

| POSITION            | DESIGNATION   | DESCRIPTION                           |
|---------------------|---------------|---------------------------------------|
| FRONT VIEW OF PANEL |               |                                       |
| 1                   | PNH           | PROTECTION NOT HEALTHY LAMP           |
| 2                   | CB L/O        | CIRCUIT BREAKER LOCK OUT INDICATION   |
| 3                   | CB OPEN       | CIRCUIT BREAKER OPEN INDICATION       |
| 4                   | CB CLOSE      | CIRCUIT BREAKER CLOSE INDICATION      |
| 5                   | S-CHARGE      | SPRING CHARGE INDICATION              |
| 6                   | RACKED        | RACKED IN INDICATION                  |
| 7                   | ES OPEN       | EARTH SWITCH OPEN INDICATION          |
| 8                   | ES CLOSE      | EARTH SWITCH CLOSE INDICATION         |
| 9                   | LAMP TEST     | LAMP TEST PUSH BUTTON                 |
| 10                  | RESET         | RESET PUSH BUTTON                     |
| 11                  | P/INDICATION  | PHASE INDICATION                      |
| 12                  | 7SR11         | OVERCURRETION FEEDER PROTECTION RELAY |
| 13                  | TR12          | TRIP RELAY                            |
| 14                  | 1S20          | ARC FLASH PROTECTION                  |
| 15                  | LOCAL/ REMOTE | LOCAL REMOTE SWITCH                   |
| 16                  | TRIP/ CLOSE   | TRIP/ CLOSE SWITCH                    |
| 17                  | AMP-RED       | AMMETER FOR RED PHASE                 |
| 18                  | AMP-WHITE     | AMMETER FOR WHITE PHASE               |
| 19                  | AMP-BLUE      | AMMETER FOR BLUE PHASE                |
| 20                  | V             | VOLTMETER                             |
| 21                  | E-STOP        | EMERGENCY STOP BUTTON                 |
| 22                  | PENDANT       | PENDANT SWITCH                        |
| 23                  | CTTB          | CURRENT TRANSFORMER TEST BLOCK        |
| 24                  | VTTB          | VOLTAGE TRANSFORMER TEST BLOCK        |
| 25                  | VT SELECT     | VOLTAGE TRANSFORMER SELECTOR SWITCH   |
| REAR VIEW OF PANEL  |               |                                       |
| X1:                 |               |                                       |
| X2:                 |               |                                       |
| X3:                 |               |                                       |

- NOTE:
- 1U = 44.45mm
  - THE SCHEME IS DESIGNED FOR MOUNTING A 19 INCH RACK SYSTEM AS PER IEC 60297 THE MODULE AND BACK PLATE ARE 482.6mm WIDE. THE MODULE IS 600mm DEEP.
  - DRAWING ARE DEVELOPED BASED ON CURRENT TECHNOLOGY, PLEASE CONTACT TECHNOLOGY MANAGEMENT FOR SITE SPECIFIC INFORMATION.
  - MANUFACTURE TO SUPPLY AS WIRED DRAWINGS SHOWING ALL CONNECTIONS.
  - IS DESIRED THAT EACH TERMINAL STRIP TO HAVE ATLEAST FOUR(4) SPARE CONNECTION POINTS.

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DIMENSIONS : mm SCALE : NTS  
 TOLERANCE : LIN± - ANG± - ITEM NO : -  
 VERSION INFO :

