

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1

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CUSTOMER:



TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA STATE
INDIA

PROJECT:

4x270 MW BHADRADRI THERMAL POWER STATION
MANUGURU

CUSTOMER CONSULTANT:



DESEIN PRIVATE LTD

DRG. NO. EP-3-CS-053-011

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INVENTORY NO.	REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-011	NO. OF SHEETS	REV.
4														09	00
3						DESIGNED		JAGADISH		05.06.15					
2						DRAWN									
1						CHECKED		TRINATH		05.06.15					

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROFORCEMANS DIVISION BANGALORE

TITLE :
POWER & CONTROL SCHEME
DG BUSCOUPLER

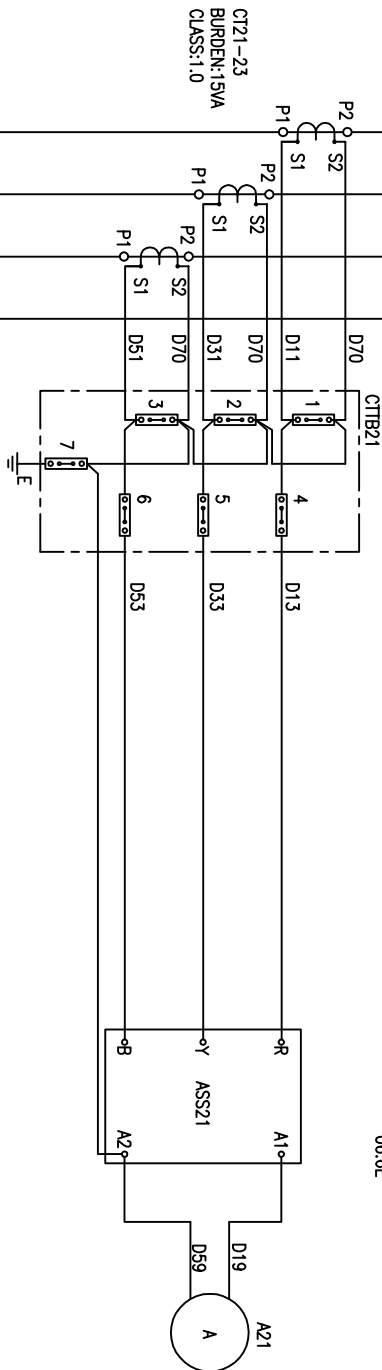
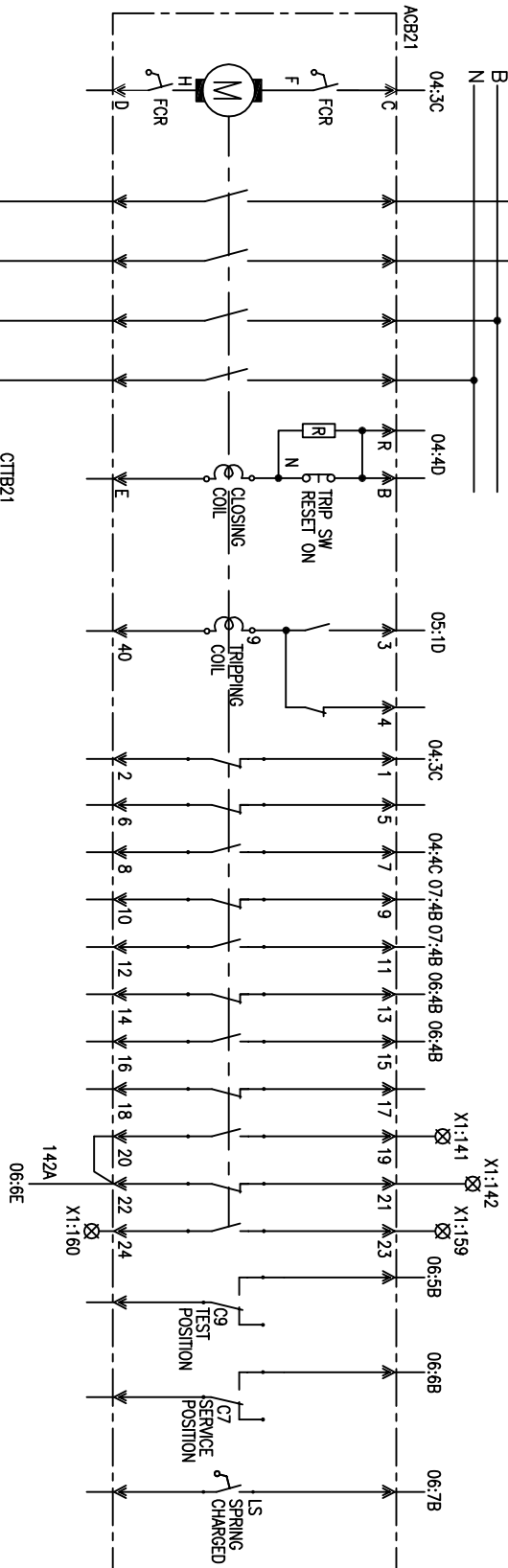


NO. OF SHEETS
SHEET: 01

INVENTORY NO.

ALL DIMENSIONS ARE IN MM

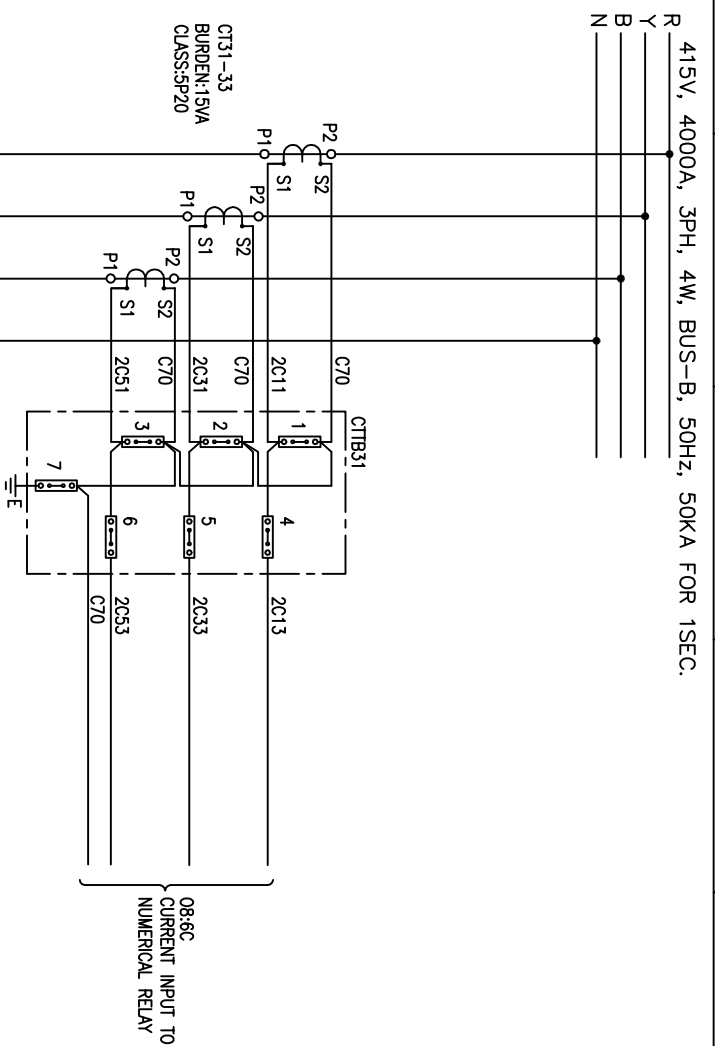
R 415V, 4000A, 3PH, 4W, BUS-A, 50H
Y
B
N



三

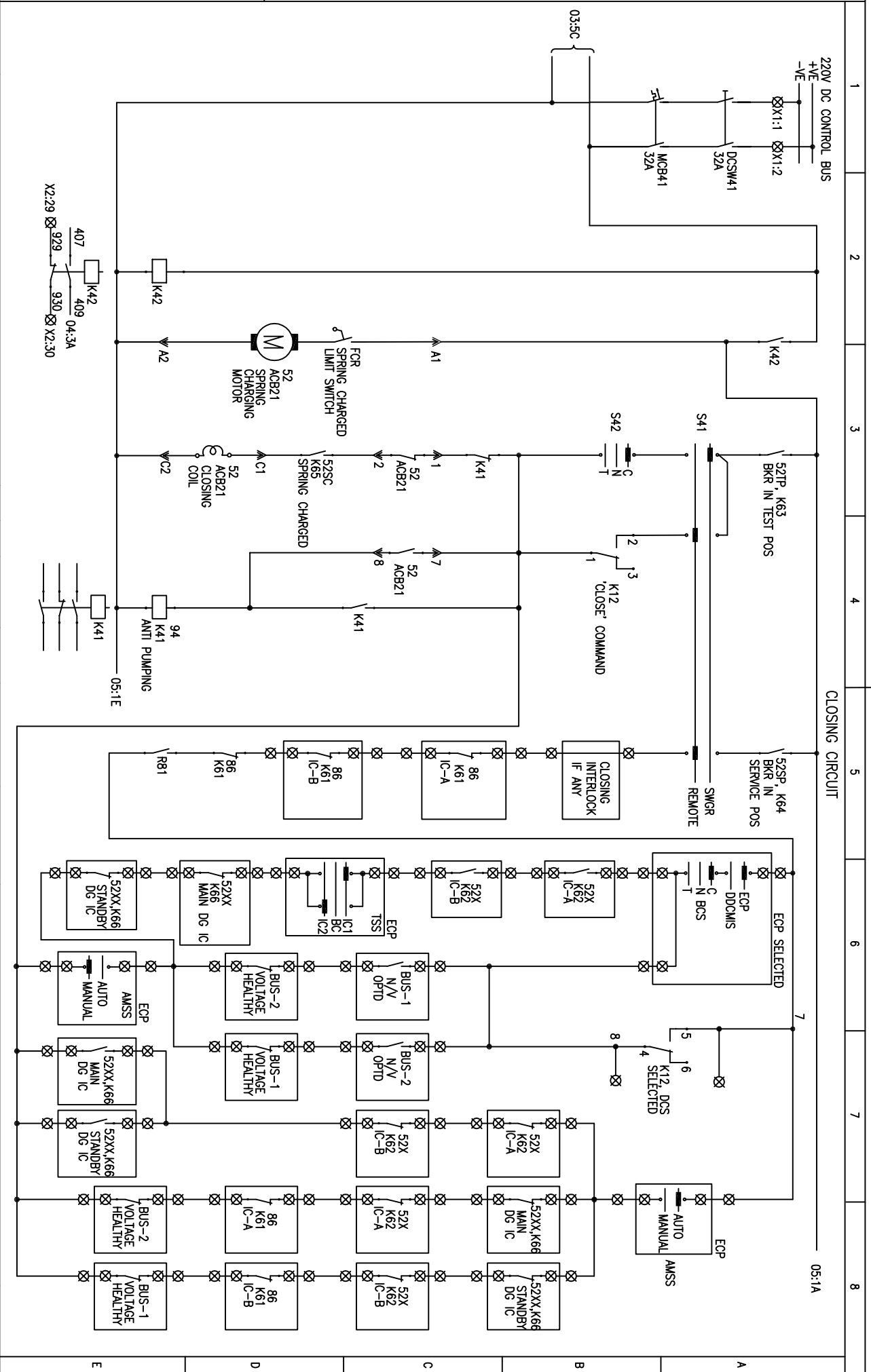
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INVENTORY NO.



4							BHARAT HEAVY ELECTRICALS LIMITED ELECTROPOWER DIVISION BANGALORE								
3				DESIGNED	JAGADISH							05.06.15	TITLE : POWER & CONTROL SCHEME DG BUSCOUPLER	NO. OF SHEETS	09
2				DRAWN										SHEET.	03
1				CHECKED	TRINATH							05.06.15			
REV. DATE		DESCRIPTION	BY	APPD.	APPROVED							KSB		05.06.15	SCALE: NA

INVENTORY NO.

[illegible]

DRG. NO. EP-3-CS-053-011

INVENTORY NO.

REV. NO.

DATE

DESCRIPTION

BY

APPD.

APPROVED

KSB

SCALE: NA

JOB NO. CP-14-053

DRG. NO. EP-3-CS-053-011

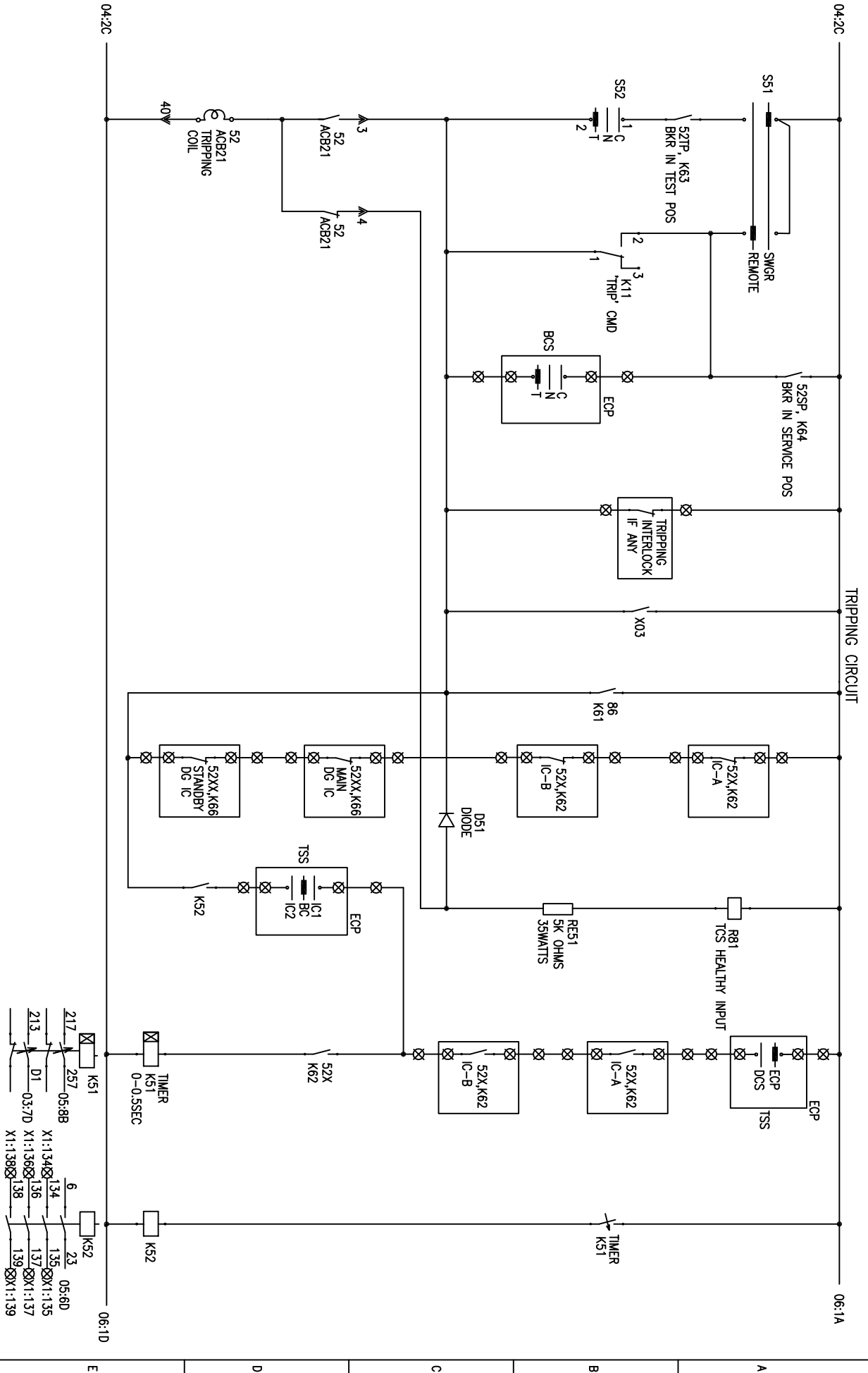
NO. OF SHEETS

SHEET: 05

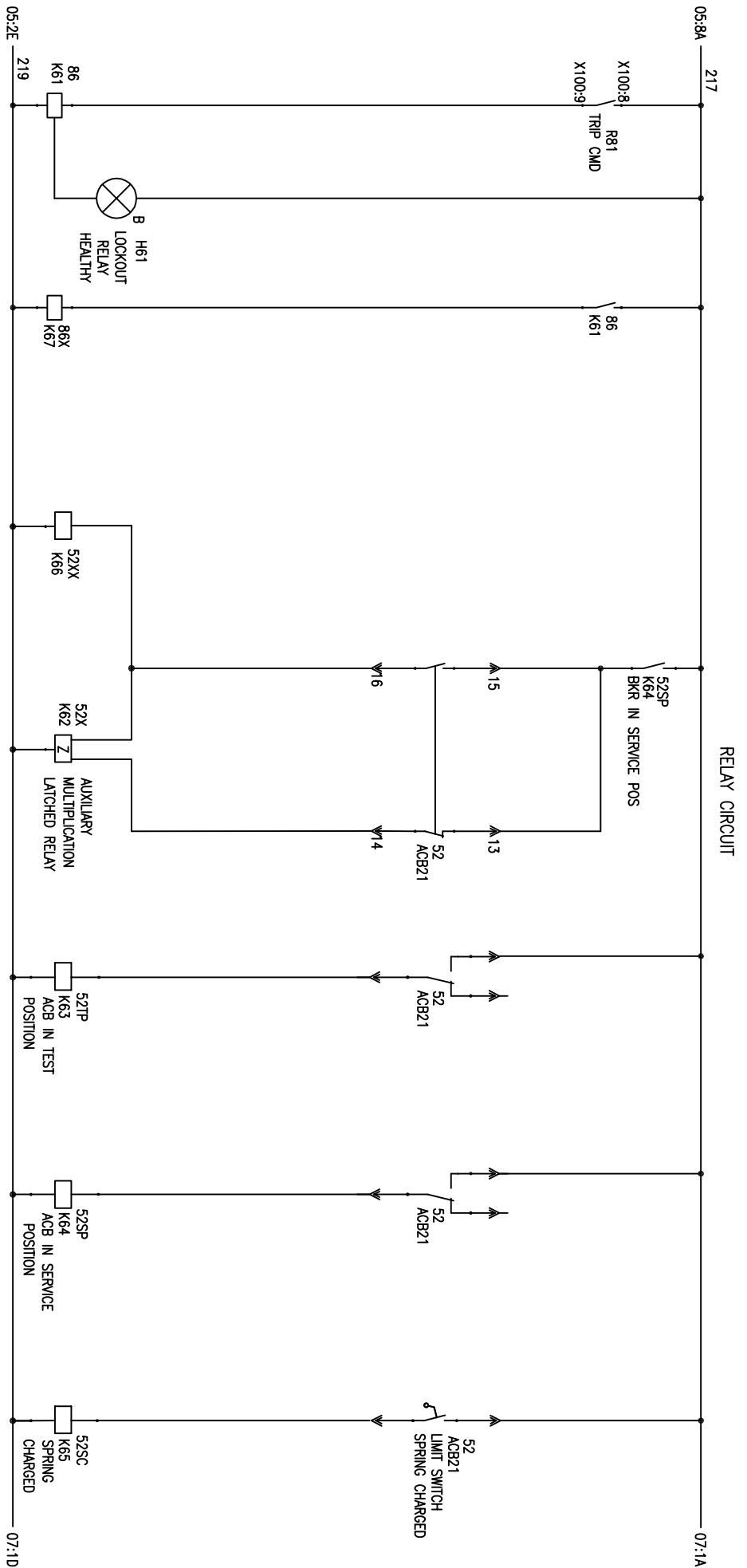
REV. 00

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.



INVENTORY NO.

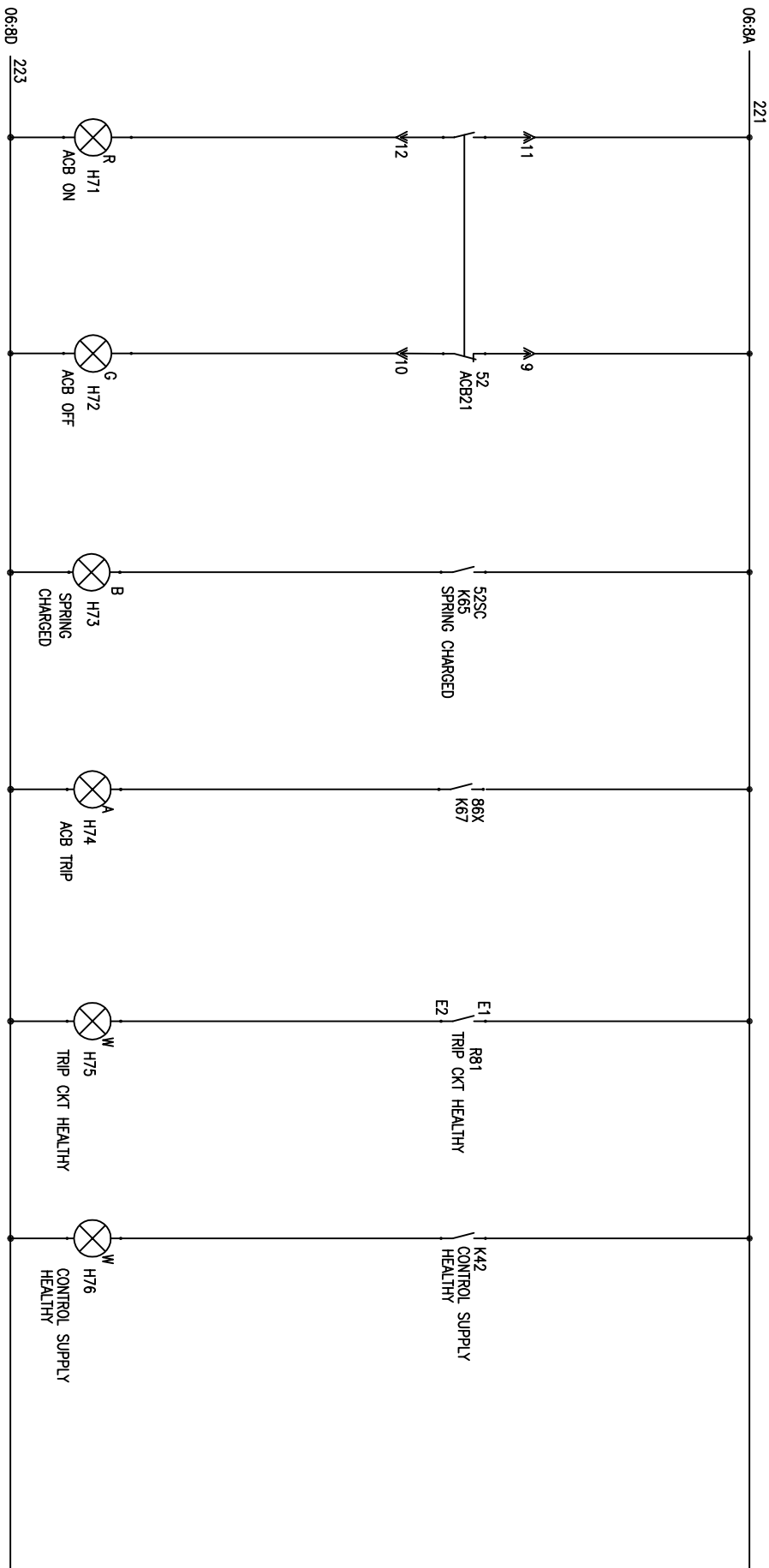
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FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1 2 3 4 5 6 7 8

INDICATION CIRCUIT



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DRG. NO. EP-3-CS-053-011

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	DATE
1							
2							
3							
4							



BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPOWER DIVISION BANGALORE

TITLE :

POWER & CONTROL SCHEME
DG BUSCOUPLER

JOB NO. CP-14-053

DRG. NO. EP-3-CS-053-011



NO. OF SHEETS

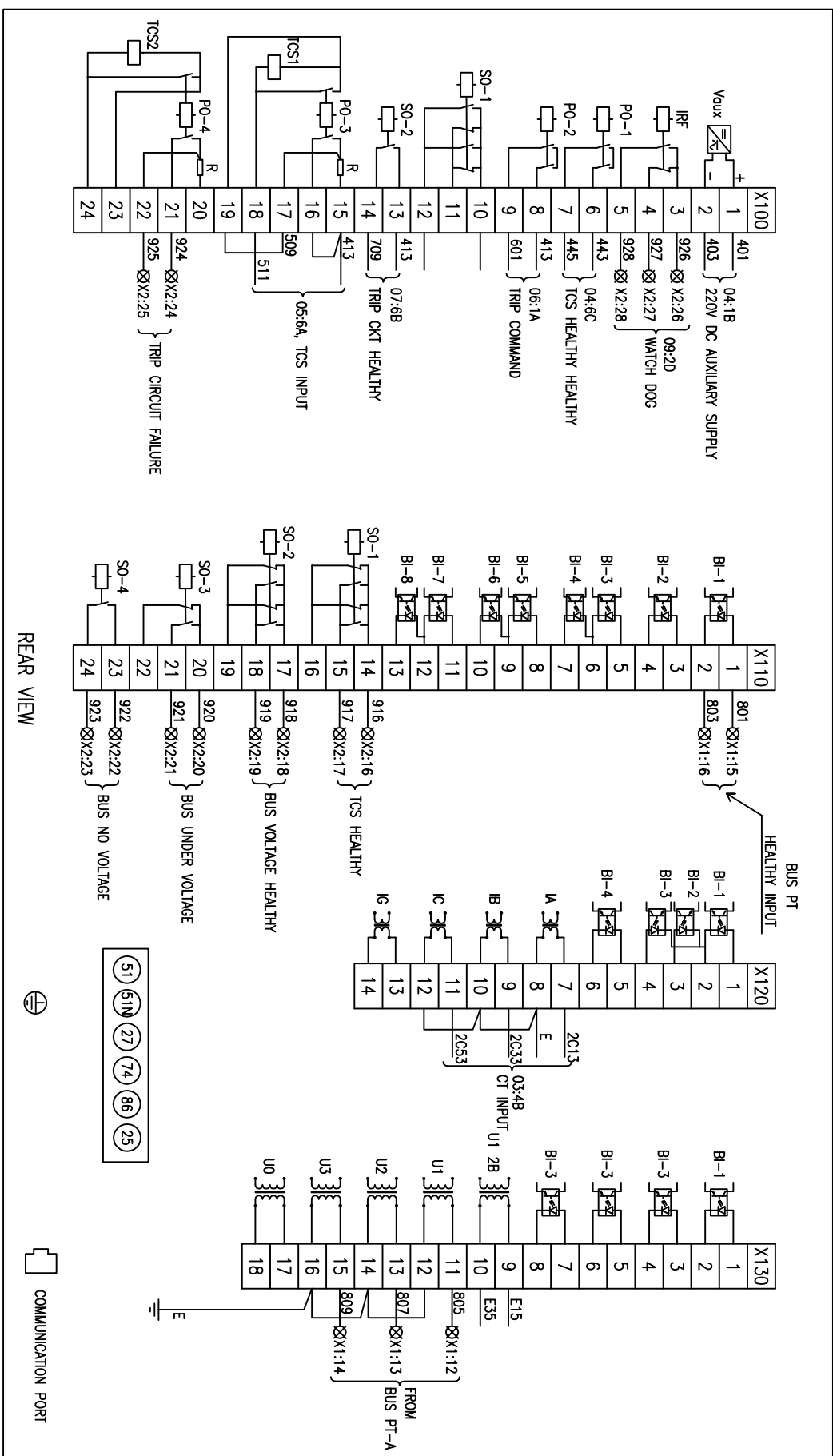
SHEET: 07

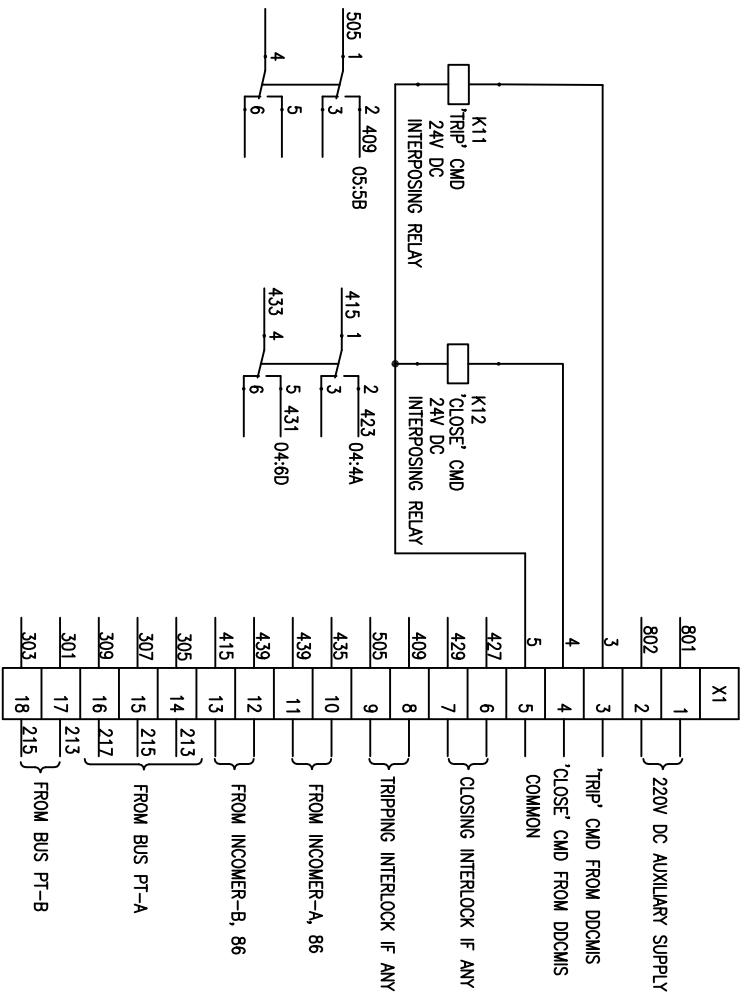
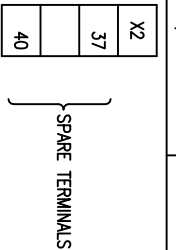
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DRG. NO. EP-3-CS-053-011

[illegible]



INVENTORY NO.												
4												
3				DESIGNED	JAGADISH		05.06.15		BHARAT HEAVY ELECTRICALS LIMITED ELECTROPORECELAIS DIVISION BANGLORE			
2				DRAWN							TITLE : POWER & CONTROL SCHEME DG BUSCOUPLER	NO. OF SHEETS 09
1				CHECKED	TRINATH		05.06.15					
REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB		05.06.15	SCALE: NA	JOB NO. CP-14-053	DWG. NO. EP-3-CS-053-011	REV. 00

8

TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA STATE
INDIA

4x270 MW BHADRADRI THERMAL POWER STATION
MANUGURU

DESEIN PRIVATE LTD

DRG. NO. EP-3-CS-053-012

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INVENTORY NO.									
4					NAME	SIGN.	DATE		
3					DESIGNED	JAGADISH	05.06.15		
2					DRAWN				
1					CHECKED	TRINATH	05.06.15		
REV. NO.	DATE				DESCRIPTION	BY	APPD.	APPROVED	KSB
									05.06.15
									
BHARAT HEAVY ELECTRICALS LIMITED ELECTROPORCELAINS DIVISION BANGALORE									
TITLE : POWER & CONTROL SCHEME TILE BREAKER FOR DG									
JOB NO. CP-14-053						DRG. NO. EP-3-CS-053-012			
								NO. OF SHEETS	08
								SHEET:	01
								REV.	00

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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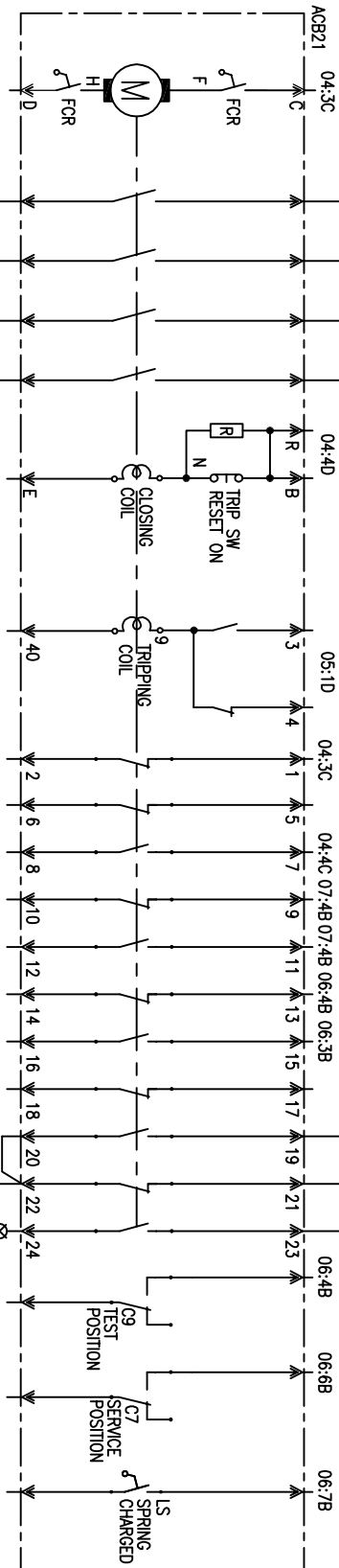
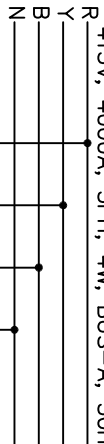
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415V, 4000A, 3PH, 4W, BUS-A, 50Hz, 50KA FOR 1SEC.



48A

06:6E

X1:42

X1:48

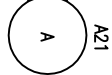
X1:47

X1:41

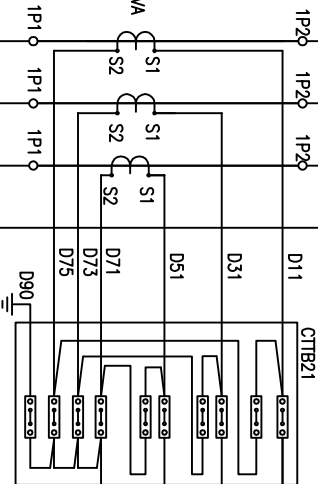
TEST POSITION

SERVICE POSITION

SPRING CHARGED



CT21-23
BURDEN:15VA
CLASS:1.0



DRG. NO. EP-3-CS-053-012

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INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-012	NO. OF SHEETS	REV.
1										08	02
2											
3											
4											

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPOWERCELLS DIVISION BANGALORE

POWER & CONTROL SCHEME

TIE BREAKER FOR DG



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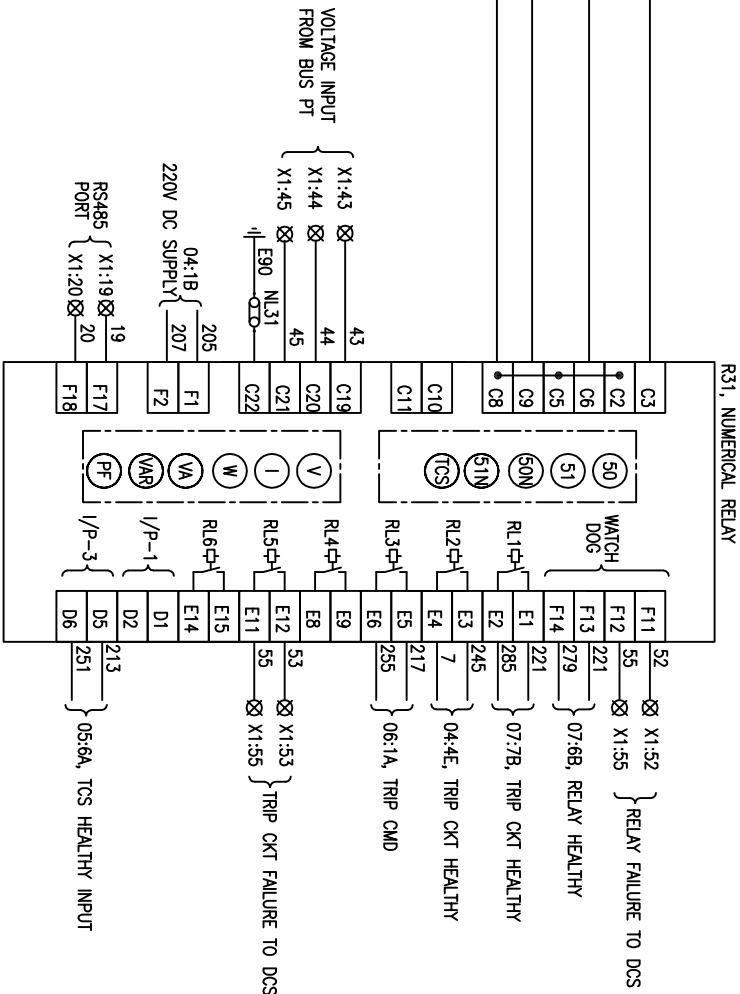
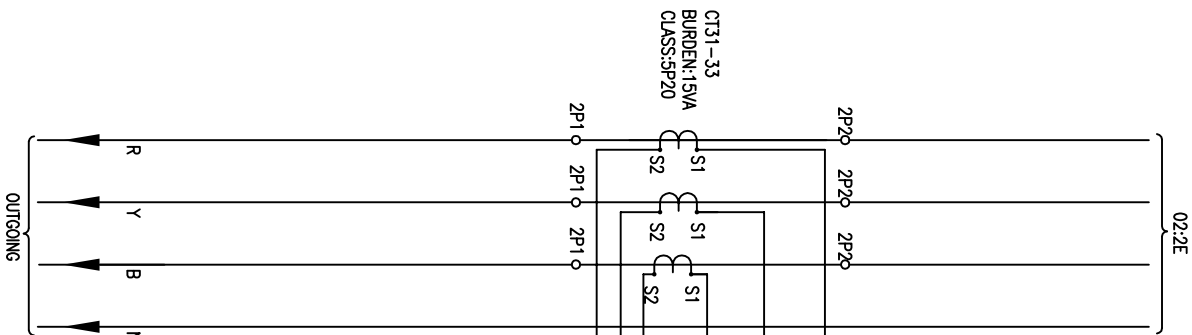
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DRG. NO. EP-3-CS-053-012

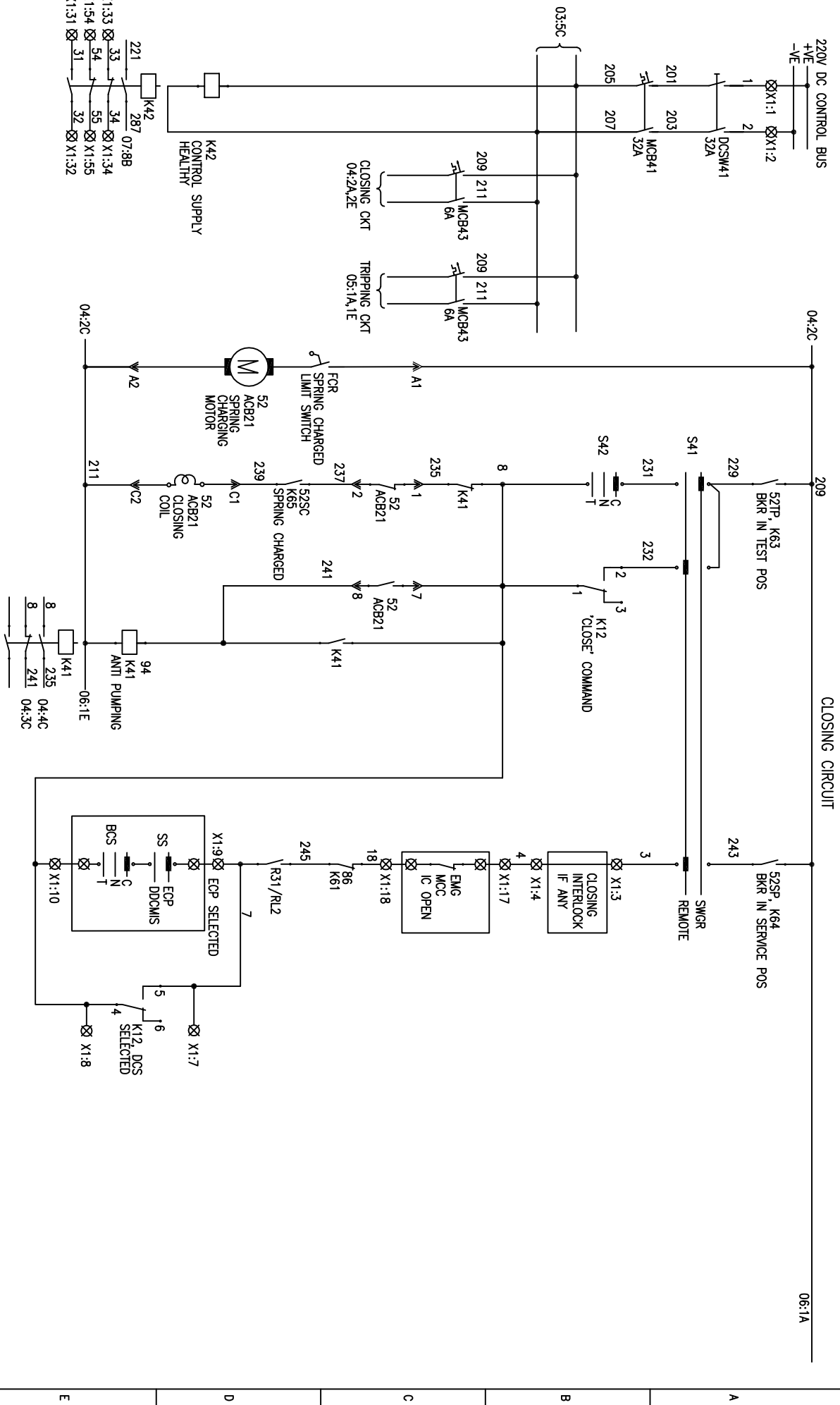
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REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-012	REV.
4										
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1										
REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-012	REV.

