

1

2

3

4

A

B

C

D

E

F



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

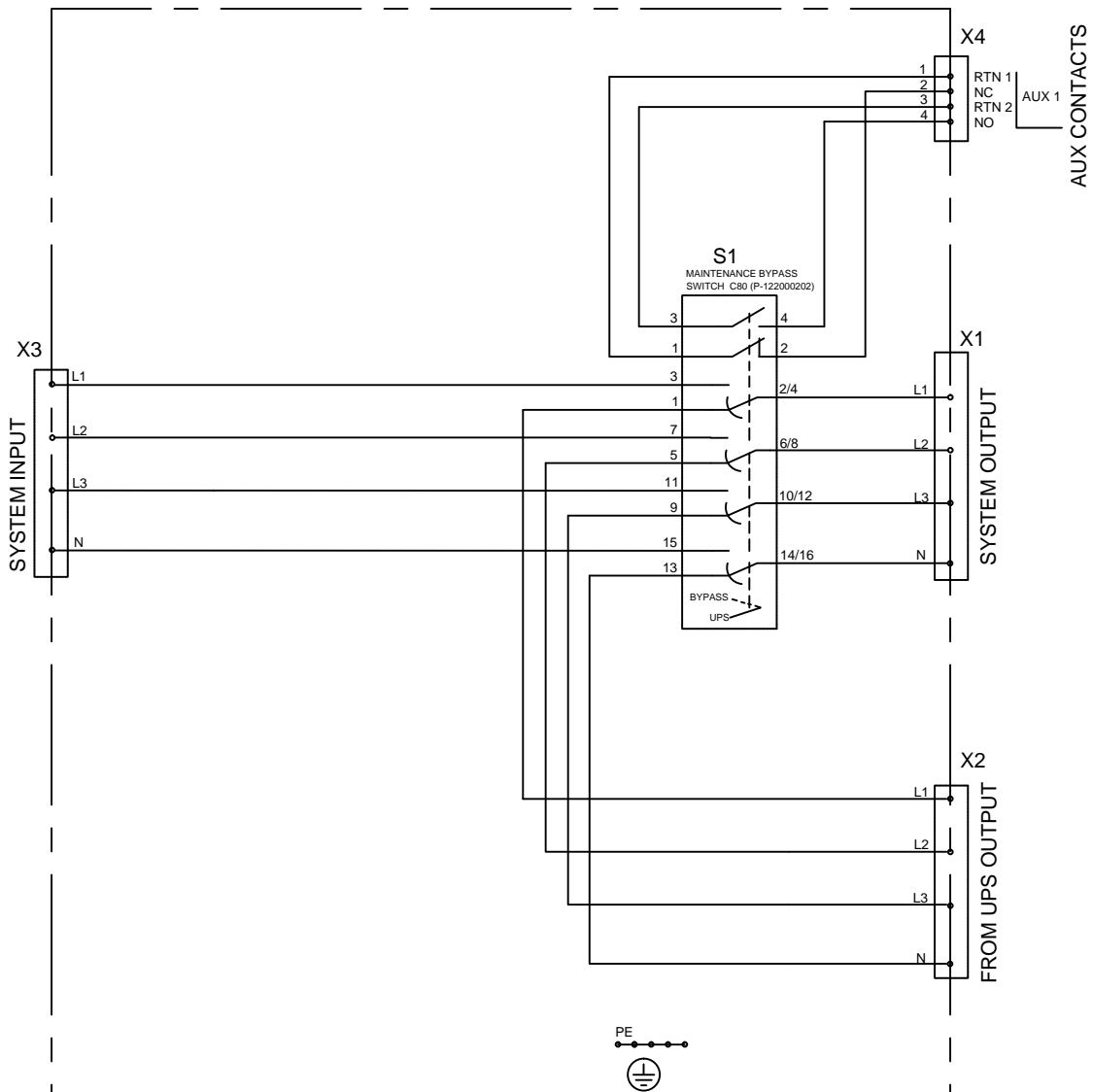
ORIGINATED: E5900083 /JP	13.05.2015	ECO:	NAME: P-110000474-002	REVISION:	SIZE: A4
MODIFIED: E5900083/JP	24.11.2015	ECD-092408		001	NOT TO SCALE
CHECKED: E5900525/TMK		DOCUMENT TYPE:		STATE:	SHEET:
SAFETY:		AUTOCAD DRAWING		Release	1 OF 8
APPROVED: E5900096/JE		Common sheet			

