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# EXTERNAL MBS 40kW

Product number: P-105000045-002

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

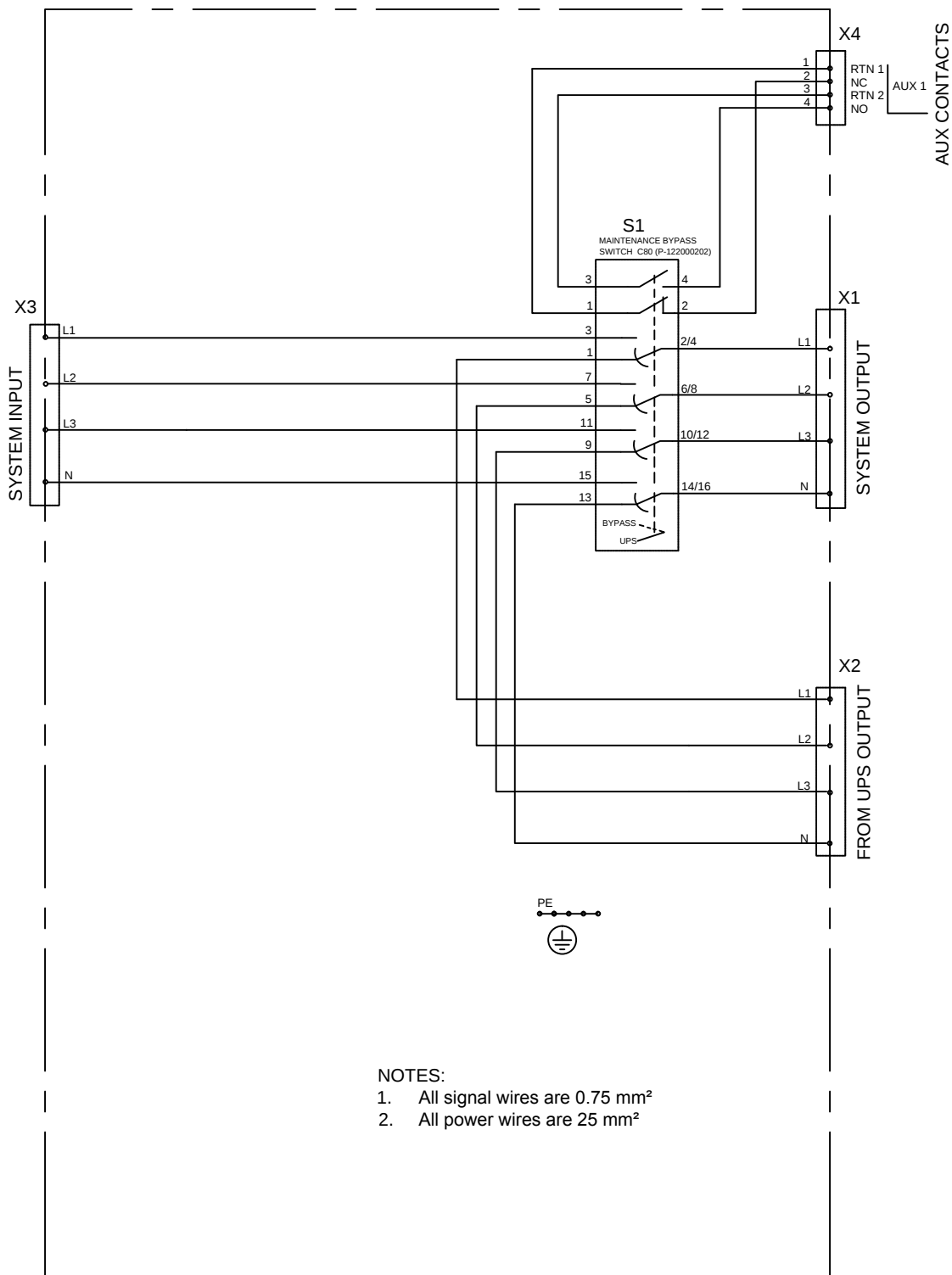
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NOTES:

