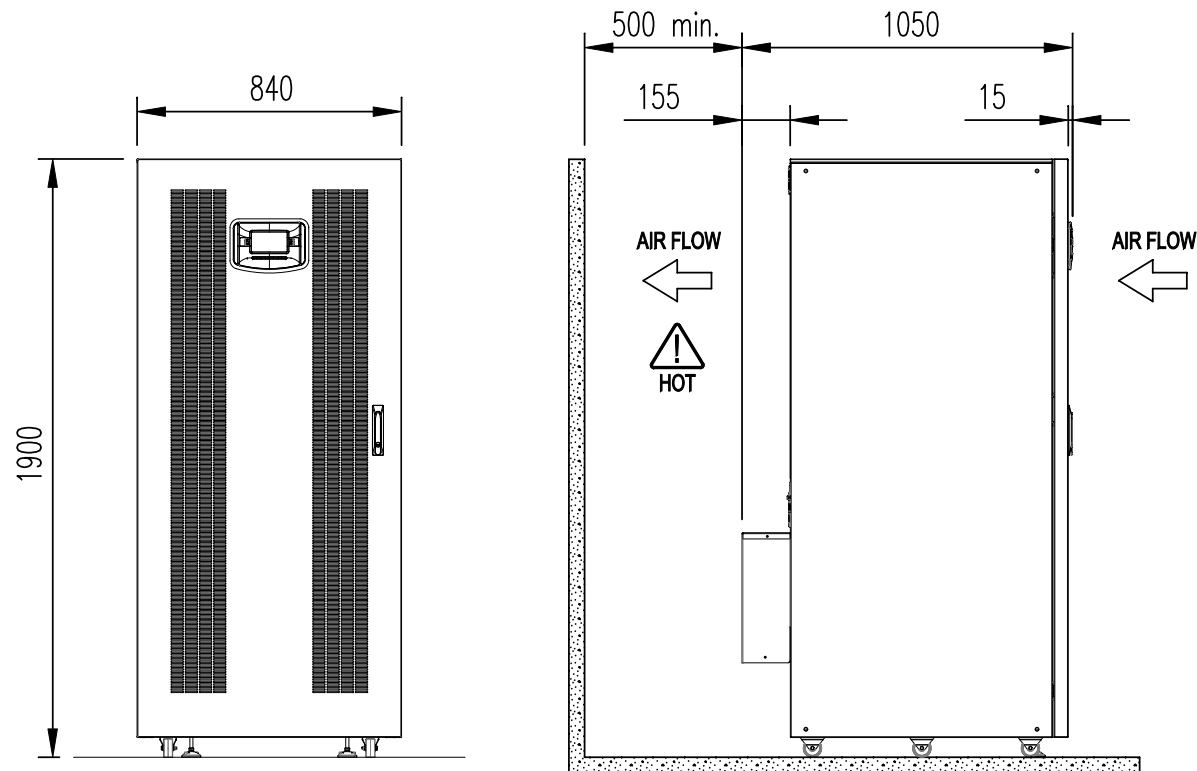


INSTALLATION INSTRUCTIONS

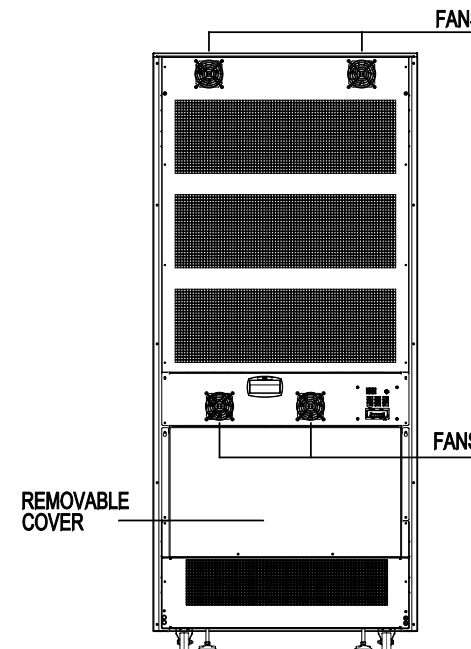
READ "SAFETY MANUAL" AND "USER MANUAL" BEFORE STARTING THE UPS INSTALLATION



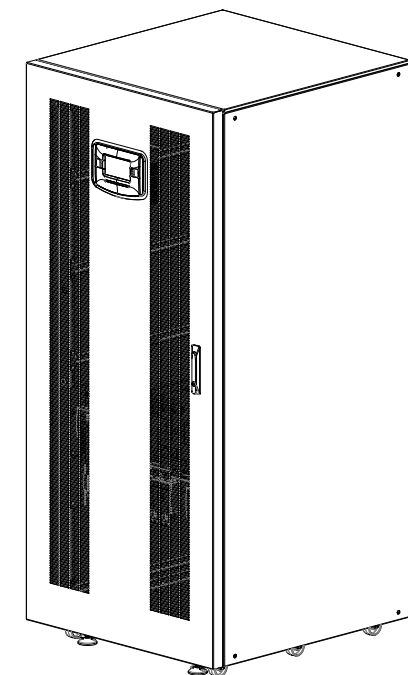
FRONT VIEW

SIDE VIEW

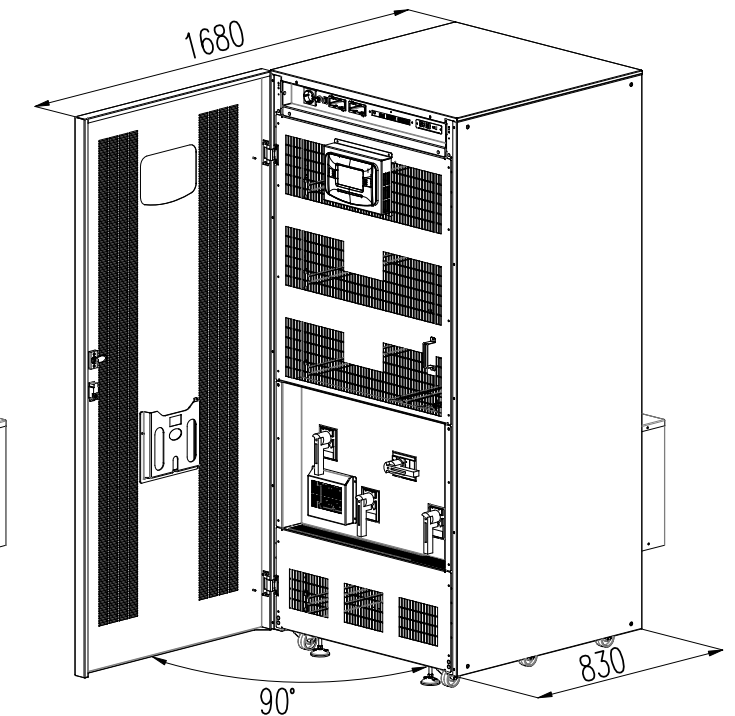
LAYOUT INFORMATION



REAR VIEW

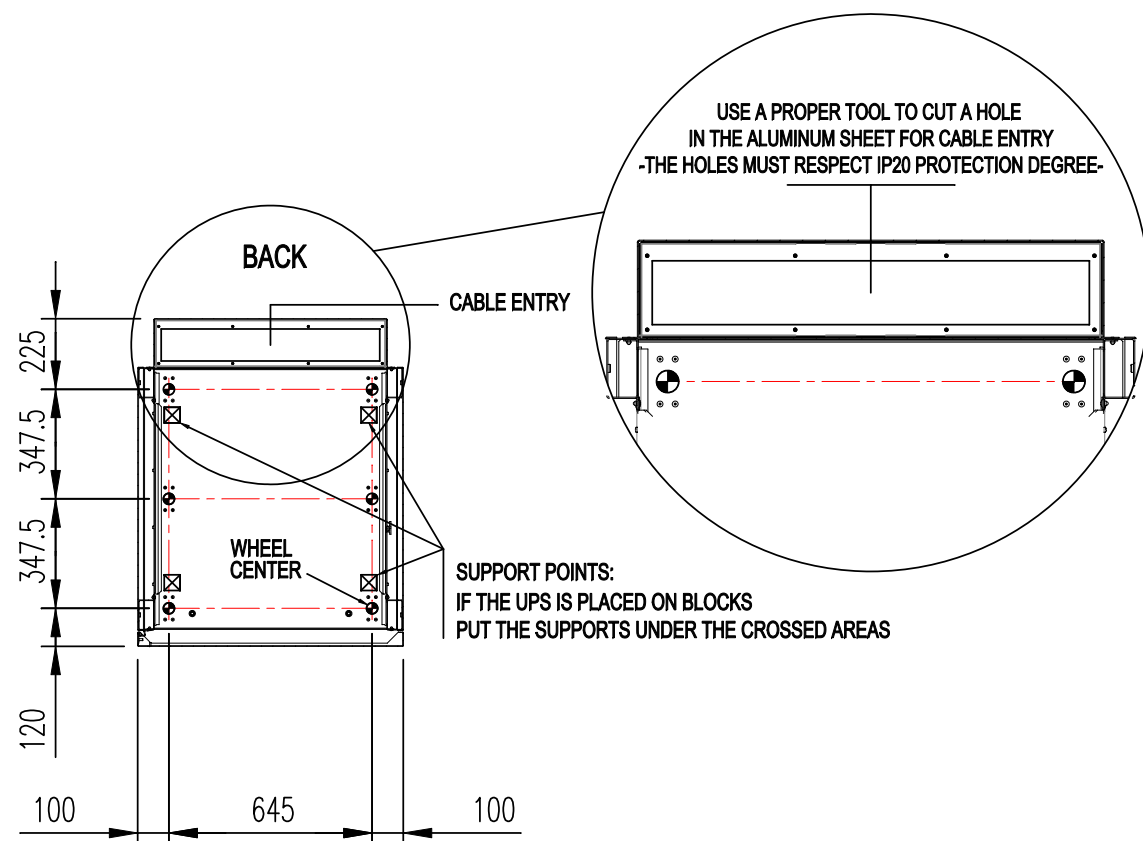


PERSPECTIVE VIEW

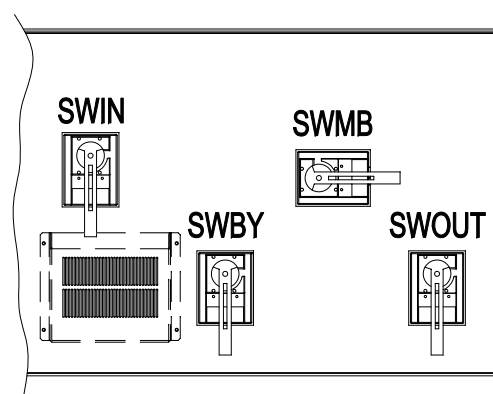


PERSPECTIVE VIEW WITH OPEN DOOR

NOTE: 1000mm MINIMUM FRONT DISTANCE TO THE WALL
(RECOMMENDED 1500mm)



BOTTOM VIEW



MAIN INFORMATION			
Type		MST 160	MST 200
Power	kVA / kW	160 / 160	200 / 200
Operating temperature	°C	0 - 40	
Max relative humidity in operation	%	90 % (without condensation)	
Max installation height		1000m at nominal power (-1% power for every 100m above 1000m) max 4000m	
Power Loss@load 100% (1)	kW	6,9	9,3
	kcal / h	5933	7997
	B.T.U. / h	23544	31733
Power Loss@load 50%	kW	3,6	4,4
	kcal / h	3095	3783
	B.T.U. / h	12284	15013
Net Dimension W x D x H	mm	840 x 1050 x 1900	
