



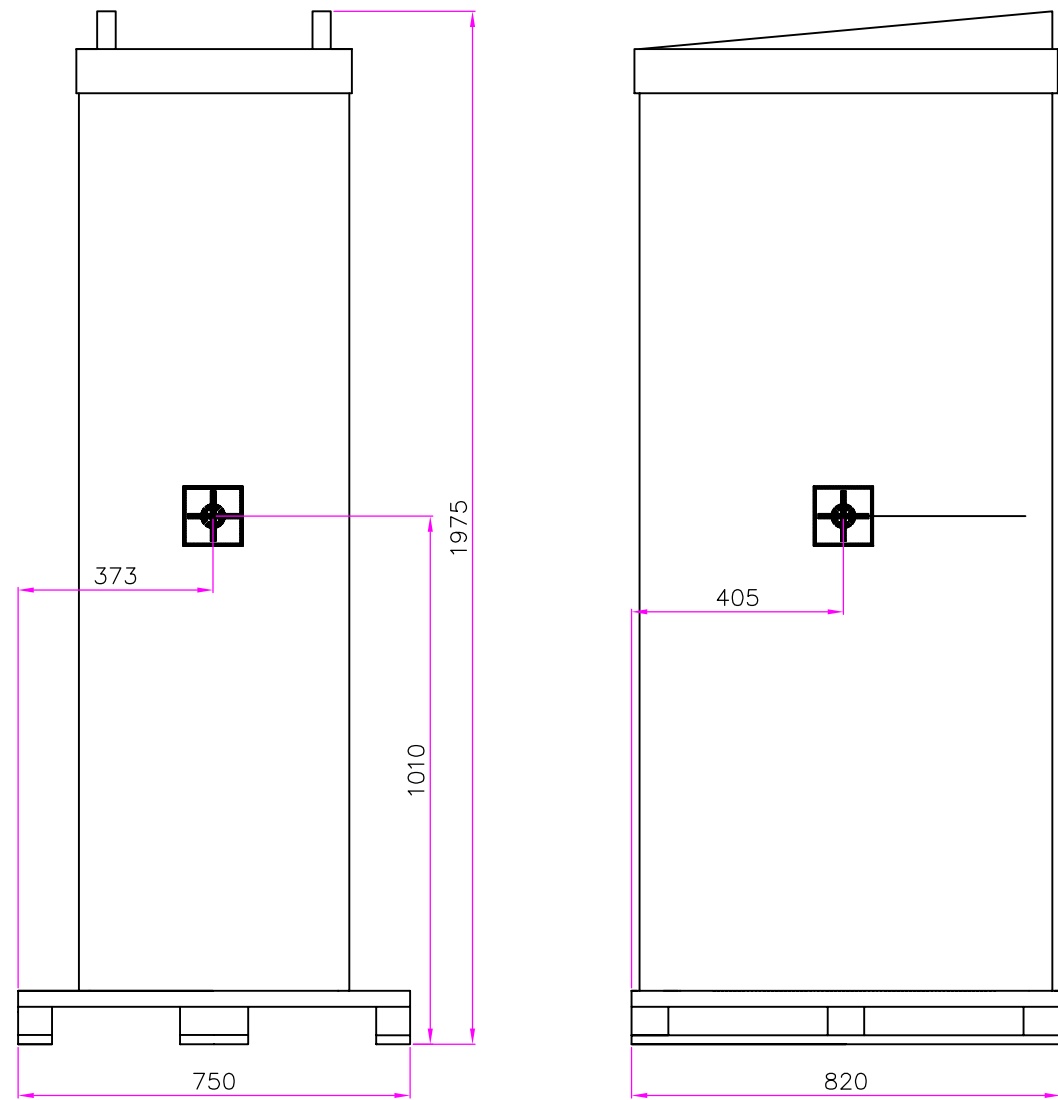
Powering Business Worldwide

SITE PLANNING DATA 93PS 8-20KW/40KW FRAME

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Page 5	Electrical Wiring of Single Unit
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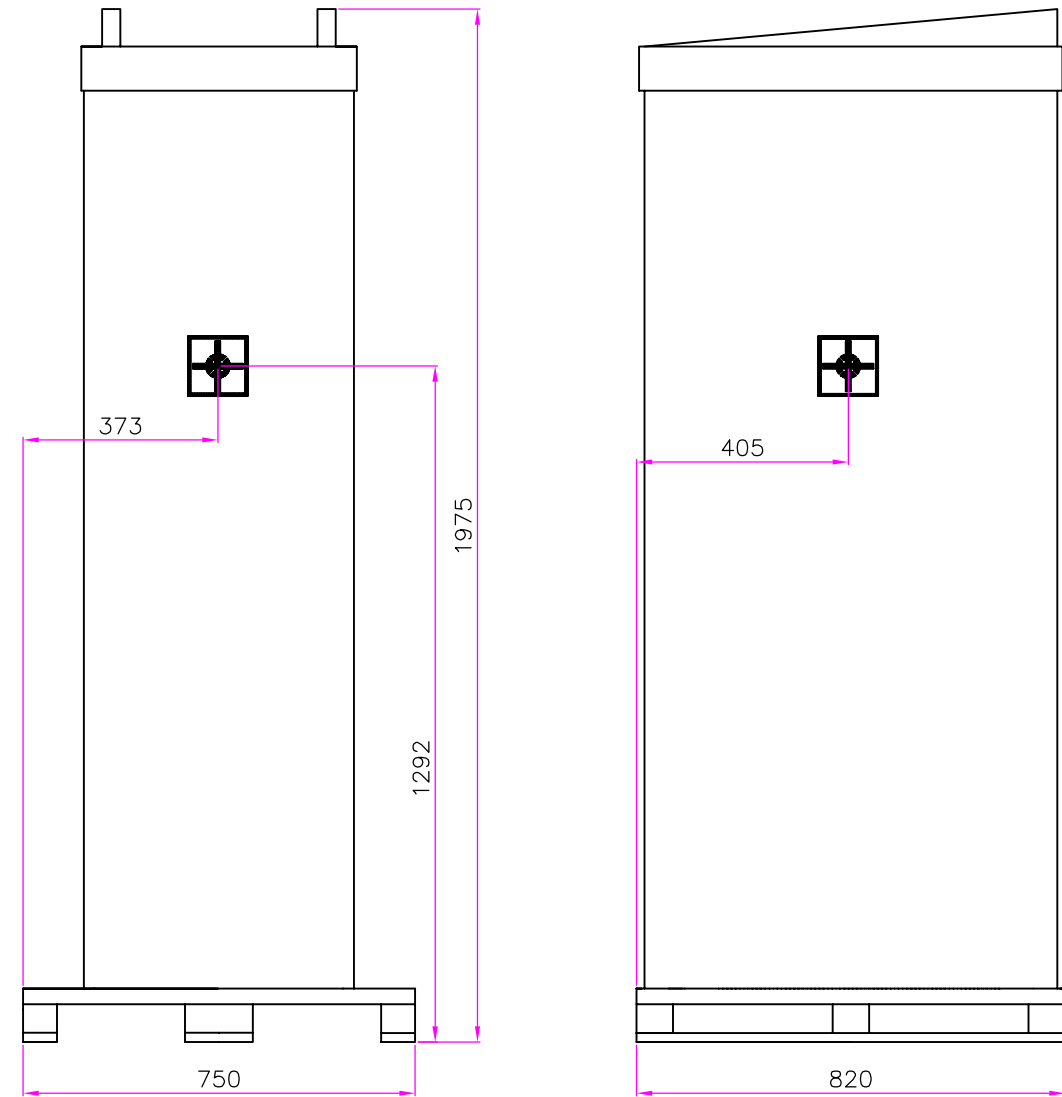
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DESCRIPTION: 93PS 8-20KW/40KW Frame							
ORIGINATED: Atif Rasheed	1-07-2015	ECO:	NAME:	REVISION: 001	SIZE: A2		
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FRONT VIEW

