNEIDER ELECTRIC	GBINSEBAXBH8220	HIGH SPEED TRIP RELAY, 8 C/O, ER/HR CONTACTS WITH FOLLOWING FLAG, 220V DC.	LBB TRIP RELAY
BLKA	NELSTER	GBRLYTESTBLKNEL	STANDARD TEST BLOCK	FOR 21M1 RELAY
BLKB	NELSTER	GBRLYTESTBLKNEL	STANDARD TEST BLOCK	FOR 21M1 RELAY
BLKC	NELSTER	GBRLYTESTBLKNEL	STANDARD TEST BLOCK	FOR 67/67N RELAY
COX	SCHNEIDER ELECTRIC	GBINSERAAS4F220	CONTACT MULTIPLICATION RELAY, 4 C/O, SELF RESET CONTACTS WITH HAND RESET FLAG, 220V DC (+10-20% OF UN) ,FLUSH MOUNTING.	CARRIER HEALTHY
CSS	SWITRON	GBSS2NLSPBP8W00	SELECTOR SWITCH 8 WAYS,2 POSITION,STAYPUT,NON LOCKABLE WITH PISTOL GRIP HANDLE	CARRIER SELECTOR SWITCH
EFS-B1	HIRSCHMANN		MANAGED TYPE ETHERNET SWITCH WITH DUAL POWER SUPPLY, 12FX PORT	EFS
LIU-A2	REPUTED	-	LINE INTER FACE UNIT (24 PORT)	LIU
RX	SCHNEIDER ELECTRIC	GBINSERAAS4F220	CONTACT MULTIPLICATION RELAY, 4 C/O, SELF RESET CONTACTS WITH HAND RESET FLAG, 220V DC (+10-20% OF UN) ,FLUSH MOUNTING.	DIRECT TRIP RECEIVE

NOTE: EFS / LIU WILL BE SHOWN MOUNTED AS PER SYSTEM ARCHITECTURE

F CUSTOMER HPPTCL PROJECT CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI PO. No. & Date: PO00365/15-16, DATED: 10.10.2015	CONTRACTOR : SHYAM INDUS POWER SOLUTIONS PVT. LTD		TITLE : 132KV LINE-1 PROTECTION PANEL (BAY-B102) BILL OF MATERIALS	PREPARED : MK	REVISION: Z	SHT :002
				REVIEWED : DSS	DATE: 26-11-2018	CONT:003
				DRG. NO.: IN-7228081-GL-01		

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BILL OF MATERIALS FOR INTERNAL MOUNTED DEVICES : +102LA

DESIGNATION	MANUFACTURER	MATERIAL	DESCRIPTION	COMMENT
CIL	PHILIPS	GB20522011068025	COMPACT FLOURESCENT LAMP - 11W 230V AC	
DS	KAYCEE	GB20424005100011	DOOR SWITCH	
HS	SWITRON	GB25317014000000	HEATER SWITCH	
HT	APT CONTROLS	GB2072305APT00001	HEATER 230V AC 50HZ, 60W	
PS	ANCHOR	GBPS515A230VAC	POWER SOCKET 5/15A WITH SWITCH + 3PIN PLUG, 230V AC	
TH	APT CONTROLS	GBCPE0000612	THERMOSTAT 230V AC, 30-90 DEG	
MCB111	SCHNEIDER ELECTRIC	A9N61531 + A9N26924	DOUBLE POLE MCB WITH AUX CONTACT: 1 C/O, 500V DC, 16A	DC SOURCE-1
MCB1	SCHNEIDER ELECTRIC	A9N61526 + A9N26924	DOUBLE POLE MCB WITH AUX CONTACT: 1 C/O, 500V DC, 6A	TO MAIN-1 CKT
MCB2	SCHNEIDER ELECTRIC	A9N61524 + A9N26924	DOUBLE POLE MCB WITH AUX CONTACT: 1 C/O, 500V DC, 4A	EFS-B1
MCB21	SCHNEIDER ELECTRIC	A9N4P04C	FOUR POLE MCB , 415V AC, 4A	TO BCU CKT.
MCB22	SCHNEIDER ELECTRIC	A9N4P04C	FOUR POLE MCB , 415V AC, 4A	TO 67/67N CKT.
MCB91	SCHNEIDER ELECTRIC	A9N2P16C + A9N26924	DOUBLE POLE MCB WITH AUX CONTACT: 1 C/O, 415V AC, 16A	MAIN AC SOURCE
EL1	STS	GB251E0002500000	EARTH LINK	FOR CVT EARTHING
EL2	STS	GB251E0002500000	EARTH LINK	FOR VT EARTHING
EL4	STS	GB251E0002500000	EARTH LINK	FOR CT EARTHING
EL5	STS	GB251E0002500000	EARTH LINK	FOR CT EARTHING
LK1	COOPER BUSSMANN	GB25150032NNSF501A+GB25150032320014	LINK	DTS CH-1 CKT. (+VE)
LK2	COOPER BUSSMANN	GB25150032NNSF501A+GB25150032320014	LINK	87L/21M1 RELAY IN DTS CH-1 CKT. (+VE)
LK3	COOPER BUSSMANN	GB25150032NNSF501A+GB25150032320014	LINK	PU IN DTS CH-1 CKT. (+VE)

CUSTOMER : HPPTCL	CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD		TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)	PREPARED : MK	REVISION: Z	SHT :003
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI			BILL OF MATERIALS	REVIEWED : DSS	DATE: 26-11-2018	CONT:004
PO. No. & Date: PO00365/15-16, DATED: 10.10.2015				APPROVED : RVN		
				DRG. NO.: IN-7228081-GL-01		

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BILL OF MATERIALS FOR INTERNAL MOUNTED DEVICES : +102LA

DESIGNATION	MANUFACTURER	MATERIAL	DESCRIPTION	COMMENT
LK4	COOPER BUSSMANN	GB25150032NNSF501A+GB25150032320014	LINK	67/67N RELAY IN 86A CKT. (+VE)
LK5	COOPER BUSSMANN	GB25150032NNSF501A+GB25150032320014	LINK	67/67N RELAY IN 86B CKT. (+VE)
X1	CONNECTWELL	STH4DT	DISCONNECTING TERMINAL BLOCK	AC/DC CIRCUITS
X2	CONNECTWELL	STH4DTSH	DISCONNECTING TERMINAL BLOCK	CT CIRCUITS
X3	CONNECTWELL	STH4DT	DISCONNECTING TERMINAL BLOCK	CVT CIRCUITS
X4	CONNECTWELL	STH4	NON-DISCONNECTING TERMINAL BLOCK	CONTROL INPUTS (TO OPTO/CONT MUL. RELAY)
X5	CONNECTWELL	STH4	NON-DISCONNECTING TERMINAL BLOCK	CONTROL INPUTS (TO CB CONTROL)
X7	CONNECTWELL	STH4	NON-DISCONNECTING TERMINAL BLOCK	SPARE
X10	CONNECTWELL	STH4	NON-DISCONNECTING TERMINAL BLOCK	CONTROL INPUTS (TO LCC CKT.)
X101	CONNECTWELL	STH4	NON-DISCONNECTING TERMINAL BLOCK	BUSWIRING CONTROL CKTS (INTRA-BAY)
X200	CONNECTWELL	STH4	NON-DISCONNECTING TERMINAL BLOCK	BUSWIRING VT CKTS (INTER-BAY)
X201	CONNECTWELL	STH4	NON-DISCONNECTING TERMINAL BLOCK	BUSWIRING CONTROL CKTS (INTER-BAY)
X202	CONNECTWELL	STH4	NON-DISCONNECTING TERMINAL BLOCK	BUSWIRING CONTROL CKTS (INTER-BAY)
R86A	STEAD	GB40422330001350	RESISTOR, 3.3K-OHMS, 35W	TRIP RELAY 86A SUPERVISION
R86B	STEAD	GB40422330001350	RESISTOR, 3.3K-OHMS, 35W	TRIP RELAY 86B SUPERVISION

CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
BILL OF MATERIALS

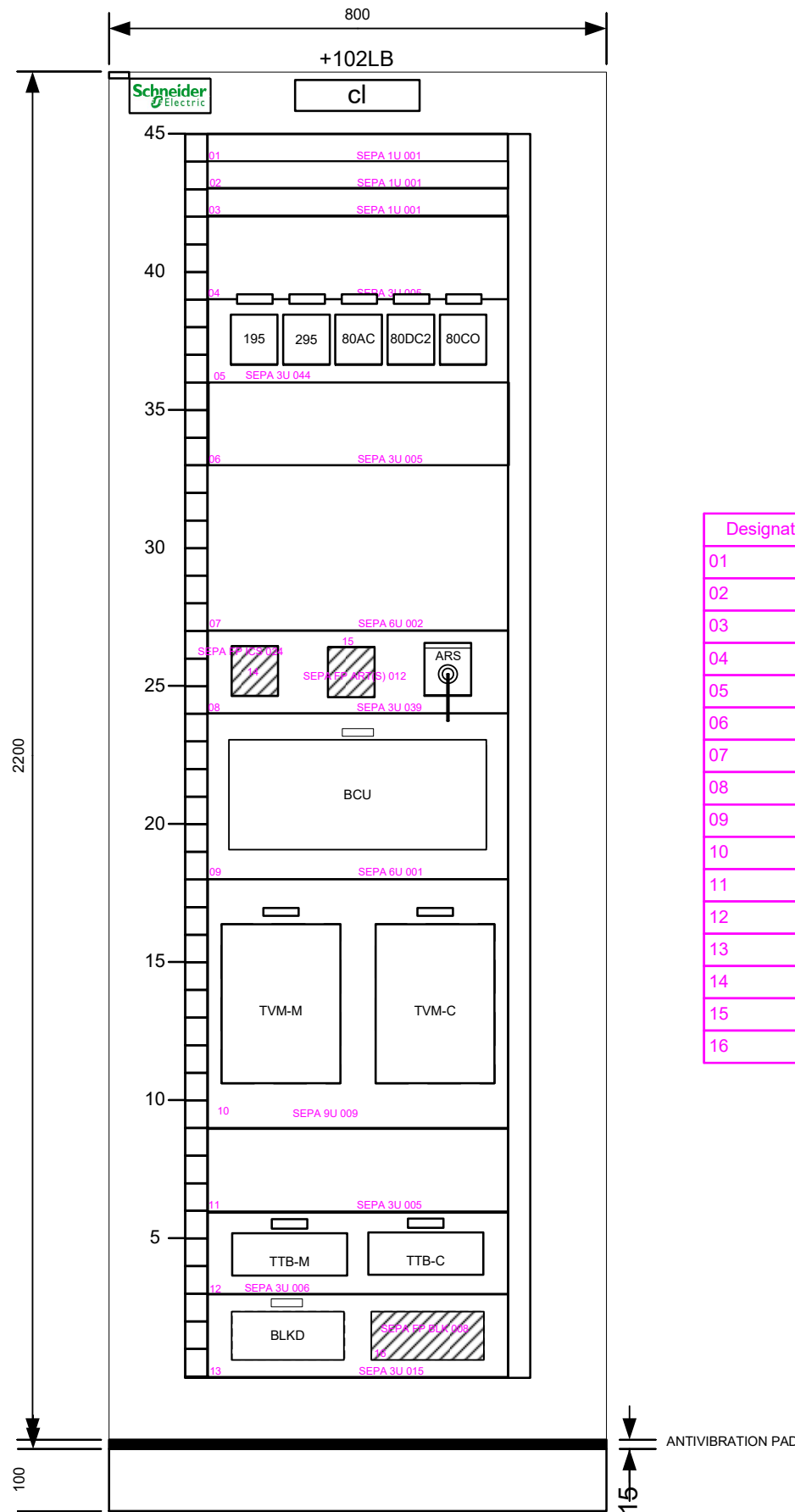
PREPARED : MK	REVISION: Z	SHT :004
REVIEWED : DSS	DATE: 26-11-2018	CONT:005
APPROVED : RVN	DRG. NO.: IN-7228081-GL-01	

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THIS TYPICAL DRAWING IS APPLICABLE FOR THE FOLLOWING CIRCUITS:			
S.NO	CIRCUITS	GA REF	PANEL REF
1	132KV LINE-1 PROTECTION PANEL	3269PP716-GL-01	+102LB
2	132KV LINE-2 PROTECTION PANEL	3269PP716-GL-02	+104LB

Designation	Material	Description
01	SEPA 1U 001	1U BLANKING PLATE
02	SEPA 1U 001	1U BLANKING PLATE
03	SEPA 1U 001	1U BLANKING PLATE
04	SEPA 3U 005	TYPICAL 3U BLANKING PLATE
05	SEPA 3U 044	3U PLATE WITH CUTOUT FOR 5 NOS ARTECH RELAY (80HX75W)
06	SEPA 3U 005	TYPICAL 3U BLANKING PLATE
07	SEPA 6U 002	TYPICAL 6 BLANKING PLATE
08	SEPA 3U 039	3U PLATE WITH CUTOUT 1 NO'S METER 96X 96 & 1 NO'S SWIRON SWITCH
09	SEPA 6U 001	6U MOUNTING PLATE WITH CUTOUT
10	SEPA 9U 009	9U PLATE WITH CUTOUT FOR - PREMIER 300 2NO'S
11	SEPA 3U 005	TYPICAL 3U BLANKING PLATE
12	SEPA 3U 006	3U PLATE WITH CUTOUT FOR 2 TTB (z-type)
13	SEPA 3U 015	3U PLATE WITH CUTOUT FOR 1TEST BLOCK (BLK Areva/Nestler) WITH FILLING PLATE
14	SEPA FP ICS 024	FILLING PLATE FOR SWITRON SWICH
15	SEPA FP ART(S) 012	SEPA FP ART(S) 012
16	SEPA FP BLK 008	BLANKING PLATES-BLK

NOTE: EFS / LIU WILL BE SHOWN MOUNTED AS PER STSTEM ARCHITECTURE

**ONLY CUTOUT WITH BLANKING PLATE & WIRINGS ARE IN SCHNEIDER SCOPE

CUSTOMER : HPPTCL PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI PO. No & Date: PO00365/15-16, DATED: 10.10.2015	SHYAM INDUS POWER SOLUTIONS PVT. LTD		TITLE : 132KV LINE-1 PROTECTION PANEL (BAY-B102) GENERAL ARRANGEMENT : +102LB FRONT VIEW	PREPARED : MK REVIEWED : DSS APPROVED : RVN	REVISION: Z DATE: 26-11-2018	SHT : 005 CONT: 006
				DRG. NO.: IN-7228081-GL-01		

BILL OF MATERIALS FOR FRONT VIEW EQUIPMENTS : +102LB

DESIGNATION	MANUFACTURER	MATERIAL	DESCRIPTION	COMMENT
80AC	SCHNEIDER ELECTRIC	GBINSEVD2X230	AC SUPPLY SUPERVISION RELAY, 4 C/O, SELF RESET WITH LED INICATION, 230V AC (+10-20%Un) , TD DO >200 ms	AC SUPERVISION RELAY
80DC2	SCHNEIDER ELECTRIC	GBINSEVD1X220	DC SUPERVISION RELAY, 4 C/O, SELF RESET CONTACTS WITH LED INDICATION, 220V DC (+10-20% OF UN), DROP OUT TIME DELAY>=200msecs, FLUSH MOUNTING.	DC-2 SUPERVISION RELAY
80CO	SCHNEIDER ELECTRIC	GBINSERAAS4F220	DC CHANGE OVER RELAY, 4 C/O, SELF RESET CONTACTS WITH HAND RESET FLAG, 220V DC (+10-20% OF UN) ,FLUSH MOUNTING.	DC CHANGE OVER RELAY
195	SCHNEIDER ELECTRIC	GBINSEVD3X220	TRIP CIRCUIT SUPERVISION RELAY, 2 C/O, SELF RESET CONTACTS WITH LED INDICATION, 220V DC (+10-20% OF UN), DROP OUT TIME DELAY>=200msecs,FLUSH MOUNTING.	TC-1 SUPERVISION
295	SCHNEIDER ELECTRIC	GBINSEVD3X220	TRIP CIRCUIT SUPERVISION RELAY, 2 C/O, SELF RESET CONTACTS WITH LED INDICATION, 220V DC (+10-20% OF UN), DROP OUT TIME DELAY>=200msecs,FLUSH MOUNTING.	TC-2 SUPERVISION
BCU	SCHNEIDER ELECTRIC	C264	BAY CONTROL UNIT WITH CT/VT MODULE, AUX VOLT: 110-250V DC, DIGITAL INPUT MODULE: 5, DIGITAL OUTPUT MODULE: 3, PROTOCOL: IEC61850, CASE: 80TE	BAY CONTROL UNIT
BLKD	NELSTER	GBBCUTESTBLKNEL	BCU TEST BLOCK	FOR BCU
ARS	SWITRON	GBSS2NLSBP8W00	SELECTOR SWITCH 8 WAYS, 2 POSITION,STAYPUT,NON LOCKABLE WITH PISTOL GRIP HANDLE	AR IN/OUT SWITCH
TVM-M	SECURE	-	TVM METER, WITH ABT,MODEL: PREMIER 300 PROJECTION MOUNTING, 3PH 3ELEMENT 4 WIRE, CL: 0.2S, CTR: 1600-800-400/1A, PTR: 132KV/110V, MDI: 15MIN, COMM: MODBUS VIA RS485,AMRI COMPATIBLE,WITH FRONT OPTICAL PORT & ABT.	ENERGY METER - MAIN
TVM-C	SECURE	-	TVM METER, WITH ABT,MODEL: PREMIER 300 PROJECTION MOUNTING, 3PH 3ELEMENT 4 WIRE, CL: 0.2S, CTR: 1600-800-400/1A, PTR: 132KV/110V, MDI: 15MIN, COMM: MODBUS VIA RS485,AMRI COMPATIBLE,WITH FRONT OPTICAL PORT & ABT.	ENERGY METER - CHECK
TTB-M	DAV	GBCTB4000002	TEST TERMINAL BLOCK	FOR TVM-M
TTB-C	DAV	GBCTB4000002	TEST TERMINAL BLOCK	FOR TVM-C

CUSTOMER : HPPTCL
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
PO No & Date: PO00365/15-16, DATED: 10.10.2015

SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE : 132KV LINE-1 PROTECTION PANEL (BAY-B102)
BILL OF MATERIALS
PANEL TYPE : +102LA, +102LB

PREPARED : MK	REVISION: Z	SHT :006
REVIEWED : DSS	DATE:26-11-2018	CONT:007
APPROVED : RVN		
DRG. NO.: IN-7228081-GL-01		

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BILL OF MATERIALS FOR INTERNAL MOUNTED DEVICES : +102LB

DESIGNATION	MANUFACTURER	MATERIAL	DESCRIPTION	COMMENT
CIL	PHILIPS	GB20522011068025	COMPACT FLOURESCENT LAMP - 11W 230V AC	
DS	KAYCEE	GB20424005100011	DOOR SWITCH	
HS	SWITRON	GB25317014000000	HEATER SWITCH	
HT	APT CONTROLS	GB2072305APT00001	HEATER 230V AC 50HZ, 60W	
PS	ANCHOR	GBPS515A230VAC	POWER SOCKET 5/15A WITH SWITCH + 3PIN PLUG, 230V AC	
TH	APT CONTROLS	GBCPE0000612	THERMOSTAT 230V AC, 30-90 DEG	
MCB211	SCHNEIDER ELECTRIC	A9N61531 + A9N26924	DOUBLE POLE MCB WITH AUX CONTACT: 1 C/O, 500V DC, 16A	DC SOURCE-2
MCB1	SCHNEIDER ELECTRIC	A9N61526 + A9N26924	DOUBLE POLE MCB WITH AUX CONTACT: 1 C/O, 500V DC, 6A	TO MAIN-2 CKT
MCB2	SCHNEIDER ELECTRIC	A9N61526 + A9N26924	DOUBLE POLE MCB WITH AUX CONTACT: 1 C/O, 500V DC, 6A	TO BACKUP CKT
MCB3	SCHNEIDER ELECTRIC	A9N61526 + A9N26924	DOUBLE POLE MCB WITH AUX CONTACT: 1 C/O, 500V DC, 6A	TO BCU & NIT
MCB21	SCHNEIDER ELECTRIC	A9N4P04C	FOUR POLE MCB WITH AUX CONTACT: 1 C/O, 415V AC, 4A	TO EM
MCB22	SCHNEIDER ELECTRIC	A9N4P04C	FOUR POLE MCB WITH AUX CONTACT: 1 C/O, 415V AC, 4A	TO BCU CKT.
MCB23	SCHNEIDER ELECTRIC	A9N2P04C + A9N26924	DOUBLE POLE MCB WITH AUX CONTACT: 1 C/O, 415V AC, 4A	TO BCPU CKT.
MCB24	SCHNEIDER ELECTRIC	A9N4P04C	FOUR POLE MCB WITH AUX CONTACT: 1 C/O, 415V AC, 4A	TO BCU
MCB25	SCHNEIDER ELECTRIC	A9N2P04C + A9N26924	DOUBLE POLE MCB WITH AUX CONTACT: 1 C/O, 415V AC, 4A	TO BCPU CKT.
MCB92	SCHNEIDER ELECTRIC	A9N2P16C + A9N26924	DOUBLE POLE MCB WITH AUX CONTACT: 1 C/O, 415V AC, 16A	MAIN AC SOURCE
EL1	STS	GB251E0002500000	EARTH LINK	FOR CVT EARTHING
EL2	STS	GB251E0002500000	EARTH LINK	FOR CT EARTHING
LKT1	COOPER BUSSMANN	GB25150032NNSF501A+GB25150032320014	LINK	CB TC-1 PROTN. TRIP (+VE)
LKT2	COOPER BUSSMANN	GB25150032NNSF501A+GB25150032320014	LINK	CB TC-2 PROTN. TRIP (+VE)
R96	STEAD	GB40422330001350	RESISTOR, 3.3K-OHMS, 35W	TRIP RELAY 96 SUPERVISION

F CUSTOMER : HPPTCL			TITLE : 132KV LINE-1 PROTECTION PANEL (BAY-B102)		PREPARED : MK	REVISION: Z	SHT :007	
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI			SHYAM INDUS POWER SOLUTIONS PVT. LTD		BILL OF MATERIALS		REVIEWED : DSS	DATE: 26-11-2018
PO No & Date: PO00365/15-16, DATED: 10.10.2015					PANEL TYPE : +102LA, +102LB		APPROVED : RVN	CONT: 008
				DRG. NO.: IN-7228081-GL-01				

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BILL OF MATERIALS FOR INTERNAL MOUNTED DEVICES : +102LB

DESIGNATION	MANUFACTURER	MATERIAL	DESCRIPTION	COMMENT
R96LBB	STEAD	GB40422330001350	RESISTOR, 3.3K-OHMS, 35W	TRIP RELAY 96LBB SUPERVISION
X-BCU-DIU-L	CONNECTWELL	CKT4U	DISCONNECTING TERMINAL BLOCK	BCU DI INPUTS CKT.
X-BCU-DIU-M	CONNECTWELL	CKT4U	DISCONNECTING TERMINAL BLOCK	BCU DI INPUTS CKT.
X-BCU-DIU-N	CONNECTWELL	CKT4U	DISCONNECTING TERMINAL BLOCK	BCU DI INPUTS CKT.
X-BCU-DIU-O	CONNECTWELL	CKT4U	DISCONNECTING TERMINAL BLOCK	BCU DI INPUTS CKT.
X-BCU-DIU-P	CONNECTWELL	CKT4U	DISCONNECTING TERMINAL BLOCK	BCU DI INPUTS CKT.
X-BCU-DOU-E	CONNECTWELL	CKT4U	DISCONNECTING TERMINAL BLOCK	BCU DO INPUTS CKT.
X-BCU-DOU-F	CONNECTWELL	CKT4U	DISCONNECTING TERMINAL BLOCK	BCU DO INPUTS CKT.
X-BCU-DOU-G	CONNECTWELL	CKT4U	DISCONNECTING TERMINAL BLOCK	BCU DO INPUTS CKT.
X-BCU-PS-A	CONNECTWELL	CSFL4U	DISCONNECTING TERMINAL BLOCK	BCU PS INPUTS CKT.
X1	CONNECTWELL	STH4DT	DISCONNECTING TERMINAL BLOCK	AC/DC CIRCUITS
X2	CONNECTWELL	STH4DTSH	DISCONNECTING TERMINAL BLOCK	CT CIRCUITS
X3	CONNECTWELL	STH4DT	DISCONNECTING TERMINAL BLOCK	CVT CIRCUITS
X5	CONNECTWELL	STH4	NON-DISCONNECTING TERMINAL BLOCK	CONTROL INPUTS (TO CB CONTROL)
X7	CONNECTWELL	STH4	NON-DISCONNECTING TERMINAL BLOCK	SPARE
X10	CONNECTWELL	STH4	NON-DISCONNECTING TERMINAL BLOCK	INTER PANEL CABLES
X101	CONNECTWELL	STH4	NON-DISCONNECTING TERMINAL BLOCK	BUSWIRING CONTROL CKTS (INTER-BAY)
X200	CONNECTWELL	STH4	NON-DISCONNECTING TERMINAL BLOCK	BUSWIRING CVT CKTS (INTER-BAY)
X201	CONNECTWELL	STH4	NON-DISCONNECTING TERMINAL BLOCK	BUSWIRING CONTROL CKTS (INTER-BAY)
X202	CONNECTWELL	STH4	NON-DISCONNECTING TERMINAL BLOCK	BUSWIRING CONTROL CKTS (INTER-BAY)

CUSTOMER : HPPTCL			TITLE : 132KV LINE-1 PROTECTION PANEL (BAY-B102)		PREPARED : MK	REVISION: Z	SHT :008	
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI			SHYAM INDUS POWER SOLUTIONS PVT. LTD		BILL OF MATERIALS		REVIEWED : DSS	DATE: 26-11-2018
PO No & Date: PO00365/15-16, DATED: 10.10.2015					PANEL TYPE : +102LA, +102LB		APPROVED : RVN	CONT: 009

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1 2 3 4 5 6 7 8

A
B
C
D
E

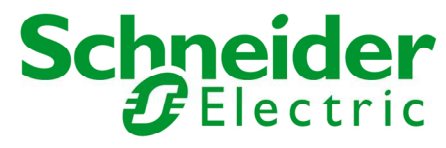
A
B
C
D
E

SHEET	DESCRIPTION
000	INDEX SHEET
001	LIST OF SYMBOLS
002	KEY DIAGRAM FOR LINE
003	TRIP LOGIC
004	AC DISTRIBUTION
005	DC DISTRIBUTION CKT.
006	DC DISTRIBUTION CKT.
007	DC CHANGEOVER SCHEME
008	CT DISTRIBUTION CIRCUIT
009	CT DISTRIBUTION CIRCUIT
010	LINE CVT CKT.
011	LINE CVT DISTRIBUTION CKT.
012	METERING CKT.
013	METERING CKT.
014	DISTANCE PROTN.-AC CKT.
015	DISTANCE PROTN.-DC OPTO I/P CKT.
016	DISTANCE PROTN.-DC OPTO I/P CKT.
017	DISTANCE PROTN.-DC OPTO I/P CKT.
018	21M1 RELAY CONTACT DISTRIBUTION
019	21M1 RELAY CONTACT DISTRIBUTION
020	21M1 RELAY FUNCTIONS I/O DETAILS
021	21M1 RELAY FUNCTIONS I/O DETAILS
022	21M1 RELAY FUNCTIONS I/O DETAILS
023	21M1 RELAY FUNCTIONS GOOSE LIST
024	DISTANCE PROTN.-CARRIER CKT.
025	DIR. O/C & E/F PROTN.-AC CKT.
026	DIR. O/C & E/F PROTN.-DC OPTO I/P CKT.
027	DIR. O/C & E/F PROTN.-DC OPTO I/P CKT.
028	MAIN-1 RELAY CONTACT DISTRIBUTION
029	67/67N RELAY FUNCTIONS I/O DETAILS
030	67/67N RELAY FUNCTIONS I/O DETAILS
031	67/67N RELAY FUNCTIONS I/O DETAILS
032	DIRECT TRIP COMMAND RECEIVE CKT.
033	DIRECT TRIP SEND CKT.
034	GROUP-A TRIP RELAY CKT.
035	GROUP-B TRIP RELAY CKT.
036	BUSBAR TRIP RELAY CKT.
037	LBB TRIP RELAY CKT.

SHEET	DESCRIPTION
038	CB CLOSING & REMOTE TRIP-1 CIRCUIT
039	CB TC-1 CONTROL CKT.
040	CB TC-2 CONTROL CKT.
041	BCU LOGIC
042	BCU LOGIC
043	BCU LOGIC
044	BCU LOGIC
045	BCU LOGIC
046	BLANK SHEET
047	BCU CARD DETAIL
048	BCU AUX. SUPPLY CKT.
049	BCU CT/PT CKT.
050	BCU DIGITAL INPUT CARD
051	BCU DIGITAL INPUT CARD
052	BCU DIGITAL INPUT CARD
053	BCU DIGITAL INPUT CARD
054	BCU DIGITAL INPUT CARD
055	BCU DIGITAL INPUT CARD
056	BCU DIGITAL INPUT CARD
057	BCU DIGITAL INPUT CARD
058	BCU DIGITAL INPUT CARD
059	BCU DIGITAL INPUT CARD
060	BCU DIGITAL OUTPUT CARD
061	BCU DIGITAL OUTPUT CARD
062	BCU DIGITAL OUTPUT CARD
063	BLANK SHEET
064	SPARE CONTACT DISTRIBUTION
065	SPARE CONTACT DISTRIBUTION
066	CONTACT DISTRIBUTION CKT.
067	SWITCH& TESTBLOCK CONTACT DISTRIBUTION
068	TERMINAL BLOCK ALLOCATION
069	TERMINAL BLOCK ALLOCATION
070	TERMINAL BLOCK ALLOCATION
071	BCU TERMINAL BLOCK ALLOCATION
072	BCU TERMINAL BLOCK ALLOCATION
073	BCU TERMINAL BLOCK ALLOCATION
074	BUS WIRING - INTRA-PANEL

F CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
INDEX SHEET

PREPARED : MK	REVISION: Z	SHT :000
REVIEWED : DSS	DATE: 26-11-2018	CONT:001
APPROVED : RVN	DRG. NO.: IN-7228081-S-01	

1 2 3 4 5 6 7 8

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LIST OF STANDARD SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	COMPACT FLOURESCENT LAMP		PUSH BUTTON NO CONTACT		NORMALLY OPEN CONTACT SELF RESET		POWER SUPPLY		CIRCUIT BREAKER
	DOOR/HEATER SWITCH		PUSH BUTTON NC CONTACT		NORMALLY CLOSE CONTACT SELF RESET		DIGITAL OPTO INPUT		ISOLATOR
	HEATER		TEST BLOCK		CHANGEOVER CONTACT SELF RESET		DIGITAL OPTO INPUT		ISOLATOR
	POWER SOCKET WITH SWITCH		CONTROL SELECTOR SWITCH		NORMALLY OPEN CONTACT HAND RESET		CLIO OUTPUT		EARTH SWITCH
	THERMOSTAT		POTENTIAL TRANSFORMER		NORMALLY CLOSE CONTACT HAND RESET		CLIO INPUT		LIGHTNING ARRESTER
	FUSE		CURRENT TRANSFORMER		CHANGEOVER CONTACT HAND RESET		SELF-RESET COIL WITH/ WITHOUT FLAG		WAVE TRAP
	LINK		INDICATING LAMPS		SEMAPHORE		GENERATOR		TRANSFORMER
	RESISTOR		ANNUNCIATOR WINDOW INPUT		TB PRIMARY/LCC EQUIPMENTS		HAND-RESET COIL WITH/ WITHOUT FLAG		CAPACITIVE VOLTAGE TRANSFORMER
	POTENTIO METER		DIODE		NON-DISCONNECTING TB		SELF-RESET SLOW OPERAING COIL WITH REVERSE/ FORWARD FLAG		
	MCB		BUS WIRE REPRESENTATION SOURCE / TARGET		NON-DISCONNECTING TB FOR SCADA/BCU				
	METROSIL		NORMAL WIRE REPRESENTATION SOURCE / TARGET		DISCONNECTING TB				
			NORMAL WIRE REPRESENTATION SOURCE / TARGET		NON-DISCONNECTING TB FOR INTER PANEL BUS WIRING				

NOTE: RELAY CONTACTS SHOWN WITH CONTACT DE ENERGIZED CONDITION.

TERMINAL GROUP STANDARDS

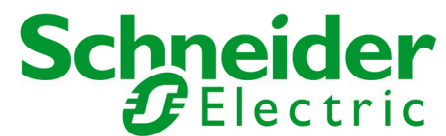
TB REF	FUNCTION
X1	AC/DC CIRCUITS
X2	CT CIRCUITS
X3	PT CIRCUITS
X4	CONTROL INPUTS (TO OPTO/CONT MUL. RELAY)
X5	CONTROL OUTPUTS (TO CB CONTROL)
X6	CONTROL OUTPUTS (TO ISOL./ESW. CONTROL)
X7	SPARE OUTPUTS
X8	TEMP SCANNER/SCADA/RTU/DCS CKTS
X9	INDICATION/ANNUNCIATON CKTS
X-BCU DIU-SLOT	BCU DI INPUTS
X-BCU DOU-SLOT	BCU DO INPUTS
X-BCU AIU-SLOT	BCU AI INPUTS
X10	FOR INTER PANEL CABLES
X100	BUS WIRING CT/PT CKTS (INTRA-BAY)
X101-X109	BUS WIRING CONTROL CKTS (INTRA-BAY)
X200	BUS WIRING CT/PT CKTS (INTER-BAY)
X201-X209	BUS WIRING CONTROL CKTS (INTER-BAY)

FERRULE NUMBERING STANDARDS

FERRULE	CIRCUIT
"A"	CT CIRCUIT-MAIN PROTECTION
"B"	CT CIRCUIT-BUSBAR PROTECTION
"C"	CT CIRCUIT-BACKUP PROTECTION
"D"	CT CIRCUIT-METERING
"E"	VT CIRCUIT-PROTECTION/METERING
"G"	VT CIRCUIT-SYNCHRONISING
"H"	AUXILARY AC CIRCUIT
"J"	AUXILARY DC CIRCUIT
"K"	CONTROL CIRCUIT
"L"	INDICATION & ALARM CIRCUITS
"P"	DC CIRCUIT- BUSBAR PROTECTION CIRCUIT
"S"	SCADA/EVENT LOGGER/DAS CIRCUITS
"U"	SPARE CONTACTS

CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)

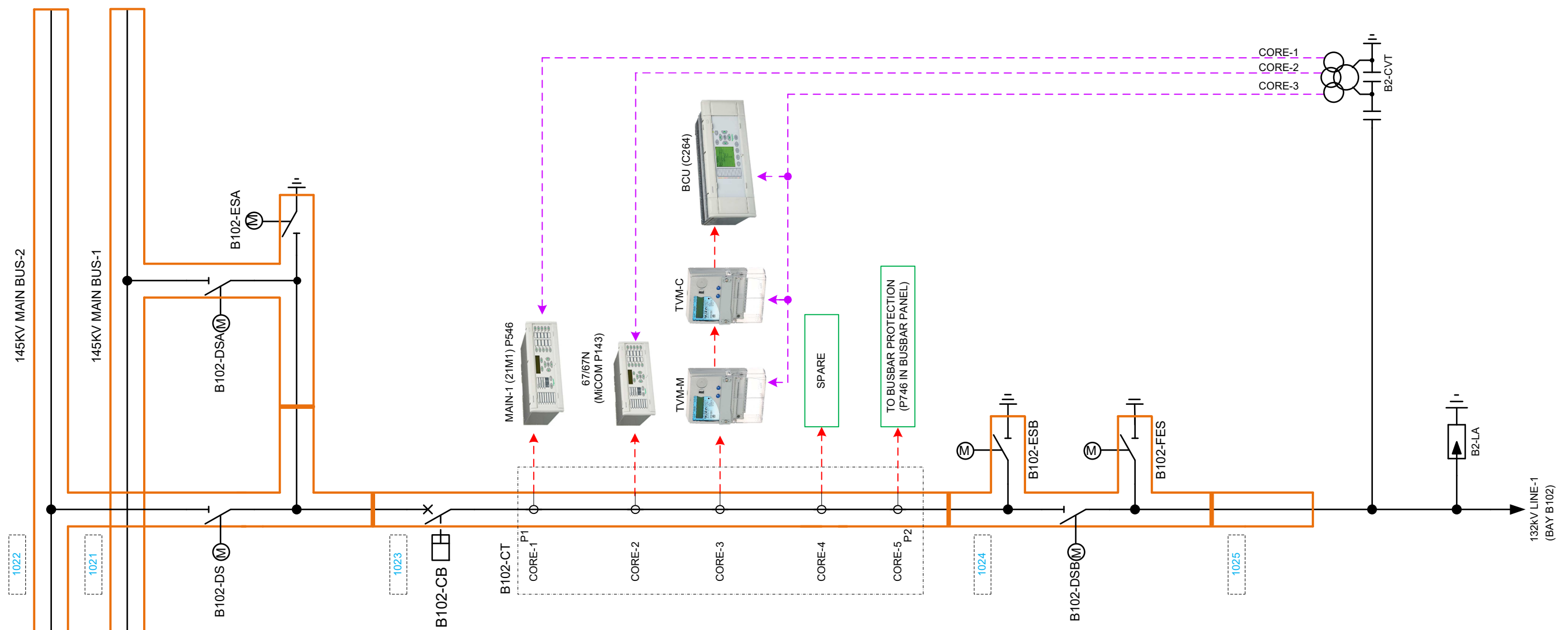
LIST OF SYMBOLS

PREPARED : MK
 REVIEWED : DSS
 APPROVED : RVN
 DRG. NO.: IN-7228081-S-01

REVISION: Z
 DATE: 26-11-2018

SHT :001
 CONT:002

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B2-CVT	B2-CVT	B2-CVT
WDG-1	WDG-2	WDG-3
RATIO: 132kV/√3/110V/√3	RATIO: 132kV/√3/110V/√3	RATIO: 132kV/√3/110V/√3
CLASS: 3P	CLASS: 3P	CLASS: 0.2
BURDEN: 50VA	BURDEN: 50VA	BURDEN: 50VA

B102-CT	B102-CT	B102-CT	B102-CT	B102-CT
CORE-1	CORE-2	CORE-3	CORE-4	CORE-5
RATIO: 1600-800-400/1A	RATIO: 1600-800-400/1A	RATIO: 1600-800-400/1A	RATIO: 1600-800-400/1A	RATIO: 1600-800-400/1A
CLASS: PS	CLASS: PS	CLASS: 0.2S	CLASS: PS	CLASS: PS
Vk>=2000-1000-500V	Vk>=2000-1000-500V	BURDEN: 20VA	Vk>=2000-1000-500V	Vk>=2000-1000-500V
Imag<= 20-40-80mA@Vk	Imag <= 20-40-80mA@Vk	ISF<=10	Imag<= 20-40-80mA@Vk	Imag<= 20-40-80mA@Vk
Rct<=10-6-3 Ohms	Rct<=10-6-3 Ohms	BURDEN: 20-10-5VA	Rct<=16-8-4 Ohms	Rct<=16-8-4 Ohms
ADOPTED CT: **	ADOPTED CT: **	ADOPTED CT: **	ADOPTED CT: **	ADOPTED CT: **

NOTE: ** DETAILS TO BE PROVIDED BY CUSTOMER.