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPROTECTIANS DIVISION BANGALORETITLE :
POWER & CONTROL SCHEME
TIE BREAKER FOR DGNO. OF
SHEETSSHEET:
NO.

REV.

INVENTORY NO.

[illegible]

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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04:2C

213

06:1A

S41

SWGR

REMOTE

52SP, K64

BKR IN SERVICE POS

TRIPPING CIRCUIT

X1:13

D5

R31

TCS HEALTHY INPUT

D6

52XX, K62

IC1

X1:65

X1:66

X1:14

X1:15

X1:16

X1:114

X1:115

X1:116

X1:117

X1:118

X1:119

X1:120

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X1:387

X1:388

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X1:395

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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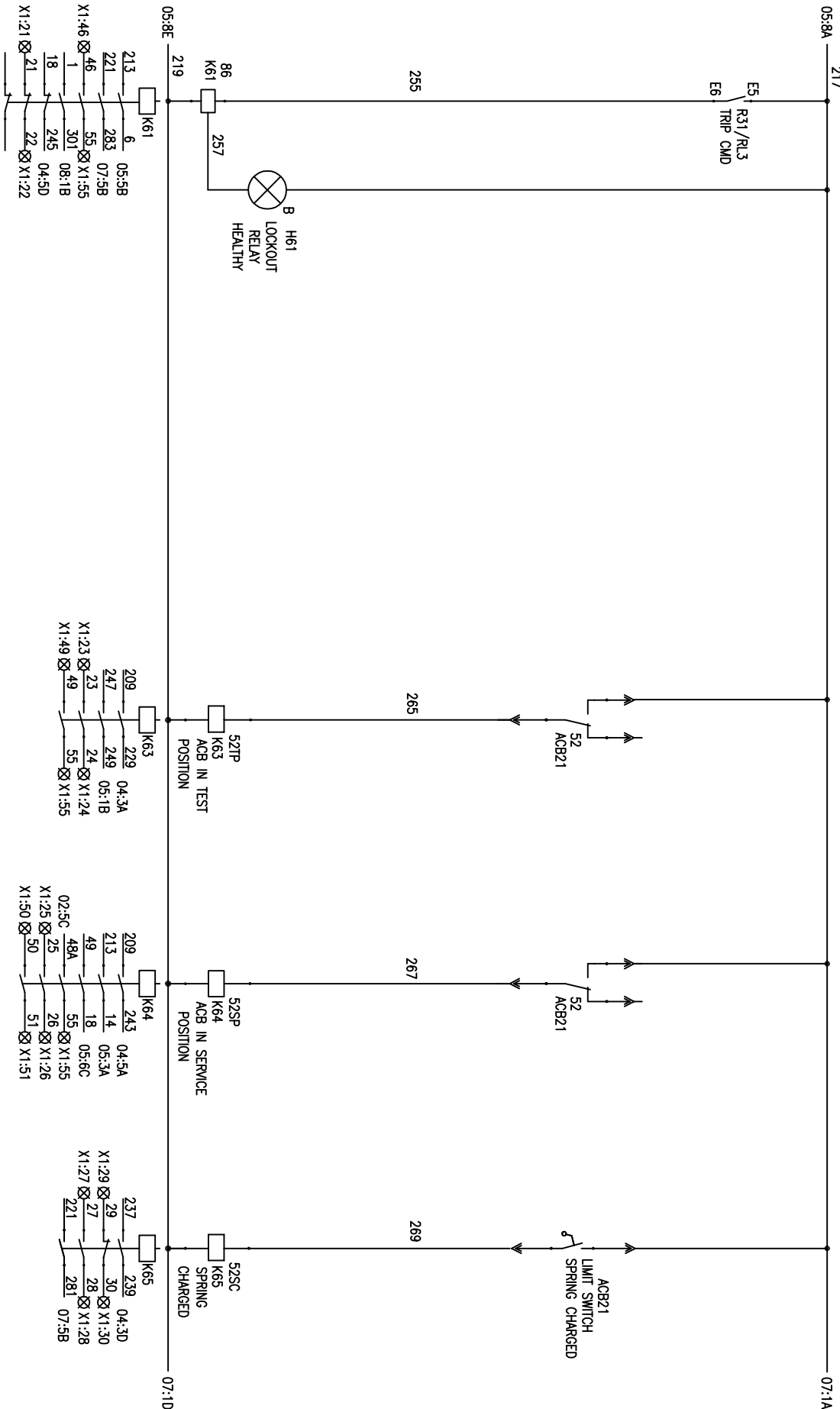
5

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RELAY CIRCUIT



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DRG. NO. EP-3-CS-053-012

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-012	NO. OF SHEETS	REV.
1										08	06
2											
3											
4											

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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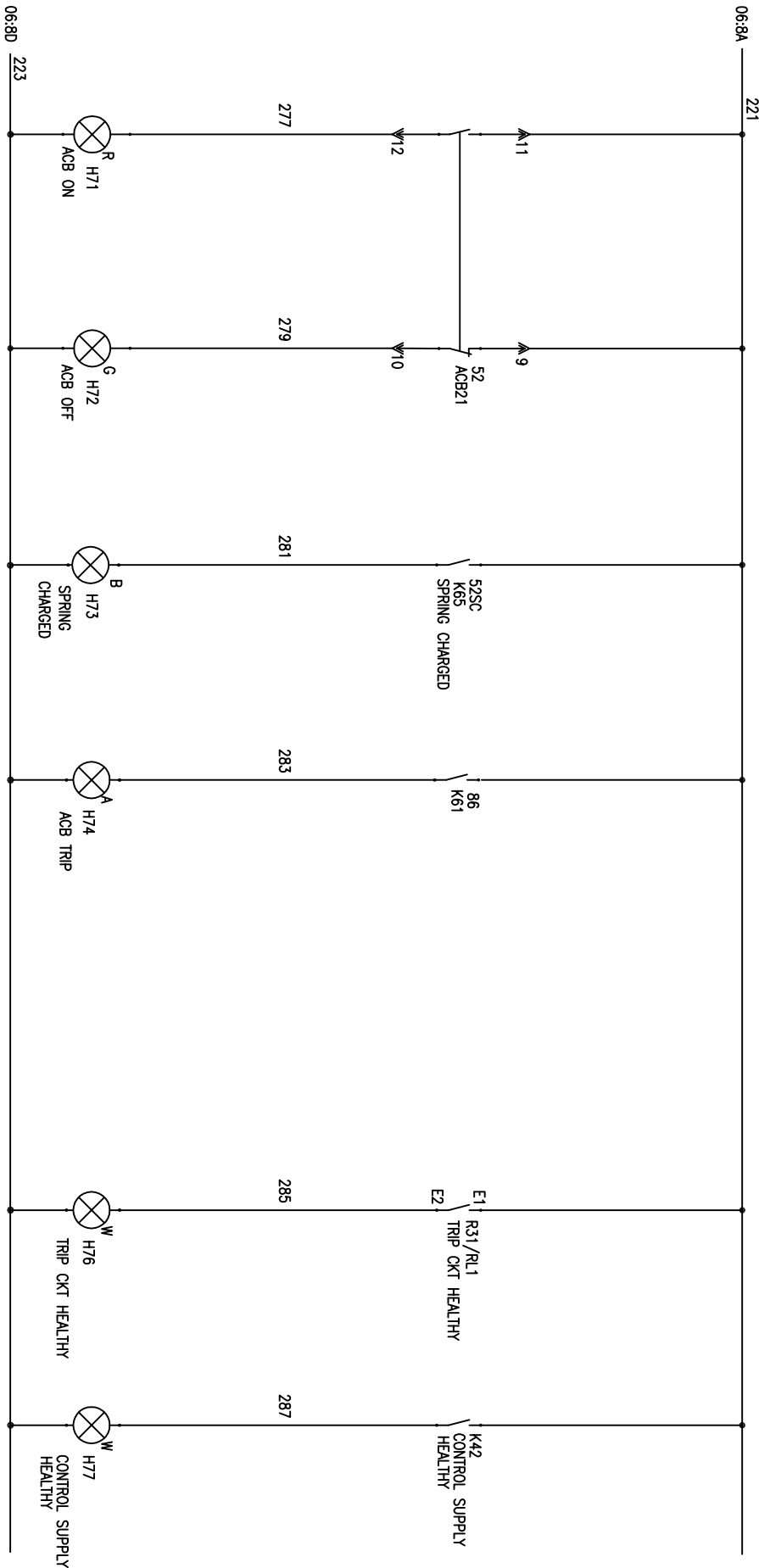
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INDICATION CIRCUIT



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DRG. NO. EP-3-CS-053-012

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-012	REV.
4										
3										
2										
1										

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPOWERCELLS DIVISION BANGALORE

TITLE :

POWER & CONTROL SCHEME

TIE BREAKER FOR DG



NO. OF SHEETS

08

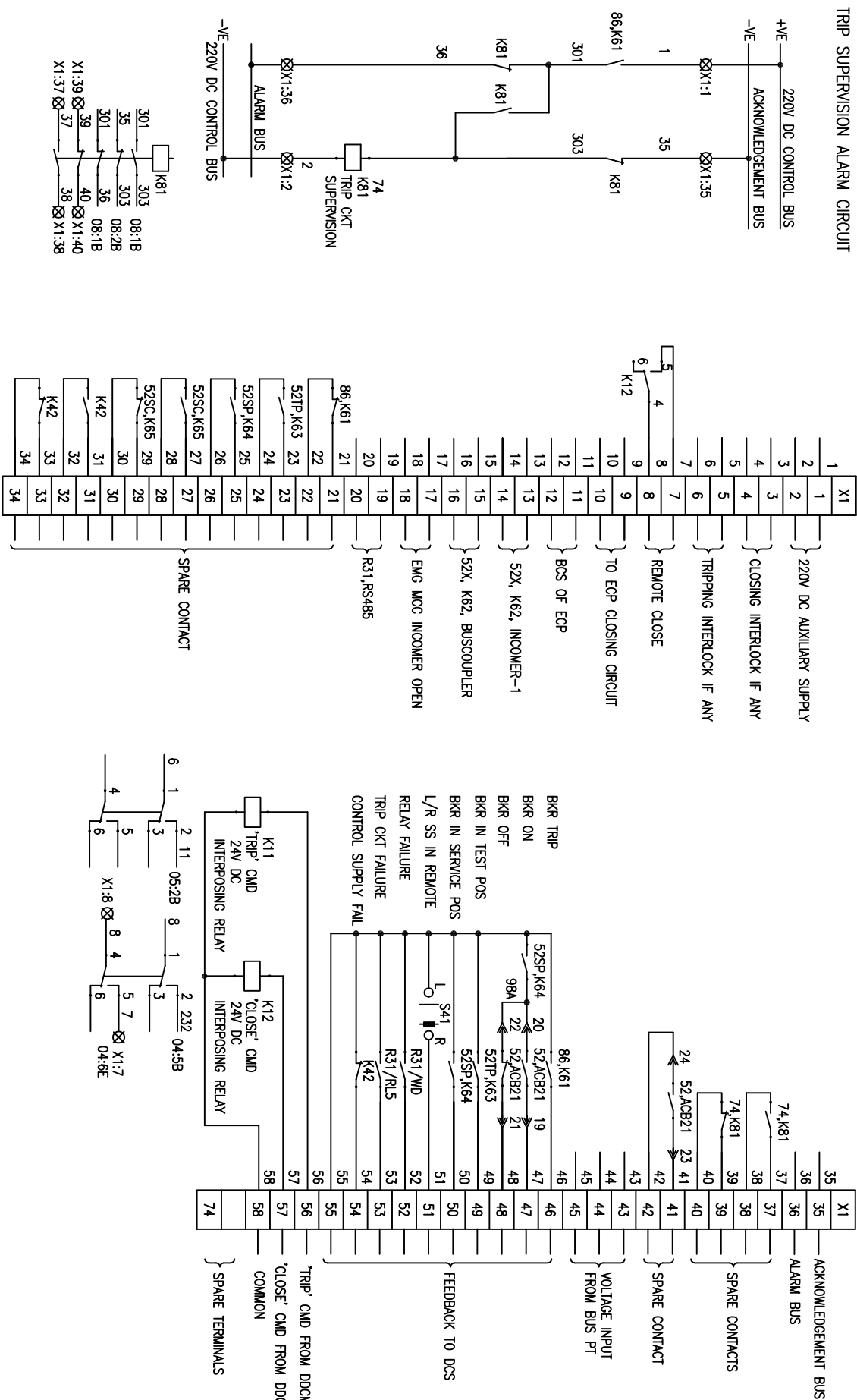
SHEET NO.

07

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DRG. NO. EP-3-CS-053-012

FORM 66-271 A3



INVENTORY NO.										
4										
3				DESIGNED	JAGADISH		05.06.15			
2				DRAWN						
1				CHECKED	TRINATH		05.06.15			
REV. NO.	DATE	DESCRIPTION			BY	APPD.	APPROVED	KSB		05.06.15
 BARHAT HEAVY ELECTRICALS LIMITED ELECTROPOCELAINS DIVISION BANGALORE										
TITLE : POWER & CONTROL SCHEME TIE BREAKER FOR DG										
JOB NO. CP-14-053				DRG. NO. EP-3-CS-053-012				REV. 00		

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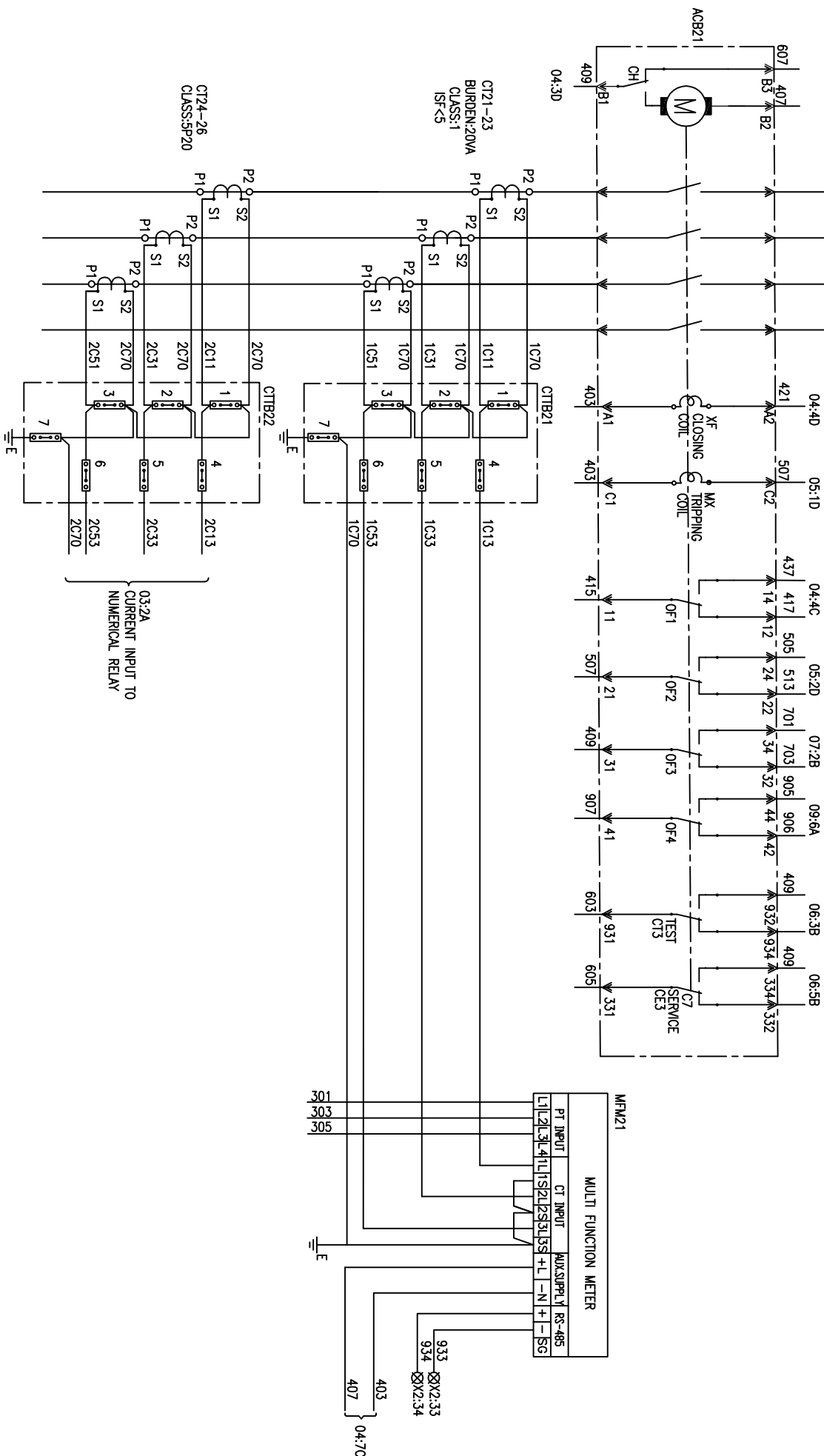
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R 415V, 3PH, 4W, BUS-A, 50HZ, 50KA FOR 1SEC.

Y
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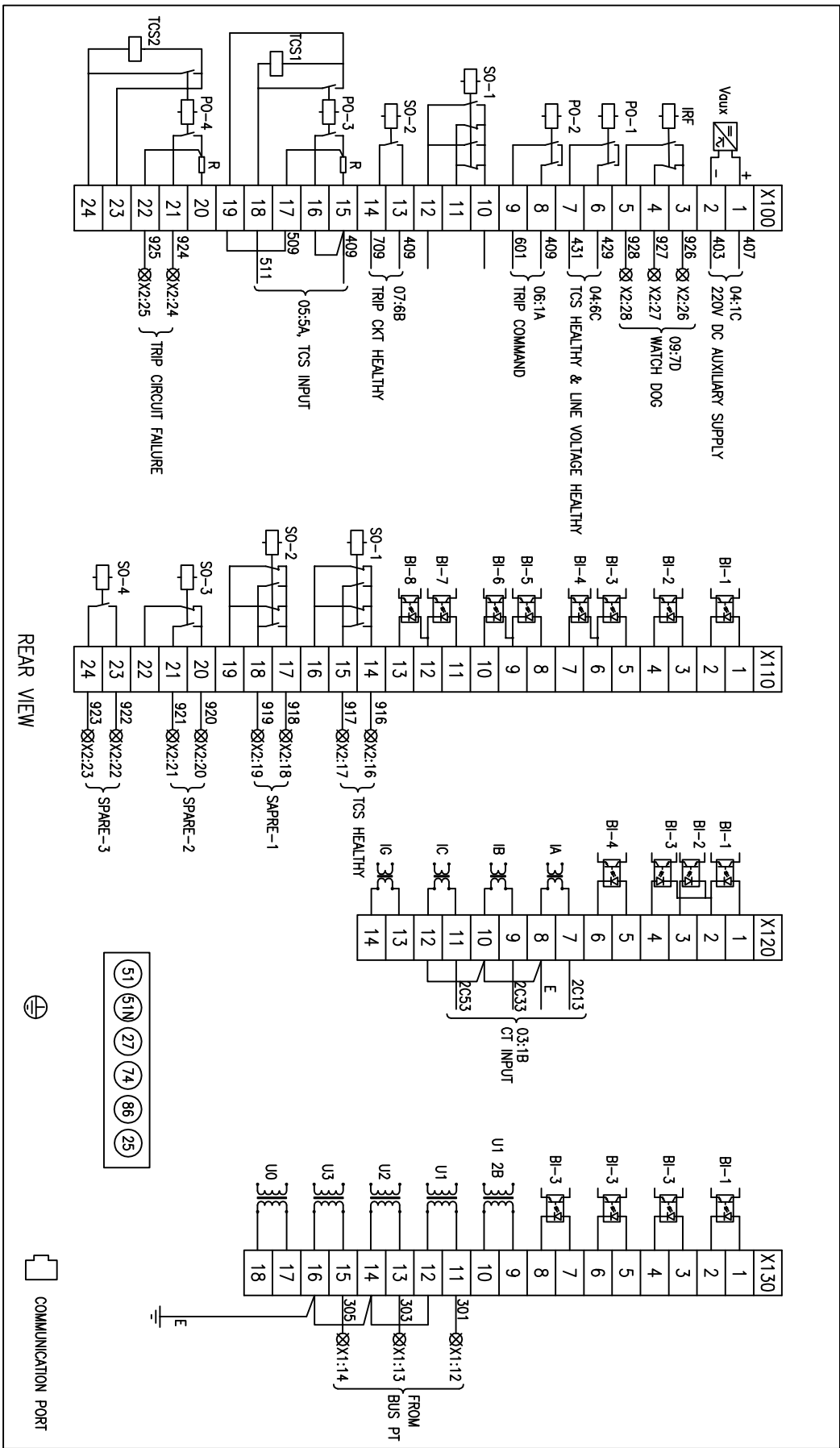
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DRG. NO. EP-3-CS-053-013

INVENTORY NO.

REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-013	NO. OF SHEETS	SHEET NO.	REV.
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1												

R31, NUMERICAL RELAY TYPE: REF615

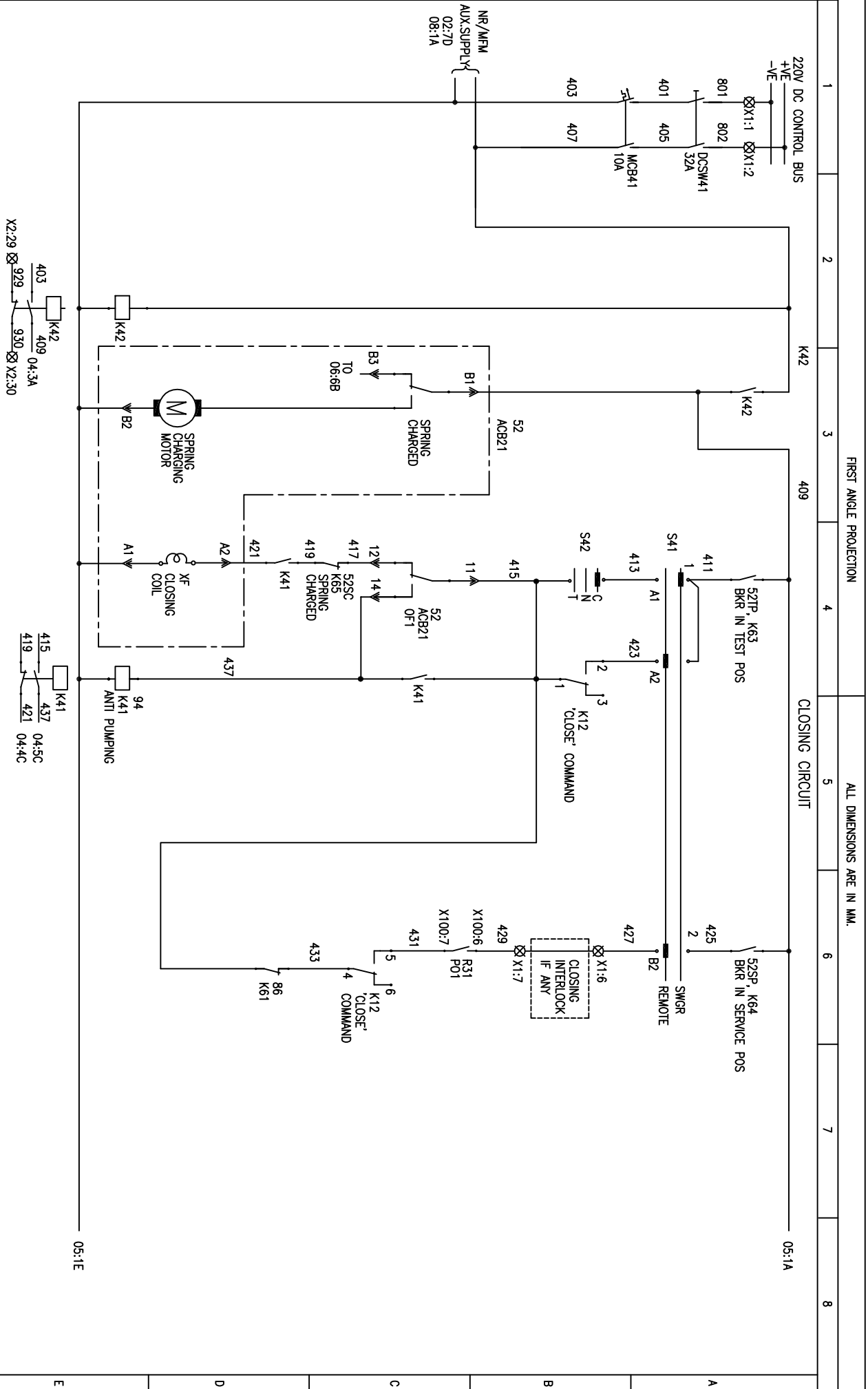


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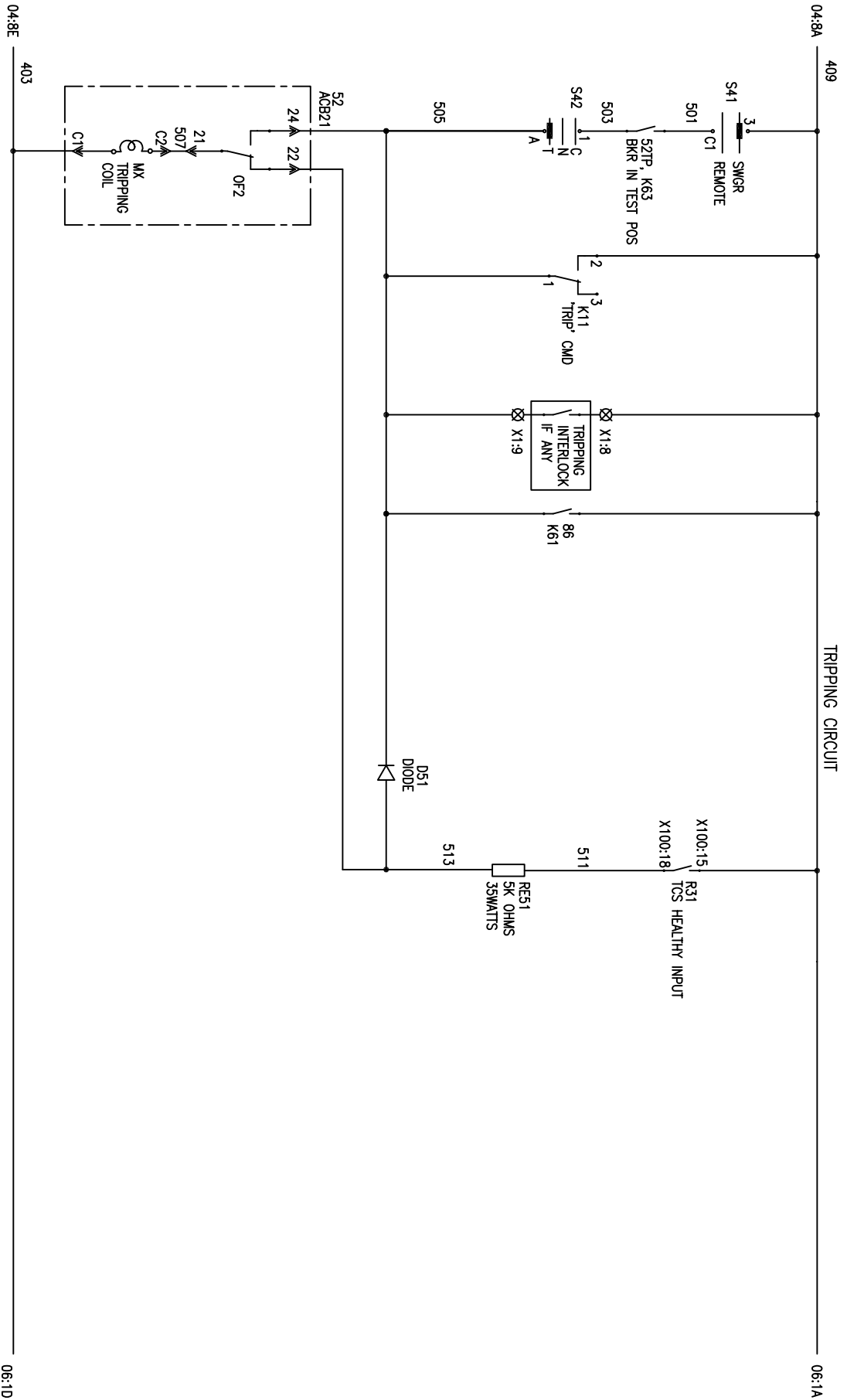
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REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-013	NO. OF SHEETS	REV.
1										08	00
2										03	
3											
4											

INVENTORY NO.

[illegible]

INVENTORY NO.

[illegible]

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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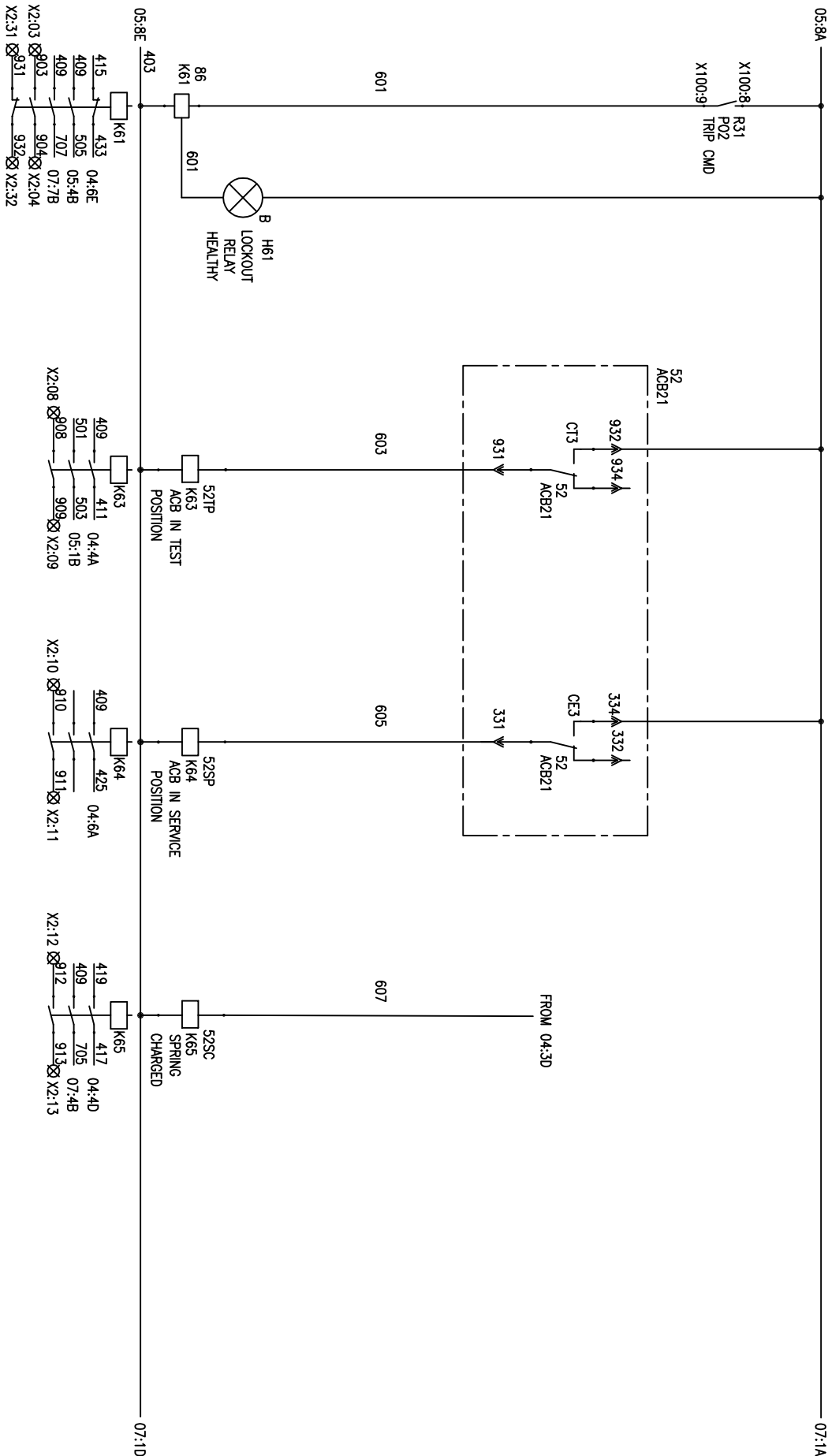
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RELAY CIRCUIT



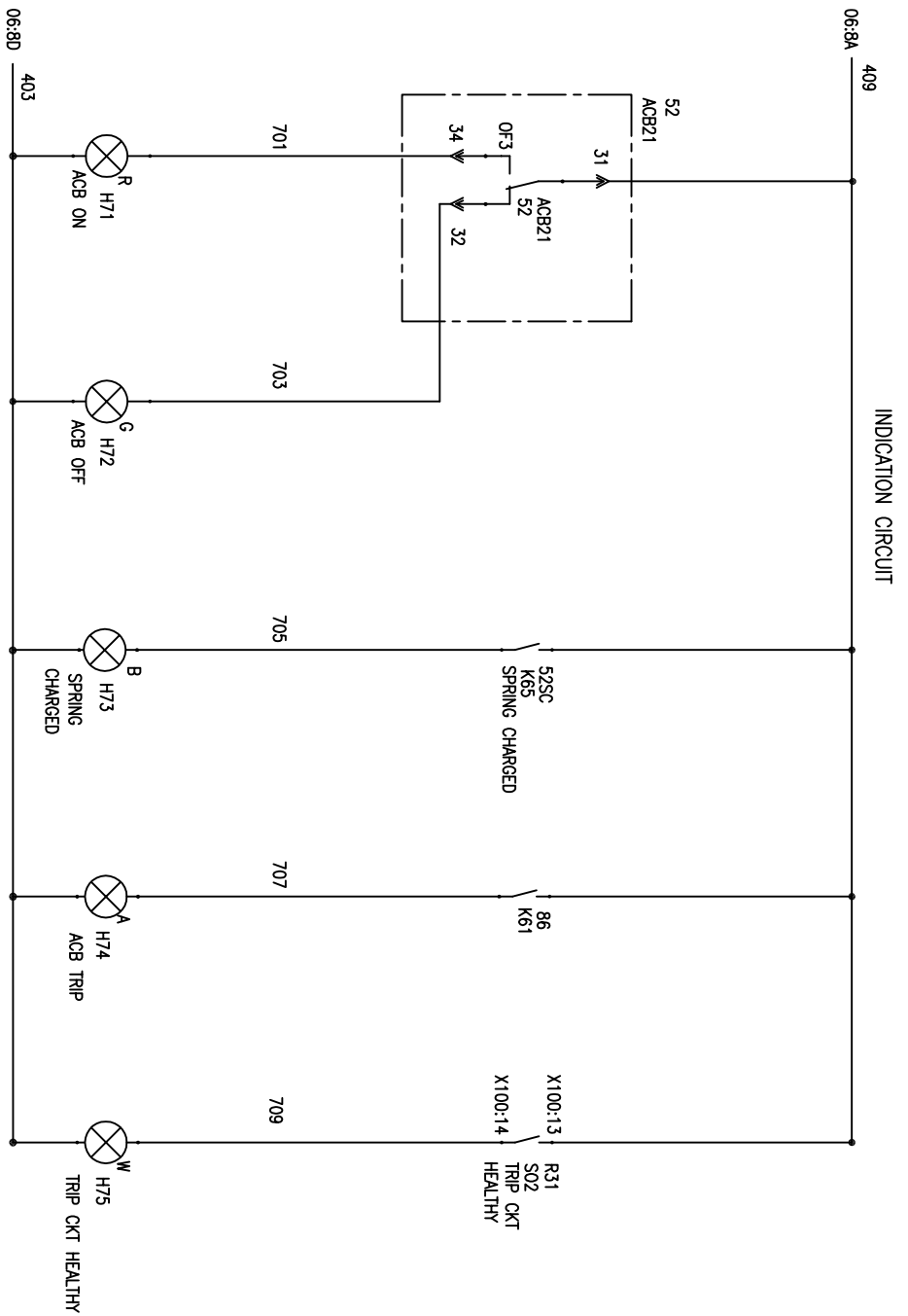
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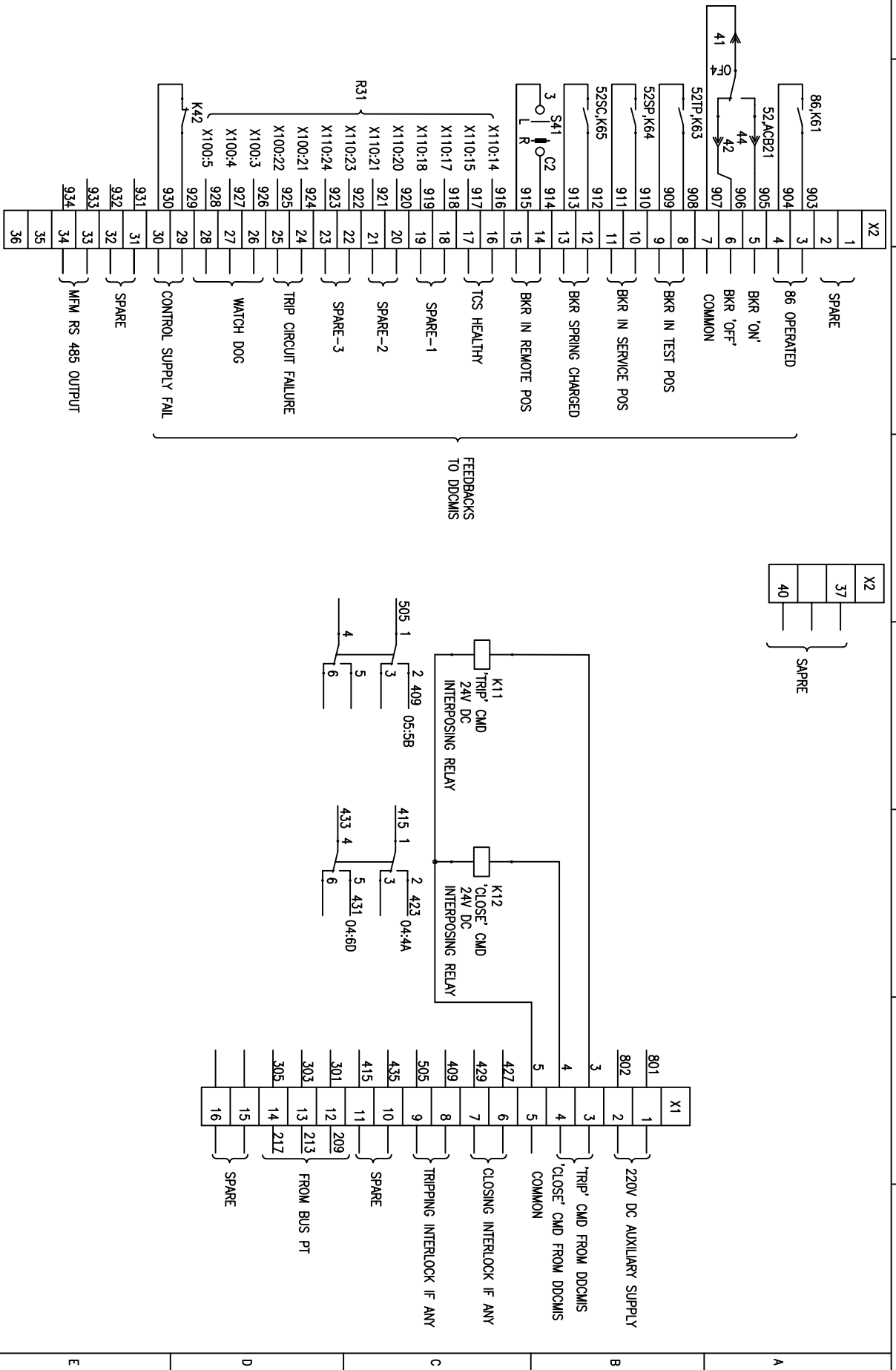
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REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-013	NO. OF SHEETS	SHEET NO.	REV.
1					CHECKED	TRINATH	16.12.15			08	06	00
2					DRAWN		16.12.15					
3					DESIGNED	JAGADISH	16.12.15					
4												

INVENTORY NO.

