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# EATON

B

## EXTERNAL MBS 40kW WITH BYPASS AND RECTIFIER INPUT BREAKER

Product number: P-105000045-004

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METRIC



THIRD ANGLE PROJECTION

EATON CORPORATION

DIMENSIONS ARE IN MILLIMETERS AFTER PLATING, DIMENSIONS AND TOLERANCES IN ACCORDANCE WITH ASME Y14.5M-1994. SEE NOTES FOR TOLERANCES.

DESCRIPTION: EXTERNAL MBS 40kW WITH BIB AND RIB (SINGLE FEED)

|                          |            |                 |                 |           |              |
|--------------------------|------------|-----------------|-----------------|-----------|--------------|
| ORIGINATED: E5900083 /JP | 12.05.2015 | ECO:            | NAME:           | REVISION: | SIZE: A4     |
| MODIFIED: E5900083 /JP   | 23.11.2015 | ECD-092408      | P-110000474-004 | 001       | NOT TO SCALE |
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| SAFETY:                  |            | AUTOCAD DRAWING |                 | Release   | 1 OF 8       |
| APPROVED: E5900096/JE    |            | Common sheet    |                 |           |              |

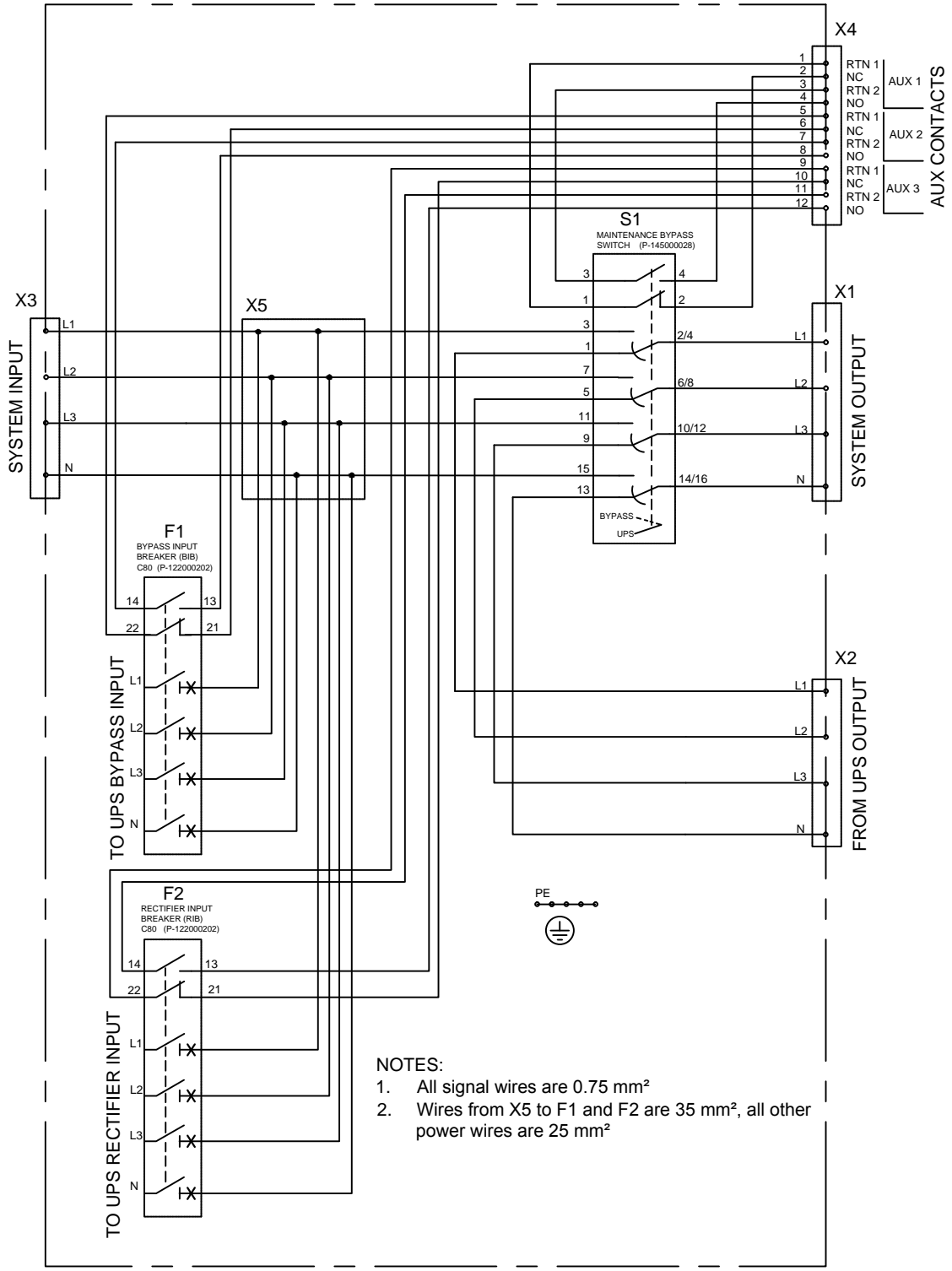
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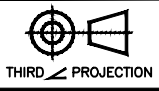
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- NOTES:
1. All signal wires are 0.75 mm<sup>2</sup>
  2. Wires from X5 to F1 and F2 are 35 mm<sup>2</sup>, all other power wires are 25 mm<sup>2</sup>

