

1 2 3 4

A



B

# EXTERNAL MAINTENANCE BYPASS

## 20kW, 2-SWITCHES

C

Product number: P-105000044-002

D

E

METRIC



# EATON CORPORATION



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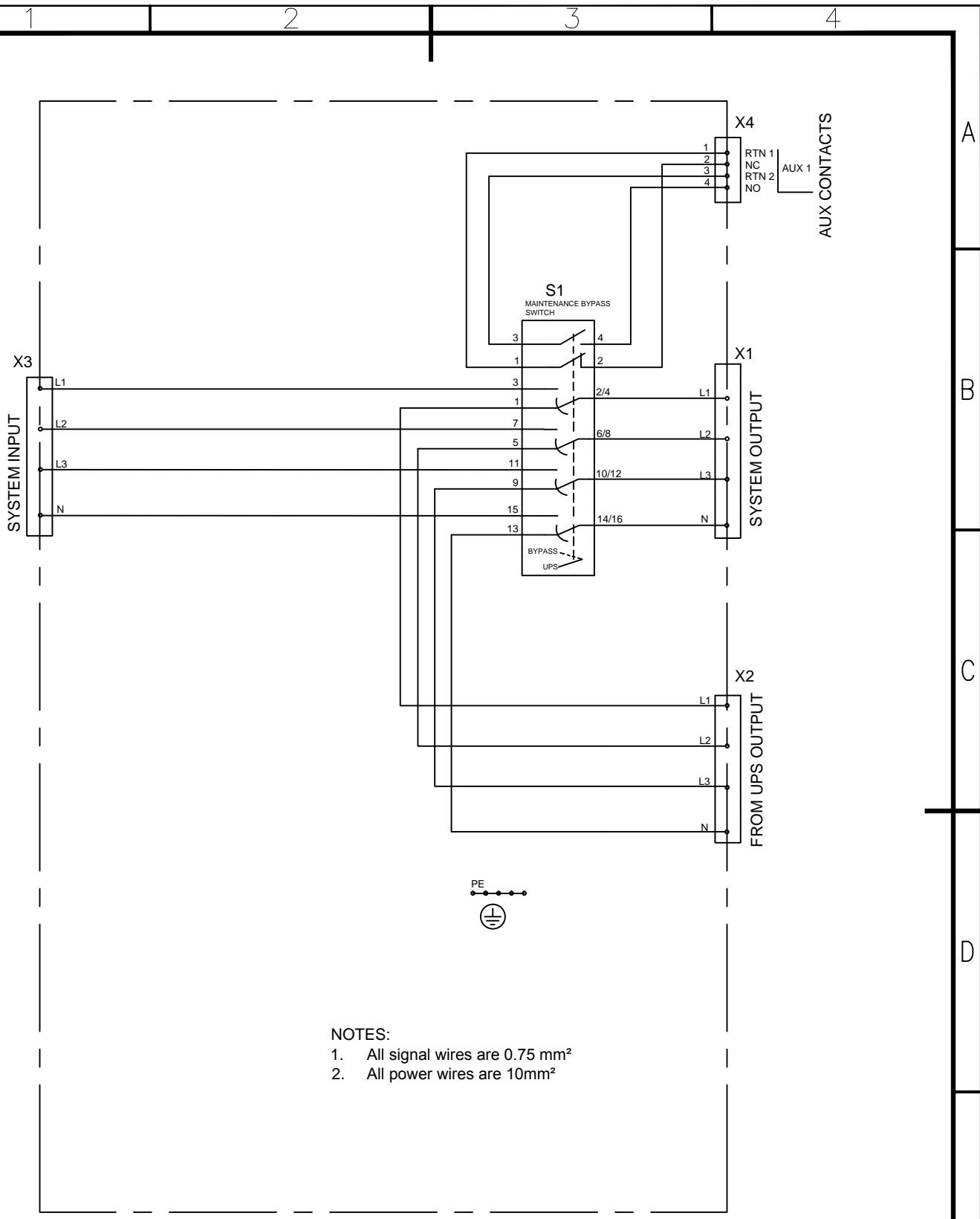
DESCRIPTION: EXTERNAL MBS 20kW, 2-SWITCHES