SIDE VIEW

COG Dimensions with Internal Batteries



FRONT VIEW

SIDE VIEW

COG Dimensions without Internal Batteries

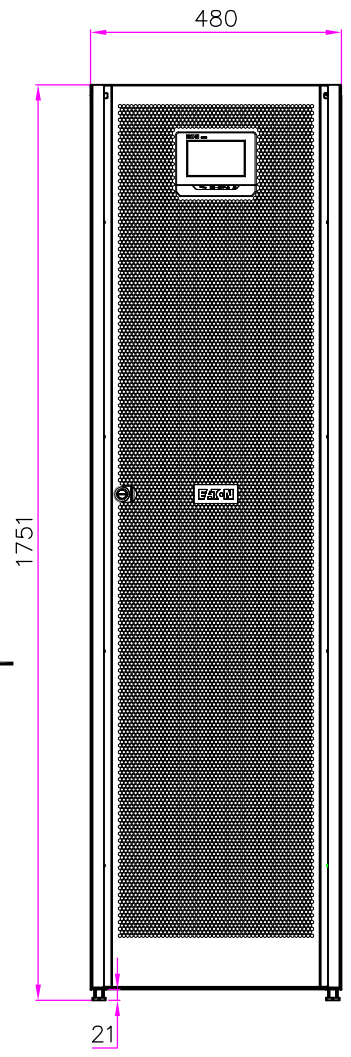
Notes:

1. The COG dimensions are approximated values with Pallet and packaging including Batteries and without Batteries.
2. The COG dimensions of UPS cabinet with package are X=373mm, Y=405mm, Z=1010mm including Batteries and X=373mm, Y=405mm, Z=1292mm without Batteries.
3. Store the unit in dry and clean environment. Protect the unit from high humidity, rain or other direct exposure to water and also protect it from exposure to dirt and dust.
4. Optimal storing temperature for the unit without batteries is +15°C to +30°C and for batteries +20°C to +25°C.
5. Units without batteries can be stored in -25°C to +55°C without risk of remediate damaging.
6. Storing batteries above +25°C will shorten the battery lifetime.
7. Batteries can be stored for six months without charging in temperature +20°C to +25°C, but batteries should not be stored uninstalled more than absolute necessary.
8. If batteries are stored above +25°C then batteries should be charged every four months.
9. Storing batteries longer than recommended without charging can harm the battery permanently.

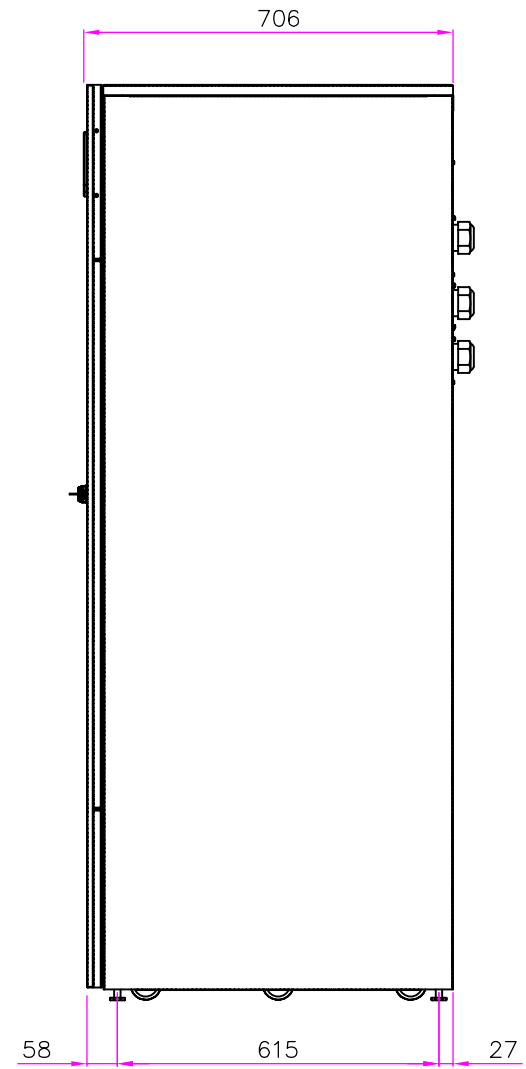
Product Specifications				
UPS Rating		Shipping Dimensions WXDXH	Approx. Weight Shipping with Batteries	Approx. Weight Shipping without Batteries
KVA	KW	MM	Kg	Kg
8-20	8-20	750X820X1975	530	214

