Powering Business Worldwide

SITE PLANNING DATA 93PM 120-150 KW

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: 93PM 120–150 KW					
ORIGINATED: Atif Rasheed	03.08.2015	ECO:	NAME:	REVISION: 002	SIZE: A2
MODIFIED: Atif Rasheed	21.08.2017		P–110000456		SCALE: 1:1
CHECKED:		DOCUMENT TYPE:		STATE: RELEASED	
SAFETY:		AUTOCAD DRAWING			SHEET: OF
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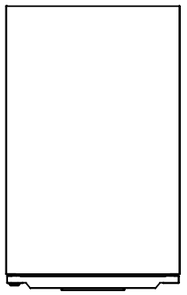
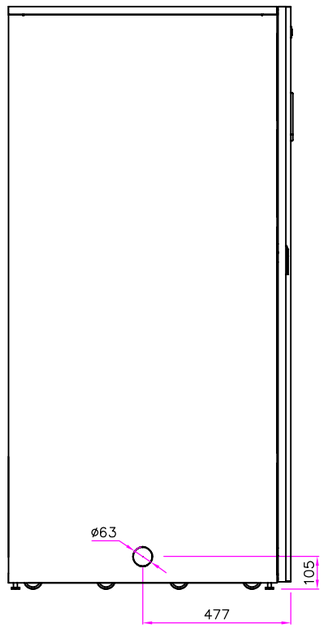
Product Specifications

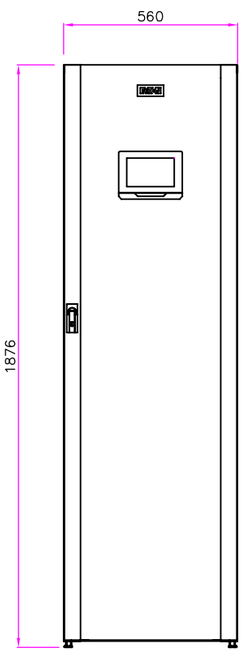
UPS Rating		Max Heat Dissipation at 100% Load	Cabinet Dimensions WXDXH	Shipping Dimensions WXDXH	Approx. Weight[6] Installed	Approx. Weight[6] Shipping	Floor Landing	Cooling Air
kVA	kW	kW	mm	mm	kg	kg	kg/m²	l/S
120	120	5.0	560X914X1876	750X1135X2050	405	490	790	501
150	150	6.3	560X914X1876	750X1135X2050	405	490	790	501



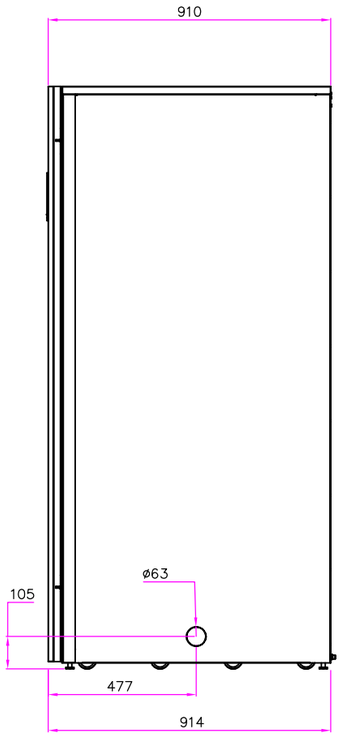
TOP VIEW



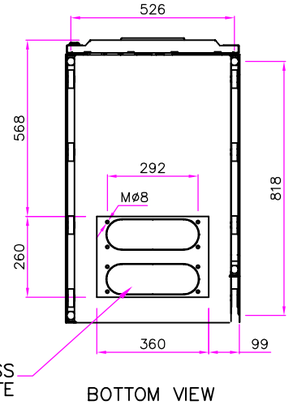
LEFT VIEW



FRONT VIEW



RIGHT VIEW



BOTTOM VIEW

Notes:
1. The system must be installed in a temperature and humidity controlled indoor area free of conductive contaminants.
2. Continues ambient temperature range: 5–40°C (41–104F); Maximum relative humidity: 95% non–condensing.
3. Minimum overhead clearance for ventilation above the UPS cabinet is 500mm (20in.).
4. Minimum 900mm (35in.) clearance in front of the UPS cabinet is required for cooling air intake and servicing space.
5. Minimum 300mm (12in.) of clearance required in the back of the UPS cabinet for normal system.If using top air exhaust kit with the unit then no clearance required from the back.
6. When using top air exhaust kit, add 21kg to the total weight and if using top cable access kit, add 18 kg to the total weight.
7. When using top air exhaust kit add 200mm to the total depth. For top cable access kit add 100mm to the total width.
8. Cabling may require more space.

