MAX PANEL SUPPLY PROTECTIVE DEVICE RATING:

160 AMPS

L1 MAINS
L2 MAINS
L3 MAINS

MAINS INPUT

L1 UPS OUTPUT — 2.4
L2 UPS OUTPUT — 2.4
L3 UPS OUTPUT — 2.4

INTERLOCK AUX1 — 2.3
INTERLOCK AUX2 — 2.3
INTERLOCK AUX3
INTERLOCK AUX4

MANUAL
BYPASS AUX
CONTACTS

Q2
1.4

Q2
1.4

Q1
UPS INPUT
160A

Q2
MANUAL BYPASS
160A

Q3
UPS OUTPUT
160A

INTERLOCK AUX5 — 2.3
INTERLOCK AUX6 — 2.3
INTERLOCK AUX7
INTERLOCK AUX8

UPS
OUTPUT AUX
CONTACTS

Q3
1.7

Q3
1.7

L1 UPS INPUT
L2 UPS INPUT
L3 UPS INPUT

2.4
2.4
2.4
2.4

LOAD OUTPUT

L1 LOAD
L2 LOAD
L3 LOAD

NEUTRAL
EARTH

NEUTRAL — 2.4
EARTH — 2.5

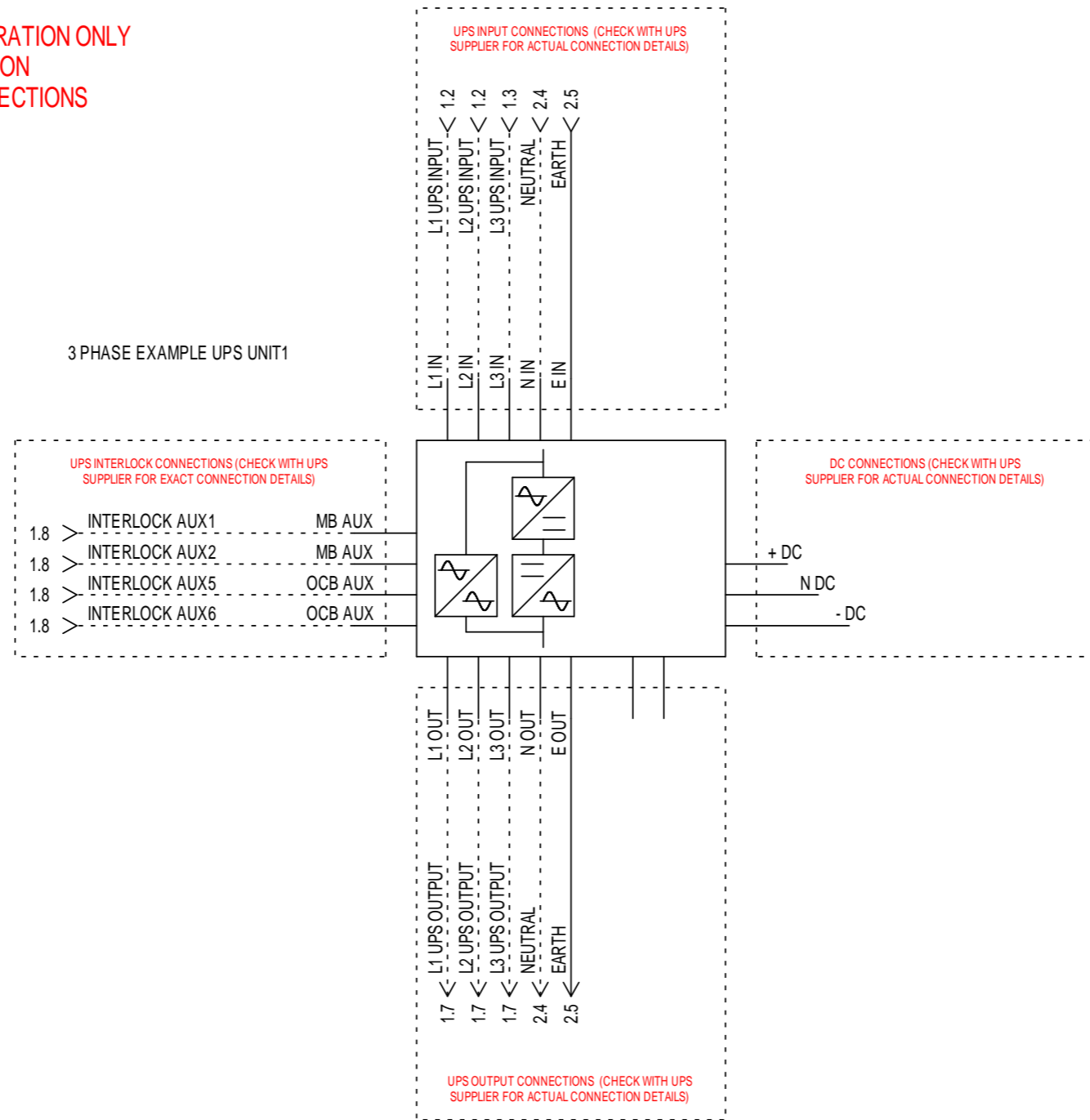|	NO	NC
	1.8	1.9

	NO	NC
	1.8	1.9

NOTES:
1) PRODUCT MUST BE INSTALLED IN COMPLIANCE WITH ALL NATIONAL AND LOCAL ELECTRICAL REGULATIONS
2) PLEASE REFER TO UPS PRODUCT MANUALS FOR ADDITIONAL INFORMATION
3) ALL DIMENSIONS IN MM UNLESS OTHERWISE SPECIFIED
4) 4 - CORE SHIELDED SIGNAL CABLE MUST BE RUN FROM EMBS TO EACH UPS UNIT
5) ALL DASHED LINES EXTERNAL TO BYPASS PANEL

PRODUCT REF:	RB1-EMBS-160A-3P-ISO	REV NO:	1
DOCUMENT NUMBER:	RBECAD00089	CREATION DATE:	29/04/2016
PAGE DESCRIPTION:	MAIN SWITCH'S	REV DATE:	25/05/2016
PROJECT NO:	SUBMITTAL DRAWING	DRAWN BY:	R BARNES
PAGE TEMPLATE REF:	RBQS00075REV2	CHECKED BY:	M BRADLEY
PRODUCT WEIGHT:	45KG	SHEET NUMBER:	1 OF 4

EXAMPLE UPS UNIT CONNECTION DIAGRAM FOR ILLUSTRATION ONLY
CHECK WITH UPS UNIT SUPPLIER FOR EXACT CONNECTION