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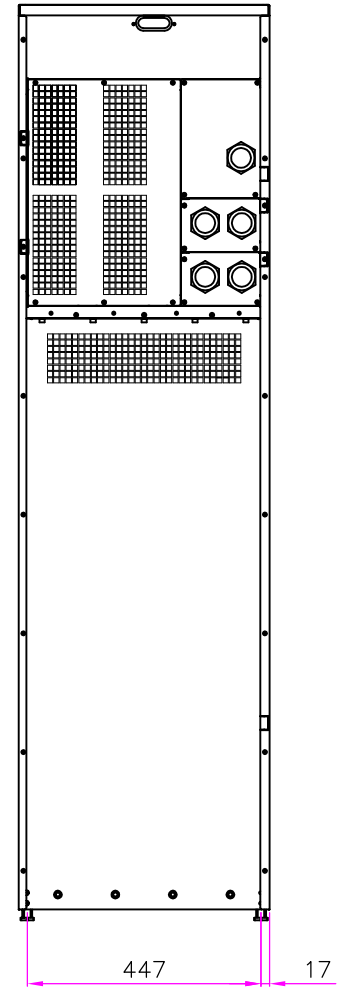
Product Specifications										
UPS Rating		Max Heat Dissipation at 100% Load	Cabinet Dimensions WXD _X H	Shipping Dimensions WXD _X H	Approx. Weight Cabinet with Batteries	Approx. Weight Cabinet without Batteries	Approx. Weight Shipping with Batteries	Approx. Weight Shipping without Batteries	Floor Landing	Cooling Air
KVA	KW	KW	MM	MM	Kg	Kg	Kg	Kg	Kg/m ²	m ³ /H
8	8	0.3	480X750X1750	750X820X1975	504	188	530	214	1478	3
10	10	0.4	480X750X1750	750X820X1975	504	188	530	214	1478	3
15	15	0.6	480X750X1750	750X820X1975	504	188	530	214	1478	3
20	20	0.9	480X750X1750	750X820X1975	504	188	530	214	1478	3



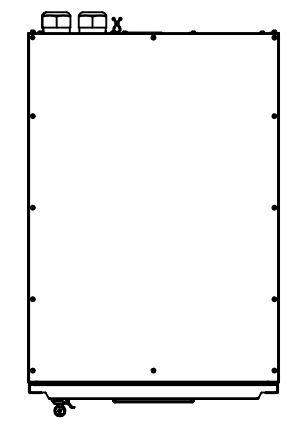
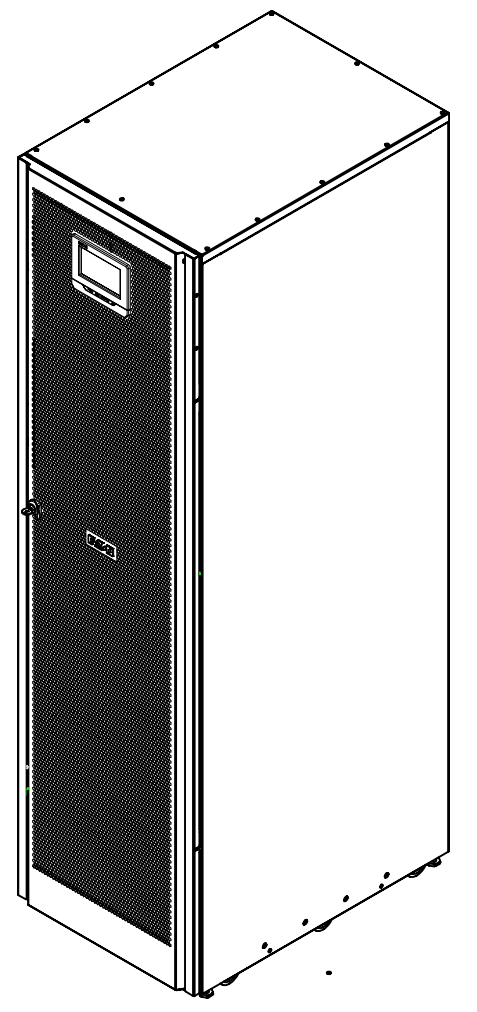
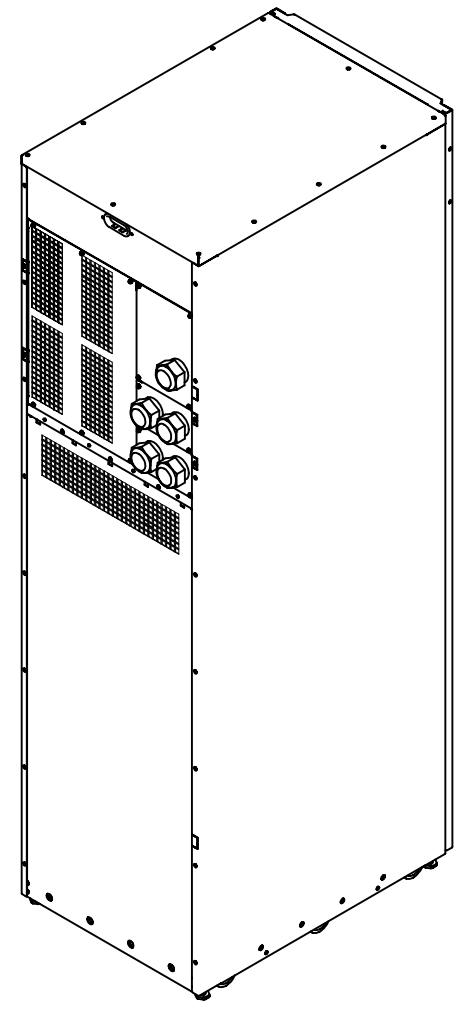
FRONT VIEW