1. All signal wires are 0.75 mm<sup>2</sup>
2. All power wires are 25 mm<sup>2</sup>

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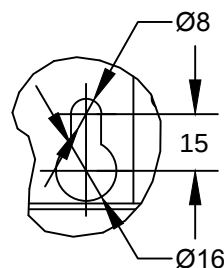
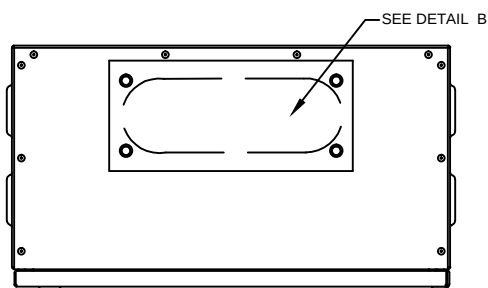
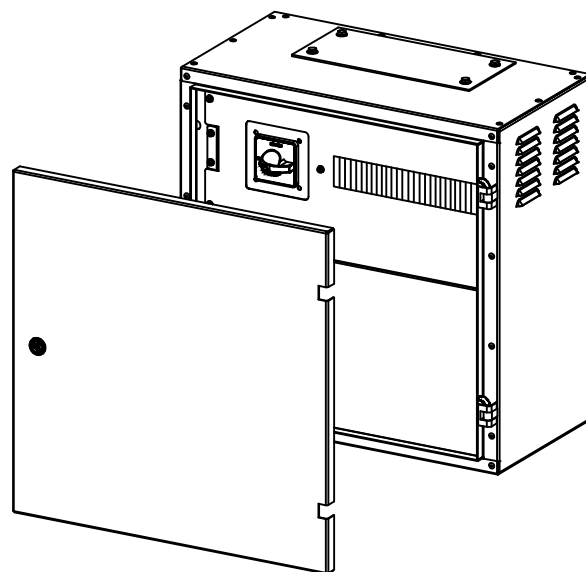
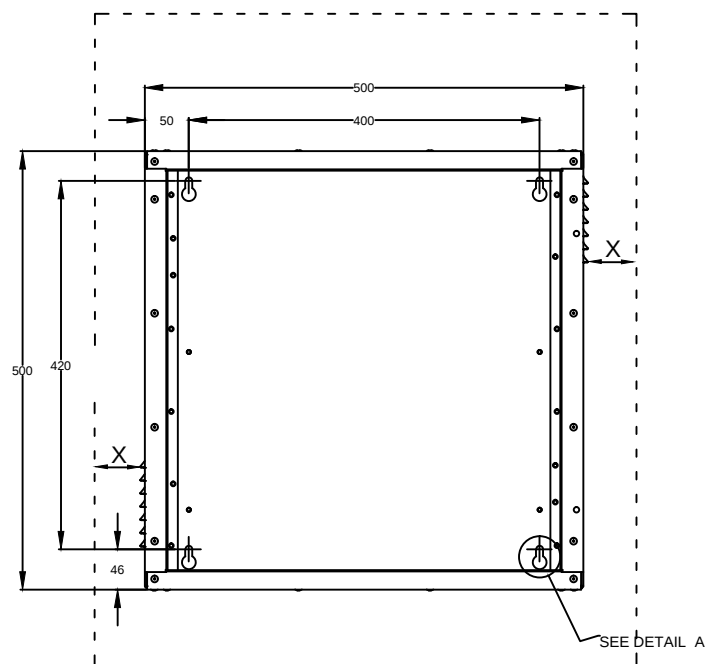
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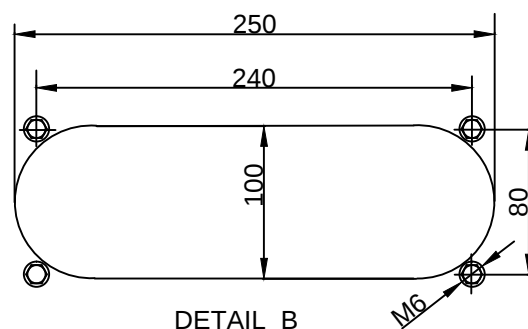
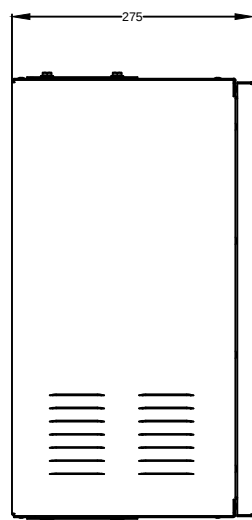
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X = clearance at both  
sides of cabinet min. 50mm