ORIGINATED: E5900083 /JP	15.05.2015	ECO:	NAME:	REVISION:	SIZE: A4
MODIFIED: E9917864/EY	18.19.2015	ECD-089242	P-105000044-002	002	NOT TO SCALE
CHECKED: E5900525/TMK		DOCUMENT TYPE:		STATE:	SHEET:
SAFETY:		AUTOCAD DRAWING		Release	1 OF 8
APPROVED: E5900525/TMK		Common sheet			

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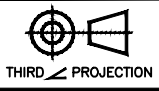
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- NOTES:
1. All signal wires are 0.75 mm<sup>2</sup>
  2. All power wires are 10mm<sup>2</sup>

METRIC



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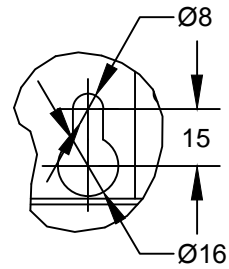
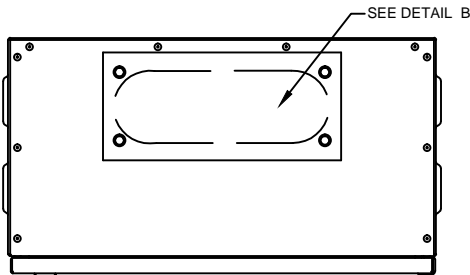
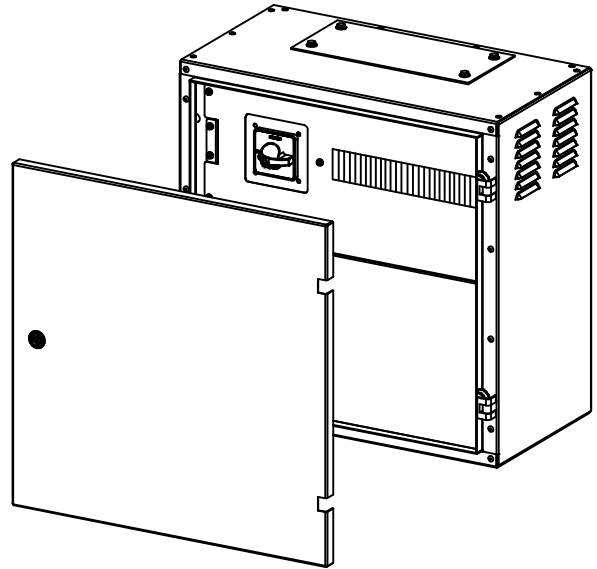
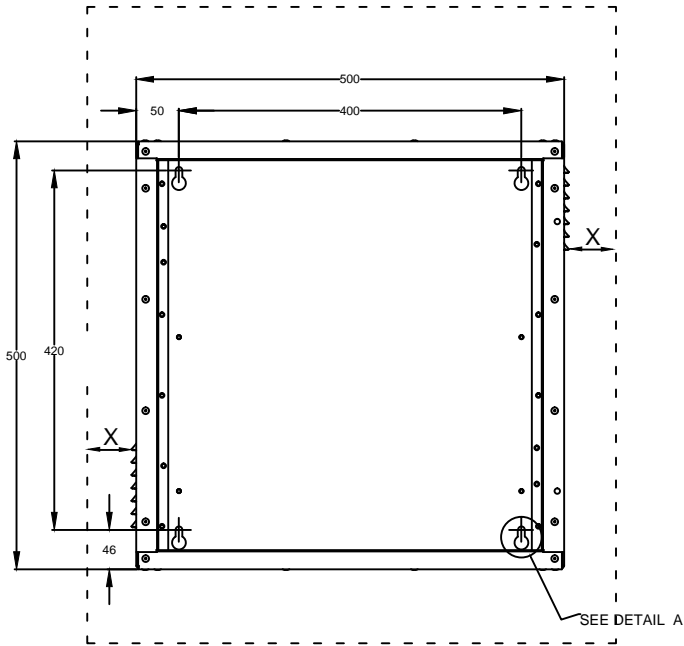
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CHECKED: E5900525/TKM		DOCUMENT TYPE:		STATE:	SHEET:
SAFETY:		AUTOCAD DRAWING		Release	2 OF 8
APPROVED: E5900525/TKM		Switchgear diagram			