EATON CORPORATION - CONFIDENTIAL AND PROPRIETARY
NOTICE TO PERSONS RECEIVING THIS DOCUMENT AND/OR TECHNICAL INFORMATION

THIS DOCUMENT, INCLUDING THE DRAWING AND INFORMATION CONTAINED THEREON, IS CONFIDENTIAL AND IS THE EXCLUSIVE PROPERTY OF EATON CORPORATION, AND IS MERELY ON LOAN AND SUBJECT TO RECALL BY EATON AT ANY TIME. BY TAKING POSSESSION OF THIS DOCUMENT, THE RECIPIENT ACKNOWLEDGES AND AGREES THAT THIS DOCUMENT CANNOT BE USED IN ANY MANNER ADVERSE TO THE INTERESTS OF EATON AND THAT NO PORTION OF THIS DOCUMENT MAY BE COPIED OR OTHERWISE REPRODUCED WITHOUT THE PRIOR WRITTEN CONSENT OF EATON. IN THE CASE OF CONFLICTING CONTRACTUAL PROVISIONS, THIS NOTICE SHALL GOVERN THE STATUS OF THIS DOCUMENT.

© 2011 Eaton Corporation - All Rights Reserved.

1 2 3 4



NOTES:

1. All signal wires are 0.75 mm²
2. All power wires are 25 mm²

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

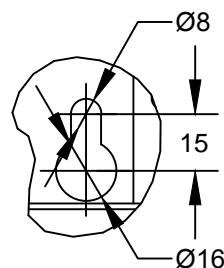
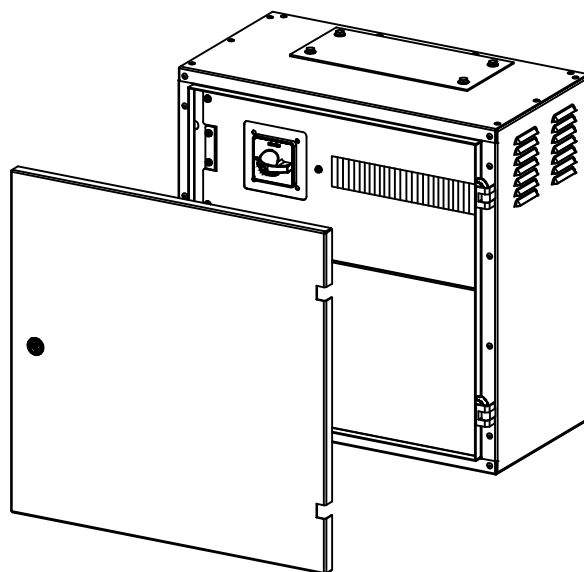
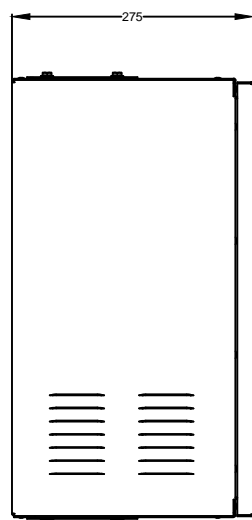
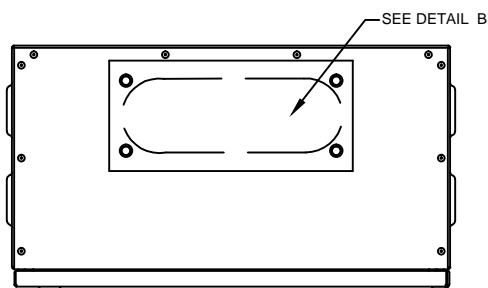
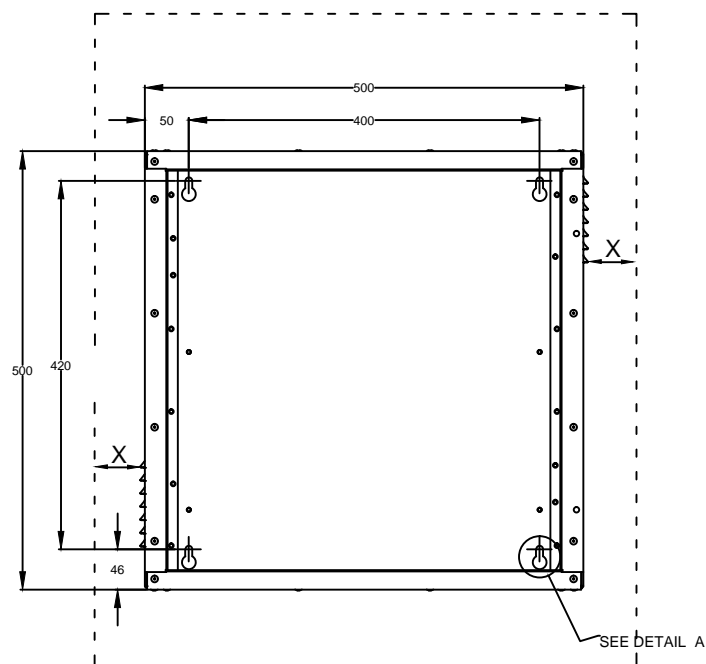
ORIGINATED: E5900525 /TMK	22.04.2015	ECO:	NAME:	REVISION:	SIZE: A4
MODIFIED: E5900083/JP	24.11.2015	ECO-092408		001	NOT TO SCALE
CHECKED: E5900525/TMK		DOCUMENT TYPE:	P-110000474-002	STATE:	SHEET:
SAFETY:		AUTOCAD DRAWING		Release	2 OF 8
APPROVED: E5900096/JE		Switchgear diagram			

