

1 2 3 4

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B

# EXTERNAL MAINTENANCE BYPASS

## 20kW, 3-SWITCHES

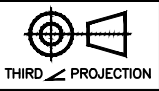
C

Product number: P-105000044-003

D

E

METRIC



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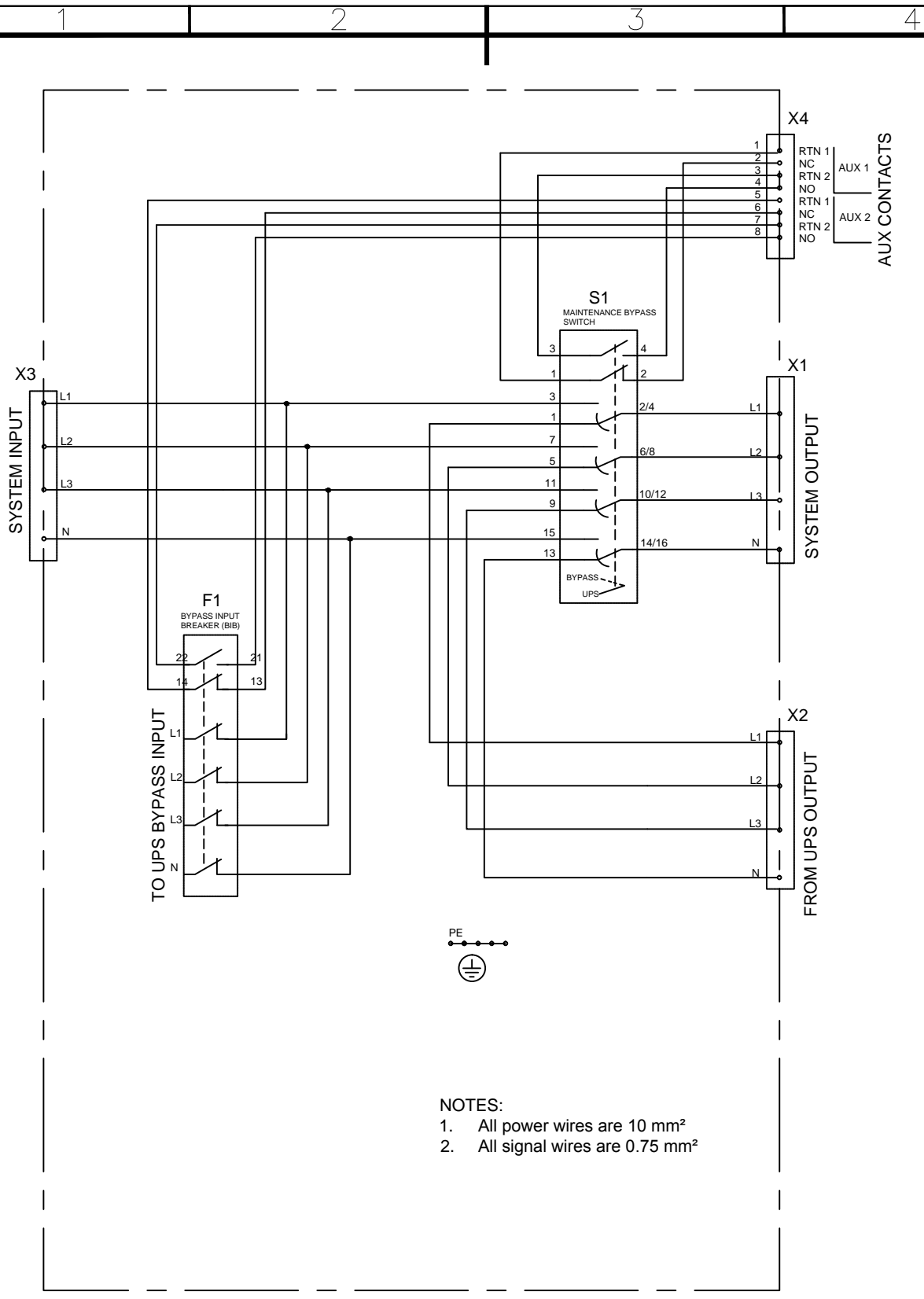
DESCRIPTION: EXTERNAL MBS 20kW, 3-SWITCHES

|                          |            |                 |                 |           |              |
|--------------------------|------------|-----------------|-----------------|-----------|--------------|
| ORIGINATED: E5900083 /JP | 15.05.2015 | ECO:            | NAME:           | REVISION: | SIZE: A4     |
| MODIFIED: E9917864/EY    | 18.09.2015 | ECD-089242      | P-105000044-003 | 002       | NOT TO SCALE |
| CHECKED: E5900525/TMK    |            | DOCUMENT TYPE:  |                 | STATE:    | SHEET:       |
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NOTES:

1. All power wires are 10 mm<sup>2</sup>
2. All signal wires are 0.75 mm<sup>2</sup>

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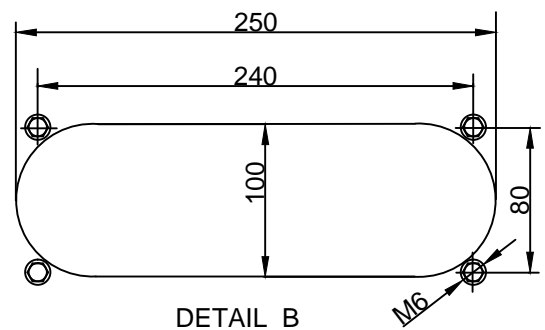
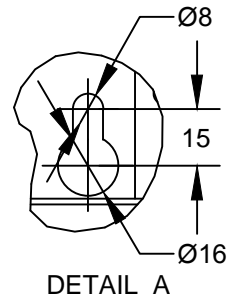
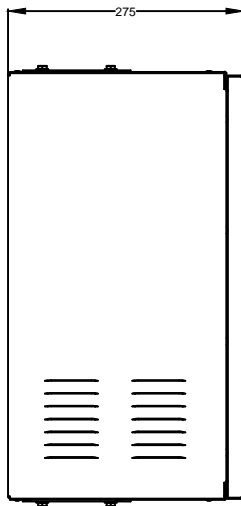
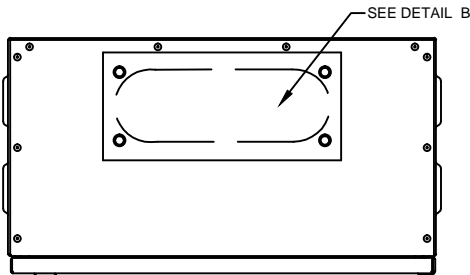
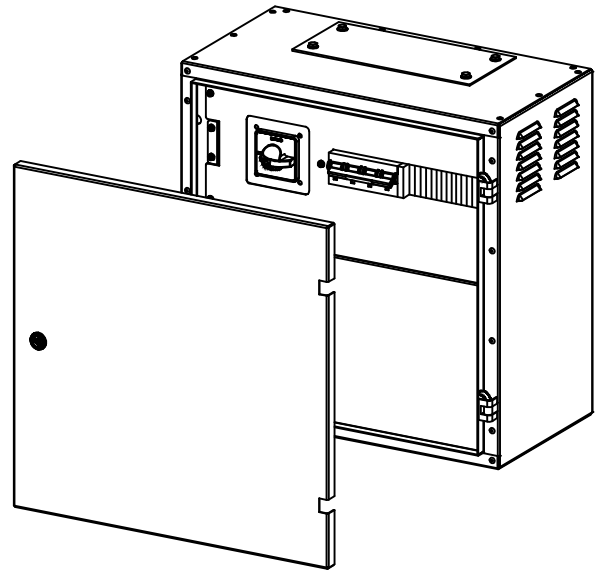
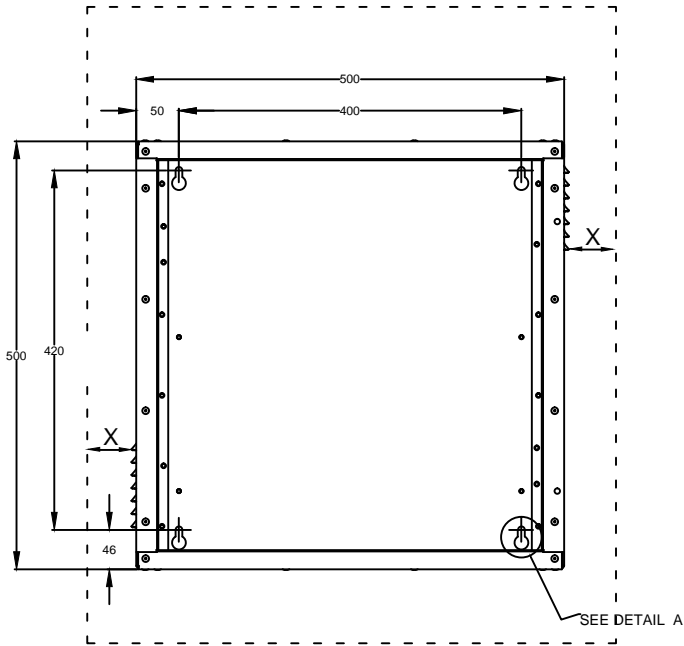
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| SAFETY:                  |            | AUTOCAD DRAWING    |                 | Release   | 2 OF 8       |
| APPROVED: E5900525/TKM   |            | Switchgear diagram |                 |           |              |