CUSTOMER : HPPTCL	CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD		TITLE : 132KV LINE-1 PROTECTION PANEL (BAY-B102)	PREPARED : MK	REVISION: Z	SHT : 002
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI			KEY DIAGRAM FOR LINE	REVIEWED : DSS	DATE: 26-11-2018	CONT: 003
PO. No. & Date: PO00365/15-16, DATED: 10.10.2015				APPROVED : RVN		
				DRG. NO.: IN-7228081-S-01		

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MAIN PROTECTION (MICOM P546)				BACKUP PROTECTION (MICOMP141)			FROM BUSBAR PANEL (P746)		MASTER TRIP RELAY				BCU(MICOMC264)		
ZONE-1 FAULTS	Z2,Z3 FAULTS,SOTF PROTN	DEF PROTN.	OVER VOLTAGE PROTN.	DIRECT TRIP RECEIVE	DIR. OVER CURRENT PROTN.	DIR. EARTH FAULT PROTN.	BUSBAR PROTECTION OPTD.	LBB PROTECTION OPTD.	3-PH GROUP-A TRIP LOCKOUT RELAY	3-PH GROUP-B TRIP LOCKOUT RELAY	3-PH GROUP-A TRIP LOCKOUT RELAY	3-PH GROUP-B TRIP LOCKOUT RELAY	AUTORECLOSE	AIR UNSUCCESSFUL FAULT DURING RECLAIM TIME	MANUAL TRIP
21	21	67N	59		67	67N	87BB	50LBB	86A	86B	96	96LBB	79	79	
1/3-PH	1/3-PH	1/3-PH	1/3-PH	3-PH	3-PH	3-PH	3-PH	3-PH	3-PH	3-PH	3-PH	3-PH	1/3-PH	1/3-PH	
TP									TP	TP	TP	TP			TP
TP									TP	TP	TP	TP			TP
IP									IP	IP	IP				
IP									IP	IP	IP	IP			
									RS	RS	RS	RS	IP		
	IP	IP	IP	IP	IP	IP								IP	
	IP	IP	IP	IP	IP	IP								IP	
							IP								
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		IP	IP			IP									IP
IP															
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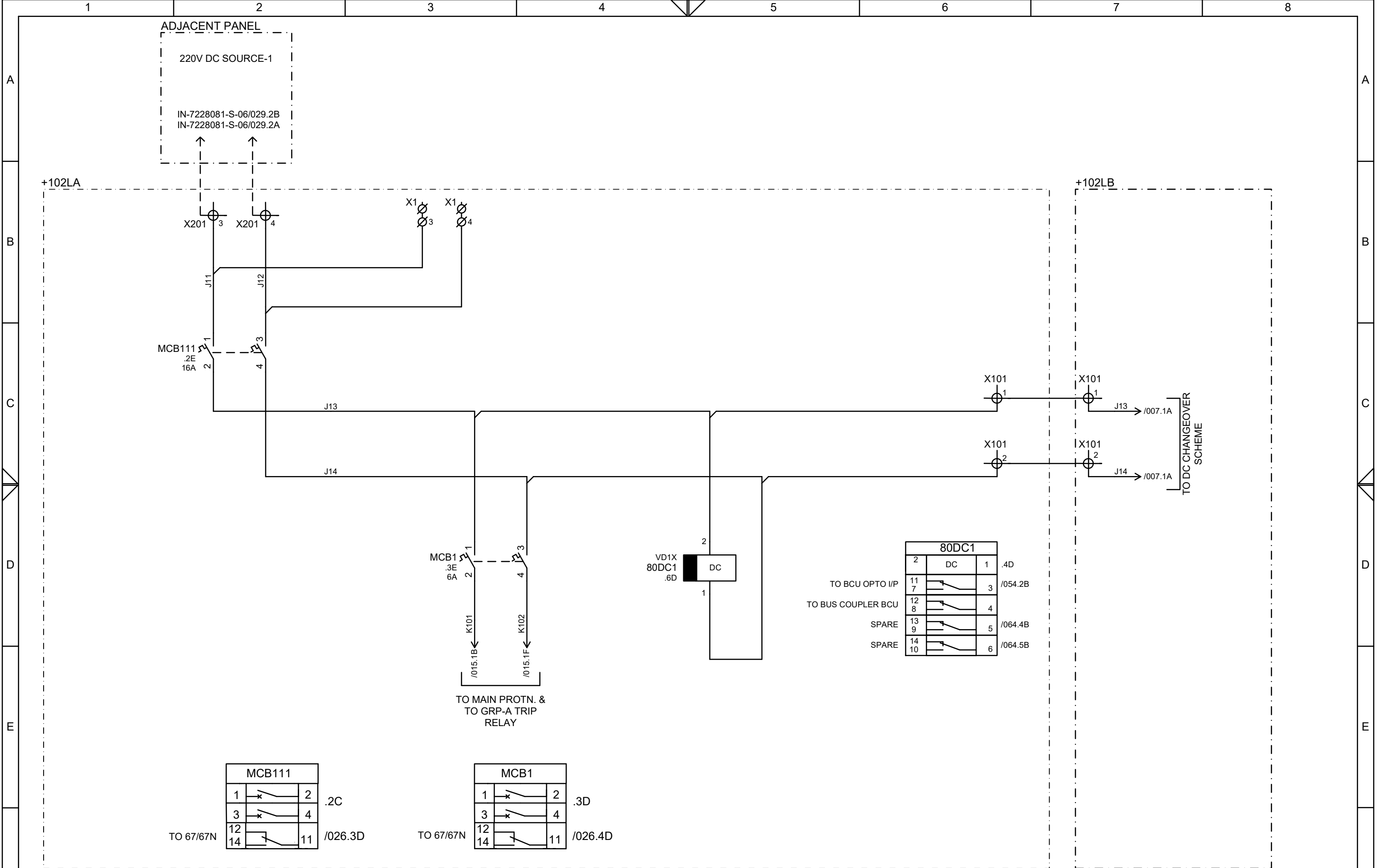
RS INDICATES RESET STATUS FOR CB CLOSING

TP INDICATES TRIP FROM PROTN. FUNCTION

IP INDICATES INTICATION FROM PROTN. FUNCTION

CUSTOMER : HPPTCL		CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD			TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)		PREPARED : MK	REVISION: Z	SHT :003
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI		PO. No. & Date: PO00365/15-16, DATED: 10.10.2015			TRIP LOGIC		REVIEWED : DSS	DATE: 26-11-2018	CONT:004
							DRG. NO.: IN-7228081-S-01		

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CUSTOMER : HPPTCL		CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD			TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)		PREPARED : MK	REVISION: Z	SHT :005
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI					DC DISTRIBUTION CKT.		REVIEWED : DSS	DATE: 26-11-2018	CONT:006
PO. No. & Date: PO00365/15-16, DATED: 10.10.2015							APPROVED : RVN		
						DRG. NO.: IN-7228081-S-01			

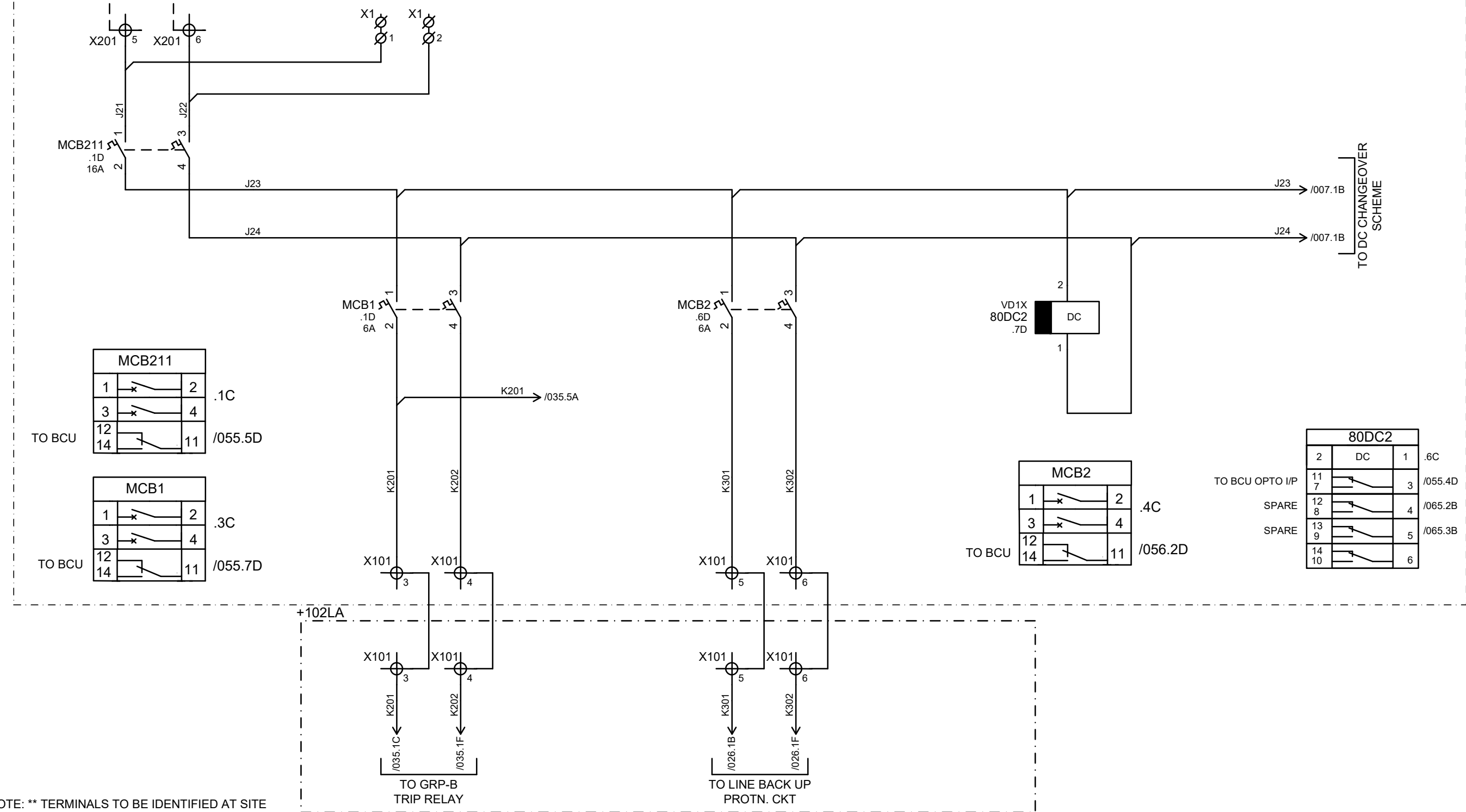
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ADJACENT PANEL

220V DC SOURCE-2

IN-7228081-S-06/029.3B

+102LB



MCB211			
1	x	2	.1C
3	x	4	/055.5D
12		11	
14			

TO BCU

MCB1			
1	x	2	.3C
3	x	4	/055.7D
12		11	
14			

TO BCU

MCB2			
1	x	2	.4C
3	x	4	/056.2D
12		11	
14			

TO BCU

80DC2			
2	DC	1	.6C
11		3	/055.4D
12		4	/065.2B
13		5	/065.3B
14		6	

TO BCU OPTO I/P
SPARE
SPARE

NOTE: ** TERMINALS TO BE IDENTIFIED AT SITE

CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

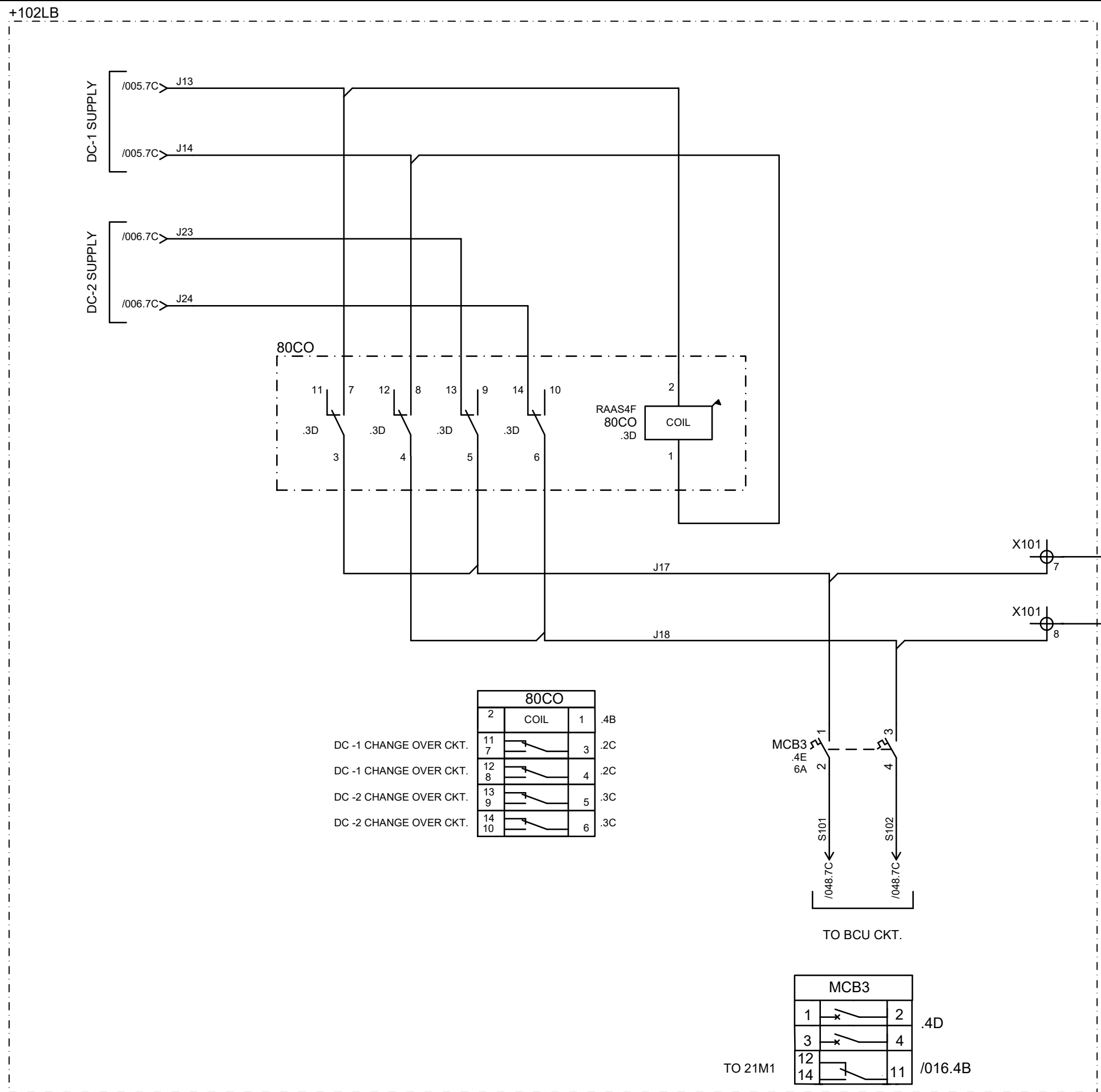
CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
DC DISTRIBUTION CKT.

PREPARED : MK	REVISION: Z	SHT :006
REVIEWED : DSS	DATE: 26-11-2018	CONT:007
APPROVED : RVN		
DRG. NO.: IN-7228081-S-01		

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NOTE: EFS WILL BE SHOWN MOUNTED AS PER SYSTEM ARCHITECTURE

132KV CIRCUITS		
BAY	EFS	LIU
102	EFS-B1 (+102LA)	LIU-A2 (+102LA)
104	EFS-B2 (+104LA)	LIU-A3 (+104LA)

MCB2			
1	2	.6D	
3	4		
12	11	/066.8C	
14			

80CO			
2	COIL	1	.4B
11		3	.2C
7		4	.2C
12		5	.3C
8		6	.3C
13			
9			
14			
10			

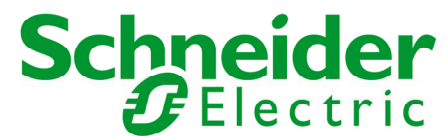
DC -1 CHANGE OVER CKT.
 DC -1 CHANGE OVER CKT.
 DC -2 CHANGE OVER CKT.
 DC -2 CHANGE OVER CKT.

MCB3			
1	2	.4D	
3	4		
12	11	/016.4B	
14			

TO 21M1

CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

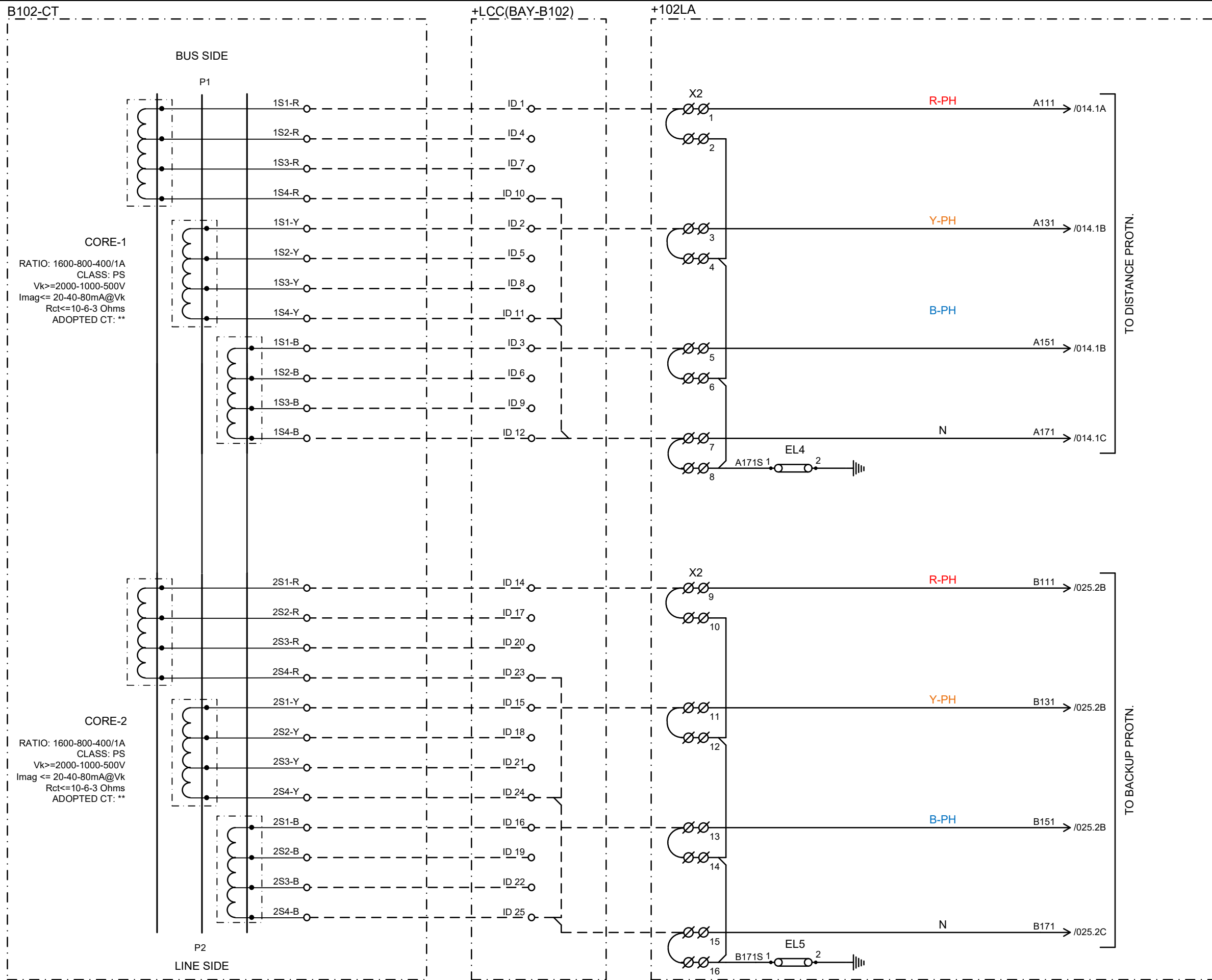
CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
DC CHANGEOVER SCHEME

PREPARED : MK
 REVIEWED : DSS
 APPROVED : RVN
 REVISION: Z
 DATE: 26-11-2018
 SHT :007
 CONT:008
DRG. NO.: IN-7228081-S-01

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CORE-1
 RATIO: 1600-800-400/1A
 CLASS: PS
 $V_k \geq 2000-1000-500V$
 $I_{mag} \leq 20-40-80mA@V_k$
 $R_{ct} \leq 10-6-3 \text{ Ohms}$
 ADOPTED CT: **

CORE-2
 RATIO: 1600-800-400/1A
 CLASS: PS
 $V_k \geq 2000-1000-500V$
 $I_{mag} \leq 20-40-80mA@V_k$
 $R_{ct} \leq 10-6-3 \text{ Ohms}$
 ADOPTED CT: **

CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

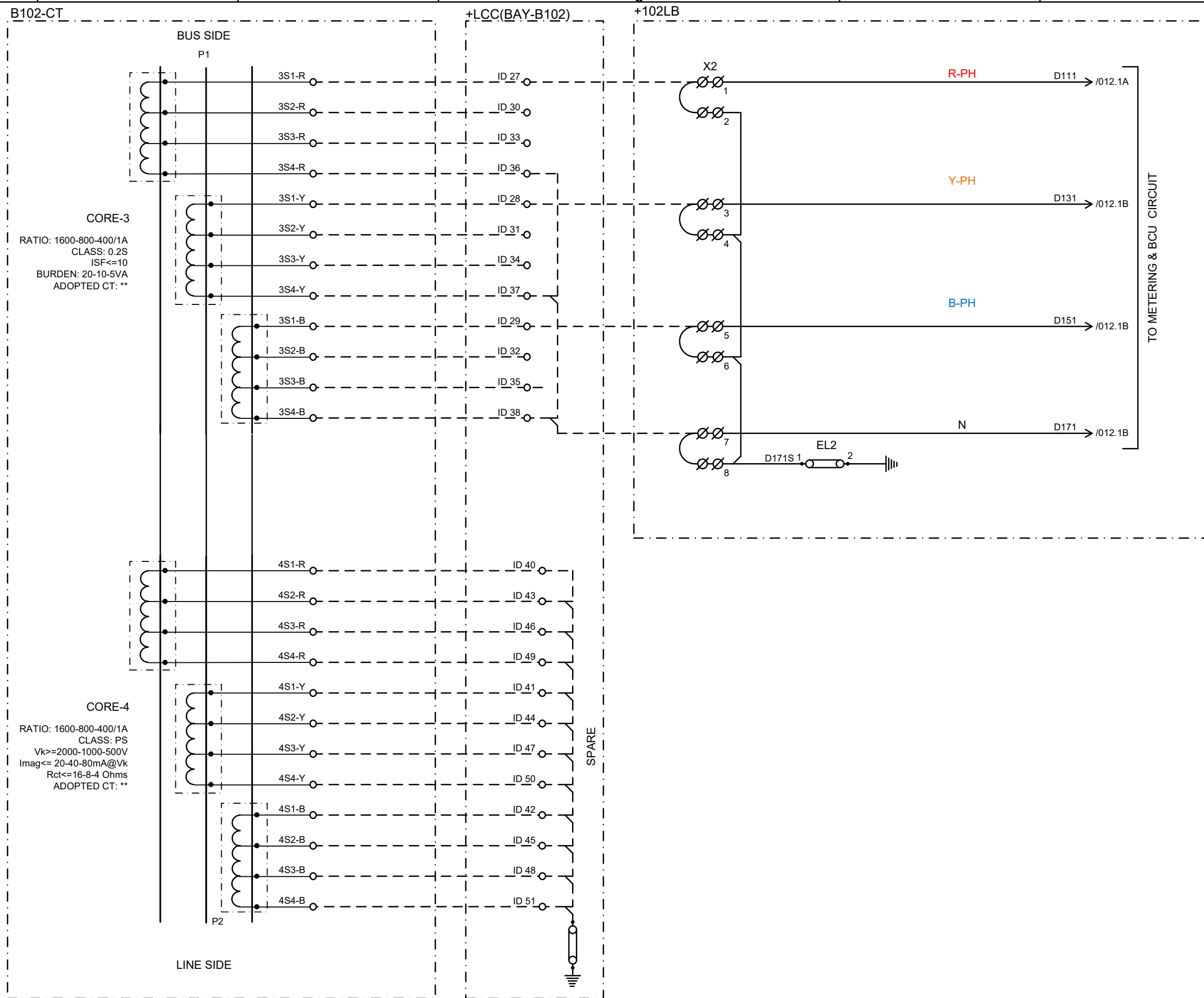
CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
CT DISTRIBUTION CIRCUIT

PREPARED : MK	REVISION: Z	SHT :008
REVIEWED : DSS	DATE: 26-11-2018	CONT:009
APPROVED : RVN		
DRG. NO.: IN-7228081-S-01		

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CORE-3
 RATIO: 1600-800-400/1A
 CLASS: 0.2S
 ISF<=10
 BURDEN: 20-10-5VA
 ADOPTED CT: **

CORE-4
 RATIO: 1600-800-400/1A
 CLASS: PS
 V_k>=2000-1000-500V
 I_{mag}<= 20-40-80mA@V_k
 R_{ct}<=16-8-4 Ohms
 ADOPTED CT: **

CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

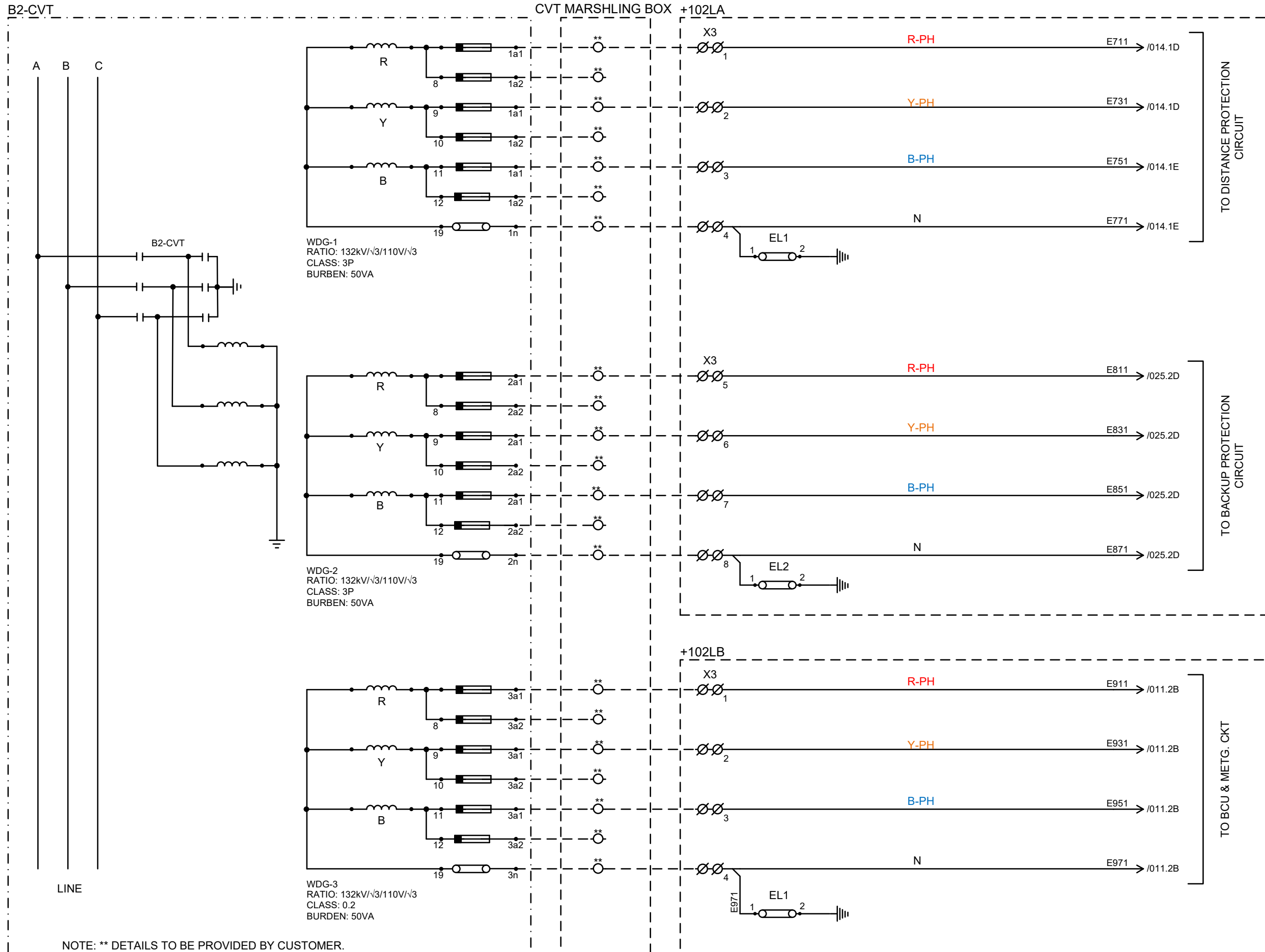
CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
CT DISTRIBUTION CIRCUIT

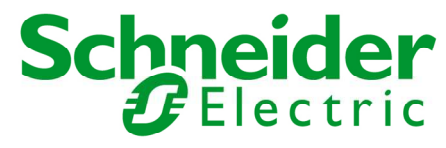
PREPARED : MK	REVISION: Z	SHT :009
REVIEWED : DSS	DATE: 26-11-2018	CONT: 010
APPROVED : RVN		
DRG. NO.: IN-7228081-S-01		

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CUSTOMER : HPPTCL
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

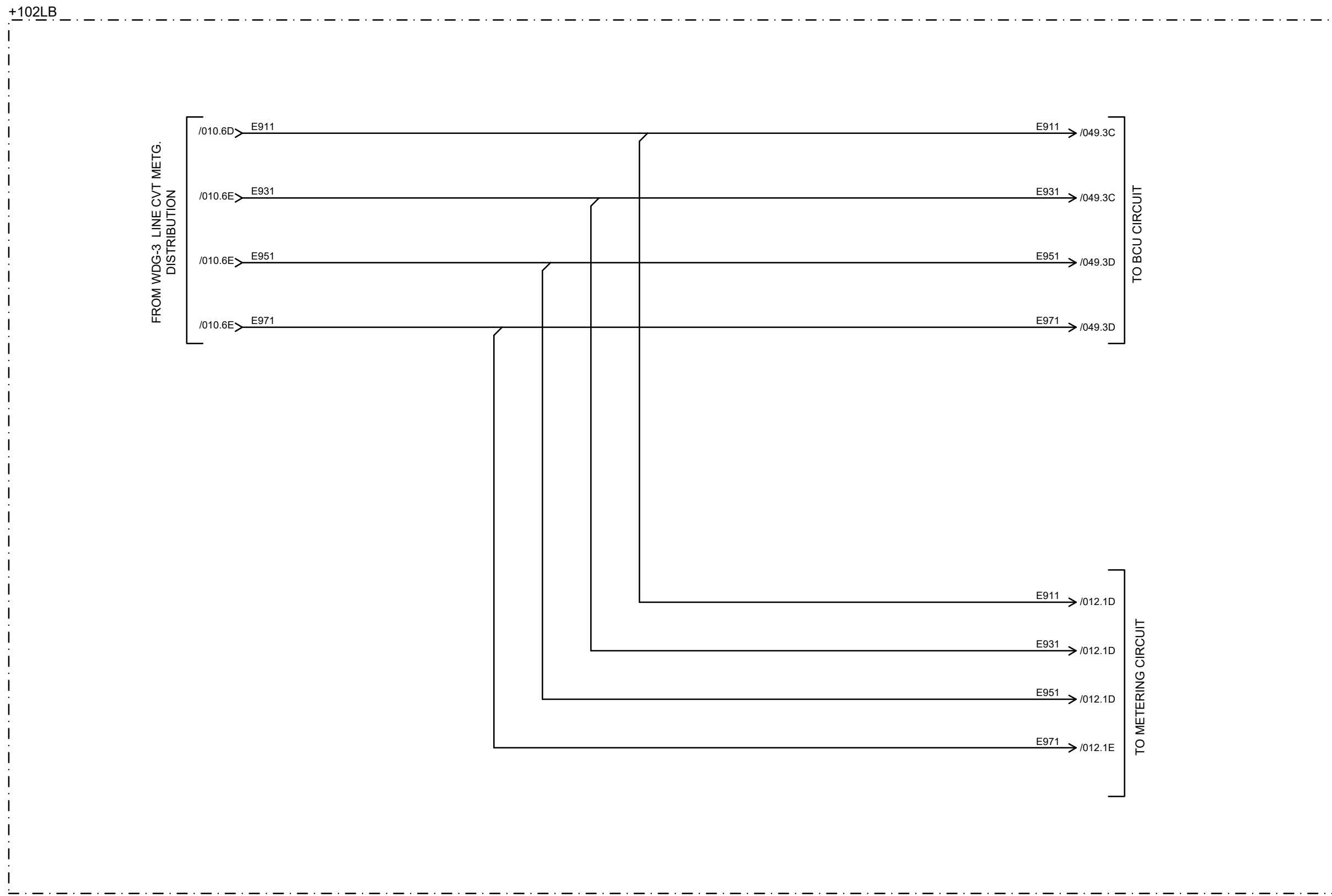
CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
LINE CVT CKT.

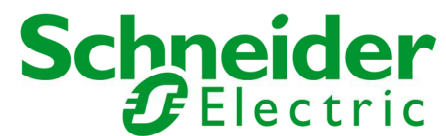
PREPARED : MK	REVISION: Z	SHT :010
REVIEWED : DSS	DATE: 26-11-2018	CONT:011
APPROVED : RVN		
DRG. NO.: IN-7228081-S-01		

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CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

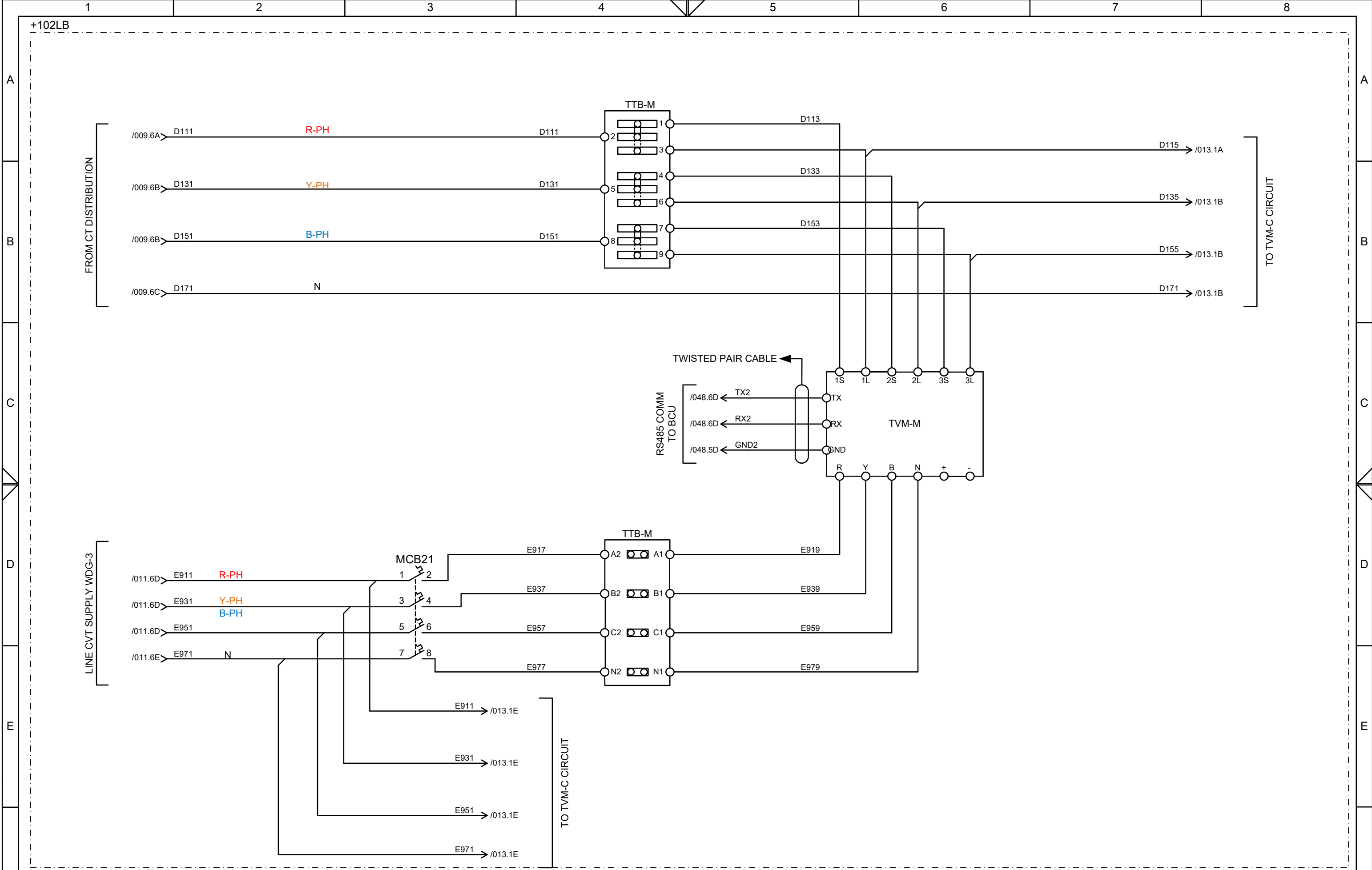
CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
LINE CVT DISTRIBUTION CKT.