[illegible]

INVENTORY NO.

[illegible]

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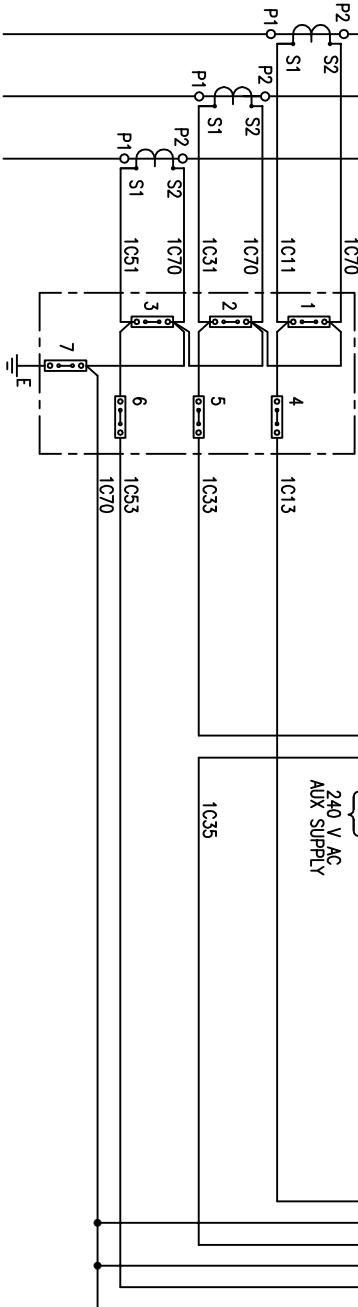
DRG. NO. EP-3-CS-053-014

INVENTORY NO.

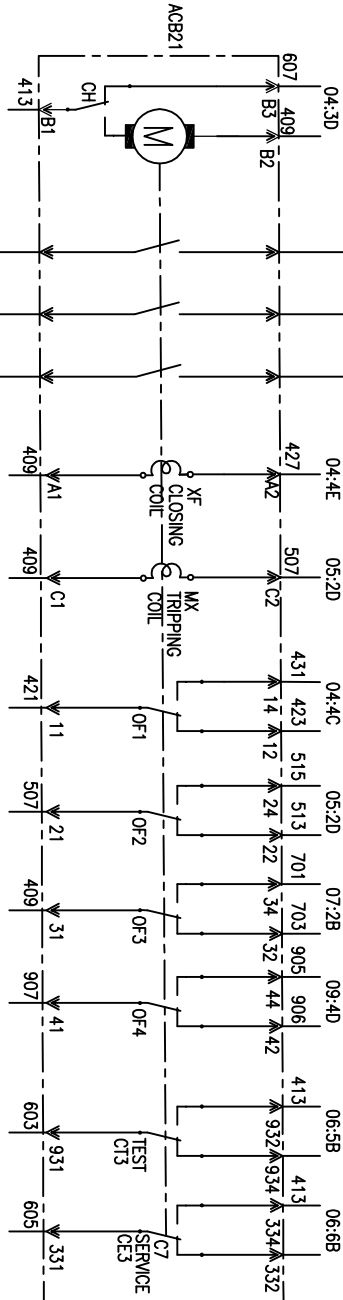
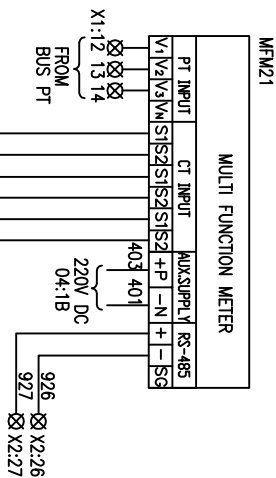
REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-014	REV.
1										00
2										01
3										02
4										03

CT21-23
BURDEN:15VA
CLASS:1.0

03:1A



4-20mA 4-20mA
0/P-1 0/P-2
XC:7 8 9 10
CTD
M
240 V AC
AUX SUPPLY



415V 3PH, 4W, 50Hz, 50KA FOR 1SEC.

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

8

7

6

5

4

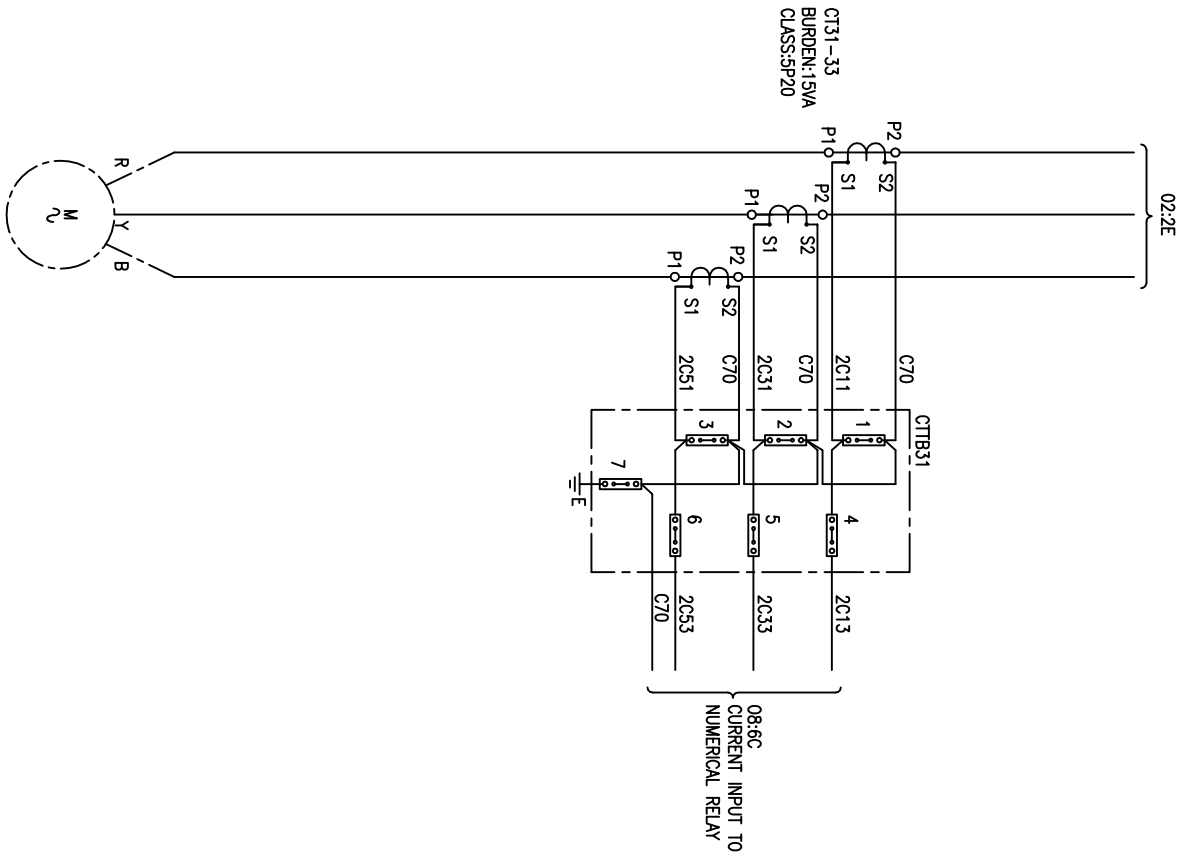
3

2

1

DRG. NO. EP-3-CS-053-014

INVENTORY NO.									
4					NAME	SIGN.	DATE		
3				DESIGNED	JAGADISH	<i>[Signature]</i>	19.03.16		
2				DRAWN					
1				CHECKED	JAGADISH	<i>[Signature]</i>	19.03.16		
REV.	DATE			DESCRIPTION	BY	APPO.	APPROVED	KSB	
SCALE: NA JOB NO. CP-14-053 DWG. NO. EP-3-CS-053-014  भारत भारी बिजली BHARAT HEAVY ELECTRICALS LIMITED ELECTROPORCELAINS DIVISION BANGALORE TITLE : POWER SCHEME UNIDIRECTIONAL MOTOR FEEDER 110KV AND ABOVE NO. OF SHEETS 10 SHEET. 03 REV. 00									



FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

8

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1

2

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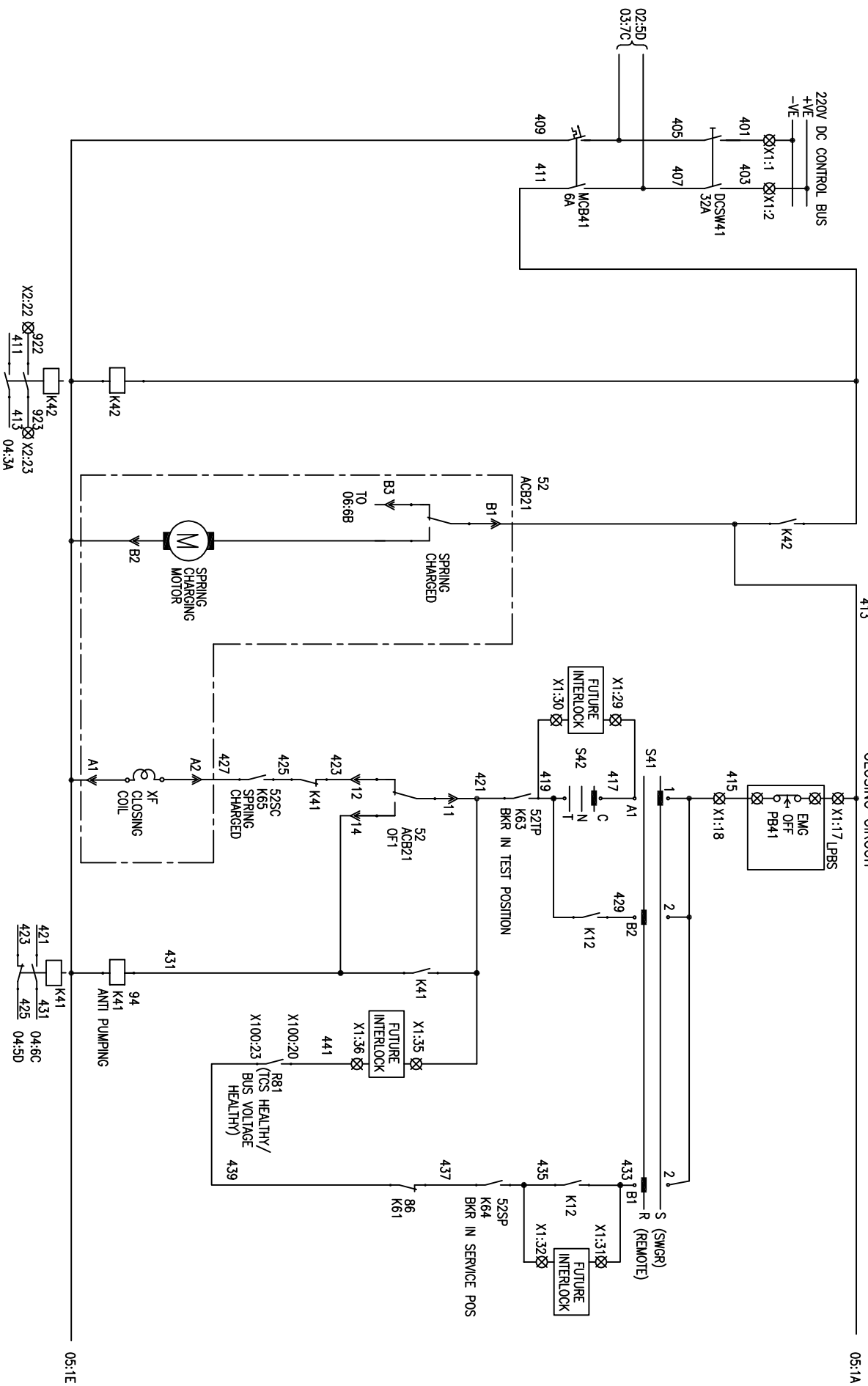
8

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DRG. NO. EP-3-CS-053-014

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-014	NO. OF SHEETS	REV.
1										10	04
2											
3											
4											



FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1

2

3

4

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8

04:8A

413

TRIPPING CIRCUIT

06:1A

K63
BKR IN TEST POS

X100:15
R81
TCS HEALTHY INPUT

X100:18

S41
C1
R
S

TRIPPING
INTERLOCK
IF ANY

X100:6
R81
OVER LOAD

X1:15 LPBS
PB51
TEST PB

S42
C
N
T

K64
BKR IN
SERVICE
POS

RE51
5K OHMS
35WATTS

D51
DIODE

505

513

X1:33

X1:16

FUTURE
INTERLOCK

X1:34

515

52
ACB21

24

22

OF2

21

507

C2

MX
TRIPPING
COIL

C1

409

04:8E

06:1D

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DRG. NO. EP-3-CS-053-014

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE
4									
3							JAGADISH		19.03.16
2							JAGADISH		19.03.16
1							JAGADISH		19.03.16



BHARAT HEAVY ELECTRICALS LIMITED
ELECTROFORCELANS DIVISION BANGALORE

TITLE :
POWER SCHEME
UNIDIRECTIONAL MOTOR FEEDER 110KW AND ABOVE

JOB NO. CP-14-053

DRG. NO. EP-3-CS-053-014

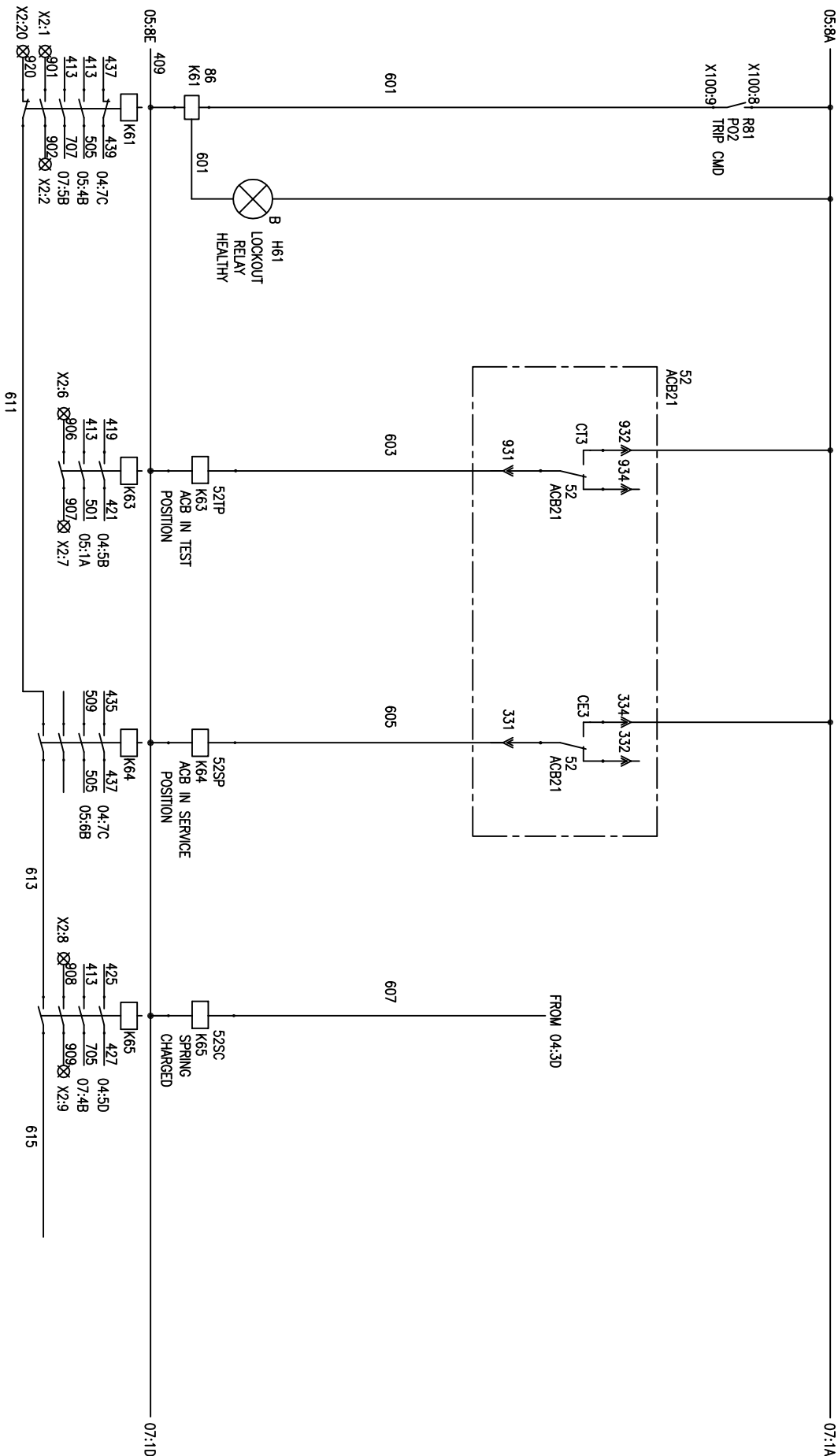
NO. OF SHEETS	NO. OF SHEET	REV.
10	05	00

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1 2 3 4 5 6 7 8

RELAY CIRCUIT



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DRG. NO. EP-3-CS-053-014

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-014	NO. OF SHEETS	REV.
1					CHECKED	JAGADISH	19.03.16			06	00
2					DRAWN					10	
3					DESIGNED	JAGADISH	19.03.16				
4											

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1

2

3

4

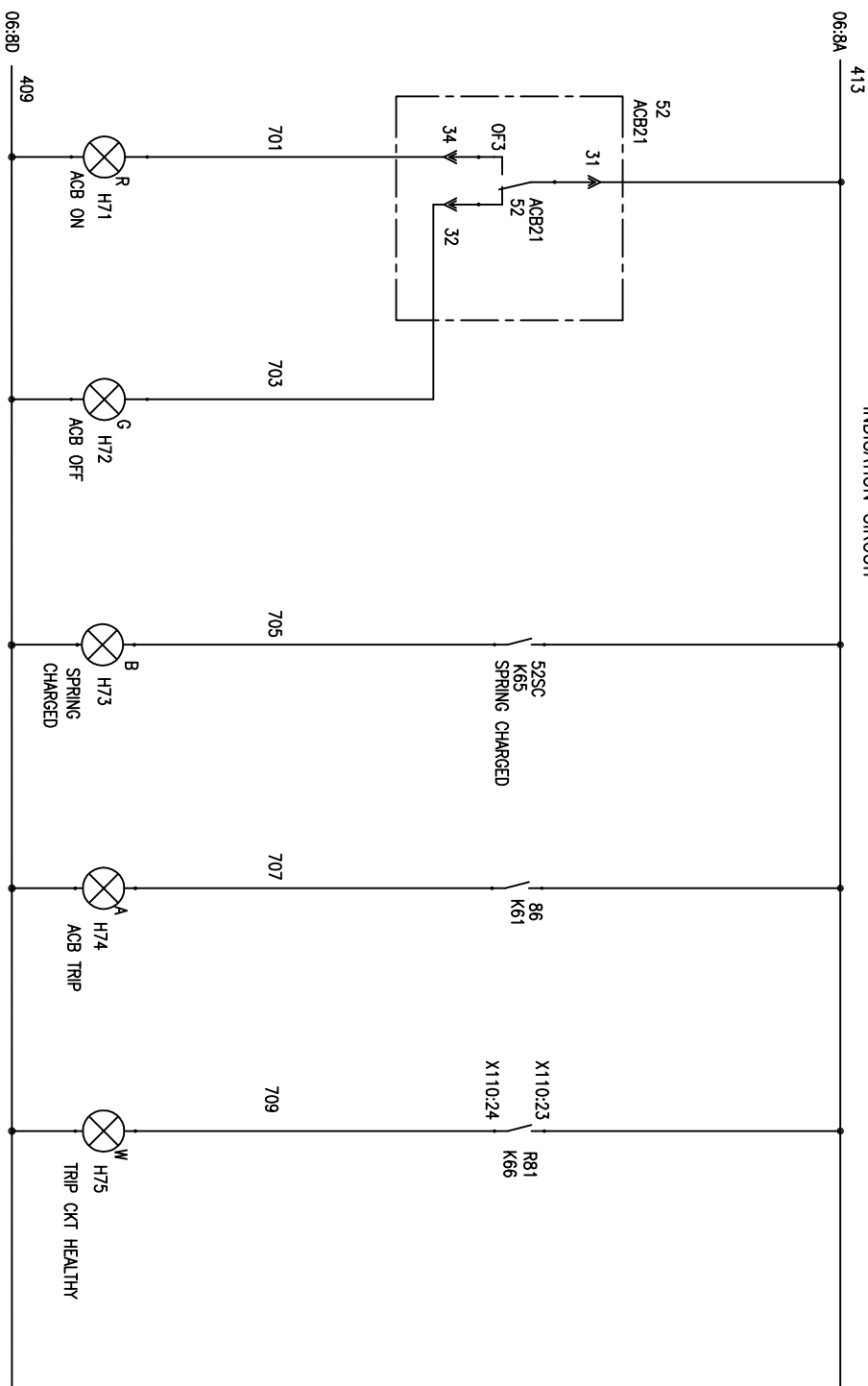
5

6

7

8

INDICATION CIRCUIT



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DRG. NO. EP-3-CS-053-014

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE
4									
3							JAGADISH		19.03.16
2							JAGADISH		19.03.16
1							JAGADISH		19.03.16

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROFORCEMANS DIVISION BANGALORE

TITLE :

POWER SCHEME
UNIDIRECTIONAL MOTOR FEEDER 110KW AND ABOVENO. OF
SHEETS

10

SHEET:
NO.

07

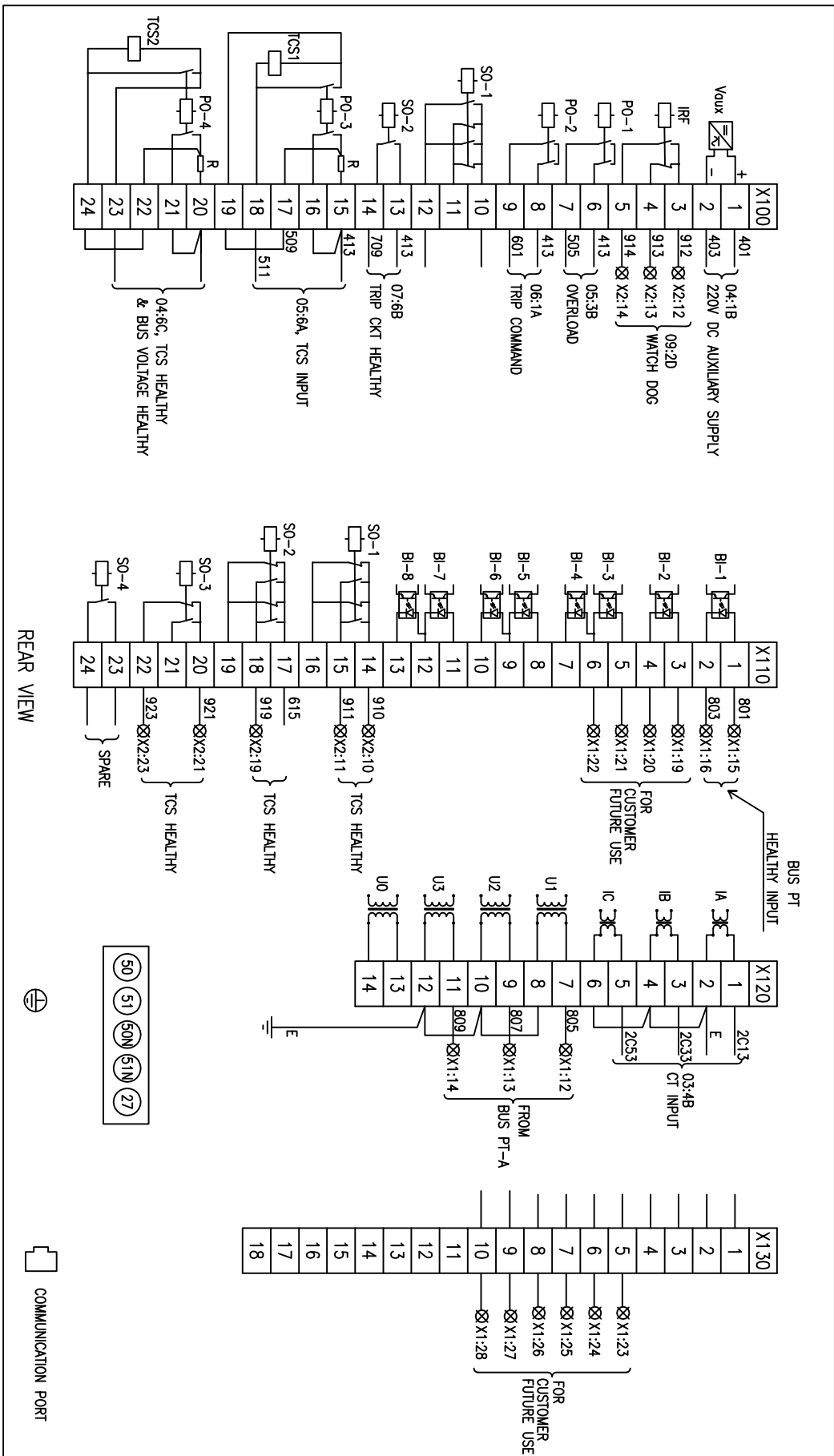
REV.

00

JOB NO. CP-14-053

DRG. NO. EP-3-CS-053-014

R81, NUMERICAL RELAY TYPE: REF615



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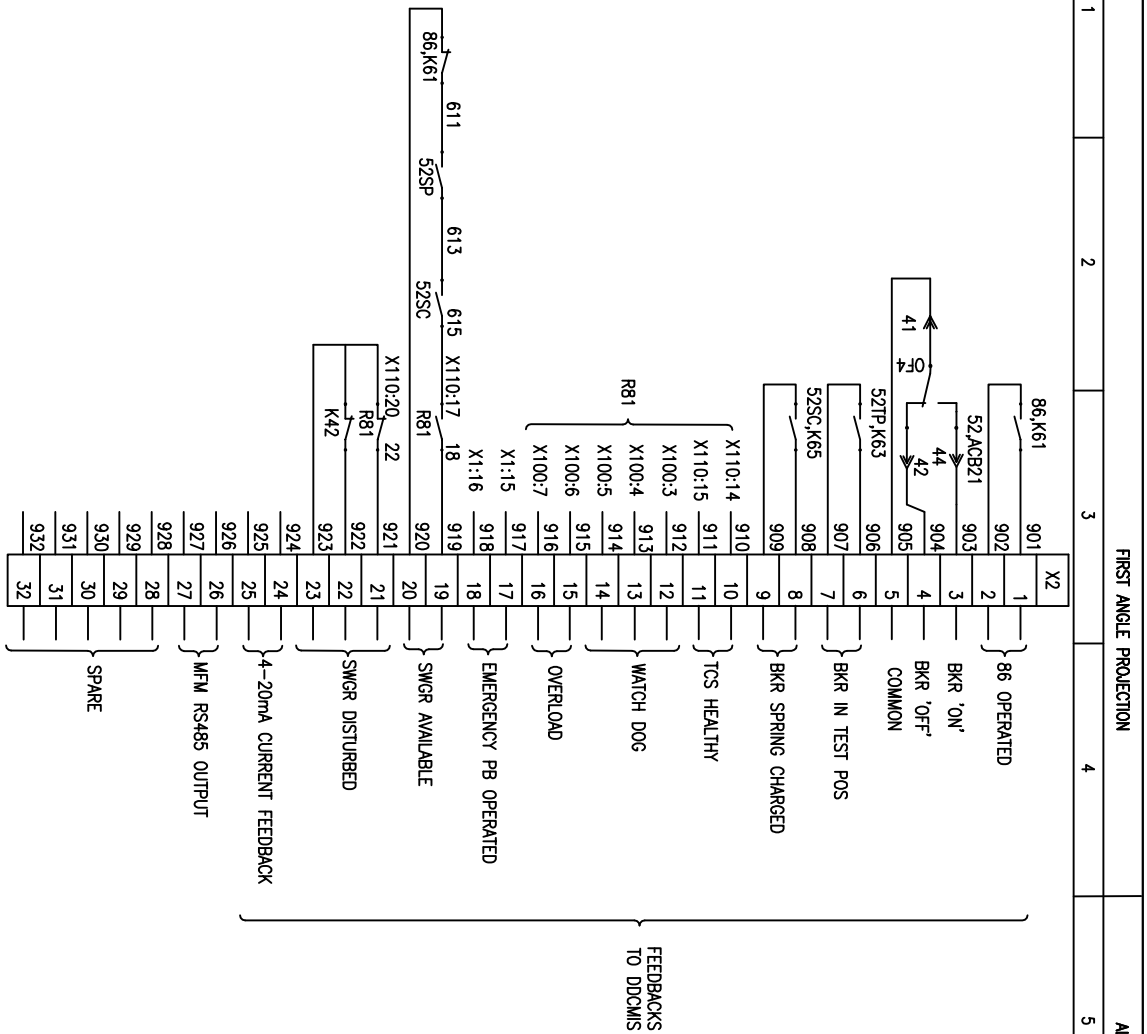
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DRG. NO. EP-3-CS-053-014

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-014	NO. OF SHEETS	NO. OF SHEET	REV.
1										10	08	00
2												
3												
4												

INVENTORY NO.

[illegible]

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM

8

三

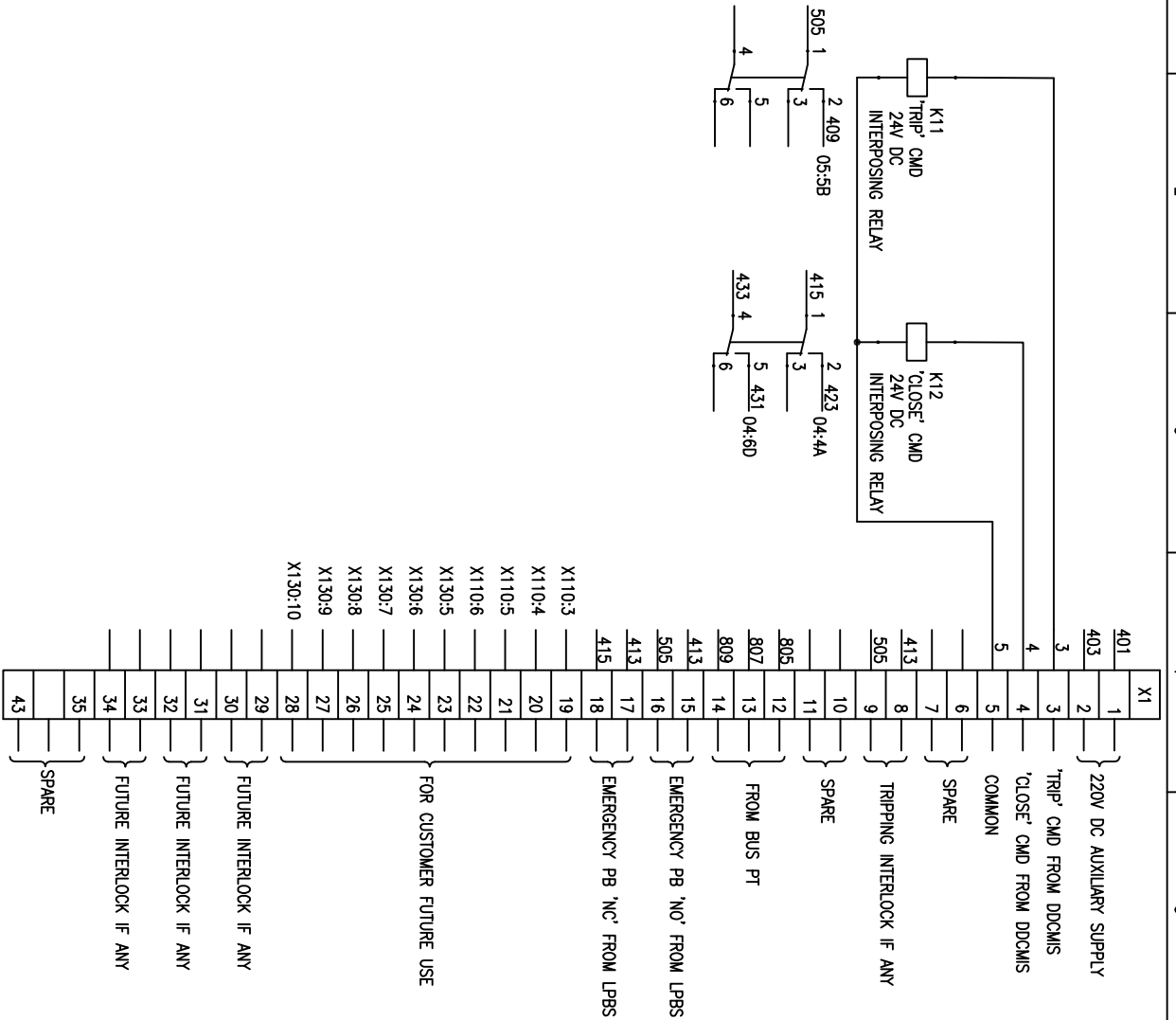
D

⌢

2

A

INVENTORY NO.

