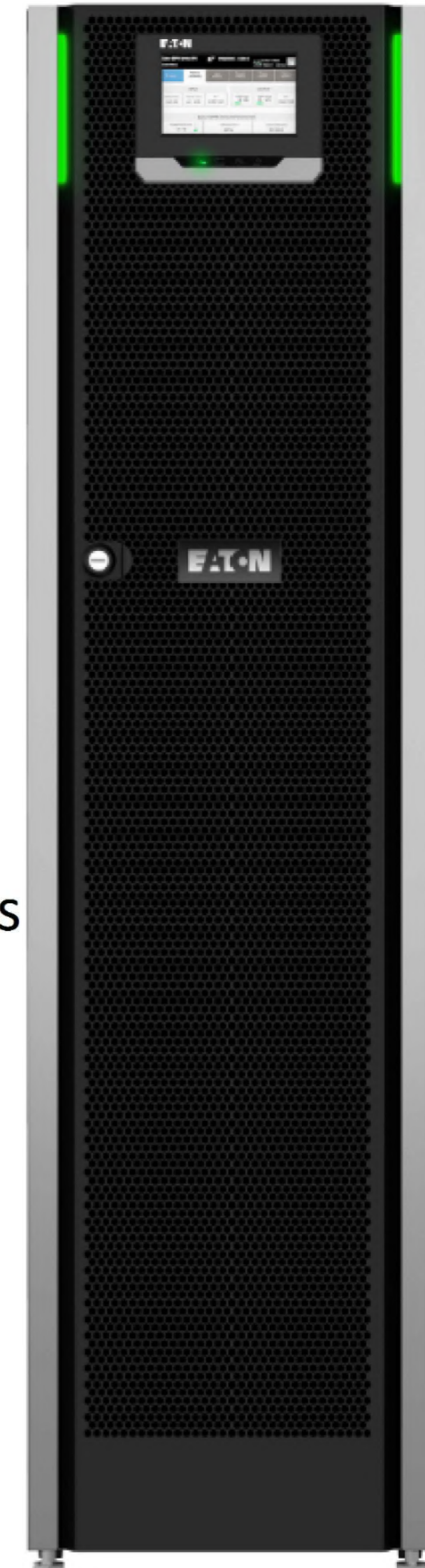




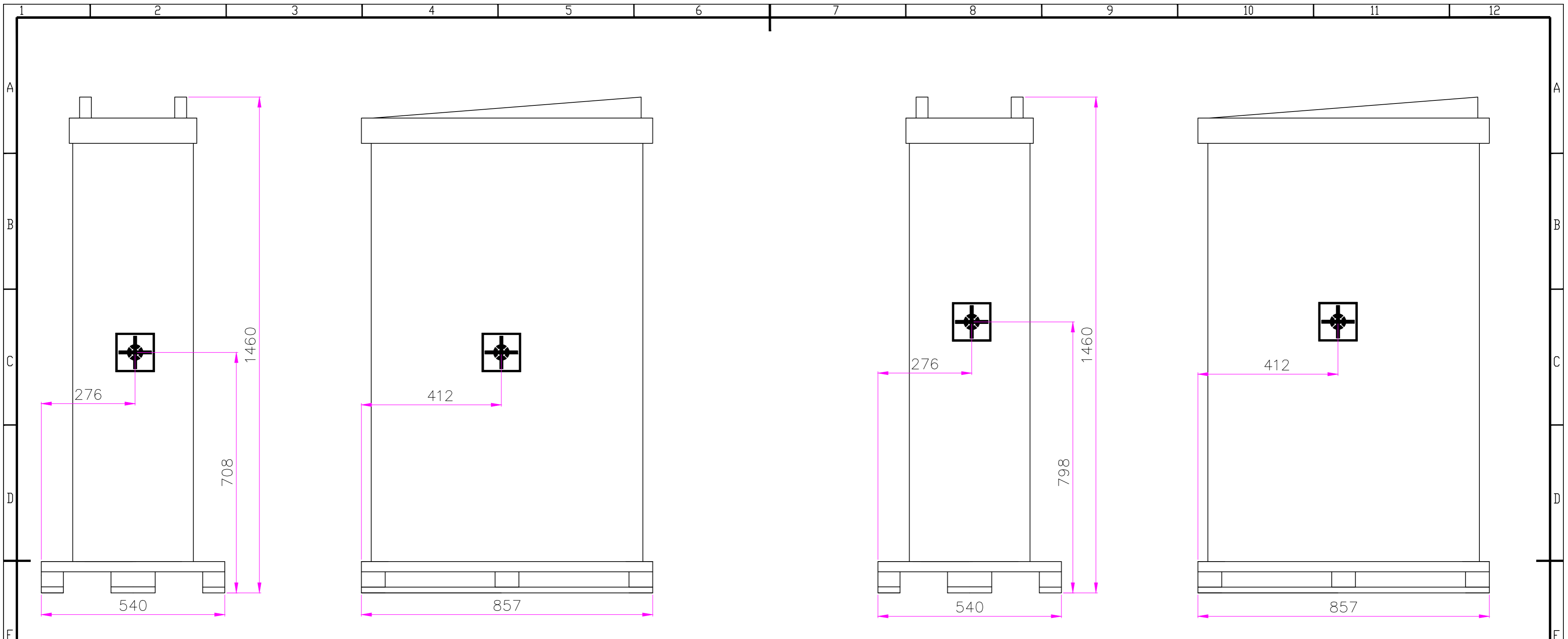
Powering Business Worldwide

# SITE PLANNING DATA Eaton 91PS 8-15 kW

Page 1	Packaging Dimensions
Page 2	Dimensional Drawings
Page 3	COG(Center of Gravity) and Clearance Dimensions
Page 4	Customer Connections
Page 5	Electrical Wiring of Single Unit
Page 6	Electrical & Signal Wiring of Parallel Units
Page 7	Product Specifications



METRIC		EATON CORPORATION		
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COG(Center of Gravity) dimensions with internal batteries

COG(Center of Gravity) dimensions without internal batteries

Notes:

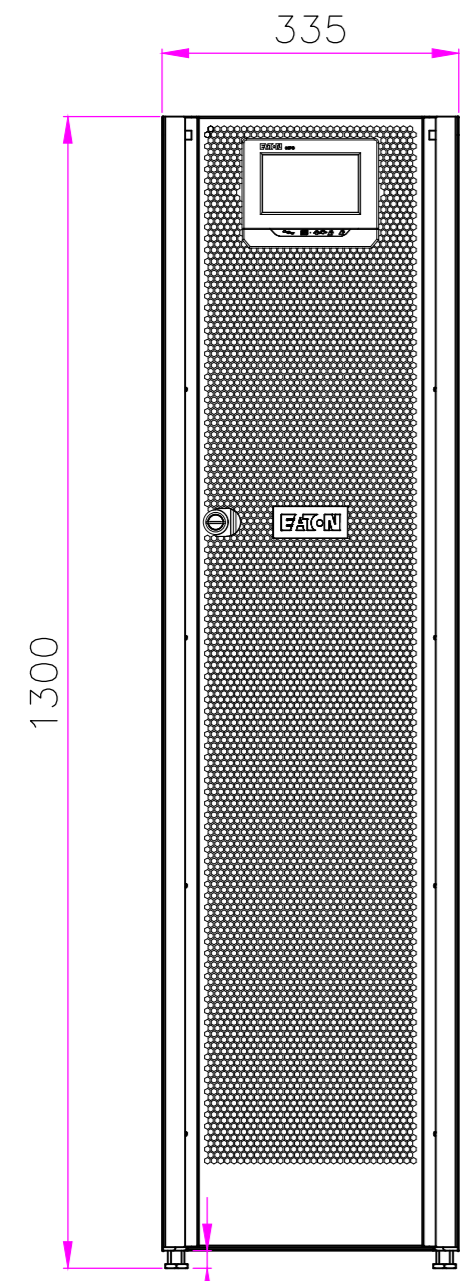
1. The COG dimensions are approximated values with pallet and packaging including batteries and without batteries.
2. The COG dimensions of UPS cabinet with package are X=276 mm, Y=412mm, Z=708mm including batteries and X=276 mm, Y=412 mm, Z=798 mm without batteries.
3. Store the unit in a dry and clean 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. Unites without batteries can be stored in -25°C to +55°C without risk of immediate damage.
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 W x D x H	Approx. Weight Shipping with Batteries	Approx. Weight Shipping without Batteries
kVA	kW	mm	kg	kg
8-15	8-15	540 x 857 x 1460	274	131