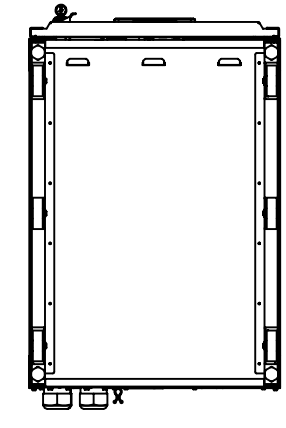
SIDE VIEW



REAR VIEW



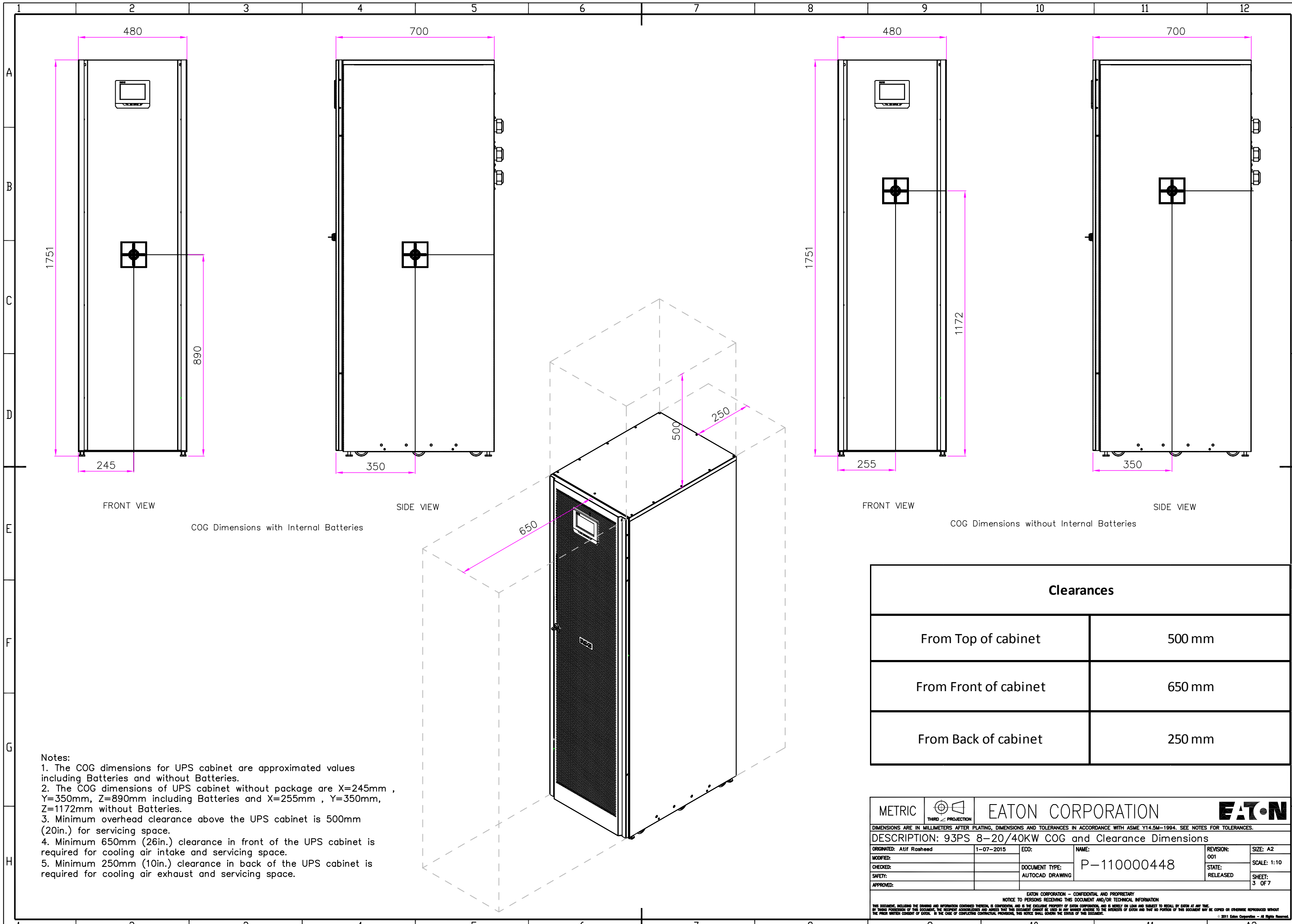
TOP VIEW



BOTTOM VIEW

- Notes:
1. The system must be installed in a temperature and humidity controlled indoor area free of conductive contaminants.
 2. Continuous ambient temperature range: 0–40°C (32–104F); Maximum relative humidity: 95% non-condensing.
 3. The UPS can be installed in line-up-and-match or standalone configurations.
 4. The rear cable entries through the removable access gland plate are standard for all configurations. Access plates shall be custom-modified to suit conduit sizes.

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DESCRIPTION: 93PS 8–20/40KW Dimensional Drawings					
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FRONT VIEW

SIDE VIEW

FRONT VIEW

SIDE VIEW

COG Dimensions with Internal Batteries

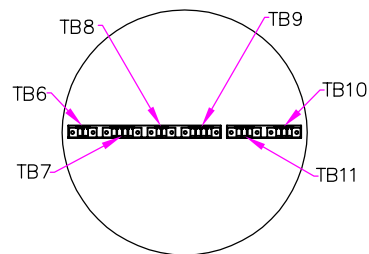
COG Dimensions without Internal Batteries

Clearances

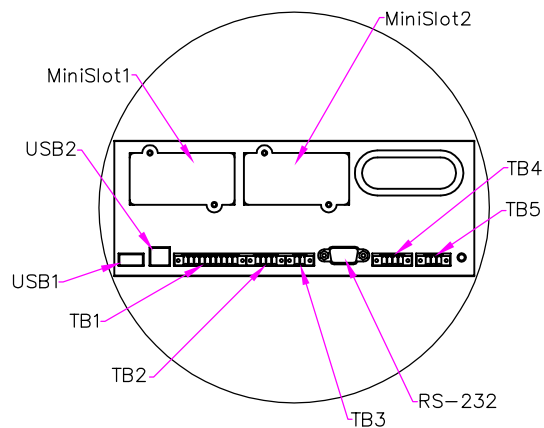
From Top of cabinet	500 mm
From Front of cabinet	650 mm
From Back of cabinet	250 mm

- Notes:
1. The COG dimensions for UPS cabinet are approximated values including Batteries and without Batteries.
 2. The COG dimensions of UPS cabinet without package are X=245mm , Y=350mm, Z=890mm including Batteries and X=255mm , Y=350mm, Z=1172mm without Batteries.
 3. Minimum overhead clearance above the UPS cabinet is 500mm (20in.) for servicing space.
 4. Minimum 650mm (26in.) clearance in front of the UPS cabinet is required for cooling air intake and servicing space.
 5. Minimum 250mm (10in.) clearance in back of the UPS cabinet is required for cooling air exhaust and servicing space.