Shipping Dimension W x D x H	mm	1010 x 1145 x 2085	
Net Weight	Kg	450	460
Shipping Weight	Kg	490	500
Air Flow	m³ / h	3500	
Current dispersed to ground (2)	mA	< 300	
Degree of protection		IP 20	

(1) 3.97 B.T.U. / h = 1 kcal / h

(2) The load leakage current is added to the one of the UPS on the ground protection conductor

RPS

EDIT. M.CHECCHINATO	APPR. N.DEGANI	DATE:24/07/2015	DRAW. No
VARIATION: ADDED SPLIT BACK GRID AND CABLE ENTRY PLATE			OMNMSTM16NPENIB
REPLACE: OMNMSTM16NPENIA			PAG.1 di 5

NOTE: In order to make improvements, the manufacturer reserves the right to modify the product described at any moment and without notice

TITLE: MAN MST 160-200 DRW EN

POWER CONNECTION INFORMATION



WARNING

INPUT AC LINE CONNECTION - SINGLE LINE			
INPUT LINE 3PH + N + PE			
UPS Size	kW	160	200
Max current	A	316	385
Max admitted neutral current	A	400	400
Size of protection device (plant)	A	320	400
Terminal (L1, L2, L3) or (L1Byp, L2Byp, L3Byp)	type	AL bar	
Width	mm	30	
N x Hole diameter / bolt	mm	1x10,5 / M10	
Terminal neutral (N)	type	AL bar	