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



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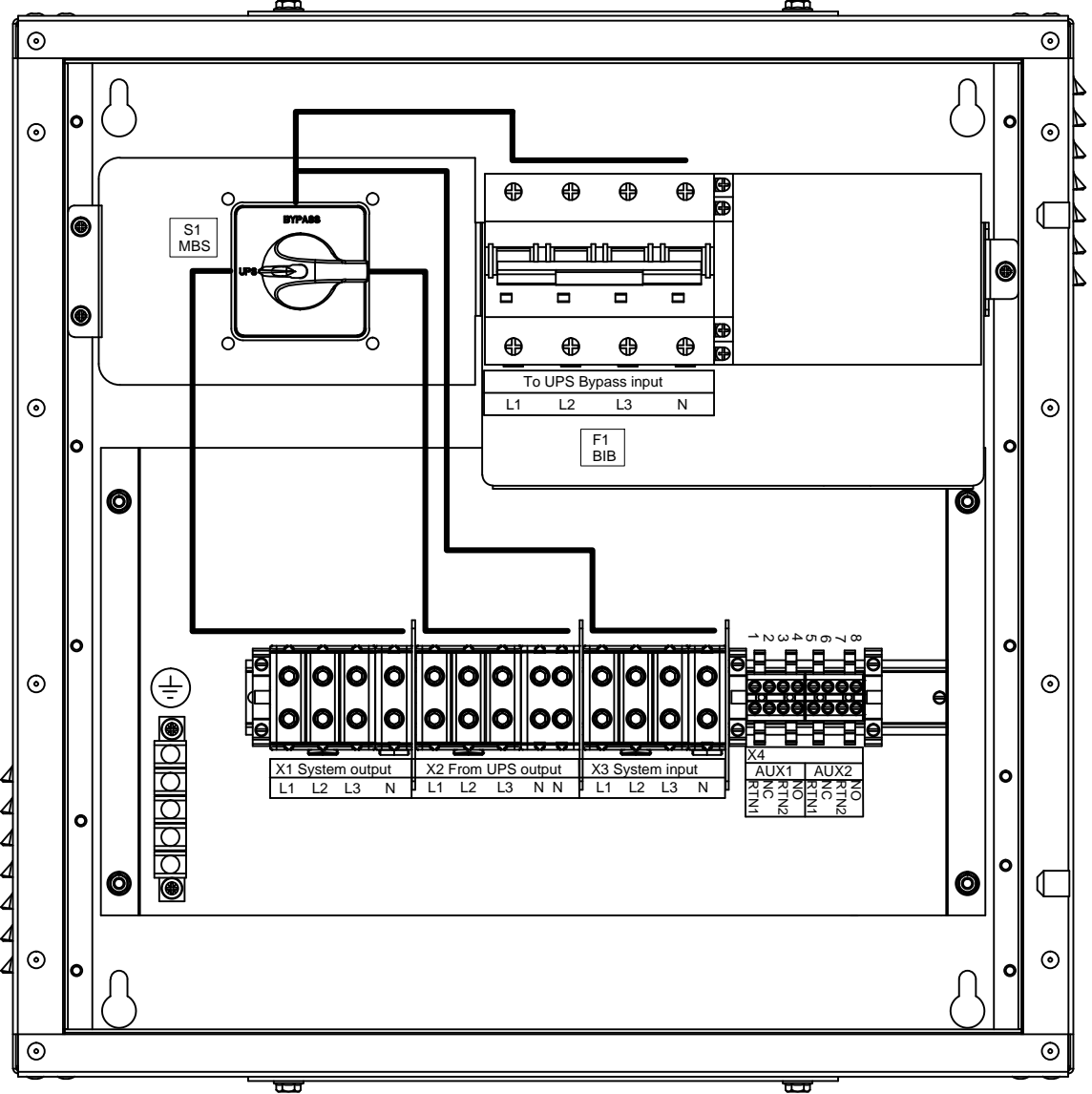
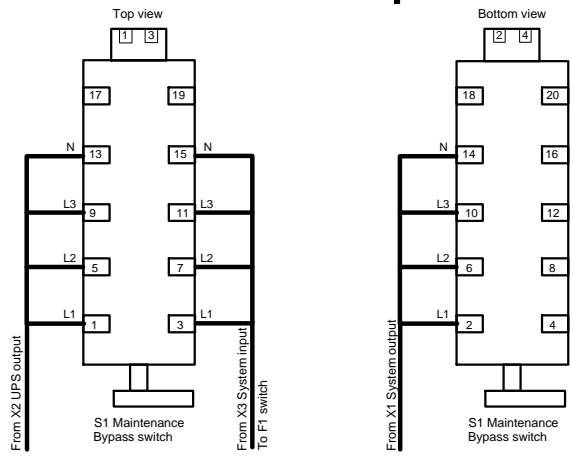
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| SAFETY:                  |            | AUTOCAD DRAWING   |                 | Release   | 3 OF 8       |
| APPROVED: E5900525/TKM   |            | Dimension diagram |                 |           |              |