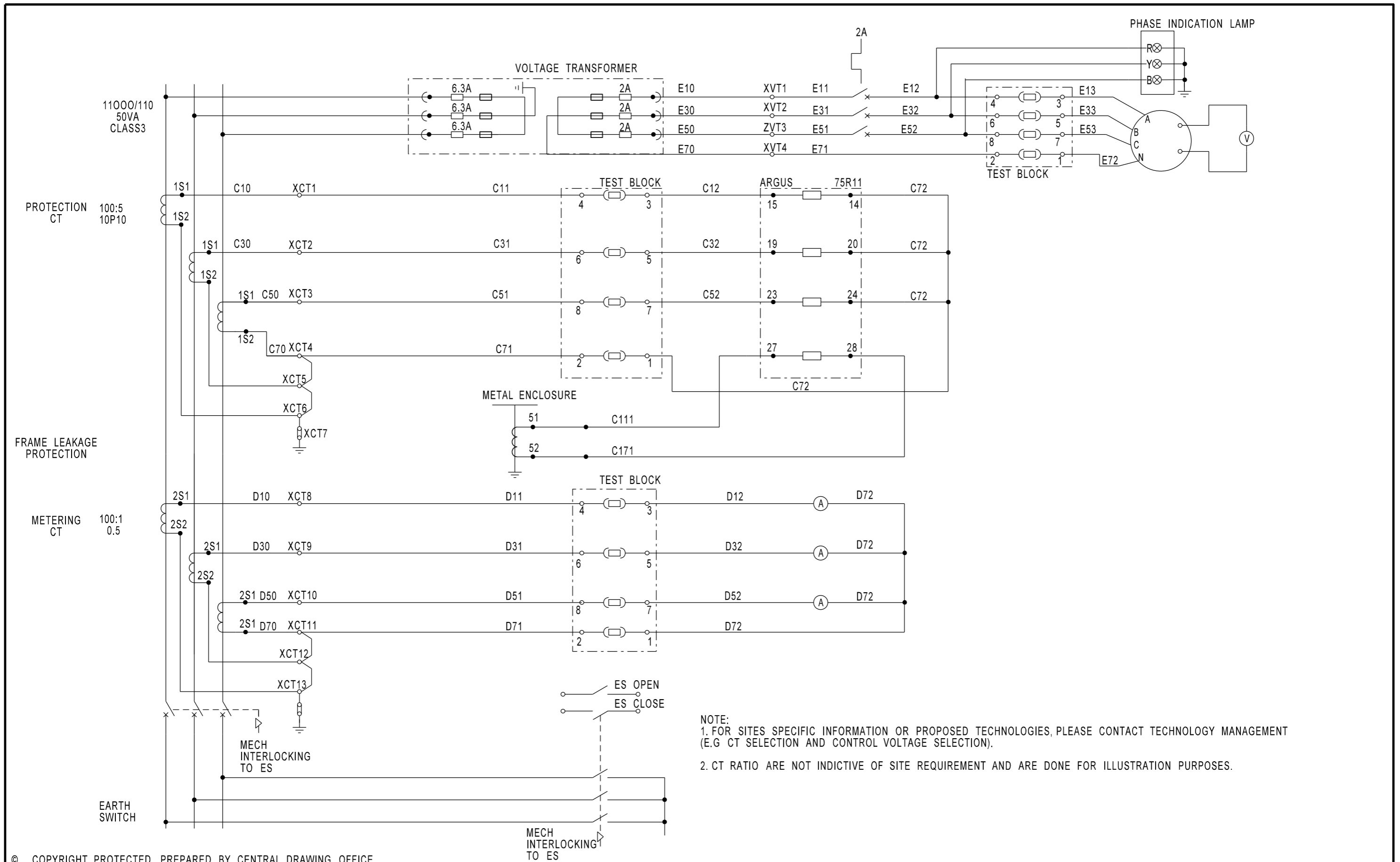
APPROVED: H KEKANA

AUTHORISED: T CHETTY

11kV INCOMER RELAY  
 PANEL EQUIPMENT LAYOUT



BBH7927 SHT 1 OF 8  
 VERSION 3 A3



NOTE:  
 1. FOR SITES SPECIFIC INFORMATION OR PROPOSED TECHNOLOGIES, PLEASE CONTACT TECHNOLOGY MANAGEMENT (E.G CT SELECTION AND CONTROL VOLTAGE SELECTION).  
 2. CT RATIO ARE NOT INDICATIVE OF SITE REQUIREMENT AND ARE DONE FOR ILLUSTRATION PURPOSES.

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|              |                           |         |     |
|--------------|---------------------------|---------|-----|
| DIMENSIONS   | : mm                      | SCALE   | : - |
| TOLERANCE    | : LIN± - ANG± -           | ITEM NO | : - |
| MATERIAL     | : -                       |         |     |
| VERSION INFO | : CHANGED THE CT LABELING |         |     |

|          |              |
|----------|--------------|
| DO REF   | : CDO/ E0981 |
| CP REF   | : -          |
| DRAWN    | : XR BHOMELO |
| DESIGNED | : -          |
| CHECKED  | : LS KEKANE  |

DATE:

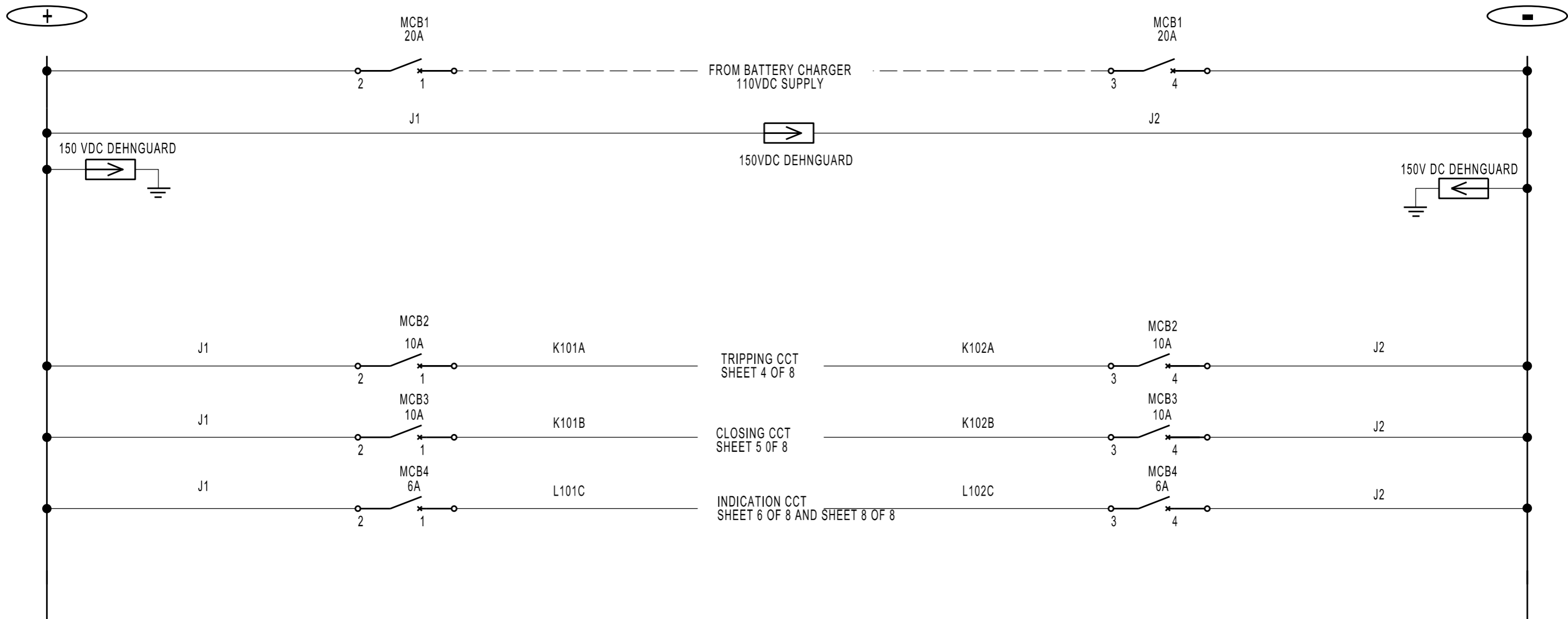
APPROVED: H KEKANA

AUTHORISED: T CHETTY

11KV INCOMER LAYOUT SCHEME

**TRANSNET**  
rail infrastructure manager

BBH7927 SHT 2 OF 8  
VERSION 3



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DIMENSIONS : mm SCALE : -  
 TOLERANCE : LIN± - ANG± - ITEM NO : -  
 MATERIAL : -  
 VERSION INFO : LINES TO THE BATTERY CHARGER  
 CHANGED TO DOTTED