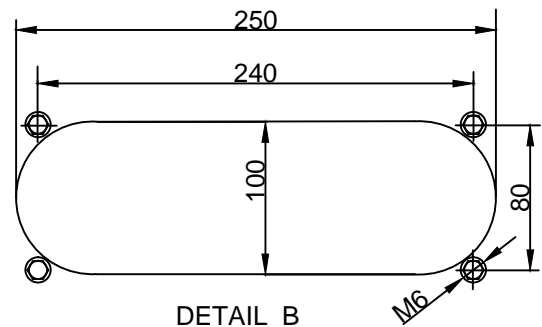
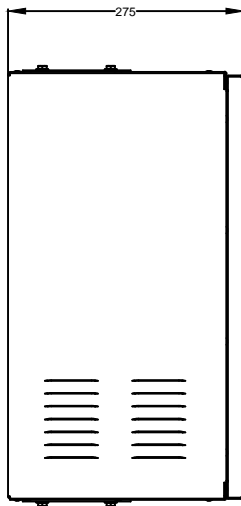
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X = clearance at both sides of cabinet min. 50mm



DETAIL A



DETAIL B

METRIC



THIRD ANGLE PROJECTION

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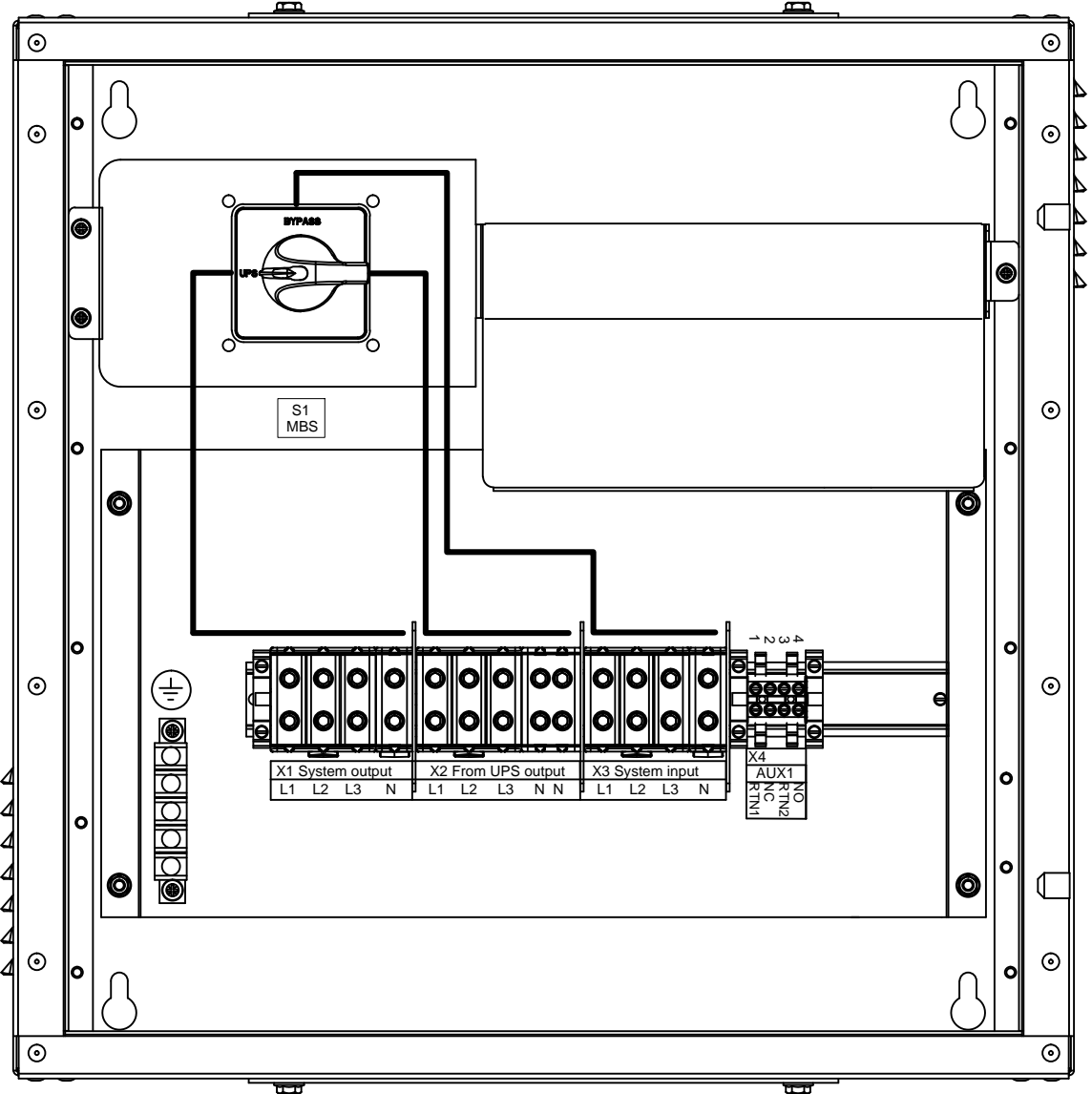
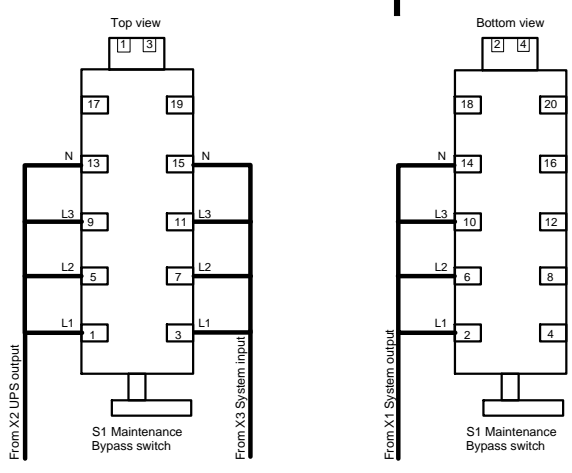
DESCRIPTION: EXTERNAL MBS 20kW, 2-SWITCHES

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MODIFIED: E9917864/EY	18.09.2015	ECO-089242	P-105000044-002	002	NOT TO SCALE
CHECKED: E5900525/TKM		DOCUMENT TYPE:		STATE:	SHEET:
SAFETY:		AUTOCAD DRAWING	Release	3 OF 8	
APPROVED: E5900525/TKM		Dimension diagram			

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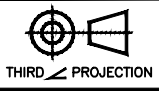
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1 2 3 4