EATON CORPORATION - CONFIDENTIAL AND PROPRIETARY
NOTICE TO PERSONS RECEIVING THIS DOCUMENT AND/OR TECHNICAL INFORMATION

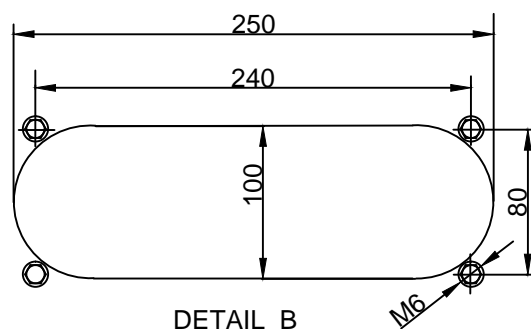
THIS DOCUMENT, INCLUDING THE DRAWING AND INFORMATION CONTAINED THEREON, IS CONFIDENTIAL AND IS THE EXCLUSIVE PROPERTY OF EATON CORPORATION, AND IS MERELY ON LOAN AND SUBJECT TO RECALL BY EATON AT ANY TIME. BY TAKING POSSESSION OF THIS DOCUMENT, THE RECIPIENT ACKNOWLEDGES AND AGREES THAT THIS DOCUMENT CANNOT BE USED IN ANY MANNER ADVERSE TO THE INTERESTS OF EATON AND THAT NO PORTION OF THIS DOCUMENT MAY BE COPIED OR OTHERWISE REPRODUCED WITHOUT THE PRIOR WRITTEN CONSENT OF EATON. IN THE CASE OF CONFLICTING CONTRACTUAL PROVISIONS, THIS NOTICE SHALL GOVERN THE STATUS OF THIS DOCUMENT.

© 2011 Eaton Corporation - All Rights Reserved.