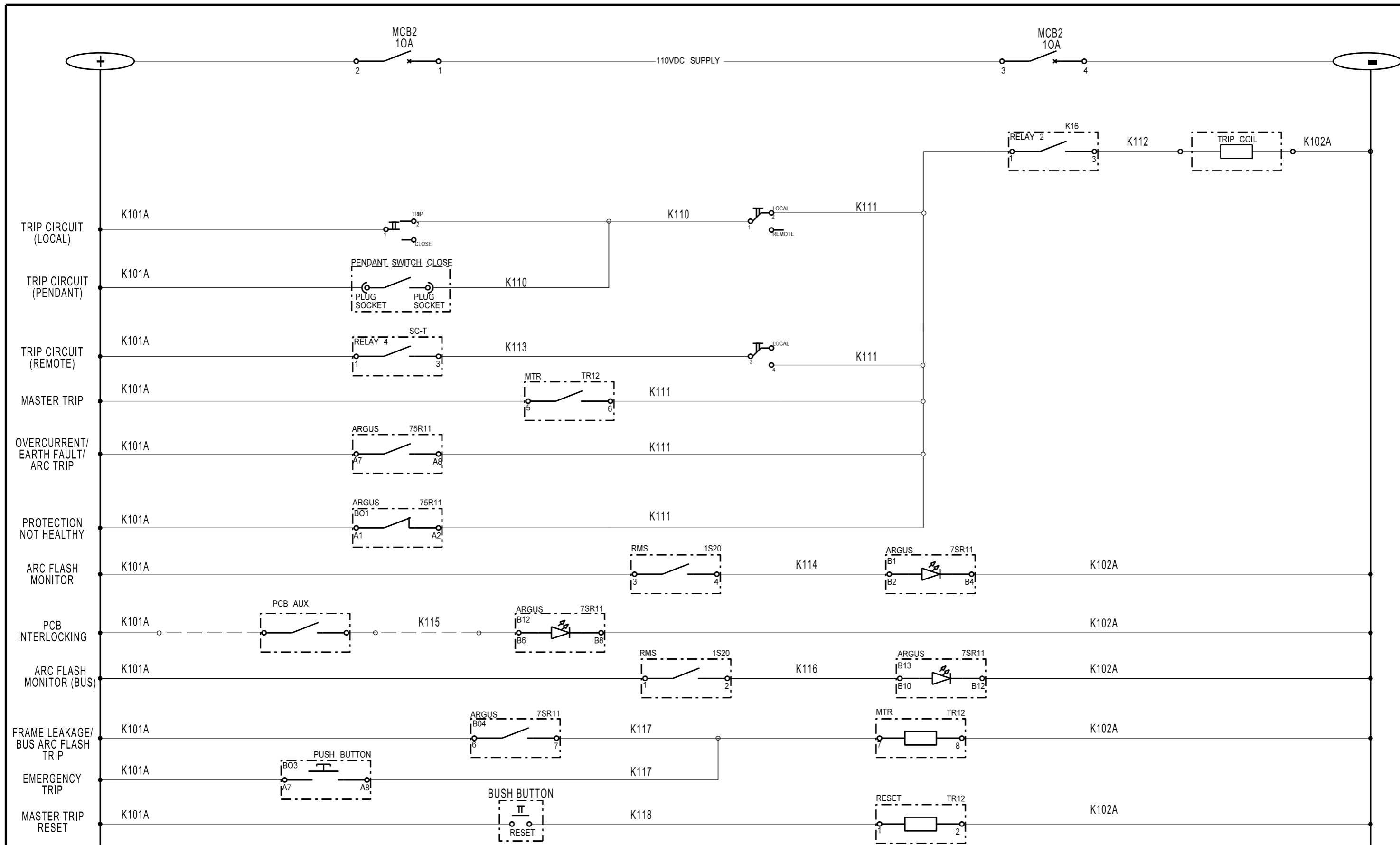
DO REF : CDO/ E0981  
 CP REF : -  
 DRAWN : XR BHOMELA  
 DESIGNED : -  
 CHECKED : LS KEKANE

DATE:

APPROVED: H. KEKANE  
 AUTHORIZED: T. CHETTY

11KV INCOMER  
 110V SUPPLY AND PROTECTION

TRANSNET  
 rail infrastructure  
 manager  
 BBH7927 SHT 3 OF 8  
 VERSION 2 A3



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DIMENSIONS : mm SCALE : -  
 TOLERANCE : LIN± - ANG± - ITEM NO : -  
 MATERIAL : -  
 VERSION INFO : RELAY LABELS CHANGED