A  
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METRIC



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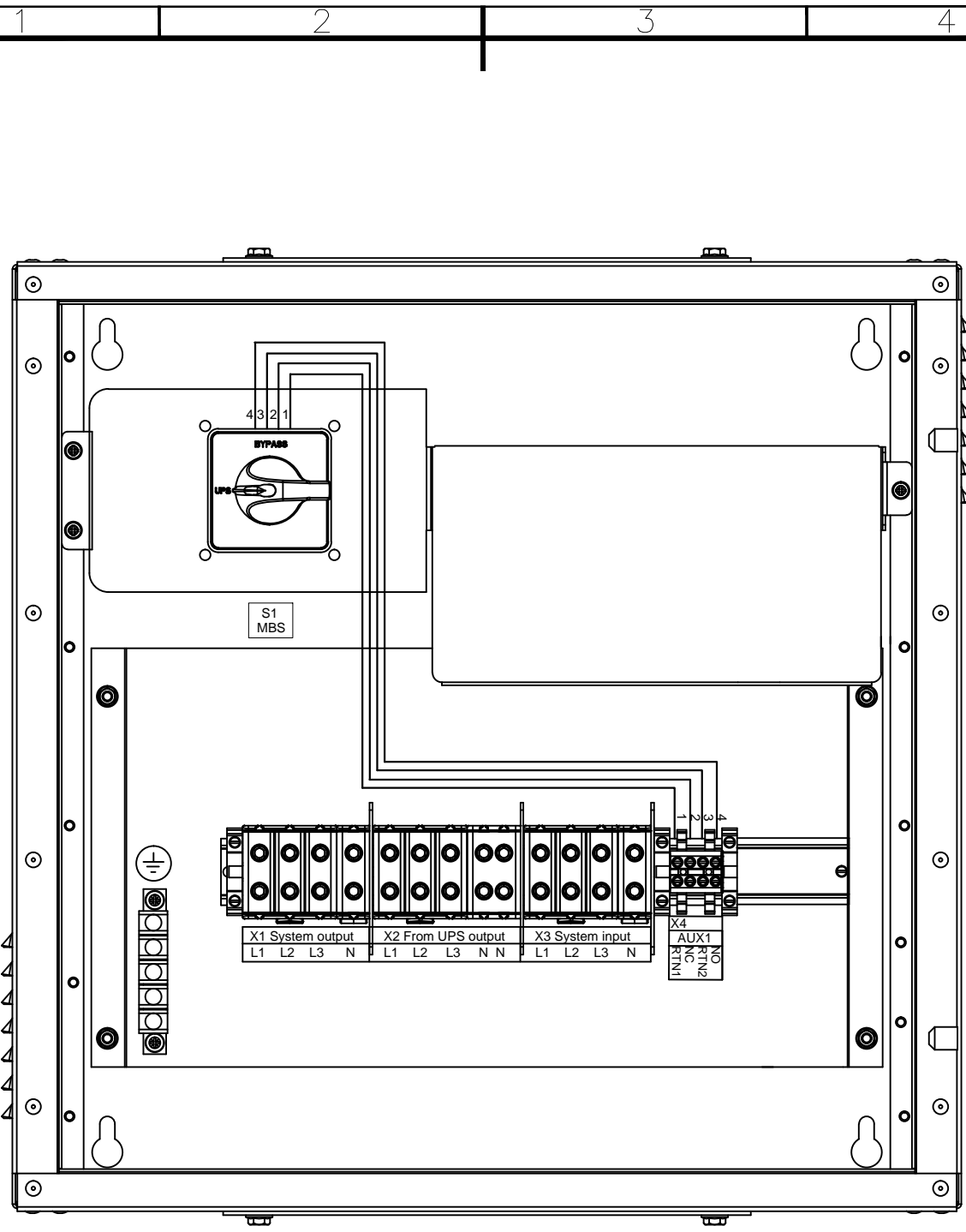
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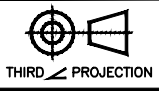
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CHECKED: E5900525/TMK		DOCUMENT TYPE:		STATE:	SHEET: 4 OF 8
SAFETY:		AUTOCAD DRAWING		Release	
APPROVED: E5900525/TMK		Component diagram			

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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

**TYPE PLATE, SAMPLE**

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>30/29/28</u> A                   |
| 3. Maximum Current       | $I_{max}$ | <u>36</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                | $I_{pk}$  | <u>    </u> kA                      |
| 7. Power dissipation     | P         | <u>    </u> 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"/>            |