DETAIL A  
SCALE 1:2



DETAIL B

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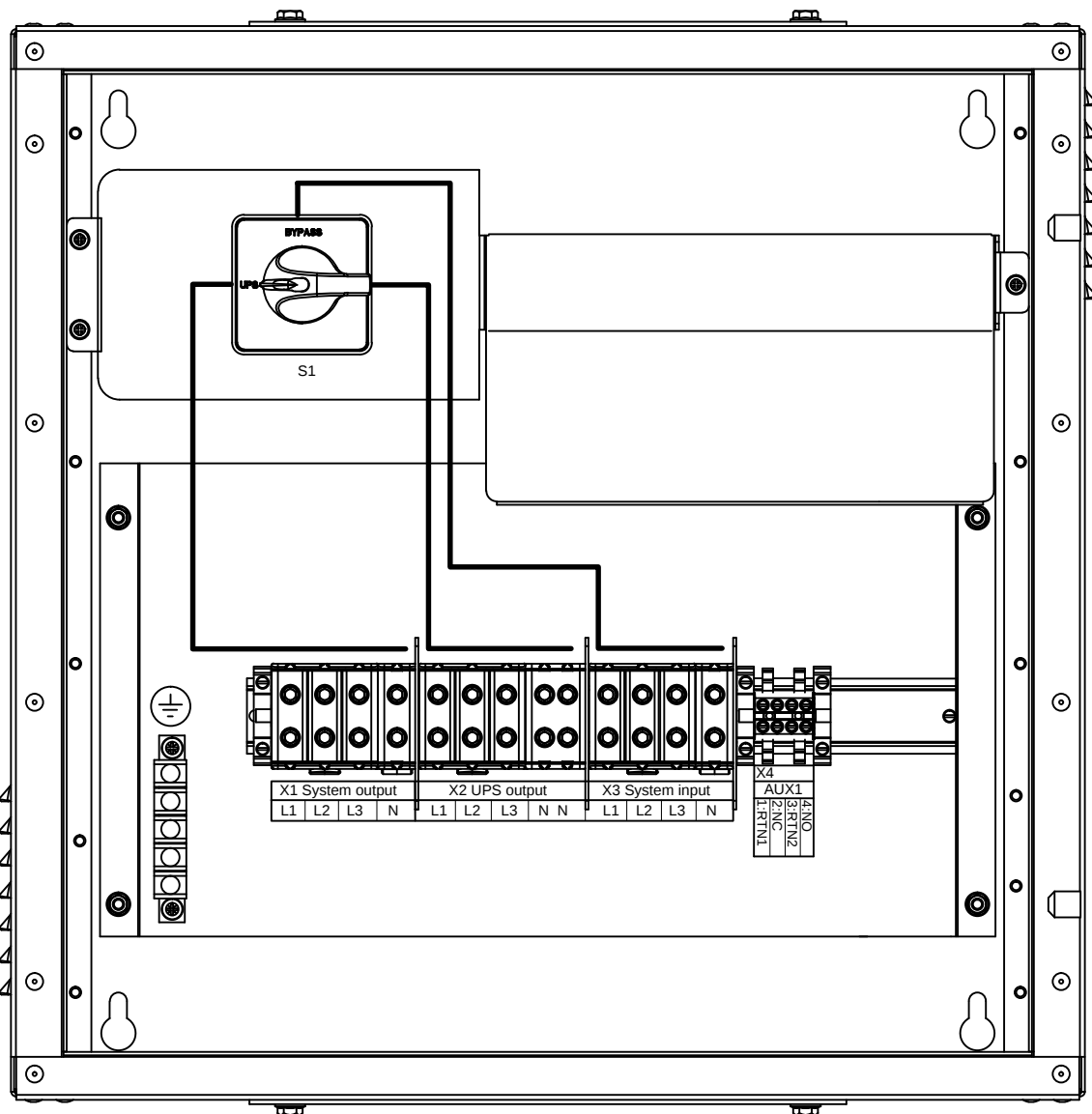
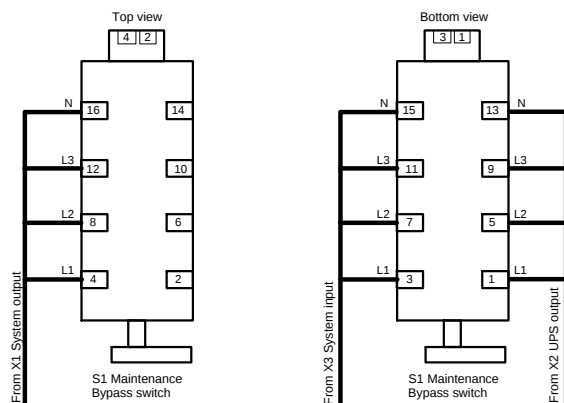
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| APPROVED: E5900096/JE    |            | Component layout and power wiring diagram |                 |           | SHEET: 4 OF 8 |