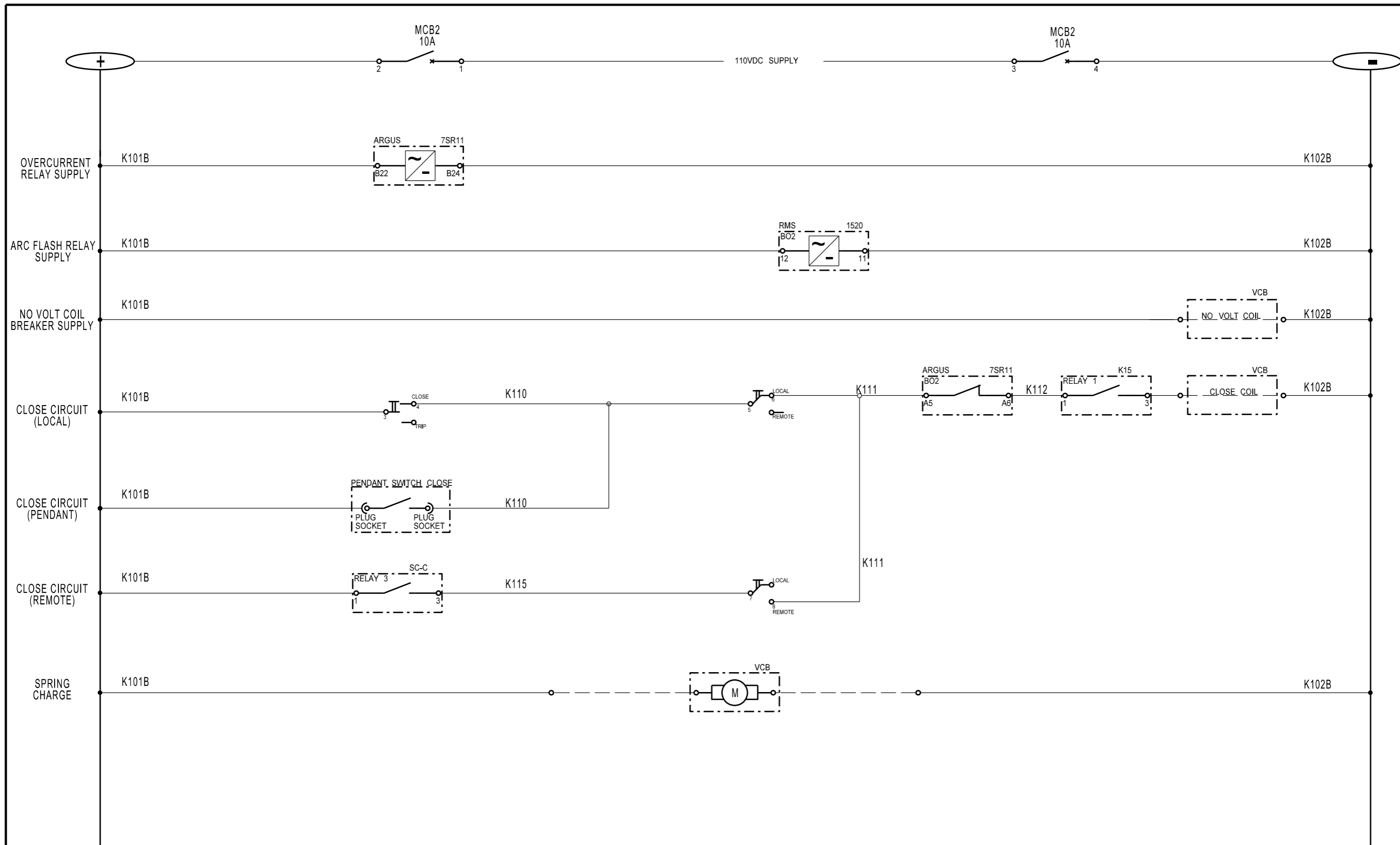
DO REF : CDO/ E0981  
 CP REF : -  
 DRAWN : XR BHOMEA  
 DESIGNED : -  
 CHECKED : LS KEKANE