METRIC



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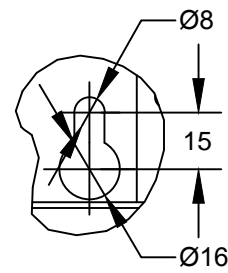
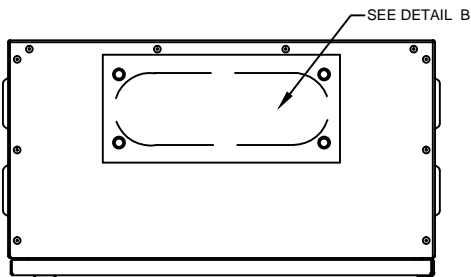
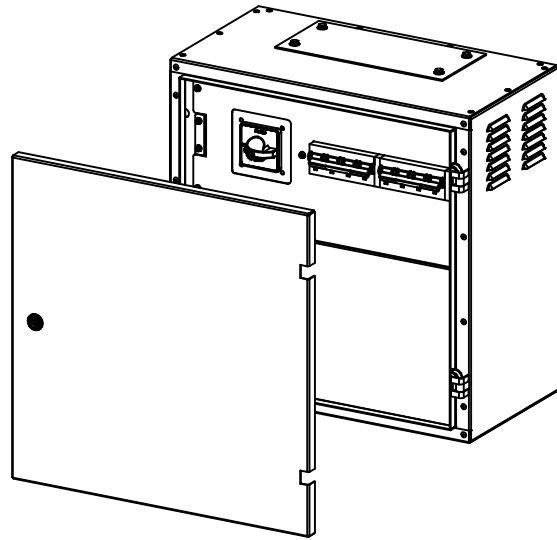
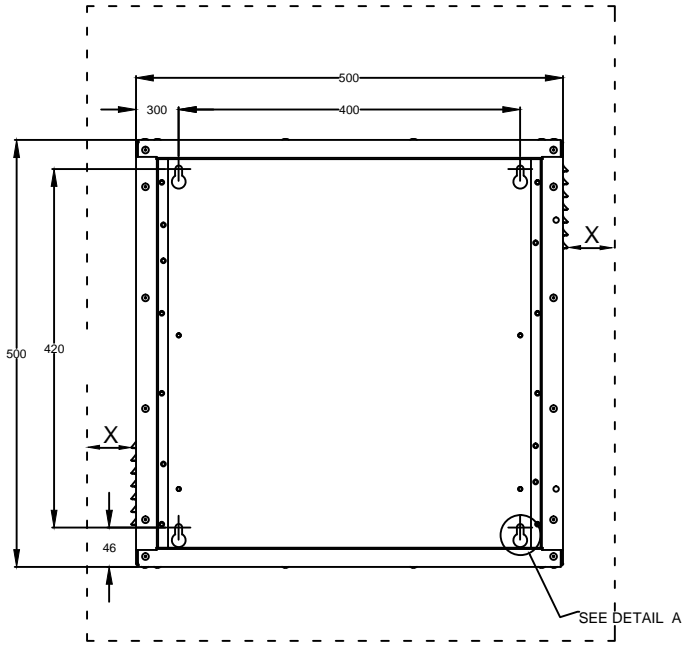
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|                           |            |                    |                 |           |              |
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| SAFETY:                   |            | AUTOCAD DRAWING    |                 | Release   | 2 OF 8       |
| APPROVED: E5900096/JE     |            | Switchgear diagram |                 |           |              |