Cabinet Installation Clearances	
From Top of cabinet	500 mm
From Front of cabinet	900 mm
From Back of cabinet[5]	300 mm

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: 93PM 120–150 KW Dimensional Drawing

ORIGINATED: Atif Rasheed	03.08.2015	ECO:	NAME:	REVISION: 002	SIZE: A2
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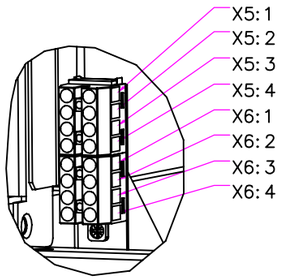
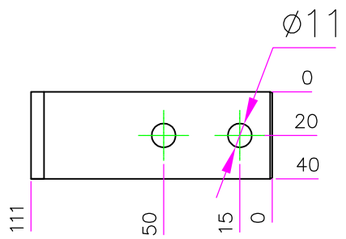
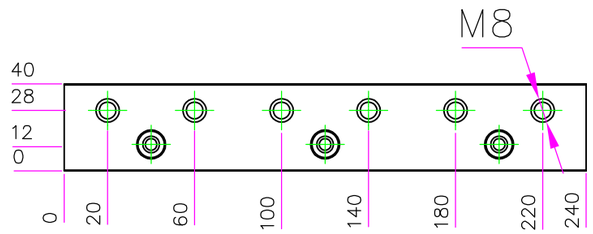


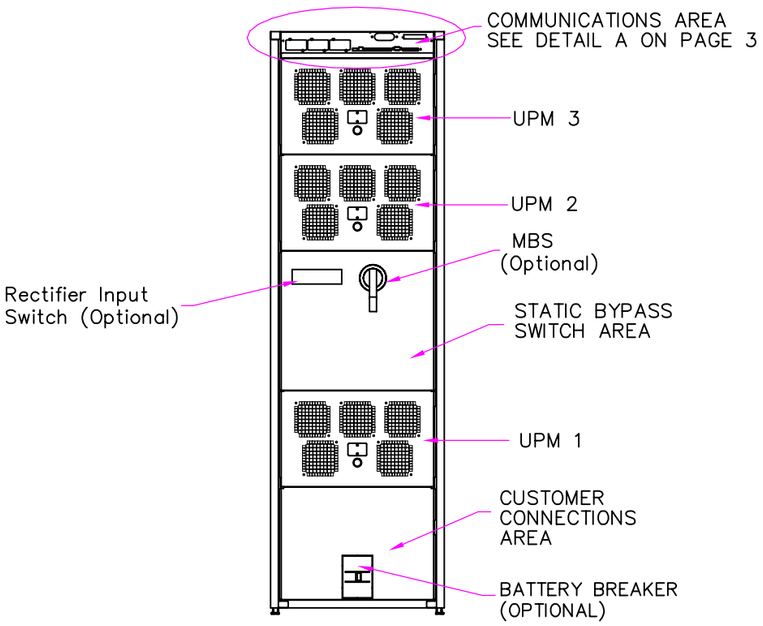
DETAIL B
BATTERY BREAKER
SIGNAL CONNECTIONS



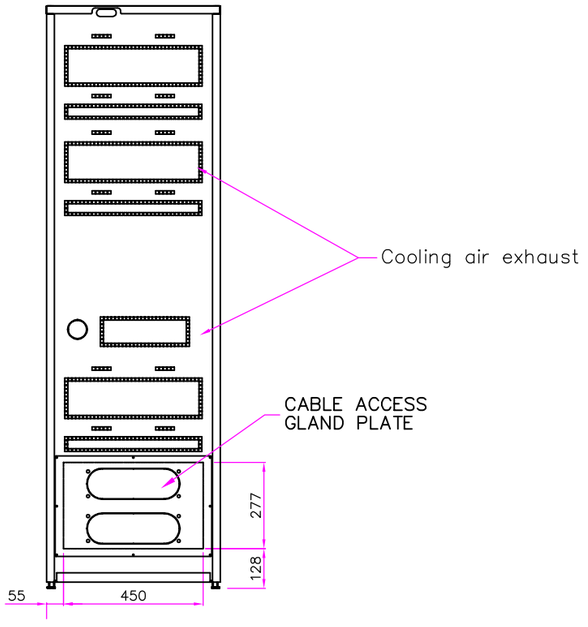
DETAIL C
SCALE 7:1



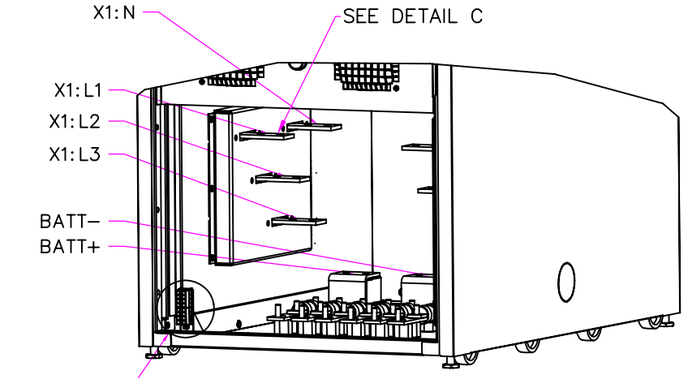
DETAIL D
SCALE 7:1



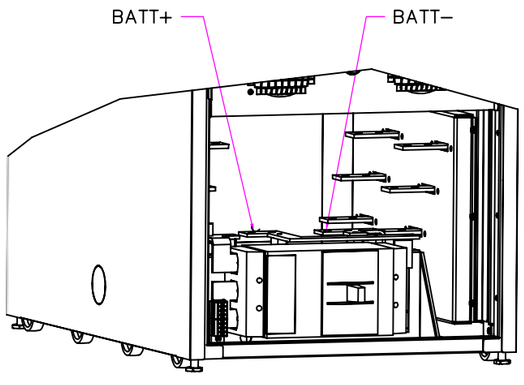
FRONT VIEW
(DOOR REMOVED)