EATON

EXTERNAL MBS 20kW, 2-SWITCHES

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

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

IEC61439-2
Made in EU

**CONSTRUCTION OF SWITCHGEAR**

- |                           |                      |                                     |
|---------------------------|----------------------|-------------------------------------|
| 1. Enclosure Class        | <u>IP 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        |                      |                                     |
| Lock-up                   |                      | <input type="checkbox"/>            |
| 4. Color                  |                      |                                     |
| Common color              | <u>RAL7035</u>       | <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            | <u>    </u>          | <input type="checkbox"/>            |
| Other demand              | <u>    </u>          | <input type="checkbox"/>            |
| 7. Handle location        | <u>Door handle</u>   |                                     |
|                           | <u>    </u>          | <input type="checkbox"/>            |
|                           | <u>    </u>          | <input type="checkbox"/>            |
|                           | <u>    </u>          | <input type="checkbox"/>            |
|                           | <u>    </u>          | <input type="checkbox"/>            |

**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. \_\_\_\_\_

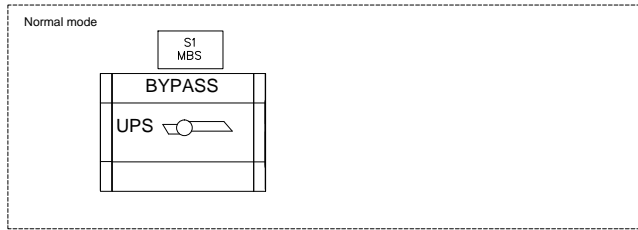
**C CUSTOMER ELECTRICAL INFORMATION**

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

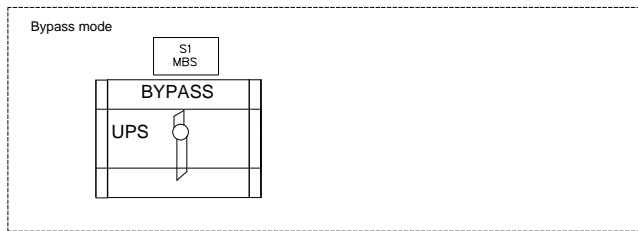
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MODIFIED: E9917864/EY	18.09.2015	DOCUMENT TYPE: AUTOCAD DRAWING	REVISION: 002
CHECKED: E5900525/TKM			STATE: Release
SAFETY:			SHEET: 6 OF 8
APPROVED: E5900525/TKM		General information	

## Turn UPS from NORMAL MODE to MECHANICAL BYPASS

- The start position is following:



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



- Use UPS display to turn UPS OFF
- Turn the UPS Battery Breaker (CB1) if not automatically tripped and UPS Rectifier Input Switch (S1) to OFF position.
- Use the external isolators to isolate the UPS rectifier input and bypass input before maintaining the UPS.

METRIC



THIRD ANGLE PROJECTION

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SAFETY:		AUTOCAD DRAWING		Release	7 OF 8
APPROVED: E5900525/TKM		Operating Instructions			

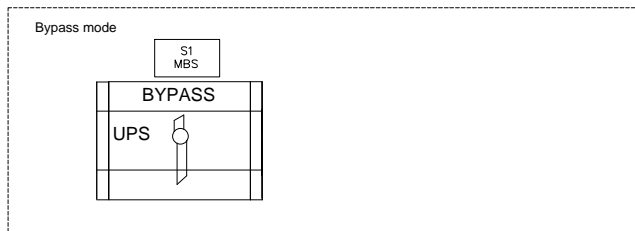
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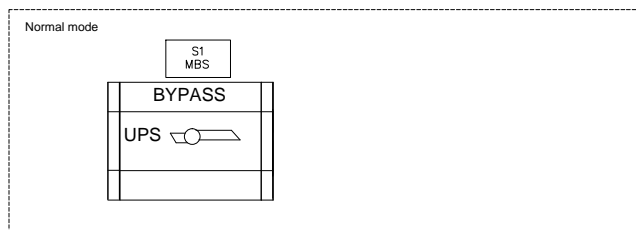
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## Turn UPS from MECHANICAL BYPASS to NORMAL MODE

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.

METRIC



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