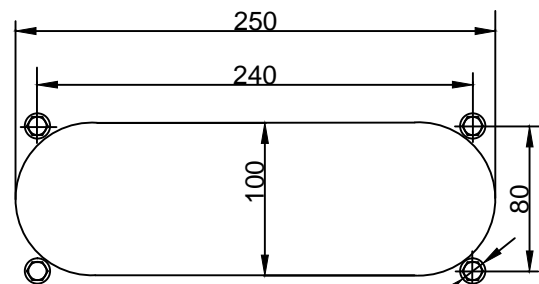
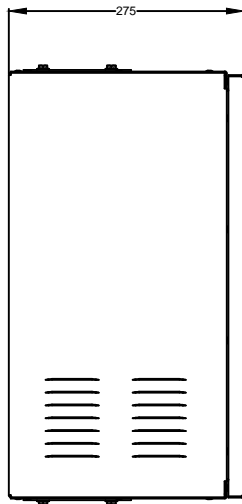
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X = clearance at both sides of cabinet min. 50mm



DETAIL A  
SCALE 1:2



DETAIL B

METRIC



THIRD ANGLE PROJECTION

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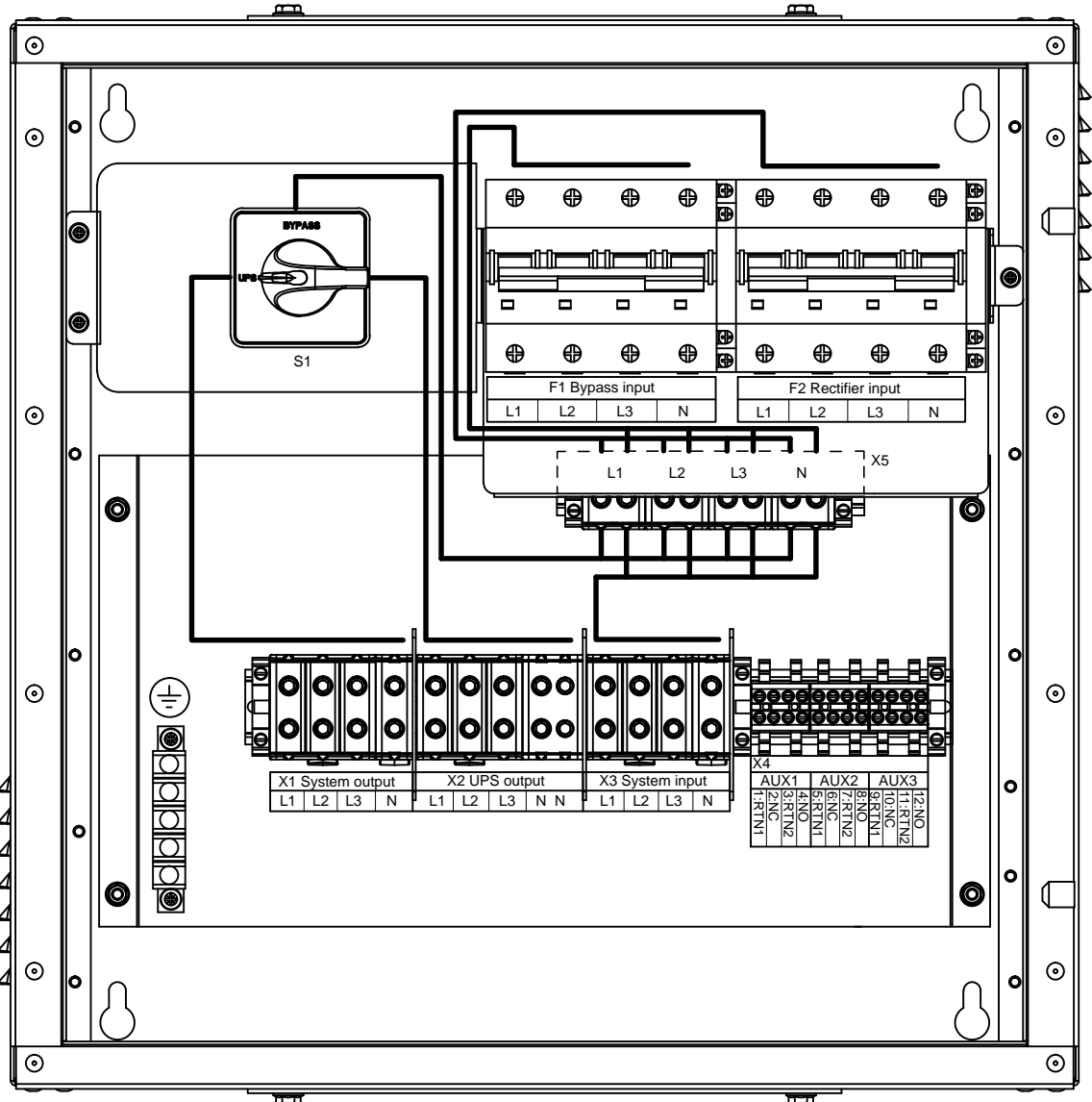
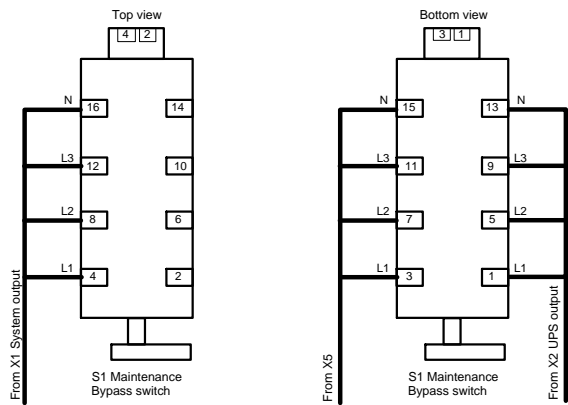
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| APPROVED: E5900096/JE    |            | Dimension diagram |                 |           |              |

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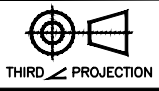
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| SAFETY:                  |            | AUTOCAD DRAWING                           |                 | Release   | 4 OF 8       |
| APPROVED: E5900096/JE    |            | Component layout and power wiring diagram |                 |           |              |