CONFIGURATION FOR THE AC, DC AND AUXILLARY CONNECTIONS

UPS INPUT CONNECTIONS (CHECK WITH UPS
SUPPLIER FOR ACTUAL CONNECTION DETAILS)

L1 UPS INPUT   1.2
L2 UPS INPUT   1.2
L3 UPS INPUT   1.3
NEUTRAL   2.4
EARTH   2.5

L1 IN
L2 IN
L3 IN
N IN
E IN

3 PHASE EXAMPLE UPS UNIT1

UPS INTERLOCK CONNECTIONS (CHECK WITH UPS
SUPPLIER FOR EXACT CONNECTION DETAILS)

1.8	INTERLOCK AUX1	MB AUX
1.8	INTERLOCK AUX2	MB AUX
1.8	INTERLOCK AUX5	OCB AUX
1.8	INTERLOCK AUX6	OCB AUX

DC CONNECTIONS (CHECK WITH UPS
SUPPLIER FOR ACTUAL CONNECTION DETAILS)

+ DC
N DC
- DC

L1 OUT
L2 OUT
L3 OUT
N OUT
E OUT

L1 UPS OUTPUT   1.7
L2 UPS OUTPUT   1.7
L3 UPS OUTPUT   1.7
NEUTRAL   2.4
EARTH   2.5

UPS OUTPUT CONNECTIONS (CHECK WITH UPS
SUPPLIER FOR ACTUAL CONNECTION DETAILS)

NOTES:
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3) ALL DIMENSIONS IN MM UNLESS OTHERWISE SPECIFIED
4) 4 - CORE SHIELDED SIGNAL CABLE MUST BE RUN FROM EMBS TO EACH UPS UNIT
5) ALL DASHED LINES EXTERNAL TO BYPASS PANEL

PRODUCT REF:	RB1-EMBS-160A-3P-ISO	REV NO:	1
DOCUMENT NUMBER:	RBECAD00089	CREATION DATE:	25/05/2016
PAGE DESCRIPTION:	UPS UNIT	REV DATE:	25/05/2016
PROJECT NO:	SUBMITTAL DRAWING	DRAWN BY:	R BARNES
PAGE TEMPLATE REF:	RBQS00078REV2	CHECKED BY:	M BRADLEY
PRODUCT WEIGHT:	45KG	SHEET NUMBER:	2 OF 4

DO NOT USE THIS PROCEDURE IF THE MAINS IS NOT AVAILABLE. IF IN ANY DOUBT CONTACT YOUR UPS SERVICE PROVIDER.