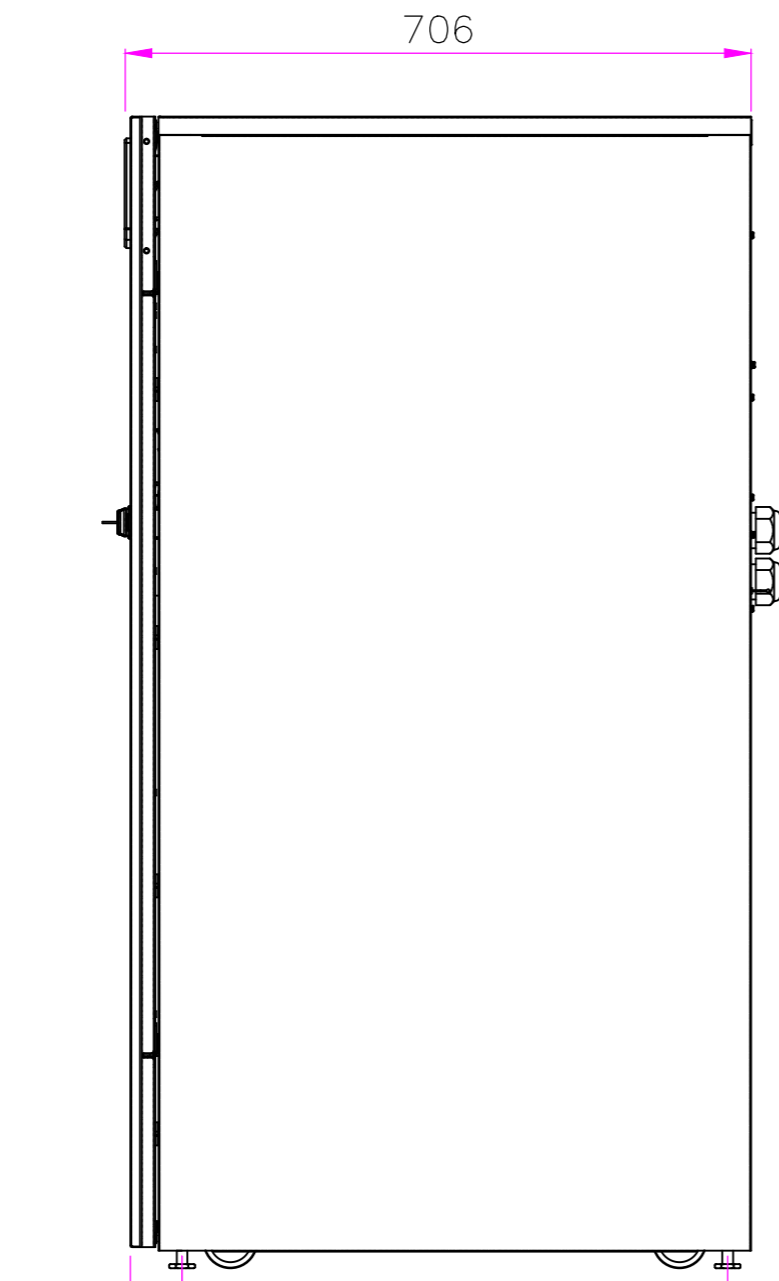
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DESCRIPTION: Eaton 91PS 8-15 kW Packaging Dimensions							
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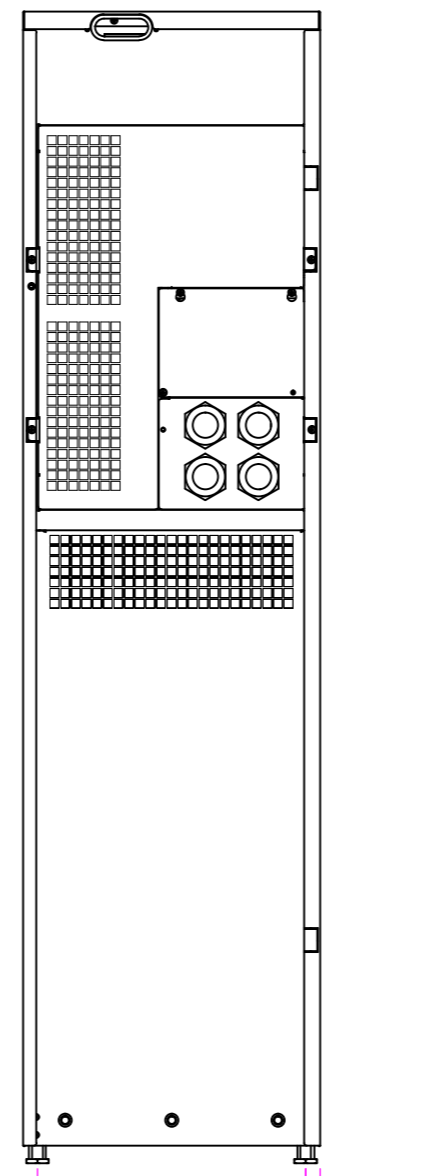
Product Specifications										
UPS Rating		Max Heat Dissipation at 100% Load	Cabinet Dimensions W x D x H	Shipping Dimensions W x D x H	Approx. Weight Cabinet With Batteries	Approx. Weight Cabinet without Batteries	Approx. Weight Shipping with Batteries	Approx. Weight Shipping without Batteries	Floor Landing	Cooling air
kVA	kW	W	mm	mm	kg	kg	kg	kg	kg/m <sup>2</sup>	l/s
8	8	368	335 x 750 x 1300	540 x 857 x 1460	253	110	274	131	1007	60
10	10	460	335 x 750 x 1300	540 x 857 x 1460	253	110	274	131	1007	60
15	15	720	335 x 750 x 1300	540 x 857 x 1460	253	110	274	131	1007	60