DATE: *[Signature]*  
 APPROVED: H KEKANA  
 AUTHORIZED: M CHETTY

11KV INCOMER  
 TRIPPING CIRCUIT



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 VERSION 2



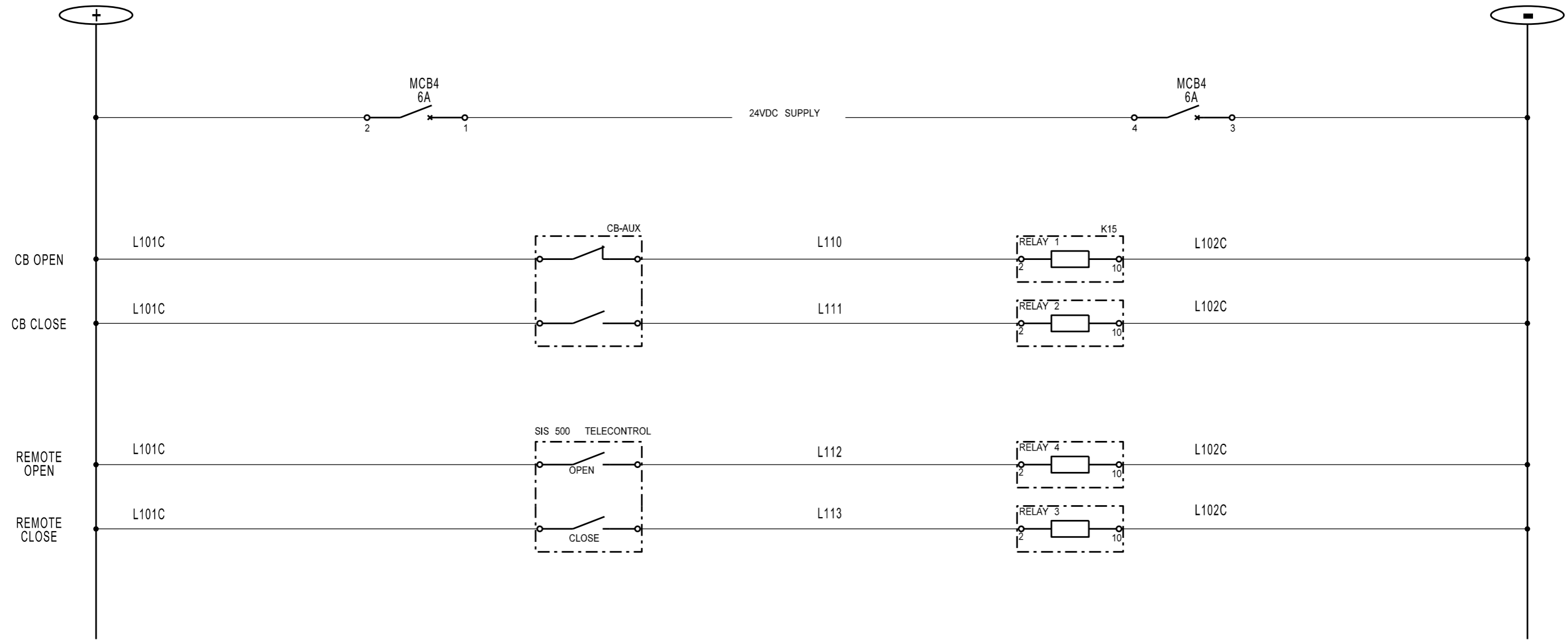
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DIMENSIONS : mm SCALE : -  
 TOLERANCE : LIN± - ANG± - ITEM NO : -  
 MATERIAL : -  
 VERSION INFO : RELAYS INDICATED AND LABELS CHANGED