[illegible]

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPORCELAINS DIVISION BANGALORE

TITLE :

UNIDIRECTIONAL MOTOR FEEDER 110KW AND ABOVE

NO. OF SHEETS	1
------------------	---

NO. OF SHEETS	1
------------------	---

SHEET.	1
--------	---

NO. OF SHEETS	1
------------------	---

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

8

7

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2

1

CUSTOMER:

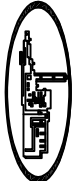


TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA STATE
INDIA

PROJECT:

4x270 MW BHADRADRI THERMAL POWER STATION
MANUGURU

CUSTOMER CONSULTANT:



DESEIN PRIVATE LTD

DRG. NO. EP-3-CS-053-015

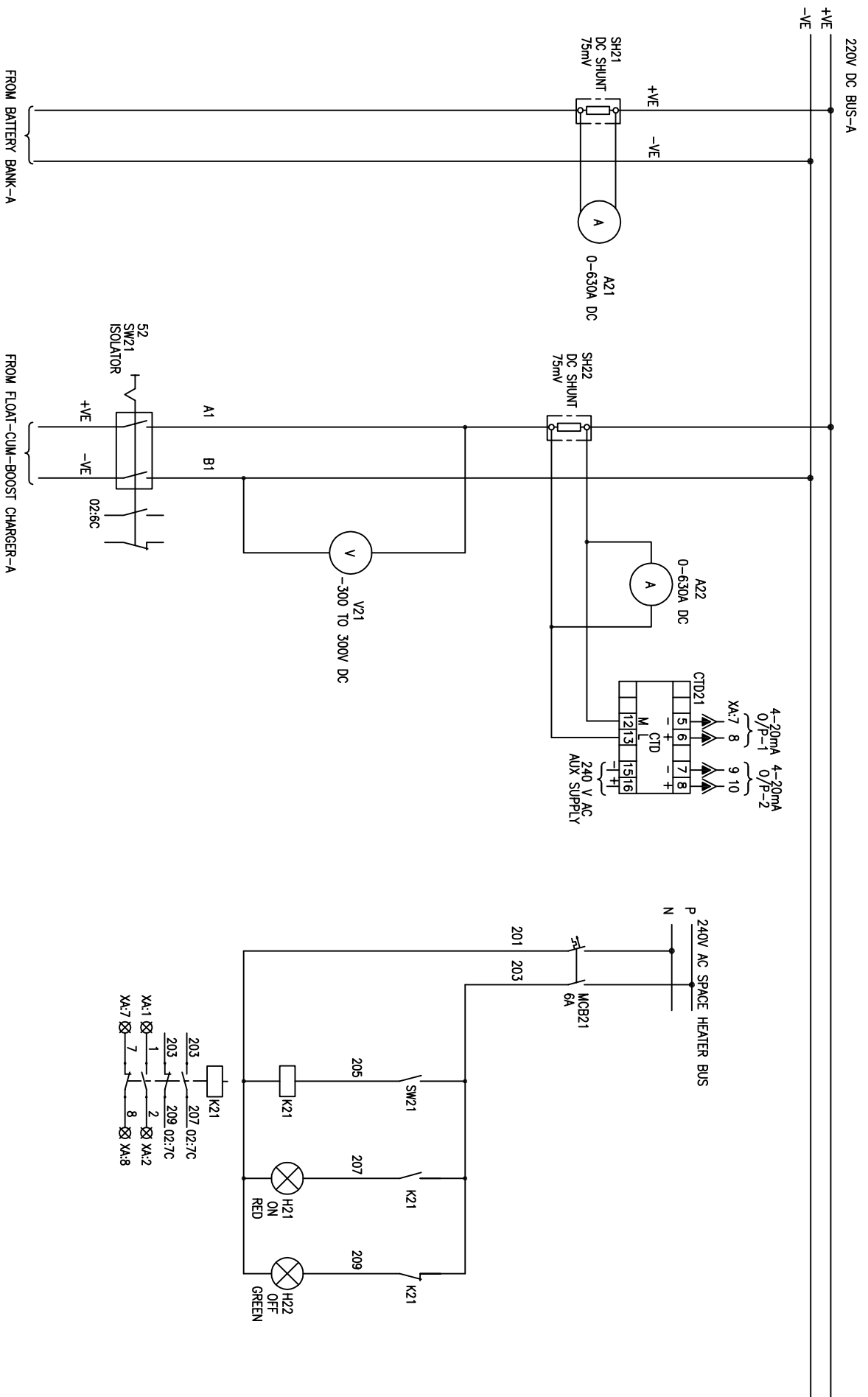
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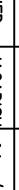
INVENTORY NO.	REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-015	NO. OF SHEETS	REV.
4															
3						DESIGNED		JAGADISH		19.03.16				11	
2						DRAWN									
1						CHECKED		JAGADISH		19.03.16				01	

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPOWERCELLS DIVISION BANGALORE

TITLE :
POWER SCHEME
DCDB INCOMER FROM BATTERY CHARGER,
DC BUSCOUPLER & BATTERY





INVENTORY NO.									
4					NAME	SIGN.	DATE		
3				DESIGNED	JAGADISH	<i>[Signature]</i>	19.03.16		
2				DRAWN					
1				CHECKED	JAGADISH	<i>[Signature]</i>	19.03.16		
REV. NO.	DATE	DESCRIPTION		BY	APPD.	APPROVED	KSB	<i>[Signature]</i>	19.03.16
 भारत भारी विद्युत महामंडल POWER SCHEME DCDB INCOMER FROM BATTERY CHARGER, DC BUSCOUPLER & BATTERY 									
BHARAT HEAVY ELECTRICALS LIMITED ELECTROPORCEAINS DIVISION BANGALORE							NO. OF SHEETS 11		
TITLE :							SHEET. 02		
JOB NO. CP-14-053				DRG. NO. EP-3-CS-053-015			REV. 00		

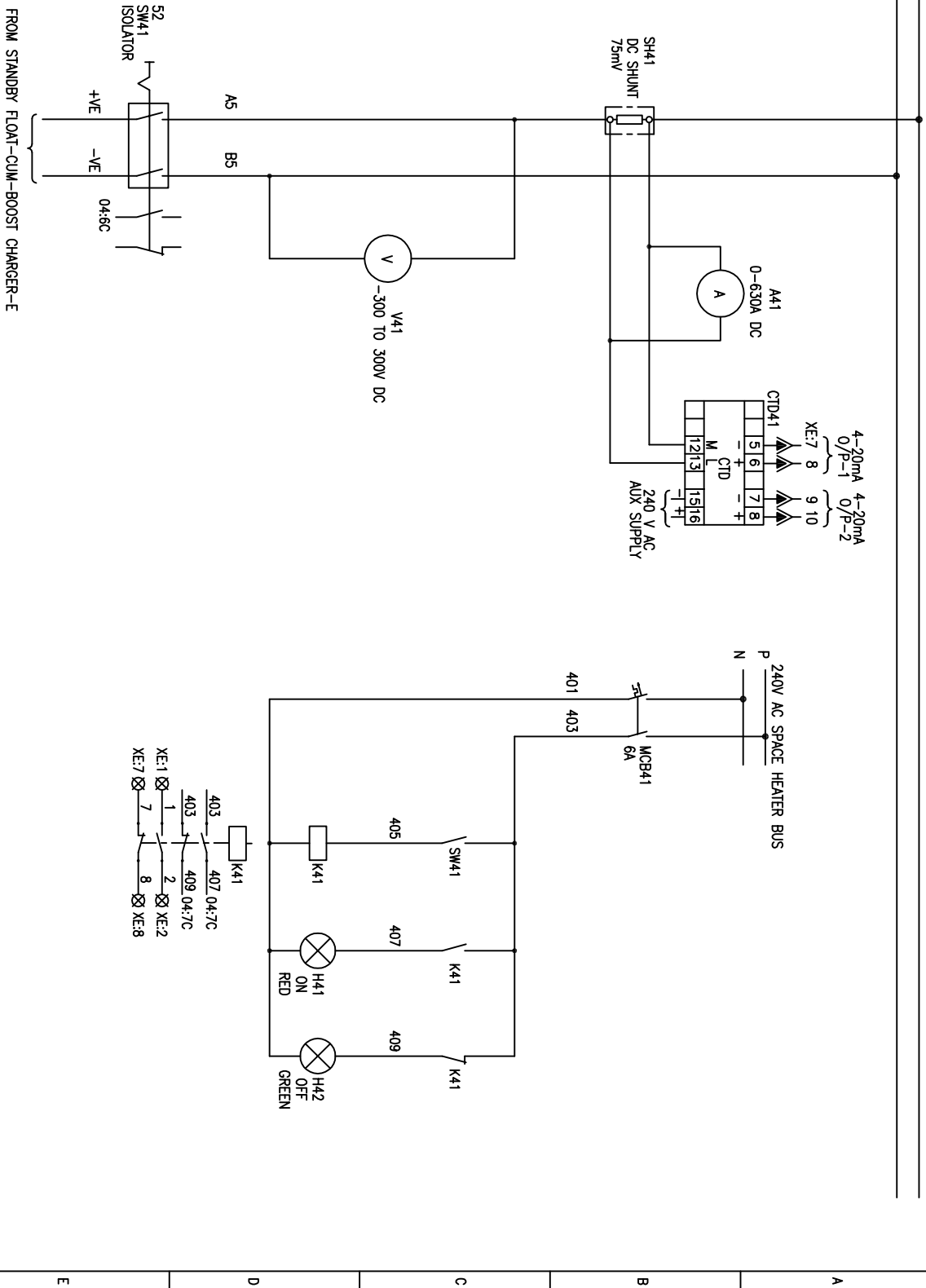


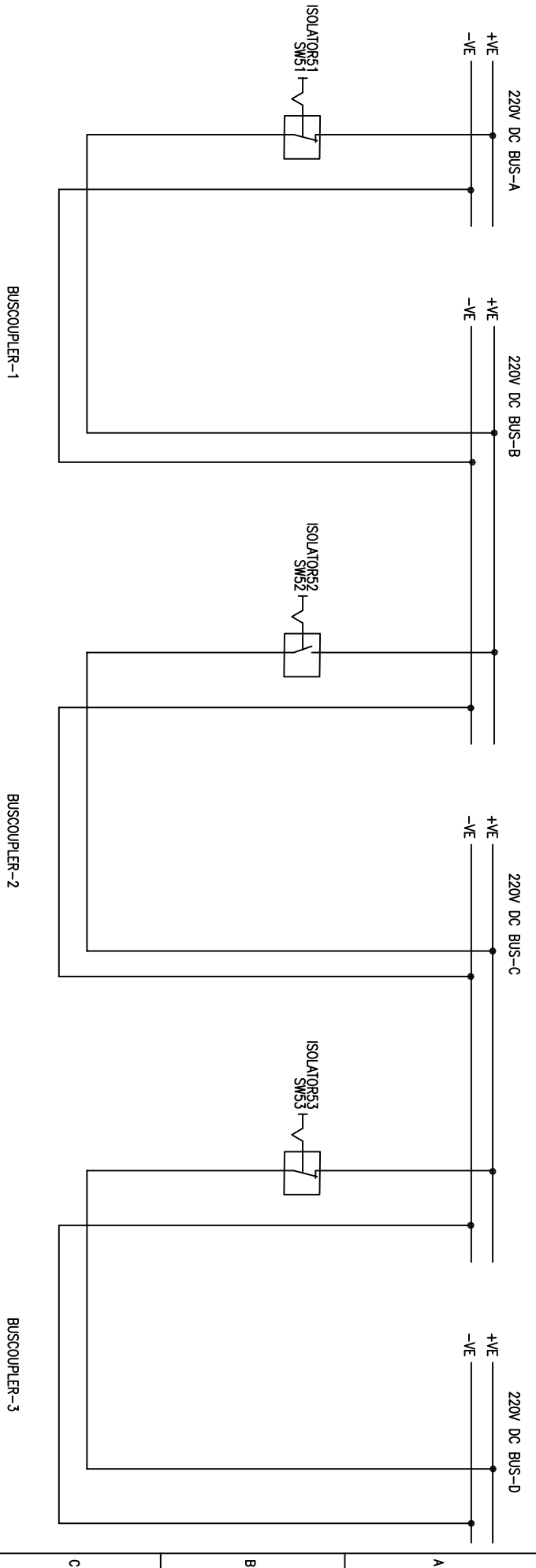
INVENTORY NO.												
4												
3				DESIGNED	JAGADISH		19.03.16		BHARAT HEAVY ELECTRICALS LIMITED ELECTROPORECELAIS DIVISION BANGLORE POWER SCHEME DCDB INCOMER FROM BATTERY CHARGER, DC BUSCOUPLER & BATTERY			
2				DRAWN							NO. OF SHEETS	11
1				CHECKED	JAGADISH		19.03.16				SHEET NO.	03
REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB		19.03.16	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-015	REV. 00

INVENTORY NO.

REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	NAME	SIGN.	DATE
4						JAGADISH		19.03.16
3					DESIGNED	JAGADISH		19.03.16
2					DRAWN			
1					CHECKED	JAGADISH		19.03.16
						KSB		19.03.16

	भारत भारी बिजलीय उपकरण लिमिटेड BHARAT HEAVY ELECTRICALS LIMITED ELECTROFUSION DIVISION BANGALORE		
	TITLE : DCDB INCOMMER FROM BATTERY CHARGER, DC BUSCOUPLER & BATTERY	NO. OF SHEETS : 11 SHEET : 04 NO.	
SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-015	REV. 00





NOTE:-

1. CASTLE LOCK & KEY (3LOCKS+3KEYS)ARRANGEMENT WILL BE PROVIDED BETWEEN ISOLATOR51, ISOLATOR52 & ISOLATOR53 TO AVOID PARALLALLING

INVENTORY NO.									
4									
3				DESIGNED	JAGADISH	<i>[Signature]</i>	19.03.16		
2				DRAWN					
1				CHECKED	JAGADISH	<i>[Signature]</i>	19.03.16		
REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	<i>[Signature]</i>	19.03.16	
 भारत भारती BHARAT HEAVY ELECTRICALS LIMITED ELECTRO-PORCELAINS DIVISION BANGALORE POWER SCHEME DCDB INCOMER FROM BATTERY CHARGER, DC BUSCOUPLER & BATTERY 									
SCALE: NA			JOB NO. CP-14-053		DRG. NO. EP-3-CS-053-015				
TITLE :							NO. OF SHEETS		11
							SHEET		05
							REV.		00

1

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220V DC BUS-D

+VE
-VE4-20mA 4-20mA
0/P-1 0/P-2

XF:7 8 9 10

CTD61

5 6 7 8

M CTD

12 13 15 16

240 V AC
AUX SUPPLY

+ +

SH61
DC SHUNT
75mVA61
0-630A DC

A

V61
-300 TO 300V DCA6
B652
SW61
ISOLATOR+VE
-VE

06:6C

FROM STANDBY FLOAT-CUM-BOOST CHARGER-E

240V AC SPACE HEATER BUS

MCB61
6A

601 603

605

SW61

607

K61

609

K61

H61
ON
REDH62
OFF
GREEN

K61

603

607 06:7C

603

609 06:7C

XF:1 1 2 XF:2

XF:7 7 8 XF:8

K61

603

607 06:7C

603

609 06:7C

XF:1 1 2 XF:2

XF:7 7 8 XF:8

K61

603

607 06:7C

603

609 06:7C

XF:1 1 2 XF:2

XF:7 7 8 XF:8

K61

603

607 06:7C

603

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DRG. NO. EP-3-CS-053-015

INVENTORY NO.

REV. NO.

DATE

DESCRIPTION

BY

APPD.

APPROVED

KSB

DATE

NAME

SIGN.

DATE

SCALE: NA

JOB NO. CP-14-053

DRG. NO. EP-3-CS-053-015

NO. OF SHEETS

SHEET: 06

REV. 00

BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPOWERCELLS DIVISION BANGALORE

TITLE :

POWER SCHEME

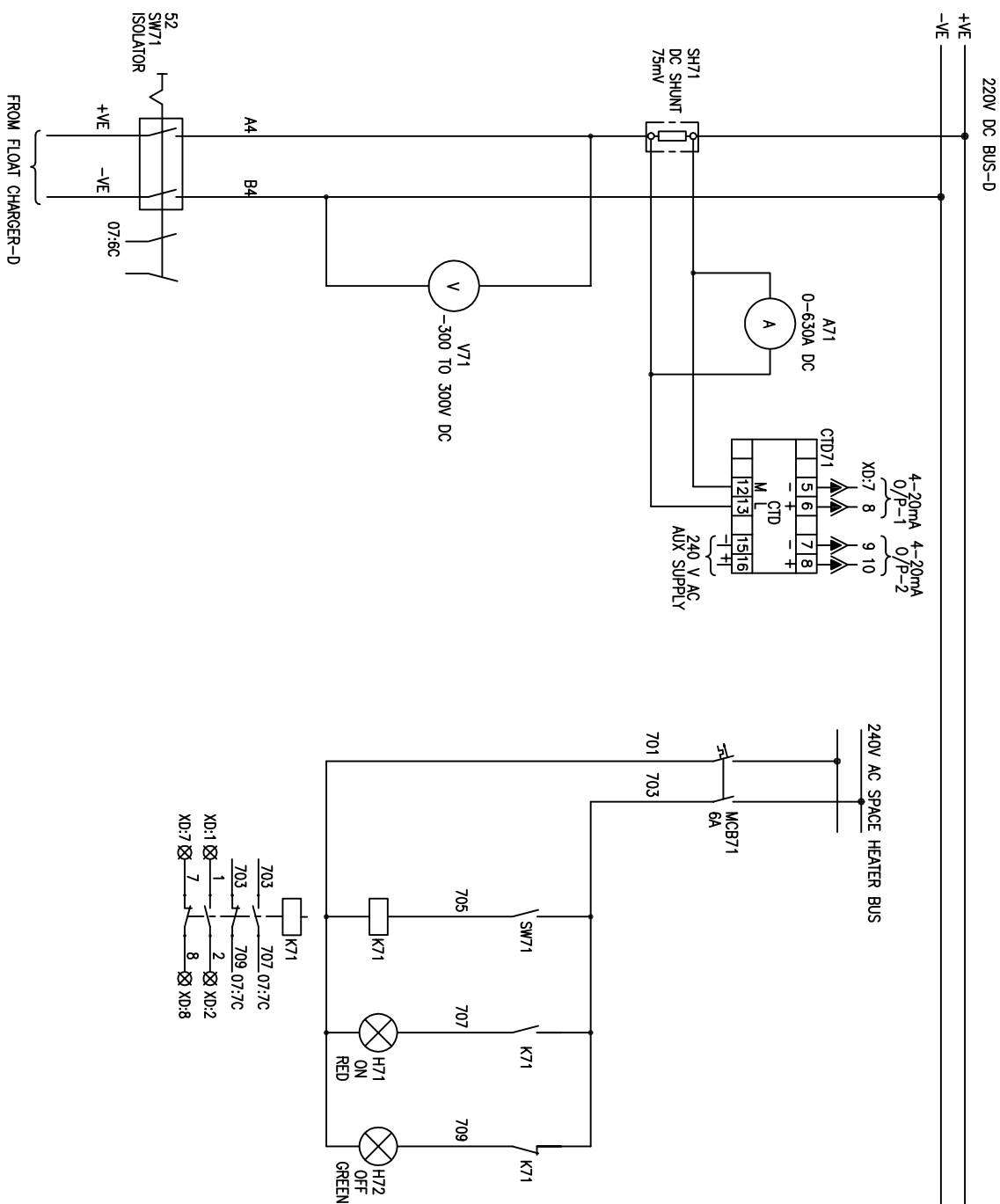
DCDB INCOMER FROM BATTERY CHARGER,

DC BUSCOUPLER & BATTERY

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DRG. NO. EP-3-CS-053-015

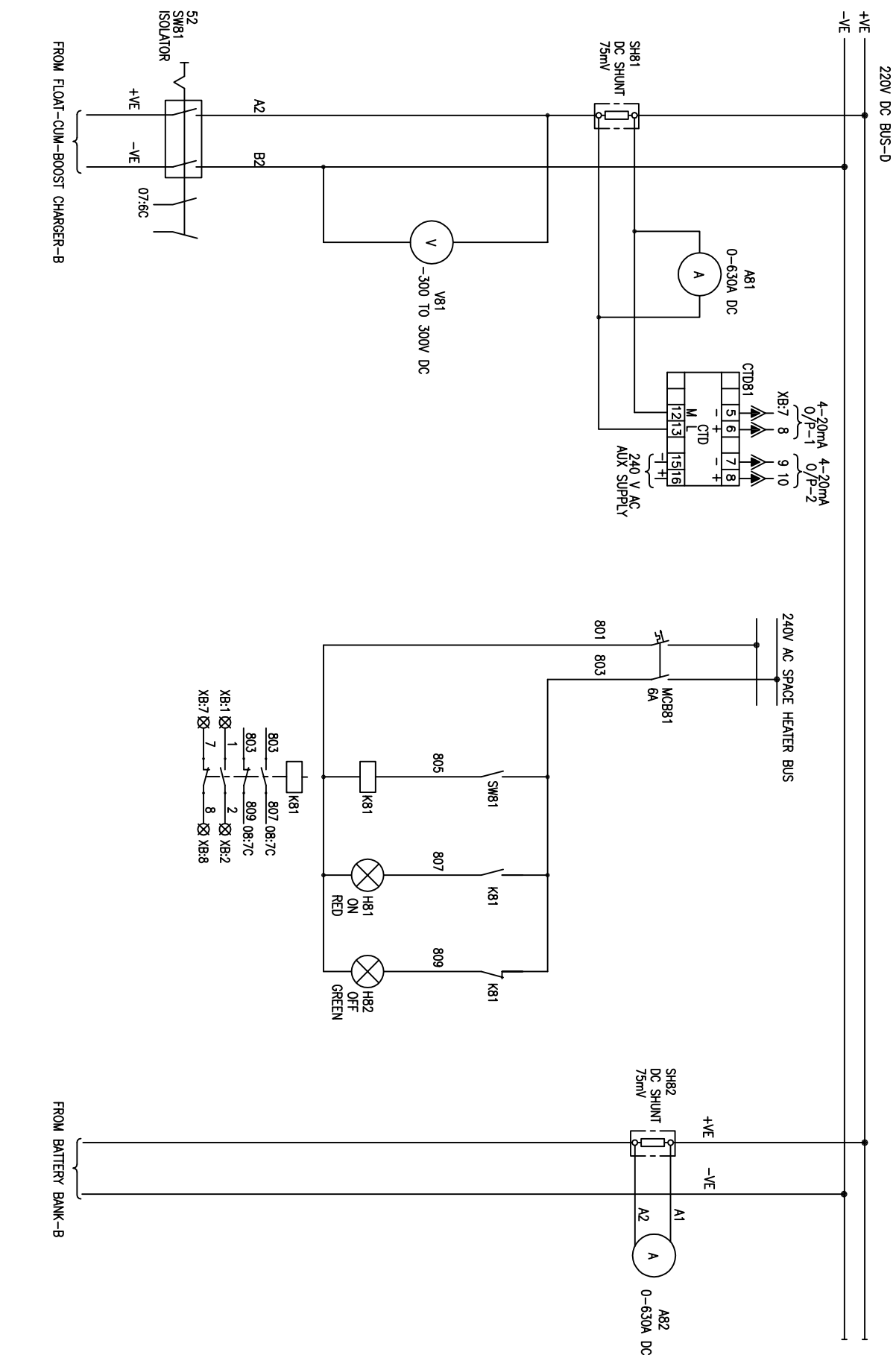
INVENTORY NO.

[illegible]

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

12345678



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DRG. NO. EP-3-CS-053-015

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-015	NO. OF SHEETS	NO. OF SHEETS	REV.
1										11	08	00
2												
3												
4												

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPOWER DIVISION BANGALORE

TITLE :

POWER SCHEME
DCDB INCOMER FROM BATTERY CHARGER,
DC BUSCOUPLER & BATTERY

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1

2

3

4

5

6

7

8

240V AC SPACE HEATER BUS

+VE
-VEX1:5
X1:6917
919FS91
16A
LK91
30AFS92
16A
FS93
16A909
911FS94
16A
FS95
16A913
915S51
20A
SOURCE-1
SOURCE-2901
903X1:1
X1:2240V AC SPACE HEATER SUPPLY
SOURCE-1905
907X1:3
X1:4240V AC SPACE HEATER SUPPLY
SOURCE-2COPYRIGHT AND CONFIDENTIAL
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DRG. NO. EP-3-CS-053-015

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-015	NO. OF SHEETS	REV.
4										11	
3					DESIGNED	JAGADISH	19.03.16				
2					DRAWN						
1					CHECKED	JAGADISH	19.03.16				

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPOWERCELLS DIVISION BANGALORE

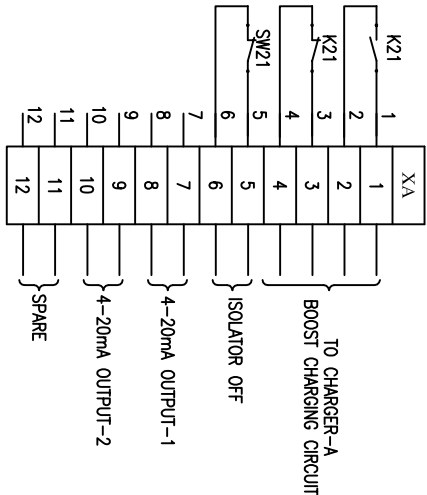
TITLE :

POWER SCHEME
DCDB INCOMER FROM BATTERY CHARGER,
DC BUSCOUPLER & BATTERY

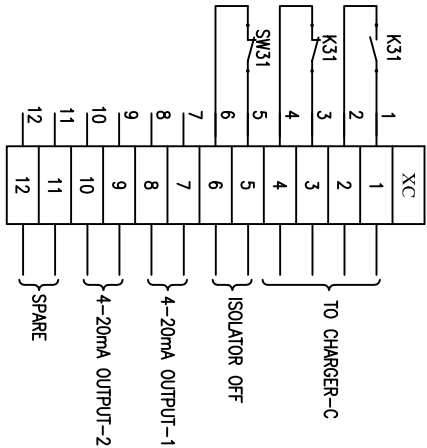
NO. OF SHEETS

SHEET: 09

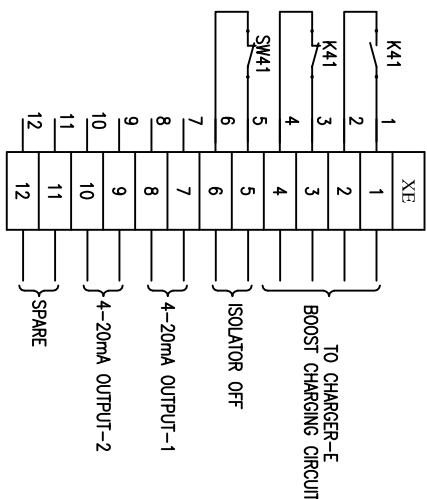
TERMINAL DIAGRAM
FLOAT-CUM-BOOST CHARGER-A



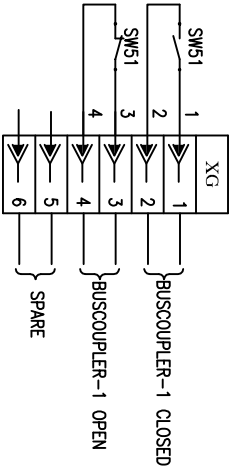
TERMINAL DIAGRAM
FLOAT CHARGER-C



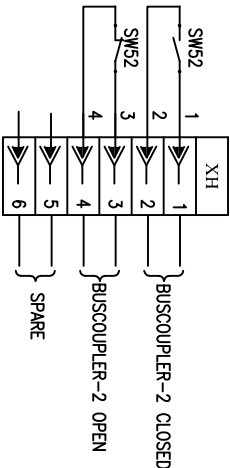
TERMINAL DIAGRAM
STANDBY FLOAT-CUM-BOOST CHARGER-E



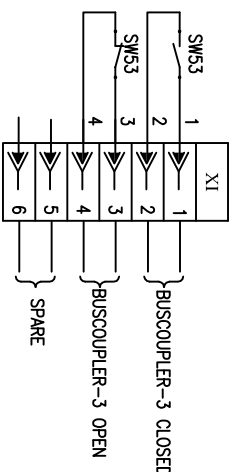
TERMINAL DIAGRAM
BUSCOUPLER-1



TERMINAL DIAGRAM
BUSCOUPLER-2



TERMINAL DIAGRAM
BUSCOUPLER-3



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DRG. NO. EP-3-CS-053-015

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-015	REV.
4										
3										
2										
1										

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPROCESSING DIVISION BANGALORE

TITLE :

POWER SCHEME
DCDB INCOMER FROM BATTERY CHARGER,
DC BUSCOUPLER & BATTERY

NO. OF
SHEETS
11

SHEET
NO. 10

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1

2

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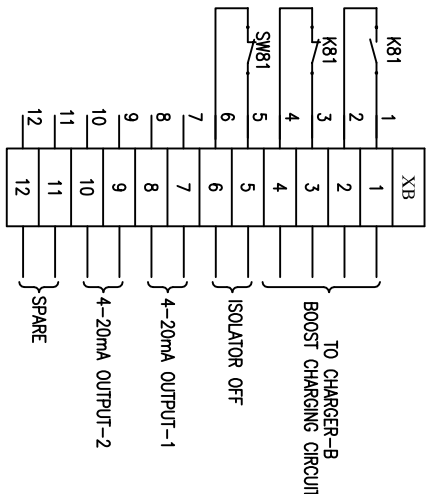
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6

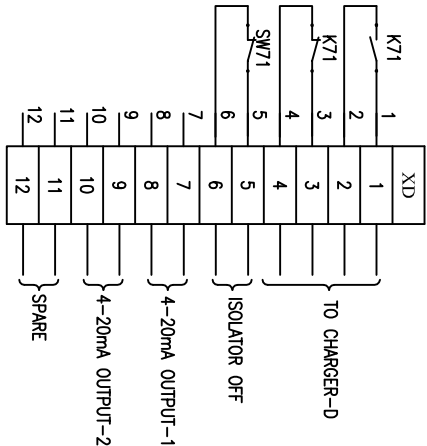
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8

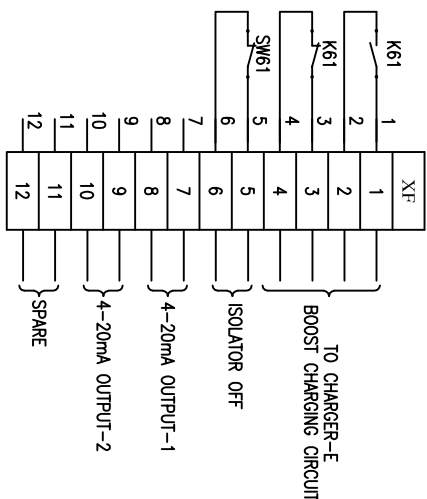
TERMINAL DIAGRAM
FLOAT-CUM-BOOST CHARGER-B



TERMINAL DIAGRAM
FLOAT CHARGER-D



TERMINAL DIAGRAM
STANDBY FLOAT-CUM-BOOST CHARGER-E

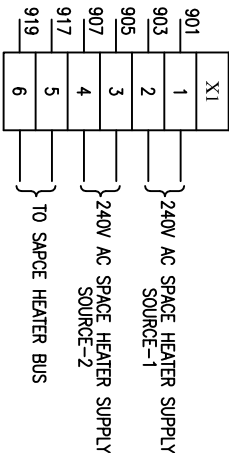


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DRG. NO. EP-3-CS-053-015

TERMINAL DIAGRAM
SPACE HEATER SUPPLY



INVENTORY NO.

REV. NO.

DATE

DESCRIPTION

BY

APPD.

APPROVED

KSB

NAME

SIGN.

DATE

SCALE: NA

JOB NO. CP-14-053

DRG. NO. EP-3-CS-053-015

NO. OF SHEETS

SHEET: 11

REV. 00

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPROCESSING DIVISION BANGALORE

TITLE :

POWER SCHEME
DCDB INCOMER FROM BATTERY CHARGER,
DC BUSCOUPLER & BATTERY



FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1

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3

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CUSTOMER:



TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA STATE
INDIA

PROJECT:

4x270 MW BHADRADRI THERMAL POWER STATION
MANUGURU

CUSTOMER CONSULTANT:



DESEIN PRIVATE LTD

DRG. NO. EP-3-CS-053-016

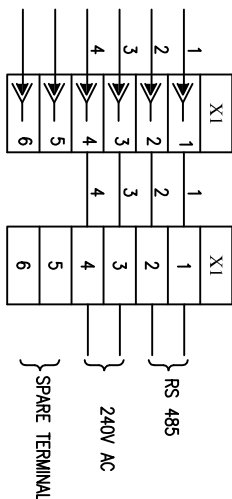
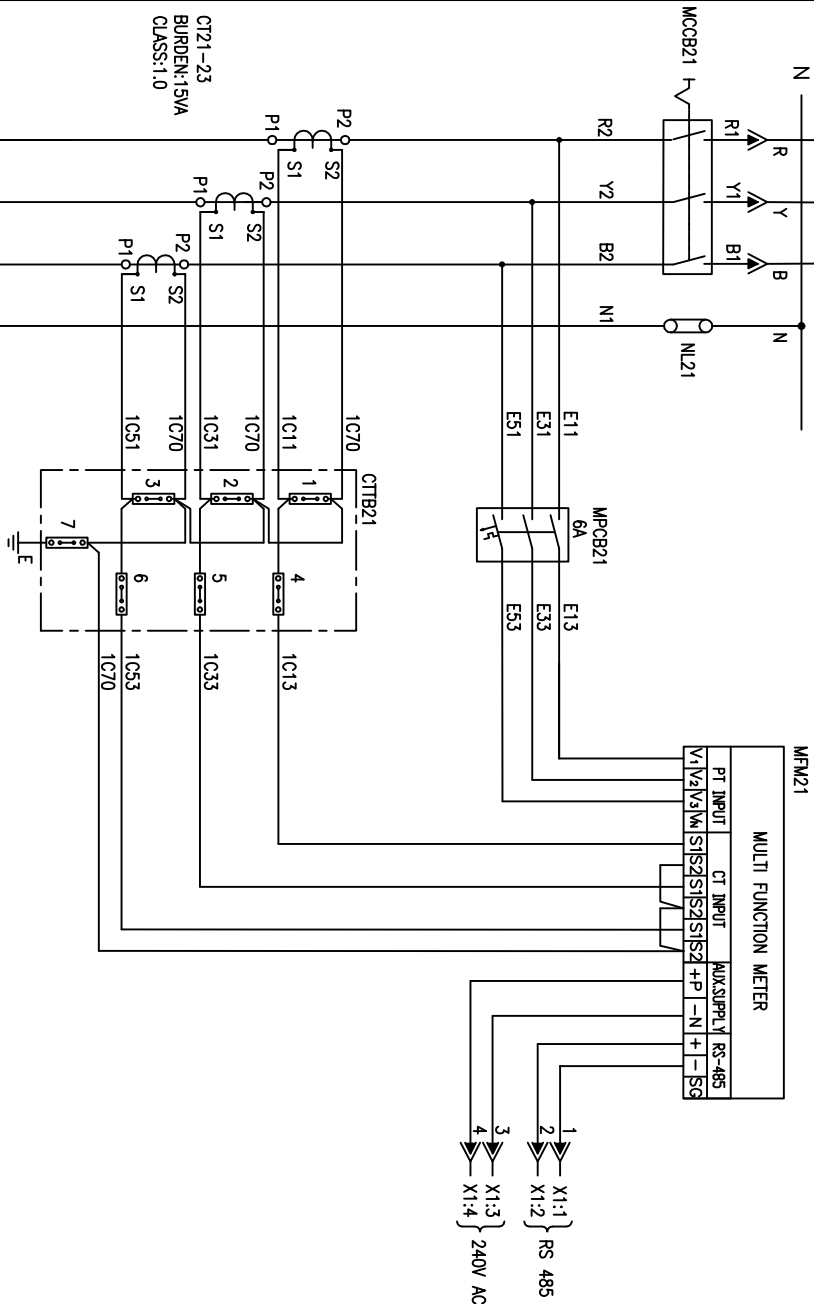
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INVENTORY NO.	REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-016	NO. OF SHEETS	NO. OF SHEET.	REV.
4																
3						DESIGNED		JAGADISH		17.04.15					02	
2						DRAWN										
1						CHECKED		TRINATH		17.04.15					01	

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROFORCEPLANS DIVISION BANGALORE

TITLE :
POWER SCHEME
MCCB INCOMER





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DRG. NO. EP-3-CS-053-016

[illegible]

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

8

A

B

C

D

E

CUSTOMER:

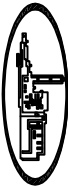


TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA STATE
INDIA

PROJECT:

4x270 MW BHADRADRI THERMAL POWER STATION
MANUGURU

CUSTOMER CONSULTANT:



DESEIN PRIVATE LTD

DRG. NO. EP-3-CS-053-017

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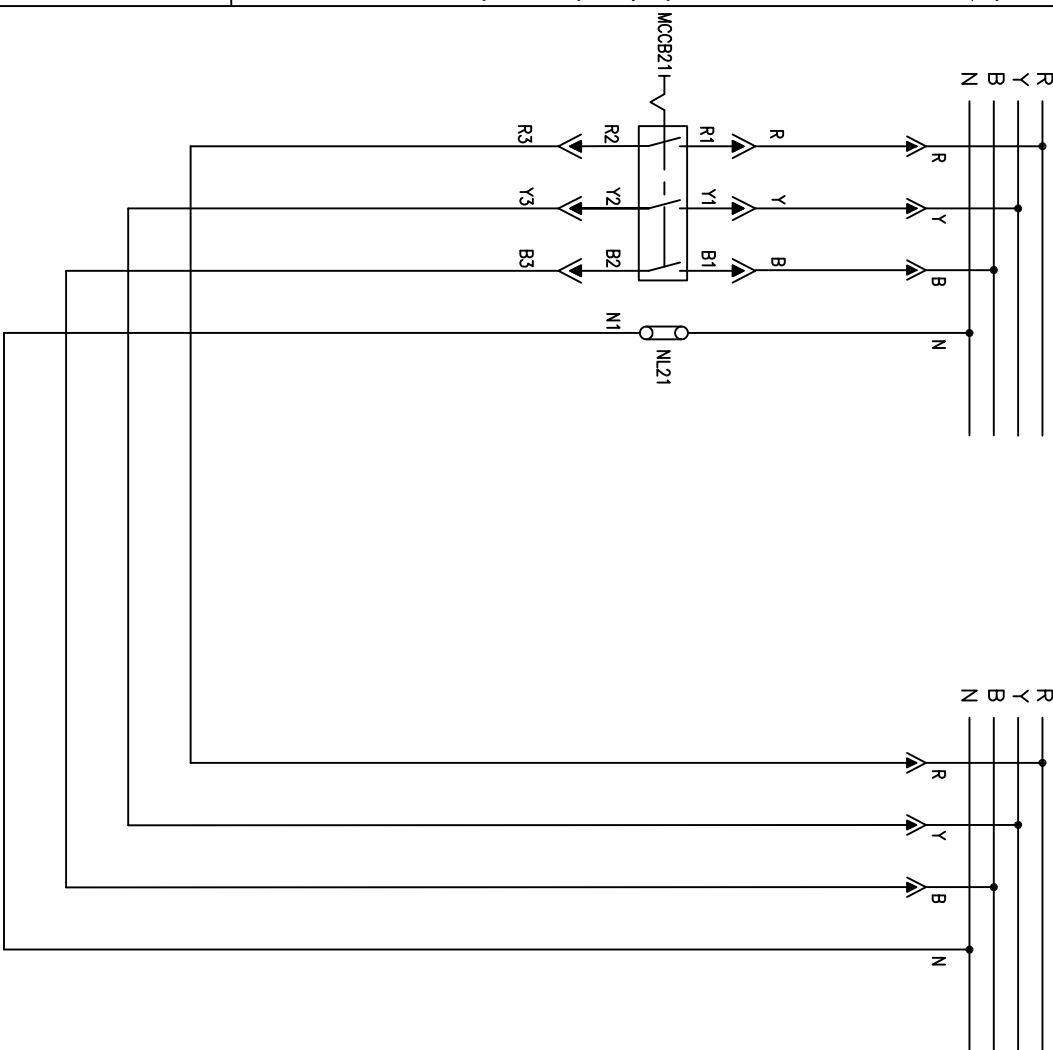
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4																
3						DESIGNED		JAGADISH		17.04.15					02	
2						DRAWN										
1						CHECKED		TRINATH		17.04.15					01	

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROFORCEPLANS DIVISION BANGALORE

TITLE :
POWER SCHEME
MCCB BUSCOUPLER



415V, 3PH, 4W, 50HZ, 50KA FOR 1SEC.