STEP A (NORMAL POSITION)
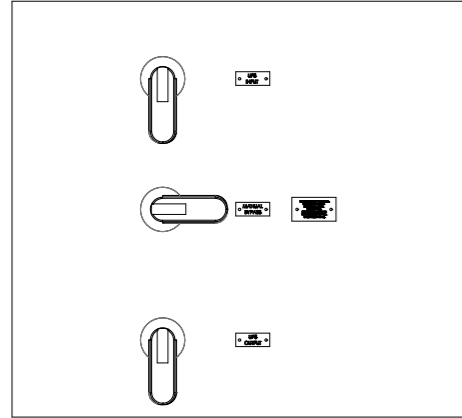
MANUAL BYPASS:
-IN THE OFF POSITION

UPS OUTPUT:
-IN THE ON POSITION

UPS UNIT:
-NORMAL MODE - ONLINE - LOAD ON UPS

STEP B

REFER TO UPS USER MANUAL TO SWITCH
THE UPS UNIT (OR UNITS) TO STATIC
BYPASS

ONCE UPS UNIT (OR UNITS) ARE IN STATIC
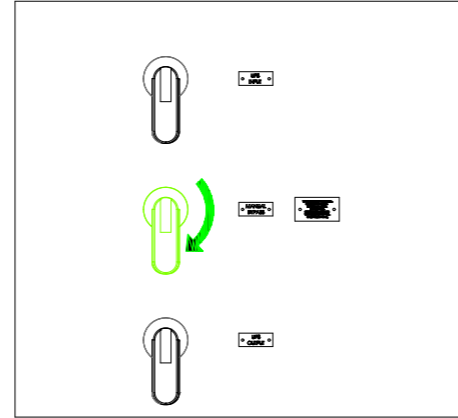BYPASS CONTINUE THE SWITCHING
SEQUENCE

MANUAL BYPASS:
-IN THE OFF POSITION

UPS OUTPUT:
-IN THE ON POSITION

UPS UNIT:
-STATIC BYPASS - LOAD ON MAINS

THE UPS MUST BE IN STATIC BYPASS
BEFORE CONTINUING OR MAJOR DAMAGE
TO THE UPS AND LOSS OF POWER TO
THE LOAD WILL OCCUR!

STEP C

MANUAL BYPASS:
-IN THE ON POSITION

UPS OUTPUT:
-IN THE ON POSITION

UPS UNIT:
-STATIC BYPASS - LOAD ON MAINS

STEP D
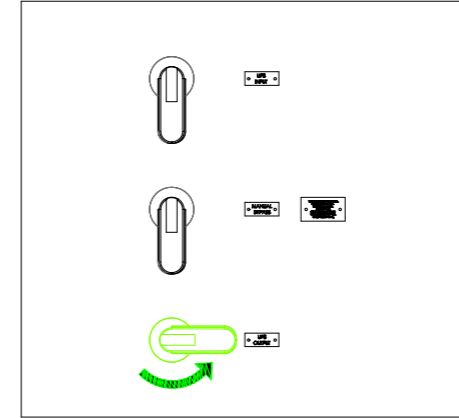
MANUAL BYPASS:
-IN THE ON POSITION

UPS OUTPUT:
-IN THE OFF POSITION

UPS UNIT:
-STATIC BYPASS - LOAD ON MAINS

STEP E (ON BYPASS POSITION)

UPS SYSTEM IS NOW ON EXTERNAL BYPASS

TO RETURN TO NORMAL MODE
ONLINE UPS OPERATION FOLLOW
THE NEXT SEQUENCE

MANUAL BYPASS:
-IN THE ON POSITION

UPS OUTPUT:
-IN THE OFF POSITION

UPS UNIT:
-STATIC BYPASS - LOAD ON MAINS

STEP F

THIS PROCEDURE ASSUMES:

ALL SWITCH'S ON THE EMBS AND ON THE
UPS UNIT SHOULD STILL BE AS PER
STEP E ON THE PREVIOUS LINE PRIOR
TO PROCEDING

THE UPS UNIT SHOULD BE IN STATIC
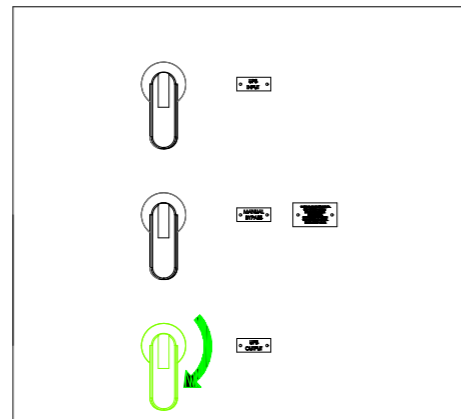BYPASS AND SHOULD BE READY TO
ACCEPT THE SYSTEM LOAD

IF IN ANY DOUBT CONTACT YOUR
UPS SYSTEM SERVICE PROVIDER
BEFORE PROCEDING

MANUAL BYPASS:
-IN THE ON POSITION

UPS OUTPUT:
-IN THE OFF POSITION

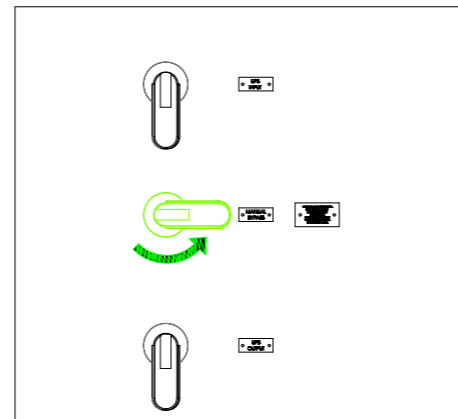UPS UNIT:
-STATIC BYPASS - LOAD ON MAINS

STEP G

MANUAL BYPASS:
-IN THE ON POSITION

UPS OUTPUT:
-IN THE ON POSITION

UPS UNIT:
-STATIC BYPASS - LOAD ON MAINS

STEP H

MANUAL BYPASS:
-IN THE OFF POSITION

UPS OUTPUT:
-IN THE ON POSITION

UPS UNIT:
-STATIC BYPASS - LOAD ON MAINS

STEP I

REFER TO UPS USER MANUAL TO SWITCH
THE UPS UNIT (OR UNITS) TO ONLINE
MODE

ONCE UPS UNIT (OR UNITS) ARE ONLINE
THE SEQUENCE IS COMPLETE AND THE
LOAD IS NOW BACKED UP BY UPS

IF IN ANY DOUBT CONTACT YOUR UPS
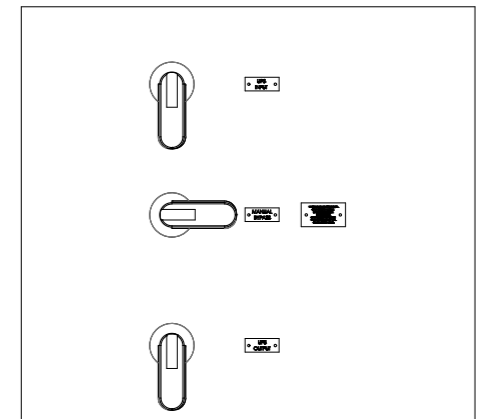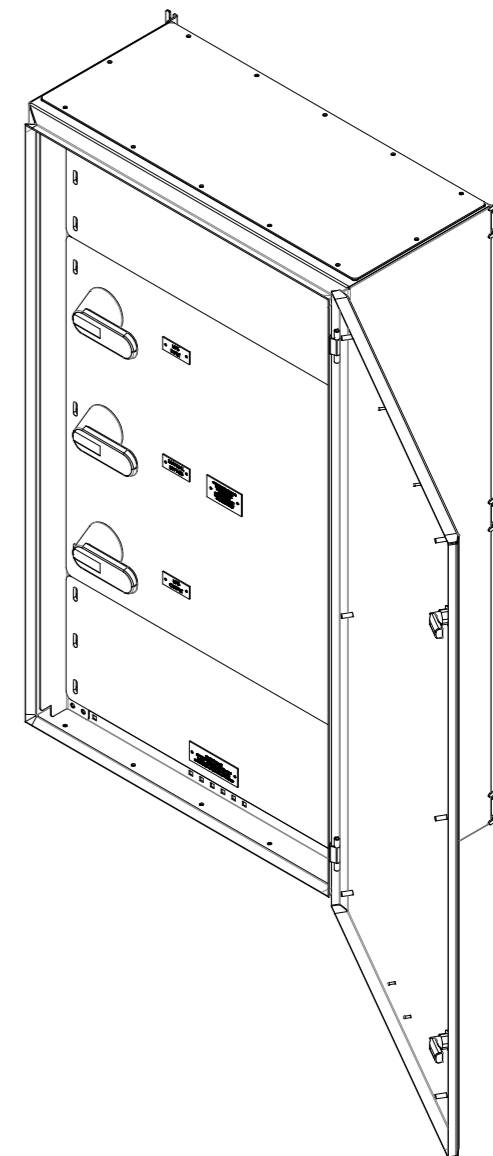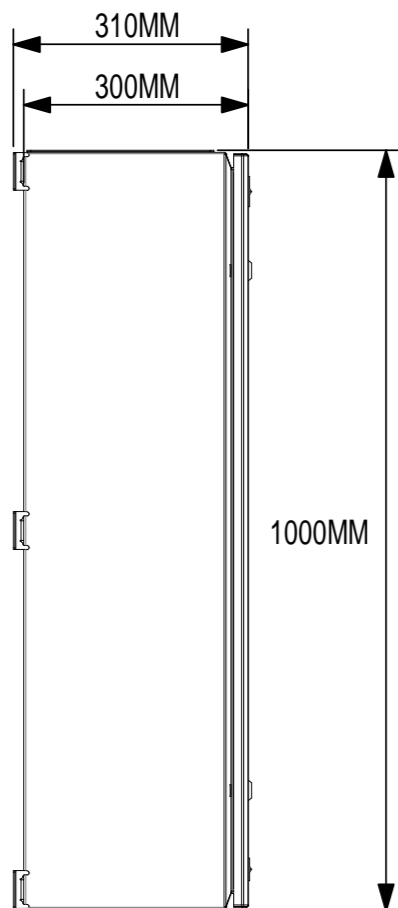SERVICE PROVIDER