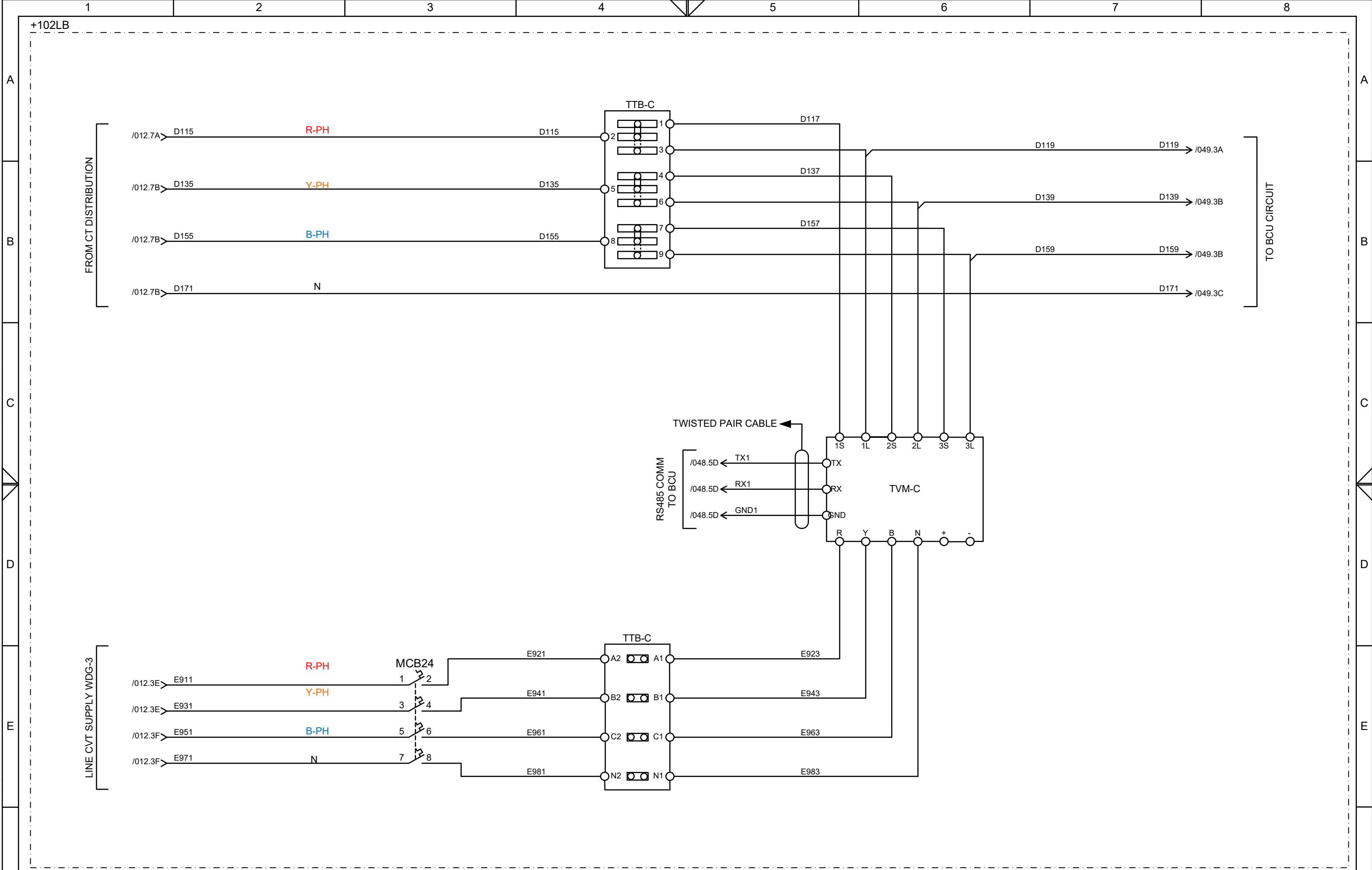
PREPARED : MK	REVISION: Z	SHT :011
REVIEWED : DSS	DATE: 26-11-2018	CONT:012
APPROVED : RVN	DRG. NO.: IN-7228081-S-01	

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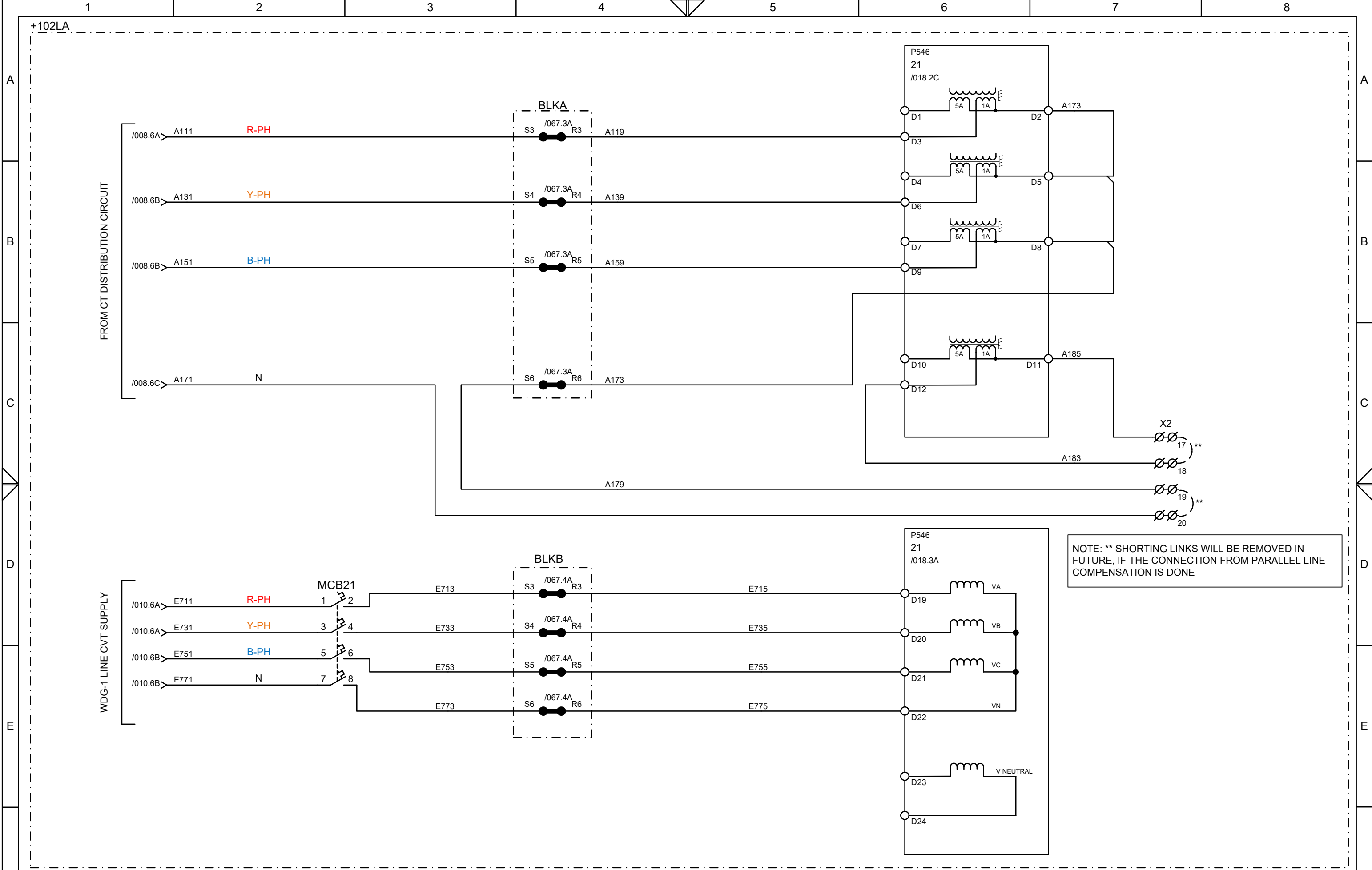
CUSTOMER : HPPTCL PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI PO. No. & Date: PO00365/15-16, DATED: 10.10.2015		CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD				TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102) METERING CKT.		PREPARED : MK REVIEWED : DSS APPROVED : RVN DRG. NO.: IN-7228081-S-01		REVISION: Z DATE: 26-11-2018		SHT :012 CONT:013	
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CUSTOMER : HPPTCL PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI PO. No. & Date: PO00365/15-16, DATED: 10.10.2015		CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD				TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102) METERING CKT.		PREPARED : MK REVIEWED : DSS APPROVED : RVN DRG. NO.: IN-7228081-S-01		REVISION: Z DATE: 26-11-2018		SHT :013 CONT:014	
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NOTE: ** SHORTING LINKS WILL BE REMOVED IN FUTURE, IF THE CONNECTION FROM PARALLEL LINE COMPENSATION IS DONE

CUSTOMER : HPPTCL
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

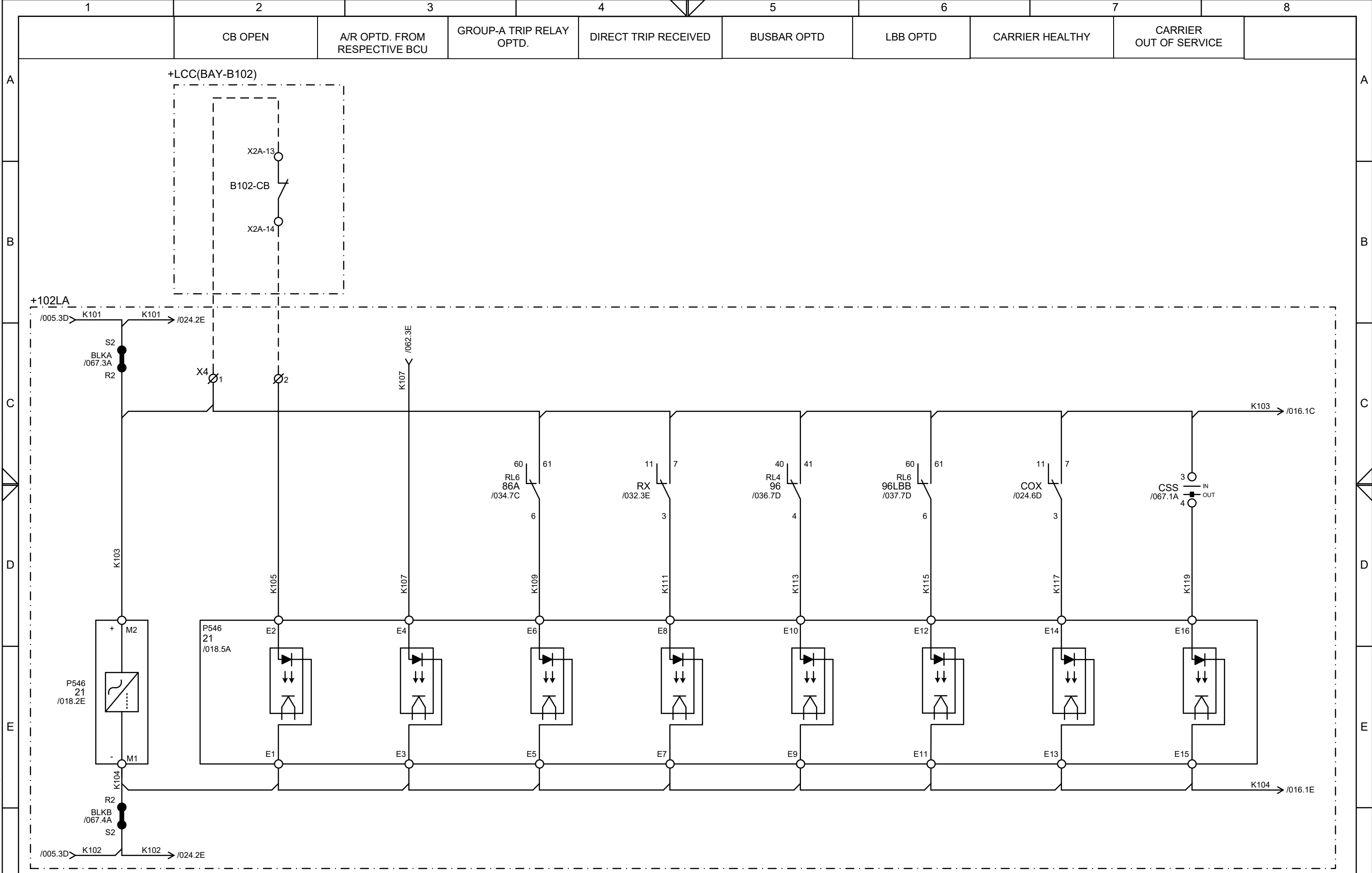
CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE : 132KV LINE-1 PROTECTION PANEL (BAY-B102)
DISTANCE PROT.-AC CKT.

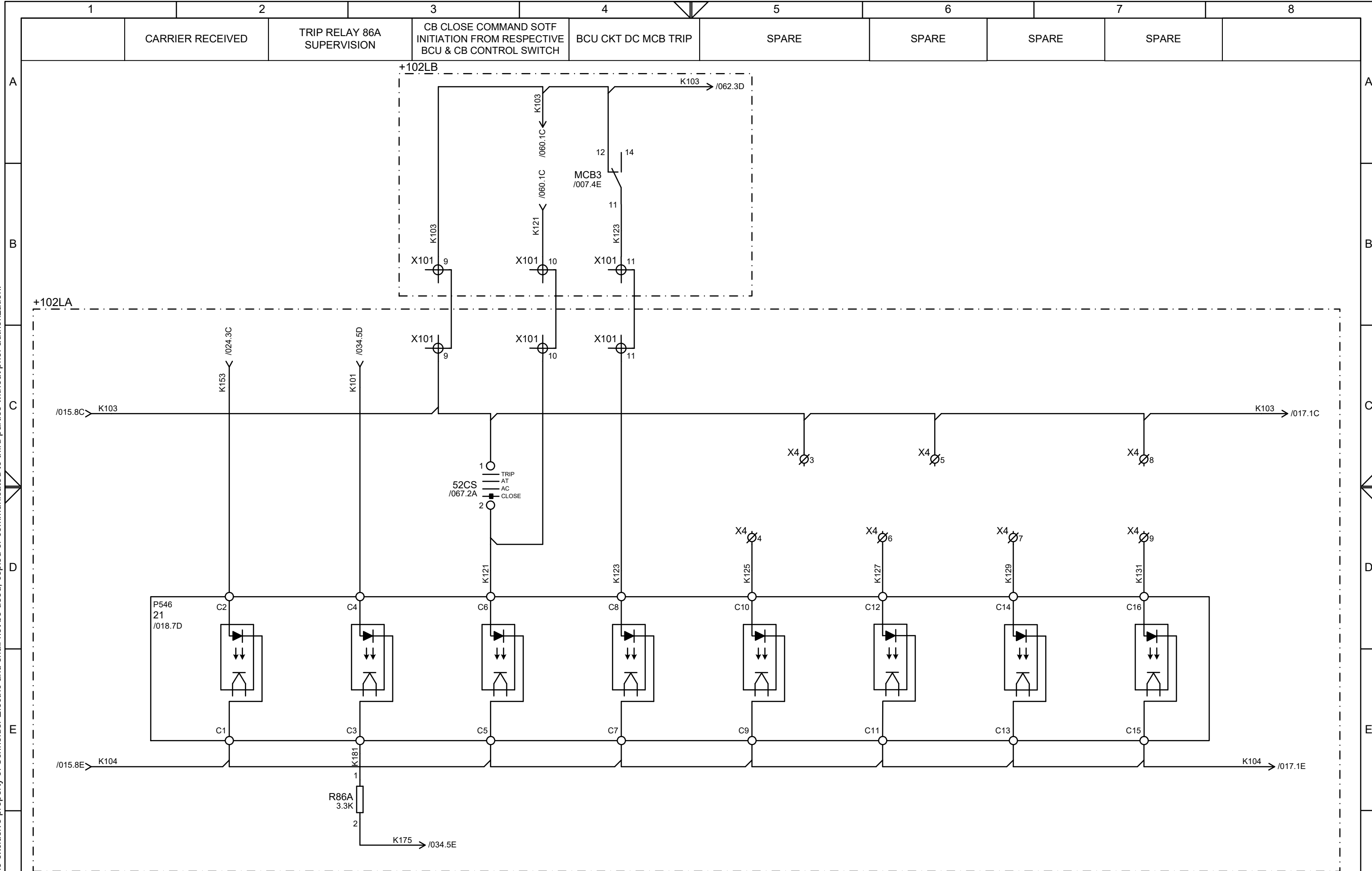
PREPARED : MK	REVISION: Z	SHT :014
REVIEWED : DSS	DATE: 26-11-2018	CONT:015
APPROVED : RVN		
DRG. NO.: IN-7228081-S-01		

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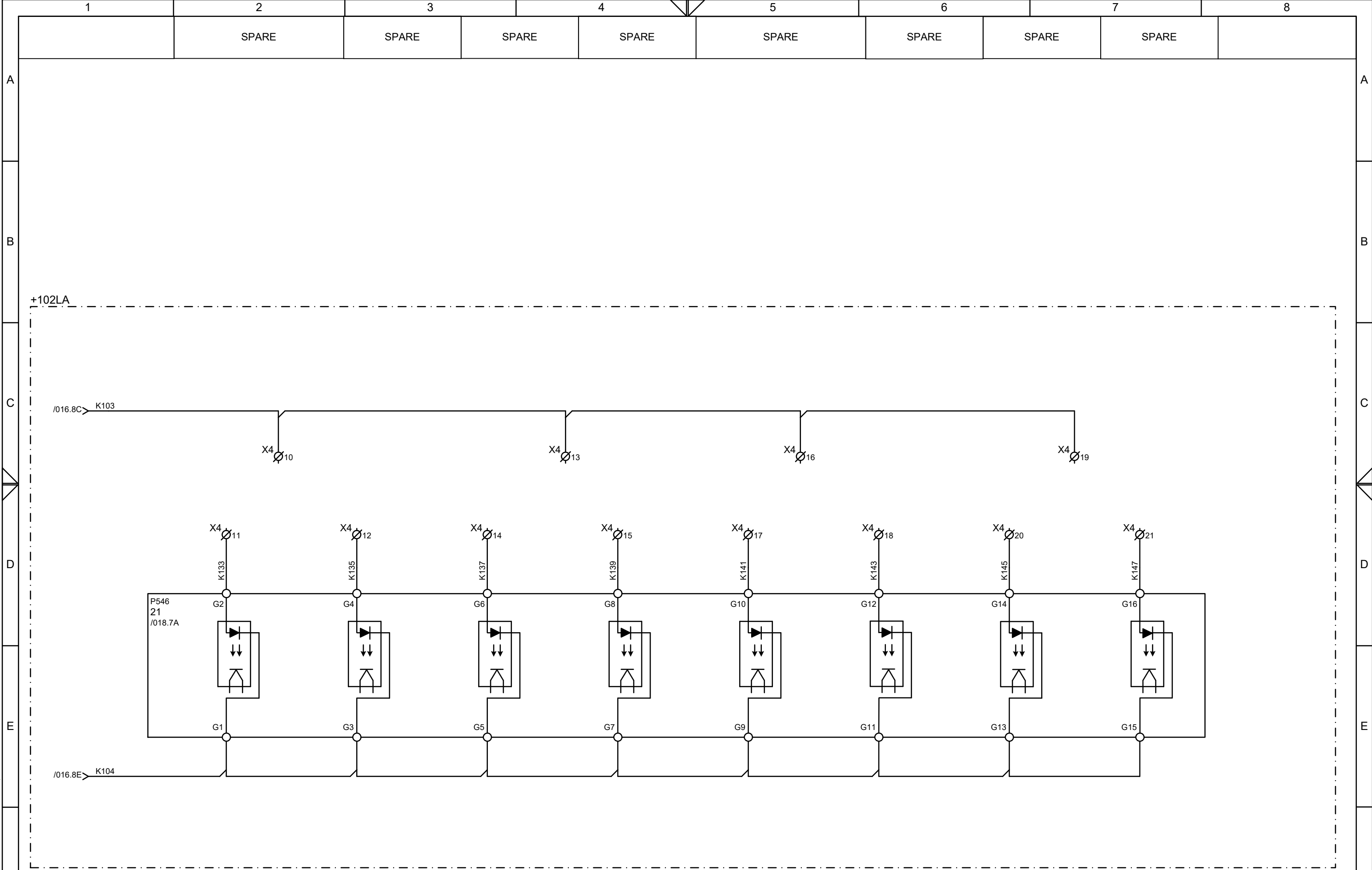
CUSTOMER : HPPTCL PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI PO. No. & Date: PO00365/15-16, DATED: 10.10.2015		CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD				TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102) DISTANCE PROT.N.-DC OPTO I/P CKT.		PREPARED : MK REVISION: Z REVIEWED : DSS DATE: 26-11-2018 APPROVED : RVN DRG. NO.: IN-7228081-S-01		SHT :015 CONT:016	
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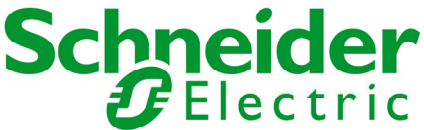
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CUSTOMER : HPPTCL PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI PO. No. & Date: PO00365/15-16, DATED: 10.10.2015		CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD				TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102) DISTANCE PROT.N.-DC OPTO I/P CKT.		PREPARED : MK REVISION: Z DATE: 26-11-2018 SHT :016	
								APPROVED : RVN CONT:017	
								DRG. NO.: IN-7228081-S-01	

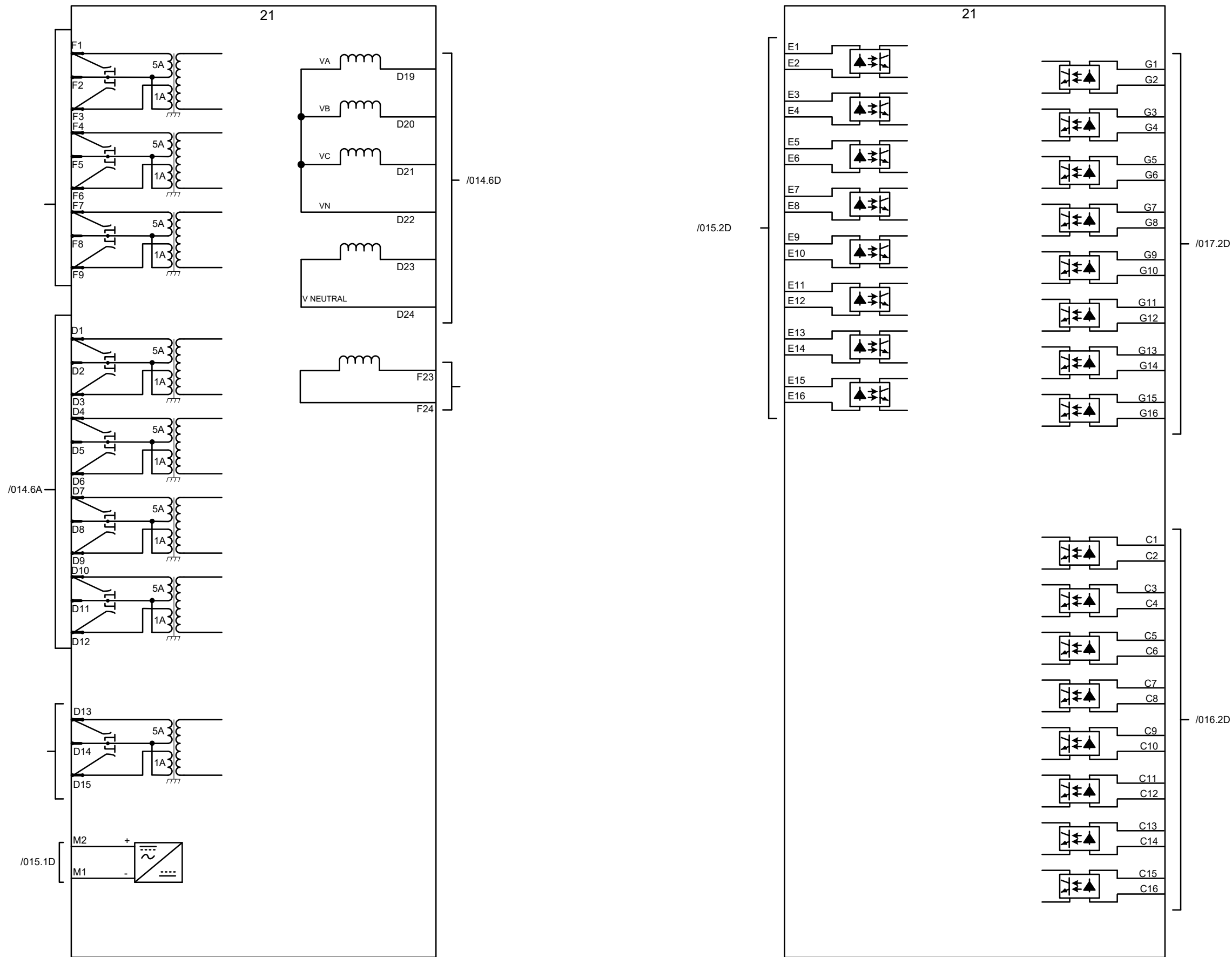
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CUSTOMER : HPPTCL PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI PO. No. & Date: PO00365/15-16, DATED: 10.10.2015	CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD		TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102) DISTANCE PROT.N.-DC OPTO I/P CKT.	PREPARED : MK REVIEWED : DSS APPROVED : RVN DRG. NO.: IN-7228081-S-01	REVISION: Z DATE: 26-11-2018	SHT :017 CONT:018
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+102LA



CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD

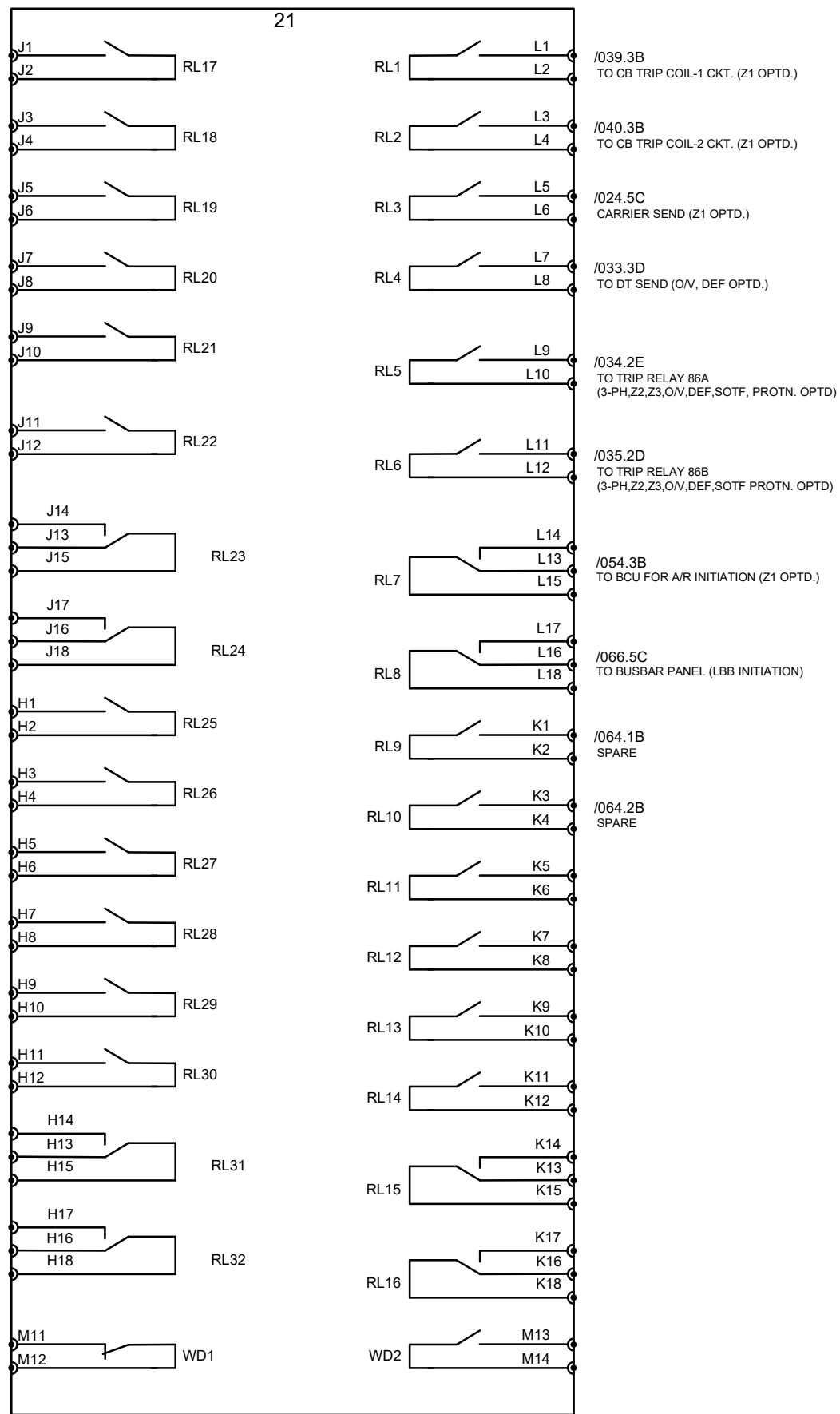


TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
21M1 RELAY CONTACT DISTRIBUTION

PREPARED : MK	REVISION: Z	SHT :018
REVIEWED : DSS	DATE: 26-11-2018	CONT:019
APPROVED : RVN		
DRG. NO.: IN-7228081-S-01		

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+102LA



MICOM P546 LED CONFIGURATION (DEDICATED LED's)	
	TRIP
	ALARM
	OUT OF SERVICE
	HEALTHY

MICOM P546 LED CONFIGURATION (USER PROGRAMMABLE LED's)	
	DIST.PROTN.OPERATED
	SOTF OPERATED
	ZONE-1 OPERATED
	ZONE-2 OPERATED
	ZONE-3 OPERATED
	OVER VOLTAGE OPERATED
	DEF OPERATED
	SPARE

CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015


CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
21M1 RELAY CONTACT DISTRIBUTION


PREPARED : MK	REVISION: Z	SHT :019
REVIEWED : DSS	DATE: 26-11-2018	CONT:020
APPROVED : RVN	DRG. NO.: IN-7228081-S-01	

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SL.NO	STATUS (21M1) - MiCOM P546	OPTO INPUTS															
		V/P-1	V/P-2	V/P-3	V/P-4	V/P-5	V/P-6	V/P-7	V/P-8	V/P-9	V/P-10	V/P-11	V/P-12	V/P-13	V/P-14	V/P-15	V/P-16
		FOR DR	FOR DR	FOR DR	FOR DR	FOR DR	FOR DR	FOR DR	FOR DR & A/R/L/O	FOR DR	FOR DR	FOR DR	SPARE	SPARE	SPARE	SPARE	SPARE
01	CB OPEN	✓															
02	MAIN A/R OPTD. FROM RESPECTIVE BCU		✓														
03	GROUP-A TRIP RELAY OPTD.			✓													
04	DIRECT TRIP RECEIVED				✓												
05	BUSBAR OPTD.					✓											
06	LBB OPTD.						✓										
07	CARRIER HEALTHY							✓									
08	CARRIER OUT OF SERVICE								✓								
09	CARRIER RECEIVED									✓							
10	TRIP RELAY 86A SUPERVISION										✓						
11	CB CLOSE COMMAND SOTF INITIATION											✓					
12	BCU CKT DC MCB TRIP												✓				
13	SPARE													✓	✓	✓	✓

CUSTOMER : HPPTCL		CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD			TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)		PREPARED : MK	REVISION: Z	SHT :020
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI					21M1 RELAY FUNCTIONS I/O DETAILS		REVIEWED : DSS	DATE: 26-11-2018	CONT:021
PO. No.& Date: PO00365/15-16, DATED: 10.10.2015							APPROVED : RVN	DRG. NO.: IN-7228081-S-01	

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SL.NO	PROTECTION FUNCTIONS 21M1 (P546 RELAY)	OUTPUT RELAYS															
		RL1	RL2	RL3	RL4	RL5	RL6	RL7	RL8	RL9	RL10	RL11	RL12	RL13	RL14	RL15	RL16
		CB TRIP COIL-1 CKT.	CB TRIP COIL-2 CKT.	CARRIER SEND	DT SNED	TO TRIP RELAY 86A	TO TRIP RELAY 86B	TO BCU FOR A/R INITIATION	LBB INITIATION	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE
01	DISTANCE ZONE-1 OPERATED	✓	✓	✓				✓	✓								
02	DISTANCE ZONE-2 OPERATED					✓	✓										
03	DISTANCE ZONE-3 OPERATED					✓	✓										
04	O/V,DEF PROTECTION OPERATED				✓	✓	✓										
05	SOTF PROTECTION OPERATED					✓	✓										
06	RELAY FAULTY																
07	SPARE									✓	✓	✓	✓	✓	✓	✓	✓

CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015


CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
21M1 RELAY FUNCTIONS I/O DETAILS


PREPARED : MK	REVISION: Z	SHT :021
REVIEWED : DSS	DATE: 26-11-2018	CONT:022
APPROVED : RVN	DRG. NO.: IN-7228081-S-01	

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SL.NO		PROTECTION FUNCTIONS 21M1 (P546 RELAY)																	
		RL17	RL18	RL19	RL20	RL21	RL22	RL23	RL24	RL25	RL26	RL27	RL28	RL29	RL30	RL31	RL32	WD1	WD2
		SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	TO BCU	SPARE
01	DISTANCE ZONE-1 OPERATED																		
02	DISTANCE ZONE-2 OPERATED																		
03	DISTANCE ZONE-3 OPERATED																		
04	O/V,DEF PROTECTION OPERATED																		
05	SOTF PROTECTION OPERATED																		
06	RELAY FAULTY																	✓	
07	SPARE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓

CUSTOMER : HPPTCL PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI PO. No. & Date: PO00365/15-16, DATED: 10.10.2015	CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD		TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102) 21M1 RELAY FUNCTIONS I/O DETAILS	PREPARED : MK REVIEWED : DSS APPROVED : RVN DRG. NO.: IN-7228081-S-01	REVISION: Z DATE: 26-11-2018	SHT :022 CONT:023
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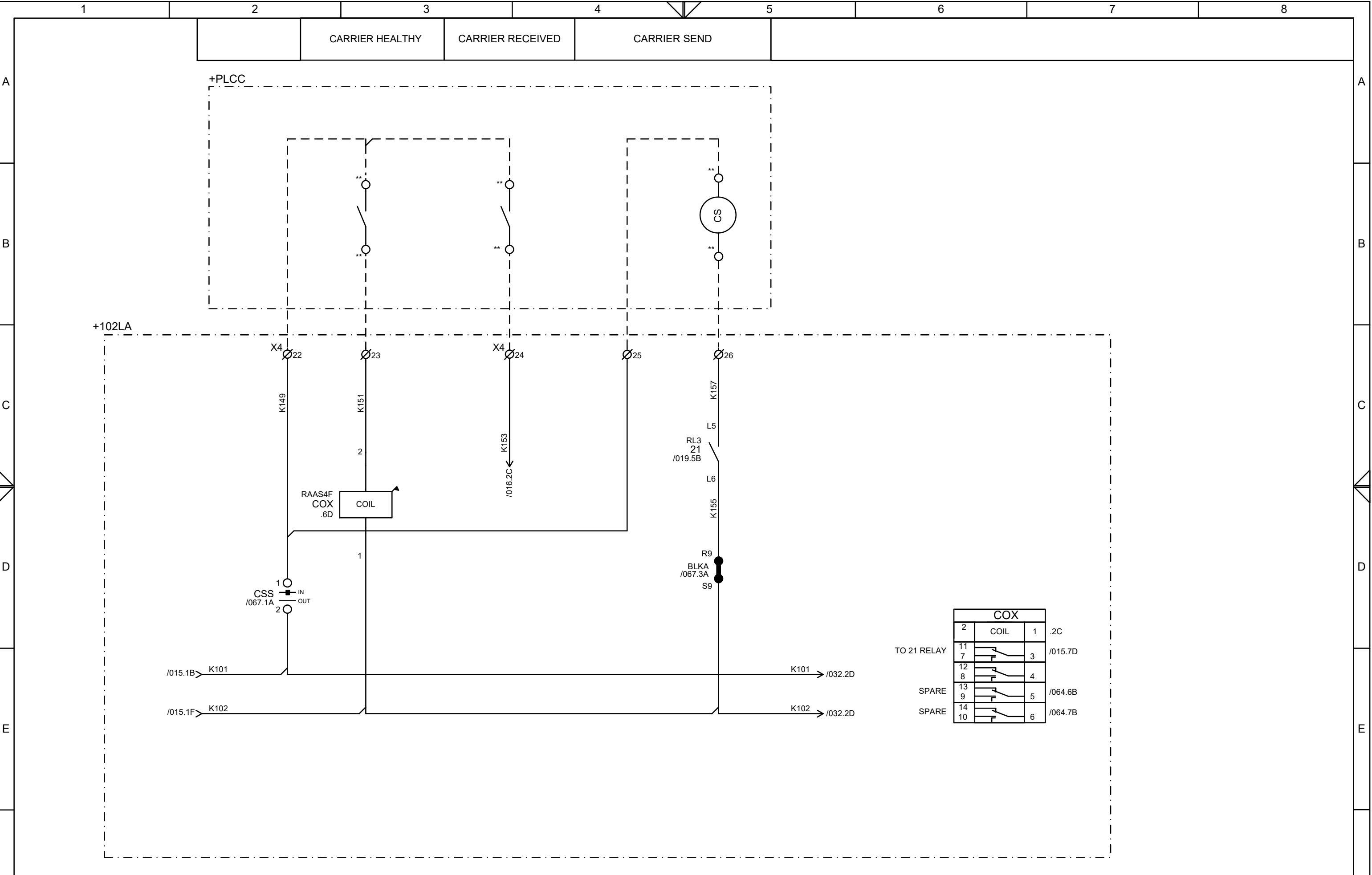
1	2	3	4	5	6	7	8	
A								A
B	GOOSE SIGNAL LIST 							B
C								C
D								D
E								E
F								F

SL.NO	SIGNALS	FROM SOURCE EQUIPMENTS	FROM PANEL REFERENCE	TO RELAY
01	CARRIER CH OUT OF SERVICE	21M1	+102LA	BCU

CUSTOMER : HPPTCL	CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD		TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)	PREPARED : MK	REVISION: Z	SHT :023
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI			21M1 RELAY FUNCTIONS GOOSE LIST	REVIEWED : DSS	DATE: 26-11-2018	CONT:024
PO. No.& Date: PO00365/15-16, DATED: 10.10.2015				APPROVED : RVN	DRG. NO.: IN-7228081-S-01	

1	2	3	4	5	6	7	8
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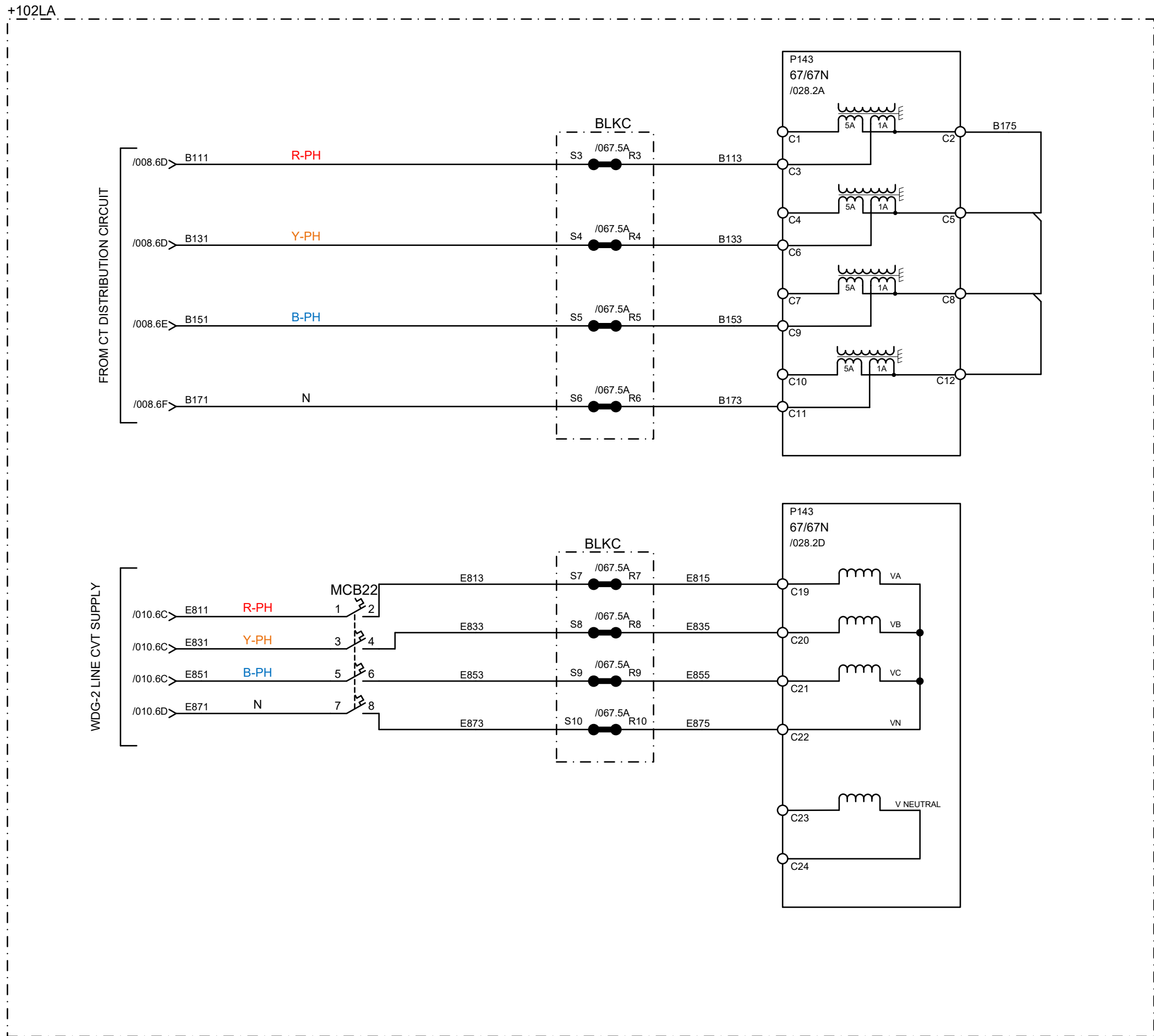
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COX			
2	COIL	1	.2C
11		3	/015.7D
7		4	
12		5	/064.6B
8		6	/064.7B
13			
9			
14			
10			

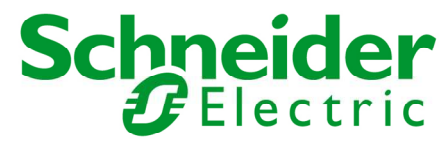
CUSTOMER : HPPTCL PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI PO. No. & Date: PO00365/15-16, DATED: 10.10.2015		CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD				TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102) DISTANCE PROT.N.-CARRIER CKT.		PREPARED : MK REVISION: Z DATE: 26-11-2018 SHT :024 CONT:025	
DRG. NO.: IN-7228081-S-01									

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CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

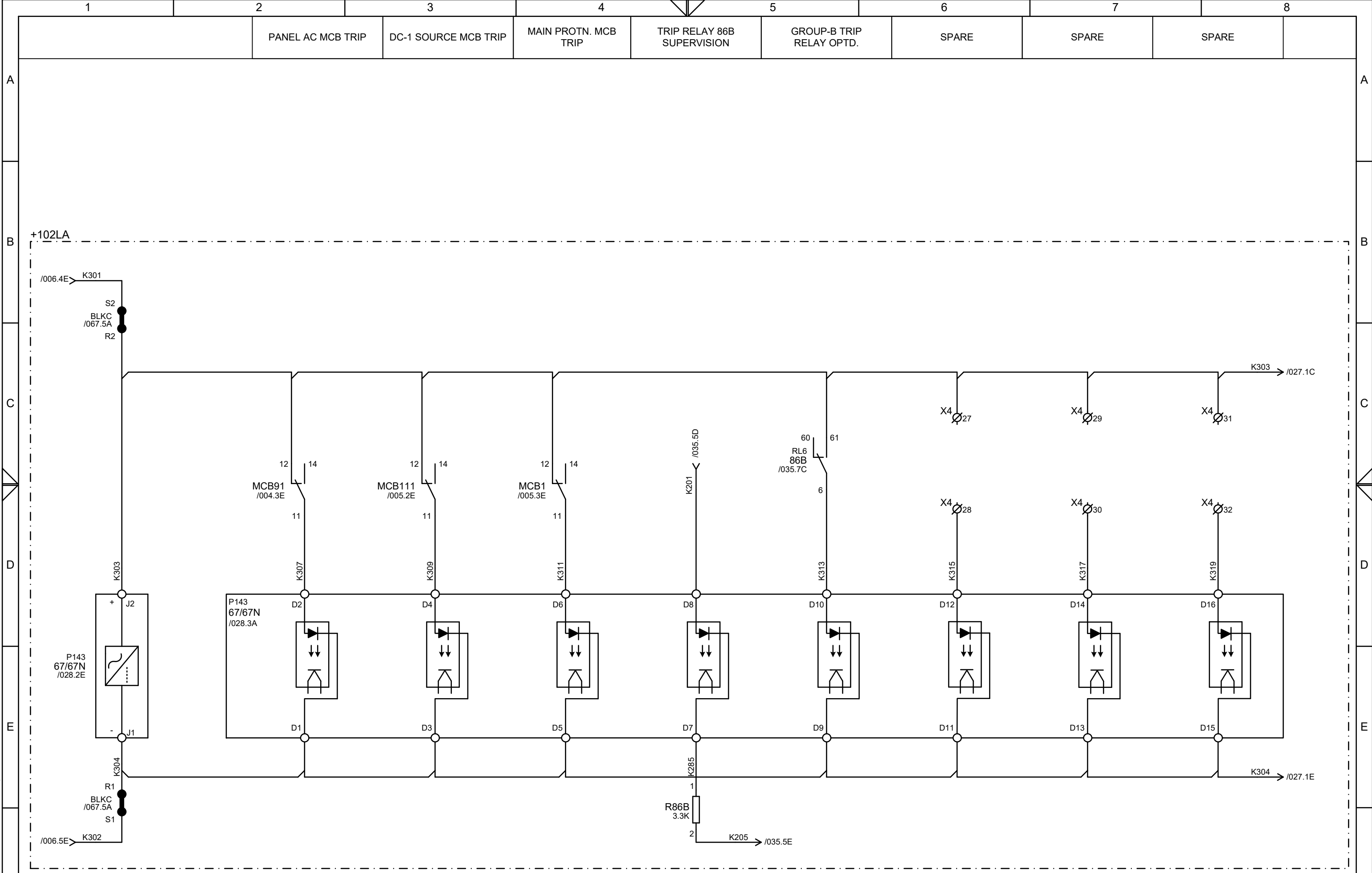
CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
 DIR. O/C & E/F PROTN.-AC CKT.