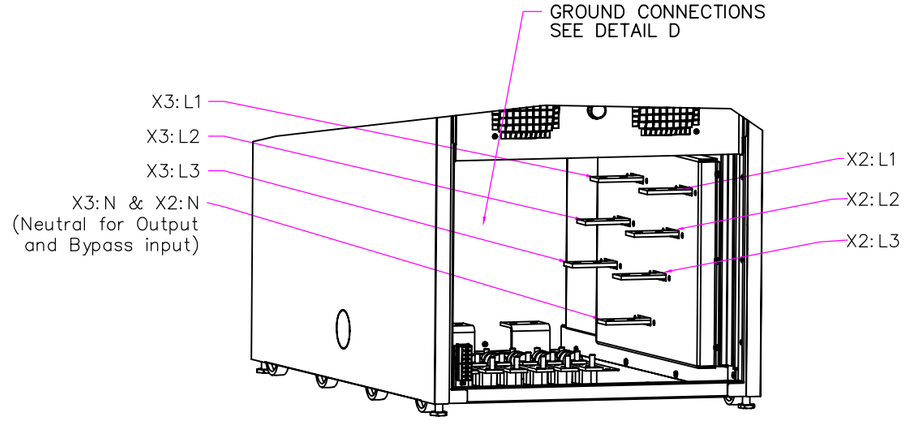
REAR VIEW



RECTIFIER INPUT AND BATTERY
CONNECTIONS (WHEN BATTERY
BREAKER IS NOT INSTALLED)



BATTERY CONNECTIONS
WITH BATTERY BREAKER



OUTPUT AND BYPASS
INPUT CONNECTIONS

Notes:
1. The bus bars are Tin coated and suitable for both Cu and Al connections.
2. M10 size power cable bolts are used for UPS input and output (L1,L2,L3,N) connections. It requires approximately 47Nm of tightening torque.
3. M8 size power cable bolts are used for PE connections and it requires approximately 24Nm of tightening torque.

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DIMENSIONS ARE IN MILLIMETERS AFTER PLATING, DIMENSIONS AND TOLERANCES IN ACCORDANCE WITH ASME Y14.5M–1994. SEE NOTES FOR TOLERANCES.					
DESCRIPTION: 93PM 120–150 KW Customer Connections					
ORIGINATED: Atif Rasheed	03.08.2015	ECO:	NAME: P–110000456	REVISION: 002	SIZE: A2
MODIFIED: Atif Rasheed	21.08.2017			STATE:	SCALE: 1:14
CHECKED:		DOCUMENT TYPE: AUTOCAD DRAWING			SHEET: 2 OF 7
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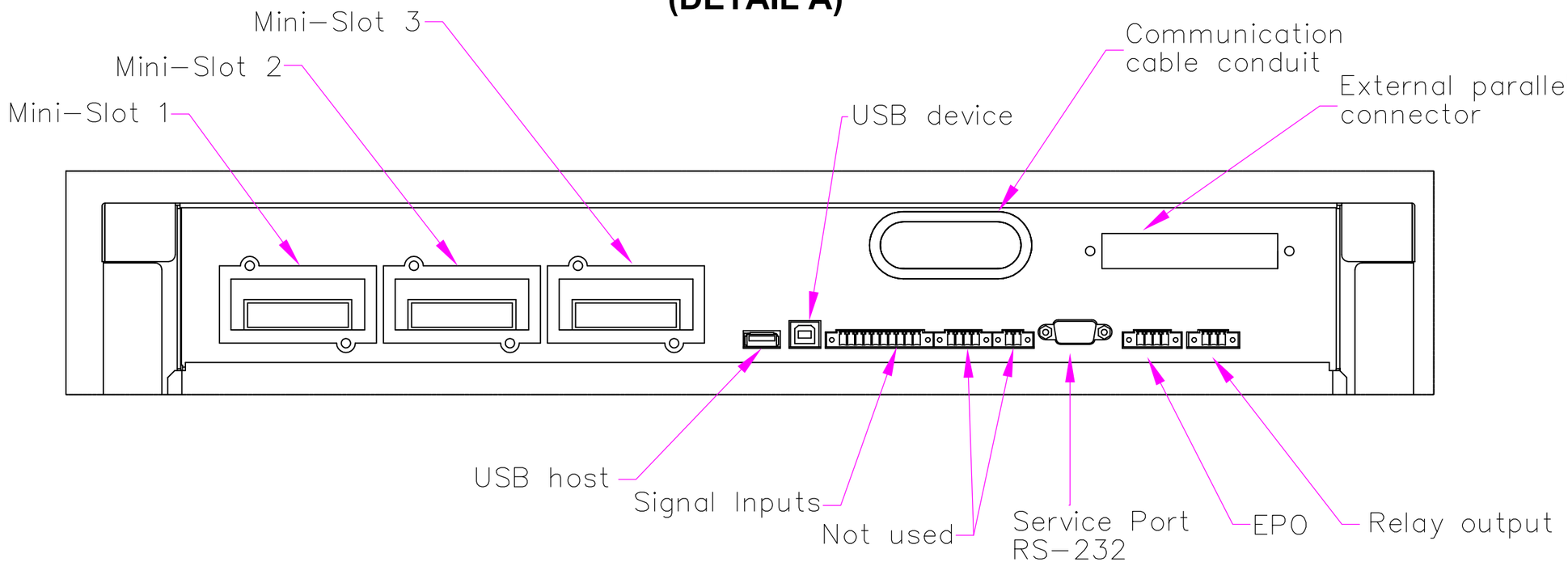
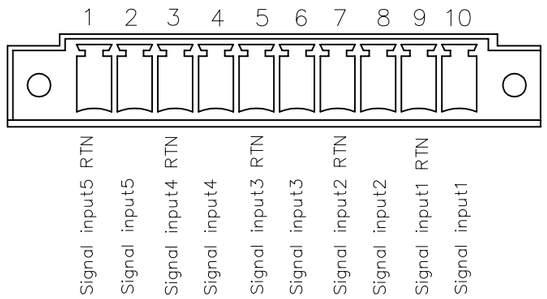
APPROVED:					