DO REF : CDO/ E0981  
 CP REF : -  
 DRAWN : XR BHOMELA  
 DESIGNED : -  
 CHECKED : LS KEKANE

DATE: *[Signature]*  
 APPROVED: H KEKANA  
 AUTHORIZED: T CHETTY

11KV INCOMER  
 110V SUPPLY AND CLOSING CIRCUIT



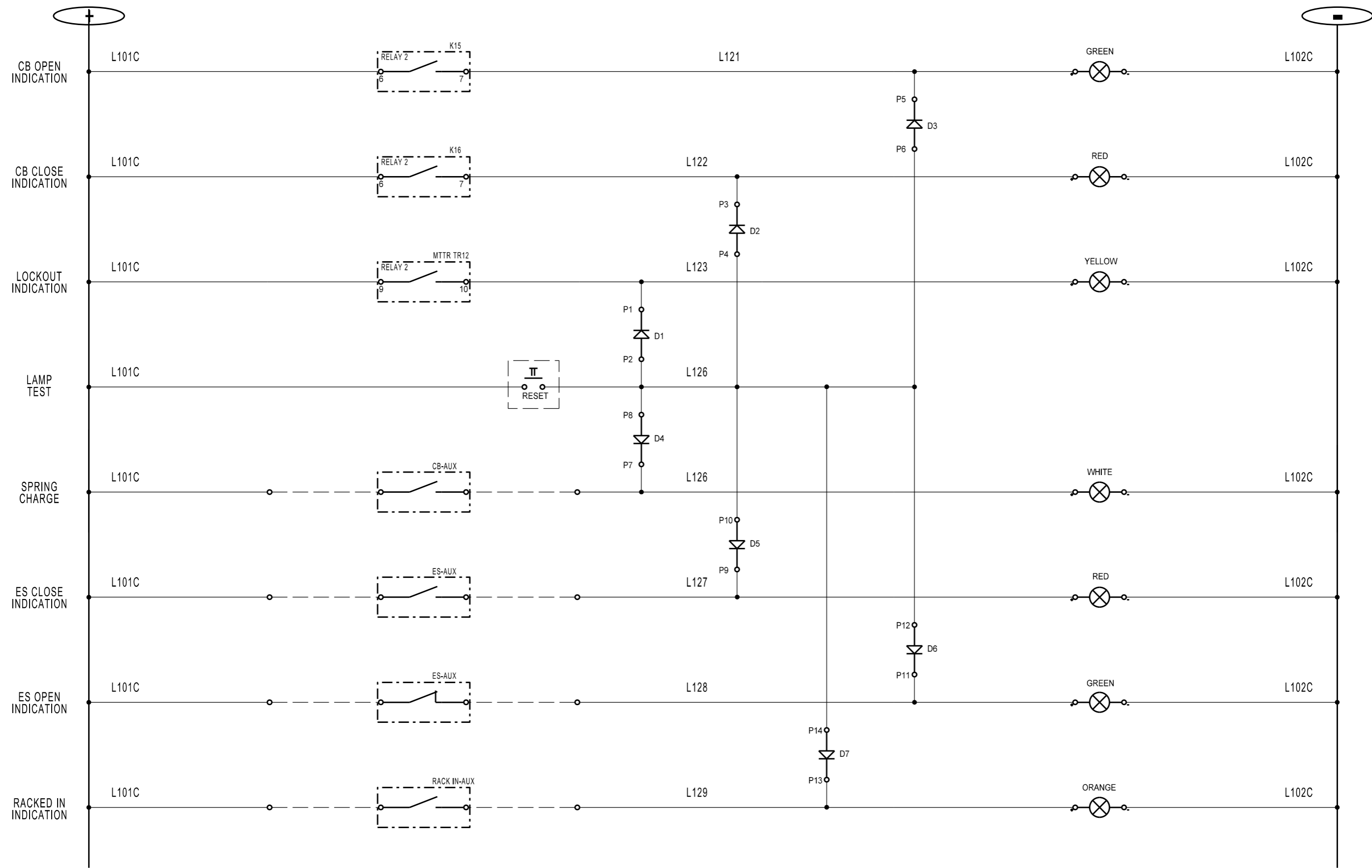
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DIMENSIONS : mm SCALE : -  
 TOLERANCE : LIN± - ANG± - ITEM NO : -  
 MATERIAL : -  
 VERSION INFO : NEW DRAWING

DO REF : CDO/ E0981  
 CP REF : -  
 DRAWN : XR BHOMELA  
 DESIGNED : -  
 CHECKED : LS KEKANE

DATE:   
 APPROVED: H KEKANA  
 AUTHORIZED: T CHETTY

11KV INCOMER  
 INDICATION AND AUXILLIARY CIRCUITS



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DIMENSIONS : mm SCALE : -  
 TOLERANCE : LIN± - ANG± - ITEM NO : -  
 MATERIAL : -  
 VERSION INFO : ADDED SHEET, FOR LIGHT INDICATION