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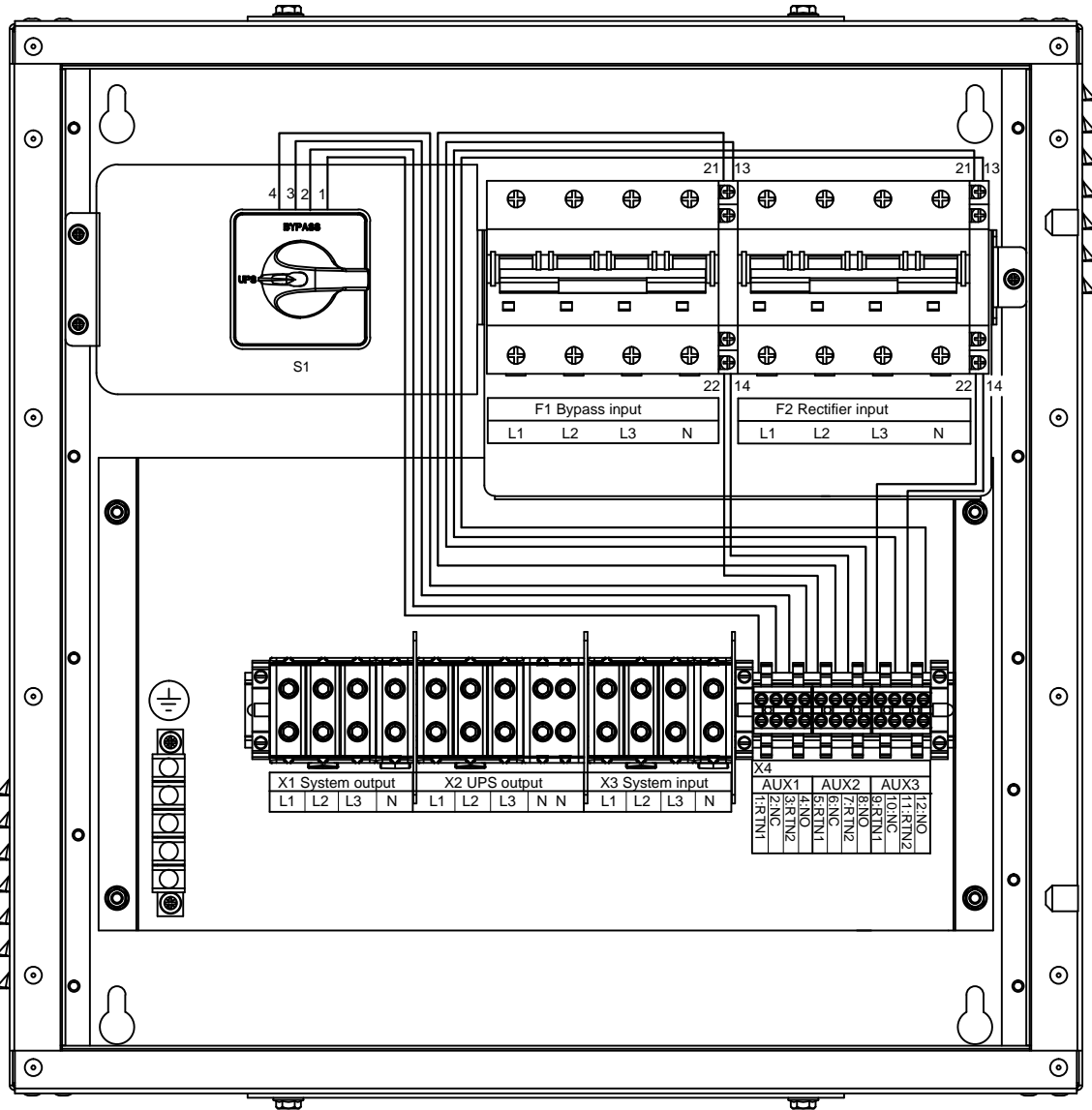
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| SAFETY:                  |            | AUTOCAD DRAWING        |                 | Release   | 5 OF 8       |
| APPROVED: E5900096/JE    |            | Control wiring Diagram |                 |           |              |

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**A TECHNICAL SPECIFICATION**


STANDARD IEC/EN 61439-2

MAINS TN-S, 5W/3P+N+PE, 380/400/415VAC 3~

- |                          |           |                                     |
|--------------------------|-----------|-------------------------------------|
| 1. Nominal Voltage       | $U_n$     | <u>380/400/415</u> V                |
| 2. Nominal Current       | $I_{nA}$  | <u>61/58/56</u> A                   |
| 3. Maximum Current       | $I_{max}$ | <u>72</u> A                         |
| 4. Nominal Frequency     | $f_n$     | <u>50/60</u> Hz                     |
| 5. Operating Temperature | T         | <u>max +40</u> °C                   |
| 6. Current capability    |           |                                     |
| Thermal                  | $I_{cc}$  | <u>10</u> kA *)                     |
| Dynamical                | $I_{pk}$  | _____ kA                            |
| 7. Power dissipation     | P         | _____ W                             |
| 8. Electrical Wiring AC  |           |                                     |
|                          | L1        | <input checked="" type="checkbox"/> |
|                          | L2        | <input checked="" type="checkbox"/> |
|                          | L3        | <input checked="" type="checkbox"/> |
|                          | N         | <input checked="" type="checkbox"/> |
|                          | PE        | <input checked="" type="checkbox"/> |
|                          | PEN       | <input type="checkbox"/>            |