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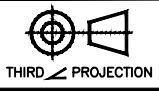
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| APPROVED: E5900525/TMK   |            | Component diagram |                 |           |              |

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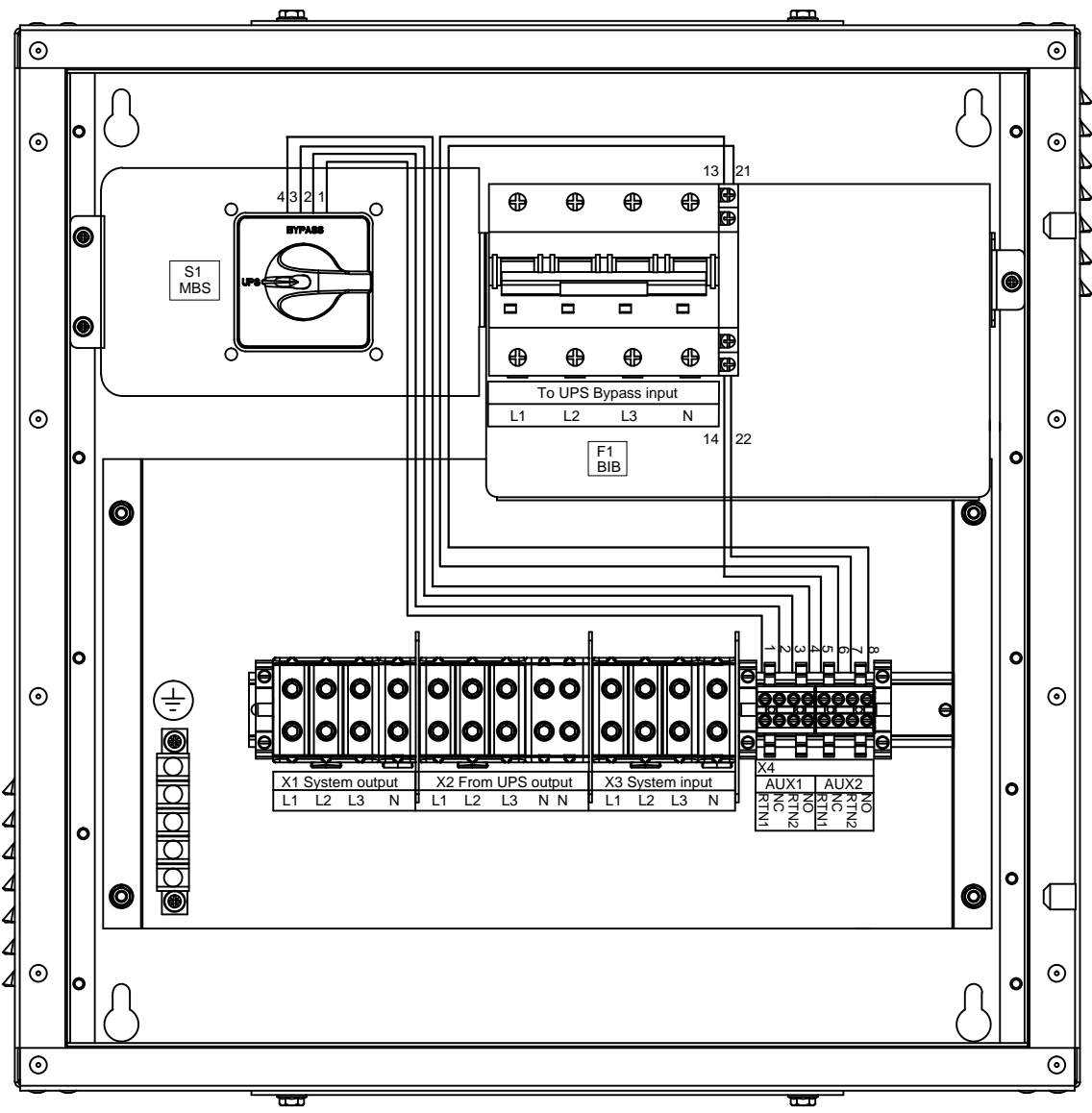
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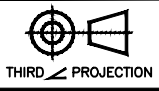
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| CHECKED: E5900525/TMK    |            | DOCUMENT TYPE:         |                 | STATE:    | SHEET:       |
| SAFETY:                  |            | AUTOCAD DRAWING        |                 | Release   | 5 OF 8       |
| APPROVED: E5900525/TMK   |            | 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  $U_n$  380/400/415 V
- 2. Nominal Current  $I_{nA}$  30/29/28 A
- 3. Maximum Current  $I_{max}$  36 A
- 4. Nominal Frequency  $f_n$  50/60 Hz
- 5. Operating Temperature  $T$  max +40 °C
- 6. Current capability
  - Thermal  $I_{cc}$  10 kA \*
  - Dynamical  $I_{pk}$      kA
- 7. Power dissipation  $P$      W
- 8. Electrical Wiring AC