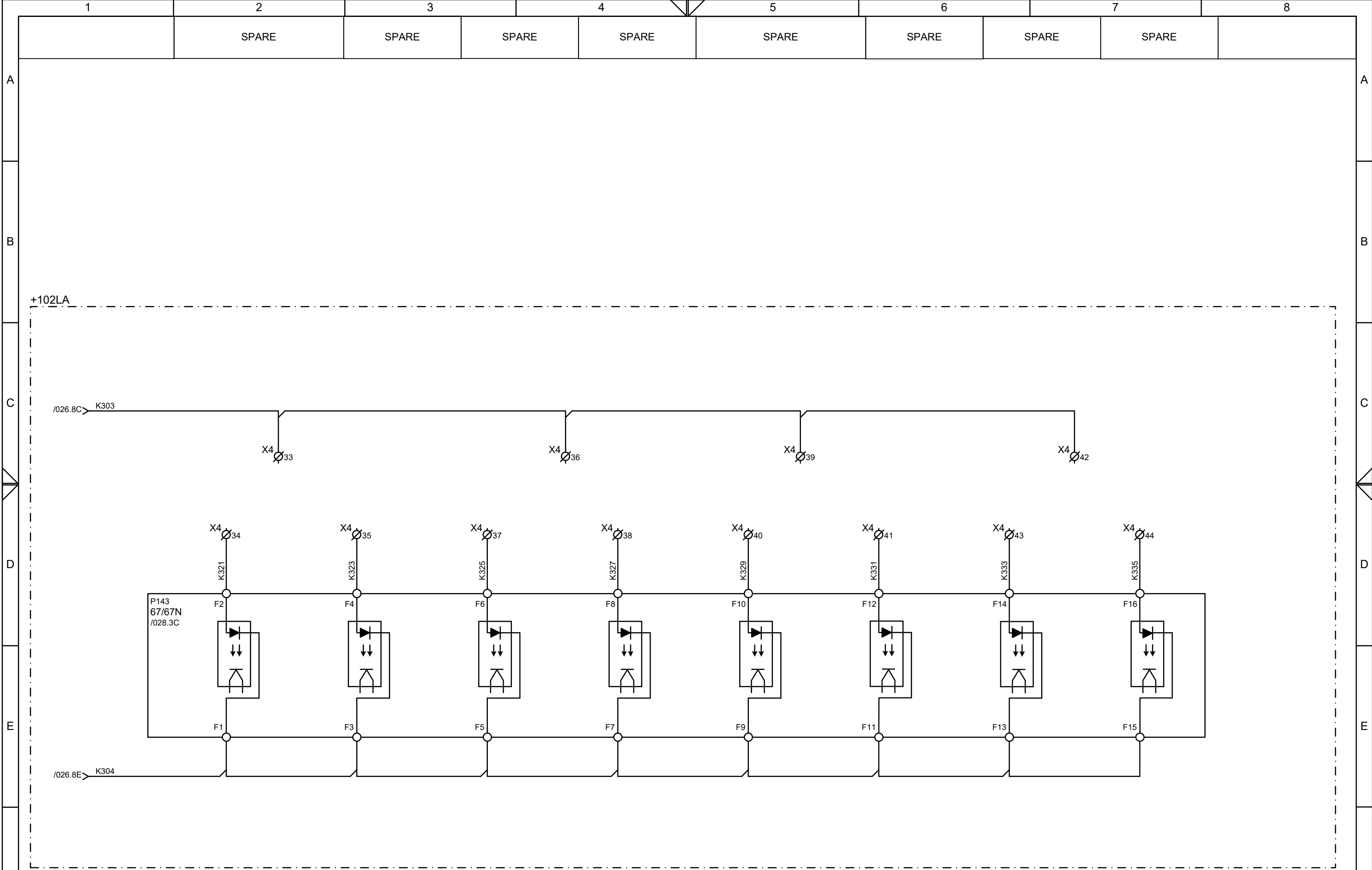
PREPARED : MK	REVISION: Z	SHT :025
REVIEWED : DSS	DATE: 26-11-2018	CONT:026
APPROVED : RVN		
DRG. NO.: IN-7228081-S-01		

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CUSTOMER : HPPTCL	CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD		TITLE : 132KV LINE-1 PROTECTION PANEL (BAY-B102) DIR. O/C & E/F PROTN.-DC OPTO I/P CKT.
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI			PREPARED : MK REVIEWED : DSS APPROVED : RVN DRG. NO.: IN-7228081-S-01
PO. No. & Date: PO00365/15-16, DATED: 10.10.2015			REVISION: Z DATE: 26-11-2018 SHT :026 CONT:027

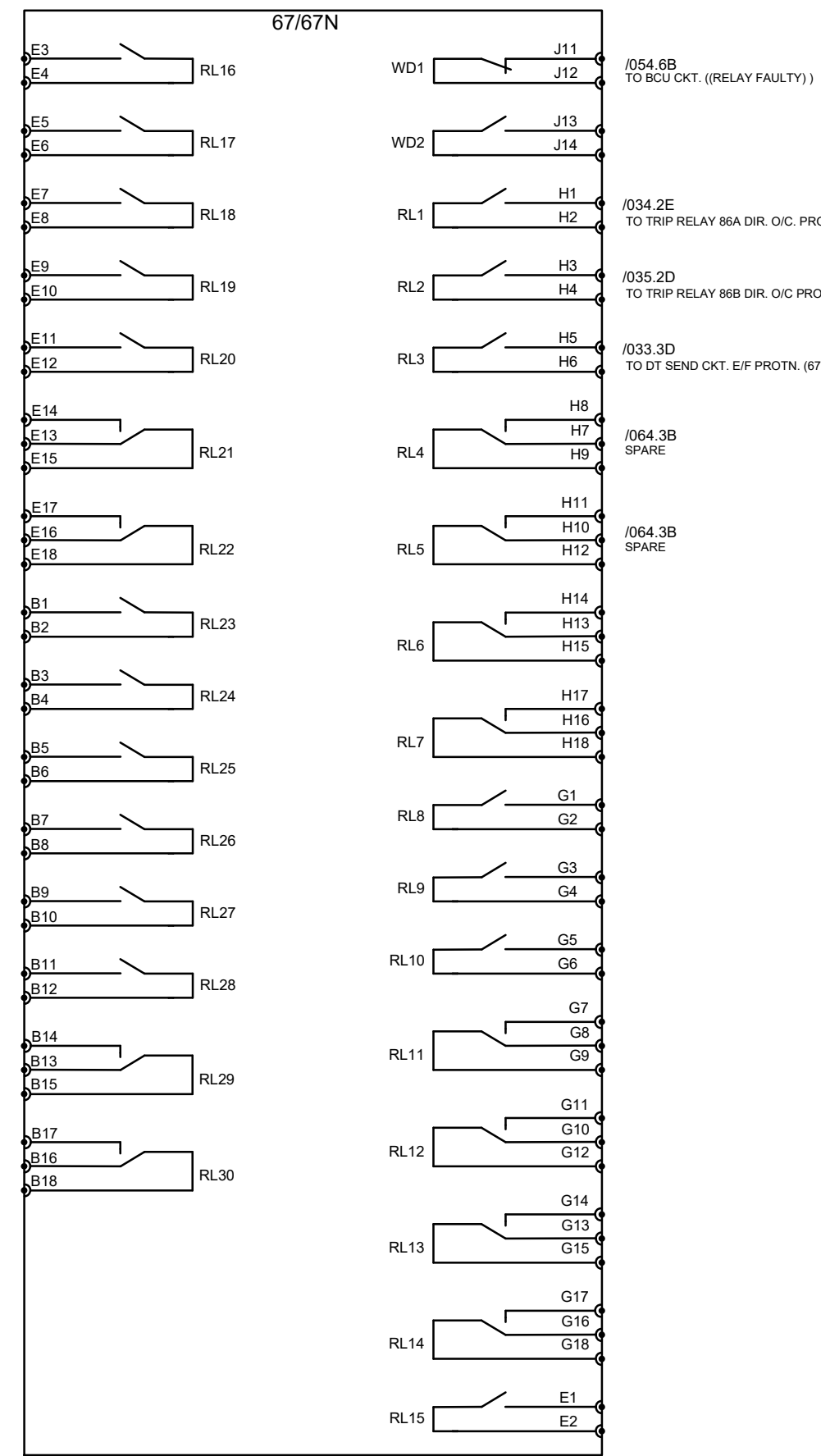
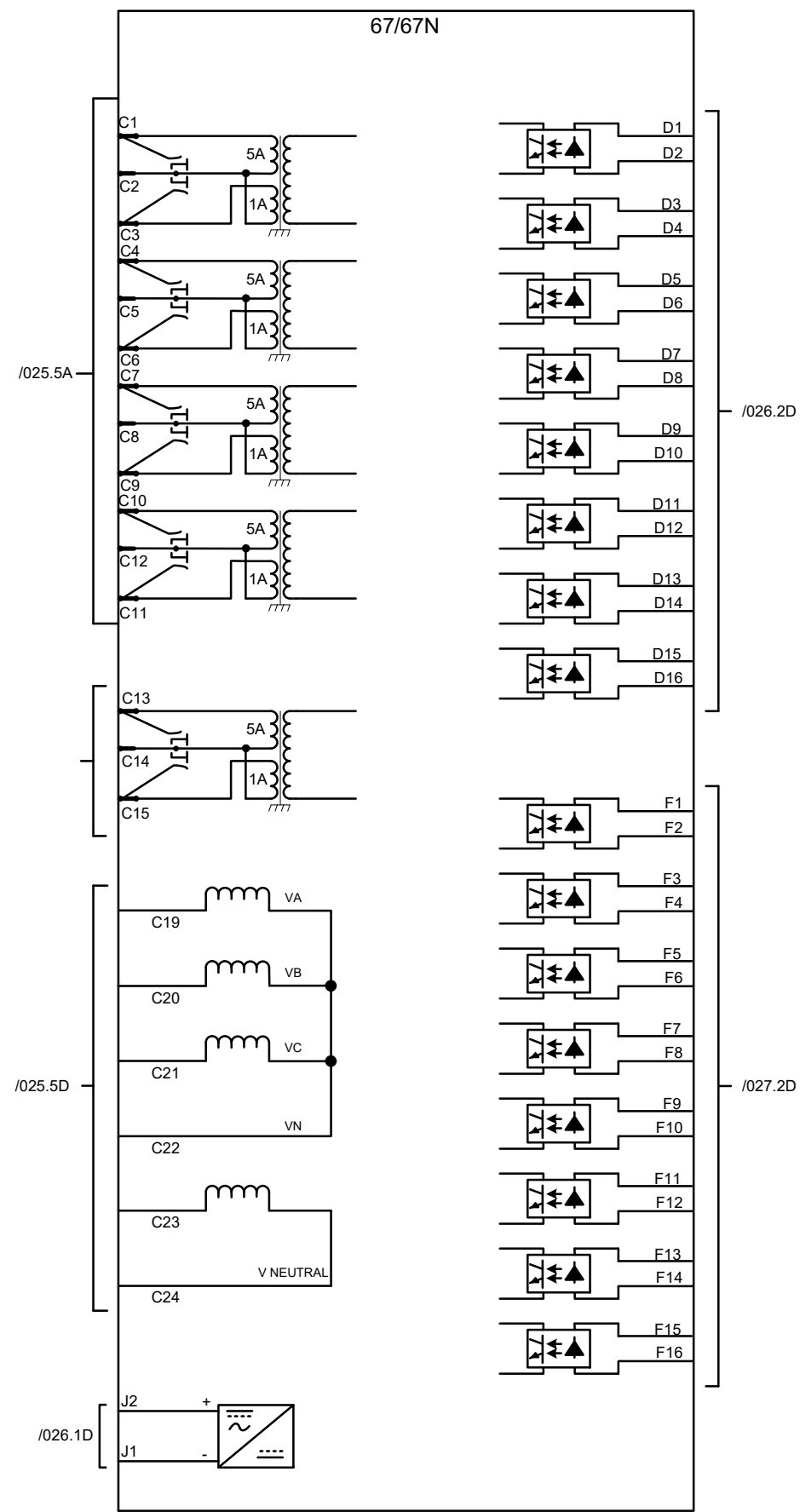
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CUSTOMER : HPPTCL PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI PO. No. & Date: PO00365/15-16, DATED: 10.10.2015	CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD		TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102) DIR. O/C & E/F PROTN.-DC OPTO I/P CKT.	PREPARED : MK REVIEWED : DSS APPROVED : RVN DRG. NO.: IN-7228081-S-01	REVISION: Z DATE: 26-11-2018	SHT :027 CONT:028
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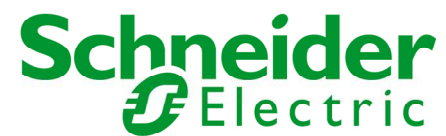
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+102LA



CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015


CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
MAIN-1 RELAY CONTACT DISTRIBUTION

PREPARED : MK	REVISION: Z	SHT :028
REVIEWED : DSS	DATE: 26-11-2018	CONT:029
APPROVED : RVN	DRG. NO.: IN-7228081-S-01	

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SL.NO	P143-PROTECTION FUNCTIONS(67/67N)	OPTO I							
		V/P-1	V/P-2	V/P-3	V/P-4	V/P-5	V/P-6	V/P-7	V/P-8
		FOR DR	FOR DR	FOR DR	FOR SUPERVISION	FOR DR	SPARE	SPARE	SPARE
01	PANEL AC MCB TRIP	✓							
02	DC-1 SOURCE MCB TRIP		✓						
03	MAIN PROTN. MCB TRIP			✓					
04	TRIP RELAY 86B SUPERVISION				✓				
05	GROUP-B TRIP RELAY OPERATED					✓			
06	SPARE						✓	✓	✓
07	SPARE								

CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015


CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
67/67N RELAY FUNCTIONS I/O DETAILS


PREPARED : MK	REVISION: Z	SHT :029
REVIEWED : DSS	DATE: 26-11-2018	CONT:030
APPROVED : RVN	DRG. NO.: IN-7228081-S-01	

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SL.NO	P143-PROTECTION FUNCTIONS(67/67N)	OUTPUT RELAYS															
		RL1	RL2	RL3	RL4	RL5	RL6	RL7	RL8	RL9	RL10	RL11	RL12	RL13	RL14	RL15	RL16
		TO DT SEND CH	SPARE	TO TRIP RELAY 86A	TO TRIP RELAY 86B	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE
01	EARTH FAULT PROTN. OPERATED	✓															
02	DIR. O/C PROTN. OPERATED			✓	✓												
03	RELAY FAULTY																
04	SPARE		✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

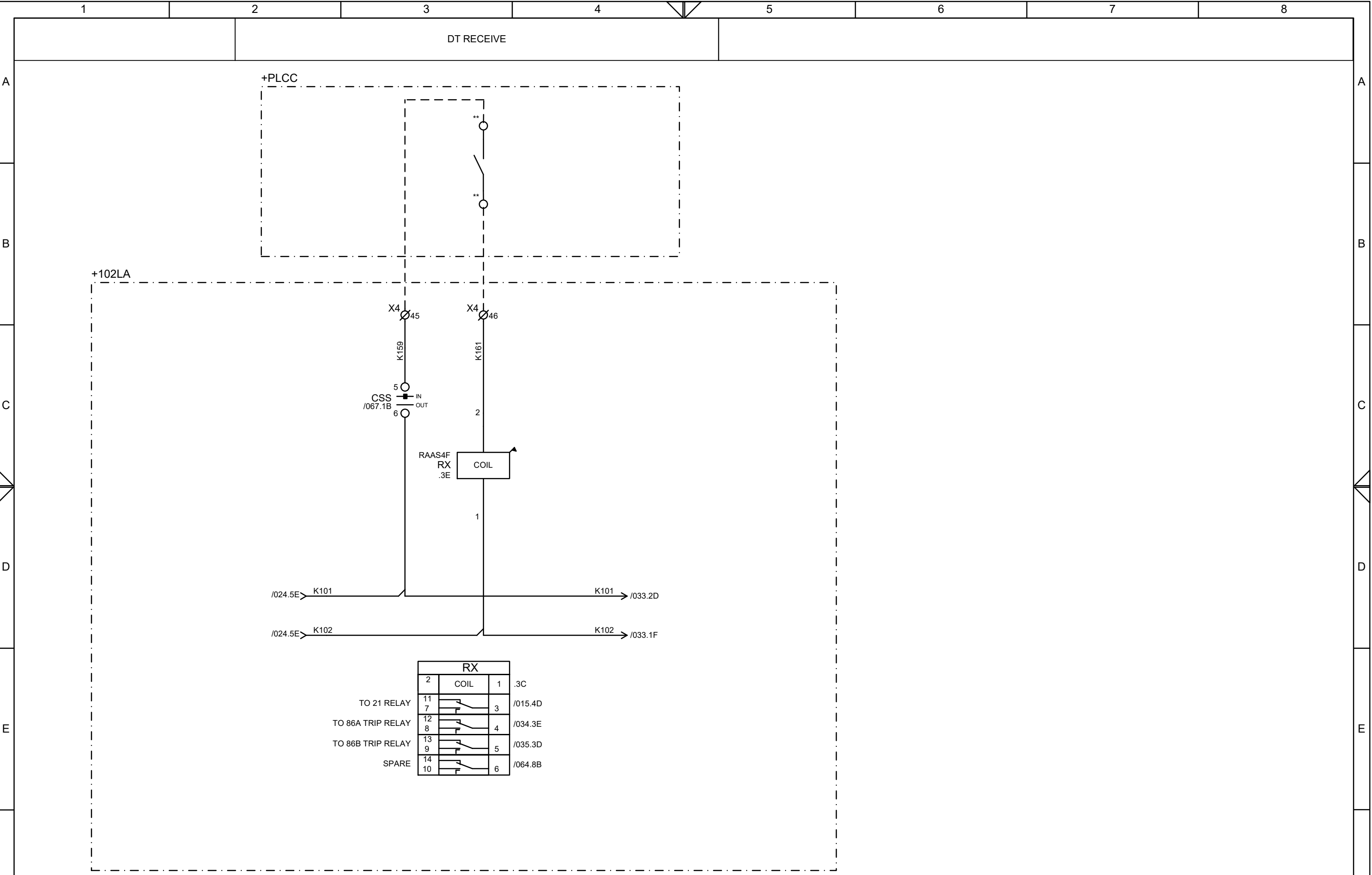
CUSTOMER : HPPTCL PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI PO. No. & Date: PO00365/15-16, DATED: 10.10.2015	CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD		TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102) 67/67N RELAY FUNCTIONS I/O DETAILS	PREPARED : MK	REVISION: Z	SHT :030
				REVIEWED : DSS APPROVED : RVN	DATE: 26-11-2018	CONT:031
				DRG. NO.: IN-7228081-S-01		

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SL.NO	P143-PROTECTION FUNCTIONS(67/67N)	OUTPUT RELAYS																	
		RL17	RL18	RL19	RL20	RL21	RL22	RL23	RL24	RL25	RL26	RL27	RL28	RL29	RL30	RL31	RL32	WD1	WD2
		SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	TO BCU	SPARE
01	EARTH FAULT PROTN. OPERATED																		
02	DIR. O/C PROTN. OPERATED																		
03	RELAY FAULTY																	✓	
04	SPARE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓

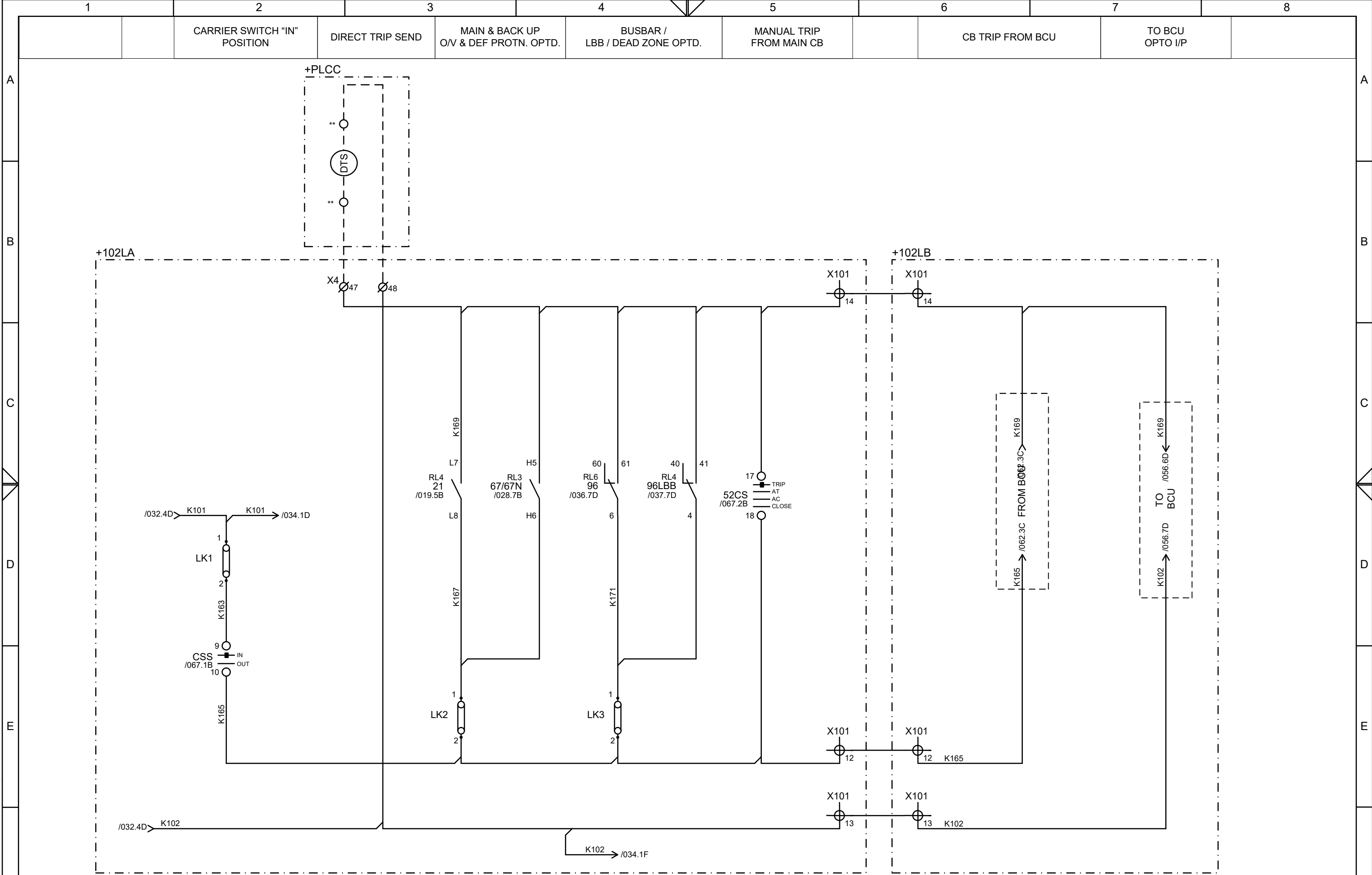
CUSTOMER : HPPTCL PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI PO. No. & Date: PO00365/15-16, DATED: 10.10.2015	CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD		TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)		PREPARED : MK	REVISION: Z	SHT :031
			67/67N RELAY FUNCTIONS I/O DETAILS		REVIEWED : DSS	DATE: 26-11-2018	CONT:032
					APPROVED : RVN	DRG. NO.: IN-7228081-S-01	

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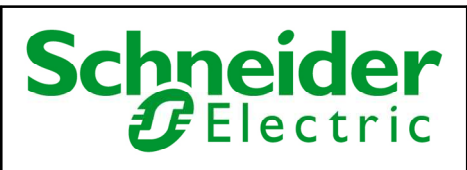
CUSTOMER : HPPTCL	CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD		TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)	PREPARED : MK	REVISION: Z	SHT :032
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI			DIRECT TRIP COMMAND RECEIVE CKT.	REVIEWED : DSS	DATE: 26-11-2018	CONT:033
PO. No.& Date: PO00365/15-16, DATED: 10.10.2015				APPROVED : RVN		
				DRG. NO.: IN-7228081-S-01		

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CUSTOMER : HPPTCL
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

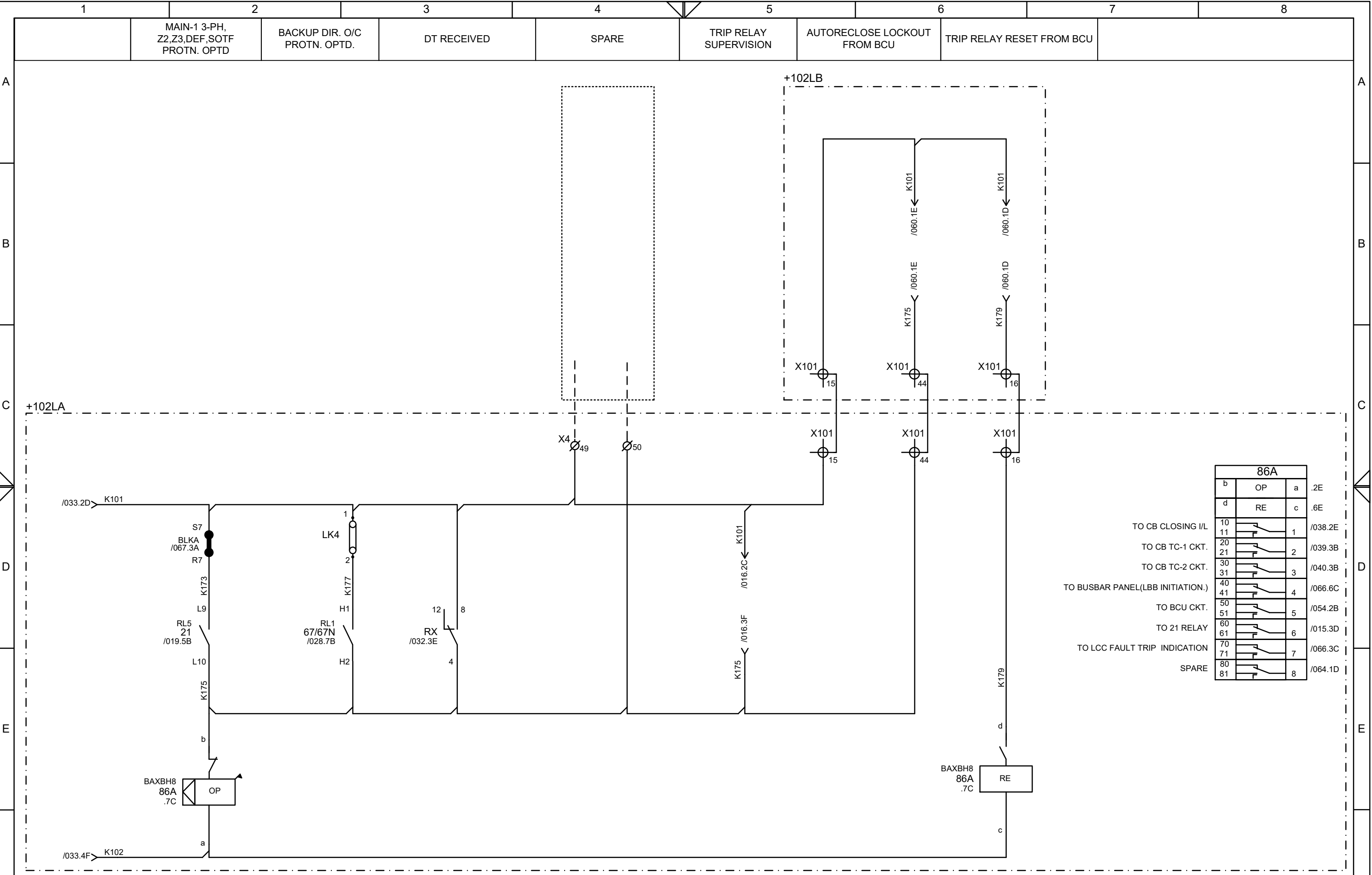
CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE : 132KV LINE-1 PROTECTION PANEL (BAY-B102)
DIRECT TRIP SEND CKT.

PREPARED : MK	REVISION: Z	SHT :033
REVIEWED : DSS	DATE: 26-11-2018	CONT:034
APPROVED : RVN		
DRG. NO.: IN-7228081-S-01		

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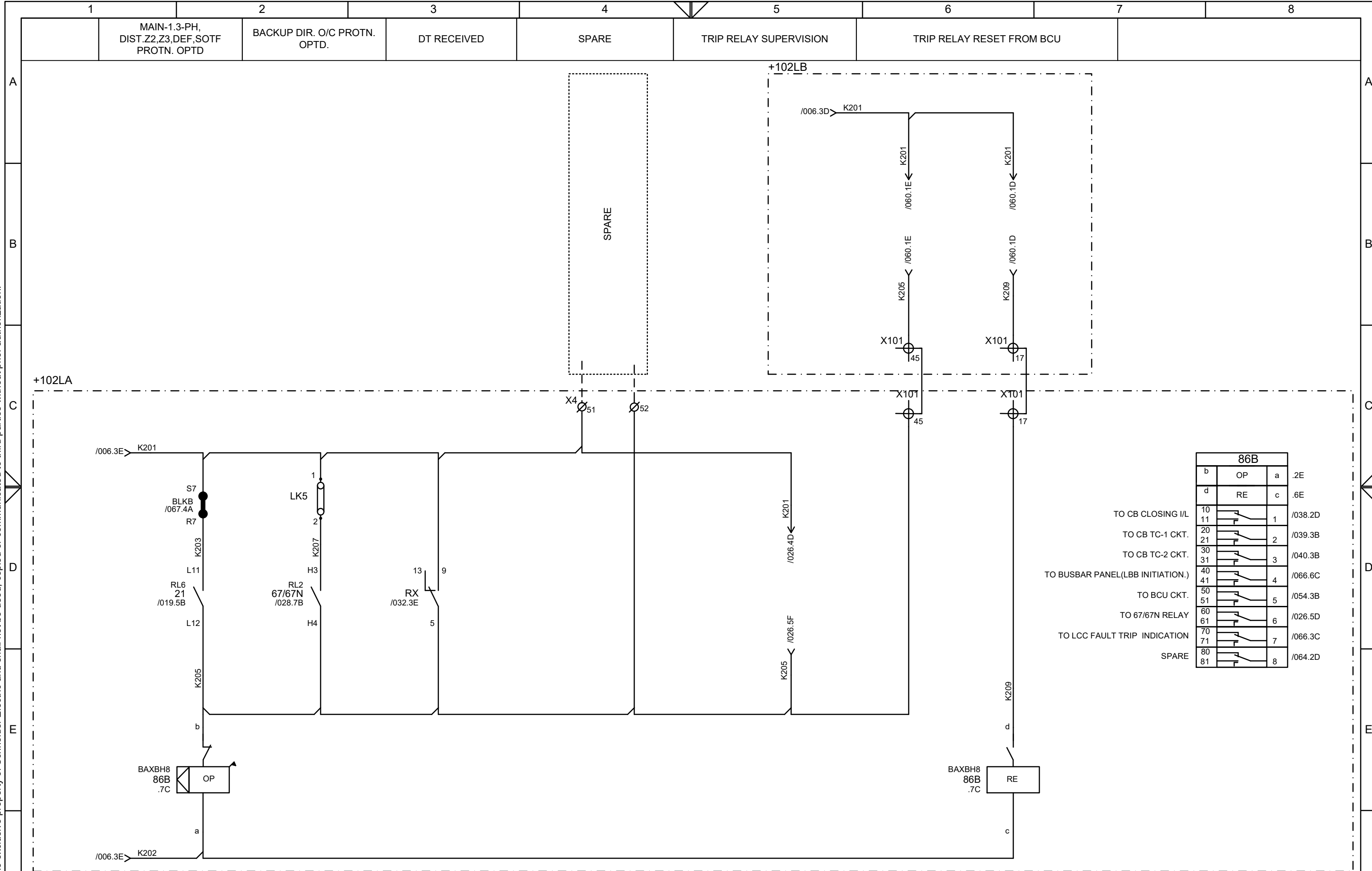


86A			
b	OP	a	.2E
d	RE	c	.6E
10		1	/038.2E
11		2	/039.3B
20		3	/040.3B
21		4	/066.6C
30		5	/054.2B
31		6	/015.3D
40		7	/066.3C
41		8	/064.1D
50			
51			
60			
61			
70			
71			
80			
81			

- TO CB CLOSING I/L
- TO CB TC-1 CKT.
- TO CB TC-2 CKT.
- TO BUSBAR PANEL(LBB INITIATION.)
- TO BCU CKT.
- TO 21 RELAY
- TO LCC FAULT TRIP INDICATION
- SPARE

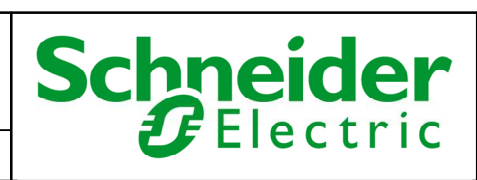
CUSTOMER : HPPTCL PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI PO. No. & Date: PO00365/15-16, DATED: 10.10.2015		CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD				TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102) GROUP-A TRIP RELAY CKT.		PREPARED : MK REVIEWED : DSS APPROVED : RVN		REVISION: Z DATE: 26-11-2018		SHT :034 CONT:035	
DRG. NO.: IN-7228081-S-01													

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CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

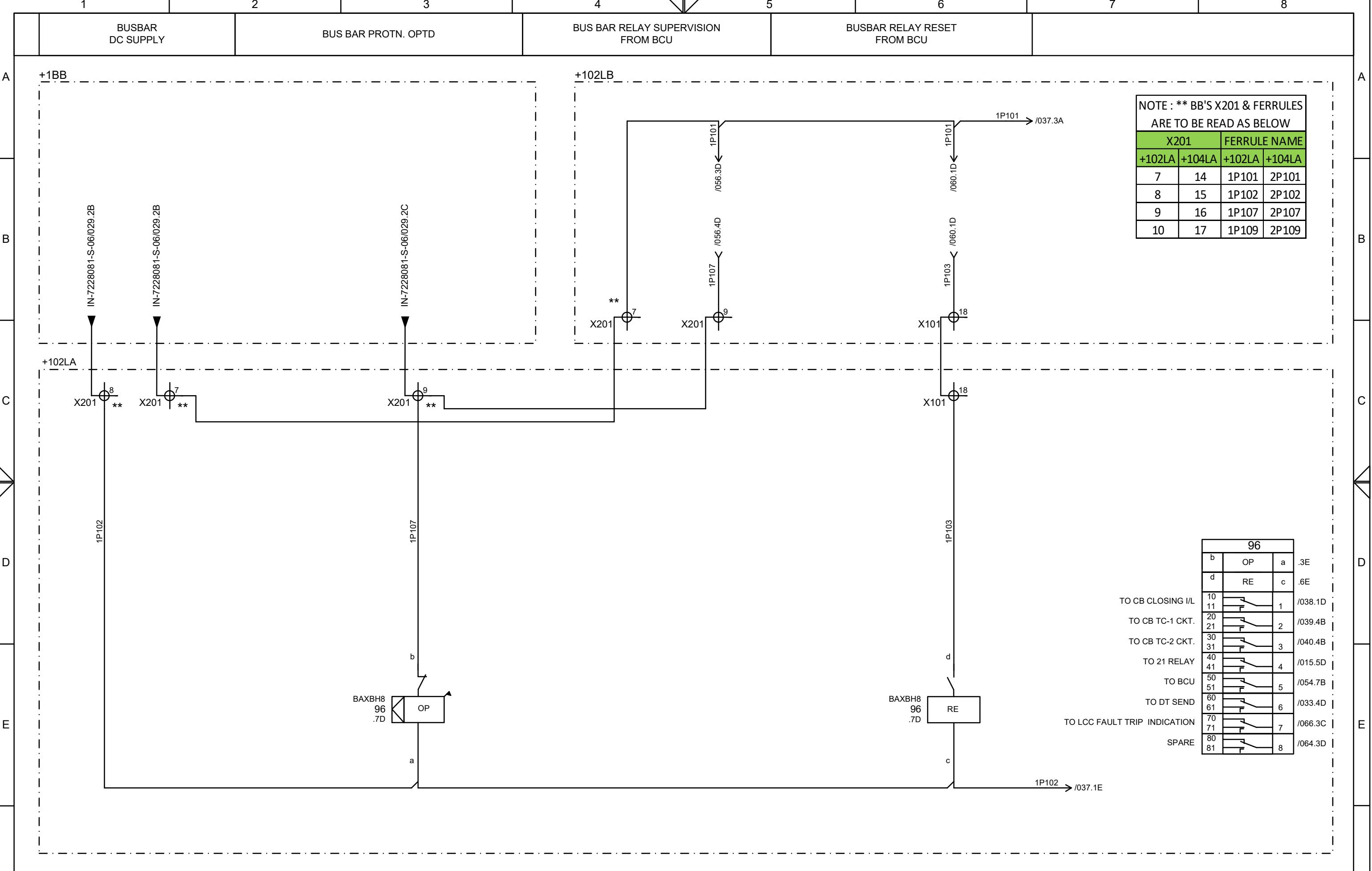
CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
GROUP-B TRIP RELAY CKT.