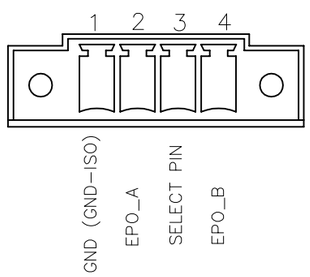
COMMUNICATION AREA
(DETAIL A)



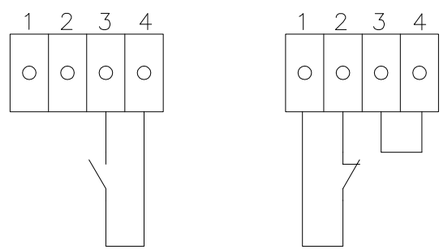
Signal Inputs



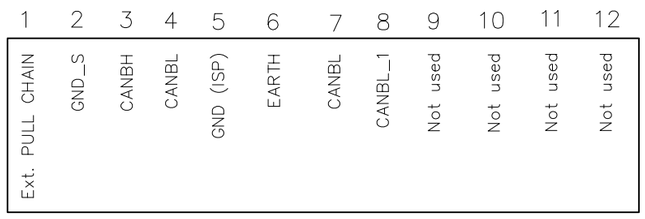
EPO



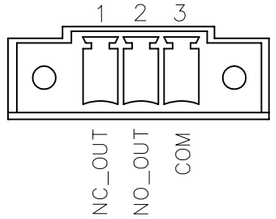
EPO Connections



EPO NO EPO NC



External parallel connector



Relay output

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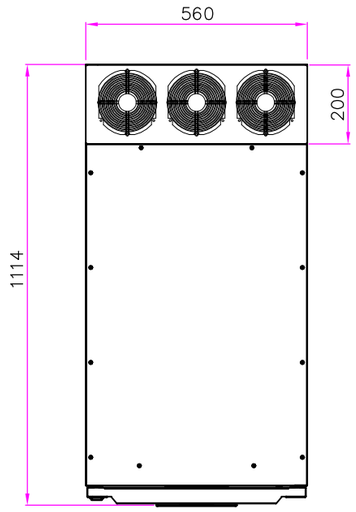
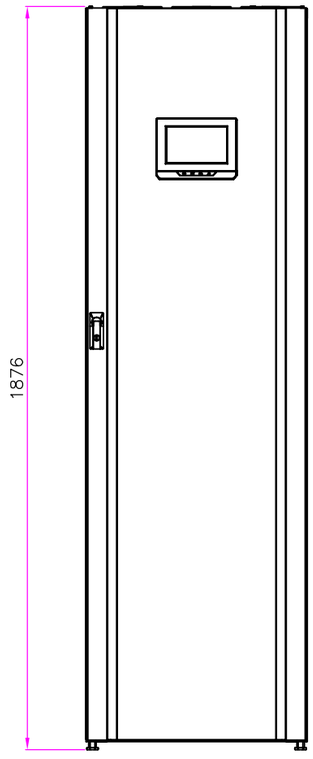
DIMENSIONS ARE IN MILLIMETERS AFTER PLATING, DIMENSIONS AND TOLERANCES IN ACCORDANCE WITH ASME Y14.5M-1994. SEE NOTES FOR TOLERANCES.					
DESCRIPTION: 93PM 120-150 KW Customer Connections Detail View					
ORIGINATED: Atif Rasheed	03.08.2015	ECO:	NAME: P-110000456	REVISION: 002	SIZE: A2
MODIFIED: Atif Rasheed	21.08.2017				SCALE: 1:10
CHECKED:		DOCUMENT TYPE: AUTOCAD DRAWING		STATE:	
SAFETY:					SHEET: 3 OF 7
APPROVED:					