Width	mm	60	
N x Hole diameter / bolt	mm	2x10,5 / M10	
Earthing terminal	type	AL bar	
Hole Number / bolt	mm	4 / M8	

INPUT AC LINE CONNECTION - DUAL SEPARATED LINE (Remove the bars connecting input mains - bypass line)			
INPUT LINE 3PH + N + PE			
UPS Size	kW	160	200
Max current	A	316	385
Max admitted neutral current	A	400	400
Size of protection device (plant)	A	320	400
Terminal (L1, L2, L3)	type	AL bar	
Width	mm	30	
N x Hole diameter / bolt	mm	1x10,5 / M10	
Terminal neutral (N)	type	AL bar	
Width	mm	60	
N x Hole diameter / bolt	mm	2x10,5 / M10	
Earthing terminal	type	AL bar	
Hole Number / bolt	mm	4 / M8	

INPUT BYPASS LINE 3PH + N + PE			
UPS Size	kW	160	200
Max current	A	260	326
Max admitted neutral current	A	400	400
Size of protection device (plant)	A	320	400
Terminal (L1Byp, L2Byp, L3Byp)	type	AL bar	
Width	mm	30	
N x Hole diameter / bolt	mm	1x10,5 / M10	
Terminal neutral (N) ⁽¹⁾	type	AL bar	
Width	mm	60	
N x Hole diameter / bolt	mm	2x10,5 / M10	
Earthing terminal ⁽²⁾	type	AL bar	
Hole Number / bolt	mm	4 / M8	