NOTE: -
CASTLE LOCK & KEY ARRANGEMENT WILL BE
PROVIDED BETWEEN INCOMERS AND BUSCOUPLER

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DRG. NO. EP-3-CS-053-017

[illegible]

8

TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA STATE
INDIA

4x270 MW BHADRADRI THERMAL POWER STATION
MANUGURU

DESEIN PRIVATE LTD

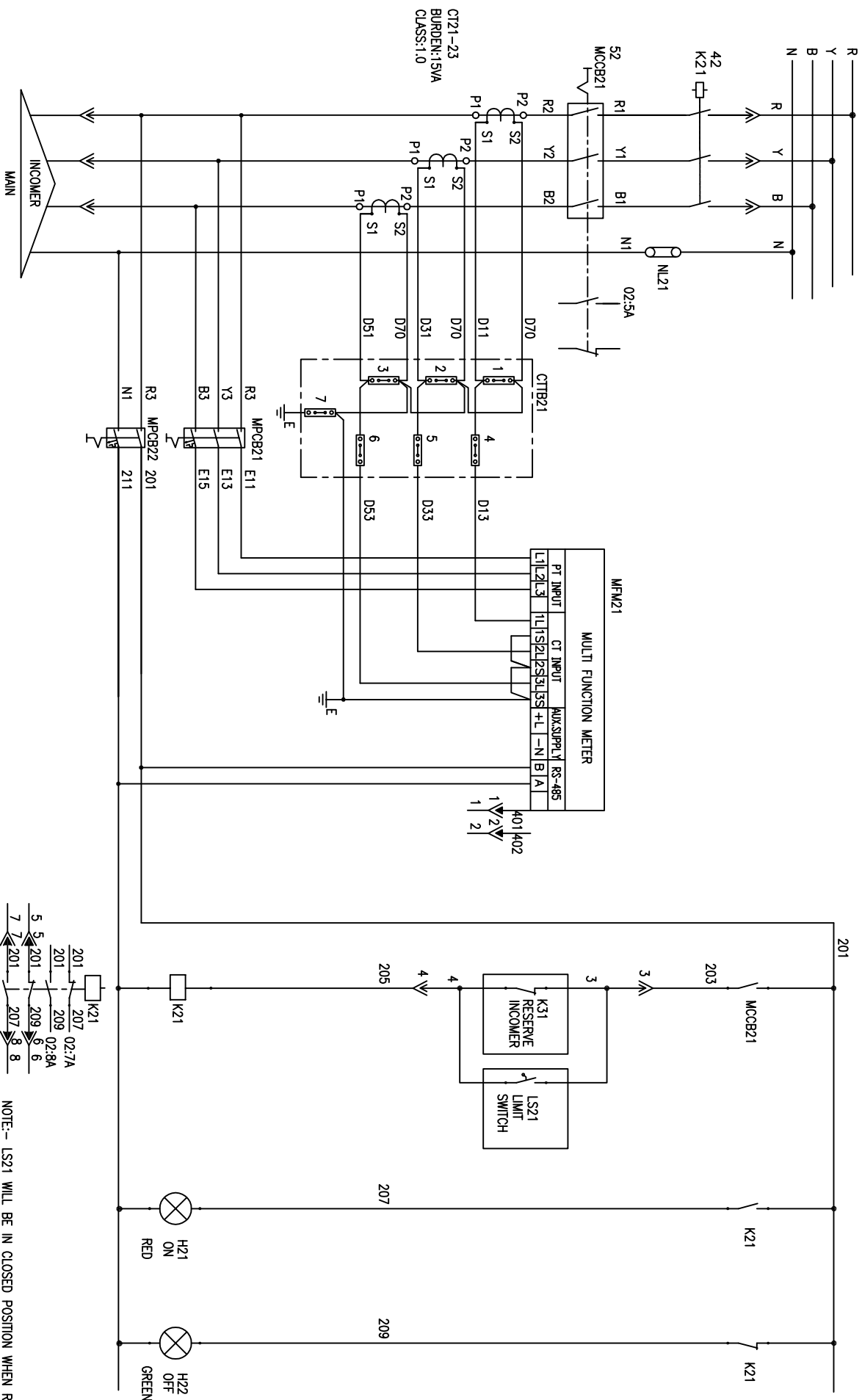
TABLE -1		
S.NO	DESCRIPTION	BOARD NO.
1	TURBINE VALVE ACDB	1KB,2VB,3KB & 4KB
2	BOILER VALVE ACDB	1HB,2HB,3HB & 4HB

DRG. NO. EP-3-CS-053-018

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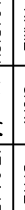
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REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	NAME	SIGN.
4							
3					DESIGNED	JAGADISH	<i>[Signature]</i> 17.04.15
2					DRAWN		
1					CHECKED	TRINATH	<i>[Signature]</i> 17.04.15
						KSB	<i>[Signature]</i> 17.04.15
							
						BHARAT HEAVY ELECTRICALS LIMITED ELECTROPORCELAINS DIVISION BANGALORE	
						TITLE : POWER & CONTROL SCHEME CONTRACTOR CONTROLLED MCCB INCOMER MAIN & RESERVE	
						NO. OF SHEETS 04	
						SHEET. 01	
						REV. NO. 00	
						JOB NO. CP-14-053 DRG. NO. EP-3-CS-053-018	

415V 3PH, 4W, 50HZ, 50KA FOR 1SEC.



NOTE:- LS21 WILL BE IN CLOSED POSITION WHEN RESERVE INCOMER MODULE IS NOT IN SERVICE

[illegible]

INVENTORY NO.												
4												
3				DESIGNED	JAGADISH		17.04.15		BHARAT HEAVY ELECTRICALS LIMITED ELECTROPORECEANS DIVISION BANGALORE			
2				DRAWN							NO. OF SHEETS	04
1				CHECKED	TRINATH		17.04.15				SHEET	03
REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB		17.04.15	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-018	REV. 00

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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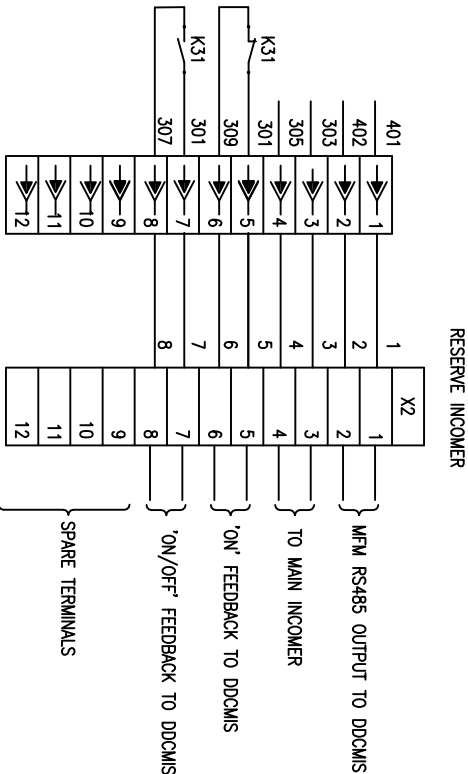
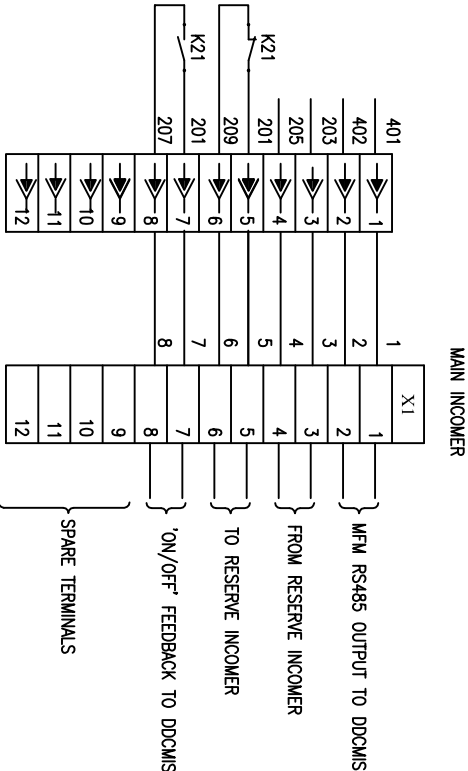
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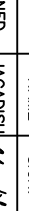
8

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DRG. NO. EP-3-CS-053-018



INVENTORY NO.																			
REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE										
4																			
3					DESIGNED	JAGADISH			17.04.15										
2					DRAWN														
1					CHECKED	TRINATH			17.04.15										
																			
										BHARAT HEAVY ELECTRICALS LIMITED									
										ELECTROFACILS DIVISION BANGALORE									
										TITLE : POWER & CONTROL SCHEME									
										CONTRACTOR CONTROLLED MCCB INCOMER									
										MAIN & RESERVE									
										JOB NO. CP-14-053									
										DRG. NO. EP-3-CS-053-018									
																			
										NO. OF SHEETS 04									
										SHEET. 04									
										REV. 00									

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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CUSTOMER:

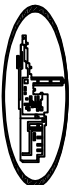


TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA STATE
INDIA

PROJECT:

4x270 MW BHADRADRI THERMAL POWER STATION
MANUGURU

CUSTOMER CONSULTANT:



DESEIN PRIVATE LTD

DRG. NO. EP-3-CS-053-019

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INVENTORY NO.	REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-019	NO. OF SHEETS	REV.
4														02	00
3						DESIGNED		JAGADISH		19.03.16				01	
2						DRAWN									
1						CHECKED		JAGADISH		19.03.16					

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROFORCEMANS DIVISION BANGALORE

TITLE :
POWER SCHEME
MCCB OUTGOING



FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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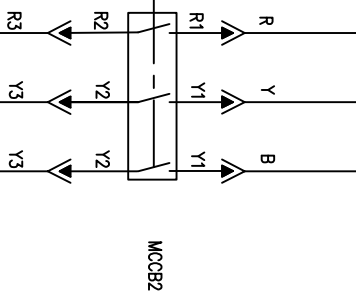
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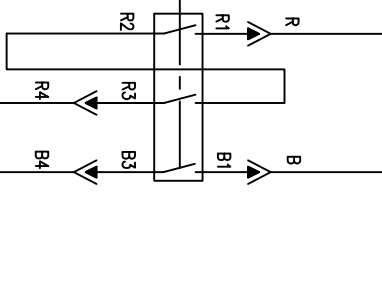
415V, 3PH, 4W, 50Hz, 50KA FOR 1SEC.

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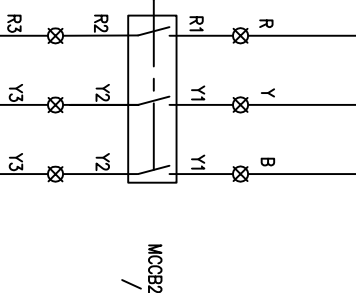
415V, 3PH, 4W, 50Hz, 50KA FOR 1SEC.

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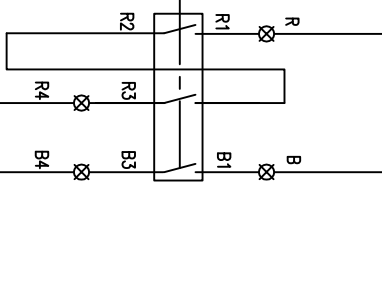
415V, 3PH, 4W, 50Hz, 50KA FOR 1SEC.

R
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415V, 3PH, 4W, 50Hz, 50KA FOR 1SEC.

R
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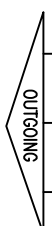


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DRG. NO. EP-3-CS-053-019

NOTE : THE ABOVE SCHEME APPLICABLE FOR OUTGOINGS - DRAWOUT TYPE



NOTE 1: MCB'S ARE APPLICABLE FOR DB'S
NOTE 2: THE ABOVE SCHEME APPLICABLE FOR OUTGOINGS - FIXED TYPE

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB
4						
3						
2						
1						



BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPOWERCELLS DIVISION BANGALORE

TITLE :
POWER SCHEME
MCCB OUTGOING

SCALE: NA

JOB NO. CP-14-053

DRG. NO. EP-3-CS-053-019

NO. OF SHEETS	NO. OF SHEETS	REV.
02	02	00

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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CUSTOMER:

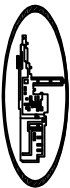


TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA STATE
INDIA

PROJECT:

4x270 MW BHADRADRI THERMAL POWER STATION
MANUGURU

CUSTOMER CONSULTANT:



DESEIN PRIVATE LTD

DRG. NO. EP-3-CS-053-020

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INVENTORY NO.																				
4																				
3					DESIGNED	JAGADISH		DATE	19.03.16											
2					DRAWN															
1					CHECKED	JAGADISH		DATE	19.03.16											
REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB		DATE	19.03.16	SCALE: NA										
																				
											BHARAT HEAVY ELECTRICALS LIMITED									
											ELECTROFORCEPLANS DIVISION BANGALORE									
TITLE :											POWER AND CONTROL SCHEME									
											BELOW 30KW UNIDIRECTIONAL MOTOR FEEDER									
																				
											NO. OF SHEETS									
											SHEET. 01									
											REV. 00									

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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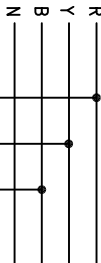
5

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415V, 3PH, 4W, 50Hz, 50KA FOR 1SEC.



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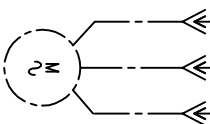
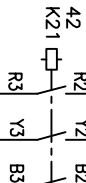
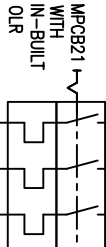
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03:3A 03:6C



POSITIONS OF DISCONNECTORS

MAKE CONTACT IN BOTH SERVICE & TEST POSITION

MAKE CONTACT IN TEST POSITION ONLY

MAKE CONTACT IN SERVICE POSITION ONLY

DRG. NO. EP-3-CS-053-020

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INVENTORY NO.

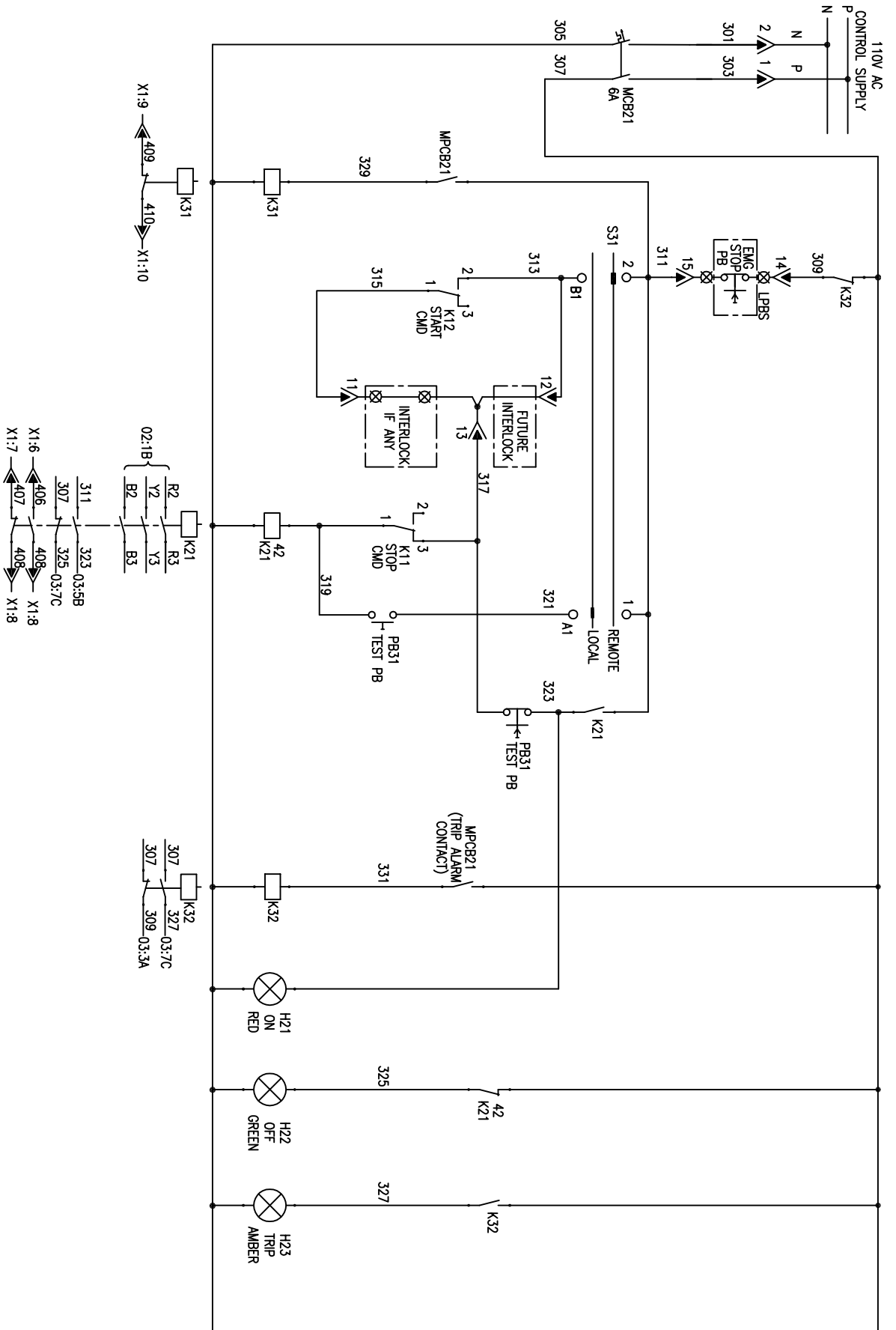
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4										04	02	00
3												
2												
1												

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROFORCELANS DIVISION BANGALORE

TITLE :

POWER AND CONTROL SCHEME
BELOW 30KW UNIDIRECTIONAL MOTOR FEEDER

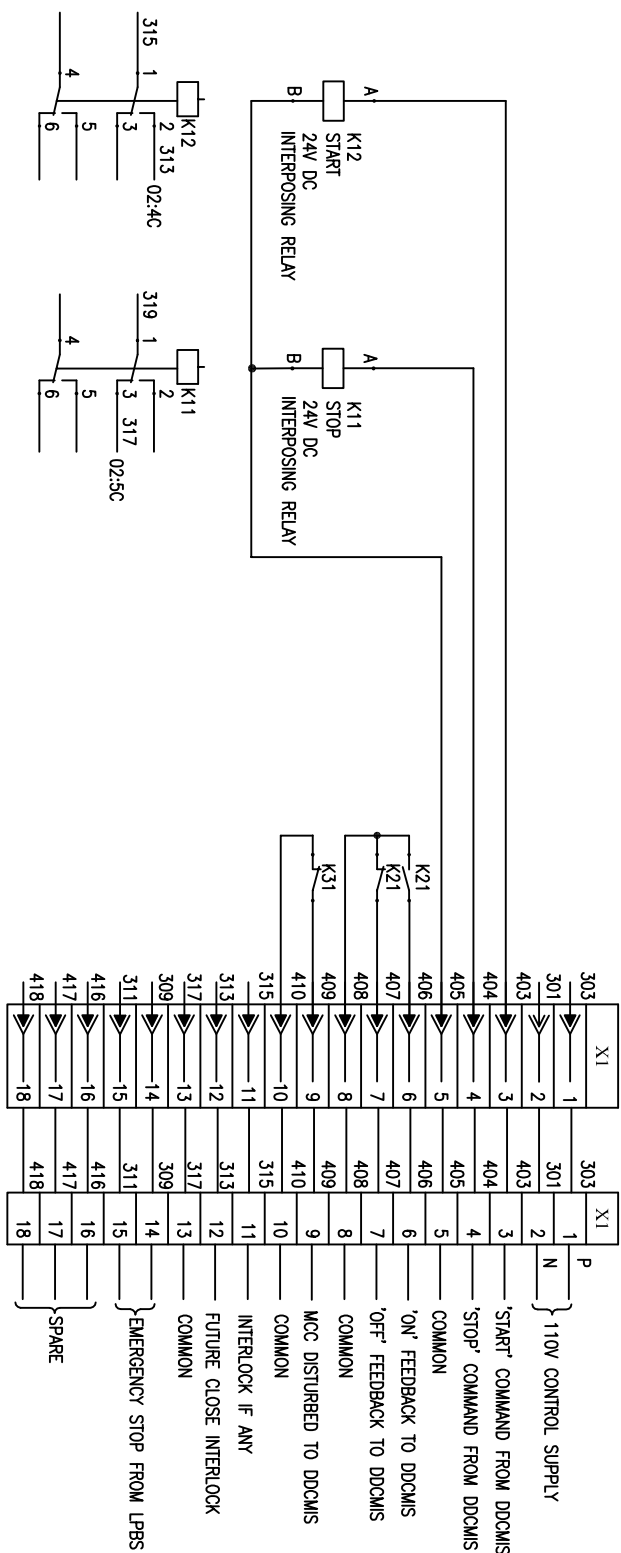
INVENTORY NO.

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DRG. NO. EP-3-CS-053-020

INVENTORY NO.

[illegible]

8

TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA STATE
INDIA

4x270 MW BHADRADRI THERMAL POWER STATION
MANUGURU

DESEIN PRIVATE LTD

DRG. NO. EP-3-CS-053-021

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INVENTORY NO.

[illegible]

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1

2

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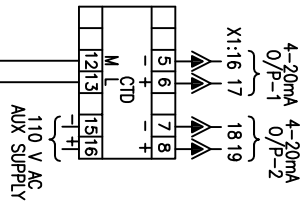
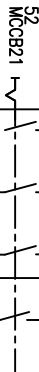
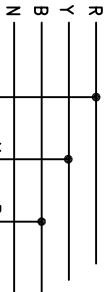
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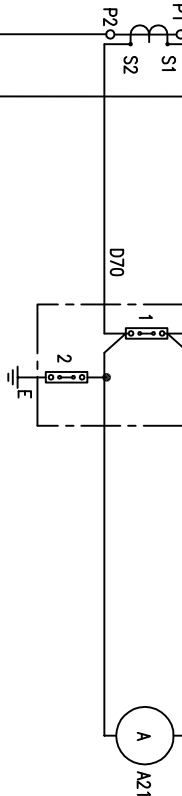
7

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415V, 3PH, 4W, 50Hz, 50KA FOR 1SEC.



CT21
BURDEN:15VA
CLASS:1.0



CT21
BURDEN:15VA
CLASS:1.0

CT21
BURDEN:15VA
CLASS:1.0

CT21
BURDEN:15VA
CLASS:1.0

CT21
BURDEN:15VA
CLASS:1.0

CT21
BURDEN:15VA
CLASS:1.0

DRG. NO. EP-3-CS-053-021

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INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-021	NO. OF SHEETS	04	REV.	00
1					CHECKED	JAGADISH	19.03.16						
2					DRAWN								
3					DESIGNED	JAGADISH	19.03.16						
4													

POSITIONS OF DISCONNECTORS
▲ MAKE CONTACT IN BOTH SERVICE & TEST POSITION
▲ MAKE CONTACT IN TEST POSITION ONLY
▲ MAKE CONTACT IN SERVICE POSITION ONLY



BHARAT HEAVY ELECTRICALS LIMITED
ELECTROFORCELANS DIVISION BANGALORE

TITLE :
POWER AND CONTROL SCHEME
ABOVE 30KW & BELOW 110KW UNIDIRECTIONAL MOTOR FEEDER



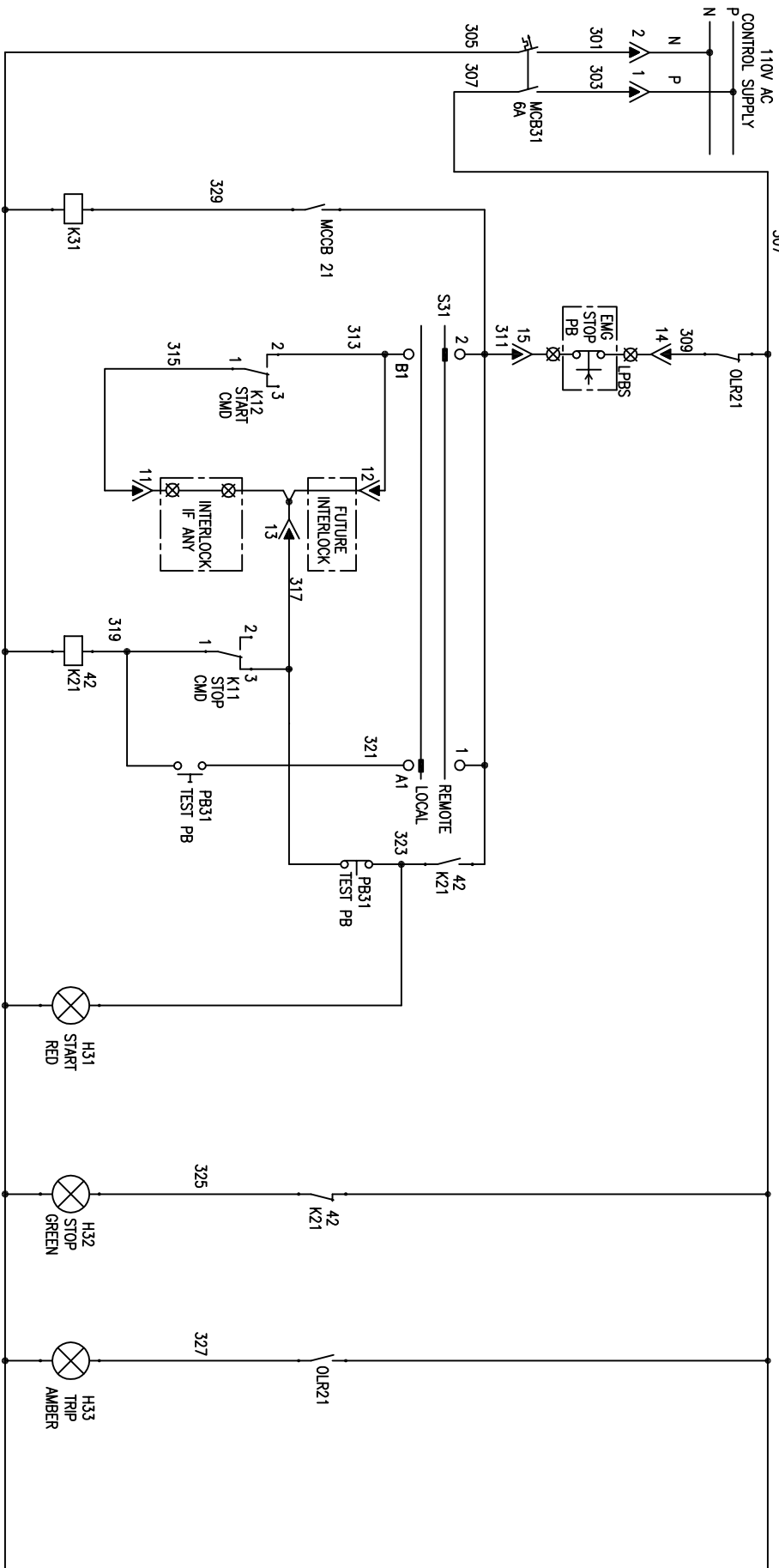
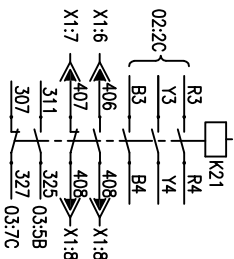
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DRG. NO. EP-3-CS-053-021

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-021	NO. OF SHEETS	REV.
1										04	03
2											
3											
4											

NOTE:-
TEST PB WILL BE ACCESSIBLE ONLY WHEN DOOR IS OPEN



FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1

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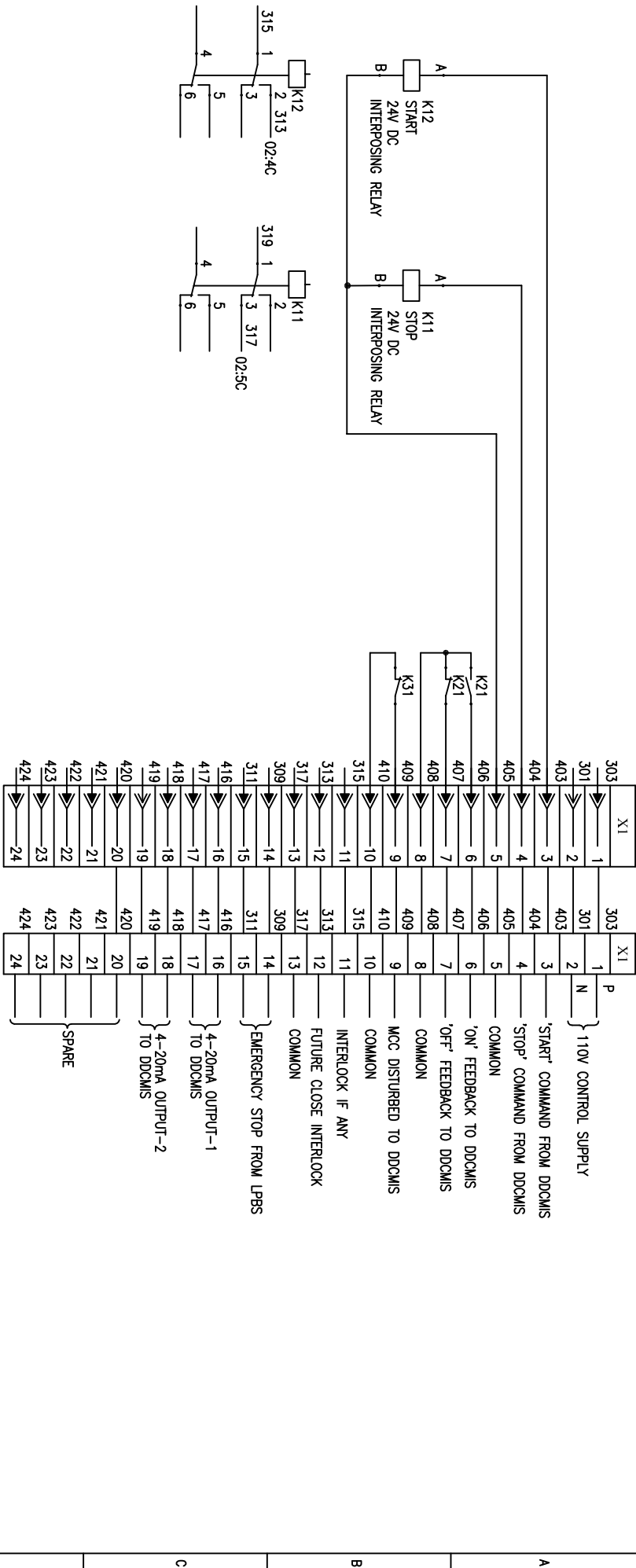
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DRG. NO. EP-3-CS-053-021



INVENTORY NO.	REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-021	NO. OF SHEETS	NO. OF SHEETS	REV.
4														04	04	00
3														04	04	00
2														04	04	00
1														04	04	00

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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CUSTOMER:

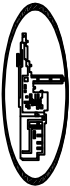


TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA STATE
INDIA

PROJECT:

4x270 MW BHADRADRI THERMAL POWER STATION
MANUGURU

CUSTOMER CONSULTANT:



DESEIN PRIVATE LTD

DRG. NO. EP-3-CS-053-022

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INVENTORY NO.	REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-022	NO. OF SHEETS	NO. OF SHEET.	REV.
4																
3						DESIGNED		JAGADISH		13.03.15					04	
2						DRAWN										
1						CHECKED		TRINATH		13.03.15					01	

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROFORCEMANS DIVISION BANGALORE

TITLE :
POWER AND CONTROL SCHEME
BI-DIRECTIONAL MOTOR FEEDER



FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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415V, 3PH, 4W, 50Hz, 50KA FOR 1SEC.

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52
MPCB21

R1
Y1
B1

R2
Y2
B2

R3
Y3
B3

R4
Y4
B4

R5
Y5
B5

R6
Y6
B6

R7
Y7
B7

R8
Y8
B8

R9
Y9
B9

R10
Y10
B10

R11
Y11
B11

R12
Y12
B12

R13
Y13
B13

R14
Y14
B14

R15
Y15
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R16
Y16
B16

R17
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R18
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R19
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R20
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R21
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R31
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R32
Y32
B32

R33
Y33
B33

R34
Y34
B34

R35
Y35
B35

R36
Y36
B36

42F
K21

R3
Y3
B3

R4
Y4
B4

R5
Y5
B5

R6
Y6
B6

R7
Y7
B7

R8
Y8
B8

R9
Y9
B9

R10
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R11
Y11
B11

R12
Y12
B12

R13
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B13

R14
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B14

R15
Y15
B15

R16
Y16
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R17
Y17
B17

R18
Y18
B18

R19
Y19
B19

R20
Y20
B20

R21
Y21
B21

R22
Y22
B22

R23
Y23
B23

03:2A
03:8B

PE21
RESET PB

M

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DRG. NO. EP-3-CS-053-022

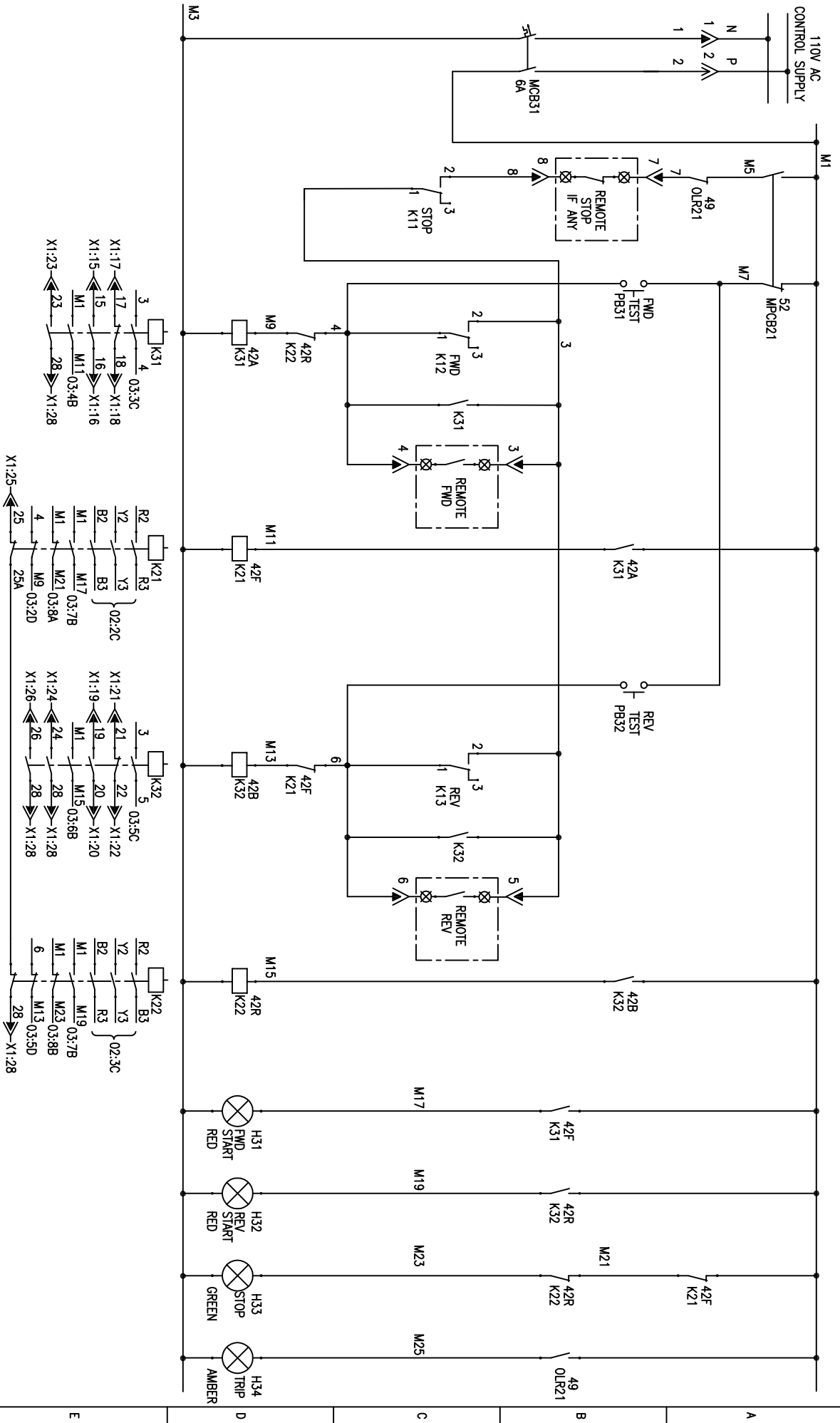
INVENTORY NO.

REV.	NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	SIGN.	DATE
1									
2									
3									
4									



BHARAT HEAVY ELECTRICALS LIMITED ELECTROFORCELANS DIVISION BANGALORE				NO. OF SHEETS 04	
TITLE : POWER AND CONTROL SCHEME BI-DIRECTIONAL MOTOR FEEDER				SHEET: 02	
JOB NO. CP-14-053		DRG. NO. EP-3-CS-053-022		REV. 00	

INVENTORY NO.