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



DETAIL A
SCALE 1:2



DETAIL B

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

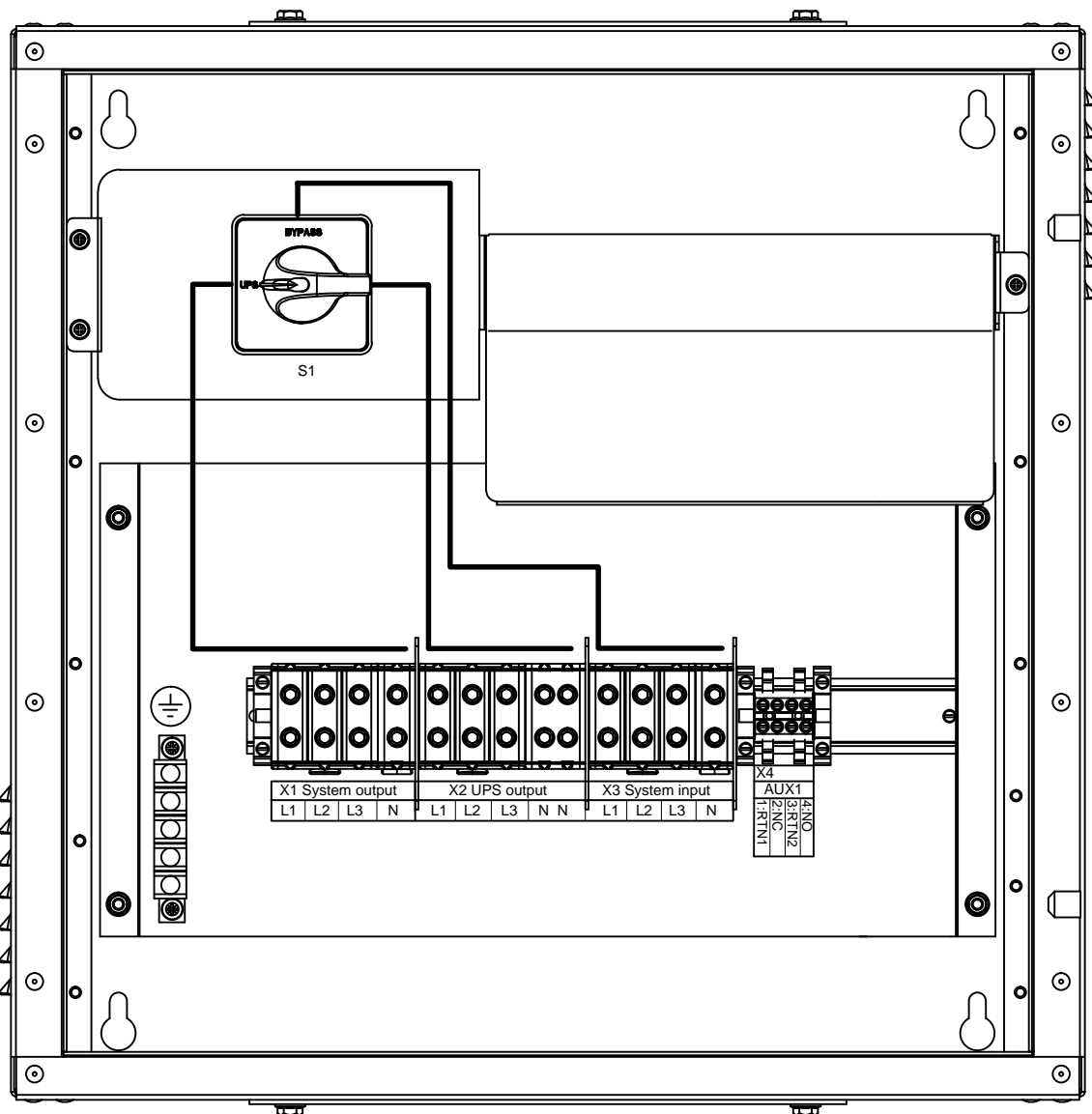
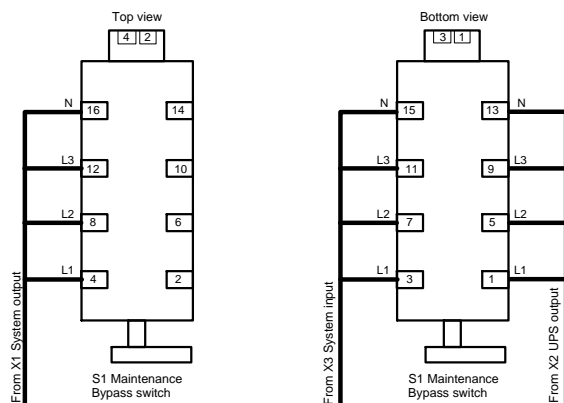
ORIGINATED: E5900083 /JP	13.05.2015	ECO:	NAME:	REVISION:	SIZE: A4
MODIFIED: E5900083/JP	24.11.2015	ECO-092408		001	NOT TO SCALE
CHECKED: E5900525/TKM		DOCUMENT TYPE:	P-110000474-002	STATE:	SHEET:
SAFETY:		AUTOCAD DRAWING		Release	3 OF 8
APPROVED: E5900096/JE		Dimension diagram			