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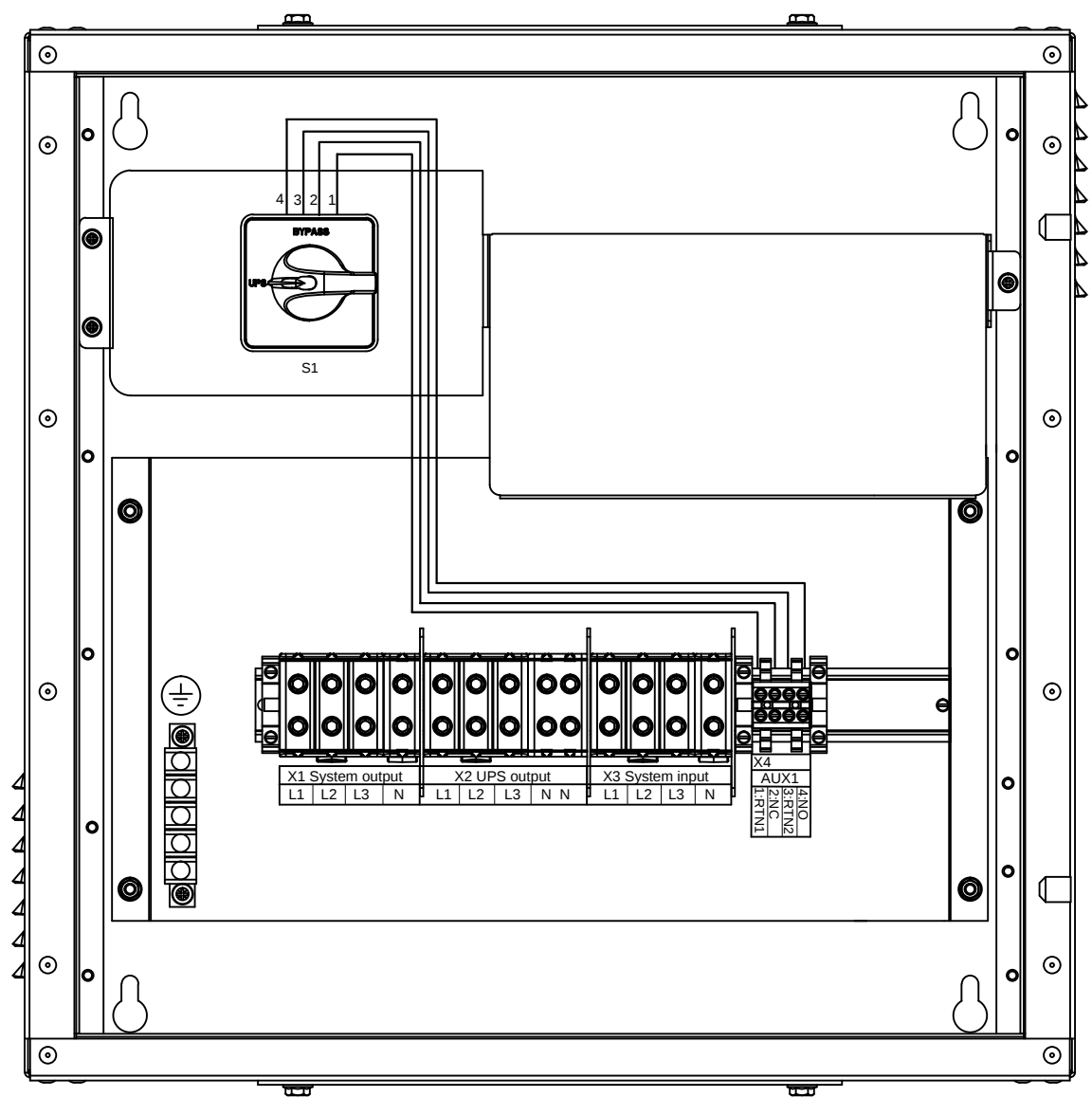
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| APPROVED: E5900096/JE    |            | Control wiring Diagram |                       |           |               |