(1) The neutral terminal is the same for input mains and bypass line (2) The Earthing terminal is the same for all connections

-THE INPUT OUTPUT AND PROTECTIVE EARTHING CONDUCTORS MUST BE SIZED FOLLOWING RATED VOLTAGE AND CURRENT, SHOWN IN THE TABLES BELOW, AND ACCORDING TO DOMESTIC REGULATIONS AND CURRENT STANDARDS

-THE PROTECTIVE EARTHING CONDUCTOR (PE) MUST BE CONNECTED FIRST BEFORE TO PROCEDE CONNECTING INPUT / OUTPUT CABLES

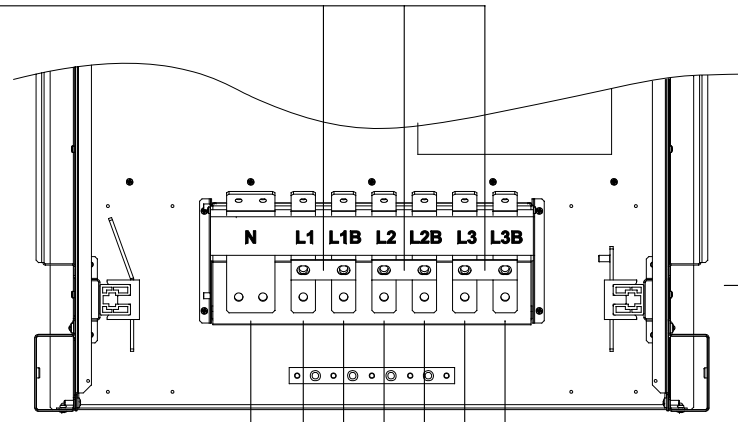
BATTERY DC INPUT (The PE conductor from battery cabinet must be connected at the UPS earthing terminal only)			
BATTERY INPUT (+), (-), N + PE			
UPS Size	kW	160	200
Rated current @ nominal battery voltage @ end of discharge voltage	A	360 455	450 565
Max size of battery string protection device: gL / gG fuse type aR fuse type	2 x Ah (battery capacity) 2,5 x Ah (battery capacity)		
Absolutely max size of battery string protection device	A	400	500
Terminal (+) , (-)	type	AL bar	
Width	mm	60	
N x Hole diameter / bolt	mm	1x10,5 / M10	
Terminal neutral (N)	type	AL bar	
Width	mm	55	
N x Hole diameter / bolt	mm	1x10,5 / M10	
Earthing terminal ⁽²⁾	type	AL bar	
Hole Number / bolt	mm	4 / M8	

OUTPUT AC LINE CONNECTION			
OUTPUT LINE 3PH + N + PE			
UPS Size	kW	160	200
Rated current	A	237	296
Output protection (recommended values for selectivity) Normal fuses (gL - gG) Thermal magnetic switches (C curve)	In / 4 In / 4		
Terminal (L1, L2, L3)	type	AL bar	
Width	mm	30	
N x Hole diameter / bolt	mm	1x10,5 / M10	
Terminal neutral (N)	type	AL bar	
Width	mm	60	
N x Hole diameter / bolt	mm	2x10,5 / M10	
Earthing terminal	type	AL bar	
Hole Number / bolt	mm	4 / M8	

RPS	EDIT.	M.CHECCHINATO	APPR.	N.DEGANI	DATA:24/07/2015	DRAW. No
	VARIATION: ADDED SPLIT BACK GRID AND CABLE ENTRY PLATE					OMNMSTM16NPENIB
	REPLACE: OMNMSTM16NPENIA					PAG.2 di 5
NOTE: In order to make improvements, the manufacturer reserves the right to modify the product described at any moment and without notice					TITLE: MAN MST 160–200 DRW EN	

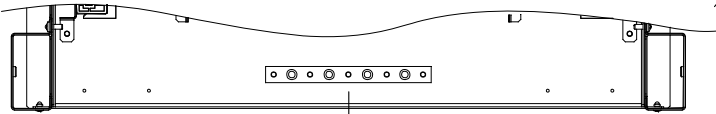
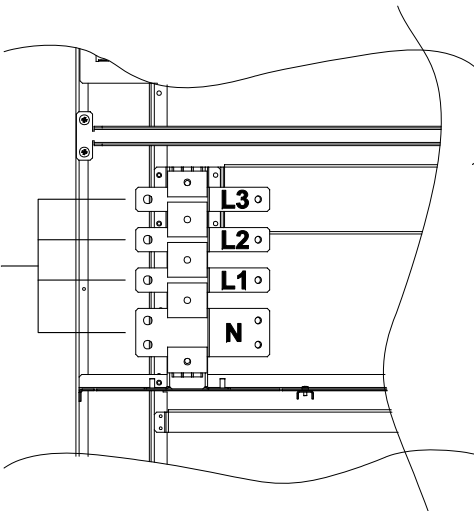
POWER CONNECTION DETAILS