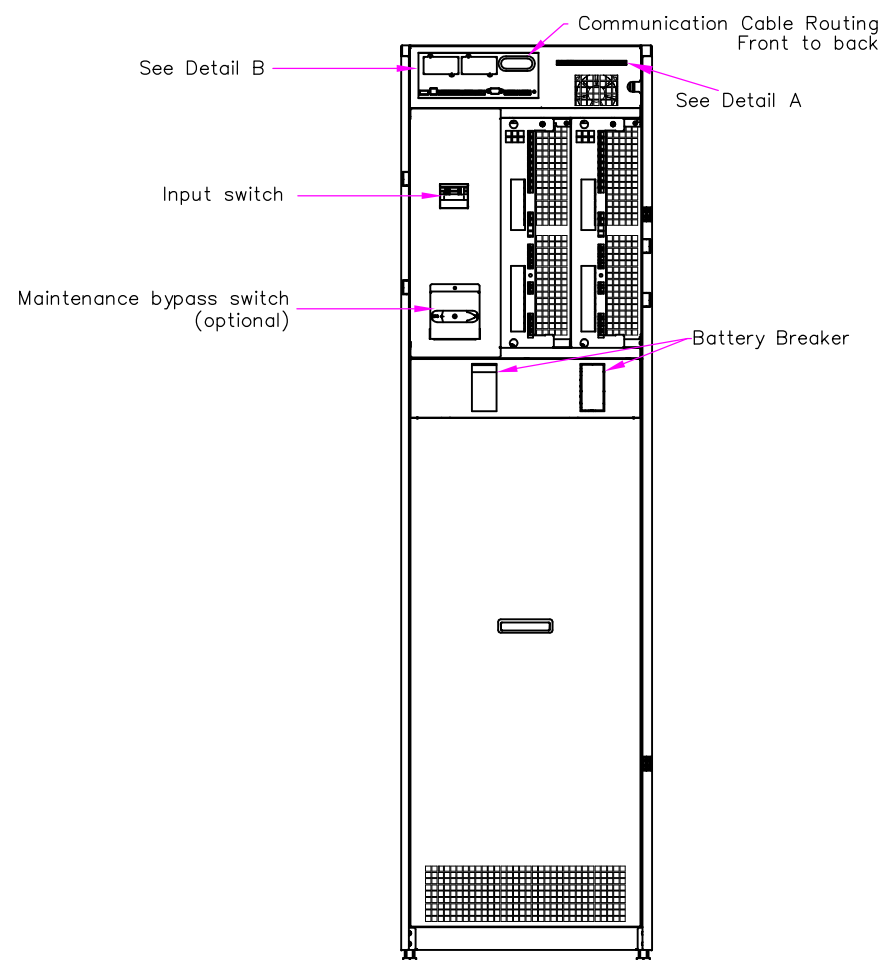
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DESCRIPTION: 93PS 8-20/40KW COG and Clearance Dimensions				
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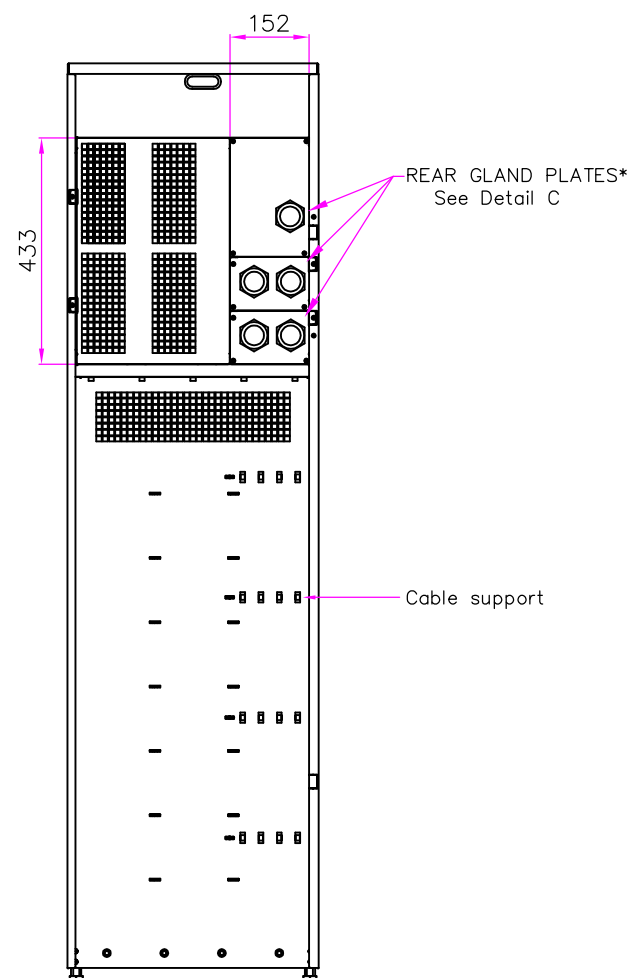
SCALE 3:1
DETAIL VIEW A