EATON CORPORATION - CONFIDENTIAL AND PROPRIETARY
NOTICE TO PERSONS RECEIVING THIS DOCUMENT AND/OR TECHNICAL INFORMATION

THIS DOCUMENT, INCLUDING THE DRAWING AND INFORMATION CONTAINED THEREON, IS CONFIDENTIAL AND IS THE EXCLUSIVE PROPERTY OF EATON CORPORATION, AND IS MERELY ON LOAN AND SUBJECT TO RECALL BY EATON AT ANY TIME. BY TAKING POSSESSION OF THIS DOCUMENT, THE RECIPIENT ACKNOWLEDGES AND AGREES THAT THIS DOCUMENT CANNOT BE USED IN ANY MANNER ADVERSE TO THE INTERESTS OF EATON AND THAT NO PORTION OF THIS DOCUMENT MAY BE COPIED OR OTHERWISE REPRODUCED WITHOUT THE PRIOR WRITTEN CONSENT OF EATON. IN THE CASE OF CONFLICTING CONTRACTUAL PROVISIONS, THIS NOTICE SHALL GOVERN THE STATUS OF THIS DOCUMENT.

© 2011 Eaton Corporation - All Rights Reserved.

1 2 3 4



METRIC



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

ORIGINATED: E5900083 /JP	13.05.2015	ECO:	NAME:	REVISION:	SIZE: A4
MODIFIED: E5900083/JP	24.11.2015	ECO-092408		001	NOT TO SCALE
CHECKED: E5900525/TMK		DOCUMENT TYPE:	P-110000474-002	STATE:	
SAFETY:		AUTOCAD DRAWING		Release	
APPROVED: E5900096/JE			Component layout and power wiring diagram		SHEET: 4 OF 8

EATON CORPORATION - CONFIDENTIAL AND PROPRIETARY
NOTICE TO PERSONS RECEIVING THIS DOCUMENT AND/OR TECHNICAL INFORMATION

THIS DOCUMENT, INCLUDING THE DRAWING AND INFORMATION CONTAINED THEREON, IS CONFIDENTIAL AND IS THE EXCLUSIVE PROPERTY OF EATON CORPORATION, AND IS MERELY ON LOAN AND SUBJECT TO RECALL BY EATON AT ANY TIME. BY TAKING POSSESSION OF THIS DOCUMENT, THE RECIPIENT ACKNOWLEDGES AND AGREES THAT THIS DOCUMENT CANNOT BE USED IN ANY MANNER ADVERSE TO THE INTERESTS OF EATON AND THAT NO PORTION OF THIS DOCUMENT MAY BE COPIED OR OTHERWISE REPRODUCED WITHOUT THE PRIOR WRITTEN CONSENT OF EATON. IN THE CASE OF CONFLICTING CONTRACTUAL PROVISIONS, THIS NOTICE SHALL GOVERN THE STATUS OF THIS DOCUMENT.

© 2011 Eaton Corporation - All Rights Reserved.