PREPARED : MK
 REVISION: Z
 REVIEWED : DSS
 DATE: 26-11-2018
 APPROVED : RVN
 SHT :035
 CONT:036
DRG. NO.: IN-7228081-S-01

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NOTE : ** BB'S X201 & FERRULES ARE TO BE READ AS BELOW

X201		FERRULE NAME	
+102LA	+104LA	+102LA	+104LA
7	14	1P101	2P101
8	15	1P102	2P102
9	16	1P107	2P107
10	17	1P109	2P109

96			
b	OP	a	.3E
d	RE	c	.6E
10		1	/038.1D
11			
20		2	/039.4B
21			
30		3	/040.4B
31			
40		4	/015.5D
41			
50		5	/054.7B
51			
60		6	/033.4D
61			
70		7	/066.3C
71			
80		8	/064.3D
81			

TO CB CLOSING I/L
 TO CB TC-1 CKT.
 TO CB TC-2 CKT.
 TO 21 RELAY
 TO BCU
 TO DT SEND
 TO LCC FAULT TRIP INDICATION
 SPARE

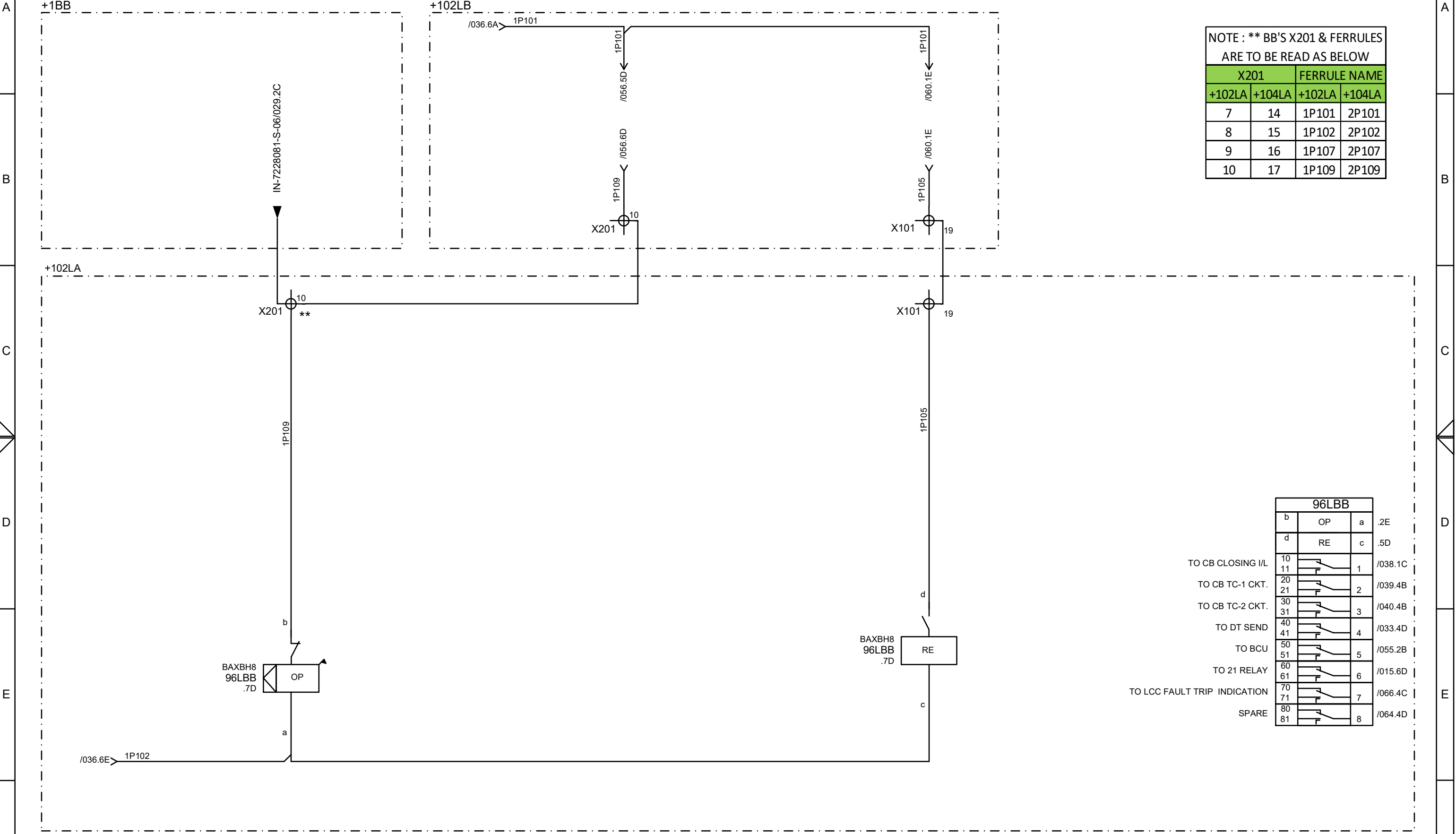
CUSTOMER : HPPTCL	CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD		TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)	PREPARED : MK	REVISION: Z	SHT :036
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI			BUSBAR TRIP RELAY CKT.	REVIEWED : DSS	DATE: 26-11-2018	CONT:037
PO. No.& Date: PO00365/15-16, DATED: 10.10.2015				APPROVED : RVN		
				DRG. NO.: IN-7228081-S-01		

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LBB PROT. OPTD FROM BUSBAR PANEL

BUS BAR RELAY SUPERVISION FROM BCU

BUSBAR RELAY RESET FROM BCU



NOTE : ** BB'S X201 & FERRULES ARE TO BE READ AS BELOW

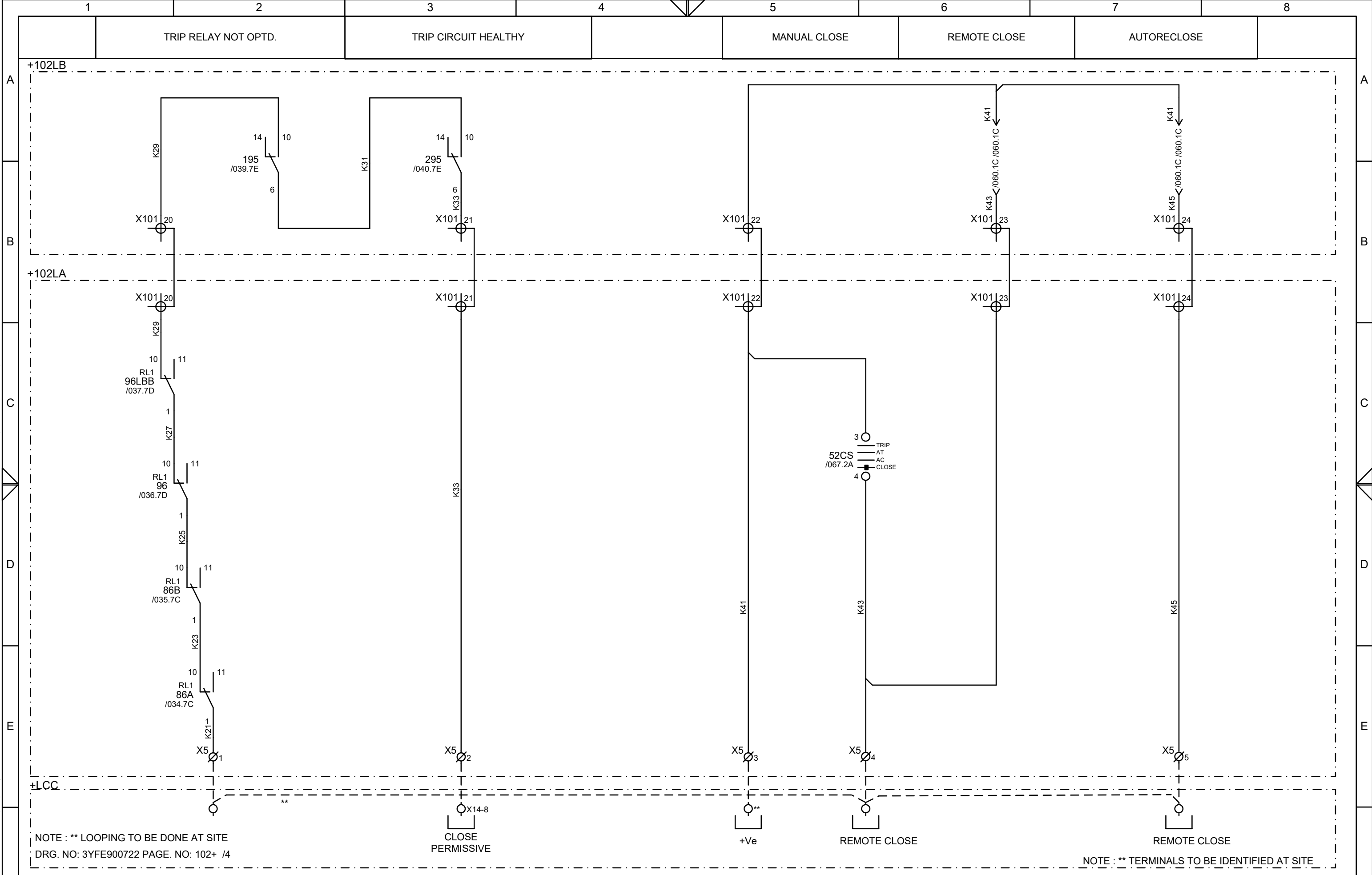
X201		FERRULE NAME	
+102LA	+104LA	+102LA	+104LA
7	14	1P101	2P101
8	15	1P102	2P102
9	16	1P107	2P107
10	17	1P109	2P109

96LBB			
b	OP	a	.2E
d	RE	c	.5D
10		1	/038.1C
11			
20		2	/039.4B
21			
30		3	/040.4B
31			
40		4	/033.4D
41			
50		5	/055.2B
51			
60		6	/015.6D
61			
70		7	/066.4C
71			
80		8	/064.4D
81			

TO CB CLOSING I/L
TO CB TC-1 CKT.
TO CB TC-2 CKT.
TO DT SEND
TO BCU
TO 21 RELAY
TO LCC FAULT TRIP INDICATION
SPARE

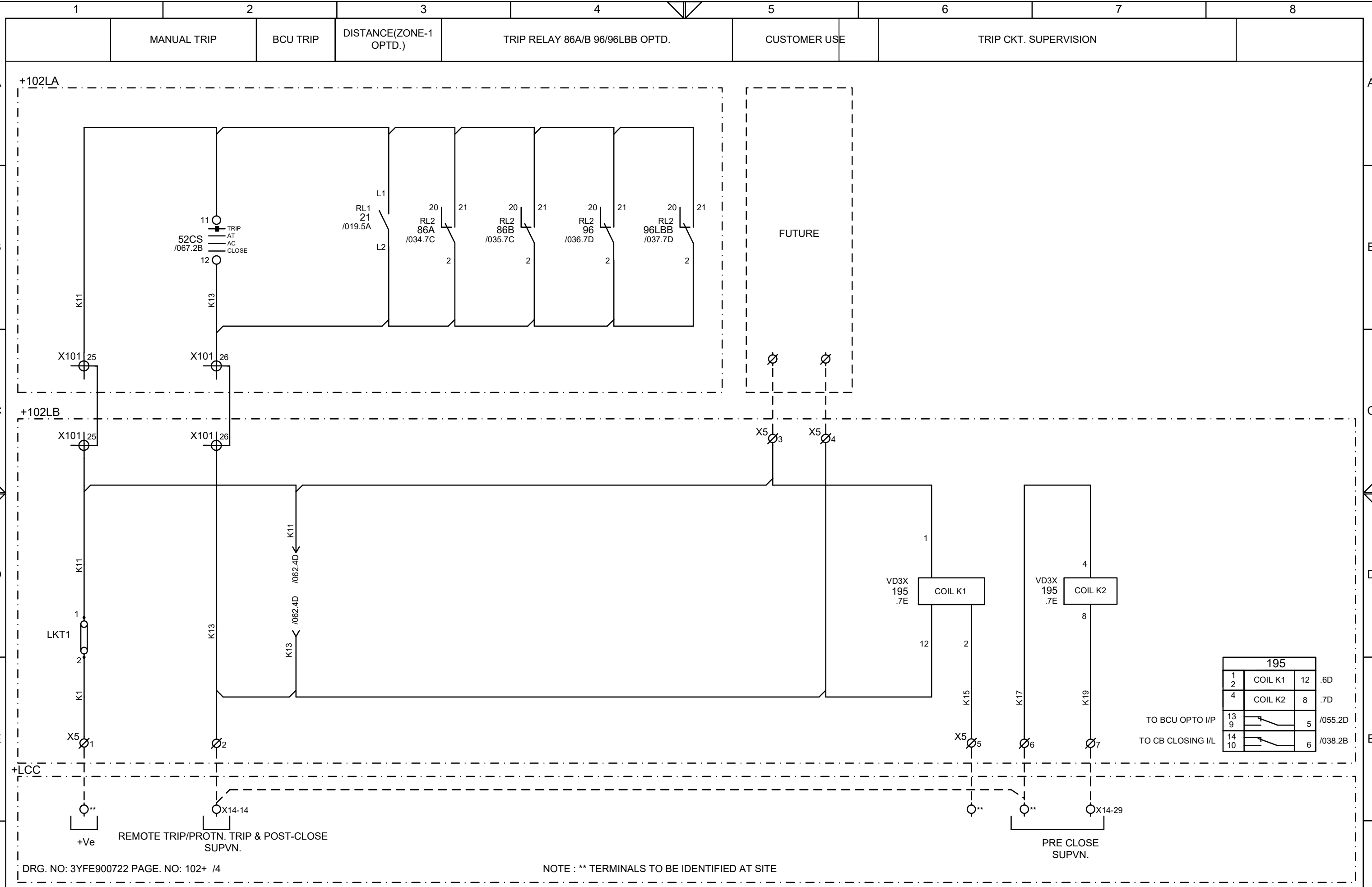
CUSTOMER : HPPTCL PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI PO. No. & Date: PO00365/15-16, DATED: 10.10.2015	CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD		TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102) LBB TRIP RELAY CKT.	PREPARED : MK REVIEWED : DSS APPROVED : RVN	REVISION: Z DATE: 26-11-2018	SHT :037 CONT:038
				DRG. NO.: IN-7228081-S-01		

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CUSTOMER : HPPTCL		CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD			TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)		PREPARED : MK	REVISION: Z	SHT :038
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI					CB CLOSING & REMOTE TRIP-1 CIRCUIT		REVIEWED : DSS	DATE: 26-11-2018	CONT:039
PO. No.& Date: PO00365/15-16, DATED: 10.10.2015							APPROVED : RVN	DRG. NO.: IN-7228081-S-01	

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DRG. NO: 3YFE900722 PAGE. NO: 102+ /4

NOTE : ** TERMINALS TO BE IDENTIFIED AT SITE

CUSTOMER : HPPTCL
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

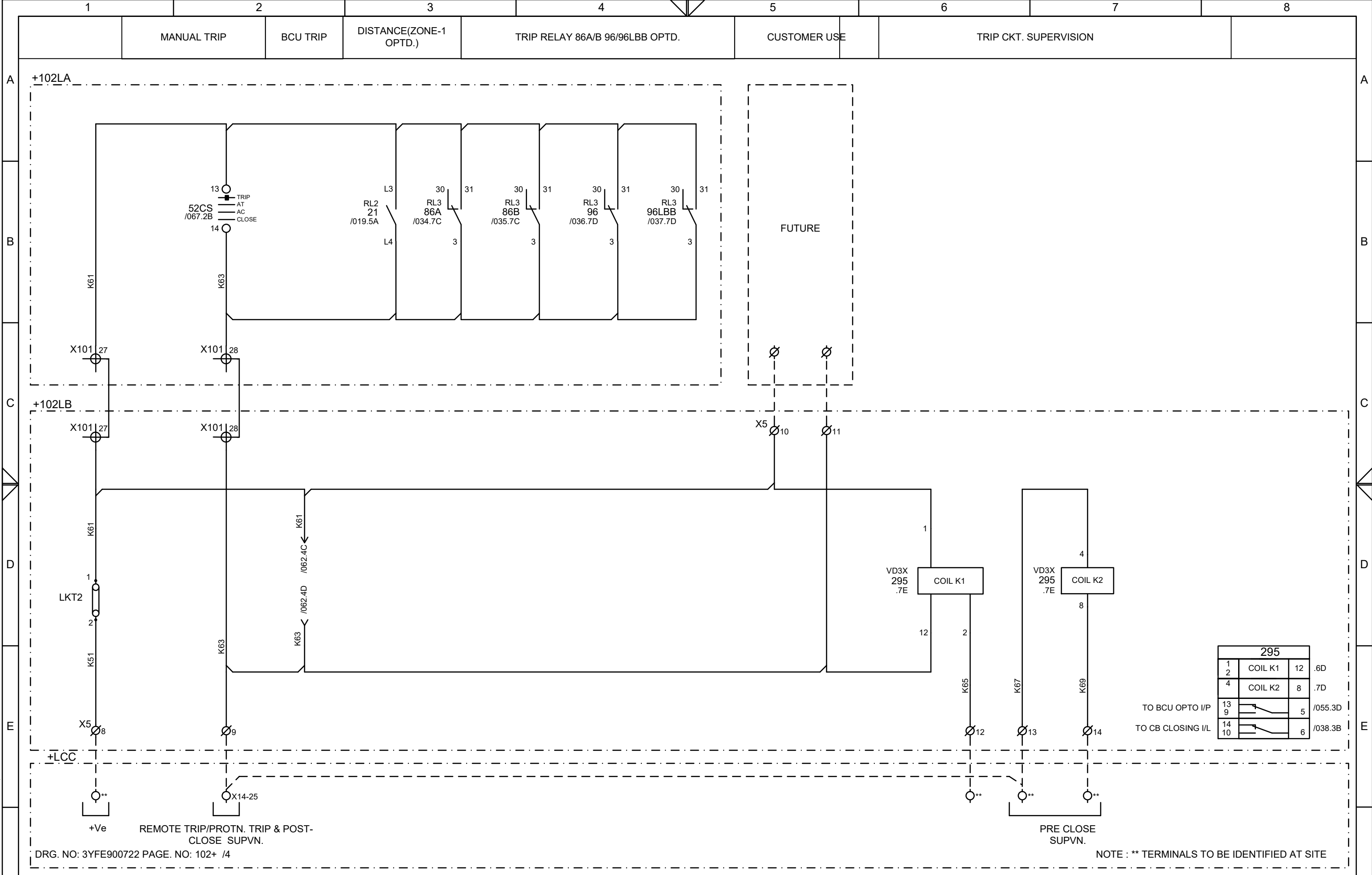
CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
CB TC-1 CONTROL CKT.

PREPARED : MK
REVIEWED : DSS
APPROVED : RVN
REVISION: Z
DATE: 26-11-2018
SHT :039
CONT:040
DRG. NO.: IN-7228081-S-01

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DRG. NO: 3YFE900722 PAGE. NO: 102+ /4

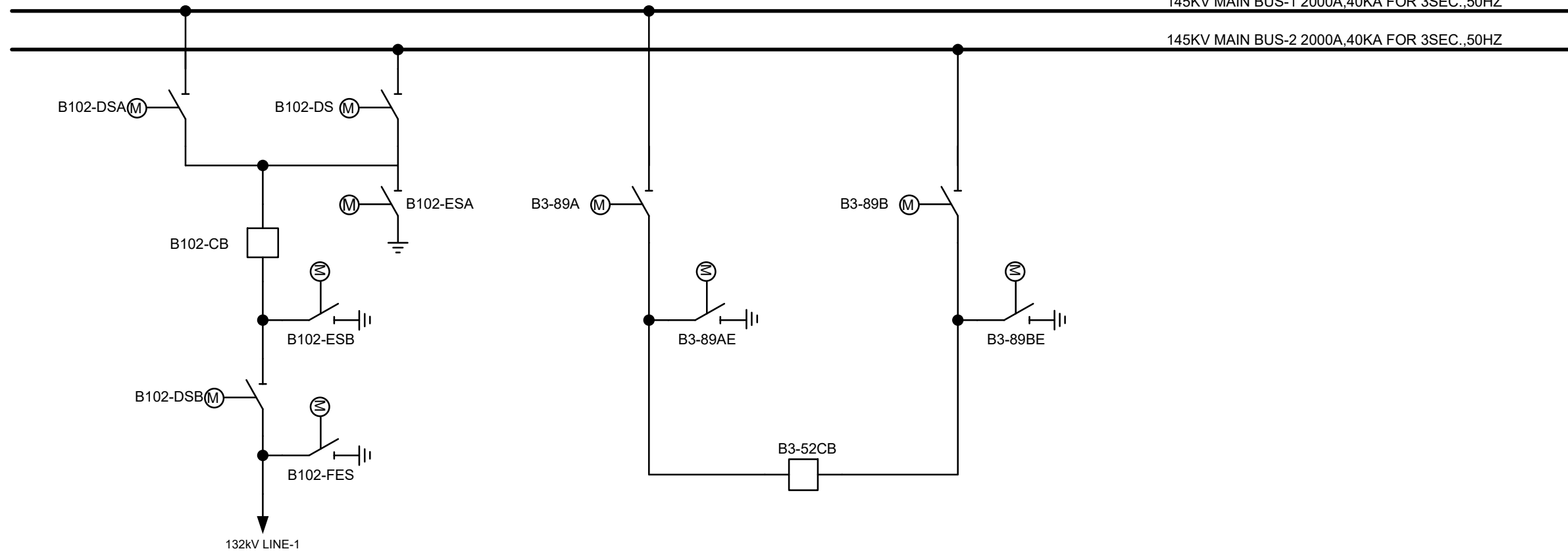
NOTE : ** TERMINALS TO BE IDENTIFIED AT SITE

CUSTOMER : HPPTCL	CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD		TITLE : 132KV LINE-1 PROTECTION PANEL (BAY-B102) CB TC-2 CONTROL CKT.	PREPARED : MK	REVISION: Z	SHT : 040
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI				REVIEWED : DSS	DATE: 26-11-2018	CONT: 041
PO. No. & Date: PO00365/15-16, DATED: 10.10.2015				APPROVED : RVN		
				DRG. NO.: IN-7228081-S-01		

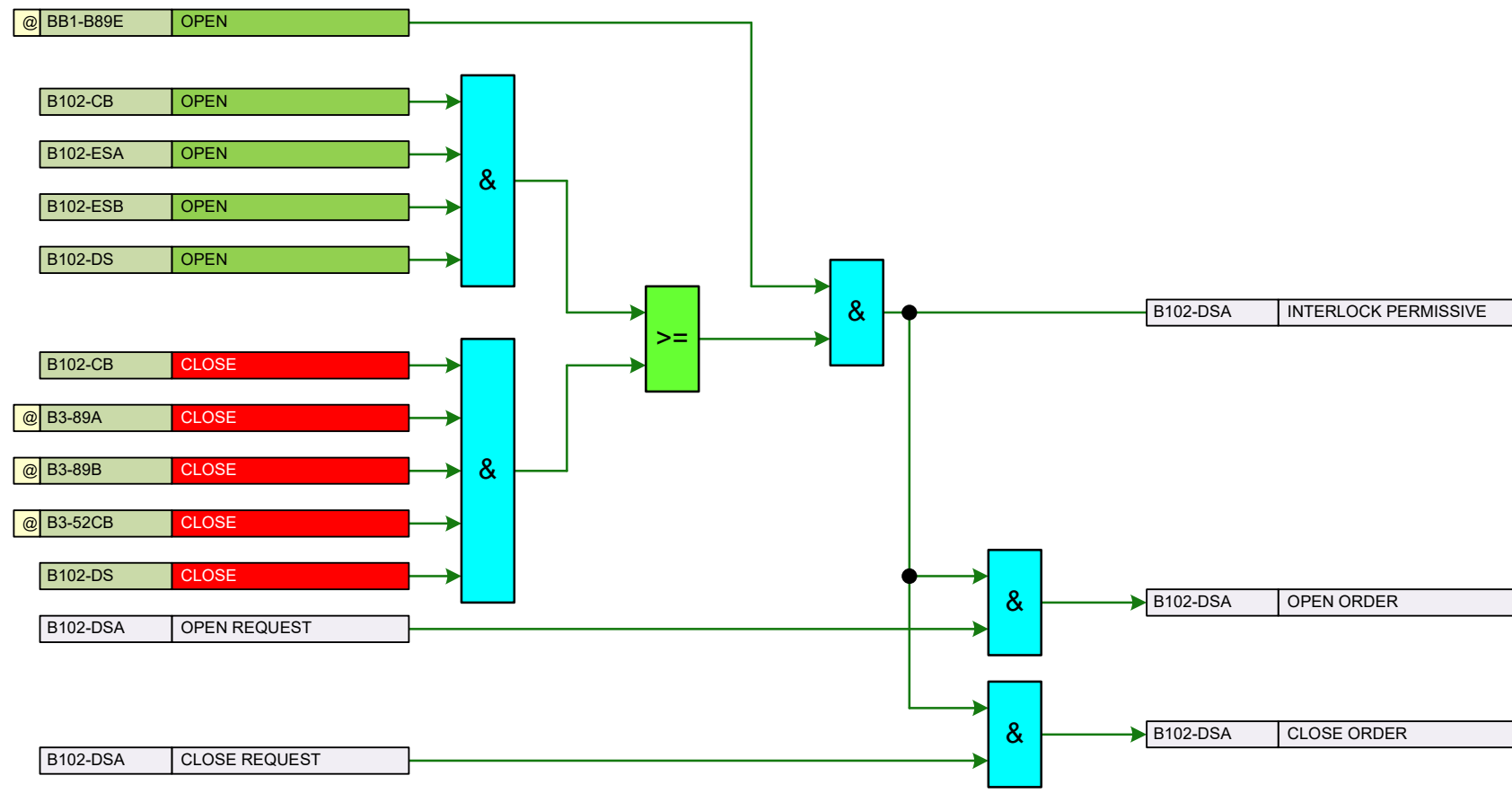
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145KV MAIN BUS-1 2000A,40KA FOR 3SEC.,50HZ

145KV MAIN BUS-2 2000A,40KA FOR 3SEC.,50HZ



ISOLATOR INTERLOCK: B102-DSA



@ - SIGNALS TO BE TAKEN THROUGH GOOSE

CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



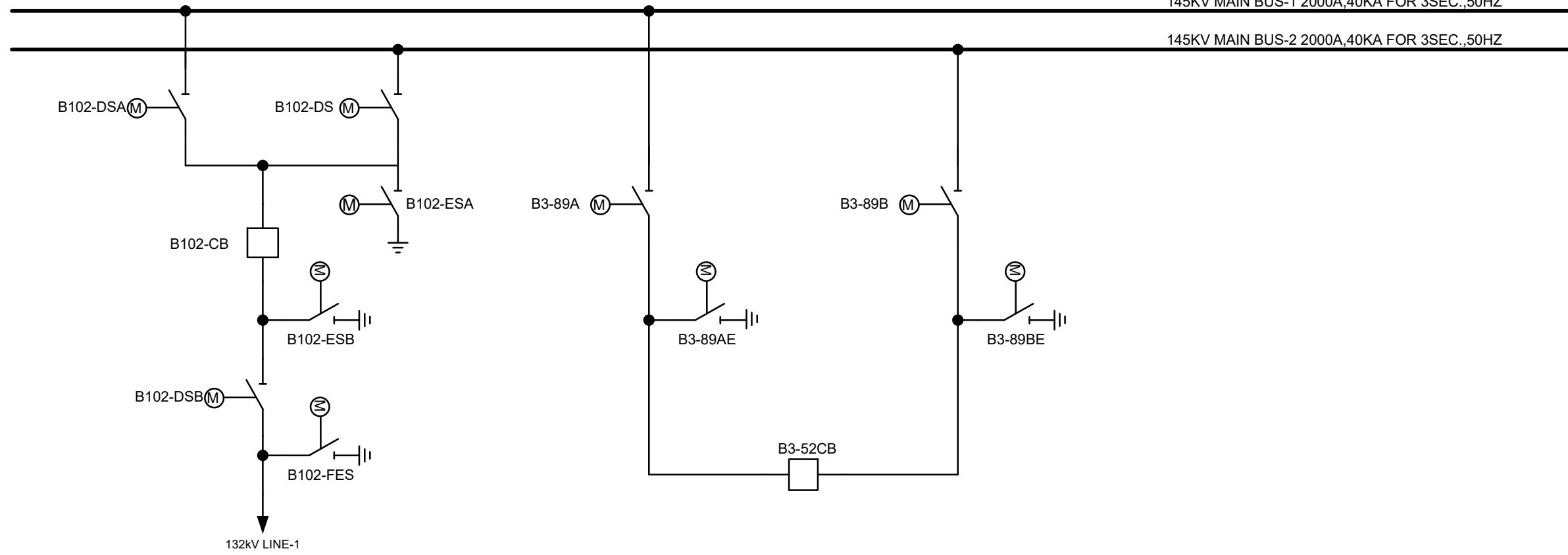
TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
BCU LOGIC

PREPARED : MK	REVISION: Z	SHT :041
REVIEWED : DSS	DATE: 26-11-2018	CONT:042
APPROVED : RVN		
DRG. NO.: IN-7228081-S-01		

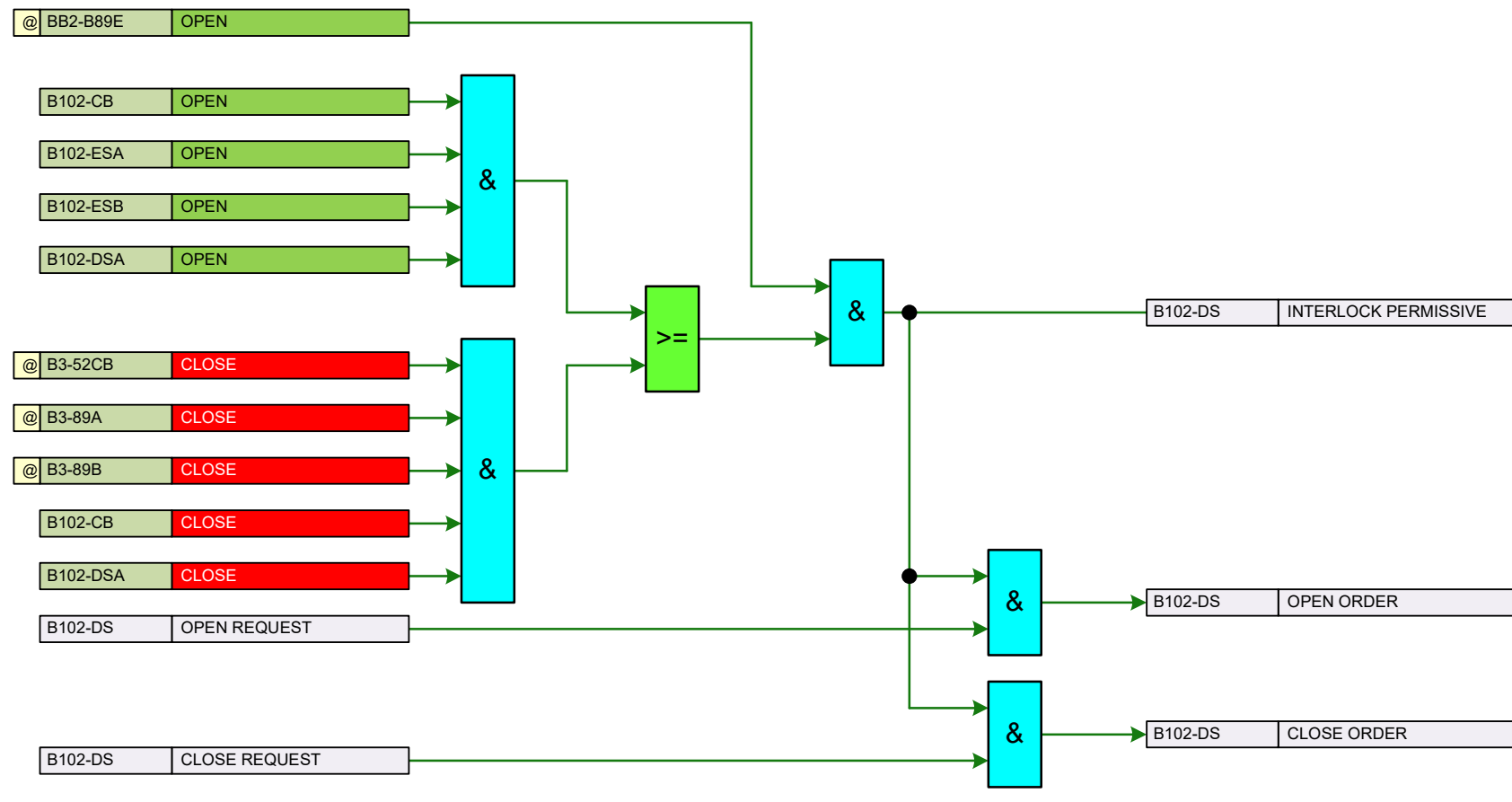
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145KV MAIN BUS-1 2000A,40KA FOR 3SEC.,50HZ

145KV MAIN BUS-2 2000A,40KA FOR 3SEC.,50HZ



ISOLATOR INTERLOCK: B102-DS



@ - SIGNALS TO BE TAKEN THROUGH GOOSE

CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



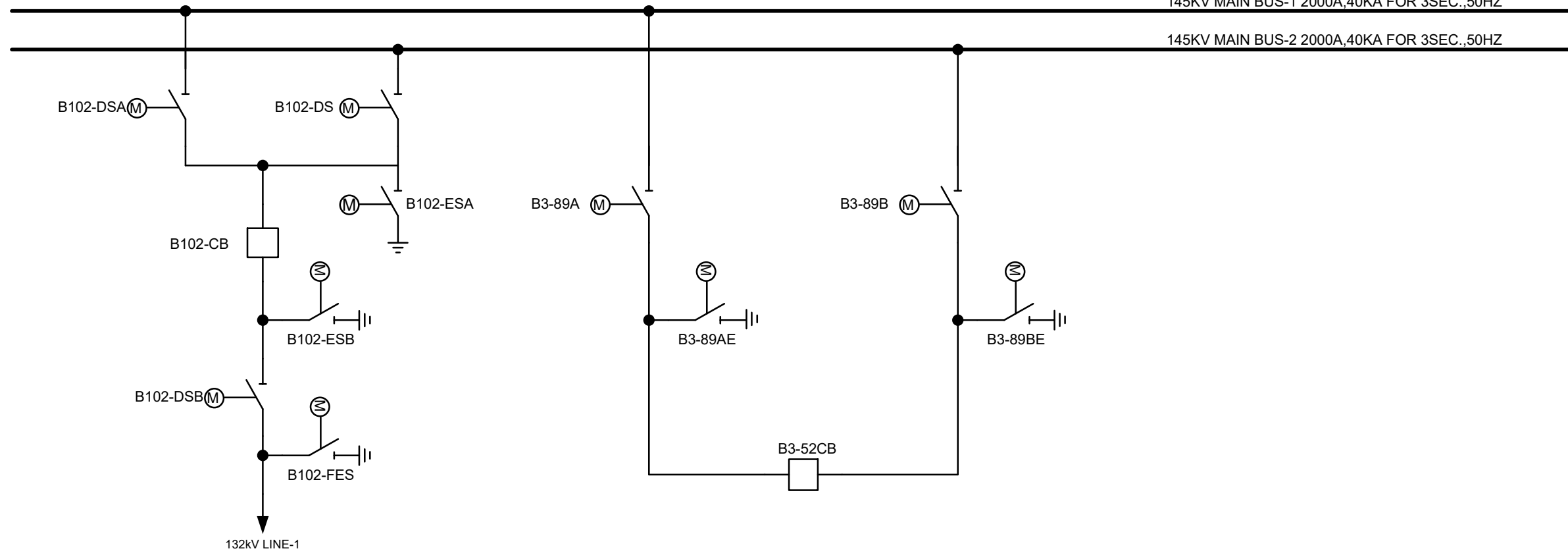
TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
BCU LOGIC

PREPARED : MK	REVISION: Z	SHT :042
REVIEWED : DSS	DATE: 26-11-2018	CONT:043
APPROVED : RVN		
DRG. NO.: IN-7228081-S-01		

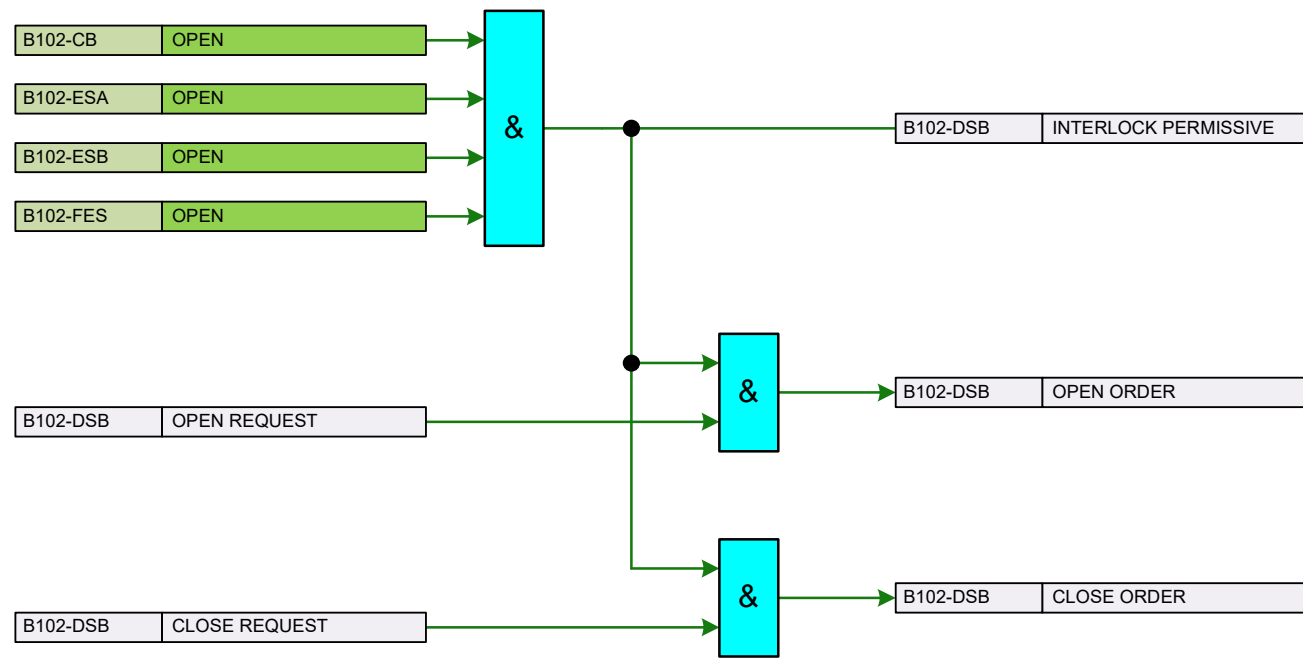
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145KV MAIN BUS-1 2000A,40KA FOR 3SEC.,50HZ

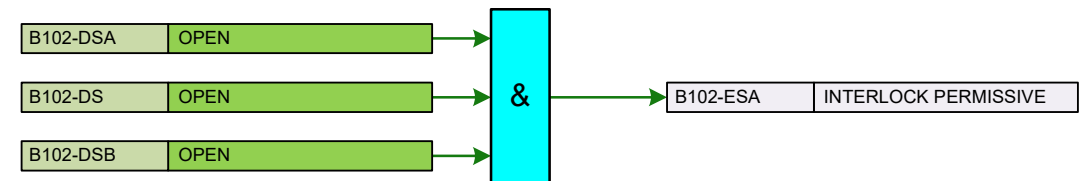
145KV MAIN BUS-2 2000A,40KA FOR 3SEC.,50HZ



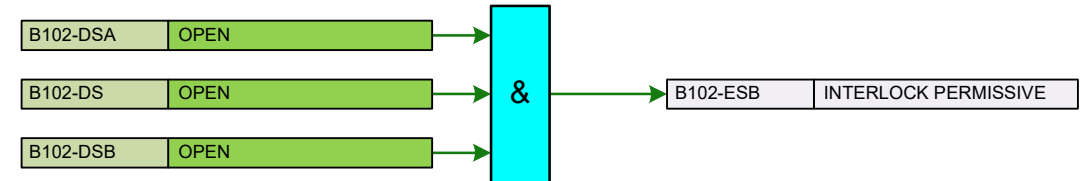
ISOLATOR INTERLOCK: B102-DSB



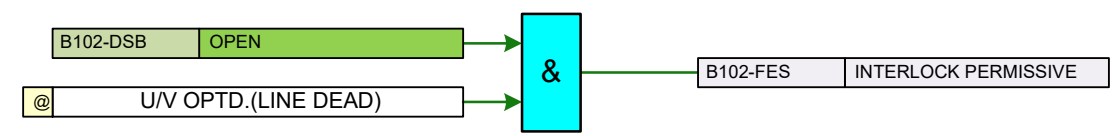
ISOLATOR INTERLOCK: B102-ESA



ISOLATOR INTERLOCK: B102-ESB



ISOLATOR INTERLOCK: B102-FES



@ - SIGNALS TO BE TAKEN THROUGH GOOSE

CUSTOMER : HPPTCL
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



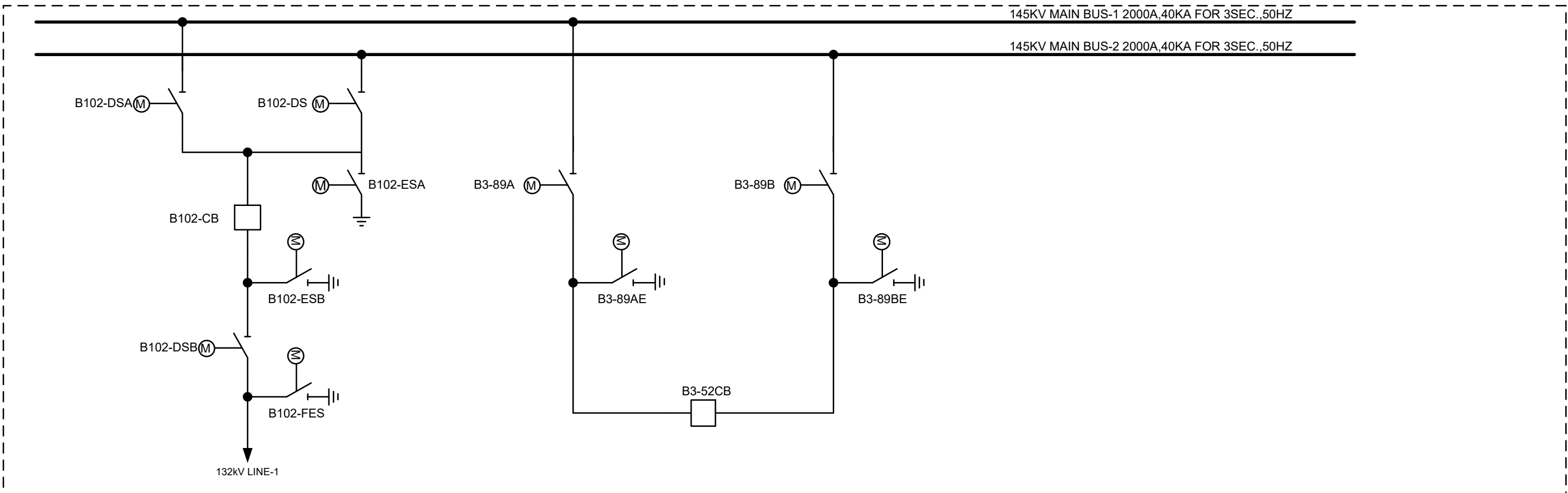
TITLE : 132KV LINE-1 PROTECTION PANEL (BAY-B102)
BCU LOGIC

PREPARED : MK	REVISION: Z	SHT :043
REVIEWED : DSS	DATE: 26-11-2018	CONT:044
APPROVED : RVN	DRG. NO.: IN-7228081-S-01	

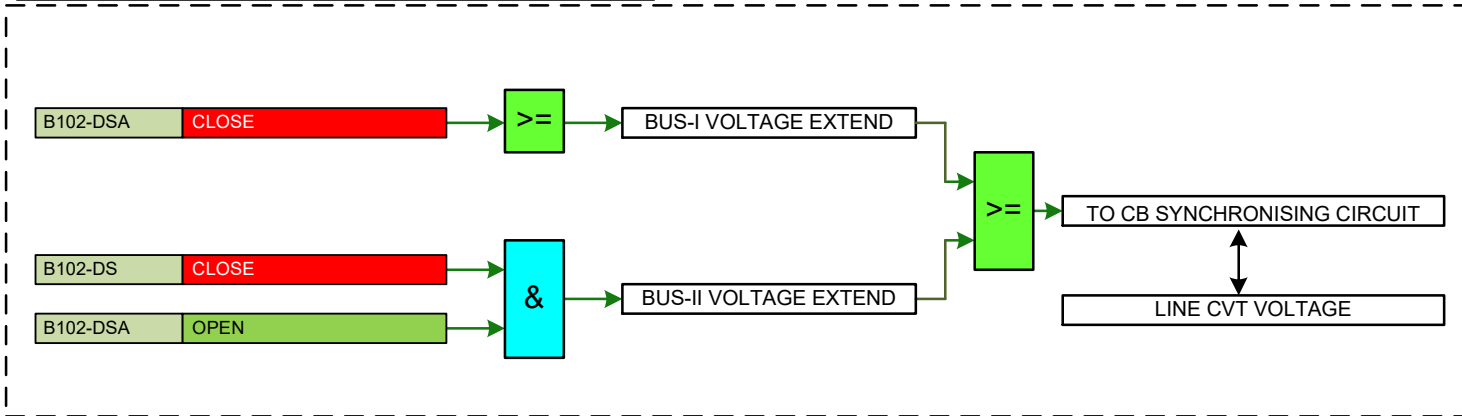
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145KV MAIN BUS-1 2000A,40KA FOR 3SEC.,50HZ