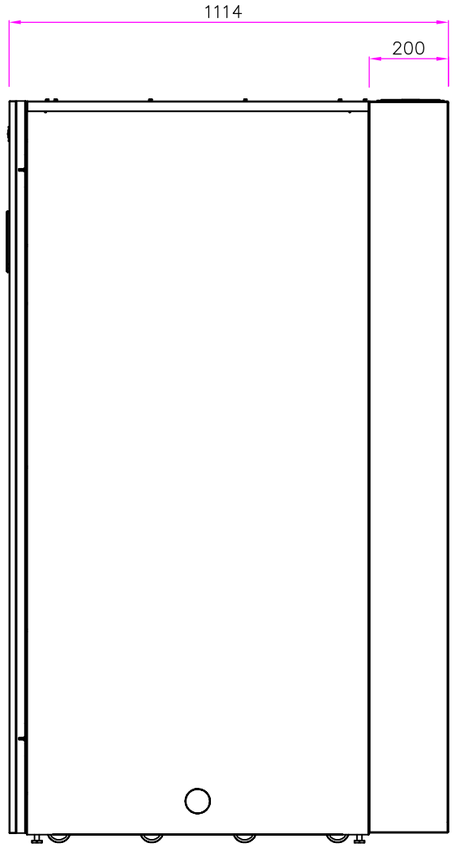
OPTIONAL TOP AIR EXHAUST KIT (FACTORY INSTALLED OPTION)



TOP VIEW



FRONT VIEW



RIGHT VIEW

Notes:
1. Minimum 300mm (12in.) of clearance required in the back of the UPS cabinet for normal system.If using top air exhaust kit with the unit then no clearance required from the back.
2. Minimum 500mm (20in.) of clearance is required from top of cabinet.

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DIMENSIONS ARE IN MILLIMETERS AFTER PLATING, DIMENSIONS AND TOLERANCES IN ACCORDANCE WITH ASME Y14.5M–1994. SEE NOTES FOR TOLERANCES.					
DESCRIPTION: 93PM 120–150 KW Top Air Exhaust Kit					
ORIGINATED: Atif Rasheed	03.05.2015	ECO:	NAME: P–110000456	REVISION: 002	SIZE: A2
MODIFIED: Atif Rasheed	21.08.2017				SCALE: 1:16
CHECKED:		DOCUMENT TYPE: AUTOCAD DRAWING		STATE:	
SAFETY:					SHEET: 4 OF 7
APPROVED:					

93PM UPS

1 Ext. PULL CHAIN
2 GND_S
3 CANBH
4 CANBL
5 GND (ISP)
6 EARTH
7 CANBL
8 CANBL_1

EXTERNAL PARALLEL CONNECTOR

BATT BREAKER SIGNAL CONNECTIONS

X6

1 Battery shunt trip
2 Battery shunt trip
3 Not used
4 Not used

EPO

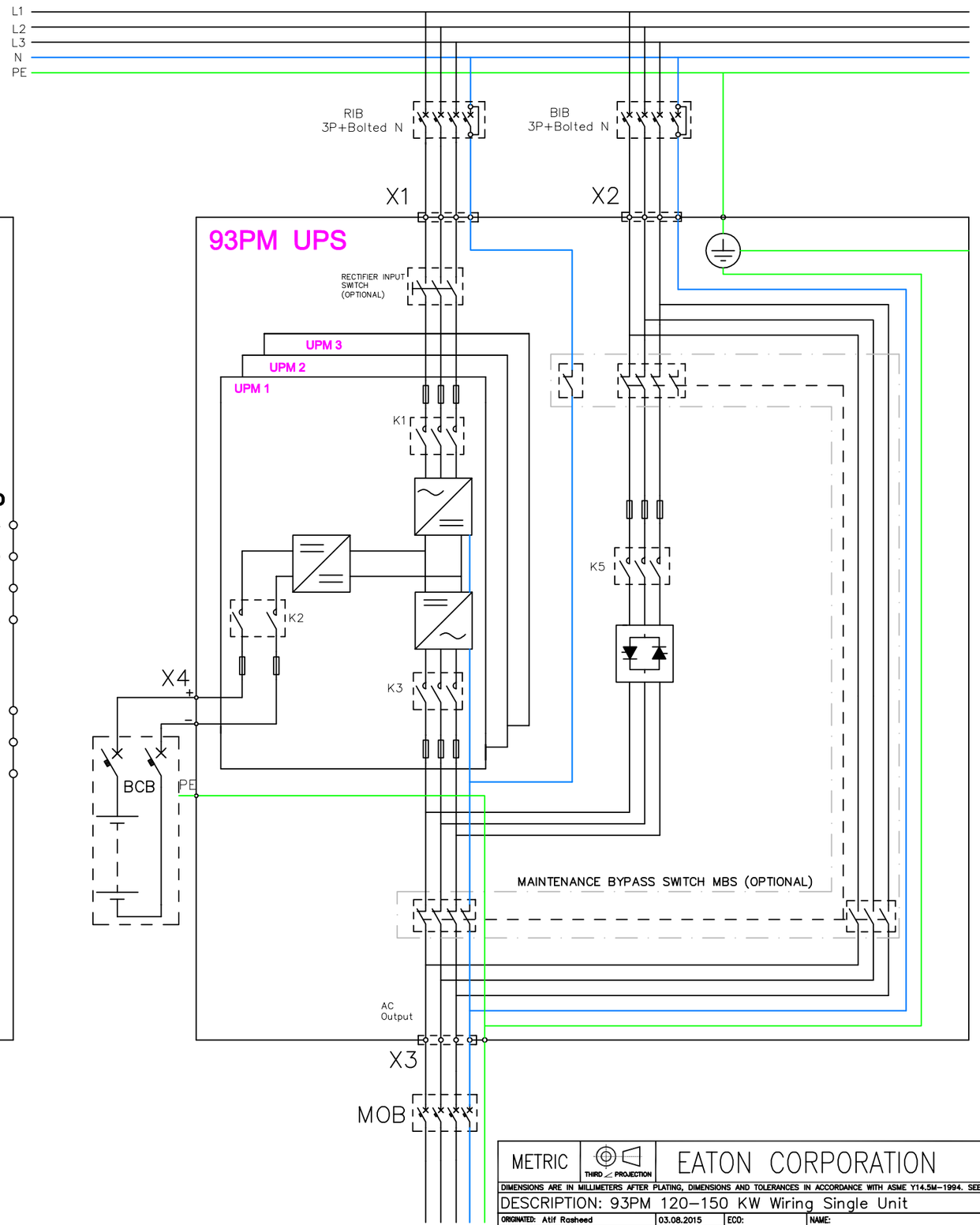
1 EPO_A
2 GND (GND-ISO)
3 EPO_B
4 SELECT PIN