1 2 3 4

A

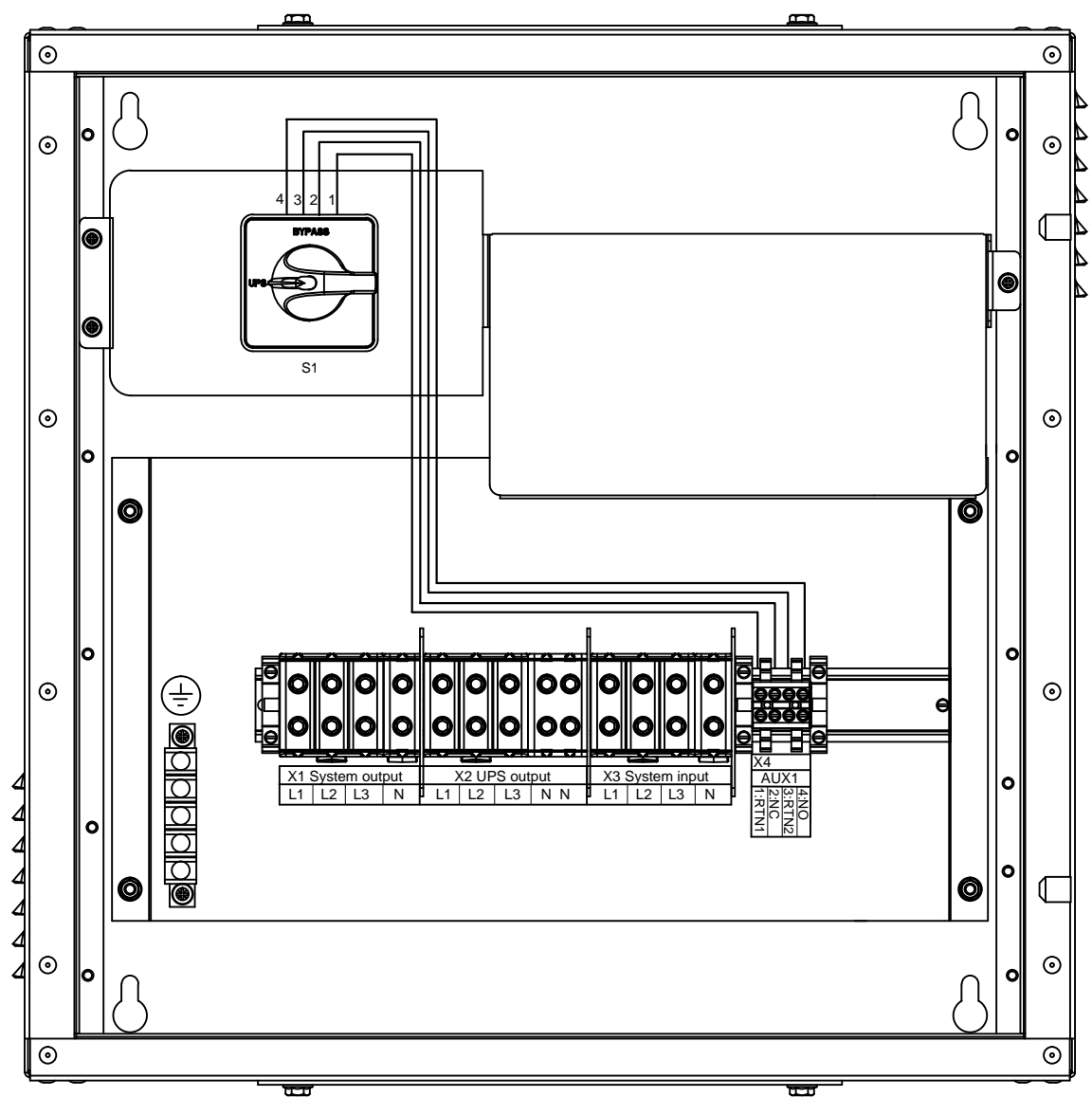
B

C

D

E

F



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

ORIGINATED: E5900083 /JP	13.05.2015	ECO:	NAME:	REVISION:	SIZE: A4
MODIFIED: E5900083/JP	24.11.2015	ECO-092408	P-110000474-002	001	NOT TO SCALE
CHECKED: E5900525/TMK		DOCUMENT TYPE:		STATE:	SHEET:
SAFETY:		AUTOCAD DRAWING		Release	5 OF 8
APPROVED: E5900096/JE		Control wiring Diagram			