145KV MAIN BUS-2 2000A,40KA FOR 3SEC.,50HZ



BUS VOLTAGE SELECTION FOR SYNCHRONISING CIRCUIT:



@ SIGNALS TO BE TAKEN THROUGH GOOSE

CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

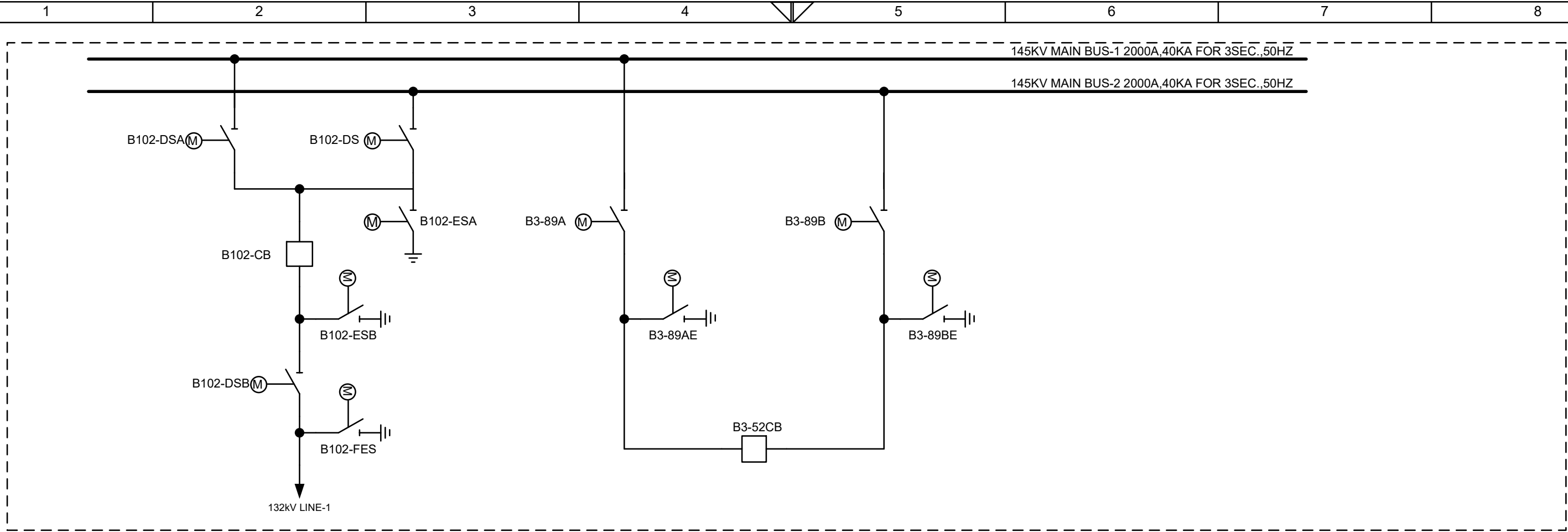
CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



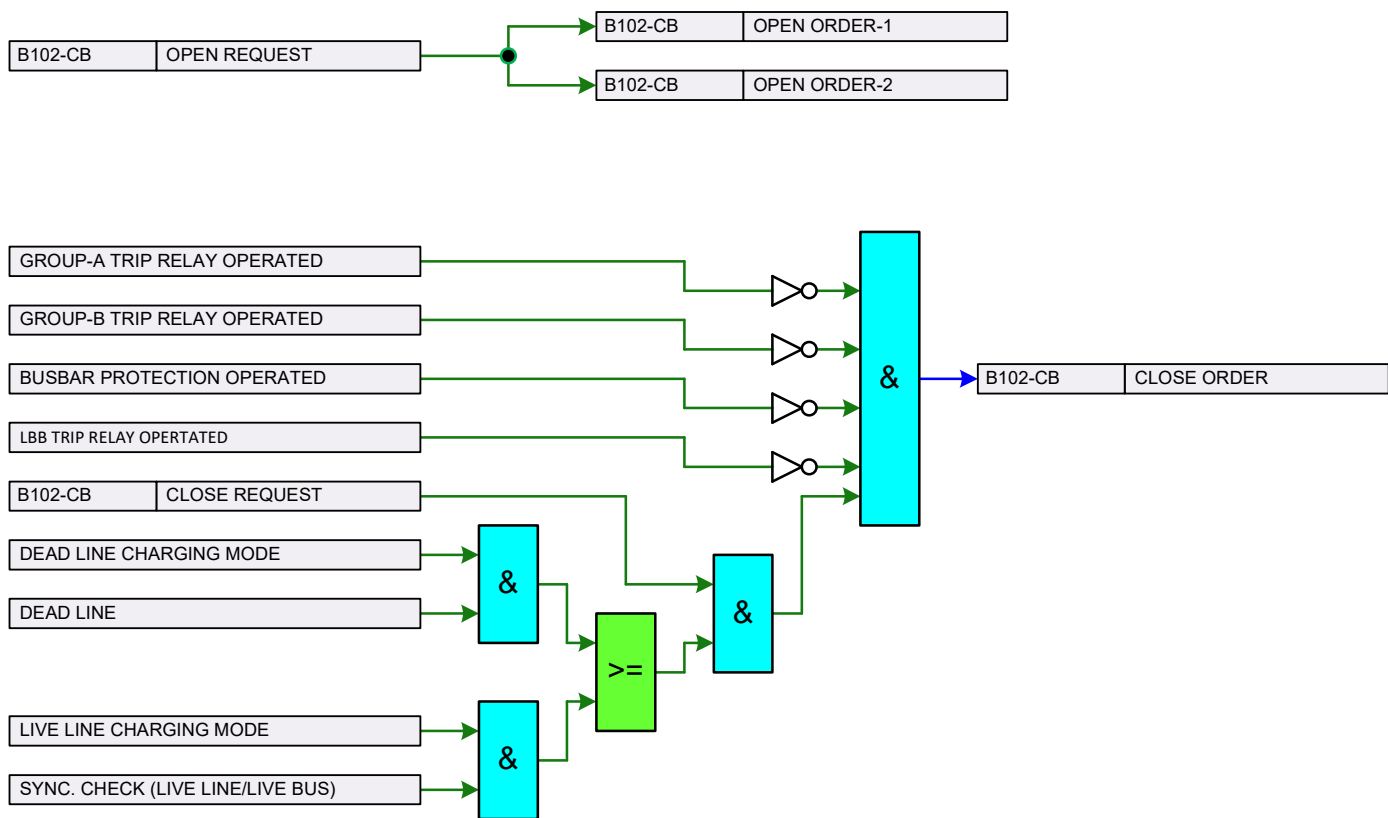
TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
BCU LOGIC

PREPARED : MK	REVISION: Z	SHT :044
REVIEWED : DSS	DATE: 26-11-2018	CONT:045
APPROVED : RVN		
DRG. NO.: IN-7228081-S-01		

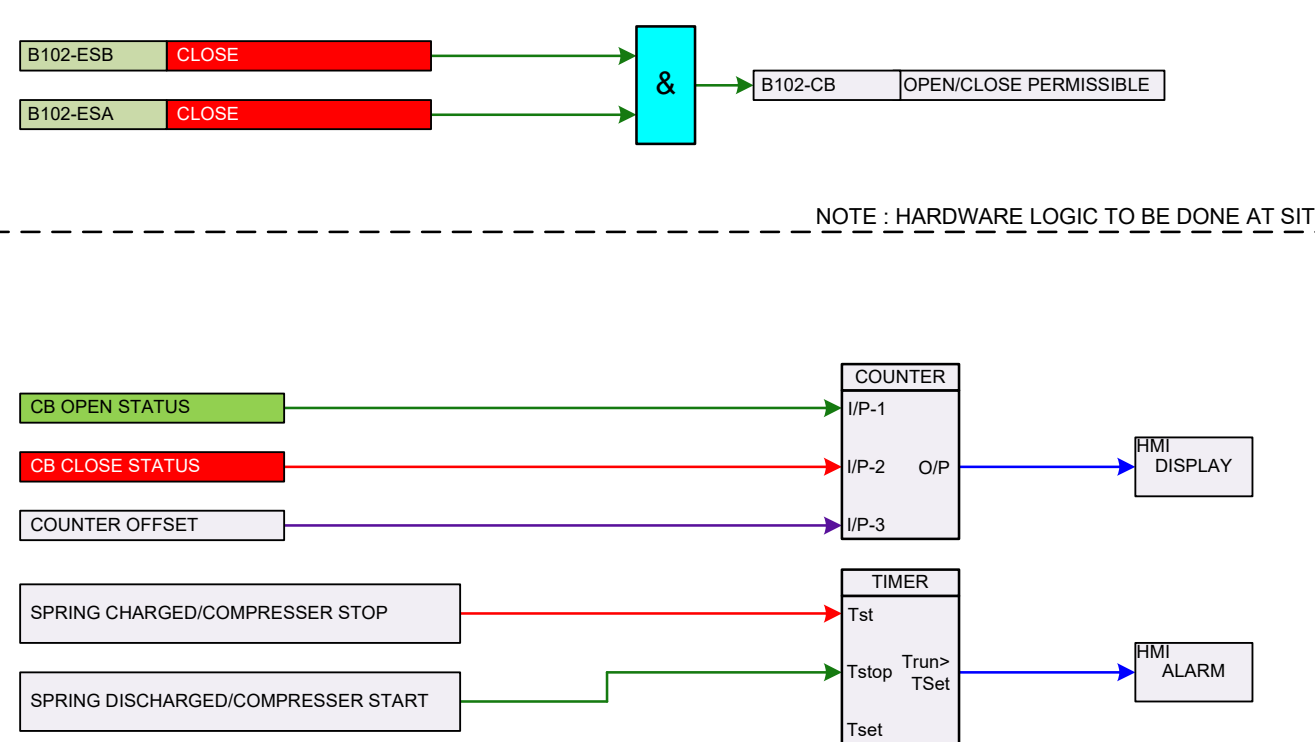
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CIRCUIT BREAKER: B102-CB



CIRCUIT BREAKER LOCAL OPERATION :B102-CB



NOTE : HARDWARE LOGIC TO BE DONE AT SITE

@ - SIGNALS TO BE TAKEN THROUGH GOOSE

CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

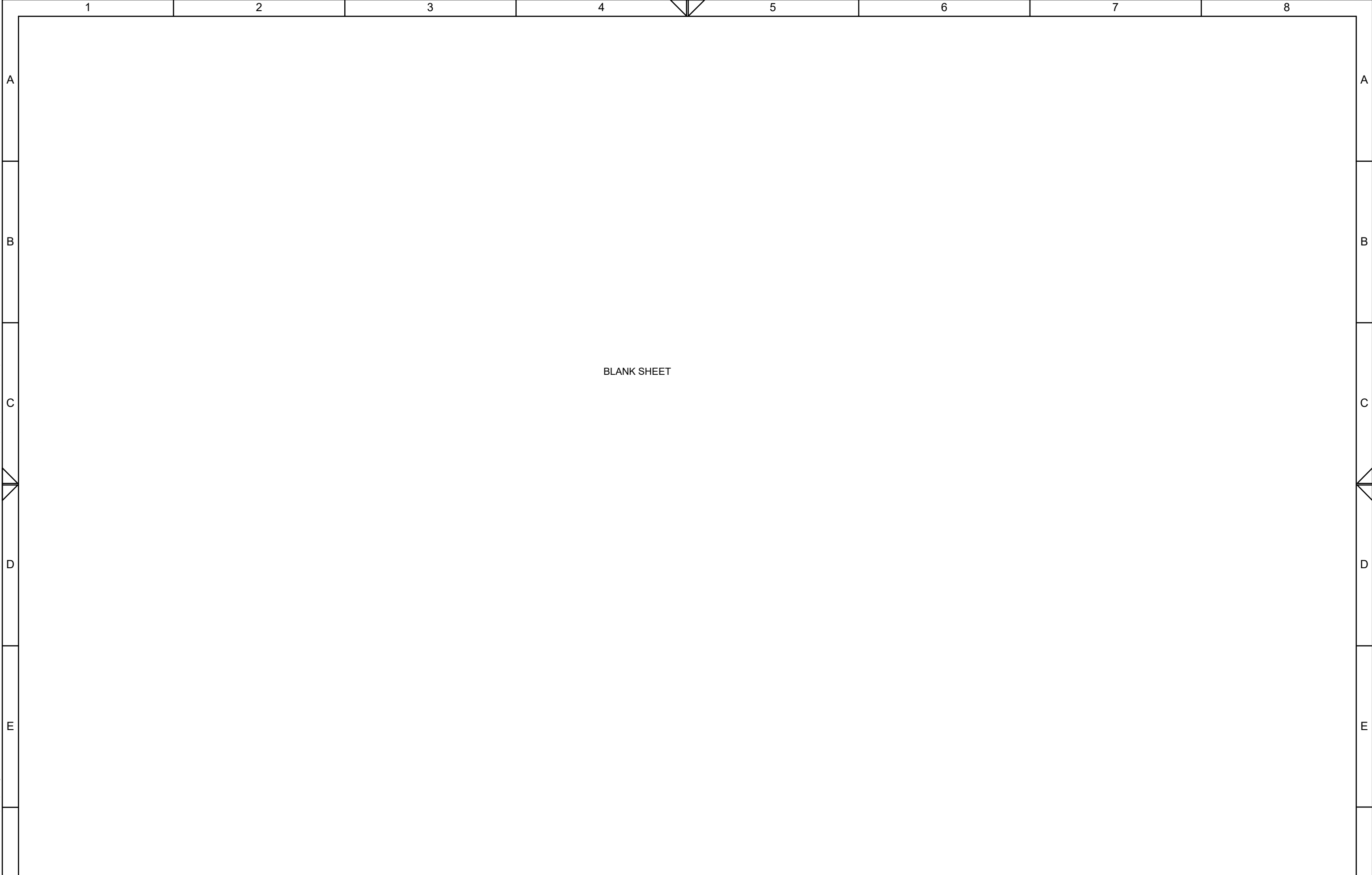
CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



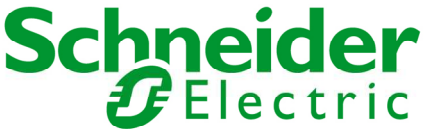
TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
BCU LOGIC

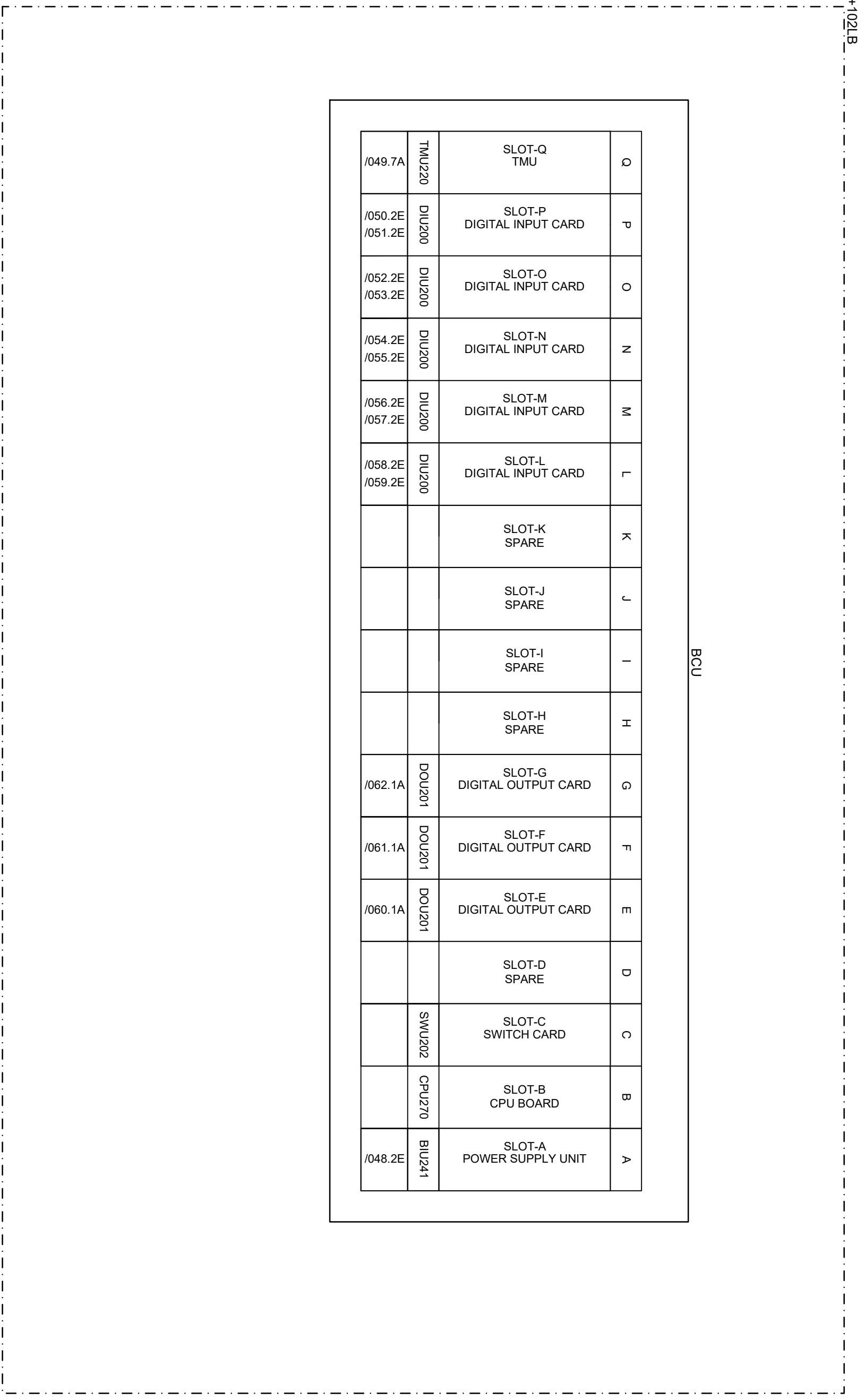
PREPARED : MK	REVISION: Z	SHT :045
REVIEWED : DSS	DATE: 26-11-2018	CONT: 046
APPROVED : RVN		
DRG. NO.: IN-7228081-S-01		

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BLANK SHEET


CUSTOMER : HPPTCL		CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD		TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)		PREPARED : MK	REVISION: Z	SHT :046
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI				BLANK SHEET		REVIEWED : DSS	DATE: 26-11-2018	CONT:047
PO. No.& Date: PO00365/15-16, DATED: 10.10.2015						APPROVED : RVN	DRG. NO.: IN-7228081-S-01	



Q	SLOT-Q TMU	TMU220	/049.7A
P	SLOT-P DIGITAL INPUT CARD	DIU200	/050.2E /051.2E
O	SLOT-O DIGITAL INPUT CARD	DIU200	/052.2E /053.2E
N	SLOT-N DIGITAL INPUT CARD	DIU200	/054.2E /055.2E
M	SLOT-M DIGITAL INPUT CARD	DIU200	/056.2E /057.2E
L	SLOT-L DIGITAL INPUT CARD	DIU200	/058.2E /059.2E
K	SLOT-K SPARE		
J	SLOT-J SPARE		
I	SLOT-I SPARE		
H	SLOT-H SPARE		
G	SLOT-G DIGITAL OUTPUT CARD	DOU201	/062.1A
F	SLOT-F DIGITAL OUTPUT CARD	DOU201	/061.1A
E	SLOT-E DIGITAL OUTPUT CARD	DOU201	/060.1A
D	SLOT-D SPARE		
C	SLOT-C SWITCH CARD	SWU202	
B	SLOT-B CPU BOARD	CPU270	
A	SLOT-A POWER SUPPLY UNIT	BIU241	/048.2E

BCU

+102LB

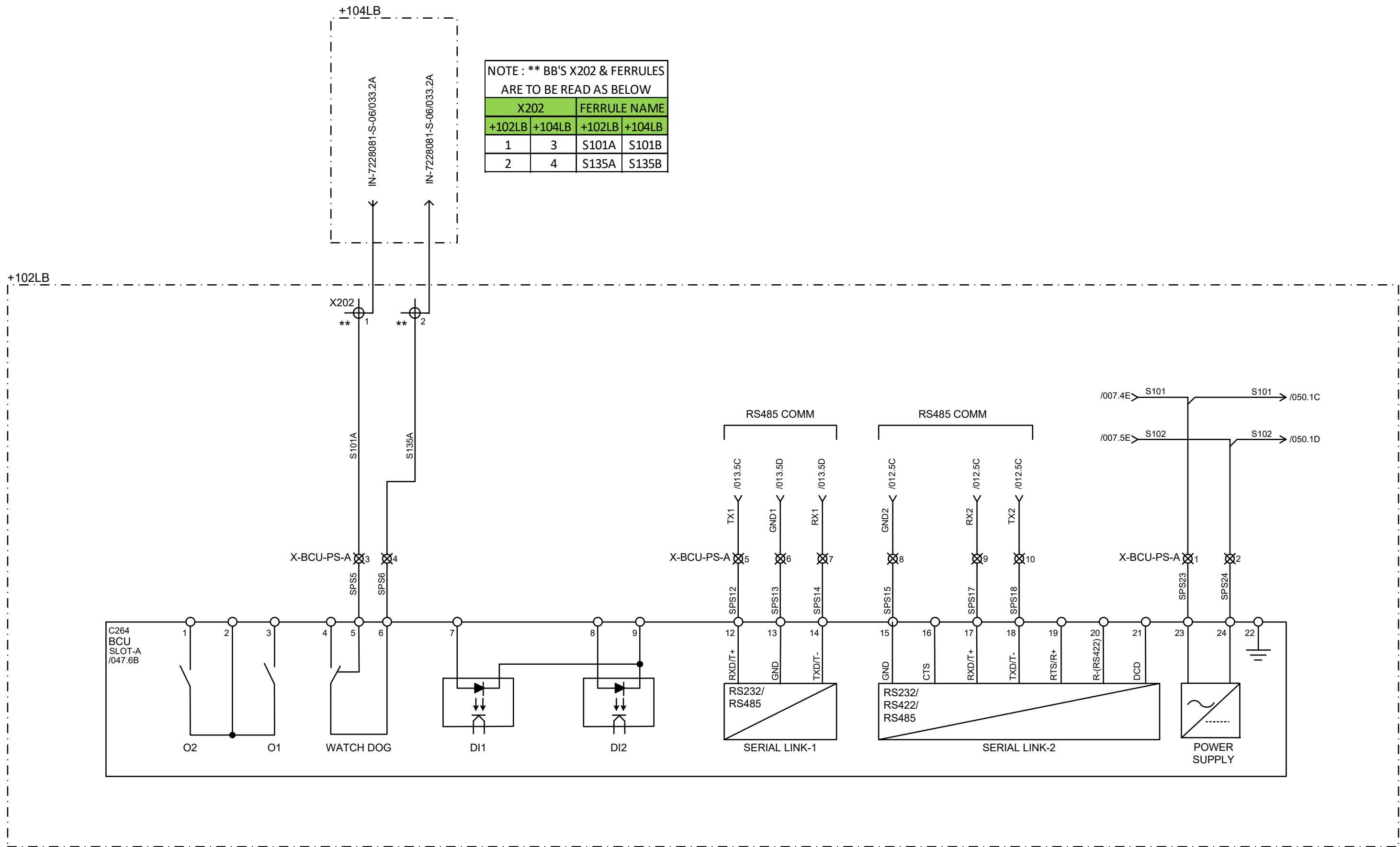
CUSTOMER : HPTCL		CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD	
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI		TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)	
PO. No.& Date: PO000365/15-16. DATED: 10.10.2015		BCU CARD DETAIL	
		DRG. NO.: IN-7228081-S-01	
PREPARED : MK	REVISION: Z	SHT : 047	
REVIEWED : DSS	DATE: 26-11-2018	CONT: 048	
APPROVED : RVN			

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BCU FAULTY TO
LINE-2 BCU

NOTE : ** BB'S X202 & FERRULES
ARE TO BE READ AS BELOW

X202		FERRULE NAME	
+102LB	+104LB	+102LB	+104LB
1	3	S101A	S101B
2	4	S135A	S135B



CUSTOMER : HPPTCL
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

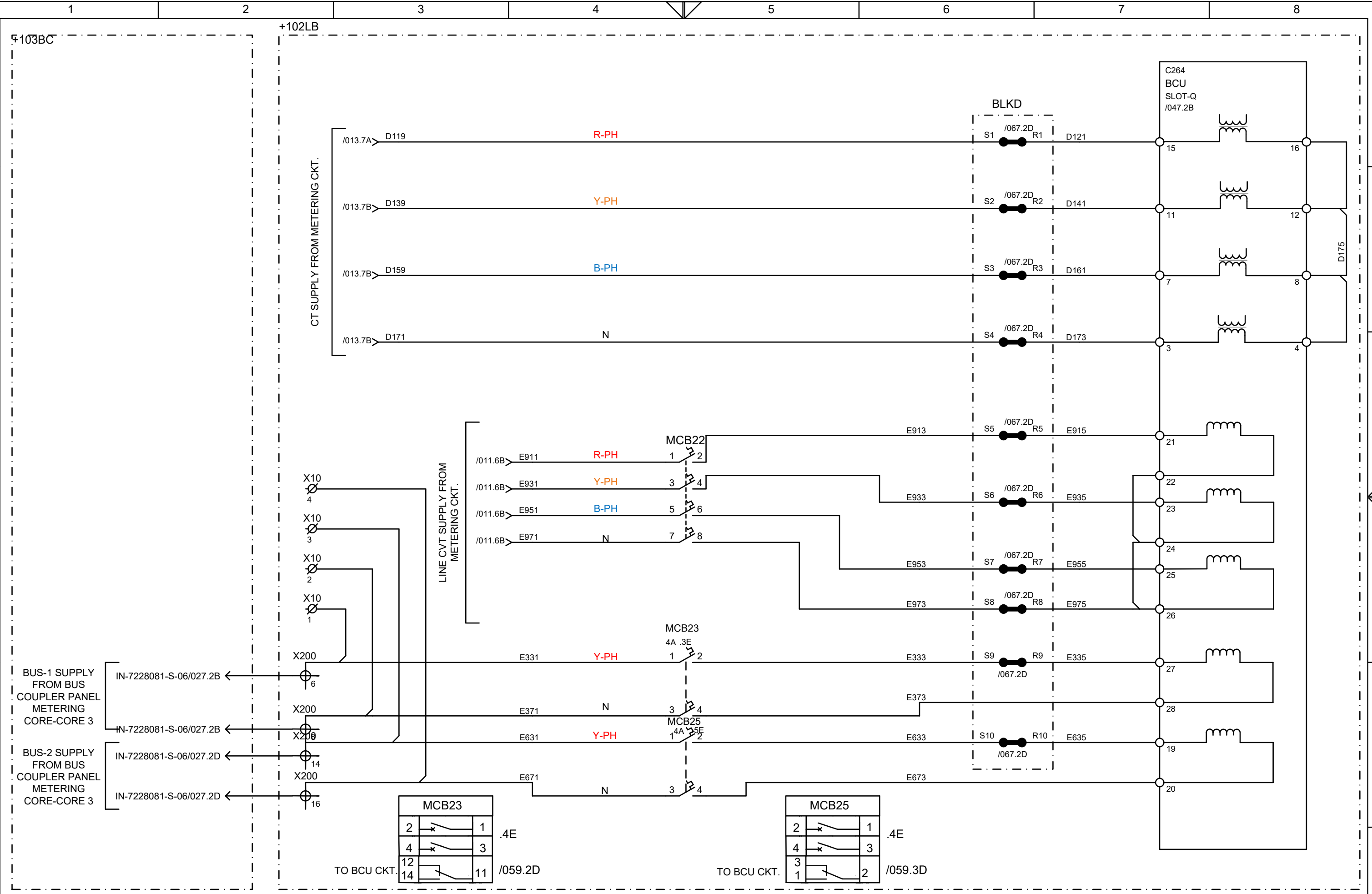
CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE : 132KV LINE-1 PROTECTION PANEL (BAY-B102)
BCU AUX. SUPPLY CKT.

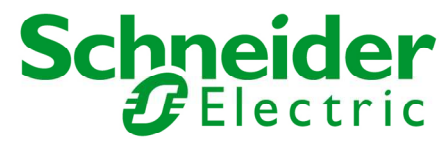
PREPARED : MK	REVISION: Z	SHT :048
REVIEWED : DSS	DATE: 26-11-2018	CONT:049
APPROVED : RVN		
DRG. NO.: IN-7228081-S-01		

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CUSTOMER : HPPTCL
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

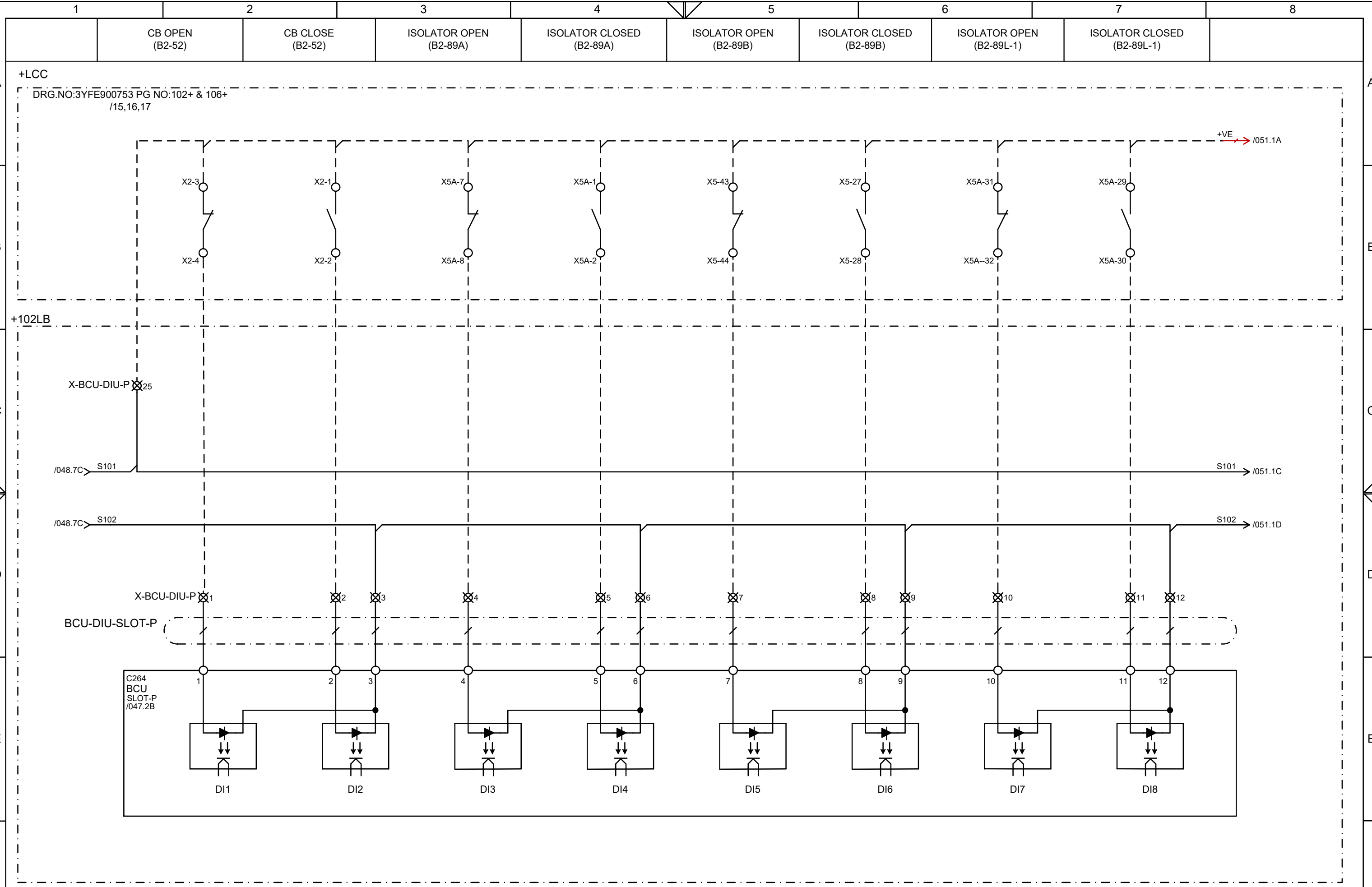
CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE : 132KV LINE-1 PROTECTION PANEL (BAY-B102)
BCU CT/PT CKT.

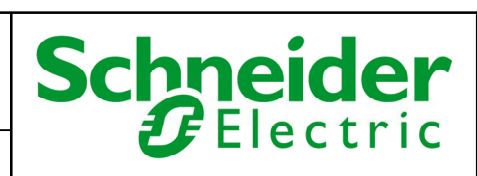
PREPARED : MK	REVISION: Z	SHT :049
REVIEWED : DSS	DATE: 26-11-2018	CONT: 050
APPROVED : RVN		
DRG. NO.: IN-7228081-S-01		

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CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

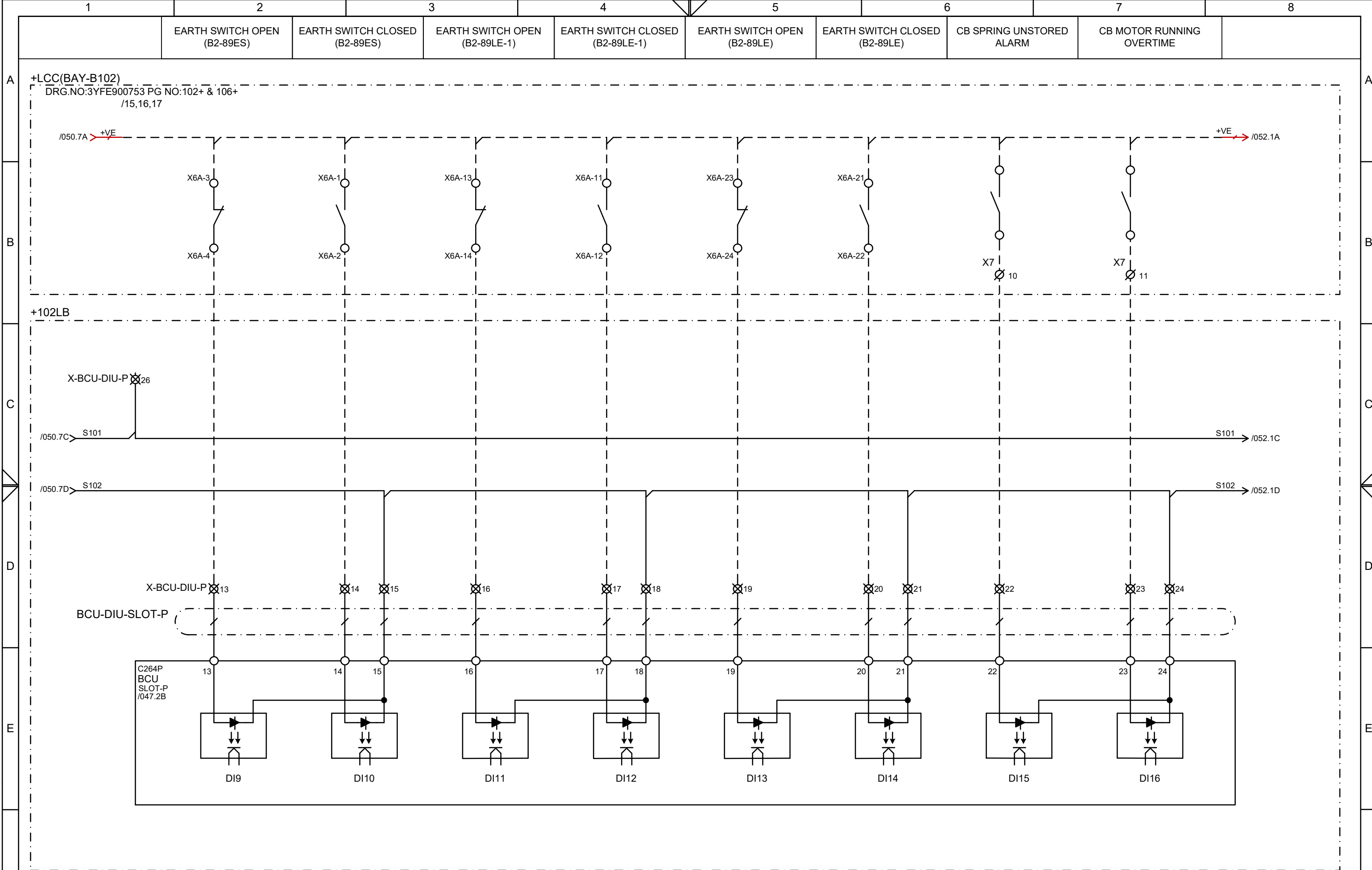
CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
BCU DIGITAL INPUT CARD

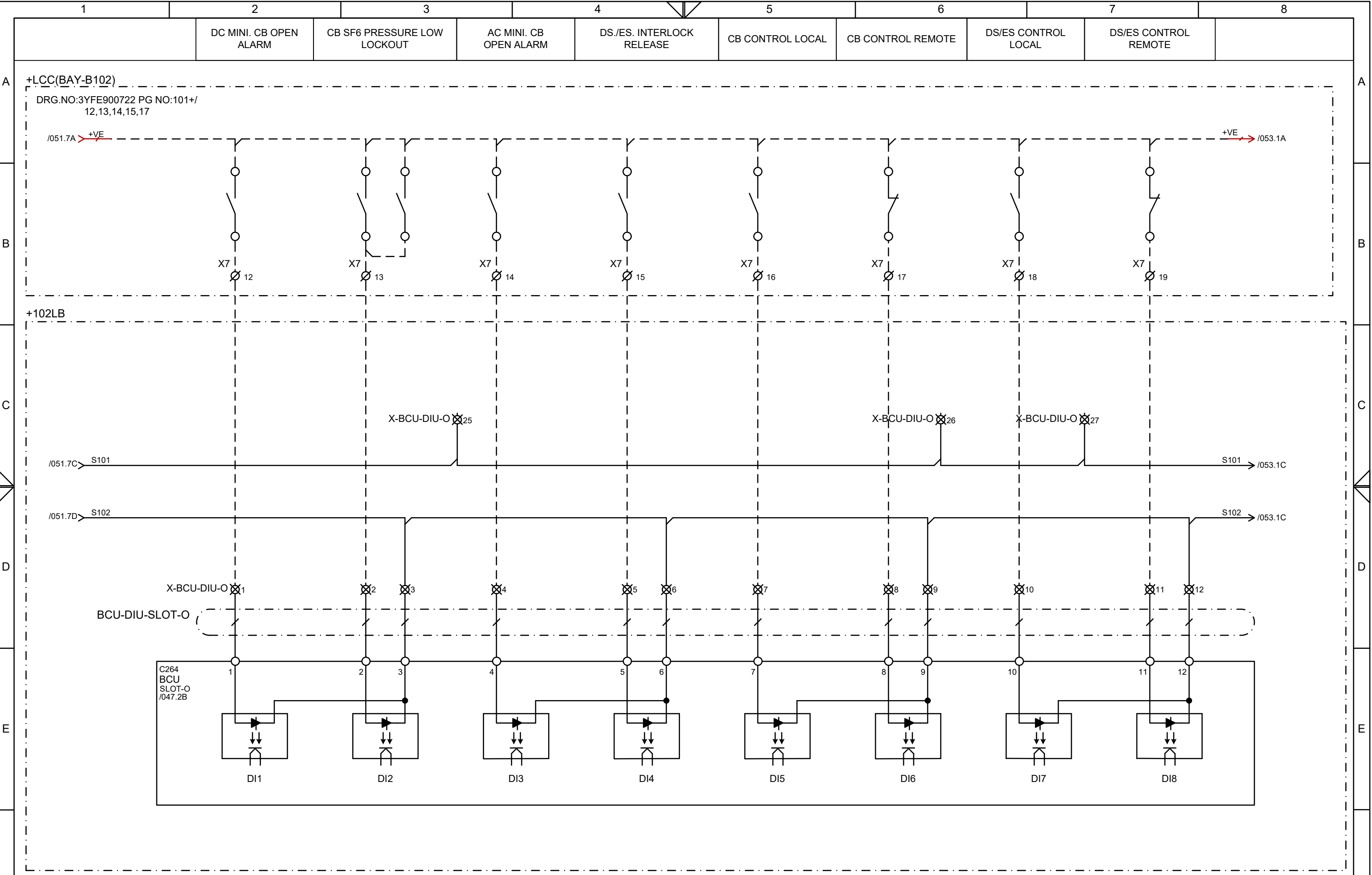
PREPARED : MK	REVISION: Z	SHT :050
REVIEWED : DSS	DATE: 26-11-2018	CONT:051
APPROVED : RVN		
DRG. NO.: IN-7228081-S-01		