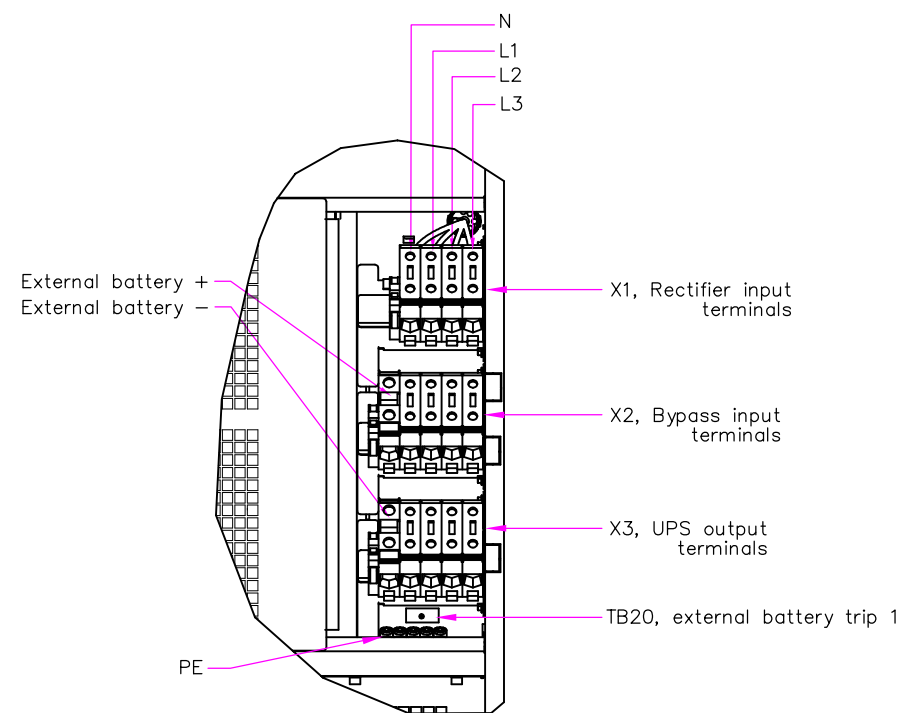
SCALE 3:1
DETAIL VIEW B



CONNECTIONS WITH FRONT PANEL REMOVED



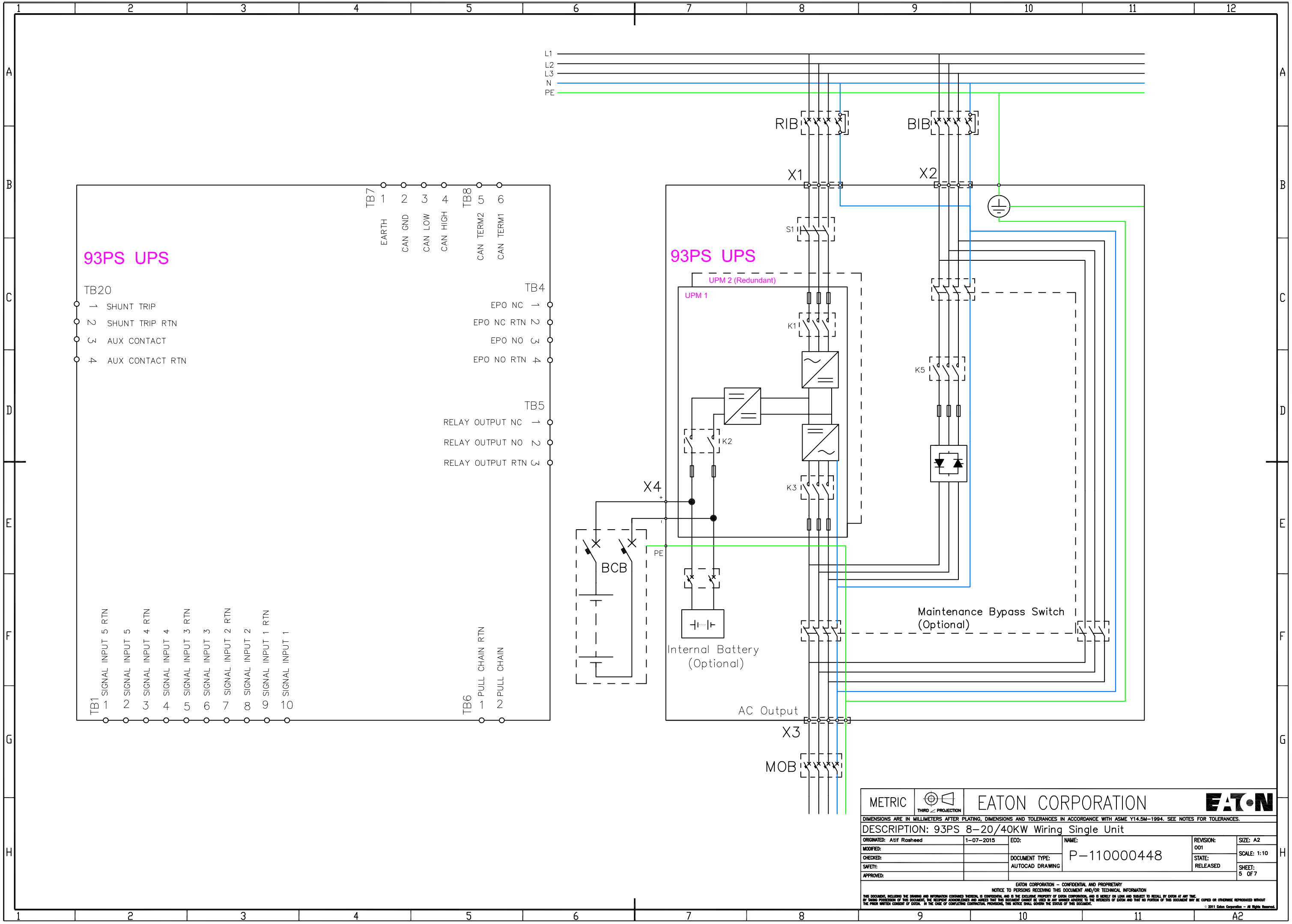
REAR CONNECTIONS



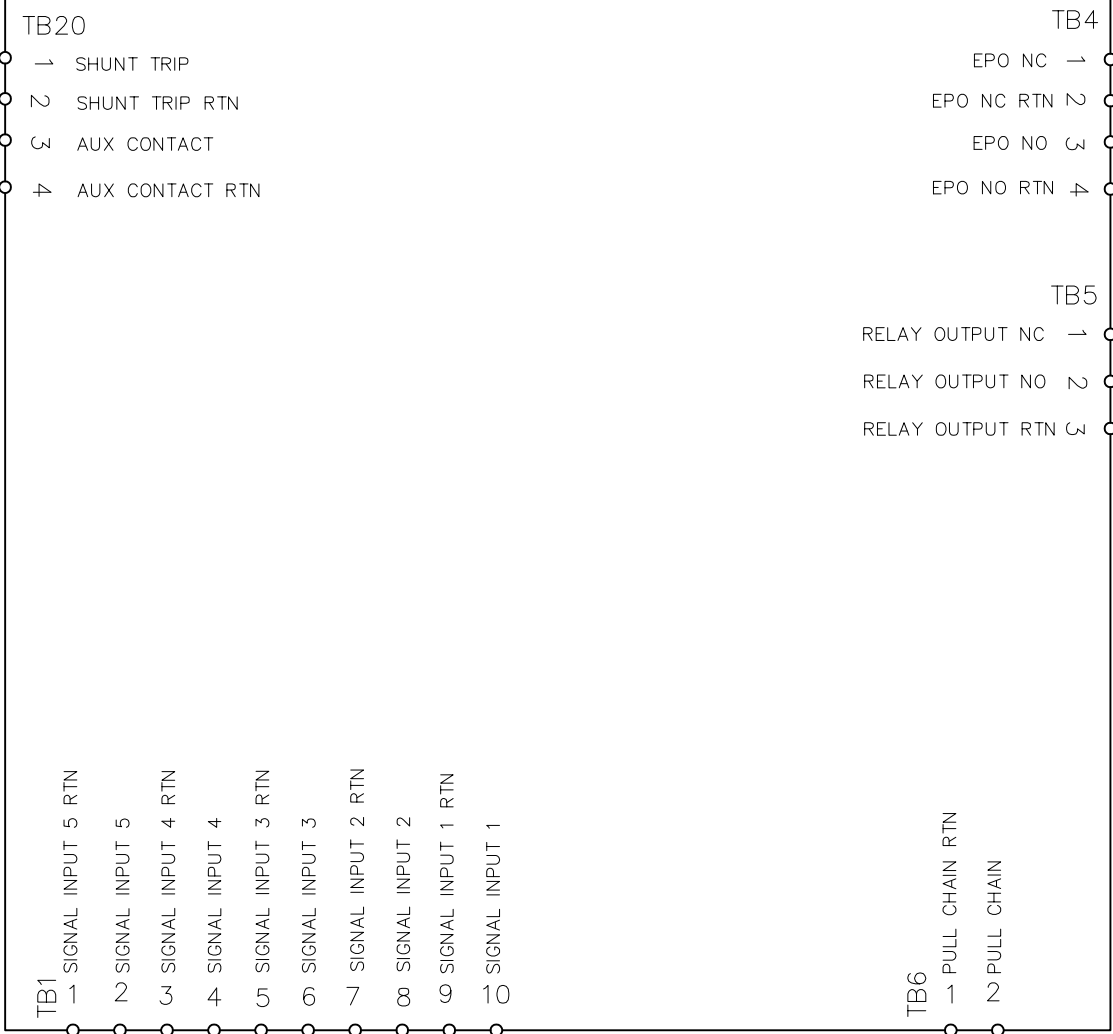
SCALE 5:1
DETAIL VIEW C
CONNECTIONS BEHIND REAR GLAND PLATES

Notes:
1. M50 size cable gland plates with strain relief bushing are used on