**TYPE PLATE, SAMPLE**

80
A



EXT MBS 40kW WITH BIB AND RIB (SF)

PART Nr: P-105000045-004      Rev:003

SERIAL Nr: 2761000100      1545

MAINS: TN-S      CLASS: IP21




Un: 380/400/415V      WEIGHT: 26kg

InA: 61 /58 /56A

fn: 50/60Hz

Icc: 10kA

IEC61439-2




58

Made in Finland

**B CONSTRUCTION OF SWITCHGEAR**

- |                           |                      |                                     |
|---------------------------|----------------------|-------------------------------------|
| 1. Enclosure Class        | IP <u>21</u>         | <input checked="" type="checkbox"/> |
| Outfield location         |                      | <input type="checkbox"/>            |
| Interior location         |                      | <input checked="" type="checkbox"/> |
| 2. Installation           |                      |                                     |
| Surficial                 |                      | <input checked="" type="checkbox"/> |
| Wall mounting             |                      | <input checked="" type="checkbox"/> |
| Floor mounting            |                      | <input type="checkbox"/>            |
| 3. Additional door        |                      | <input checked="" type="checkbox"/> |
| Lock-up                   |                      | <input type="checkbox"/>            |
| 4. Color                  |                      |                                     |
| Common color              | RAL7035              | <input type="checkbox"/>            |
| Custom color              | <u>Eaton dwg</u>     | <input checked="" type="checkbox"/> |
| 5. Cabling entry          | <u>164700509-001</u> |                                     |
| Top entry                 |                      | <input checked="" type="checkbox"/> |
| Bottom entry              |                      | <input checked="" type="checkbox"/> |
| Conduit flange of cable   |                      | <input checked="" type="checkbox"/> |
| 6. Material specification |                      |                                     |
| Cable material            | <u>90°C, H07V2-K</u> | <input checked="" type="checkbox"/> |
| Cable U/Uo                | <u>450/750</u>       | <input checked="" type="checkbox"/> |
| Cover material            | _____                | <input type="checkbox"/>            |
| Other demand              | _____                | <input type="checkbox"/>            |
| 7. Handle location        | <u>Door handle</u>   |                                     |
|                           | _____                | <input type="checkbox"/>            |
|                           | _____                | <input type="checkbox"/>            |
|                           | _____                | <input type="checkbox"/>            |
|                           | _____                | <input type="checkbox"/>            |

**Note !**

1. Back-up fuse required for system input 80A gG
2. For external wiring use wire with temperature class min +90°C
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

**C CUSTOMER ELECTRICAL INFORMATION**

- |               |             |                                     |
|---------------|-------------|-------------------------------------|
| 1. MAINS      | TN-C-S      | <input type="checkbox"/>            |
|               | TN-S        | <input checked="" type="checkbox"/> |
|               | IT          | <input type="checkbox"/>            |
| 2. LOAD POWER | S _____ kVA |                                     |
|               | P _____ kW  |                                     |
|               | p.f. _____  |                                     |

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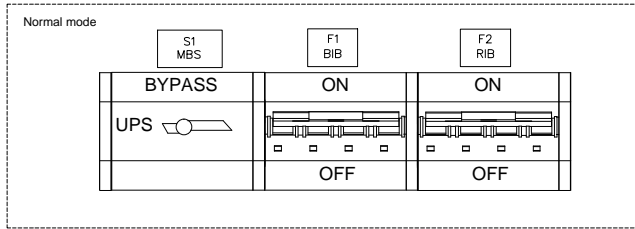
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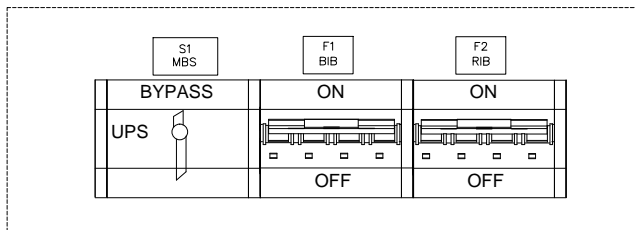
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# Turn UPS from NORMAL MODE to MECHANICAL BYPASS