OUT RELAY

1 NC_OUT
2 NO_OUT
3 COM

SIGNAL INPUTS

1 Signal input5 RTN
2 Signal input5
3 Signal input4 RTN
4 Signal input4
5 Signal input3 RTN
6 Signal input3
7 Signal input2 RTN
8 Signal input2
9 Signal input1 RTN
10 Signal input1



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: 93PM 120–150 KW Wiring Single Unit					
ORIGINATED: Atif Rasheed	03.08.2015	ECO:	NAME: P–110000456	REVISION: 002	SIZE: A2
MODIFIED: Atif Rasheed	21.08.2017			STATE:	SCALE: 1:20
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SAFETY:					
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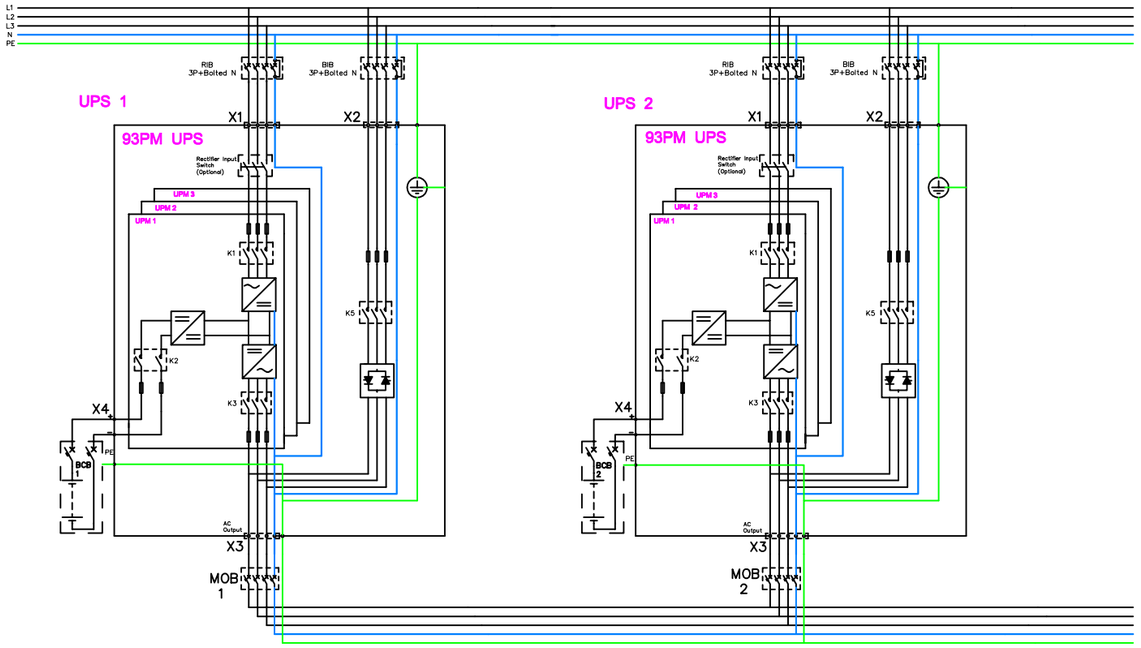