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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 <sub>n</sub>   | 380/400/415 V                       |
| 2. Nominal Current       | I <sub>nA</sub>  | 61/58/56 A                          |
| 3. Maximum Current       | I <sub>max</sub> | 72 A                                |
| 4. Nominal Frequency     | f <sub>n</sub>   | 50/60 Hz                            |
| 5. Operating Temperature | T                | max +40 °C                          |
| 6. Current capability    |                  |                                     |
| Thermal                  | I <sub>cc</sub>  | 10 kA *)                            |
| Dynamical                | I <sub>pk</sub>  | — 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                                                                                |                 | 80                                                                                 |
|  |                 |                                                                                    |
| EXT MBS 40kW                                                                      |                 |                                                                                    |
| PART Nr:                                                                          | P-105000045-002 | Rev:003                                                                            |
| SERIAL Nr:                                                                        | 2761000100      | 1545                                                                               |
| MAINS: TN-S                                                                       |                 | CLASS: IP21                                                                        |
| Un:                                                                               | 380/400/415V    | WEIGHT: 23kg                                                                       |
| InA:                                                                              | 61 /58 /56A     |                                                                                    |
| fn:                                                                               | 50/60Hz         |                                                                                    |
| Icc:                                                                              | 10kA            |                                                                                    |
| IEC61439-2                                                                        |                 |                                                                                    |
|  |                 |  |
| Made in Finland                                                                   |                 |                                                                                    |

B

## CONSTRUCTION OF SWITCHGEAR

- |                           |               |                                     |
|---------------------------|---------------|-------------------------------------|
| 1. Enclosure Class        | IP 21         | <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              | Eaton dwg     | <input checked="" type="checkbox"/> |
| 5. Cabling entry          | 164700509-001 |                                     |
| 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            | 90°C, H07V2-K | <input checked="" type="checkbox"/> |
| Cable U/Uo                | 450/750       | <input checked="" type="checkbox"/> |
| Cover material            | —             | <input type="checkbox"/>            |
| Other demand              | —             | <input type="checkbox"/>            |
| 7. Handle location        | Door handle   |                                     |
|                           | →             | <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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| APPROVED: E5900096/JE   |            | General information |                 |           |              |

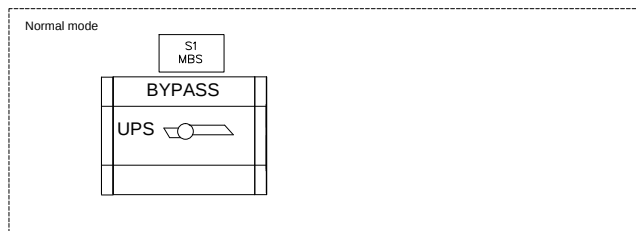
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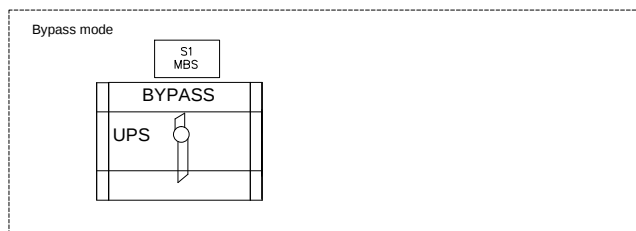
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## Turn UPS from NORMAL MODE to MECHANICAL BYPASS

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. Use the external isolators to isolate the UPS rectifier input and bypass input before maintaining the UPS.

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| APPROVED: E5900096/JE    |            | Operating Instructions |                 |           | 7 OF 8       |

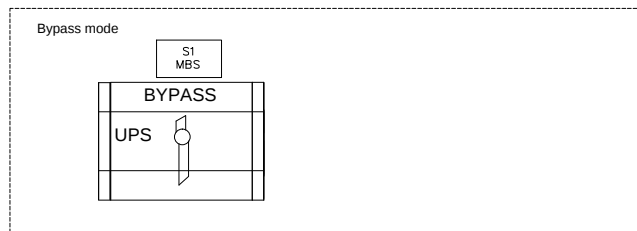
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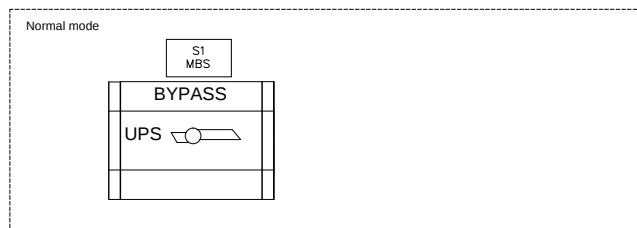
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## Turn UPS from MECHANICAL BYPASS to NORMAL MODE

1. The start position is following:



2. Use the external isolators to restore bypass and rectifier feed to the UPS.
3. Turn the UPS Battery Breaker (CB1) and UPS Rectifier Input Switch (S1) to ON position.
4. 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.
5. Turn the MBS (S1) to UPS position to switch the output to UPS:



6. 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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