EATON CORPORATION - CONFIDENTIAL AND PROPRIETARY
NOTICE TO PERSONS RECEIVING THIS DOCUMENT AND/OR TECHNICAL INFORMATION

THIS DOCUMENT, INCLUDING THE DRAWING AND INFORMATION CONTAINED THEREON, IS CONFIDENTIAL AND IS THE EXCLUSIVE PROPERTY OF EATON CORPORATION, AND IS MERELY ON LOAN AND SUBJECT TO RECALL BY EATON AT ANY TIME. BY TAKING POSSESSION OF THIS DOCUMENT, THE RECIPIENT ACKNOWLEDGES AND AGREES THAT THIS DOCUMENT CANNOT BE USED IN ANY MANNER ADVERSE TO THE INTERESTS OF EATON AND THAT NO PORTION OF THIS DOCUMENT MAY BE COPIED OR OTHERWISE REPRODUCED WITHOUT THE PRIOR WRITTEN CONSENT OF EATON. IN THE CASE OF CONFLICTING CONTRACTUAL PROVISIONS, THIS NOTICE SHALL GOVERN THE STATUS OF THIS DOCUMENT.

© 2011 Eaton Corporation - All Rights Reserved.




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} | 61/58/56 A |
| 3. Maximum Current | I _{max} | 72 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 | <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		50
		
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 !

- Back-up fuse required for system input 80A gG
- For external wiring use wire with temperature class min +90°C
-
-
-

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. | — |

METRIC



THIRD ANGLE PROJECTION

EATON CORPORATION

EATON

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

DESCRIPTION: EXTERNAL MBS 40kW

ORIGINATED: E5900083/JP	13.05.2015	ECO:	NAME:	REVISION:	SIZE: A4
MODIFIED: E5900083/JP	24.11.2015	ECO-092408		001	NOT TO SCALE
CHECKED: E5900525/TKM		DOCUMENT TYPE:	P-110000474-002	STATE:	SHEET:
SAFETY:		AUTOCAD DRAWING		Release	6 OF 8
APPROVED: E5900096/JE		General information			

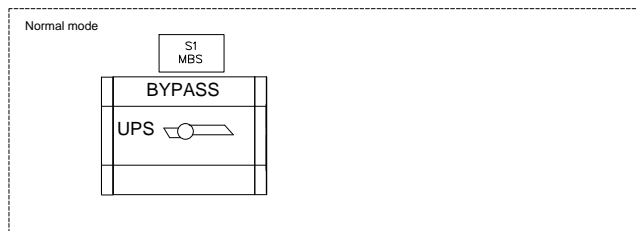
EATON CORPORATION - CONFIDENTIAL AND PROPRIETARY
NOTICE TO PERSONS RECEIVING THIS DOCUMENT AND/OR TECHNICAL INFORMATION

THIS DOCUMENT, INCLUDING THE DRAWING AND INFORMATION CONTAINED THEREON, IS CONFIDENTIAL AND IS THE EXCLUSIVE PROPERTY OF EATON CORPORATION, AND IS MERELY ON LOAN AND SUBJECT TO RECALL BY EATON AT ANY TIME. BY TAKING POSSESSION OF THIS DOCUMENT, THE RECIPIENT ACKNOWLEDGES AND AGREES THAT THIS DOCUMENT CANNOT BE USED IN ANY MANNER ADVERSE TO THE INTERESTS OF EATON AND THAT NO PORTION OF THIS DOCUMENT MAY BE COPIED OR OTHERWISE REPRODUCED WITHOUT THE PRIOR WRITTEN CONSENT OF EATON. IN THE CASE OF CONFLICTING CONTRACTUAL PROVISIONS, THIS NOTICE SHALL GOVERN THE STATUS OF THIS DOCUMENT.

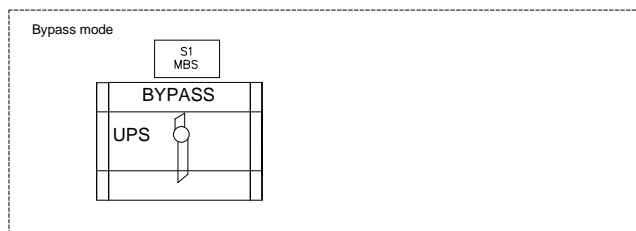
© 2011 Eaton Corporation - All Rights Reserved.

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.