  - L1
  - L2
  - L3
  - N
  - PE
  - PEN

**TYPE PLATE, SAMPLE**

80

EXTERNAL MBS 20kW, 3-SWITCHES

|            |                        |       |                |
|------------|------------------------|-------|----------------|
| Part Nr:   | <u>P-105000044-003</u> | Rev:  | <u>002</u>     |
| Serial Nr: | <u>00001</u>           | Date: | <u>05/2015</u> |

56

|          |                      |         |              |
|----------|----------------------|---------|--------------|
| MAINS:   | <u>TN-S</u>          | WEIGHT: | <u>26 kg</u> |
| CLASS:   | <u>IP21</u>          |         |              |
| $U_n$    | <u>380/400/415 V</u> |         |              |
| $I_{nA}$ | <u>30/29/28 A</u>    |         |              |
| $f_n$    | <u>50/60 Hz</u>      |         |              |
| $I_{cc}$ | <u>10 kA</u>         |         |              |

IEC61439-2 Made in EU

**CONSTRUCTION OF SWITCHGEAR**

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

**Note !**

- 1. Back-up fuse required for system input 40A gG
- 2. For external wiring use wire with temperature class min +90°C
- 3. \_\_\_\_\_
- 4. \_\_\_\_\_
- 5. \_\_\_\_\_