MANUAL BYPASS:
-IN THE OFF POSITION

UPS OUTPUT:
-IN THE ON POSITION

UPS UNIT:
-ONLINE - LOAD ON UPS

THE UPS MUST BE IN ONLINE IN NORMAL
OPERATION (INVERTER RUNNING) OR LOAD
WILL NOT BE PROTECTED.

IF UNSURE CONTACT YOUR UPS SERVICE
PROVIDER.

STEP J (NORMAL POSITION)

MANUAL BYPASS:
-IN THE OFF POSITION

UPS OUTPUT:
-IN THE ON POSITION

UPS UNIT:
-ONLINE - LOAD ON UPS

NOTES:

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3) ALL DIMENSIONS IN MM UNLESS OTHERWISE SPECIFIED

4) 4 - CORE SHIELDED SIGNAL CABLE MUST BE RUN FROM EMBS TO EACH UPS UNIT

5) ALL DASHED LINES EXTERNAL TO BYPASS PANEL

PRODUCT REF:	RB1-EMBS-160A-3P-ISO	
DOCUMENT NUMBER:	RBECAD00089	
PAGE DESCRIPTION:	INTERLOCK OPERATION	
PROJECT NO:	SUBMITTAL DRAWING	
PAGE TEMPLATE REF:	RBQS00078REV2	
PRODUCT WEIGHT:	45KG	

REV NO:	1
CREATION DATE:	29/04/2016
REV DATE:	25/05/2016
DRAWN BY:	R BARNES
CHECKED BY:	M BRADLEY
SHEET NUMBER:	3 OF 4

MECHANICAL LAYOUT

TOP VIEW:

ISO VIEW:

LEFT VIEW:

310MM
300MM
1000MM

FRONT VIEW:

640MM
600MM
1000MM
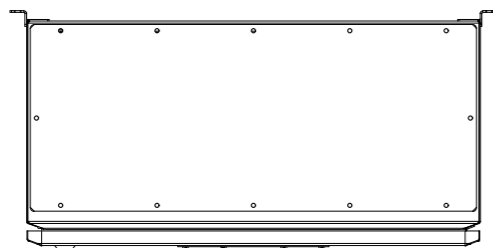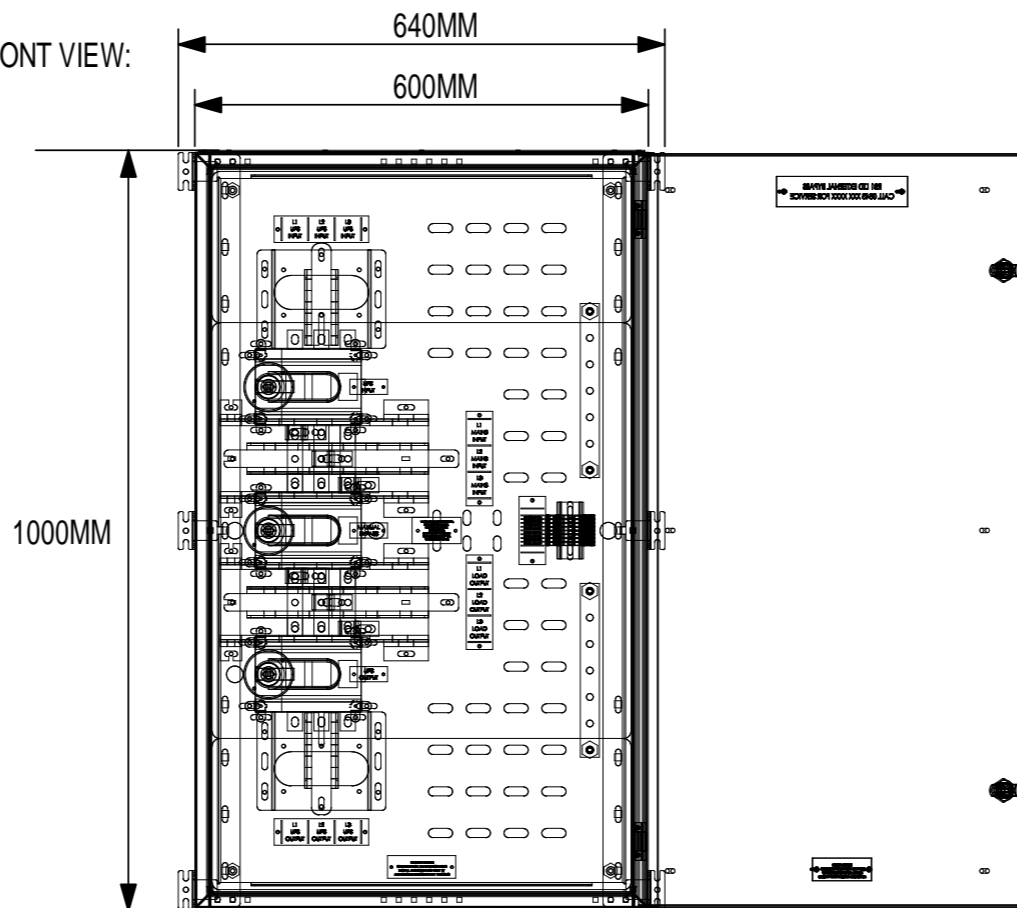
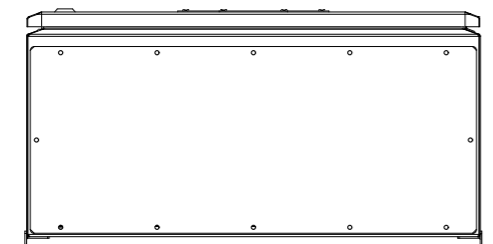**BOTTOM VIEW:**

TERMINATION DETAILS:

MAINS INPUT: 8MM BOLT ON BUSBAR (ACCESS TOP/BOTTOM)
LOAD OUTPUT: 8MM BOLT ON BUSBAR (ACCESS TOP/BOTTOM)
NEUTRAL: 8MM BOLT ON BUSBAR (ACCESS TOP/BOTTOM)
ALL EARTH: 8MM BOLT ON BUSBAR (ACCESS TOP/BOTTOM)
UPS IN: TOP SWITCH 8MM BOLT (ACCESS TOP/BOTTOM)
UPS OUT: BOTTOM SWITCH 8MM BOLT (ACCESS TOP/BOTTOM)

NOTES:
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PRODUCT REF:	RB1-EMBS-160A-3P-ISO	REV NO:	1
DOCUMENT NUMBER:	RBECAD00089	CREATION DATE:	29/04/2016
PAGE DESCRIPTION:	MECHANICAL LAYOUT	REV DATE:	25/05/2016
PROJECT NO:	SUBMITTAL DRAWING	DRAWN BY:	R BARNES
PAGE TEMPLATE REF:	RBQS00078REV2	CHECKED BY:	M BRADLEY
PRODUCT WEIGHT:	45KG	SHEET NUMBER:	4 OF 4