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

ORIGINATED: E5900083 /JP	13.05.2015	ECO:	NAME:	REVISION:	SIZE: A4
MODIFIED: E5900083/JP	24.11.2015	ECO-092408	P-110000474-002	001	NOT TO SCALE
CHECKED: E5900525/TKM		DOCUMENT TYPE:		STATE:	SHEET:
SAFETY:		AUTOCAD DRAWING		Release	
APPROVED: E5900096/JE		Operating Instructions			7 OF 8

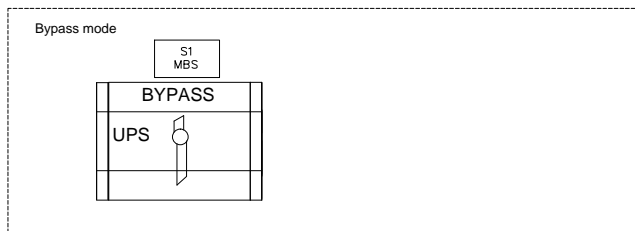
EATON CORPORATION - CONFIDENTIAL AND PROPRIETARY
NOTICE TO PERSONS RECEIVING THIS DOCUMENT AND/OR TECHNICAL INFORMATION

THIS DOCUMENT, INCLUDING THE DRAWING AND INFORMATION CONTAINED THEREON, IS CONFIDENTIAL AND IS THE EXCLUSIVE PROPERTY OF EATON CORPORATION, AND IS MERELY ON LOAN AND SUBJECT TO RECALL BY EATON AT ANY TIME. BY TAKING POSSESSION OF THIS DOCUMENT, THE RECIPIENT ACKNOWLEDGES AND AGREES THAT THIS DOCUMENT CANNOT BE USED IN ANY MANNER ADVERSE TO THE INTERESTS OF EATON AND THAT NO PORTION OF THIS DOCUMENT MAY BE COPIED OR OTHERWISE REPRODUCED WITHOUT THE PRIOR WRITTEN CONSENT OF EATON. IN THE CASE OF CONFLICTING CONTRACTUAL PROVISIONS, THIS NOTICE SHALL GOVERN THE STATUS OF THIS DOCUMENT.

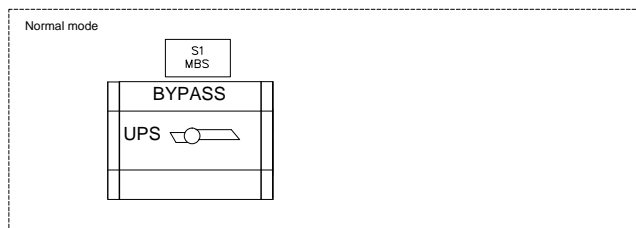
© 2011 Eaton Corporation - All Rights Reserved.

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



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

ORIGINATED: E5900083 /JP	13.05.2015	ECO:	NAME:	REVISION:	SIZE: A4
MODIFIED: E5900083/EY	24.11.2015	ECO-092408	P-110000474-002	001	NOT TO SCALE
CHECKED: E5900525/TKM		DOCUMENT TYPE:		STATE:	SHEET:
SAFETY:		AUTOCAD DRAWING		Release	8 OF 8
APPROVED: E59000096/JE		Operating Instructions			

EATON CORPORATION - CONFIDENTIAL AND PROPRIETARY
NOTICE TO PERSONS RECEIVING THIS DOCUMENT AND/OR TECHNICAL INFORMATION

THIS DOCUMENT, INCLUDING THE DRAWING AND INFORMATION CONTAINED THEREON, IS CONFIDENTIAL AND IS THE EXCLUSIVE PROPERTY OF EATON CORPORATION, AND IS MERELY ON LOAN AND SUBJECT TO RECALL BY EATON AT ANY TIME. BY TAKING POSSESSION OF THIS DOCUMENT, THE RECIPIENT ACKNOWLEDGES AND AGREES THAT THIS DOCUMENT CANNOT BE USED IN ANY MANNER ADVERSE TO THE INTERESTS OF EATON AND THAT NO PORTION OF THIS DOCUMENT MAY BE COPIED OR OTHERWISE REPRODUCED WITHOUT THE PRIOR WRITTEN CONSENT OF EATON. IN THE CASE OF CONFLICTING CONTRACTUAL PROVISIONS, THIS NOTICE SHALL GOVERN THE STATUS OF THIS DOCUMENT.

© 2011 Eaton Corporation - All Rights Reserved.