[illegible]

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1

2

3

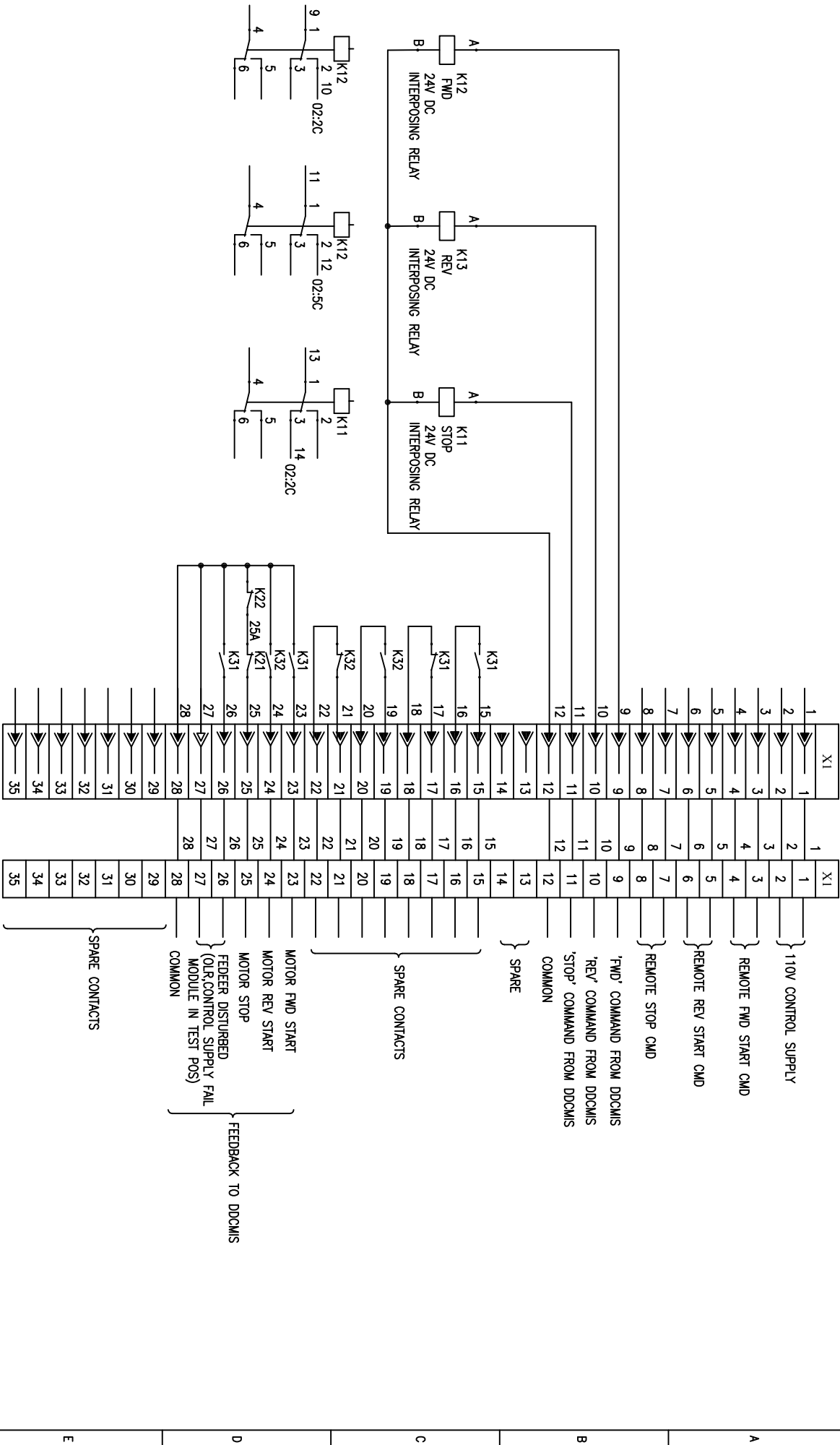
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6

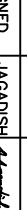
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8



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DRG. NO. EP-3-CS-053-022

INVENTORY NO.																			
REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	SIGN.	DATE											
4																			
3					DESIGNED	JAGADISH		13.03.15											
2					DRAWN														
1					CHECKED	TRINATH		13.03.15											
																			
										TITLE : POWER AND CONTROL SCHEME BI-DIRECTIONAL MOTOR FEEDER JOB NO. CP-14-053 DRG. NO. EP-3-CS-053-022									
										NO. OF SHEETS 04 SHEET. 04 REV. 00									

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1

2

3

4

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CUSTOMER:

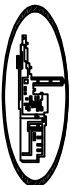


TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA STATE
INDIA

PROJECT:

4x270 MW BHADRADRI THERMAL POWER STATION
MANUGURU

CUSTOMER CONSULTANT:



DESEIN PRIVATE LTD

DRG. NO. EP-3-CS-053-020

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INVENTORY NO.	REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-023	NO. OF SHEETS	REV.
4															
3						DESIGNED		JAGADISH		19.03.16				04	
2						DRAWN									
1						CHECKED		JAGADISH		19.03.16				01	

1

2

3

4

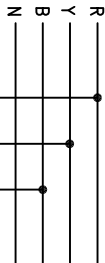
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6

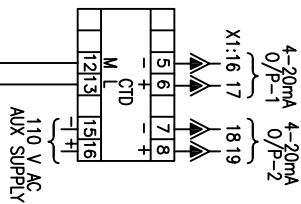
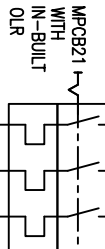
7

8

415V, 3PH, 4W, 50Hz, 50KA FOR 1SEC.



R1 Y1 B1 03:3A 03:6C

110 V AC
AUX SUPPLYCT21
BURDEN:15VA
CLASS:1.0P1 S1
P2 S2

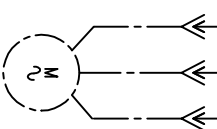
A21



42 R2 Y2 B2

K21

R3 Y3 B3



POSITIONS OF DISCONNECTORS

MAKE CONTACT IN BOTH SERVICE & TEST POSITION

MAKE CONTACT IN TEST POSITION ONLY

MAKE CONTACT IN SERVICE POSITION ONLY

DRG. NO. EP-3-CS-053-020

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INVENTORY NO.

REV. NO.

DATE

DESCRIPTION

BY

APPD.

APPROVED

KSB

NAME

SIGN.

DATE

19.03.16

19.03.16

19.03.16

SCALE: NA

JOB NO. CP-14-053

DRG. NO. EP-3-CS-053-023

BHARAT HEAVY ELECTRICALS LIMITED

ELECTROFORCELANS DIVISION BANGALORE

POWER AND CONTROL SCHEME

CRITICAL MOTOR FEEDER BELOW 30KW

NO. OF SHEETS

04

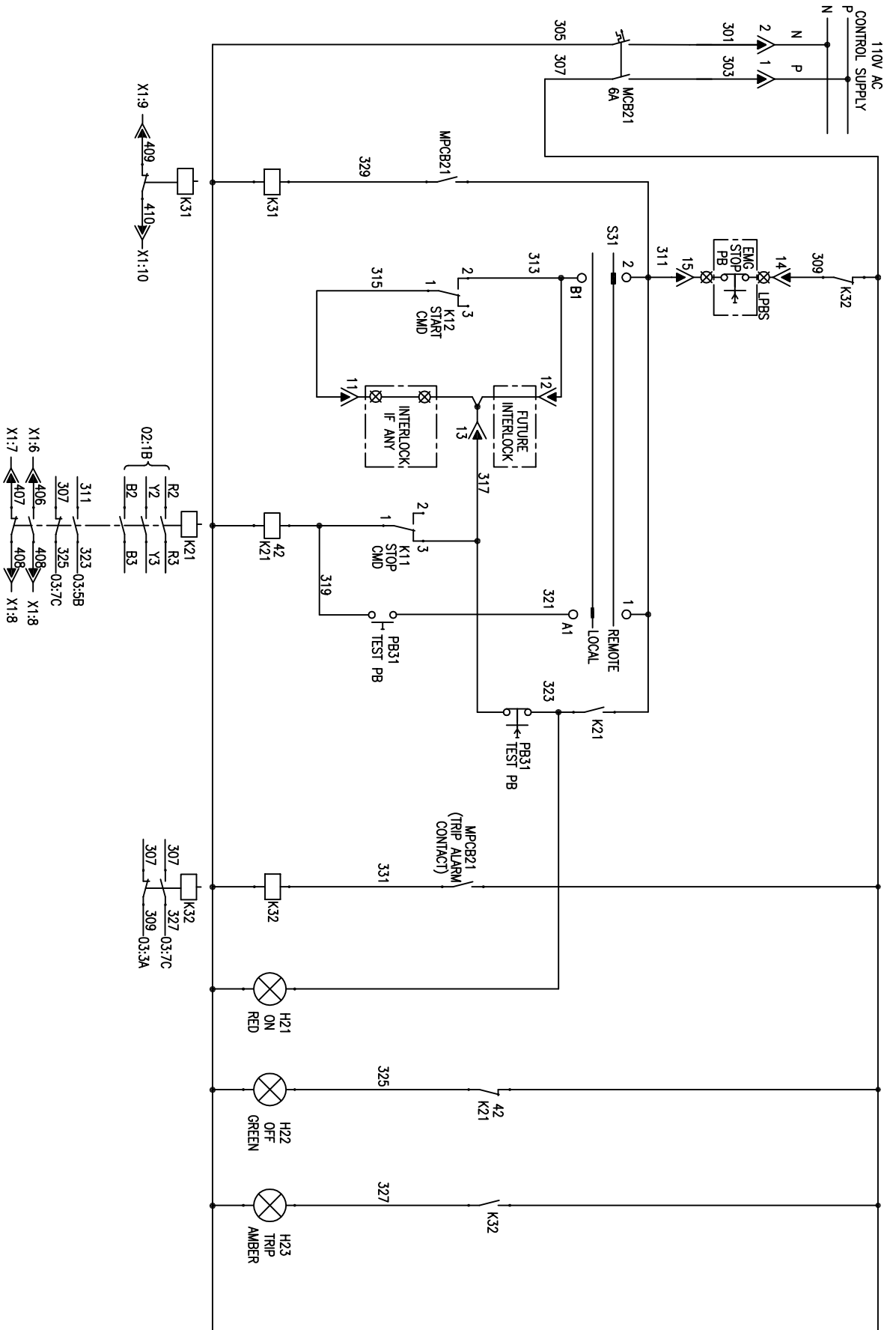
SHEET NO.

02

REV.

00

INVENTORY NO.

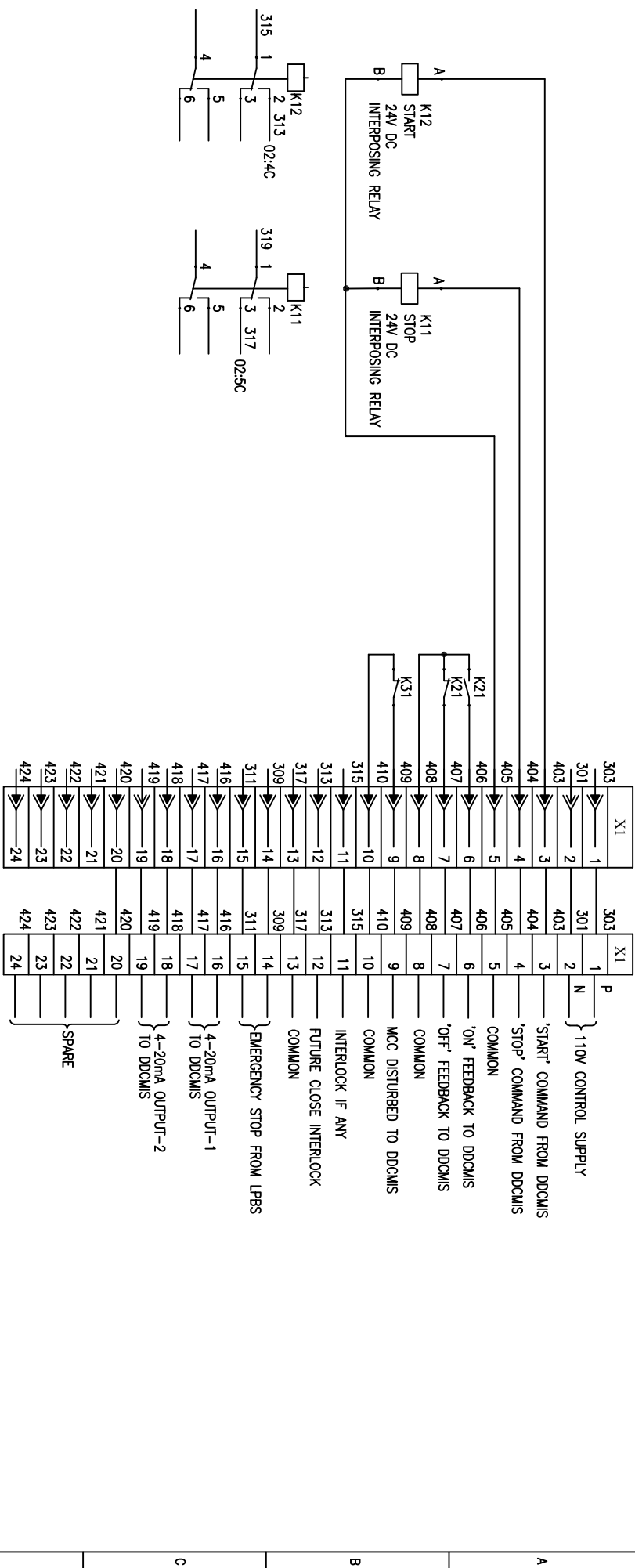
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8

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DRG. NO. EP-3-CS-053-020

INVENTORY NO.

[illegible]

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

8

7

6

5

4

3

2

1

CUSTOMER:



TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA STATE
INDIA

PROJECT:

4x270 MW BHADRADRI THERMAL POWER STATION
MANUGURU

CUSTOMER CONSULTANT:



DESEIN PRIVATE LTD

DRG. NO. EP-3-CS-053-024

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INVENTORY NO.																				
4																				
3						DESIGNED	JAGADISH		19.03.16											
2						DRAWN														
1						CHECKED	JAGADISH		19.03.16											
REV. NO.	DATE	DESCRIPTION			BY	APPD.	APPROVED	KSB		19.03.16										
										SCALE: NA										
																				
										TITLE :										
										BHARAT HEAVY ELECTRICALS LIMITED										
										ELECTROPOWER DIVISION BANGALORE										
										POWER AND CONTROL SCHEME										
										DC OUTGOING FEEDER										
JOB NO. CP-14-053					DRG. NO. EP-3-CS-053-024															
										NO. OF SHEETS 02										
										SHEET. 01										
										REV. 00										

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROFORCEMANS DIVISION BANGALORE

TITLE :
POWER AND CONTROL SCHEME
DC OUTGOING FEEDER



NO. OF
SHEETS

SHEET:
NO.

02

01

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1

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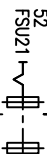
7

8

220V, 2W, DC BUS



201 203



OUTGOING

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DRG. NO. EP-3-CS-053-024

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB
4						
3				DESIGNED		JAGADISH 19.03.16
2				DRAWN		
1				CHECKED		JAGADISH 19.03.16



BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPOWERCELLS DIVISION BANGALORE

TITLE :

POWER AND CONTROL SCHEME
DC OUTGOING FEEDER

JOB NO. CP-14-053

DRG. NO. EP-3-CS-053-024



NO. OF SHEETS

SHEET NO.

REV. NO.

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1

2

3

4

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CUSTOMER:

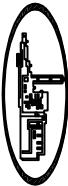


TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA STATE
INDIA

PROJECT:

4x270 MW BHADRADRI THERMAL POWER STATION
MANUGURU

CUSTOMER CONSULTANT:



DESEIN PRIVATE LTD

DRG. NO. EP-3-CS-053-025

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INVENTORY NO.	REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-025	NO. OF SHEETS	NO. OF SHEET.	REV.
4																
3						DESIGNED		JAGADISH		19.03.16					04	
2						DRAWN										
1						CHECKED		JAGADISH		19.03.16					01	

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROFORCEMANS DIVISION BANGALORE

TITLE :
POWER AND CONTROL SCHEME
HEATER FEEDER



1

2

3

4

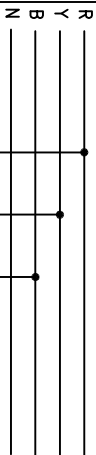
5

6

7

8

415V 3PH, 4W, 50Hz, 50KA FOR 1SEC.



K21

R1 Y1 B1

R2 Y2 B2

R3 Y3 B3

R4 Y4 B4

R5 Y5 B5

R6 Y6 B6

R7 Y7 B7

R8 Y8 B8

R9 Y9 B9

R10 Y10 B10

R11 Y11 B11

R12 Y12 B12

R13 Y13 B13

R14 Y14 B14

R15 Y15 B15

R16 Y16 B16

R17 Y17 B17

R18 Y18 B18

R19 Y19 B19

R20 Y20 B20

R21 Y21 B21

R22 Y22 B22

R23 Y23 B23

R24 Y24 B24

R25 Y25 B25

R26 Y26 B26

R27 Y27 B27

R28 Y28 B28

R29 Y29 B29

R30 Y30 B30

R31 Y31 B31

R32 Y32 B32

R33 Y33 B33

R34 Y34 B34

R35 Y35 B35

R36 Y36 B36

R37 Y37 B37

R38 Y38 B38

R39 Y39 B39

R40 Y40 B40

R41 Y41 B41

R42 Y42 B42

R43 Y43 B43

R44 Y44 B44

R45 Y45 B45

R46 Y46 B46

R47 Y47 B47

R48 Y48 B48

R49 Y49 B49

R50 Y50 B50

R51 Y51 B51

R52 Y52 B52

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R56 Y56 B56

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R67 Y67 B67

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R102 Y102 B102

R103 Y103 B103

R104 Y104 B104

R105 Y105 B105

R106 Y106 B106

R107 Y107 B107

R108 Y108 B108

R109 Y109 B109

R110 Y110 B110

R111 Y111 B111

R112 Y112 B112

R113 Y113 B113

R114 Y114 B114

R115 Y115 B115

R116 Y116 B116

R117 Y117 B117

R118 Y118 B118

R119 Y119 B119

R120 Y120 B120

R121 Y121 B121

R122 Y122 B122

R123 Y123 B123

R124 Y124 B124

R125 Y125 B125

R126 Y126 B126

R127 Y127 B127

R128 Y128 B128

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R148 Y148 B148

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R150 Y150 B150

R151 Y151 B151

R152 Y152 B152

R153 Y153 B153

R154 Y154 B154

R155 Y155 B155

R156 Y156 B156

R157 Y157 B157

R158 Y158 B158

R159 Y159 B159

R160 Y160 B160

R161 Y161 B161

R162 Y162 B162

R163 Y163 B163

R164 Y164 B164

R165 Y165 B165

R166 Y166 B166

R167 Y167 B167

R168 Y168 B168

R169 Y169 B169

R170 Y170 B170

R171 Y171 B171

R172 Y172 B172

R173 Y173 B173

R174 Y174 B174

R175 Y175 B175

R176 Y176 B176

R177 Y177 B177

R178 Y178 B178

R179 Y179 B179

R180 Y180 B180

R181 Y181 B181

R182 Y182 B182

R183 Y183 B183

R184 Y184 B184

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R186 Y186 B186

R187 Y187 B187

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R189 Y189 B189

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R191 Y191 B191

R192 Y192 B192

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R194 Y194 B194

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R202 Y202 B202

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R206 Y206 B206

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R213 Y213 B213

R214 Y214 B214

R215 Y215 B215

R216 Y216 B216

R217 Y217 B217

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R220 Y220 B220

R221 Y221 B221

R222 Y222 B222

R223 Y223 B223

R224 Y224 B224

R225 Y225 B225

R226 Y226 B226

R227 Y227 B227

R228 Y228 B228

R229 Y229 B229

R230 Y230 B230

R231 Y231 B231

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R252 Y252 B252

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R254 Y254 B254

R255 Y255 B255

R256 Y256 B256

R257 Y257 B257

R258 Y258 B258

R259 Y259 B259

R260 Y260 B260

R261 Y261 B261

R262 Y262 B262

R263 Y263 B263

R264 Y264 B264

R265 Y265 B265

R266 Y266 B266

R267 Y267 B267

R268 Y268 B268

R269 Y269 B269

R270 Y270 B270

R271 Y271 B271

R272 Y272 B272

R273 Y273 B273

R274 Y274 B274

R275 Y275 B275

R276 Y276 B276

R277 Y277 B277

R278 Y278 B278

R279 Y279 B279

R280 Y280 B280

R281 Y281 B281

R282 Y282 B282

R283 Y283 B283

R284 Y284 B284

R285 Y285 B285

R286 Y286 B286

R287 Y287 B287

R288 Y288 B288

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R292 Y292 B292

R293 Y293 B293

R294 Y294 B294

R295 Y295 B295

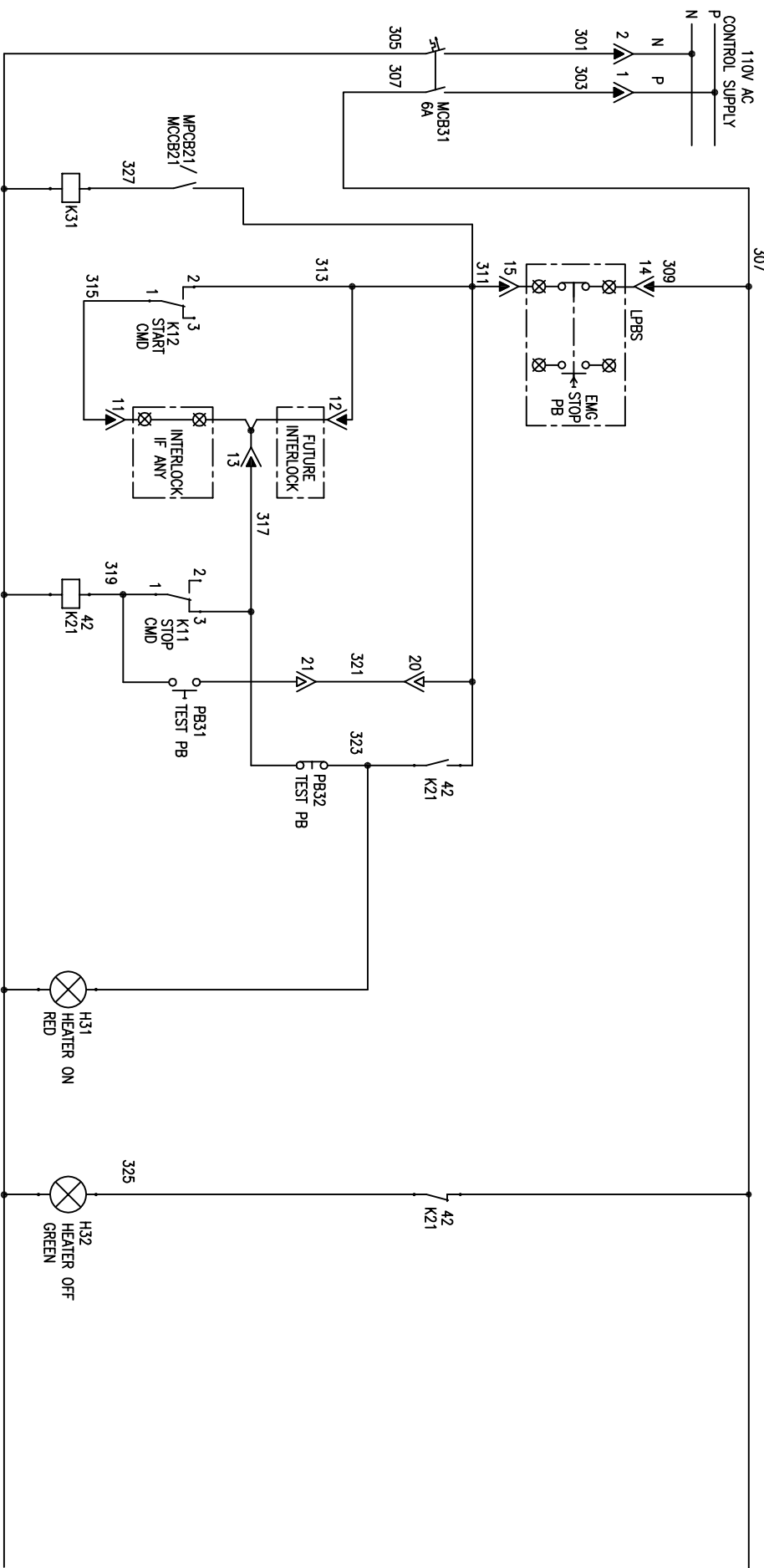
R296 Y296 B296

R297 Y297 B297

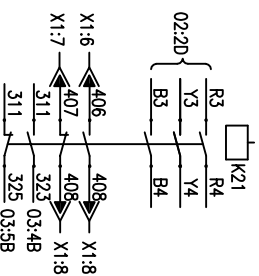
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DRG. NO. EP-3-CS-053-025

INVENTORY NO.

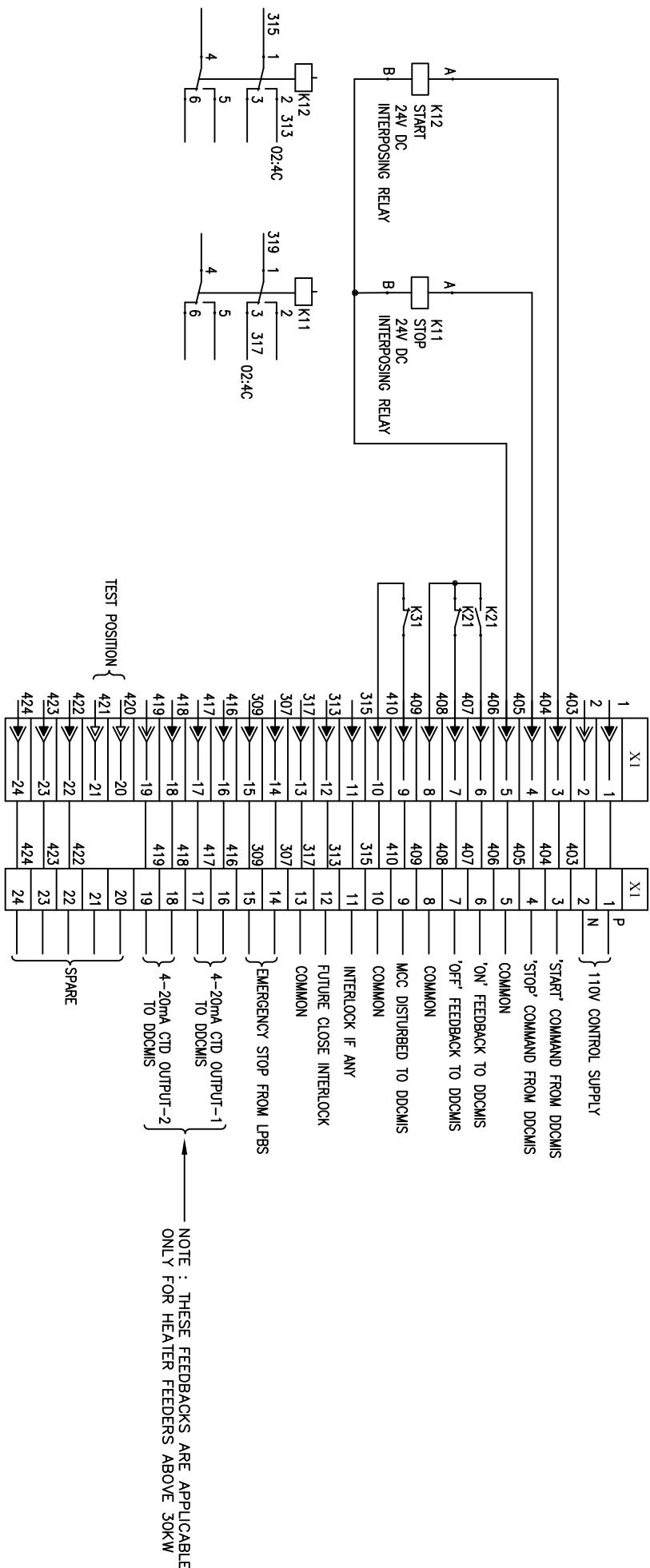


NOTE:-
TEST PB WILL BE ACCESSIBLE ONLY WHEN DOOR IS OPEN

[illegible]

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DRG. NO. EP-3-CS-053-025



INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-025	NO. OF SHEETS	NO. OF SHEET	REV.
1					CHECKED		JAGADISH		19.03.16				04	04	00
2					DRAWN		JAGADISH		19.03.16						
3					DESIGNED		JAGADISH		19.03.16						
4															

8

TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA STATE
INDIA

4x270 MW BHADRADRI THERMAL POWER STATION
MANUGURU

DESEIN PRIVATE LTD

DRG. NO. EP-3-CS-053-026

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INVENTORY NO.										
4					NAME	SIGN.	DATE	ಭಾರತ ಹವಿ ವಿದ್ಯುತ್  BHARAT HEAVY ELECTRICALS LIMITED ELECTROPORCELAINS DIVISION BANGALORE TITLE : 240V AC SPACE HEATER SUPPLY NO. OF SHEETS 02 SHEET. 01 REV. 00		
3					DESIGNED	JAGADISH	19.03.16			
2					DRAWN					
1					CHECKED	JAGADISH	19.03.16			
REV. NO.	DATE		DESCRIPTION	BY	APPD.	APPROVED	KSB	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-026

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1

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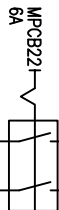
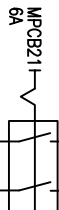
8

415V, 3PH, 4WIRE, 50HZ
R
Y
B
N

415V, 3PH, 4WIRE, 50HZ TAPPED FROM BKR LINE TERMINALS
R
Y
B
N

X1:1 2

X1:1 2



S21

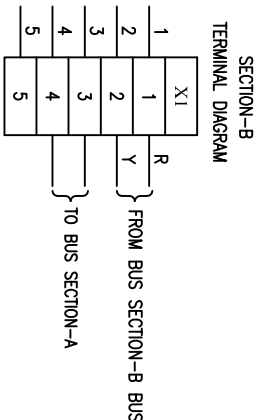
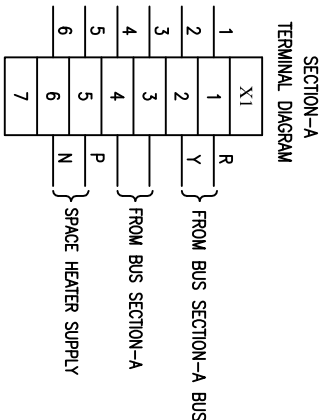
R2

Y2

SECTION-A

OFF

SECTION-B

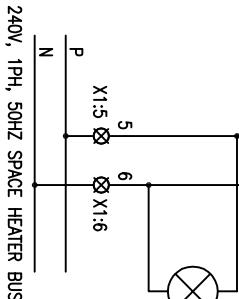


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DRG. NO. EP-3-CS-053-026

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB
4						
3						
2						
1						



BHARAT HEAVY ELECTRICALS LIMITED
ELECTROFORCELANS DIVISION BANGALORE

TITLE :

240V AC SPACE HEATER SUPPLY

JOB NO. CP-14-053

DRG. NO. EP-3-CS-053-026



NO. OF SHEETS
02

SHEET NO.
02

REV. NO.
00

FIRST ANGLE PROJECTION				ALL DIMENSIONS ARE IN MM.			
1	2	3	4	5	6	7	8

TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA STATE
INDIA

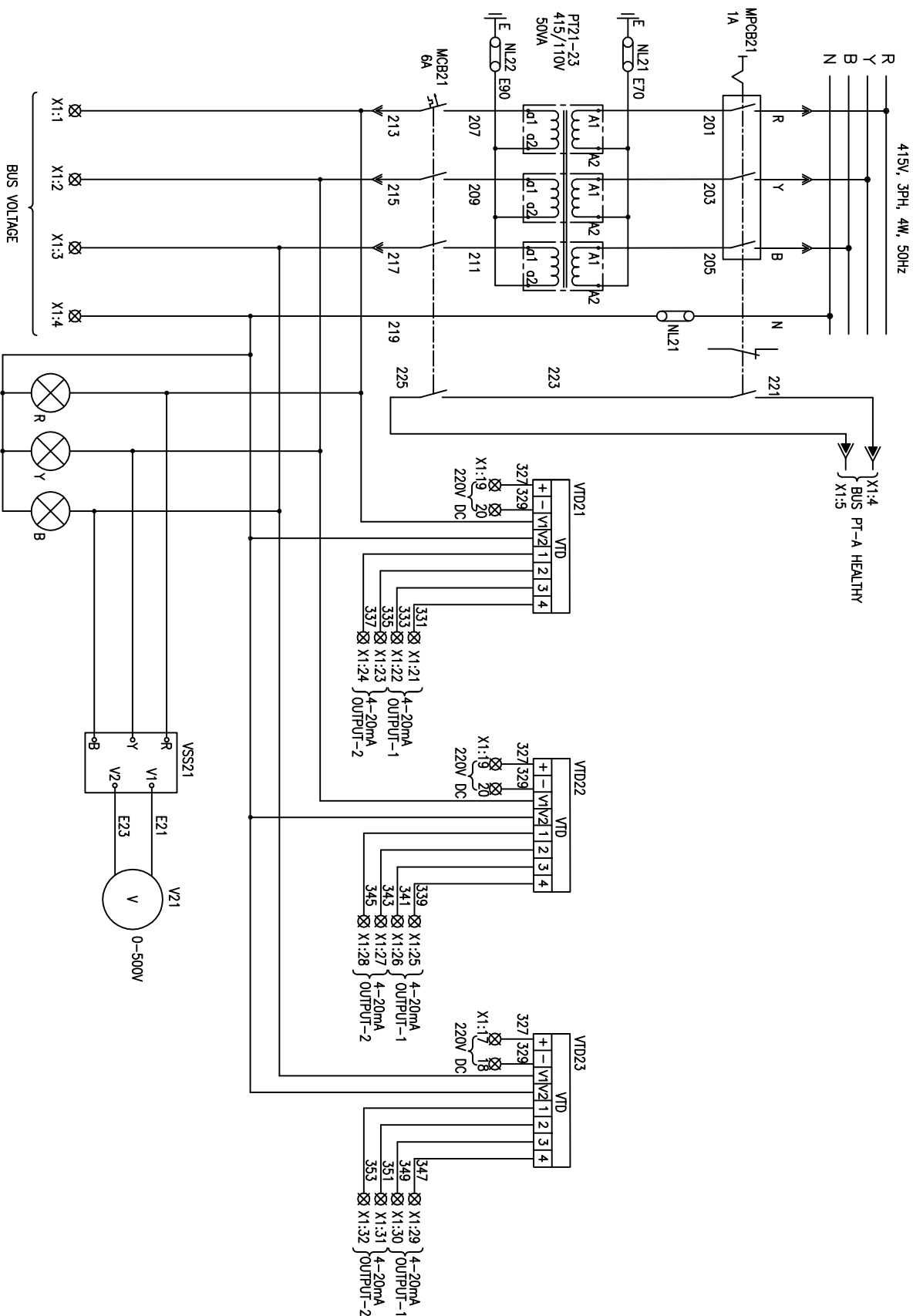
4x270 MW BHADRADRI THERMAL POWER STATION
MANUGURU

DESEIN PRIVATE LTD

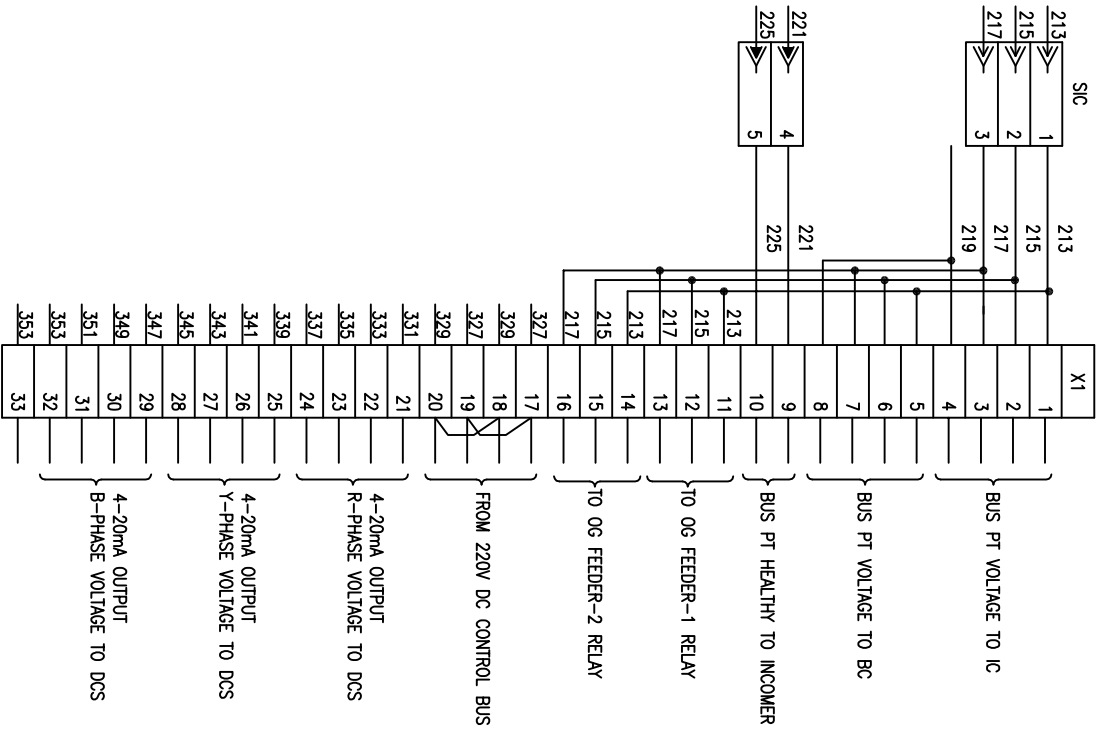
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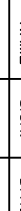
DRG. NO. EP-3-CS-053-028



INVENTORY NO.									
4									
3				DESIGNED	JAGADISH	<i>Jagadish</i>	19.03.16		
2				DRAWN					
1				CHECKED	JAGADISH	<i>Jagadish</i>	19.03.16		
REV. NO.	DATE			DESCRIPTION	BY	APPD.	APPROVED	KSB	<i>KSB</i>
SCALE: NA JOB NO. CP-14-053 Dwg. No. EP-3-CS-053-028  भारत भारती BARHAT HEAVY ELECTRICALS LIMITED ELECTROPORCELAINS DIVISION BANGALORE TITLE : BUS PT MODULE FOR PMCC/MCC/ACDB  NO. OF SHEETS 03 SHEET. 02 REV. 00									



THIS DRAWING IS ALSO APPLICABLE FOR BUS SECTION
A & B (BUS PT-A & BUS PT-B)

INVENTORY NO.									
4									
3				DESIGNED	JAGADISH	<i>Jagadish</i>	19.03.16	 TITLE : BUS PT MODULE FOR PMCC/MCC/ACDB NO. OF SHEETS 03 SHEET. 03	
2				DRAWN					
1				CHECKED	JAGADISH	<i>Jagadish</i>	19.03.16		
REV. NO.	DATE		DESCRIPTION	BY	APPD.	APPROVED	KSB	<i>KSB</i>	19.03.16
SCALE: NA									
भारत भारी बिजली BHARAT HEAVY ELECTRICALS LIMITED ELECTROPORCELAINS DIVISION BANGALORE TITLE : BUS PT MODULE FOR PMCC/MCC/ACDB NO. OF SHEETS 03 SHEET. 03									
JOB NO.		CP-14-053		DRG. NO.		EP-3-CS-053-028		REV.	
								00	

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

8

7

6

5

4

3

2

1

CUSTOMER:



TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA STATE
INDIA

PROJECT:

4x270 MW BHADRADRI THERMAL POWER STATION
MANUGURU

CUSTOMER CONSULTANT:



DESEIN PRIVATE LTD

DRG. NO. EP-3-CS-053-029

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INVENTORY NO.	REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-029	NO. OF SHEETS	REV.
4														08	00
3						DESIGNED		JAGADISH		17.04.15					
2						DRAWN									
1						CHECKED		TRINATH		17.04.15					

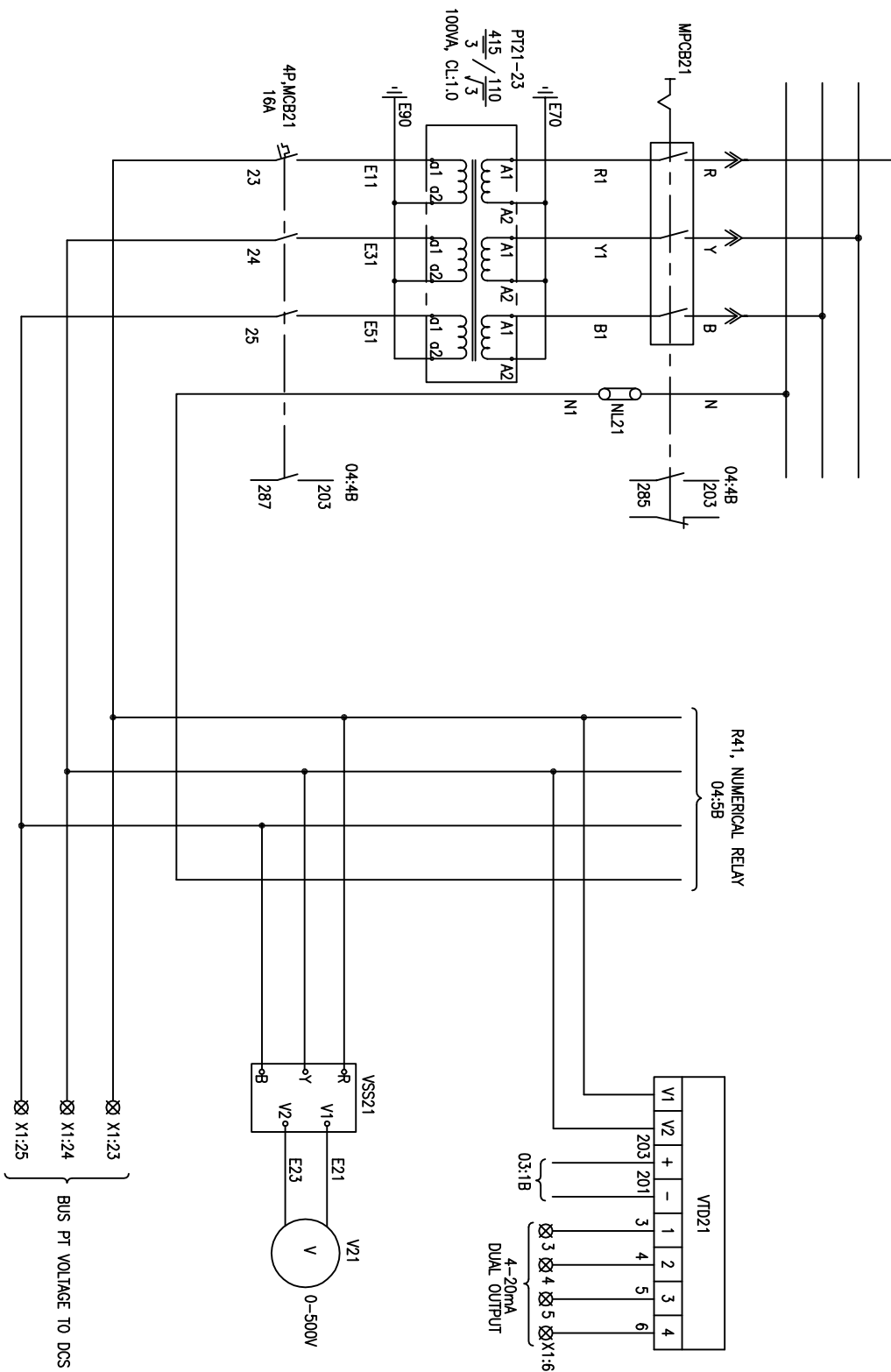
BHARAT HEAVY ELECTRICALS LIMITED
ELECTROFORAGE DIVISION BANGALORE

TITLE :
BUS PT FOR DG



NO. OF SHEETS
SHEET: 01

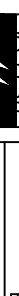
BUS-A
415V, 2000A, 3PHASE, 4WIRE, 50HZ, 50KA FOR 1SEC.