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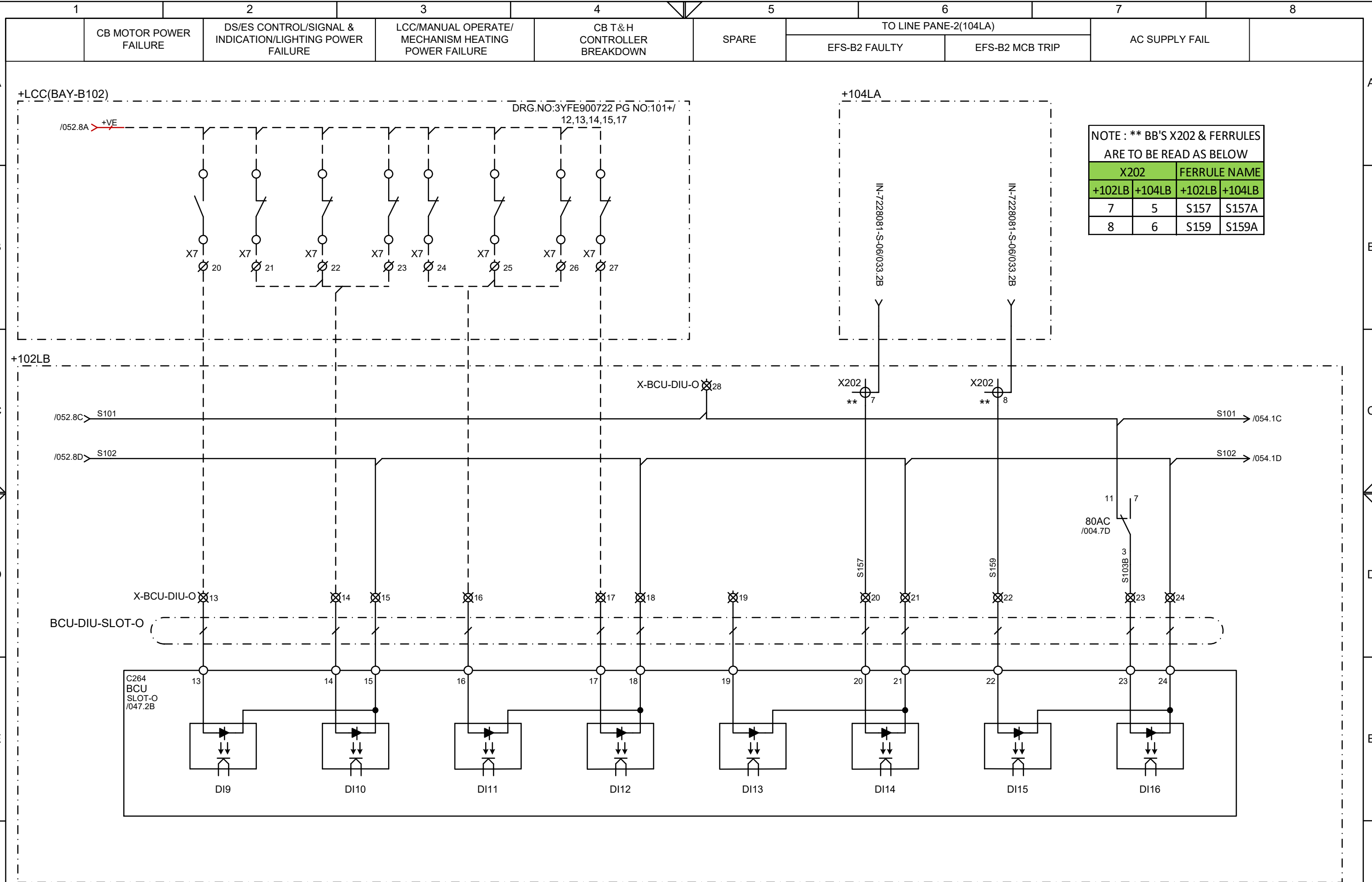
F CUSTOMER : HPPTCL PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI PO. No. & Date: PO00365/15-16, DATED: 10.10.2015		CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD				TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102) BCU DIGITAL INPUT CARD		PREPARED : MK REVISION: Z DATE: 26-11-2018 SHT :051	
								REVIEWED : DSS APPROVED : RVN DRG. NO.: IN-7228081-S-01 CONT:052	

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CUSTOMER : HPPTCL		CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD			TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)		PREPARED : MK	REVISION: Z	SHT :052
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI					BCU DIGITAL INPUT CARD		REVIEWED : DSS	DATE: 26-11-2018	CONT:053
PO. No.& Date: PO00365/15-16, DATED: 10.10.2015									APPROVED : RVN
						DRG. NO.: IN-7228081-S-01			

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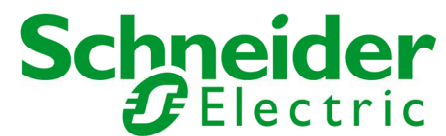


NOTE : ** BB'S X202 & FERRULES ARE TO BE READ AS BELOW

X202		FERRULE NAME	
+102LB	+104LB	+102LB	+104LB
7	5	S157	S157A
8	6	S159	S159A

CUSTOMER : HPPTCL
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



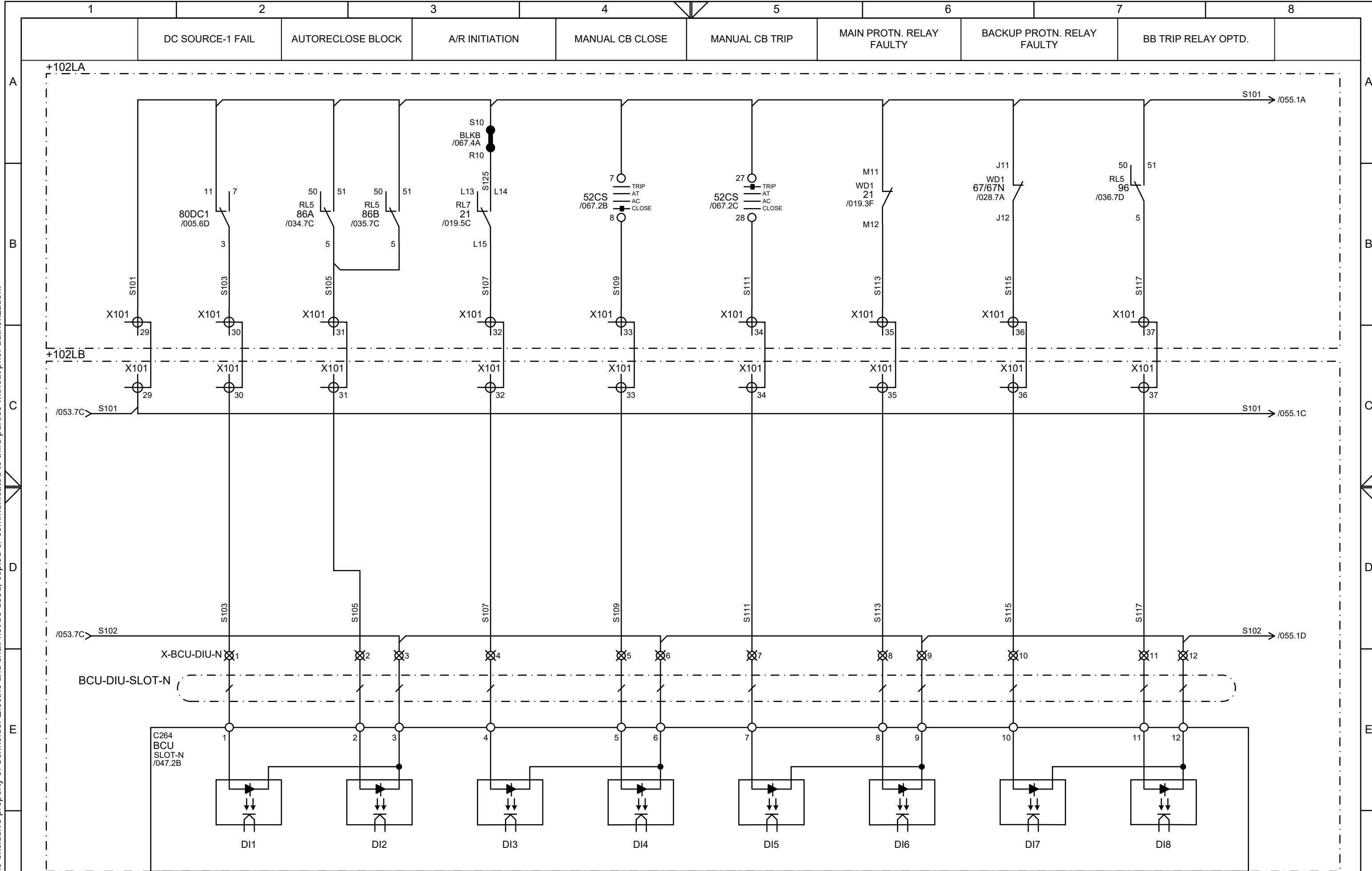
TITLE : 132KV LINE-1 PROTECTION PANEL (BAY-B102)
BCU DIGITAL INPUT CARD

PREPARED : MK
REVIEWED : DSS
APPROVED : RVN
DRG. NO.: IN-7228081-S-01

REVISION: Z
DATE: 26-11-2018

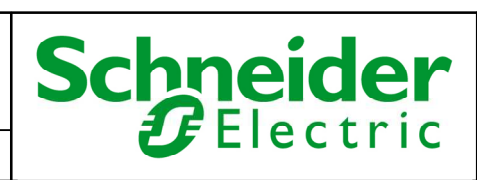
SHT : 053
CONT: 054

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CUSTOMER : HPPTCL
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

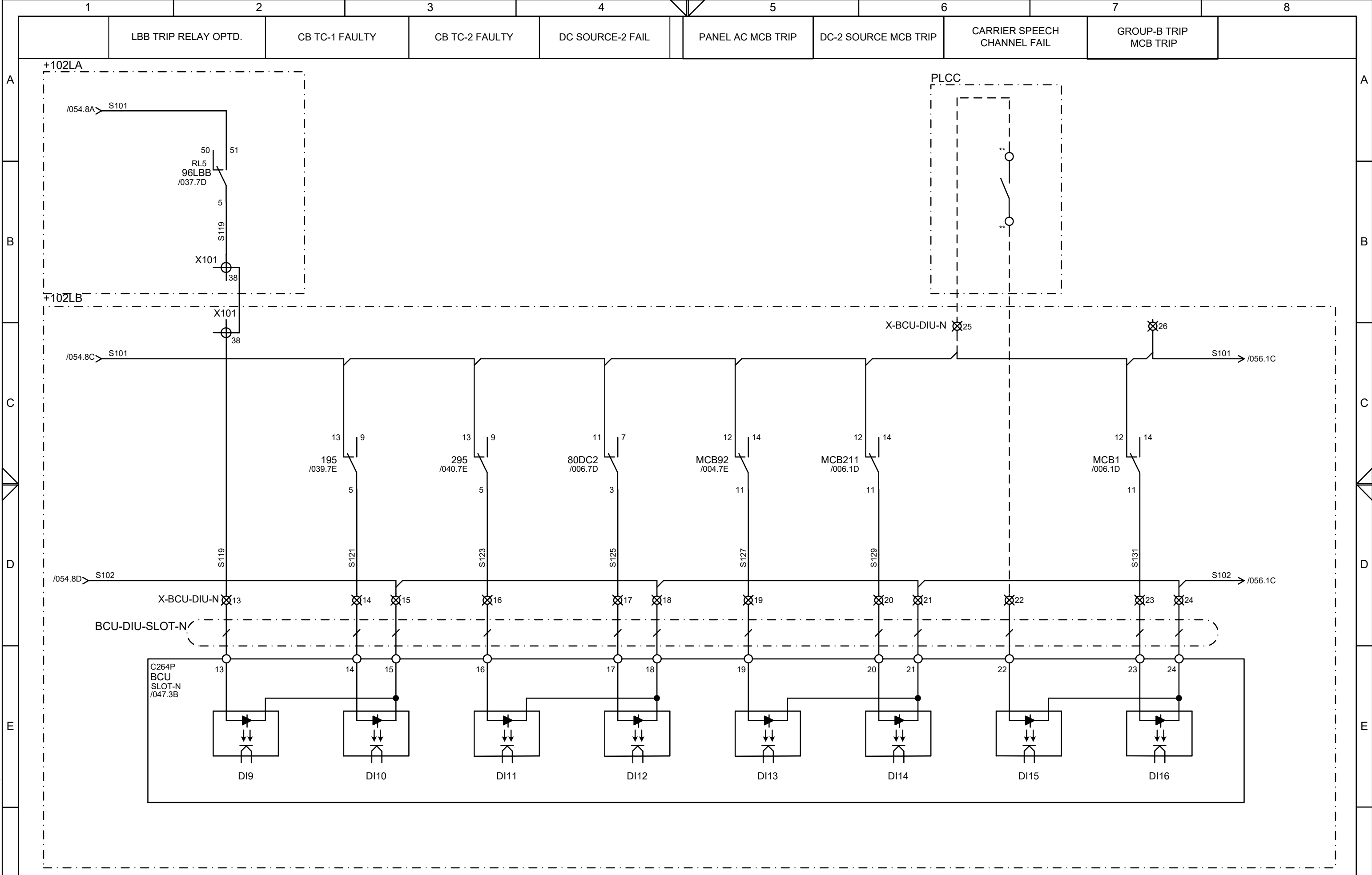
CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE : 132KV LINE-1 PROTECTION PANEL (BAY-B102)
BCU DIGITAL INPUT CARD

PREPARED : MK	REVISION: Z	SHT :054
REVIEWED : DSS	DATE: 26-11-2018	CONT:055
APPROVED : RVN	DRG. NO.: IN-7228081-S-01	

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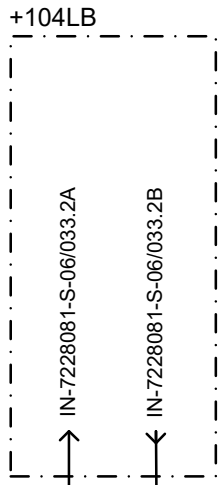


CUSTOMER : HPPTCL PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI PO. No. & Date: PO00365/15-16, DATED: 10.10.2015		CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD				TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102) BCU DIGITAL INPUT CARD		PREPARED : MK REVISION: Z REVIEWED : DSS DATE: 26-11-2018 APPROVED : RVN SHT :055 CONT:056		DRG. NO.: IN-7228081-S-01	
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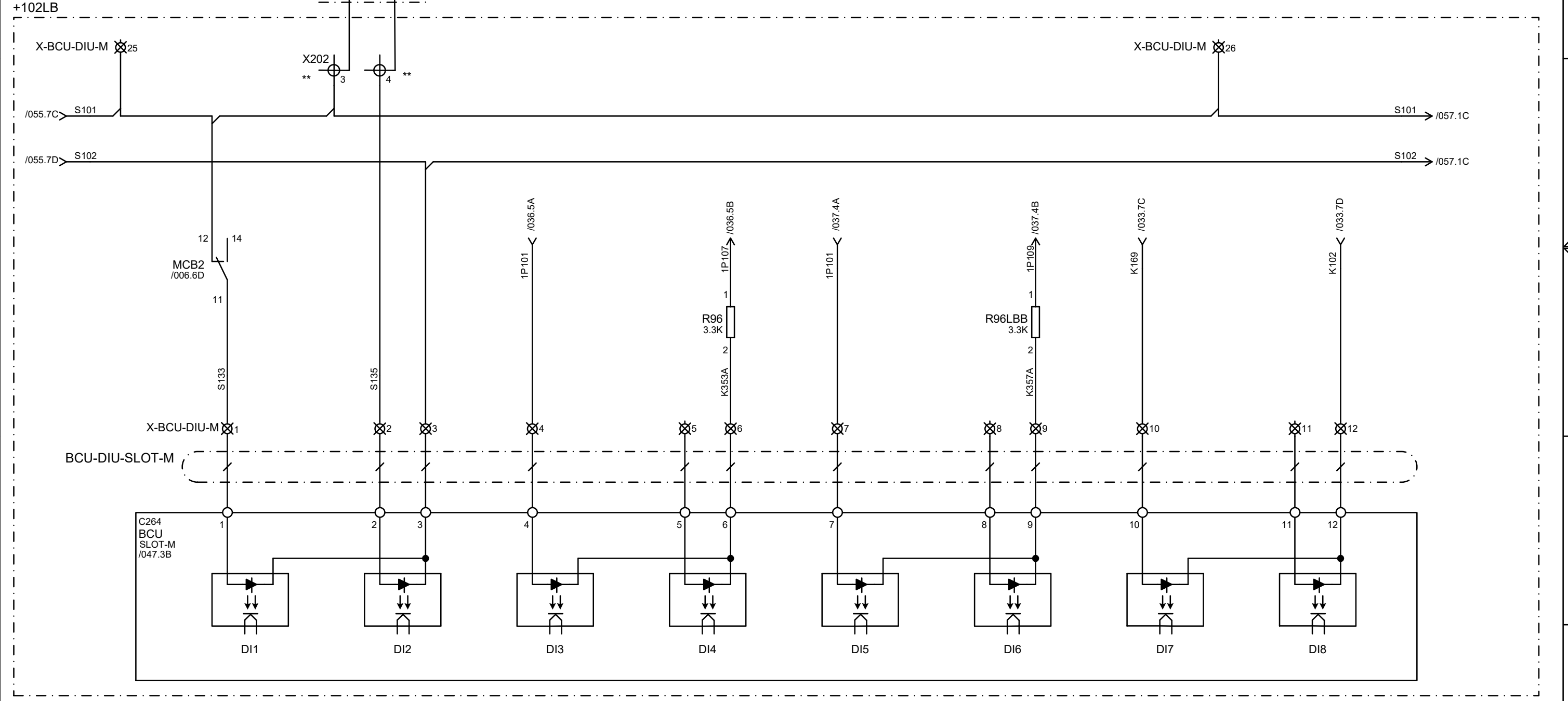
1 2 3 4 5 6 7 8

BACKUP PROTN. CKT MCB TRIP BCU FAULTY FROM LINE-2 TRIP RELAY 96 SUPERVISION TRIP RELAY 96LBB SUPERVISION DIRECT TRIP SEND



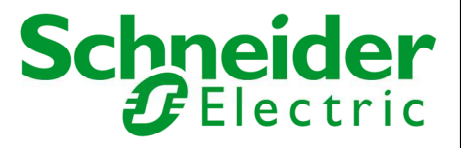
NOTE : ** BB'S X202 & FERRULES ARE TO BE READ AS BELOW

X202		FERRULE NAME	
+102LB	+104LB	+102LB	+104LB
3	1	S101A	S101B
4	2	S135A	S135B



CUSTOMER : HPPTCL
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD

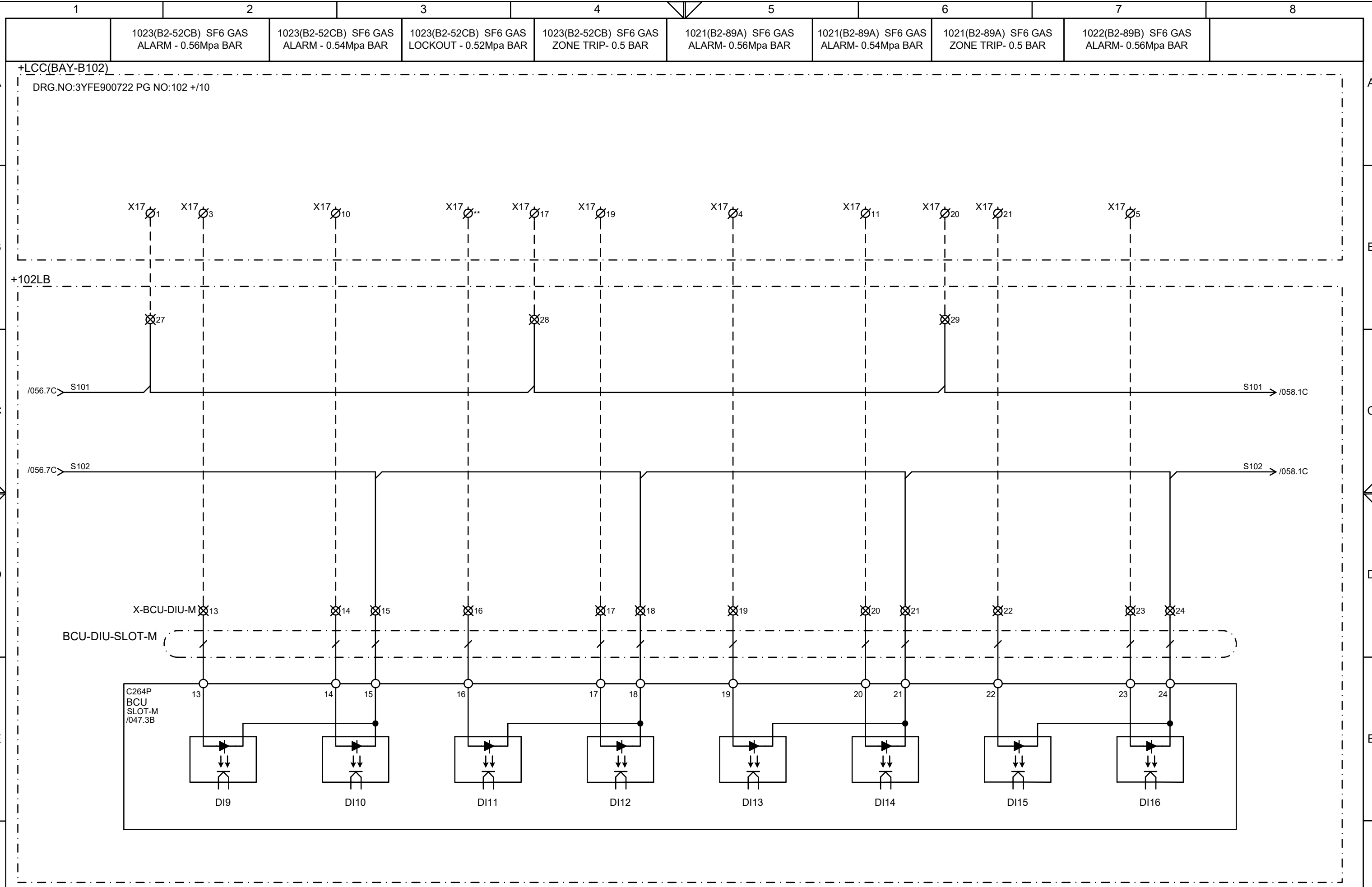


TITLE : 132KV LINE-1 PROTECTION PANEL (BAY-B102)
BCU DIGITAL INPUT CARD

PREPARED : MK	REVISION: Z	SHT :056
REVIEWED : DSS	DATE: 26-11-2018	CONT:057
APPROVED : RVN		
DRG. NO.: IN-7228081-S-01		

1 2 3 4 5 6 7 8

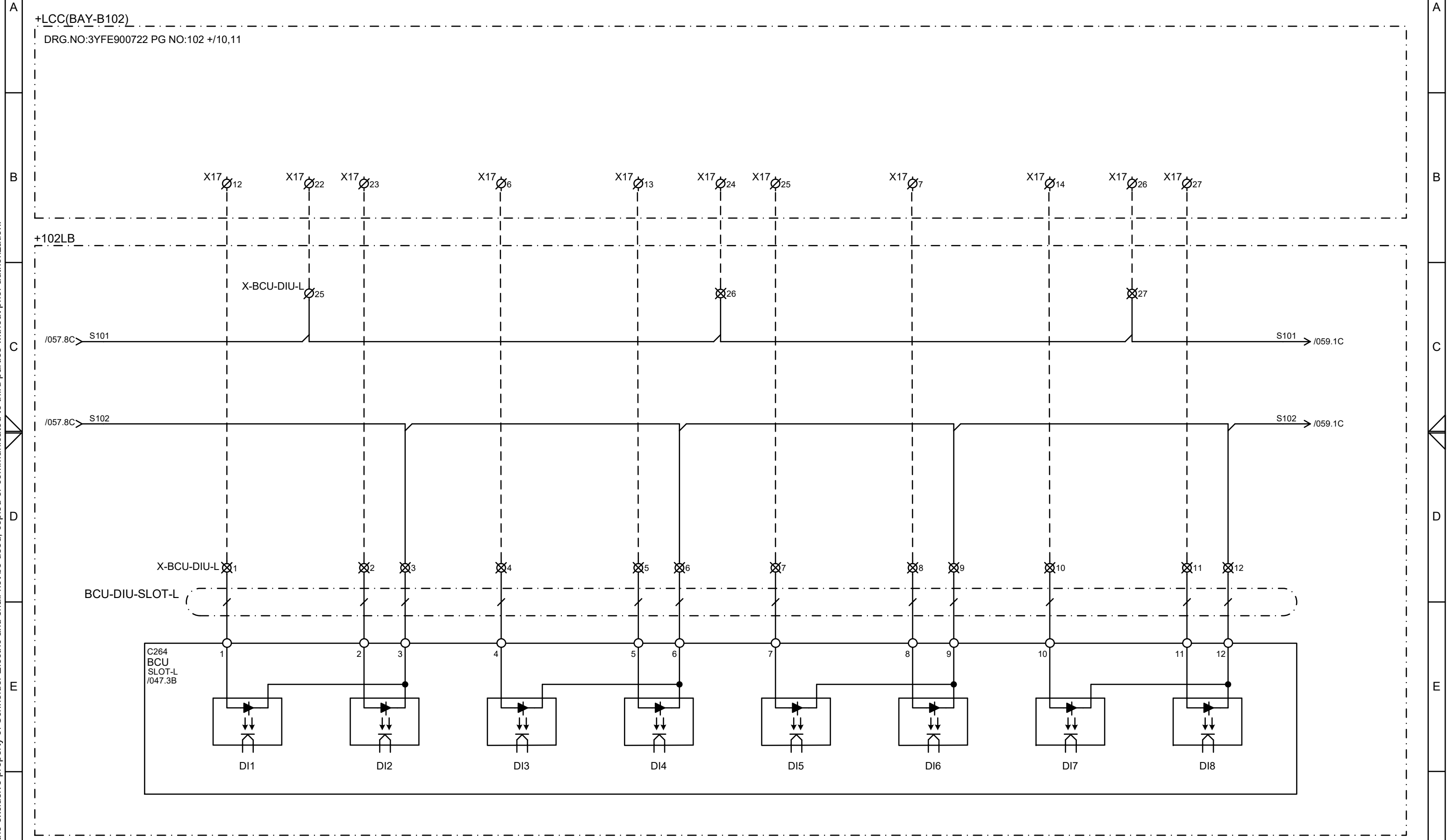
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CUSTOMER : HPPTCL PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI PO. No. & Date: PO00365/15-16, DATED: 10.10.2015		CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD				TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102) BCU DIGITAL INPUT CARD		PREPARED : MK REVISION: Z SHT :057 REVIEWED : DSS DATE: 26-11-2018 CONT:058 APPROVED : RVN DRG. NO.: IN-7228081-S-01	
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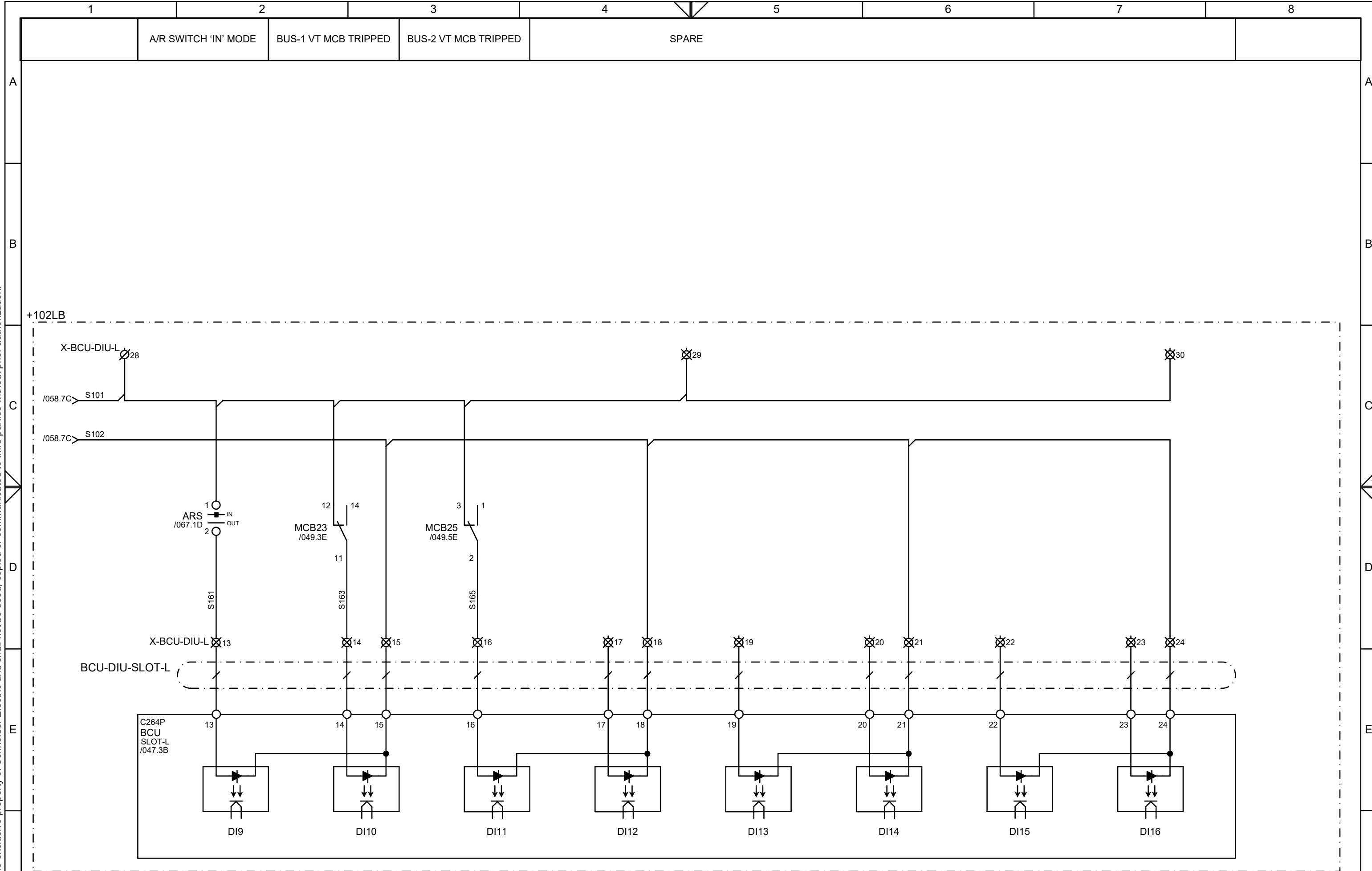
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1	1022(B2-89B) SF6 GAS ALARM- 0.54Mpa BAR	1022(B2-89B) SF6 GAS ZONE TRIP- 0.5 BAR	1024(B1-89L-1) SF6 GAS ALARM- 0.56Mpa BAR	1024(B1-89L-1) SF6 GAS ALARM- 0.54Mpa BAR	1024(B1-89L-1) SF6 GAS ZONE TRIP- 0.5 BAR	1025 SF6 GAS ALARM- 0.56Mpa BAR	1025 SF6 GAS ALARM- 0.54Mpa BAR	1025 SF6 GAS ZONE TRIP- 0.5 BAR	8
---	---	---	---	---	---	---------------------------------	---------------------------------	---------------------------------	---



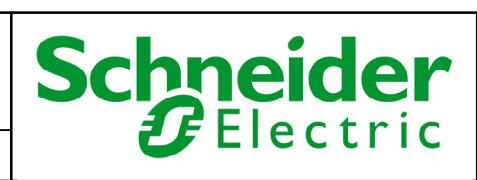
CUSTOMER : HPPTCL		CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD			TITLE : 132KV LINE-1 PROTECTION PANEL (BAY-B102)		PREPARED : MK	REVISION: Z	SHT : 058
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI					BCU DIGITAL INPUT CARD		REVIEWED : DSS	DATE: 26-11-2018	CONT: 059
PO. No. & Date: PO00365/15-16, DATED: 10.10.2015							DRG. NO.: IN-7228081-S-01		

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CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

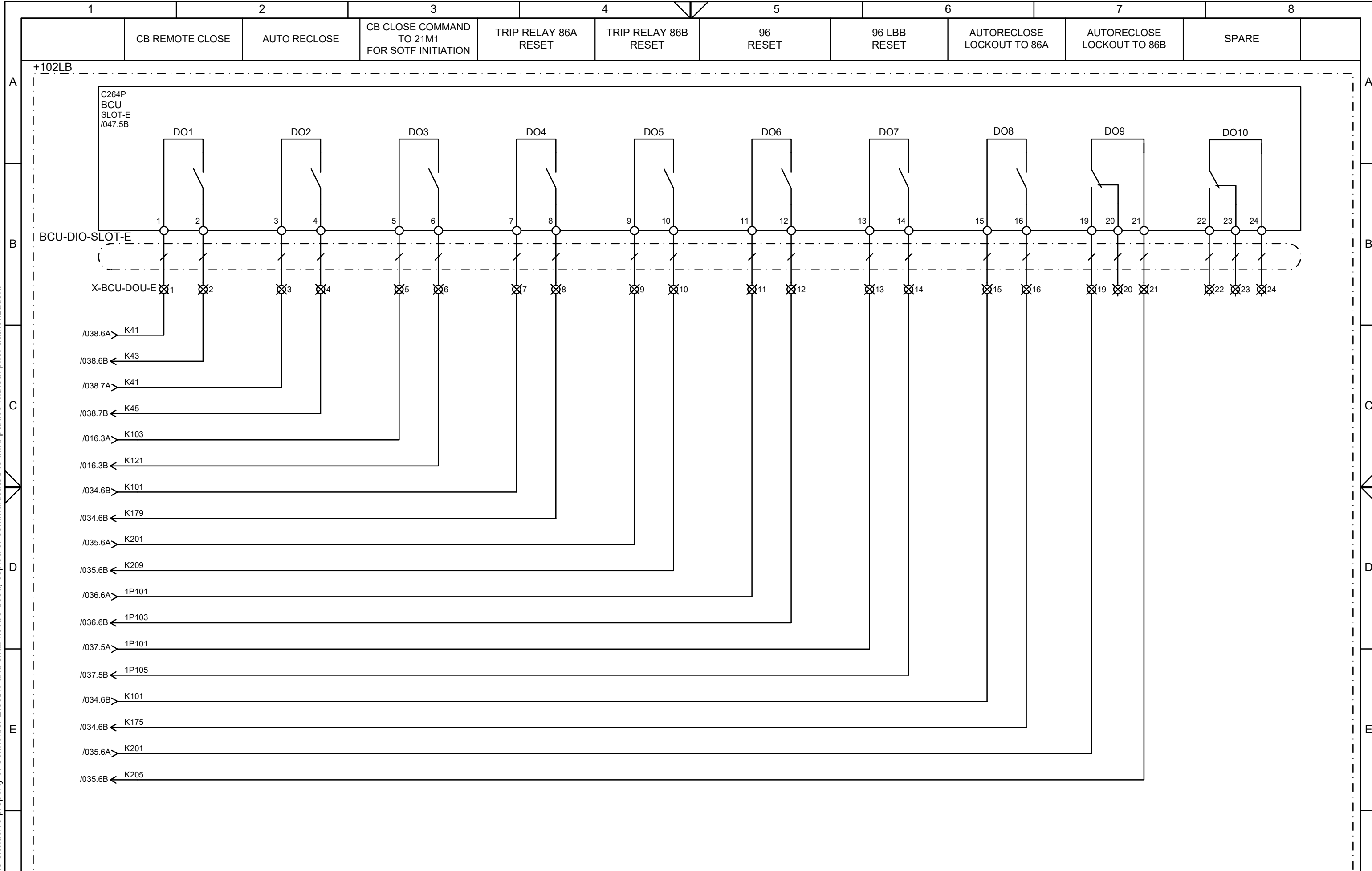
CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
BCU DIGITAL INPUT CARD

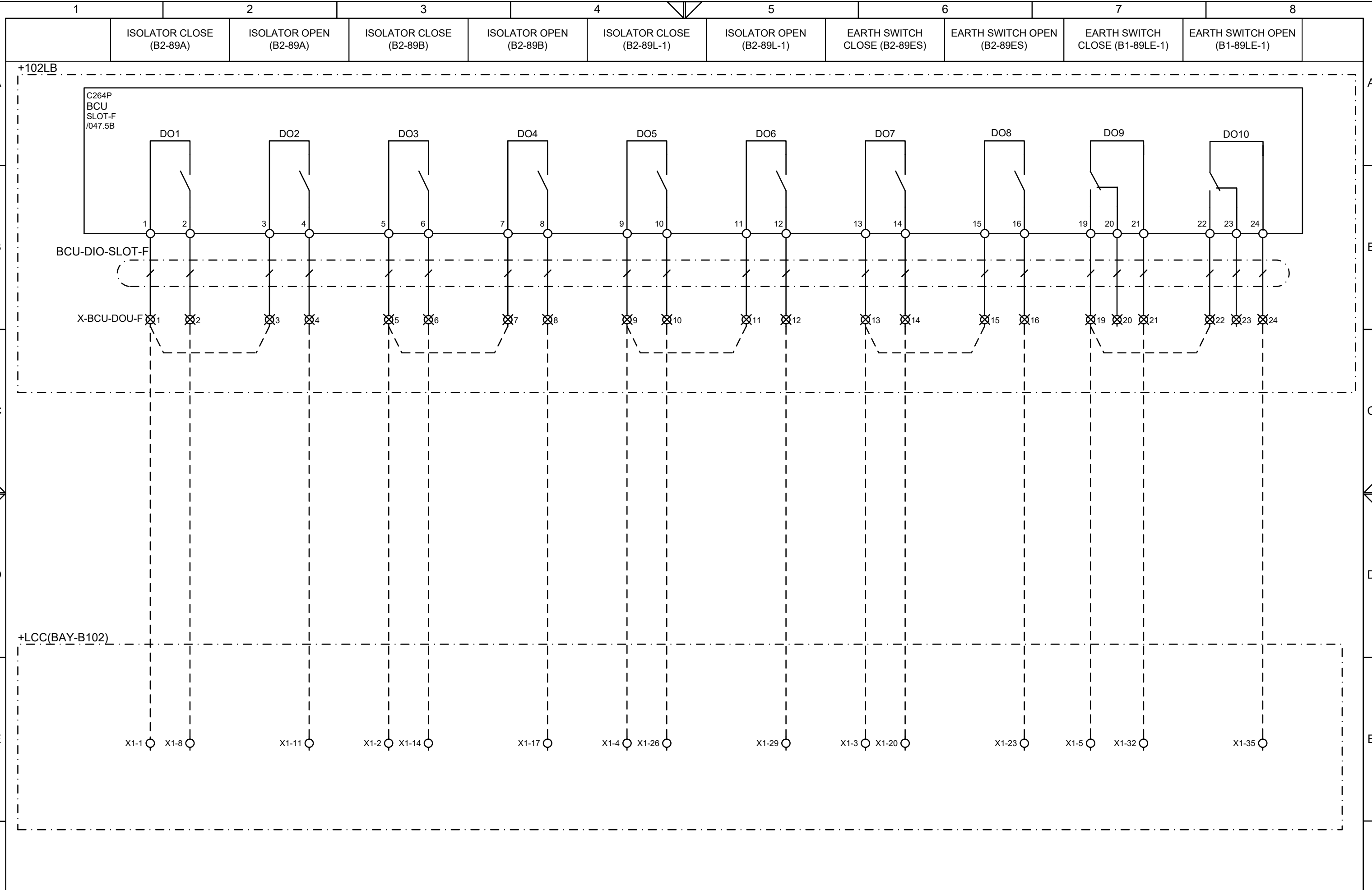
PREPARED : MK	REVISION: Z	SHT :059
REVIEWED : DSS	DATE: 26-11-2018	CONT:060
APPROVED : RVN	DRG. NO.: IN-7228081-S-01	

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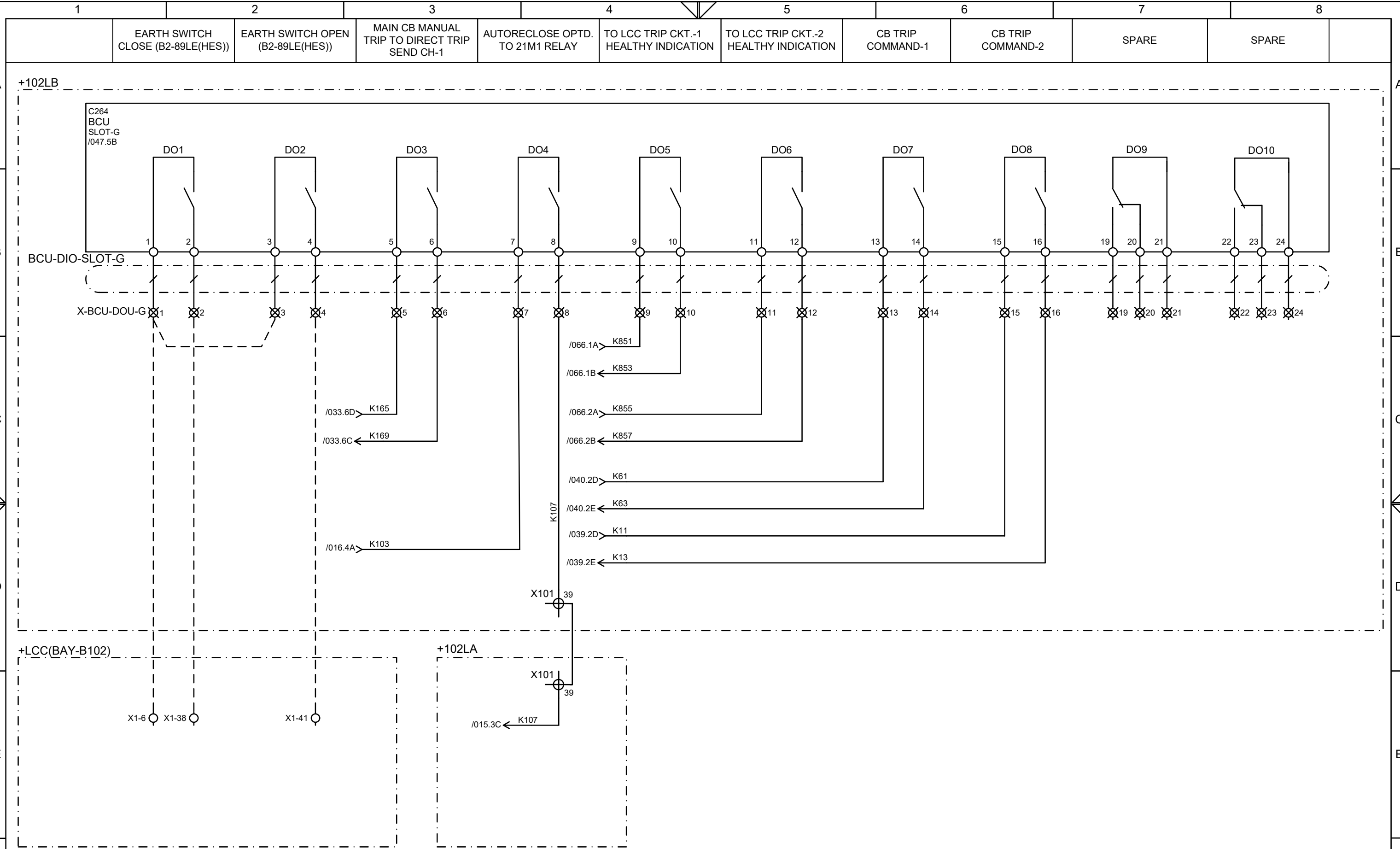
CUSTOMER : HPPTCL	CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD		TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)	PREPARED : MK	REVISION: Z	SHT :060
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI			BCU DIGITAL OUTPUT CARD	REVIEWED : DSS	DATE: 26-11-2018	CONT:061
PO. No.& Date: PO00365/15-16, DATED: 10.10.2015				APPROVED : RVN		
				DRG. NO.: IN-7228081-S-01		