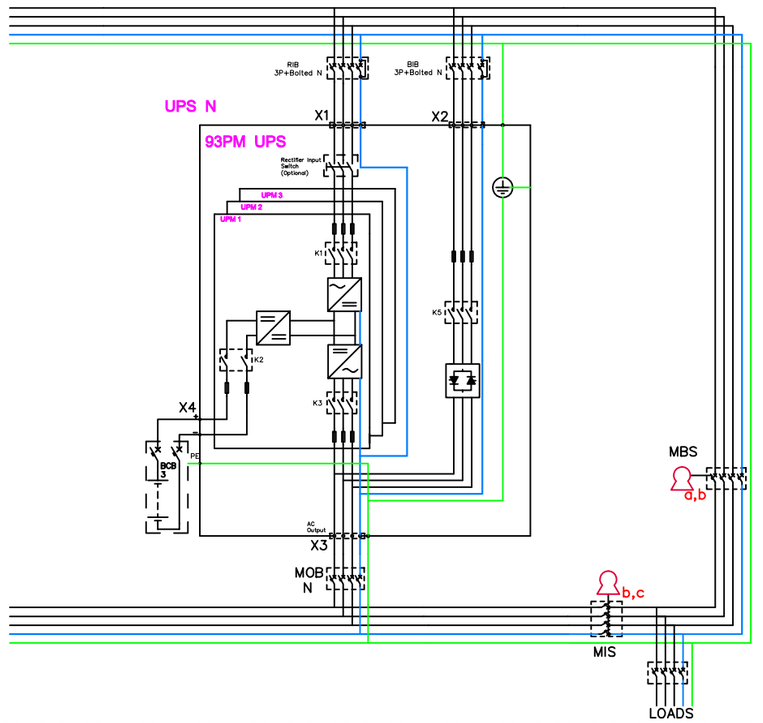

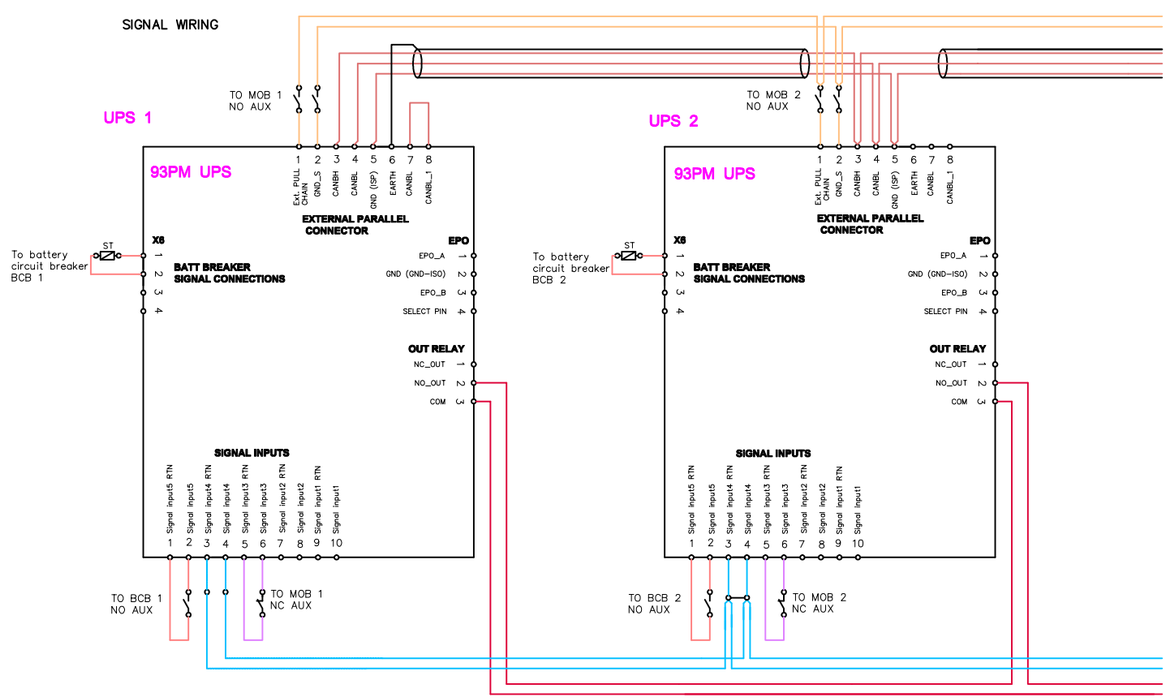

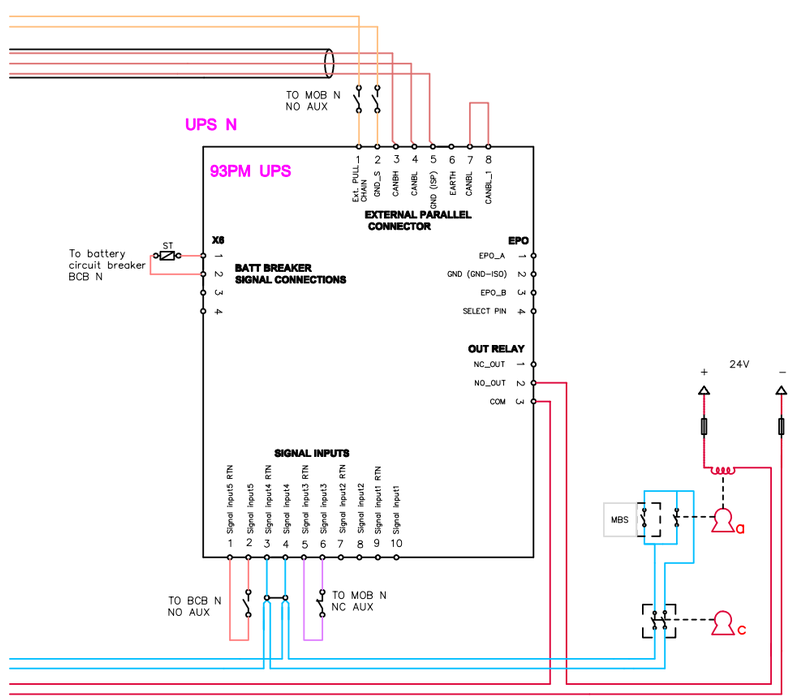

MBS STATUS (Provided by others, Installed by others)
0.75 - 2.5mm² twisted pair (if possible, else shielded)
No earth needed

MOB STATUS (Provided by others, Installed by others)
0.75 - 2.5mm² twisted pair (if possible, else shielded)
No earth needed

PCAN (DUAL AS OPTION)
Provided by Eaton, Installed by Eaton

PULL CHAIN (Reduntant ON BYP STATUS)
Provided by Eaton, Installed by Eaton

ON BYPASS STATUS (NO INVERTORS ONLINE)
Provided by others, Installed by others
1.5 - 2.5mm² , 600v

BATT AUX AND SHUNT TRIP
Provided by Eaton, Installed by Eaton
1.5 - 2.5mm²

Mechanical bypass interlocking sequence

1. Place UPS system to bypass. On bypass status (K3) will energize Key A solenoid to release it
2. Removing key A will switch on "force bypass" to the UPS system
3. Place key A to MBS breaker and close breaker. Key B will be released.
4. Aux contact of MBS will keep "force bypass" on UPS system
5. Place key B to MIS breaker and open MIS to isolate UPS system from load. Key C will be released
6. Place key C to it's dedicated keyhole to release "force bypass" command to allow UPS system testing

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

DESCRIPTION: 93PM 120–150 KW Wiring Parallel Units

ORIGINATED: Atif Rasheed	03.08.2015	ECO:	NAME:	REVISION: 002	SIZE: A2
MODIFIED: Atif Rasheed	21.08.2017		P–110000456	STATE:	SCALE: 1:1
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SAFETY:					
APPROVED:					

93PM 120-150 kW UPS Site Planning Data

Product Specifications																			
UPS Rating		AC Input	3P+Bolted N Rectifier Input Breaker (RIB)		3P+Bolted N Bypass Input Breaker (BIB)			AC Output	4P Inverter AC output Breaker MOB			Battery Breaker (BCB) (Ratings at 36 blocks string length, the end of discharge 1.67VPC)					For Parallel Units Common Maintenance Bypass Switch (MBS)	