BUS PT VOLTAGE TO DCS

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DRG. NO. EP-3-CS-053-029

							INVENTORY NO.	
4								
3								
2								
1				CHECKED	TRINATH	<i>[Signature]</i>	17.04.15	
REV. NO.	DATE		DESCRIPTION	BY	APPD.	APPROVED	KSB	<i>[Signature]</i>
								
BHARAT HEAVY ELECTRICALS LIMITED ELECTROPORCELAINS DIVISION BANGALORE								
TITLE : BUS PT FOR DG								
							NO. OF SHEETS	08
							SHEET.	02
							NO.	
JOB NO. CP-14-053				DRG. NO. EP-3-CS-053-029				REV. 00

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1

2

3

4

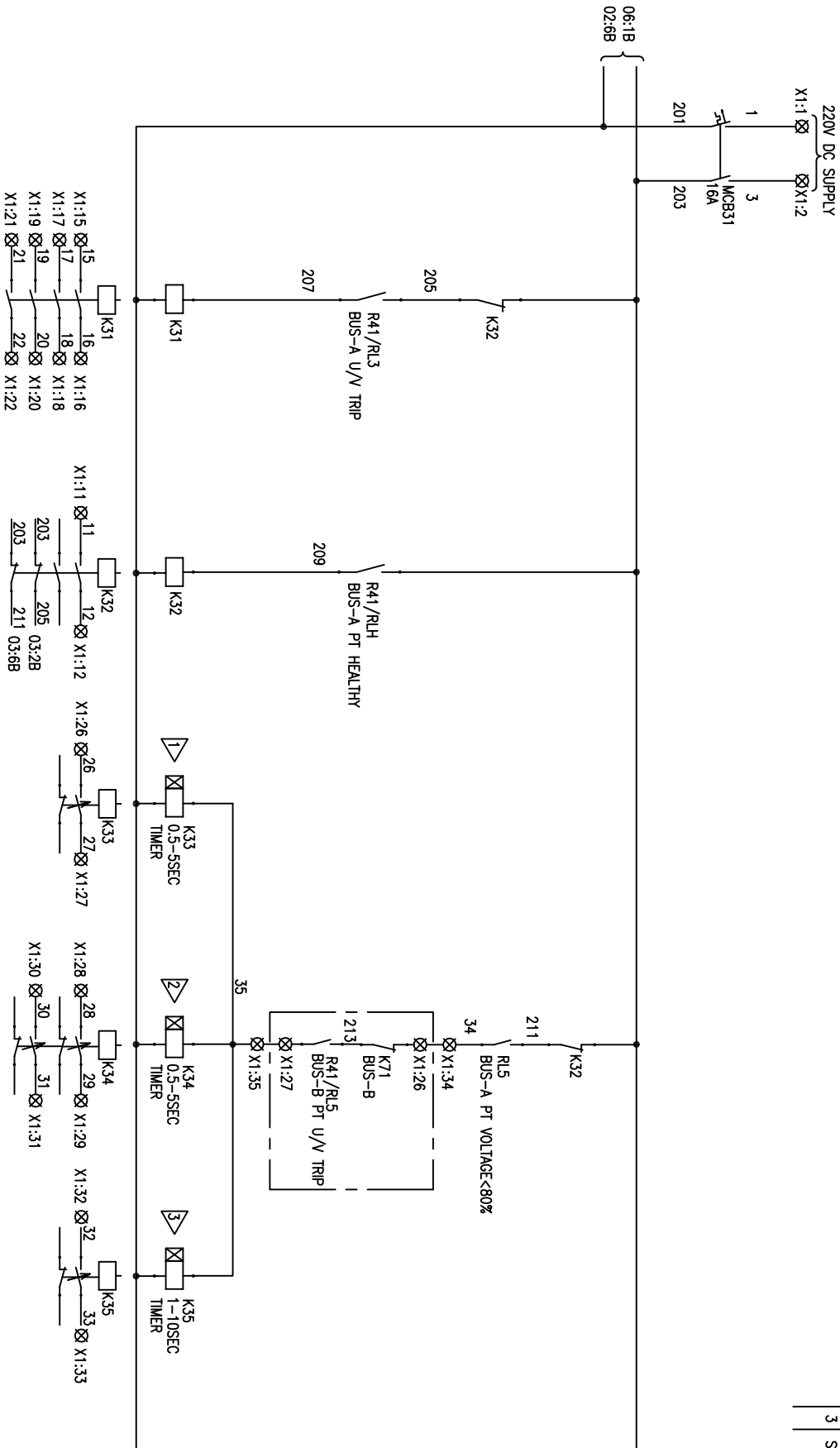
5

6

7

8

1 START MAIN DG
2 TRIP TIE-1 AND 2
3 START STAND BY DG



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DRG. NO. EP-3-CS-053-029

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE
4									
3									
2									
1									



BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPOWER DIVISION BANGALORE

TITLE :

BUS PT FOR DG

JOB NO. CP-14-053

DRG. NO. EP-3-CS-053-029

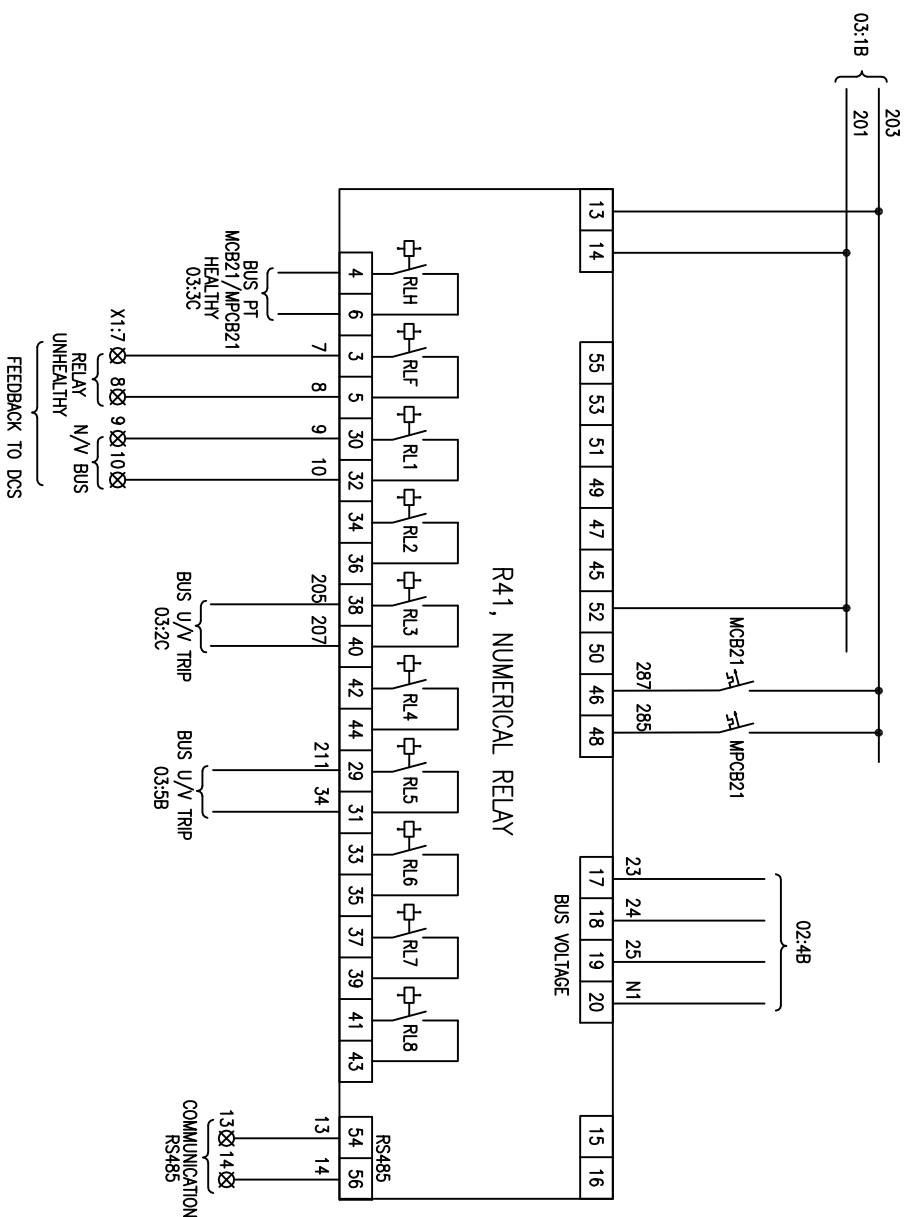
NO. OF SHEETS	NO. OF SHEETS
08	03

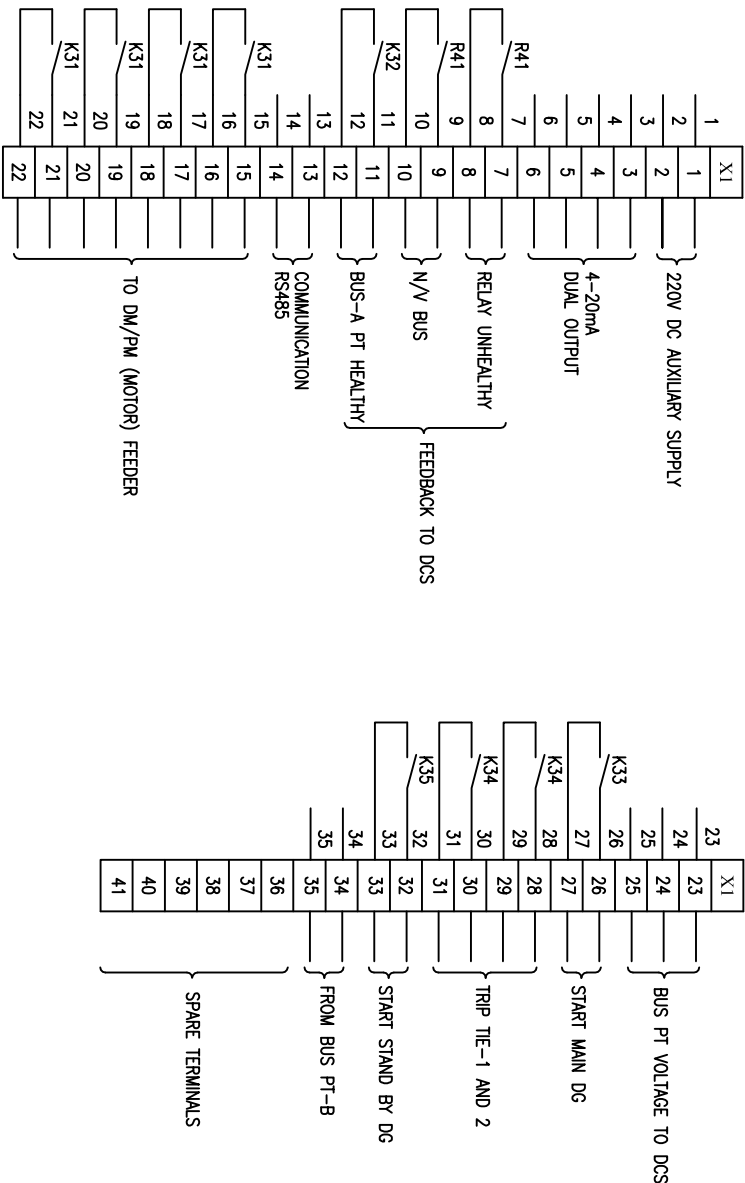
REV. 00

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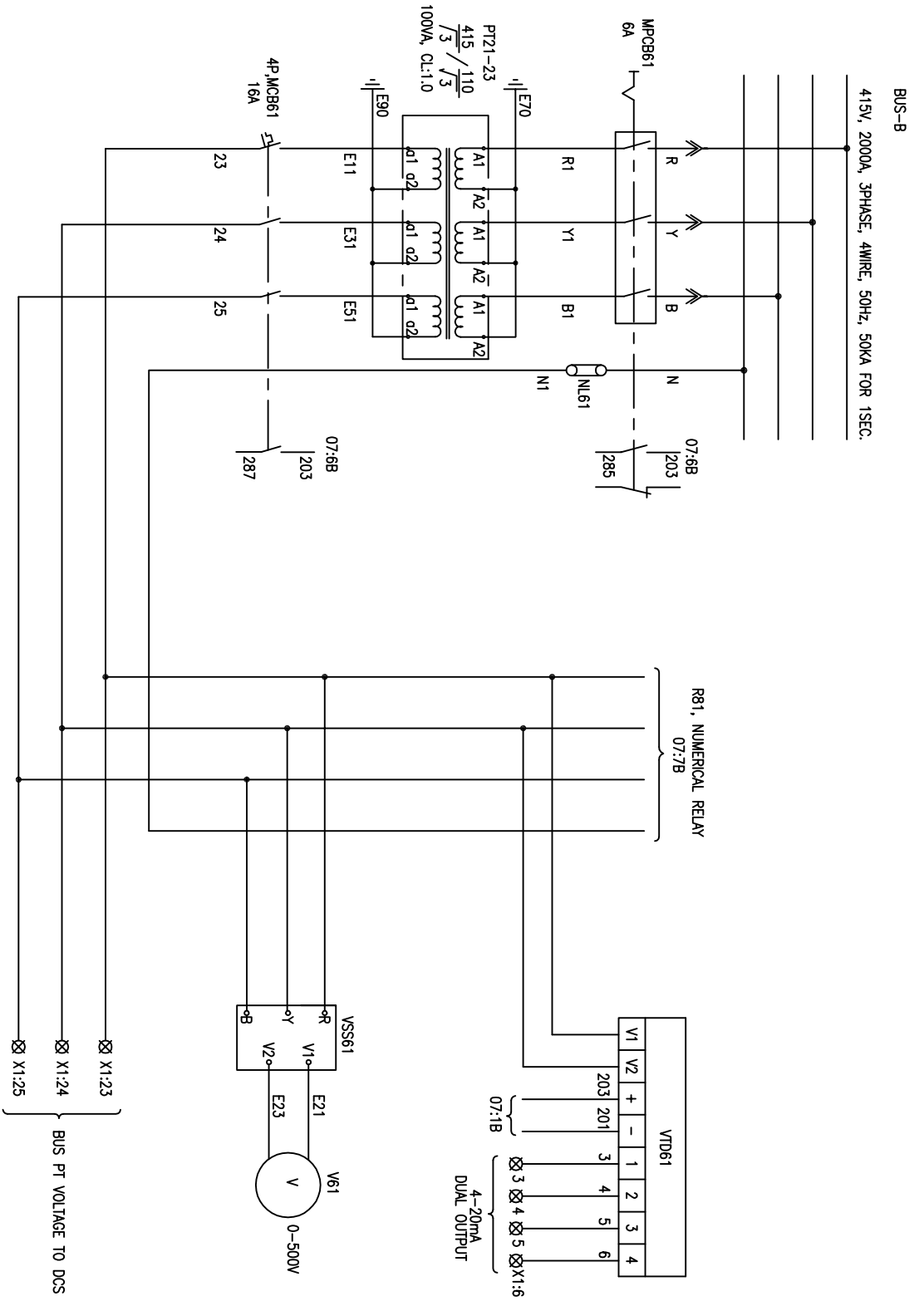
INVENTORY NO.

4					NAME	SIGN.	DATE
3				DESIGNED	JAGADISH	<i>[Signature]</i>	17.04.15
2				DRAWN			
1				CHECKED	TRINATH	<i>[Signature]</i>	17.04.15
REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	<i>[Signature]</i> 17.04.15
SCALE: NA JOB NO. CP-14-053 DRG. NO. EP-3-CS-053-029 REV. 00							
ભારત હીવી એલેક્ટ્રીકલ્સ લિમિટેડ ELECTROFABRICATIONS DIVISION BANGALORE ભારત હીવી એલેક્ટ્રીકલ્સ લિમિટેડ ELECTROFABRICATIONS DIVISION BANGALORE							
TITLE : BUS PT FOR DG NO. OF SHEETS 08 SHEET. 04							
 							



[illegible]

INVENTORY NO.

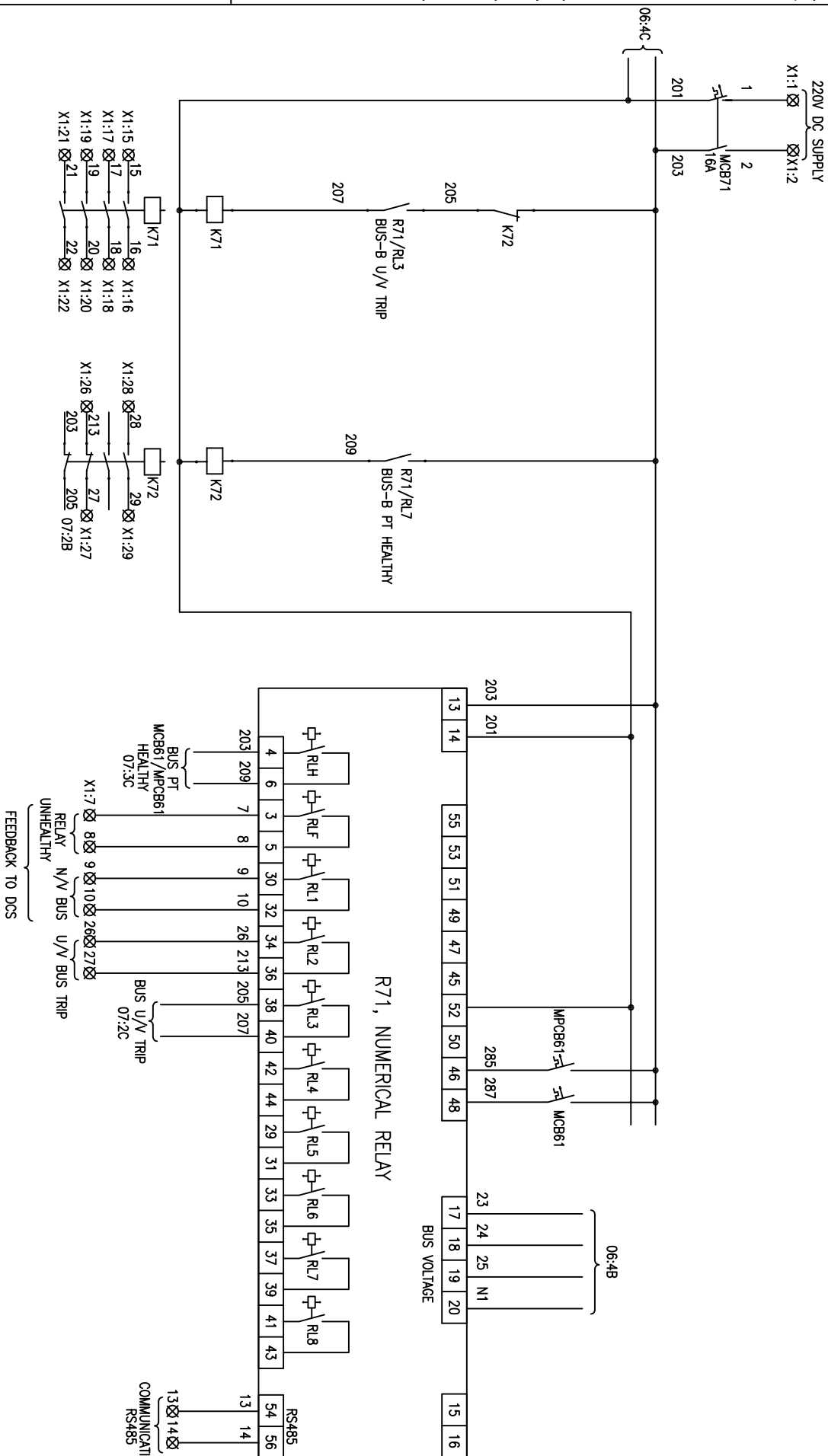
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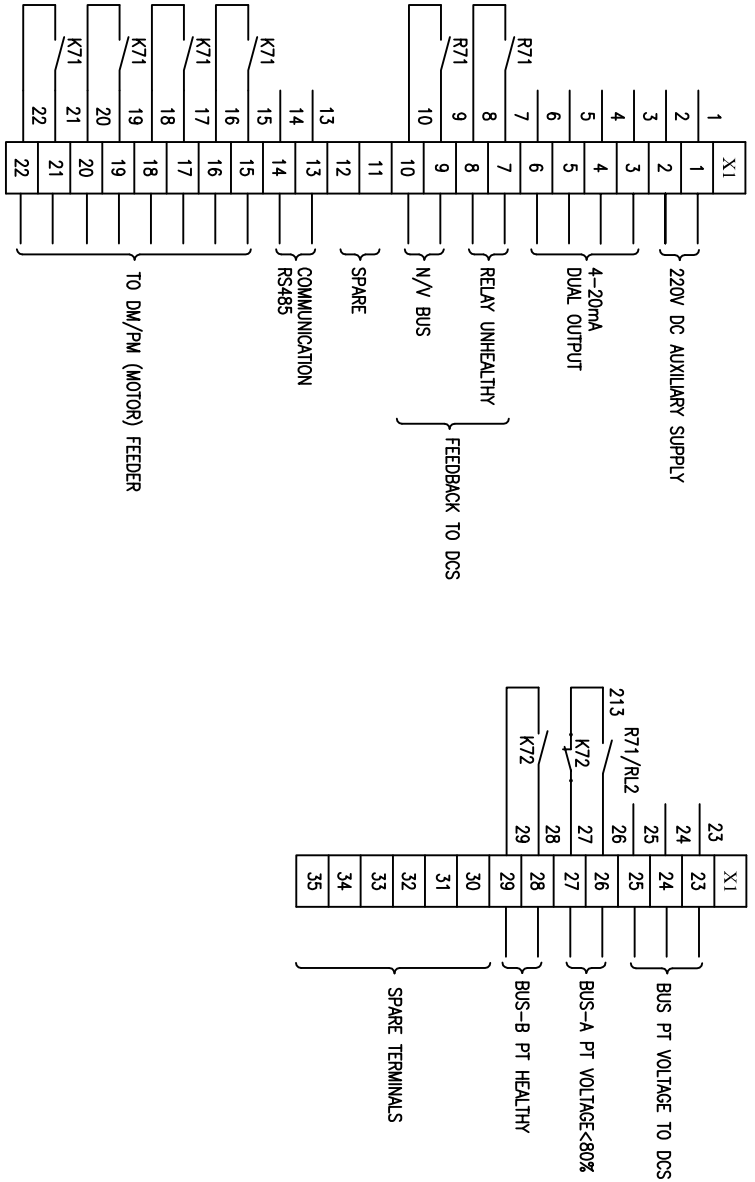
DRG. NO. EP-3-CS-053-029

INVENTORY NO.

4						NAME	SIGN.	DATE		BHARAT HEAVY ELECTRICALS LIMITED ELECTROFROCELAINS DIVISION BANGALORE		
3					DESIGNED	JAGADISH	17.04.15	NO. OF SHEETS				08
2					DRAWN			SHEET.				07
1					CHECKED	TRINATH	17.04.15					
REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	17.04.15	SCALE: NA				JOB NO. CP-14-053



INVENTORY NO.

[illegible]

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DRG. NO. EP-3-CS-053-030

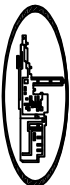
INVENTORY NO.

4						NAME	SIGN.	DATE		BHARAT HEAVY ELECTRICALS LIMITED ELECTROFROCELANS DIVISION BANGALORE	TITLE : 110V AC CONTROL SUPPLY	NO. OF SHEETS	02	REV. 00	
3					DESIGNED		19.03.16	SHEET.				01			
2					DRAWN										
1					CHECKED		19.03.16								
REV.	DATE	DESCRIPTION	BY	APPRO.	APPROVED	KSB		19.03.16				SCALE: NA	JOB NO.		CP-14-053

TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA STATE
INDIA

4x270 MW BHADRADRI THERMAL POWER STATION
MANUGURU

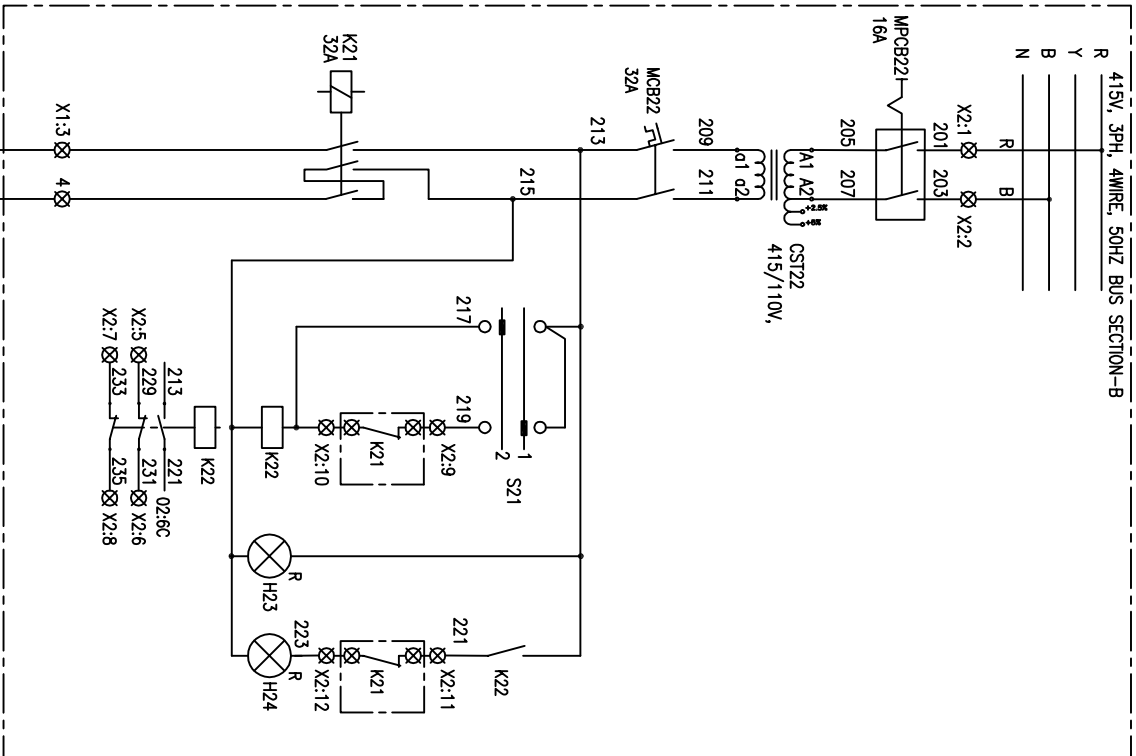
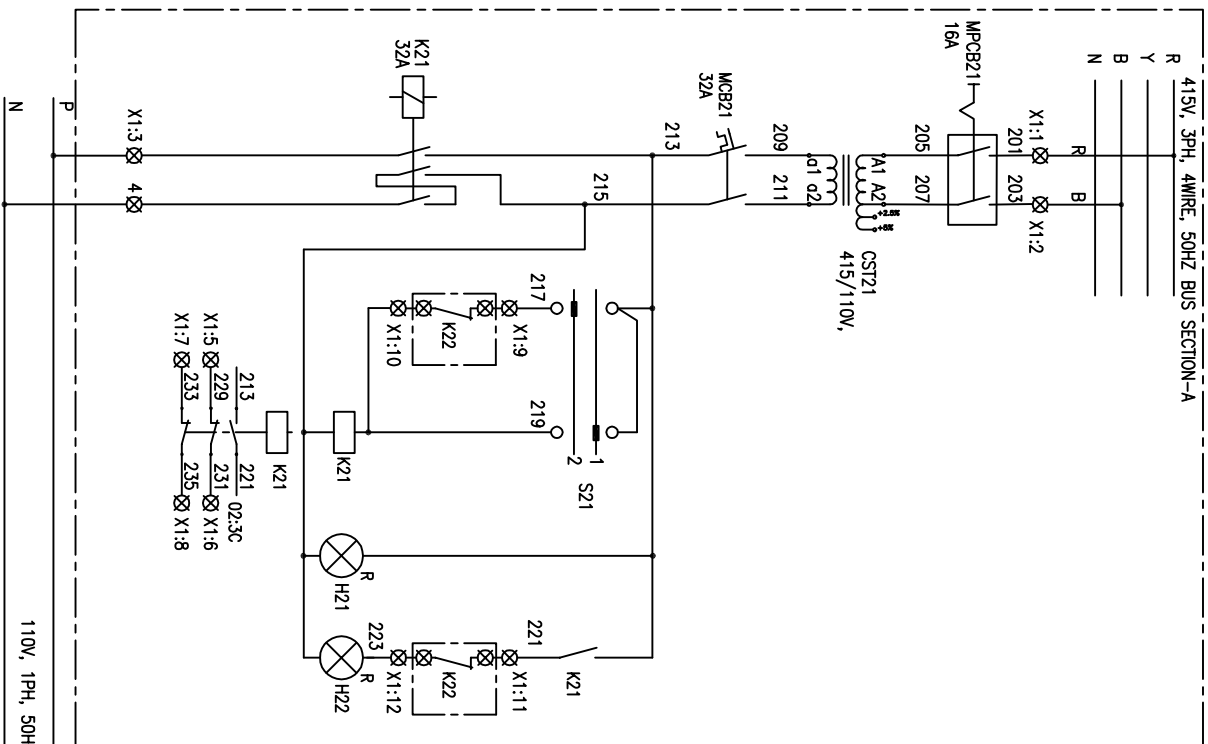
CUSTOMER CONSULTANT:



DESEIN PRIVATE LTD

DRG. NO. EP-3-CS-053-030

INVENTORY NO.

[illegible]

TERMINAL DIAGRAM
BUS SECTION-A

	X1	R	
201	1	B	} 415V, FROM BUS SECTION-A
203	2		
225			} 110V, CONTROL SUPPLY FROM BUS SECTION-A
227	3		
229	4		
	5		
231	6		} 10 BUS SECTION-B
233	7		
235	8		
217	9		
219	10		} FROM BUS SECTION-B
221	11		
223	12		
	13		} SPARE TERMINALS
	14		

TERMINAL DIAGRAM
BUS SECTION-B

X2	R	
201	1	415V, FROM BUS SECTION-A
203	2	
225	3	110V, SPACE HEATER SUPPLY FROM BUS SECTION-A
227	4	
229	5	TO BUS SECTION-A
231	6	
233	7	
235	8	
219	9	FROM BUS SECTION-A
217	10	
221	11	
223	12	
13		SPARE TERMINALS
14		

SPARSE TERMINAL

1

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1

2

3

4

5

6

7

8

CUSTOMER:

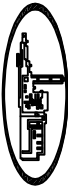


TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA STATE
INDIA

PROJECT:

4x270 MW BHADRADRI THERMAL POWER STATION
MANUGURU

CUSTOMER CONSULTANT:



DESEIN PRIVATE LTD

DRG. NO. EP-3-CS-053-031

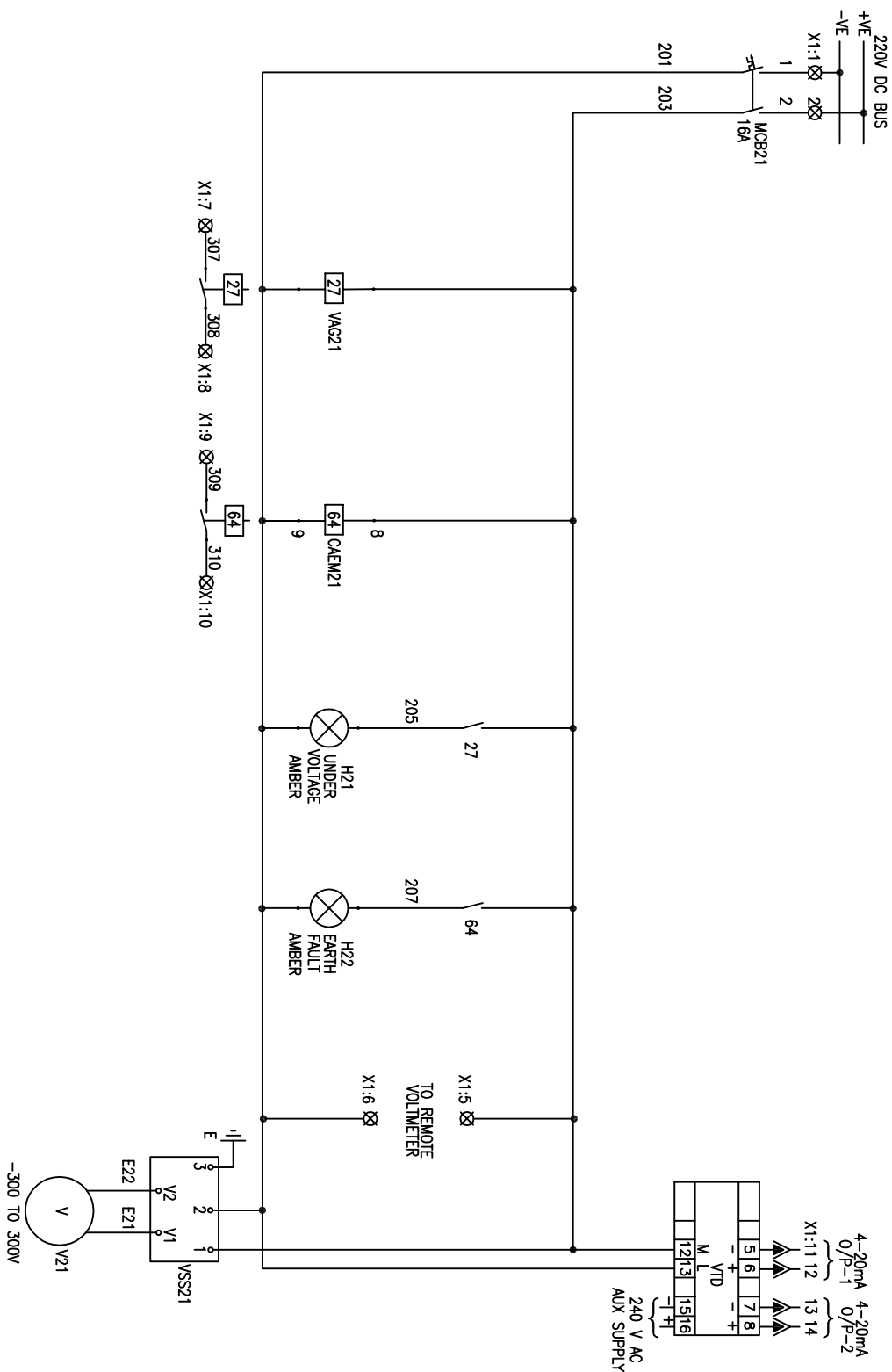
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INVENTORY NO.	REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-031	NO. OF SHEETS	REV.
4															
3						DESIGNED		JAGADISH		19.03.16				03	
2						DRAWN									
1						CHECKED		JAGADISH		19.03.16				01	

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROFORCEMANS DIVISION BANGALORE

TITLE :
DC BUS METERING/RELAY MODULE

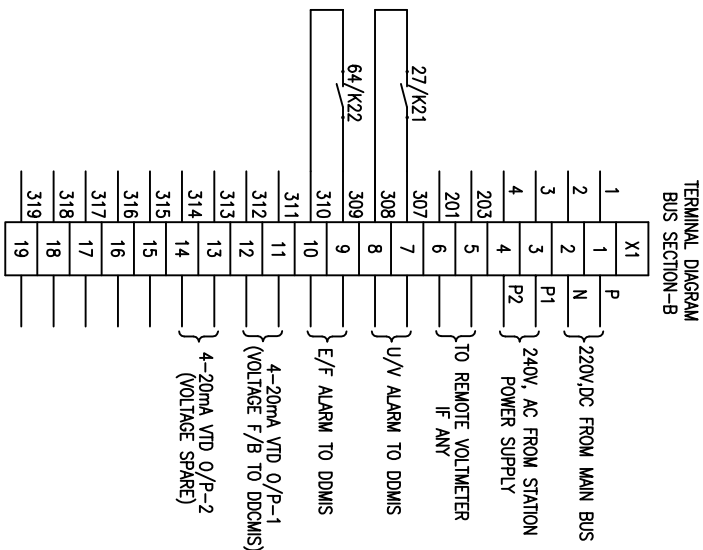
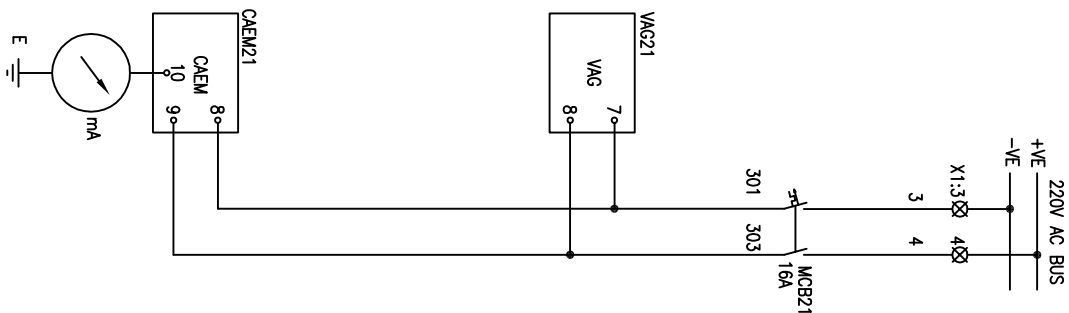




BHARAT HEAVY ELECTRICALS LIMITED ELECTROPOWERS DIVISION BANGALORE																	
TITLE : DC BUS METERING/RELAY MODULE												NO. OF SHEETS 03					
JOB NO. CP-14-053										DRG. NO. EP-3-CS-053-031		REV. 00					
																	
SCALE: NA																	
REV. NO.		DATE		DESCRIPTION		BY		APPD.		APPROVED		NAME		SIGN.		DATE	
4										DESIGNED		JAGADISH				19.03.16	
3										DRAWN							
2										CHECKED		JAGADISH				19.03.16	
1																	
INVENTORY NO.																	