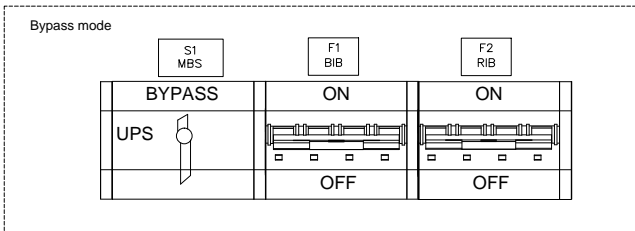
1. The start position is following:



2. Use UPS display to turn the UPS on internal static bypass mode. Remember to verify the transfer before proceeding the next step.
3. Turn the MBS (S1) to bypass position to bypass UPS:



4. Use UPS display to turn UPS OFF.
5. Turn the UPS Battery Breaker (CB1) if not automatically tripped and UPS Rectifier Input Switch (S1) to OFF position.
6. Turn OFF the BIB (F1) and RIB (F2) to disconnect UPS from bypass and rectifier input.



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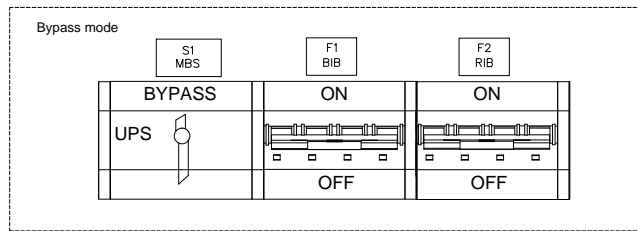
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| APPROVED: E5900096/JE    |            | Operating Instructions |                 |           |              |

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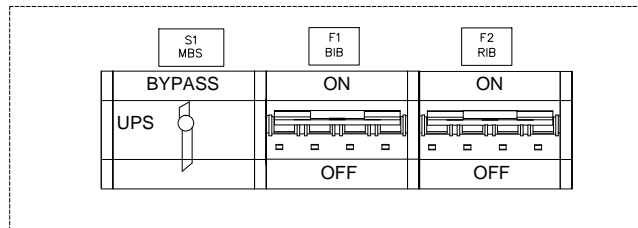
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## Turn UPS from MECHANICAL BYPASS to NORMAL MODE

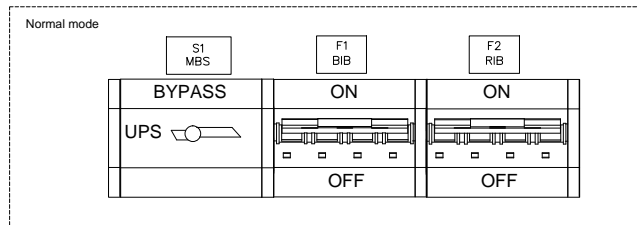
- The start position is following:



- Turn ON the BIB (F1) and RIB (F2) to connect Bypass and rectifier input to UPS:



- Turn the UPS Battery Breaker (CB1) and UPS Rectifier Input Switch (S1) to ON position.
- Use UPS display to transfer the UPS to static bypass and give "Start Module" command to start the UPS(s) to "ready"-state.
  - Make sure the UPS is not displaying any alarms or notices.
  - You may verify the output voltage from the meters screen of the display.
- Turn the MBS (S1) to UPS position to switch the output to UPS:



- Use UPS display to transfer the UPS to normal mode (Give "Go Online"- command in the "Controls"-menu). Verify the UPS is running in "Normal"-mode, green LED is lit, status is displayed "Online" and no alarms are present.

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