**C CUSTOMER ELECTRICAL INFORMATION**

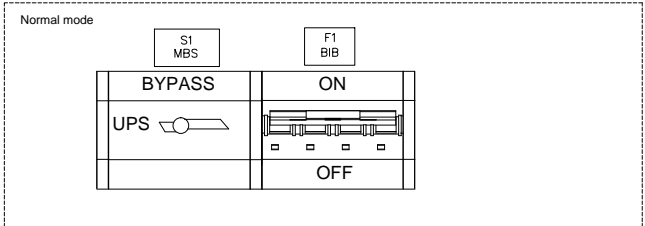
- 1. MAINS
  - TN-C-S
  - TN-S
  - IT
- 2. LOAD POWER
  - S      kVA
  - P      kW
  - p.f.

|   |                            |                                |                       |
|---|----------------------------|--------------------------------|-----------------------|
| METRIC  | <br>THIRD ANGLE PROJECTION | EATON CORPORATION              |                       |
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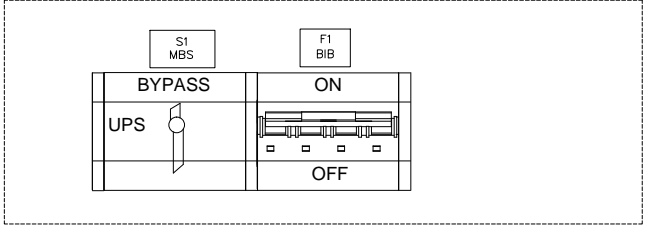
### Turn UPS from NORMAL MODE to MECHANICAL BYPASS

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.

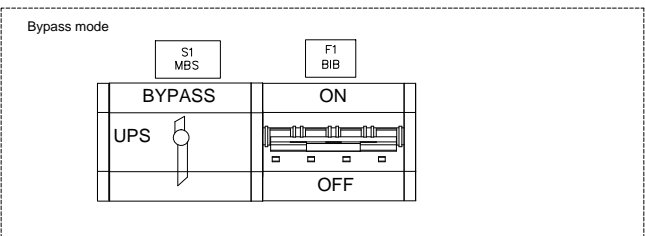
3. Turn the MBS (S1) to bypass position to bypass UPS:



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) to disconnect UPS from bypass and rectifier input:



7. Use the external isolator to isolate the UPS rectifier input before maintaining the UPS, unless the UPS is supplied from a single feed.

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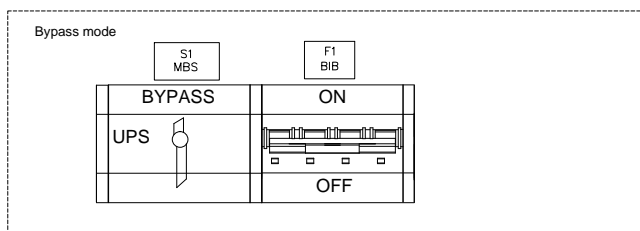
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| APPROVED: E5900525/TKM   |            | Operating Instructions |                 |           |              |

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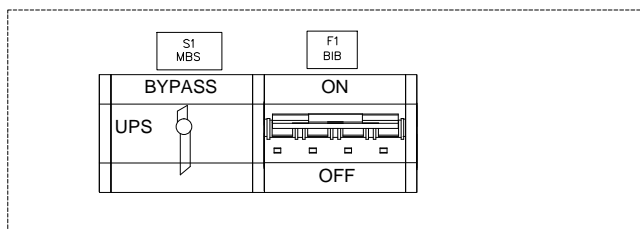
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## Turn UPS from MECHANICAL BYPASS to NORMAL MODE

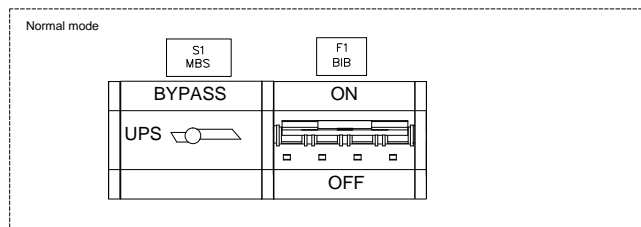
- The start position is following:



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



- Use the external isolator to restore rectifier feed to the UPS, unless the UPS is supplied from a single feed.
- 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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| APPROVED: E5900525/TKM   |            | Operating Instructions |                 |           |              |

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