REMOVE JUMPERS
FOR DUAL INPUT

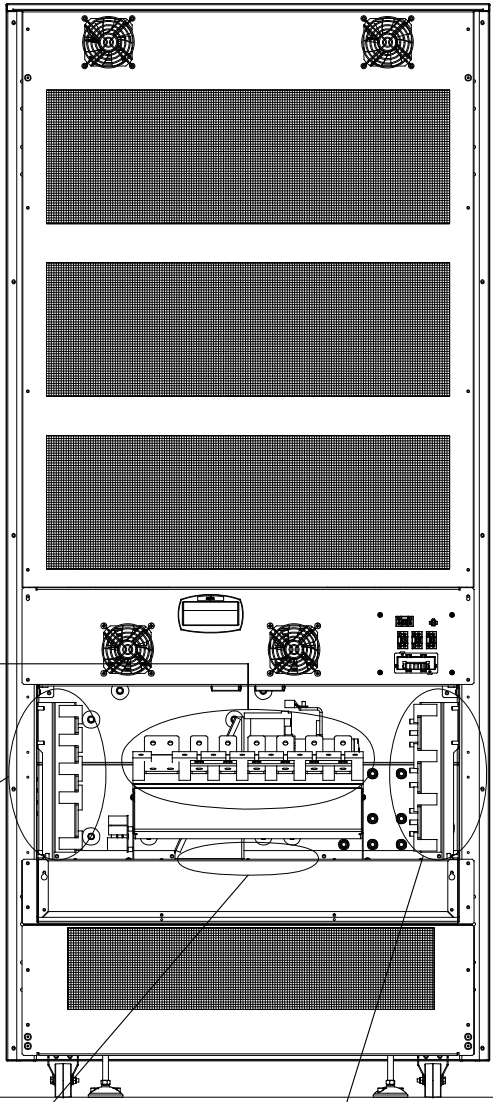


INPUT LINE
(N / L1 / L1B / L2 / L2B / L3 / L3B)
see detail «A»

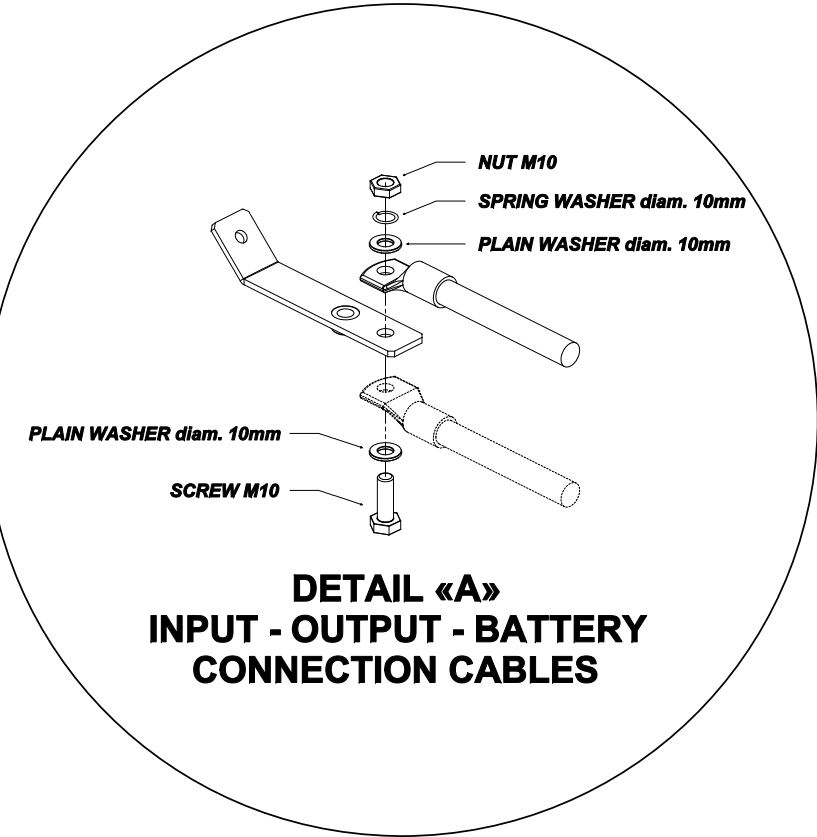
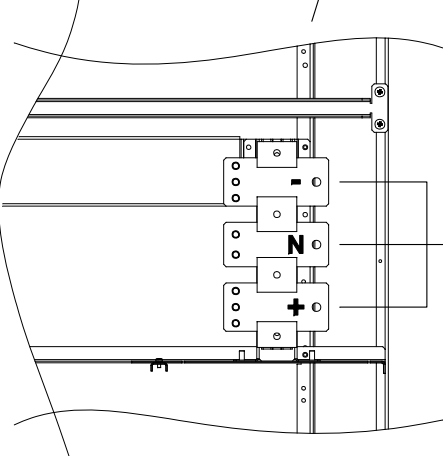
OUTPUT LINE
(L3 / L2 / L1 / N)
see detail «A»