the rear side of unit for power cabling and cables diameter should be of range 21-34.5mm.

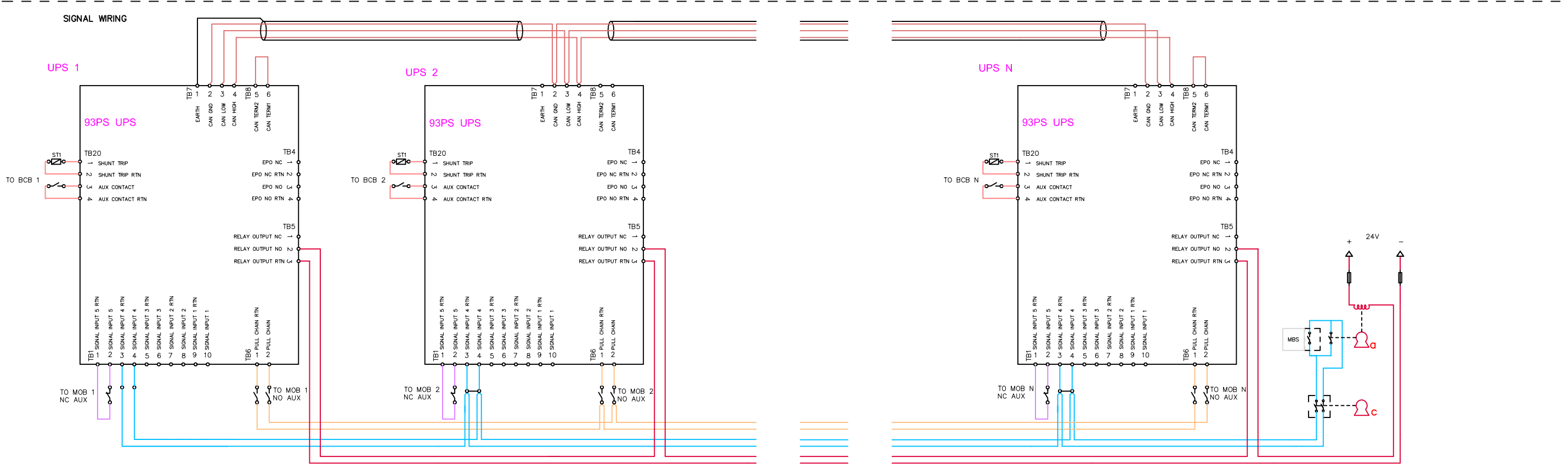
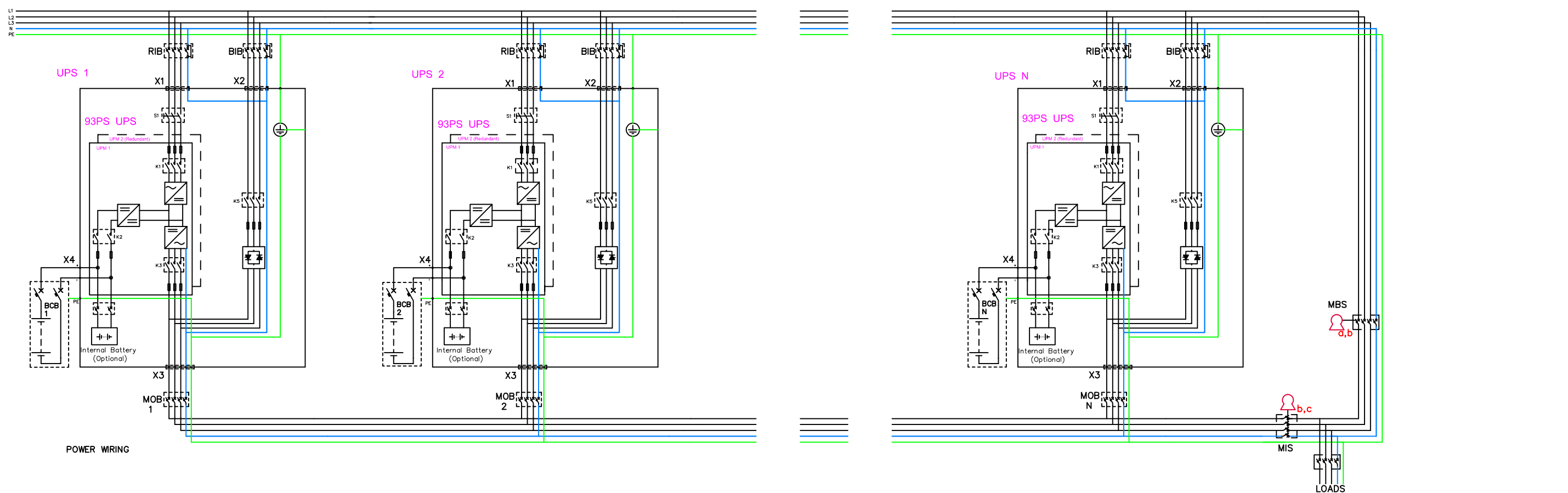
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DESCRIPTION: 93PS 8-20/40KW Customer Connections							
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93PS UPS