			Nominal Current	Maximum Current	Nominal Current	Maximum Current	Integrated Bypass Fuse		Output Current	Inverter Short Circuit Current	Auxiliary Switches	Rating	Separate Battery Configuration (UPMBattery)	Common Battery Configuration (UPSBattery)	Trip Device (Shunt Trip)	BCB Auxiliary Switches	Rating	Auxiliary Switches
kVA	kW	V	A	A	A	A	Type	V	A	A / 400ms	Qty	VDC	A	A	VDC	Qty	A	Qty
120	120	400	180	228	175	206	Bussman 900A 170M4419	400	173	510	2	500	145	344	24	1	173 x N	1
150	150	400	226	285	219	257	Bussman 900A 170M4419	400	217	510	2	500	145	431	24	1	217 x N	1

Notes:
1. Rectifier AC input current calculations: Nominal – 100% load without charging;
2. Maximum AC input calculations: Nominal, 100% load, –15% mains voltage tolerance.(Rectifier current limit).
3. Inverter AC output current calculation: At 100% rated output load.
4. The system must be installed on a level floor suitable for computer or electronic equipment.
5. All wiring and installations must be in accordance with applicable National and Local Electric Regulations.
6. AC input to UPS: (3) phases, (1) neutral, (1) ground.
   AC output to load: (3) phases, (1) neutral, (1) ground.
   DC input from battery to UPS: (1) positive, (1) negative, (1) ground.
7. All breakers should be adjusted according to the specified Ampere values to protect the UPS and installation.
8. For UPS installation that utilizes single feed input, The input breaker should be configured according to the rated rectifier input current..
9. Specifications are subject to change.

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DESCRIPTION: 93PM 120–150 KW Specifications					
ORIGINATED: Atif Rasheed	03.08.2015	ECO:	NAME:	REVISION: 002	SIZE: A2
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APPROVED:					