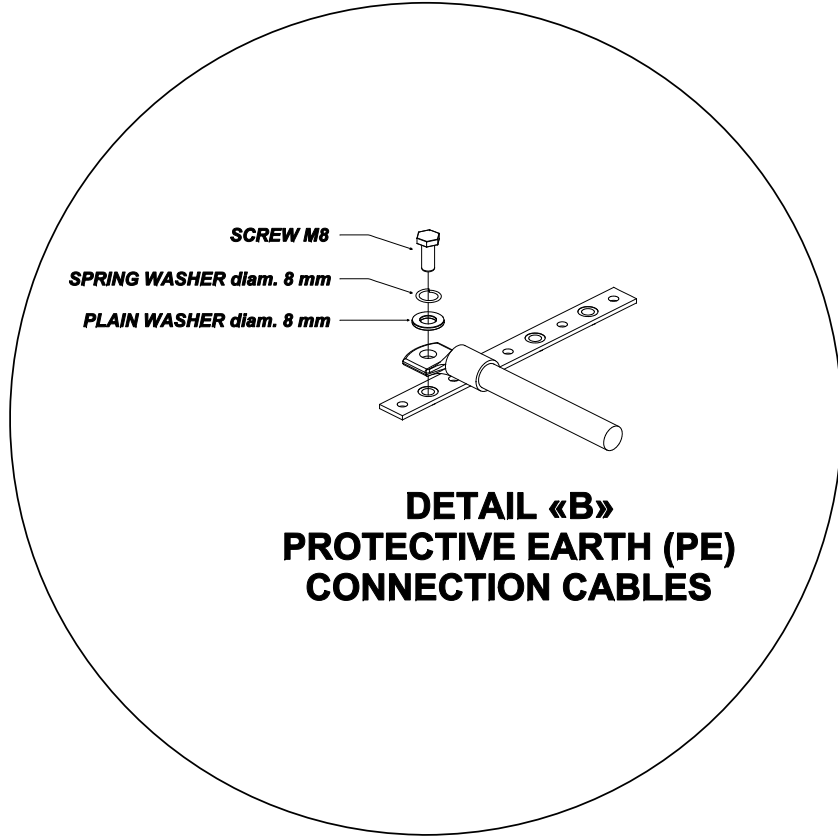
PROTECTIVE EARTH (PE)
see detail «B»



BATTERY LINE
(- / N / +)
see detail «A»



DETAIL «A»
INPUT - OUTPUT - BATTERY
CONNECTION CABLES



DETAIL «B»
PROTECTIVE EARTH (PE)
CONNECTION CABLES

RPS

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VARIATION: ADDED SPLIT BACK GRID AND CABLE ENTRY PLATE					OMNMSTM16NPENIB
REPLACE: OMNMSTM16NPENIA					PAG.3 di 5

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TITLE: MAN MST 160-200 DRW EN

465.5

SECTION A-A

570

413.5
(PE)

SECTION D-D

122.5

252.5

30

50

50

50

50

50

50

50

50

60
15 30 15
NEUTRAL (N)
CONNECTION

30
15 15
INPUT / OUTPUT
CONNECTION

60
30 30
BATTERY (+/-)
CONNECTION

55
27.5 27.5
BATTERY (N)
CONNECTION

SECTION E-E
(PE)