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CUSTOMER : HPPTCL PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI PO. No. & Date: PO00365/15-16, DATED: 10.10.2015		CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD				TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102) BCU DIGITAL OUTPUT CARD		PREPARED : MK REVIEWED : DSS APPROVED : RVN	REVISION: Z DATE: 26-11-2018	SHT :061 CONT:062
DRG. NO.: IN-7228081-S-01										

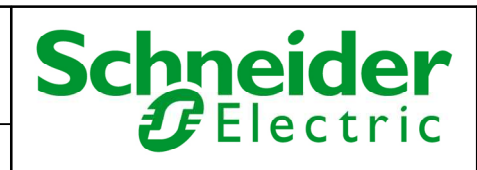
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NOTE: ** TERMINALS TO BE IDENTIFIED AT SITE

CUSTOMER : HPPTCL
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE : 132KV LINE-1 PROTECTION PANEL (BAY-B102)
BCU DIGITAL OUTPUT CARD

PREPARED : MK	REVISION: Z	SHT :062
REVIEWED : DSS	DATE: 26-11-2018	CONT:063
APPROVED : RVN		
DRG. NO.: IN-7228081-S-01		

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BLANK SHEET

CUSTOMER : HPPTCL
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
BLANK SHEET

PREPARED : MK	REVISION: Z	SHT :063
REVIEWED : DSS	DATE: 26-11-2018	CONT:064
APPROVED : RVN	DRG. NO.: IN-7228081-S-01	

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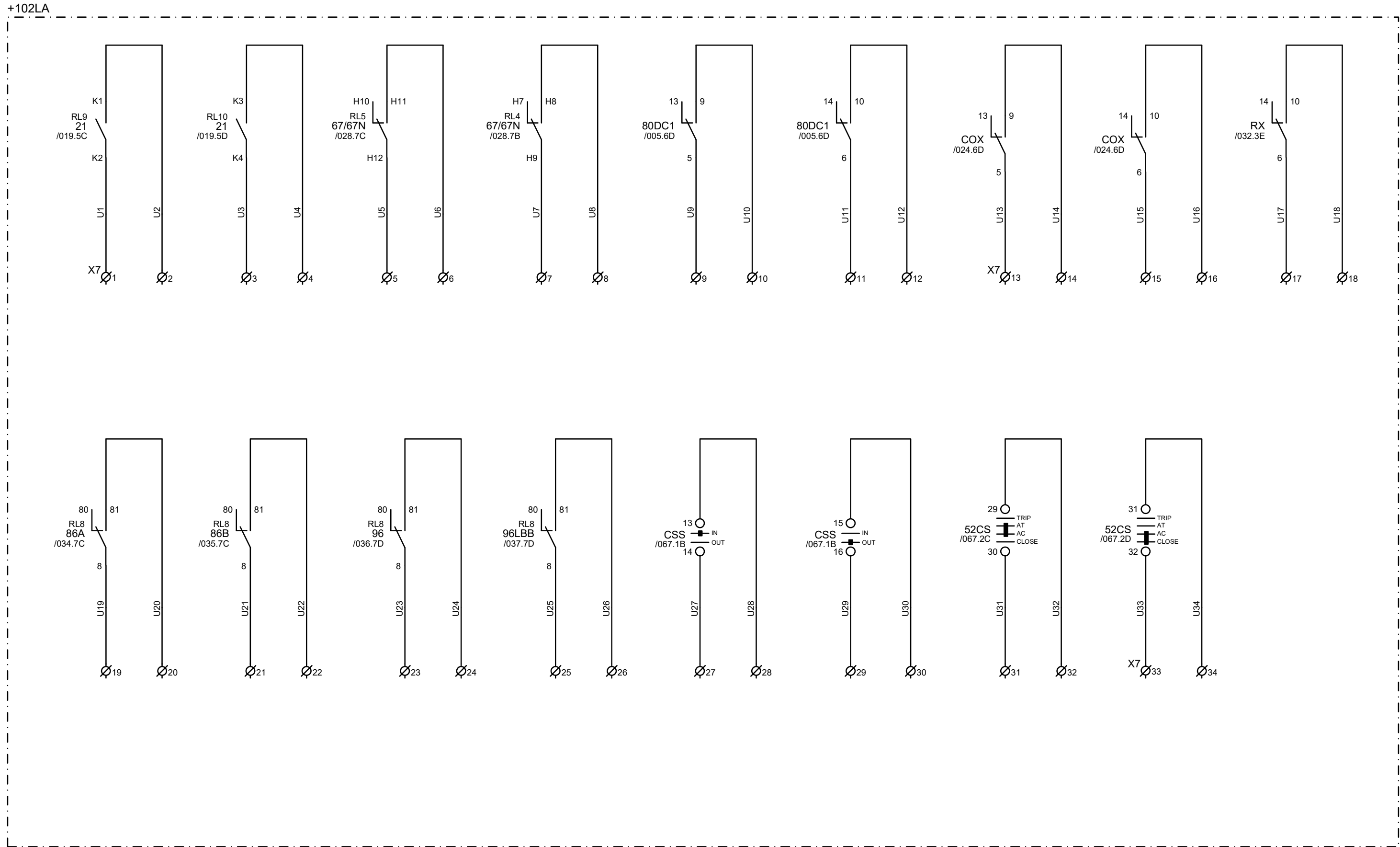
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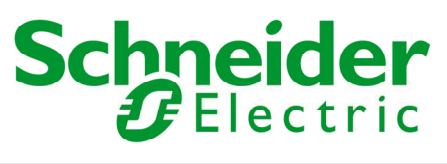
8

SPARE CONTACTS DISTRIBUTION



CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
SPARE CONTACT DISTRIBUTION

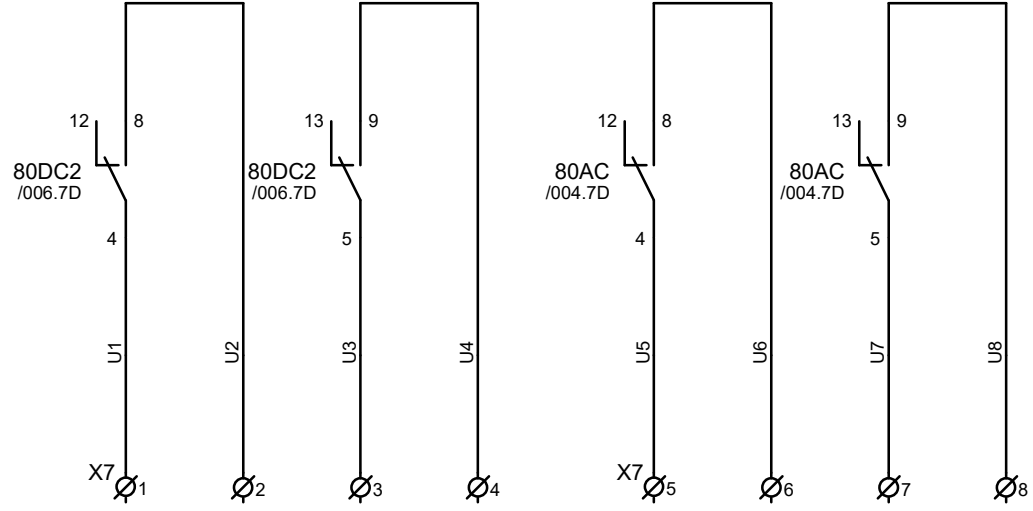
PREPARED : MK	REVISION: Z	SHT :064
REVIEWED : DSS	DATE: 26-11-2018	CONT:065
APPROVED : RVN		
DRG. NO.: IN-7228081-S-01		

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SPARE CONTACTS DISTRIBUTION

+102LB



CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

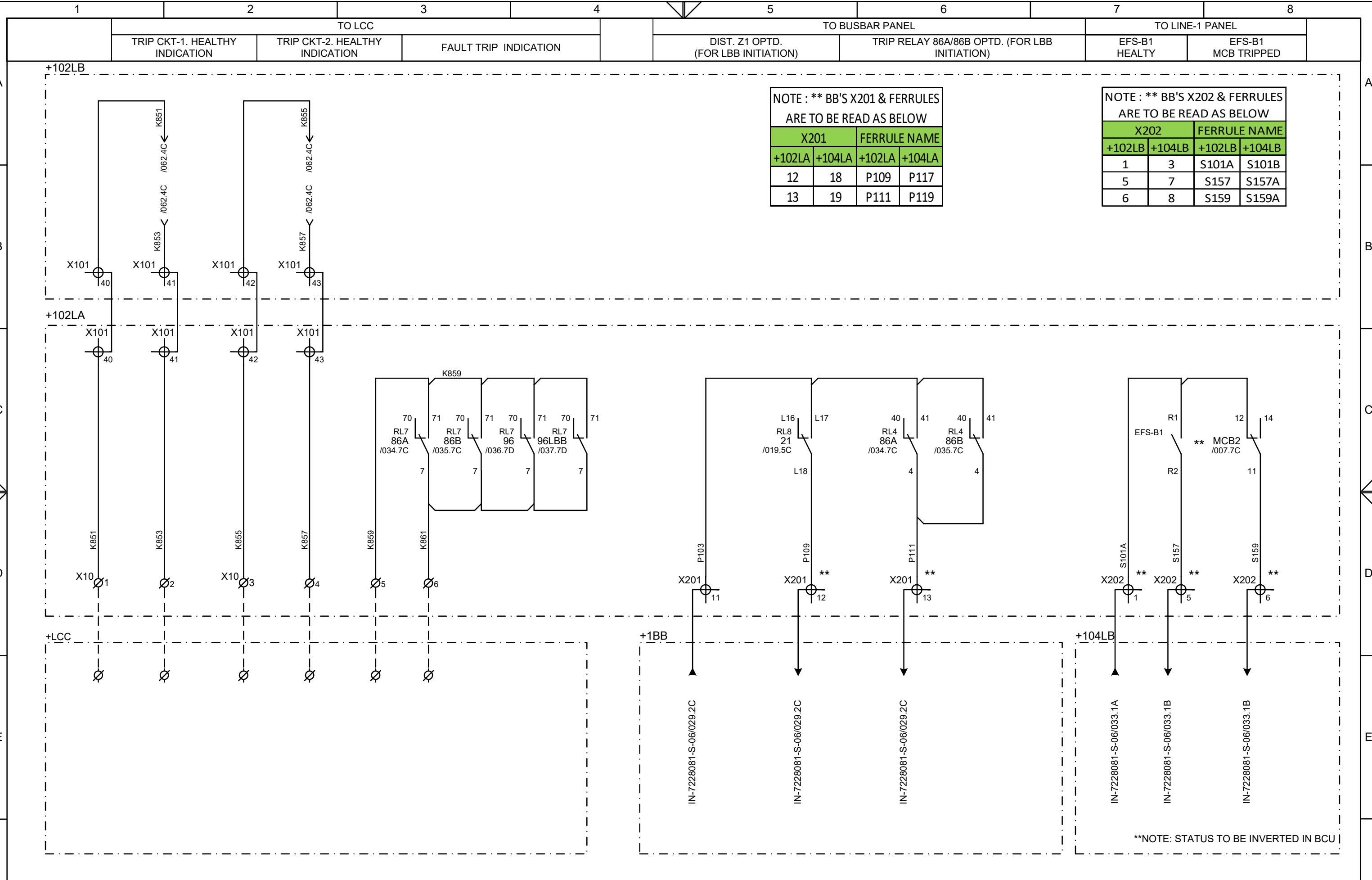
CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
SPARE CONTACT DISTRIBUTION

PREPARED : MK	REVISION: Z	SHT :065
REVIEWED : DSS	DATE: 26-11-2018	CONT:066
APPROVED : RVN	DRG. NO.: IN-7228081-S-01	

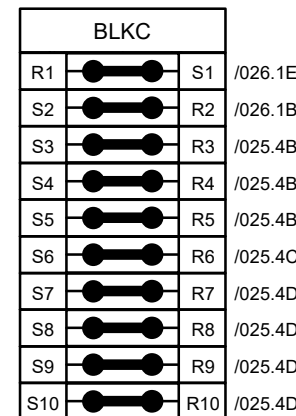
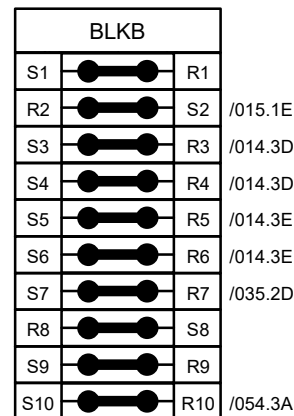
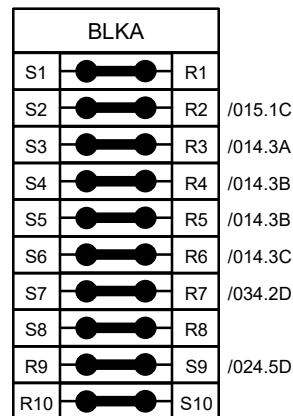
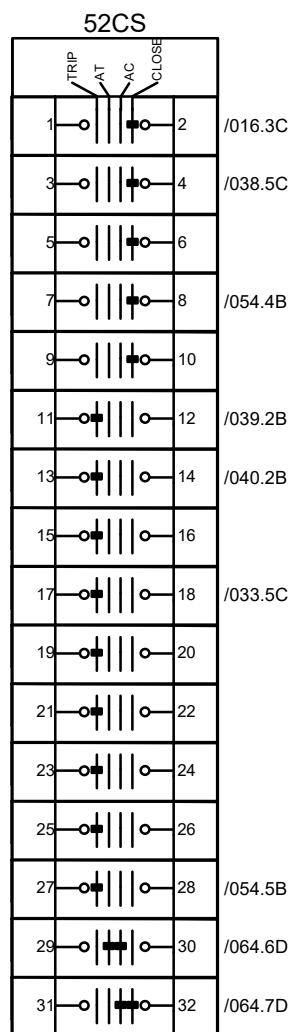
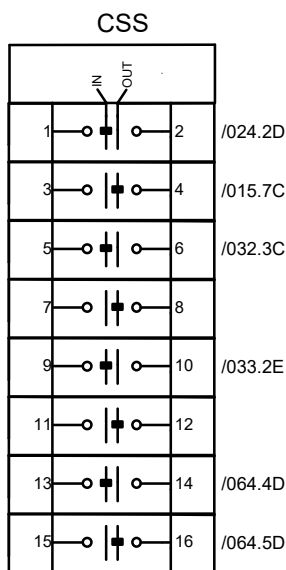
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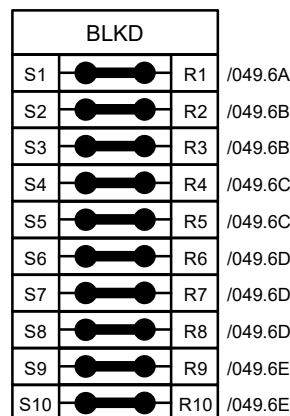
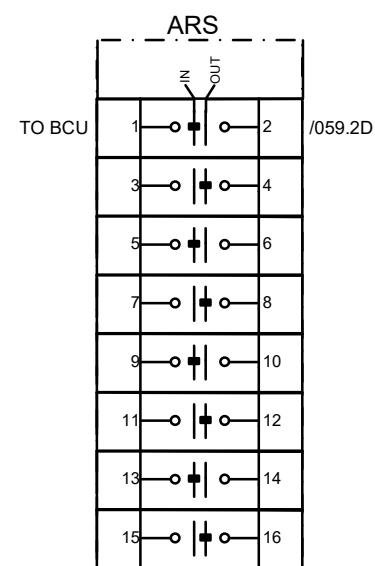
CUSTOMER : HPPTCL	CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD		TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI			CONTACT DISTRIBUTION CKT.
PO. No. & Date: PO00365/15-16, DATED: 10.10.2015			PREPARED : MK REVISION: Z DATE: 26-11-2018 SHT :066
			APPROVED : RVN CONT:067
			DRG. NO.: IN-7228081-S-01

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+102LA



+102LB



CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
SWITCH& TESTBLOCK CONTACT DISTRIBUTION

PREPARED : MK	REVISION: Z	SHT :067
REVIEWED : DSS	DATE: 26-11-2018	CONT:068
APPROVED : RVN		
DRG. NO.: IN-7228081-S-01		

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+102LA

TAG	REF	TAG	REF	TAG	REF	TAG	REF	TAG	REF	TAG	REF	TAG	REF	TAG	REF
X1:1	/004.1B	X2:1	/008.5A	X3:1	/010.4A	X4:1	/015.2C	X5:1	/038.2E	X7:1	/064.1B	X10:1	/066.1D	X101:1	/074.1A,/005.6C
X1:2	/004.1B	X2:2	/008.5A	X3:2	/010.4A	X4:2	/015.2C	X5:2	/038.3E	X7:2	/064.1B	X10:2	/066.1D	X101:2	/005.6C,/074.1A
X1:3	/005.3B	X2:3	/008.5B	X3:3	/010.4B	X4:3	/016.5C	X5:3	/038.5E	X7:3	/064.2B	X10:3	/066.2D	X101:3	/006.3E,/074.1A
X1:4	/005.3B	X2:4	/008.5B	X3:4	/010.4B	X4:4	/016.5D	X5:4	/038.5E	X7:4	/064.2B	X10:4	/066.2D	X101:4	/006.3E,/074.1B
X1:5	SPARE	X2:5	/008.5B	X3:5	/010.4C	X4:5	/016.6C	X5:5	/038.7E	X7:5	/064.3B	X10:5	/066.3D	X101:5	/074.1B,/006.4E
X1:6	SPARE	X2:6	/008.5C	X3:6	/010.4C	X4:6	/016.5D	X5:6	SPARE	X7:6	/064.3B	X10:6	/066.3D	X101:6	/006.5E,/074.1B
X1:7	SPARE	X2:7	/008.5C	X3:7	/010.4C	X4:7	/016.6D			X7:7	/064.3B	X10:7	SPARE	X101:7	/007.6C,/074.1B
X1:8	SPARE	X2:8	/008.5C	X3:8	/010.4D	X4:8	/016.7C			X7:8	/064.4B	X10:8	SPARE	X101:8	/007.6D,/074.1B
		X2:9	/008.5D	X3:9	SPARE	X4:9	/016.7D			X7:9	/064.4B			X101:9	/016.3C,/074.1C
		X2:10	/008.5D	X3:10	SPARE	X4:10	/017.2C			X7:10	/064.5B			X101:10	/016.3C,/074.1C
		X2:11	/008.5D			X4:11	/017.2D			X7:11	/064.5B			X101:11	/016.4C,/074.1C
		X2:12	/008.5E			X4:12	/017.2D			X7:12	/064.5B			X101:12	/033.5E,/074.1C
		X2:13	/008.5E			X4:13	/017.4C			X7:13	/064.6B			X101:13	/074.1C,/033.5F
		X2:14	/008.5E			X4:14	/017.3D			X7:14	/064.6B			X101:14	/033.5B,/074.1D
		X2:15	/008.5F			X4:15	/017.4D			X7:15	/064.7B			X101:15	/034.5C,/074.1D
		X2:16	/008.5F			X4:16	/017.5C			X7:16	/064.7B			X101:16	/034.6C,/074.1D
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		X2:18	/014.7C			X4:18	/017.5D			X7:18	/064.8B			X101:18	/036.6C,/074.1D
		X2:19	/014.7D			X4:19	/017.7C			X7:19	/064.1E			X101:19	/037.5C,/074.1E
		X2:20	/014.7D			X4:20	/017.6D			X7:20	/064.1E			X101:20	/038.1B,/074.1E
		X2:21	SPARE			X4:21	/017.7D			X7:21	/064.2E			X101:21	/038.3B,/074.1E
		X2:22	SPARE			X4:22	/024.2C			X7:22	/064.2E			X101:22	/038.5B,/074.1E
		X2:23	SPARE			X4:23	/024.2C			X7:23	/064.3E			X101:23	/074.1E,/038.6B
		X2:24	SPARE			X4:24	/024.3C			X7:24	/064.3E			X101:24	/074.1F,/038.7B
						X4:25	/024.4C			X7:25	/064.4E			X101:25	/039.1C,/074.1F
						X4:26	/024.5C			X7:26	/064.4E			X101:26	/039.2C,/074.3A
						X4:27	/026.6C			X7:27	/064.4E			X101:27	/040.1C,/074.3A
						X4:28	/026.6D			X7:28	/064.5E			X101:28	/040.2C,/074.3A
						X4:29	/026.7C			X7:29	/064.5E			X101:29	/074.3B,/054.1B
						X4:30	/026.7D			X7:30	/064.5E			X101:30	/074.3B,/054.2B
						X4:31	/026.7C			X7:31	/064.6E			X101:31	/074.3B,/054.2B
						X4:32	/026.7D			X7:32	/064.6E			X101:32	/074.3B,/054.3B
						X4:33	/027.2C			X7:33	/064.7E			X101:33	/054.4B,/074.3B
						X4:34	/027.2D			X7:34	/064.7E			X101:34	/054.5B,/074.3C
						X4:35	/027.2D			X7:35	SPARE			X101:35	/054.5B,/074.3C
						X4:36	/027.4C			X7:36	SPARE			X101:36	/074.3C,/054.6B
						X4:37	/027.3D			X7:37	SPARE			X101:37	/074.3C,/054.7B
						X4:38	/027.4D			X7:38	SPARE			X101:38	/074.3C,/055.2B
						X4:39	/027.5C			X7:39	SPARE			X101:39	/074.3D,/062.3E
						X4:40	/027.5D			X7:40	SPARE			X101:40	/074.3D,/066.1C
						X4:41	/027.5D							X101:41	/074.3D,/066.1C
						X4:42	/027.7C							X101:42	/074.3D,/066.2C
						X4:43	/027.6D							X101:43	/074.3D,/066.2C
						X4:44	/027.7D							X101:44	/074.3E,/034.6C
						X4:45	/032.3B							X101:45	/074.3E,/035.6C
						X4:46	/032.3B								
						X4:47	/033.2B								
						X4:48	/033.3B								
						X4:49	/034.4C								
						X4:50	/034.4C								
						X4:51	/035.4C								
						X4:52	/035.4C								
						X4:53	SPARE								
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						X4:59	SPARE								
						X4:60	SPARE								
						X4:61	SPARE								
						X4:62	SPARE								

CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)

TERMINAL BLOCK ALLOCATION

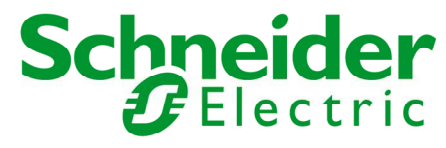
PREPARED : MK	REVISION: Z	SHT :068
REVIEWED : DSS	DATE: 26-11-2018	CONT:069
APPROVED : RVN	DRG. NO.: IN-7228081-S-01	

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TAG	REF	TAG	REF	TAG	REF	TAG	REF	TAG	REF	TAG	REF	TAG	REF		
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X1:3	SPARE	X2:2	/009.5A	X3:2	/010.4E	X5:2	/039.2E	X7:2	/065.2C	X10:2	/049.2D				
X1:2	/006.3B	X2:3	/009.5B	X3:3	/010.4E	X5:3	/039.5C	X7:3	/065.3C	X10:3	/049.2D				
X1:4	SPARE	X2:4	/009.5B	X3:4	/010.4E	X5:4	/039.5C	X7:4	/065.3C	X10:4	/049.2C				
		X2:5	/009.5B	X3:5	SPARE	X5:5	/039.6E	X7:5	/065.3C	X10:5	SPARE				
		X2:6	/009.5B			X5:6	/039.6E	X7:6	/065.4C						
		X2:7	/009.5C			X5:7	/039.7E	X7:7	/065.4C						
		X2:8	/009.5C			X5:8	/040.1E	X7:8	/065.4C						
		X2:9	SPARE			X5:9	/040.2E	X7:9	SPARE						
		X2:10	SPARE			X5:10	/040.5C	X7:10	SPARE						
						X5:11	/040.5C								
						X5:12	/040.6E								
						X5:13	/040.6E								
						X5:14	/040.7E								
						X5:15	SPARE								
						X5:16	SPARE								
						X5:17	SPARE								

CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
TERMINAL BLOCK ALLOCATION

PREPARED : MK	REVISION: Z	SHT :070
REVIEWED : DSS	DATE: 26-11-2018	CONT:071
APPROVED : RVN	DRG. NO.: IN-7228081-S-01	

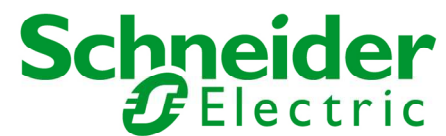
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TAG	REF	TAG	REF	TAG	REF	TAG	REF	TAG	REF	TAG	REF	TAG	REF
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X-BCU-DIU-L:2	/058.2D	X-BCU-DIU-M:2	/056.2D	X-BCU-DIU-N:2	/054.2E	X-BCU-DIU-O:2	/052.2D	X-BCU-DIU-P:2	/050.2D	X-BCU-DOU-E:2	/060.2B	X-BCU-DOU-F:2	/061.2B
X-BCU-DIU-L:3	/058.3D	X-BCU-DIU-M:3	/056.3D	X-BCU-DIU-N:3	/054.3E	X-BCU-DIU-O:3	/052.3D	X-BCU-DIU-P:3	/050.3D	X-BCU-DOU-E:3	/060.2B	X-BCU-DOU-F:3	/061.2B
X-BCU-DIU-L:4	/058.3D	X-BCU-DIU-M:4	/056.3D	X-BCU-DIU-N:4	/054.3E	X-BCU-DIU-O:4	/052.3D	X-BCU-DIU-P:4	/050.3D	X-BCU-DOU-E:4	/060.2B	X-BCU-DOU-F:4	/061.2B
X-BCU-DIU-L:5	/058.4D	X-BCU-DIU-M:5	/056.4D	X-BCU-DIU-N:5	/054.4E	X-BCU-DIU-O:5	/052.4D	X-BCU-DIU-P:5	/050.4D	X-BCU-DOU-E:5	/060.3B	X-BCU-DOU-F:5	/061.3B
X-BCU-DIU-L:6	/058.4D	X-BCU-DIU-M:6	/056.4D	X-BCU-DIU-N:6	/054.4E	X-BCU-DIU-O:6	/052.4D	X-BCU-DIU-P:6	/050.4D	X-BCU-DOU-E:6	/060.3B	X-BCU-DOU-F:6	/061.3B
X-BCU-DIU-L:7	/058.5D	X-BCU-DIU-M:7	/056.5D	X-BCU-DIU-N:7	/054.5E	X-BCU-DIU-O:7	/052.5D	X-BCU-DIU-P:7	/050.5D	X-BCU-DOU-E:7	/060.3B	X-BCU-DOU-F:7	/061.3B
X-BCU-DIU-L:8	/058.5D	X-BCU-DIU-M:8	/056.5D	X-BCU-DIU-N:8	/054.5E	X-BCU-DIU-O:8	/052.6D	X-BCU-DIU-P:8	/050.5D	X-BCU-DOU-E:8	/060.4B	X-BCU-DOU-F:8	/061.4B
X-BCU-DIU-L:9	/058.6D	X-BCU-DIU-M:9	/056.6D	X-BCU-DIU-N:9	/054.6E	X-BCU-DIU-O:9	/052.6D	X-BCU-DIU-P:9	/050.6D	X-BCU-DOU-E:9	/060.4B	X-BCU-DOU-F:9	/061.4B
X-BCU-DIU-L:10	/058.6D	X-BCU-DIU-M:10	/056.6D	X-BCU-DIU-N:10	/054.6E	X-BCU-DIU-O:10	/052.6D	X-BCU-DIU-P:10	/050.6D	X-BCU-DOU-E:10	/060.4B	X-BCU-DOU-F:10	/061.4B
X-BCU-DIU-L:11	/058.7D	X-BCU-DIU-M:11	/056.7D	X-BCU-DIU-N:11	/054.7E	X-BCU-DIU-O:11	/052.7D	X-BCU-DIU-P:11	/050.7D	X-BCU-DOU-E:11	/060.5B	X-BCU-DOU-F:11	/061.5B
X-BCU-DIU-L:12	/058.7D	X-BCU-DIU-M:12	/056.7D	X-BCU-DIU-N:12	/054.7E	X-BCU-DIU-O:12	/052.7D	X-BCU-DIU-P:12	/050.7D	X-BCU-DOU-E:12	/060.5B	X-BCU-DOU-F:12	/061.5B
X-BCU-DIU-L:13	/059.2D	X-BCU-DIU-M:13	/057.2D	X-BCU-DIU-N:13	/055.2D	X-BCU-DIU-O:13	/053.2D	X-BCU-DIU-P:13	/051.2D	X-BCU-DOU-E:13	/060.5B	X-BCU-DOU-F:13	/061.5B
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X-BCU-DIU-L:17	/059.4D	X-BCU-DIU-M:17	/057.4D	X-BCU-DIU-N:17	/055.4D	X-BCU-DIU-O:17	/053.4D	X-BCU-DIU-P:17	/051.4D	X-BCU-DOU-E:17	SPARE	X-BCU-DOU-F:17	SPARE
X-BCU-DIU-L:18	/059.4D	X-BCU-DIU-M:18	/057.4D	X-BCU-DIU-N:18	/055.4D	X-BCU-DIU-O:18	/053.4D	X-BCU-DIU-P:18	/051.4D	X-BCU-DOU-E:18	SPARE	X-BCU-DOU-F:18	SPARE
X-BCU-DIU-L:19	/059.5D	X-BCU-DIU-M:19	/057.5D	X-BCU-DIU-N:19	/055.5D	X-BCU-DIU-O:19	/053.5D	X-BCU-DIU-P:19	/051.5D	X-BCU-DOU-E:19	/060.7B	X-BCU-DOU-F:19	/061.7B
X-BCU-DIU-L:20	/059.5D	X-BCU-DIU-M:20	/057.5D	X-BCU-DIU-N:20	/055.5D	X-BCU-DIU-O:20	/053.5D	X-BCU-DIU-P:20	/051.5D	X-BCU-DOU-E:20	/060.7B	X-BCU-DOU-F:20	/061.7B
X-BCU-DIU-L:21	/059.6D	X-BCU-DIU-M:21	/057.6D	X-BCU-DIU-N:21	/055.6D	X-BCU-DIU-O:21	/053.6D	X-BCU-DIU-P:21	/051.6D	X-BCU-DOU-E:21	/060.7B	X-BCU-DOU-F:21	/061.7B
X-BCU-DIU-L:22	/059.6D	X-BCU-DIU-M:22	/057.6D	X-BCU-DIU-N:22	/055.6D	X-BCU-DIU-O:22	/053.6D	X-BCU-DIU-P:22	/051.6D	X-BCU-DOU-E:22	/060.7B	X-BCU-DOU-F:22	/061.7B
X-BCU-DIU-L:23	/059.7D	X-BCU-DIU-M:23	/057.7D	X-BCU-DIU-N:23	/055.7D	X-BCU-DIU-O:23	/053.7D	X-BCU-DIU-P:23	/051.7D	X-BCU-DOU-E:23	/060.8B	X-BCU-DOU-F:23	/061.8B
X-BCU-DIU-L:24	/059.7D	X-BCU-DIU-M:24	/057.7D	X-BCU-DIU-N:24	/055.7D	X-BCU-DIU-O:24	/053.7D	X-BCU-DIU-P:24	/051.7D	X-BCU-DOU-E:24	/060.8B	X-BCU-DOU-F:24	/061.8B
X-BCU-DIU-L:25	/058.2C	X-BCU-DIU-M:25	/056.1B	X-BCU-DIU-N:25	/055.6B	X-BCU-DIU-O:25	/052.3C	X-BCU-DIU-P:25	/050.1C				
X-BCU-DIU-L:26	/058.4C	X-BCU-DIU-M:26	/056.7B	X-BCU-DIU-N:26	/055.7B	X-BCU-DIU-O:26	/052.6C	X-BCU-DIU-P:26	/051.1C				
X-BCU-DIU-L:27	/058.7C	X-BCU-DIU-M:27	/057.1B	X-BCU-DIU-N:27	SPARE	X-BCU-DIU-O:27	/052.7C	X-BCU-DIU-P:27	SPARE				
X-BCU-DIU-L:28	/059.1C	X-BCU-DIU-M:28	/057.3B	X-BCU-DIU-N:28	SPARE	X-BCU-DIU-O:28	/053.4C	X-BCU-DIU-P:28	SPARE				
X-BCU-DIU-L:29	/059.4C	X-BCU-DIU-M:29	/057.6B	X-BCU-DIU-N:29	SPARE	X-BCU-DIU-O:29	SPARE	X-BCU-DIU-P:29	SPARE				
X-BCU-DIU-L:30	/059.7C	X-BCU-DIU-M:30	SPARE	X-BCU-DIU-N:30	SPARE	X-BCU-DIU-O:30	SPARE	X-BCU-DIU-P:30	SPARE				

CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
BCU TERMINAL BLOCK ALLOCATION

PREPARED : MK
 REVIEWED : DSS
 APPROVED : RVN
 DRG. NO.: IN-7228081-S-01
 REVISION: Z
 DATE: 26-11-2018
 SHT :071
 CONT:072

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X200:2	IN-7228081-S-06/027.2A	X201:2	IN-7228081-S-06/029.3A,/004.5B	X202:2	IN-7228081-S-06/033.2A,/048.3C	X101:2	/074.2A,/005.7C
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X200:8	IN-7228081-S-06/027.2B,/049.2E	X201:8	IN-7228081-S-06/029.3B	X202:8	/053.6C,IN-7228081-S-06/033.2B	X101:8	/074.2B,/007.5D
X200:9	IN-7228081-S-06/027.2C	X201:9	IN-7228081-S-06/029.3C,/036.4B			X101:9	/016.3B,/074.2C
X200:10	IN-7228081-S-06/027.2C	X201:10	IN-7228081-S-06/029.3C,/037.4B			X101:10	/016.3B,/074.2C
X200:11	IN-7228081-S-06/027.2C	X201:11	IN-7228081-S-06/029.3C			X101:11	/016.4B,/074.2C
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X200:13	IN-7228081-S-06/027.2C	X201:13	IN-7228081-S-06/029.3C			X101:13	/033.6F,/074.2C
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						X101:28	/040.2C,/074.4A
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						X101:37	/074.4C,/054.7C
						X101:38	/074.4C,/055.2C
						X101:39	/074.4D,/062.3D
						X101:40	/074.4D,/066.1B
						X101:41	/074.4D,/066.1B
						X101:42	/074.4D,/066.2B
						X101:43	/074.4D,/066.2B
						X101:44	/074.4E,/034.6C
						X101:45	/074.4E,/035.6C

CUSTOMER : HPPTCL
 PROJECT : CRP & SAS FOR 132/33KV GIS S/S AT CHAMBI
 PO. No. & Date: PO00365/15-16, DATED: 10.10.2015

CONTRACTOR: SHYAM INDUS POWER SOLUTIONS PVT. LTD



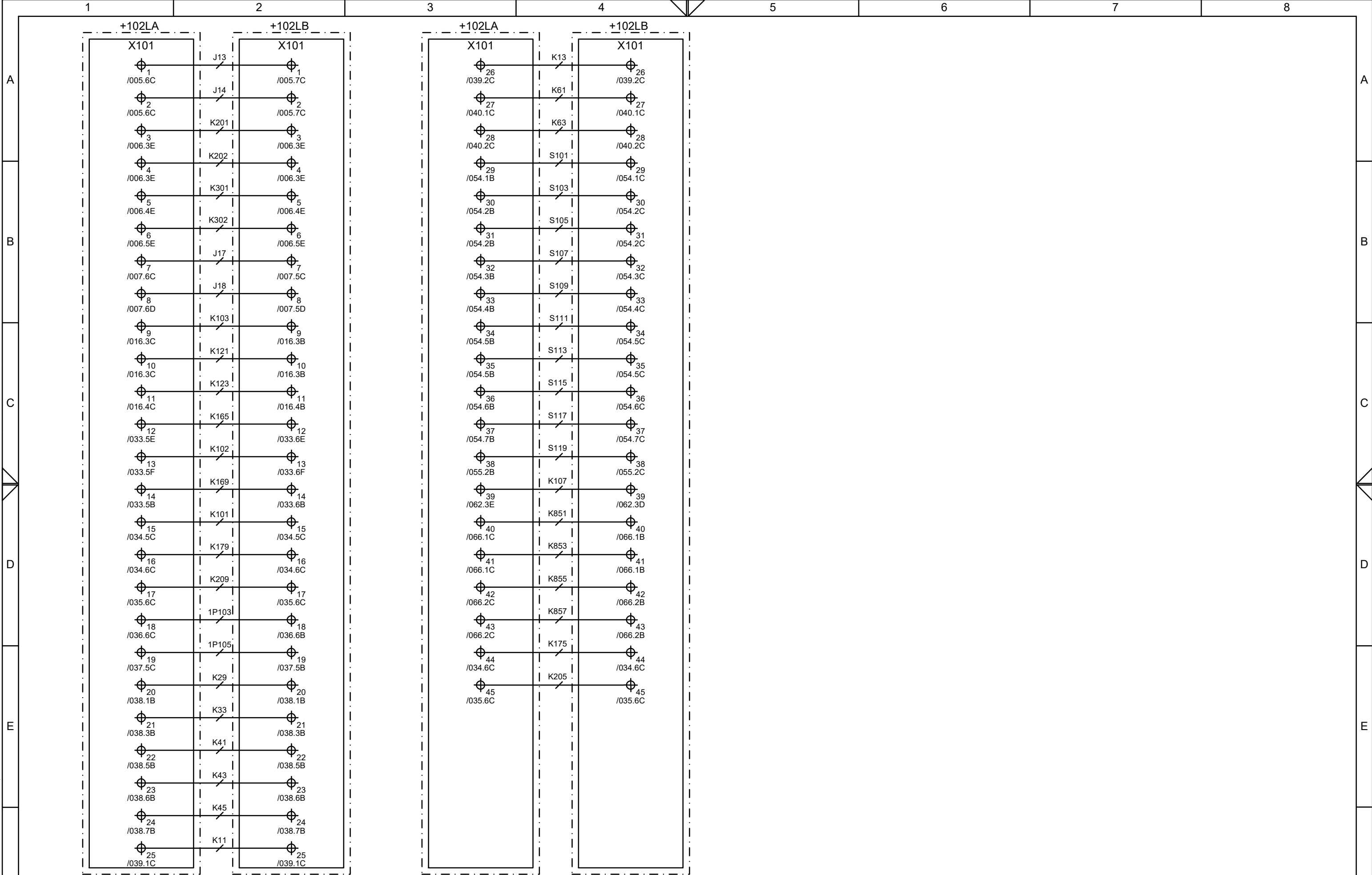
TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
BCU TERMINAL BLOCK ALLOCATION

PREPARED : MK
 REVIEWED : DSS
 APPROVED : RVN
 DRG. NO.: IN-7228081-S-01

REVISION: Z
 DATE: 26-11-2018

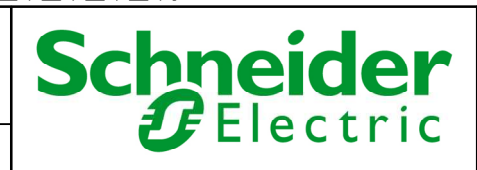
SHT :073
 CONT:074

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TITLE :132KV LINE-1 PROTECTION PANEL (BAY-B102)
BUS WIRING - INTRA-PANEL

PREPARED : MK	REVISION: Z	SHT :074
REVIEWED : DSS	DATE: 26-11-2018	CONT: NIL
APPROVED : RVN		
DRG. NO.: IN-7228081-S-01		