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DRG. NO. EP-3-CS-053-031



INVENTORY NO.									
4									
3						NAME	SIGN.	DATE	
2						DESIGNED	JAGADISH	19.03.16	
1						DRAWN			
						CHECKED	JAGADISH	19.03.16	
REV. NO.	DATE					BY	APPD.	APPROVED	KSB
									19.03.16
									
BHARAT HEAVY ELECTRICALS LIMITED ELECTROPORCELAINS DIVISION BANGALORE									
TITLE : DC BUS METERING/RELAY MODULE									
JOB NO. CP-14-053						DRG. NO. EP-3-CS-053-031		NO. OF SHEETS 03	
								REV. 00	

TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA STATE
INDIA

4x270 MW BHADRADRI THERMAL POWER STATION
MANUGURU

DESEIN PRIVATE LTD

DRG. NO. EP-3-CS-053-032

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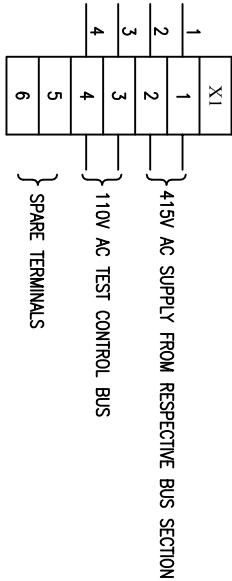
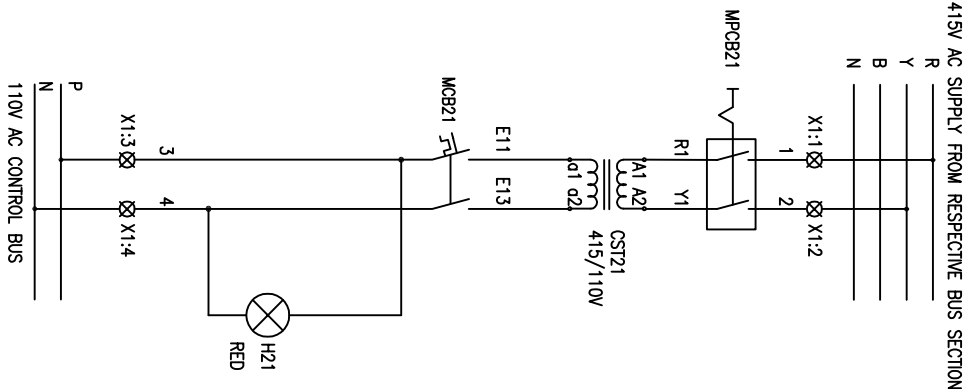
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INVENTORY NO.

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DRG. NO. EP-3-CS-053-032



INVENTORY NO.	REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-032	NO. OF SHEETS	SHEET NO.	REV.
4											02	02	
3						DESIGNED	JAGADISH	17.04.15					
2						DRAWN							
1						CHECKED	TRINATH	17.04.15					



BHARAT HEAVY ELECTRICALS LIMITED
ELECTROFORCEMANS DIVISION BANGALORE

TITLE :
TEST CONTROL BUS MODULE



FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1

2

3

4

5

6

7

8

CUSTOMER:



TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA STATE
INDIA

PROJECT:

4x270 MW BHADRADRI THERMAL POWER STATION
MANUGURU

CUSTOMER CONSULTANT:



DESEIN PRIVATE LTD

DRG. NO. EP-3-CS-053-033

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INVENTORY NO.	REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-033	NO. OF SHEETS	NO. OF SHEET.	REV.
4																
3						DESIGNED		JAGADISH		17.04.15					02	
2						DRAWN										
1						CHECKED		TRINATH		17.04.15					01	

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROFORCEPLANS DIVISION BANGALORE

TITLE :
240V AC ESSENTIAL SUPPLY MODULE



1

2

3

4

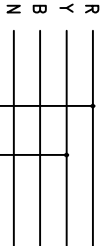
5

6

7

8

415V AC SUPPLY FROM RESPECTIVE BUS SECTION



X1:1 X1:2

MCB21

R1

Y1

415/240V

CST21

415/240V

E11 E13

MCB21



240V AC ESSENTIAL SUPPLY

MCB22

3

4

MCB23

5

6

MCB24

7

8

MCB25

9

10

MCB26

11

12

X1:3 X1:4 X1:5 X1:6 X1:7 X1:8 X1:9 X1:10 X1:11 X1:12

OUTGOING

415V AC SUPPLY FROM RESPECTIVE BUS SECTION

1

2

3

4

5

6

7

8

9

10

11

12

X1

1

2

3

4

5

6

7

8

9

10

11

12

OUTGOINGS

SPARE TERMINALS

13

14

15

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DRG. NO. EP-3-CS-053-033

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-033	NO. OF SHEETS	SHEET NO.	REV.
1					CHECKED	TRINATH	17.04.15			02	02	
2					DRAWN							
3					DESIGNED	JAGADISH	17.04.15					
4												

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPOWERCELLS DIVISION BANGALORE

TITLE :

240V AC ESSENTIAL SUPPLY MODULE



FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1

2

3

4

5

6

7

8

CUSTOMER:

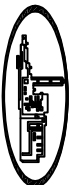


TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA STATE
INDIA

PROJECT:

4x270 MW BHADRADRI THERMAL POWER STATION
MANUGURU

CUSTOMER CONSULTANT:



DESEIN PRIVATE LTD

DRG. NO. EP-3-CS-053-034

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INVENTORY NO.																				
4																				
3					DESIGNED	JAGADISH		19.03.16												
2					DRAWN															
1					CHECKED	JAGADISH		19.03.16												
REV. NO.	DATE	DESCRIPTION				BY	APPD.	APPROVED	KSB		19.03.16	SCALE: NA								
																				
BHARAT HEAVY ELECTRICALS LIMITED																				
ELECTROPOCELAINS DIVISION BANGALORE																				
TITLE :																				
POWER AND CONTROL SCHEME																				
ESSENTIAL MOTOR FEEDER BELOW 30KW																				
JOB NO. CP-14-053													DRG. NO. EP-3-CS-053-034		NO. OF SHEETS		04			
															SHEET.		01			
															NO.					
															REV.		00			

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROFORCEMANS DIVISION BANGALORE

TITLE :
POWER AND CONTROL SCHEME
ESSENTIAL MOTOR FEEDER BELOW 30KW



NO. OF SHEETS

SHEET: 01

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1

2

3

4

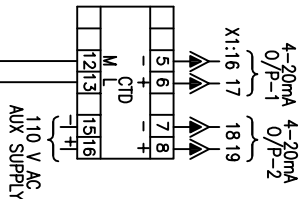
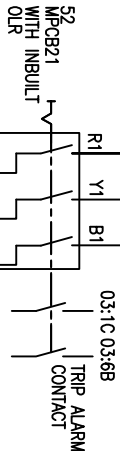
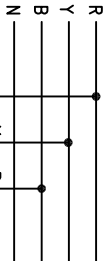
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6

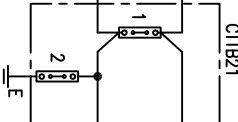
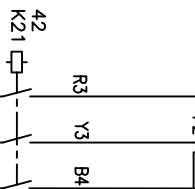
7

8

415V, 3PH, 4W, 50Hz, 50KA FOR 1SEC.



CT21
BURDEN:15VA
CLASS:1.0



POSITIONS OF DISCONNECTORS

- MAKE CONTACT IN BOTH SERVICE & TEST POSITION
- MAKE CONTACT IN TEST POSITION ONLY
- MAKE CONTACT IN SERVICE POSITION ONLY

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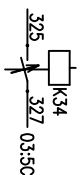
DRG. NO. EP-3-CS-053-034

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB
4						
3						
2						
1						



BHARAT HEAVY ELECTRICALS LIMITED ELECTROPOWERCELLS DIVISION BANGALORE		NO. OF SHEETS 04	
TITLE : POWER AND CONTROL SCHEME ESSENTIAL MOTOR FEEDER BELOW 30KW		SHEET : 02	
JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-034	REV. 00	



INVENTORY NO.													
4													
3					DESIGNED	JAGADISH		19.03.16					
2					DRAWN					TITLE : POWER AND CONTROL SCHEME ESSENTIAL MOTOR FEEDER BELOW 30KW			
1					CHECKED	JAGADISH		19.03.16					
REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB		19.03.16	SCALE: 1/MA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-034	REV. 00	
BHARAT HEAVY ELECTRICALS LIMITED ELECTROPOCELAINS DIVISION BANGALORE													
										NO. OF SHEETS 04			
										SHEET. 03			

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1

2

3

4

5

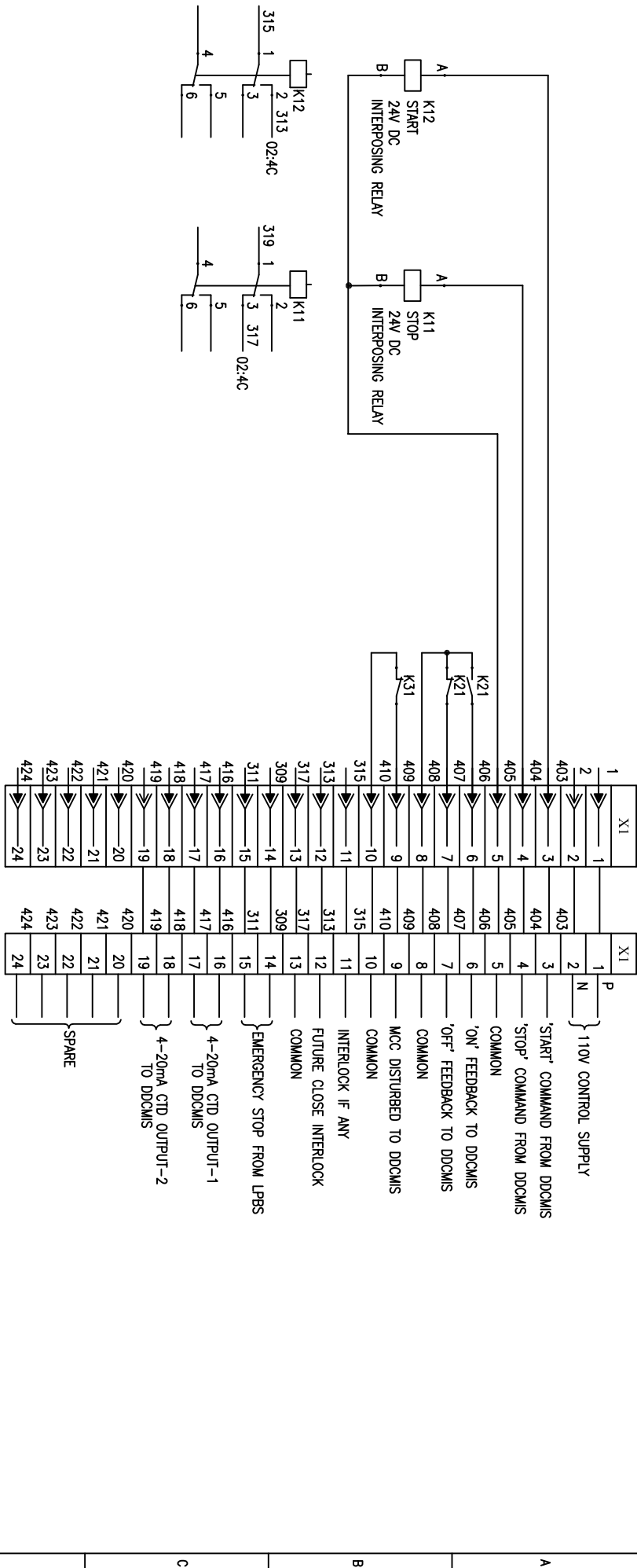
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7

8

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DRG. NO. EP-3-CS-053-034



INVENTORY NO.																			
4										NAME	SIGN.	DATE	ಭಾರತ್ ಹವಿ ಎಲೆಕ್ಟ್ರಿಕಲ್ಸ್ ಲಿಮಿಟೆಡ್ ಪವರ್ ಆಂಡ್ ಕಂಟ್ರಾಲ್ ಸ್ಕೀಮ್ ಎಸೆಂಶಿಯಲ್ ಮೋಟಾರ್ ಫೀಡರ್ ಬೆಲೂ 30kW ಶೀಟ್ಸ್ 04 ಶೀಟ್ಸ್ 04 ರೀವಿ. 00						
3										DESIGNED	JAGADISH	19.03.16							
2										DRAWN									
1										CHECKED	JAGADISH	19.03.16							
REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB		SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-034									

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1

2

3

4

5

6

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8

CUSTOMER:



TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA STATE
INDIA

PROJECT:

4x270 MW BHADRADRI THERMAL POWER STATION
MANUGURU

CUSTOMER CONSULTANT:



DESEIN PRIVATE LTD

DRG. NO. EP-3-CS-053-035

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INVENTORY NO.	REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	SCALE: NA	JOB NO. CP-14-053	DRG. NO. EP-3-CS-053-035	NO. OF SHEETS	REV.
4															
3						DESIGNED		JAGADISH		19.03.16				04	
2						DRAWN									
1						CHECKED		JAGADISH		19.03.16				01	

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROFORCELANS DIVISION BANGALORE

TITLE :

POWER AND CONTROL SCHEME
ESSENTIAL MOTOR FEEDER ABOVE 30KW & UPTO 110KW



NO. OF SHEETS

SHEET: NO.

E

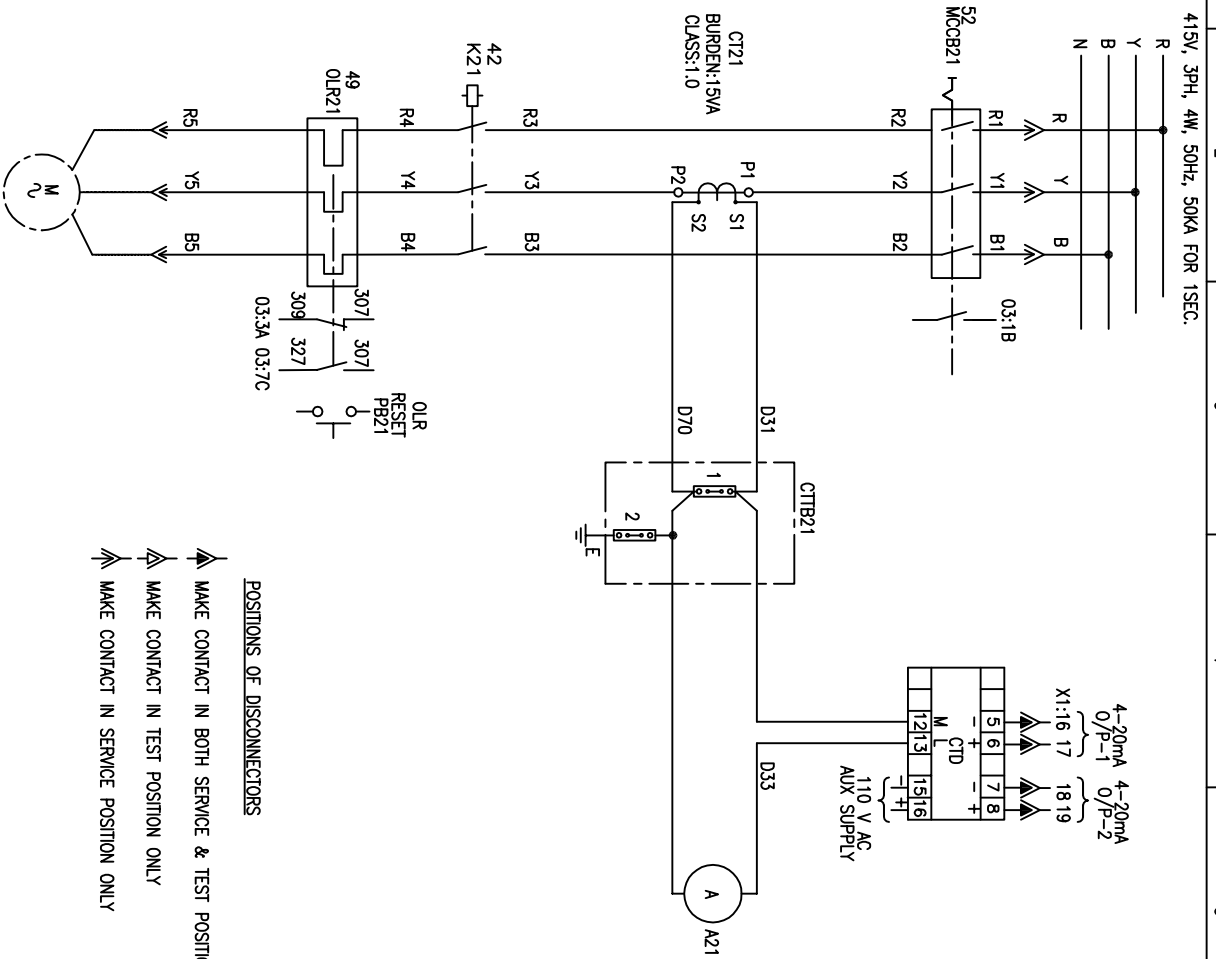
D

C

B

A

INVENTORY NO.

[illegible]

POSITIONS OF DISCONNECTORS

-  MAKE CONTACT IN BOTH SERVICE & TEST POSITION
 MAKE CONTACT IN TEST POSITION ONLY
 MAKE CONTACT IN SERVICE POSITION ONLY

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPORCELAINS DIVISION BANGALORE

TITLE : POWER AND CONTROL SCHEME
ESSENTIAL MOTOR FEEDER ABOVE 30KW & UPTO 110KW

NO. OF SHEETS	04
SHEET. NO.	02



INVENTORY NO.													
4													
3				DESIGNED	JAGADISH		19.03.16		BHARAT HEAVY ELECTRICALS LIMITED ELECTROPOWTELS DIVISION BANGALORE				
2				DRAWN							NO. OF SHEETS	04	
1				CHECKED	JAGADISH		19.03.16				SHEET.	03	
REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB		19.03.16	SCALE: 1:1A	TITLE :	JOB NO. CP-14-053	DWG. NO. EP-3-CS-053-035	REV. 00
										POWER AND CONTROL SCHEME ESSENTIAL MOTOR FEEDER ABOVE 30KW & UPTO 110KW			

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DRG. NO. EP-3-CS-053-035

4				NAME	SIGN.	DATE
3			DESIGNED	JAGADISH		19.03.16
2			DRAWN			
1			CHECKED	JAGADISH		19.03.16
REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB

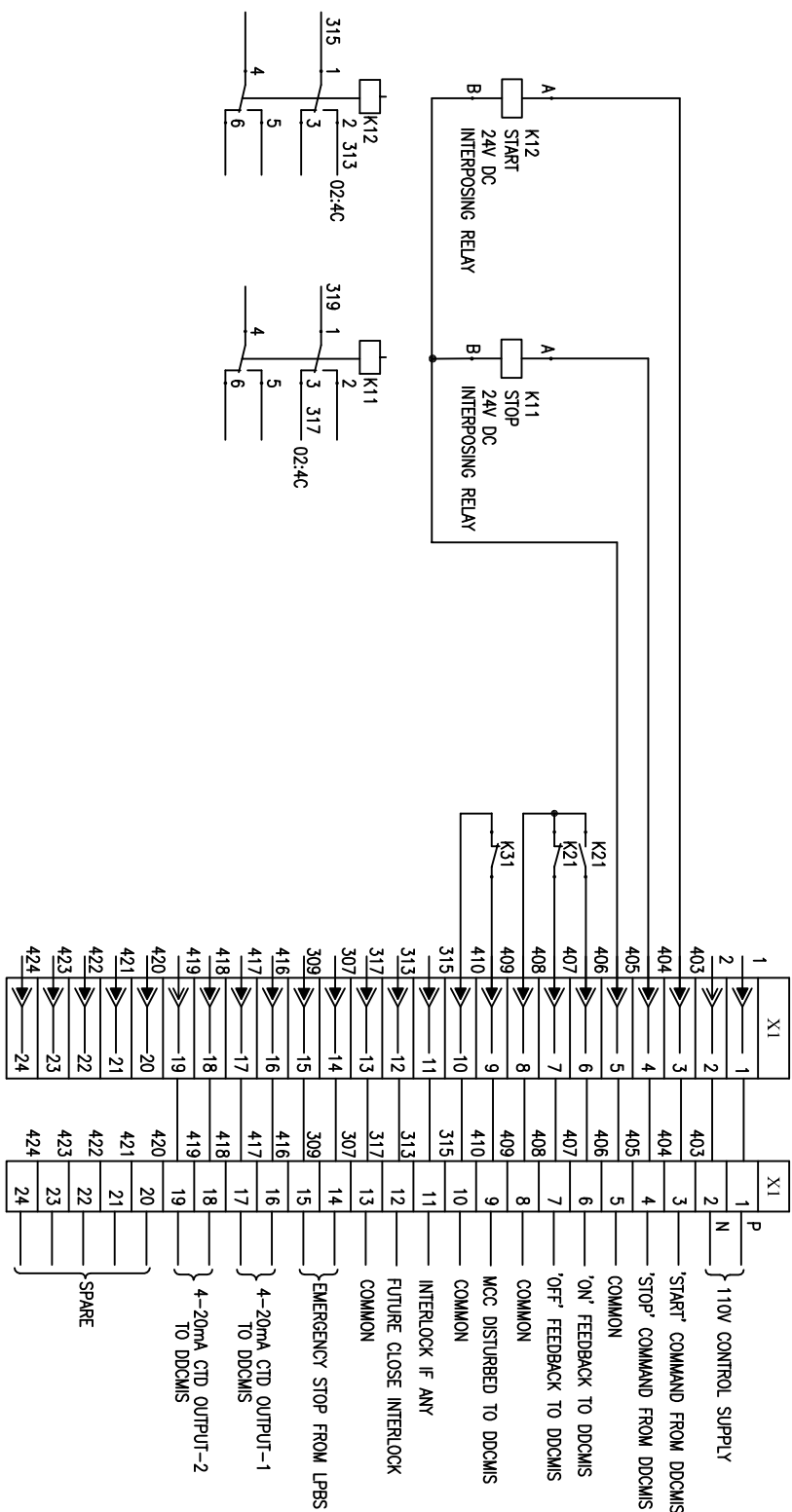
BY	APPD.	APPROVED
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SCALE: NA

JOB NO. CP-14-053

DRG. NO. EP-3-CS-053-035

80



BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPORCELAINS DIVISION BANGALORE

TITLE :

POWER AND CONTROL SCHEME

ESSENTIAL MOTOR FEEDER ABOVE 30KW & UPTO 110KW

TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA STATE
INDIA

4x270 MW BHADRADRI THERMAL POWER STATION
MANUGURU

DESEIN PRIVATE LTD

DRG. NO. EP-3-CS-053-036

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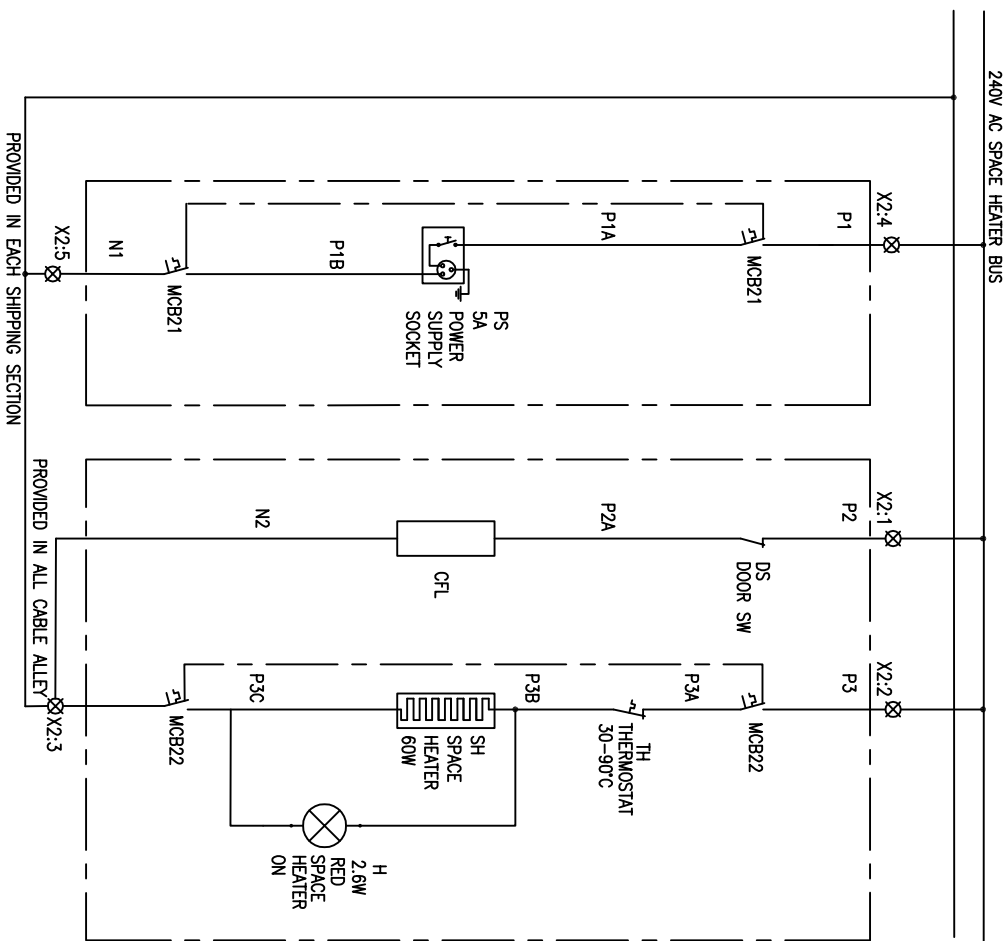
						INVENTORY NO.	
07							
06							
05							
04							
03							
02							
01							
REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	NAME	SIGN.
						JAGADISH	19.03.16
						DRAWN	
						CHECKED	19.03.16
						KS BALA	19.03.16
 DIR : _____ FILE NO.: _____							
BHARAT HEAVY ELECTRICALS LIMITED ELECTROPORCELAIN DIVISION BANGALORE							
NO. OF SHEETS 02							
TITLE :							
SPACE HEATER, PANEL ILLUMINATION & POWER SOCKET							
SCALE		JOB NO. CP-14-053		DRG. NO. EP-3-CS-053-036		NO. OF SHEET. 01	
						REV. 00	

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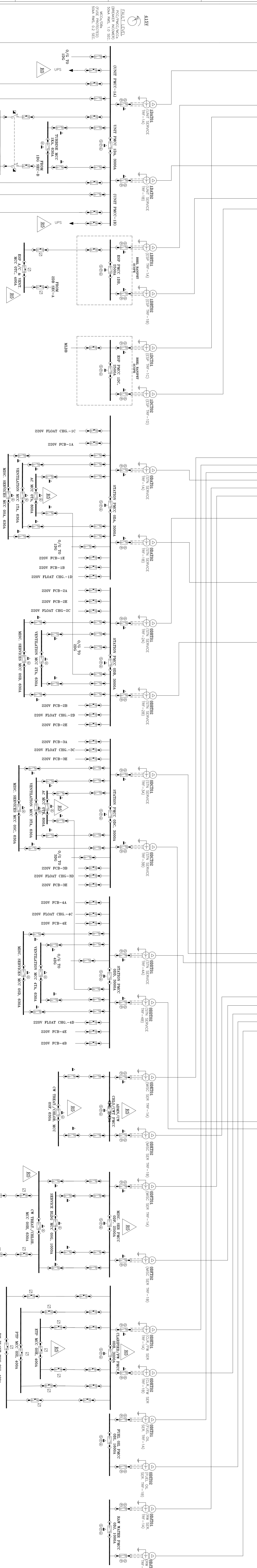
DRG. NO. EP-3-CS-053-036

INVENTORY NO.

BHARAT HEAVY ELECTRICALS LIMITED			
ELECTROFRELAIN DIVISION BANGALORE			
TITLE :		NO. OF SHEETS	02
SPACE HEATER, PANEL ILLUMINATION & POWER SOCKET		SHEET.	02
SCALE	JOB NO. CP-14-053	DWG. NO.	EP-3-CS-053-036
		REV.	00



X2	P	240V 1PH, 50HZ AC SUPPLY FOR PANEL SPACE HEATER BY CUSTOMER
P2	1	
P3	P	
N2	N	240V 1PH, 50HZ AC SUPPLY FOR SPACE HEATER, PANEL ILLUMINATION & POWER SOCKET
N1	3	
P1	P	
N1	N	



6	BEI	1/2017 A	450 kW	1/2017 B	-	-	-	-	-
7	PAI	1/2017 A	200 kW	1/2017 B	-	-	-	-	-
8	PAI	1/2017 A	200 kW	1/2017 B	-	-	-	-	-
9	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
10	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
11	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
12	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
13	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
14	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
15	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
16	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
17	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
18	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
19	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
20	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
21	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
22	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
23	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
24	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
25	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
26	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
27	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
28	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
29	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
30	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
31	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
32	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
33	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
34	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
35	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
36	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
37	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
38	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
39	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
40	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
41	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
42	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
43	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
44	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
45	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
46	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
47	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
48	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
49	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
50	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
51	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
52	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
53	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
54	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
55	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
56	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
57	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
58	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
59	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
60	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
61	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
62	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
63	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
64	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
65	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
66	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
67	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
68	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
69	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
70	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
71	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
72	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
73	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
74	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
75	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
76	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
77	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
78	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
79	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
80	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
81	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
82	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
83	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
84	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
85	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
86	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
87	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
88	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
89	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
90	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
91	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
92	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
93	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
94	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
95	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
96	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
97	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
98	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
99	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-
100	PAI	1/2017 A	210 kW	1/2017 B	-	-	-	-	-

[illegible]

- 11) NUMBER AND RATING OF LV SERVICE TRANSFORMERS AND ASSOCIATED PFCO/AFCC ARE ELECTRICAL LOADS AND LOADS REQUIREMENTS.
- 12) THE TRANSFORMER SPECIFICATIONS SHALL BE PROVIDED BY THE CLIENT. THE FINAL DAY THE TRANSFORMERS HAVE BEEN ENVOYED.
- 13) TYPICAL WCC REQUIREMENT IS SHOWN, ACTUAL NUMBER AND RATING OF LOADS PER STATION LAUNCH CONSTRUCTION.
- 14) BUS DUCT ARE OF FOLLOWING TYPE :

1) 16.5 KV	1) ISOLATED PHASE BUSDUCT (IPB)
2) 11KV	2) ISOLATED PHASE BUSDUCT (IPB)
3) 415V	3) NON-SEGREGATED PHASE BUSDUCT (NPSB)
- 15) MV STATION SYSTEM IS 3PH, 3W, 30 KV SYSTEM AND LV SYSTEM IS 3PH, 3W, ONE EXCEPT EMERGENCY BUSBAR. EMERGENCY BUSBAR
- 16) ONE BUSES GENERATOR IS PROVIDED AND CONNECTED TO LV SYSTEM IN CASE OF EMERGENCY. THE TWO BUSES IS ALSO PROVIDED TO CARRY FOR EMERGENCY REQUIREMENT. ONE STATION DO
- 17) FIRST BUS TRANSFER IS PROVIDED FOR UNIT TO STATION CHANGEOVERS IN THE EVENT OF FAILURE OF MOVING POWER SUPPLY ON 6KV UNIT STATIONCHANGERS. NORMALLY CLOSING DURING FIRST BUS TRANSFER.
- 18) STATION CHANGEOVERS FACILITY AS A BACK-UP FAST TRAVELER CHANGEOVER IS PROVIDED CHANGEOVERS AND ACID BETWEEN STATION STATIONCHANGERS.
- 19) STATION CHANGEOVERS AND ACID BETWEEN STATION STATIONCHANGERS. STATION CHANGEOVERS, PLANNED CHANGEOVERS WITH MAINTENANCE PERIODS IS ALSO PROVIDED FOR 100% REDUNDANCY. STATION CHANGEOVERS FACILITY OF WATERLOO FACILITY.
- 20) 11KV REDUNDANT WCC.
- 21) STATION CHANGEOVERS, 415V UNIT EMERGENCY WCC IS FED FROM UNIT DO.
- 22) IN THE EVENT OF FAILURE OF NORMAL POWER SUPPLY, UNIT DO AND STATION DO WILL AUTO START FROM ALTERNATE POWER SUPPLY AND REDUNDANT WCC. THE MOVEMENT WILL CLOSE
- 23) IN THE EVENT OF FAILURE OF REDUNDANT WCC, THE MOVEMENT WILL CLOSE.
- 24) DIFFERENCE INCHARGE FROM STATION DO CAN BE CLOSURE MANUALLY BY THE OPERATOR.
- 25) 11KV SUPPLY FEEDERS WITH 6KV AND ABOVE SHALL BE 4W CONTROLLED.
- 26) 6KV AND 415V STATIONCHANGERS ARE PROVIDED WITH SURGE PROTECTORS TO ENSURE THAT THE MOVEMENTS OF STATIONCHANGERS DO NOT EXCEED THE STATIONCHANGERS CLOSURE EXCEPT EMERGENCY PERIODS IN CASE OF ON-LOAD LINE CHANGEOVER.
- 27) STATION CHANGEOVERS, 415V UNIT EMERGENCY TRANSFER.
- 28) 200KV STATION TRANSFORMERS ARE ENVOYED FOR THE PLANT. EACH ST IS SIZED TO CARRY TO ANY OF THE FOLLOWING CONNECTIONS:
 - 1) MEETING THE POWER REQUIREMENT OF THE BUILDINGS BEING FED BY A UNIT TRANSFORMER UNDER OPERATION.
 - 2) MEETING HALF OF THE STATION LOADS.
 - 3) MEETING HALF OF THE STATION LOADS.
 - 4) MEETING HALF OF THE STATION LOADS.
 - 5) DESIGN WAGON ON THE SUM OF LOADS AT A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z.
 - 6) UNDER OUTAGE OF ONE STATION TRANSFORMER.
 - 7) MEETING THE STATION POWER REQUIREMENTS OF ONE CHANGEOVER UNIT.
 - 8) MEETING HALF OF THE STATION LOADS OF ANOTHER UNIT.
 - 9) 5% DESIGN WAGON ON THE SUM OF LOADS AT B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z.
 - 10) LOADS OF UNIT REQUIREMENTS CORRESPONDING TO 6KV BUSBAR OPERATION.
 - 11) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 12) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 13) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 14) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 15) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 16) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 17) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 18) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 19) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 20) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 21) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 22) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 23) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 24) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 25) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 26) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 27) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 28) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 29) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 30) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 31) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 32) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 33) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 34) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 35) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 36) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 37) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 38) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 39) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 40) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 41) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 42) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
 - 43) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.
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 - 100) 5% DESIGN WAGON ON THE AGGREGATED AGGREGATED LOAD.

411	PROPOSAL	4 X 270 MW TSCENCE BHADRADI TPS.
REVISION	DATE	BY
1/4	12-10-80	REB
2/4	12-10-80	REB
3/4	12-10-80	REB
4/4	12-10-80	REB
5/4	12-10-80	REB
6/4	12-10-80	REB
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8/4	12-10-80	REB
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13/4	12-10-80	REB
14/4	12-10-80	REB
15/4	12-10-80	REB
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99/4	12-10-80	REB
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101/4	12-10-80	REB
102/4	12-10-80	REB
103/4	12-10-80	REB