46

46

347.5

347.5

48

SECTION B-B

477.5

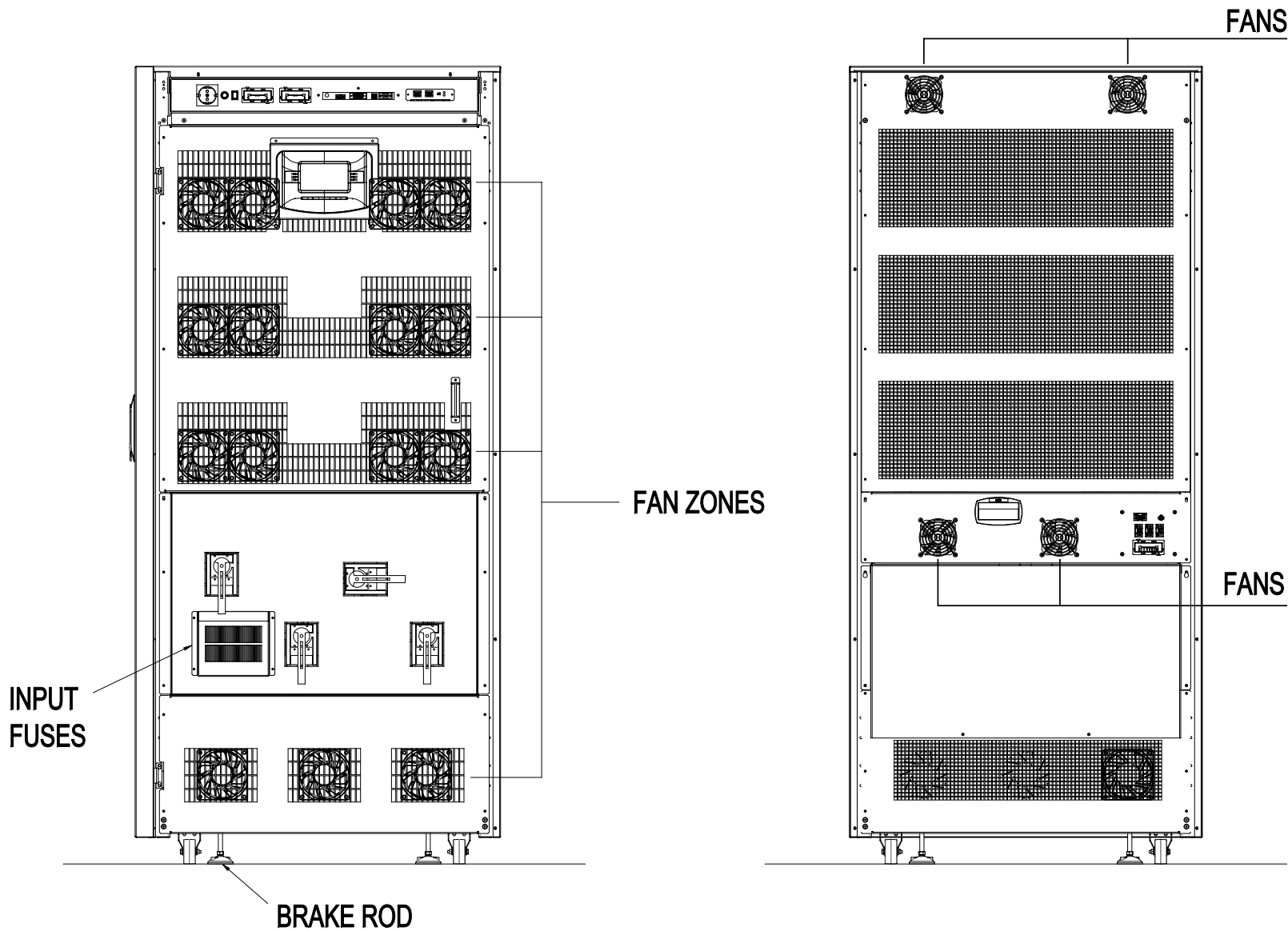
RPS

EDIT. M.CHECCHINATO	APPR. N.DEGANI	DATA:24/07/2015	DRAW. No
VARIATION: ADDED SPLIT BACK GRID AND CABLE ENTRY PLATE			OMNMSTM16NPENIB
REPLACE: OMNMSTM16NPENIA			PAG.4 di 5