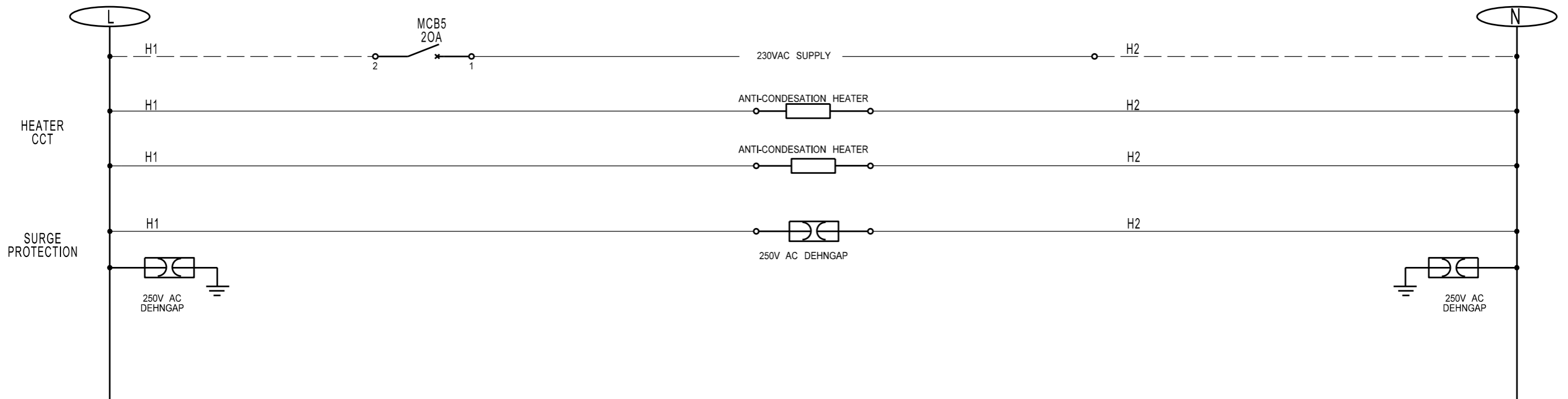
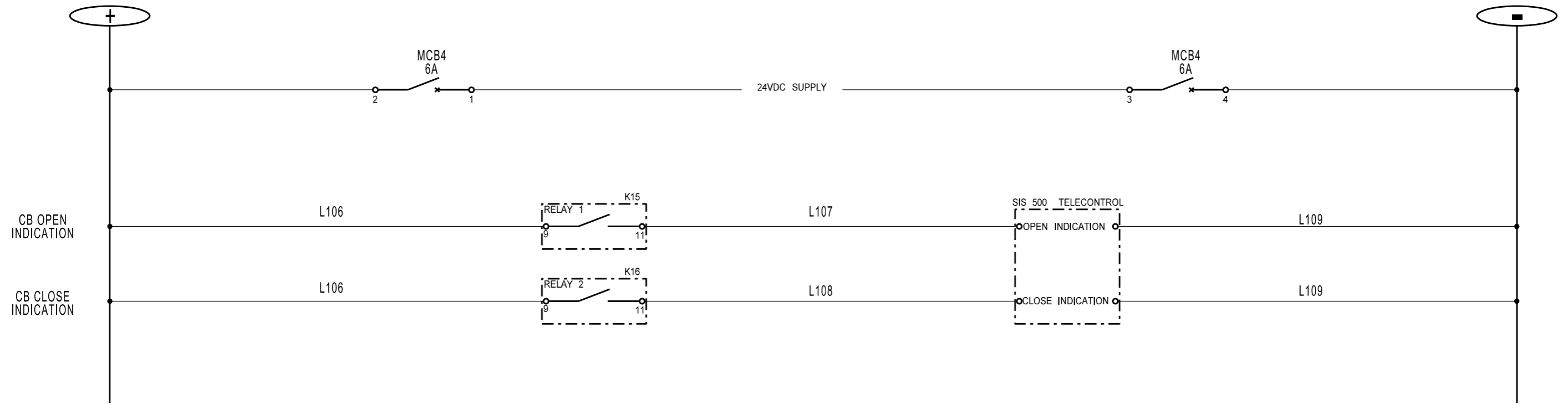
DO REF : CDO/ E0981  
 CP REF : -  
 DRAWN : L.S. KEKANE  
 DESIGNED : -  
 CHECKED : X.R. BHOMELA

DATE:   
 APPROVED: H. KEKANA  
 AUTHORIZED: T. CHETTY

11KV INCOMER  
 LIGHT INDICATION CIRCUIT



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 VERSION 3



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DIMENSIONS : mm SCALE : -  
 TOLERANCE : LIN± - ANG± - ITEM NO : -  
 MATERIAL : -  
 VERSION INFO : NEW DRAWING

DO REF : CDO/ E0981  
 CP REF : -  
 DRAWN : XR BHOMELA  
 DESIGNED : -  
 CHECKED : LS KEKANE

DATE:  
 APPROVED: H KEKANA  
 AUTHORIZED: T CHETTY

11KV INCOMER  
 INDICATION AND AUXILLIARY CIRCUITS