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DESCRIPTION: 93PS 8-20/40KW Wiring Single Unit					
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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
- PULL CHAIN (REDUNDANT ON BYP STATUS)
Provided by Eaton, Installed by Eaton
- MOB STATUS (Provided by others, Installed by others)
0.75 - 2.5mm² twisted pair (if possible, else shielded)
No earth needed
- ON BYPASS STATUS (NO INVERTORS ONLINE)
0.75 - 2.5mm², provided by others, Installed by others
- PCAN (DUAL AS OPTION)
Provided by Eaton, Installed by Eaton

- 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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93PS 8-20KW/40KW Frame UPS Site Planning Data

Product Specifications

UPS Rating		AC Input	3P+Bolted N Rectifier Input Breaker (RIB)		3P+Bolted N Bypass Input Breaker (BIB) ⁷			AC Output	4P Inverter AC output Breaker MOB			Battery Breaker (BCB) (Ratings at the end of discharge, 1.67VPC)				For Single Unit Maintenance Bypass Switch (MBS)	For Parallel Units Common Maintenance Bypass Switch (MBS)		
			Nominal Current	Maximum Current	Nominal Current at 400v Input	Maximum Current at 15% under voltage	Integrated Bypass Fuse		Output Current	Inverter Short Circuit Current	Auxiliary Switches	Rating	Separate Battery Configuration (UPM Bttery)	Common Battery Configuration (UPS Battery)	Trip Device (Shunt Trip)	Auxiliary Switches	Rating	Rating	Auxiliary Switches
KVA	KW	v	A	A	A	A	Type	v	A	A / 300ms	Qty	VDC	A	A	VDC	Qty	A	A	Qty
8	8	400	12	18	12	17	200FEE	400	12	72	2	500	NA	143	24	1	12	12 x N	1
10	10	400	15	22	15	21	200FEE	400	15	72	2	500	NA	143	24	1	15	15 x N	1
15	15	400	23	29	22	32	200FEE	400	22	72	2	500	NA	143	24	1	22	22 x N	1
20	20	400	30	38	29	42	200FEE	400	29	72	2	500	NA	143	24	1	29	29 x N	1

Minimum recommended cable and fuse sizes

UPS RATING KW	Cable [mm ²]	Rectifier Fuse [A]	Bypass Fuse [A]	PE Cable [mm ²]	POS. & NEG. Line [mm ²]	Battery Fuse [A]	EX BATT PE Cable [mm ²]
8	4*2.5	16	16	1*6	1*35	160	1*16
10	4*4	20	20	1*6	1*35	160	1*16
15	4*10	32	32	1*10	1*35	160	1*16
20	4*10	50	40	1*10	1*35	160	1*16

Notes:

1. Rectifier AC input current calculations: Nominal – 100% load without charging; Maximum – 100% load with maximum charging (Rectifier current limit).
2. Inverter AC output current calculation: At 100% rated output load.
3. The system must be installed on a level floor suitable for computer or electronic equipment.
4. All wiring and installations must be in accordance with applicable National and Local Electric Regulations.
5. 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.
6. All breakers should be adjusted according to the specified Ampere values to protect the UPS and installation.
7. The static bypass switch is rated to a maximum value of 59 Amperes, nominal current at 400v and 85 Amperes, maximum current at 15% under voltage.If using the bigger rating BIB than mentioned in the table, output cable thermal protection should be rechecked.
8. For UPS installation that utilizes single feed input, The input breaker should be configured according to the rated rectifier input current.
9. Cable sizing is based on the standard IEC 60364-5-52 and IEC 60364-5-54.The sizing is for 70°C rated copper cables.
10. Specifications are subject to change.

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