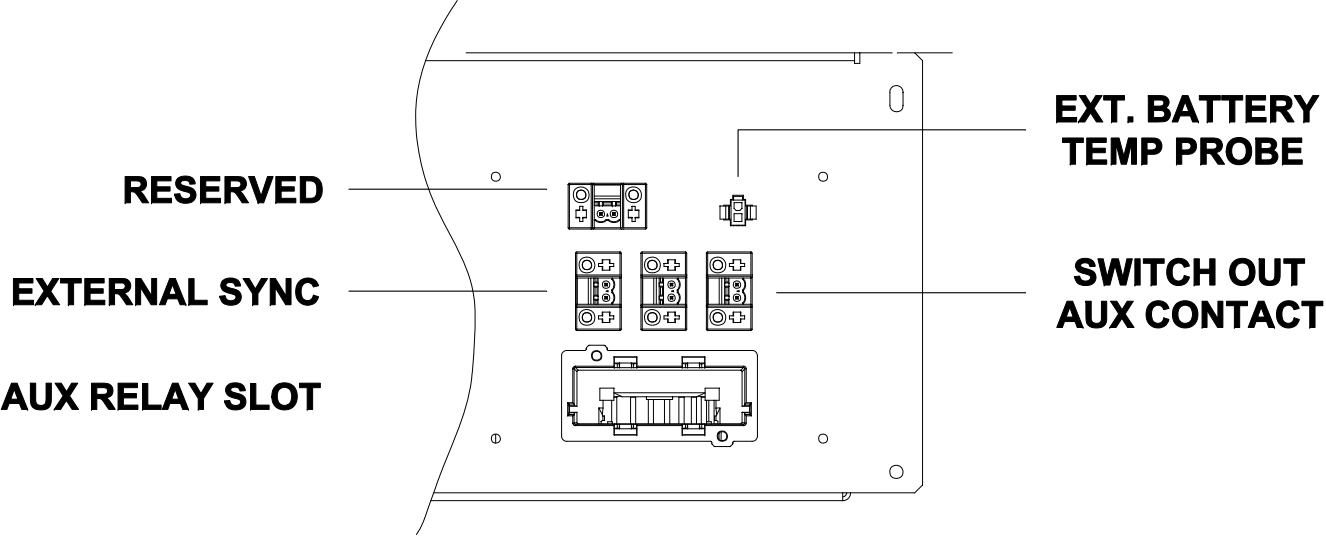
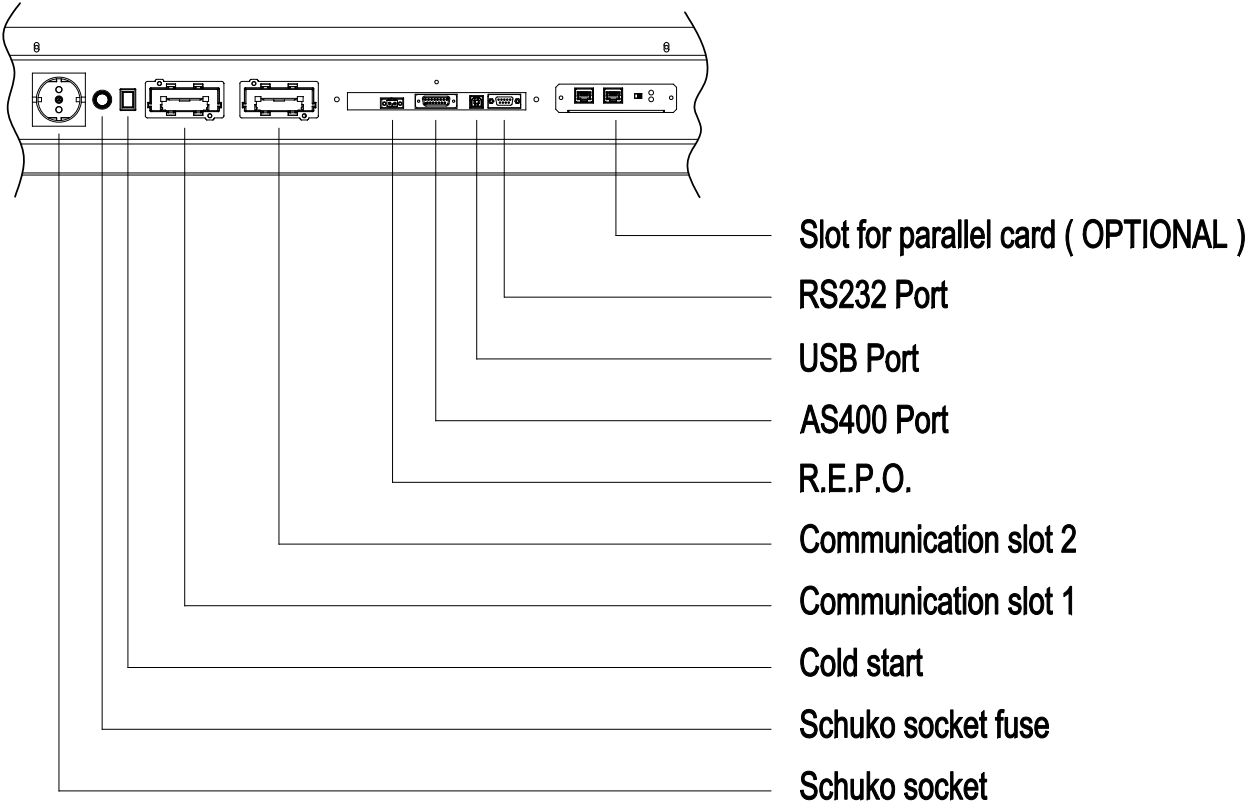
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TITLE: MAN MST 160-200 DRW EN

SIGNAL CONNECTIONS and COMMUNICATION DETAILS



REAR VIEW



AUXILIARY SIGNAL CONNECTIONS

RPS	EDIT.	M.CHECCHINATO	APPR.	N.DEGANI	DATE:24/07/2015	DRAW. No
	VARIATION: ADDED SPLIT BACK GRID AND CABLE ENTRY PLATE					OMNMSTM16NPENIB
	REPLACE: OMNMSTM16NPENIA					PAG.5 di 5
	NOTE: In order to make improvements, the manufacturer reserves the right to modify the product described at any moment and without notice					TITLE: MAN MST 160-200 DRW EN