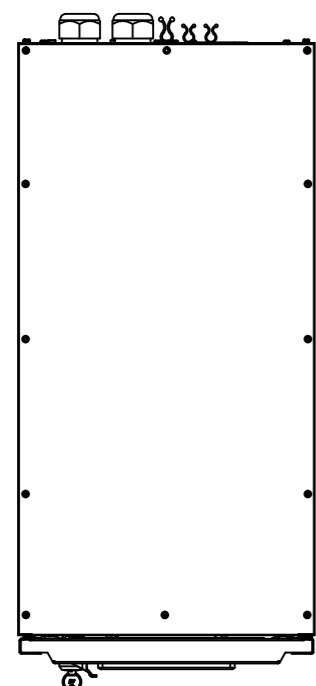
FRONT VIEW



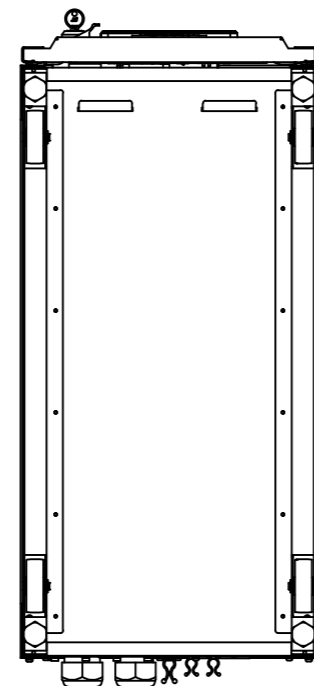
SIDE VIEW



REAR VIEW



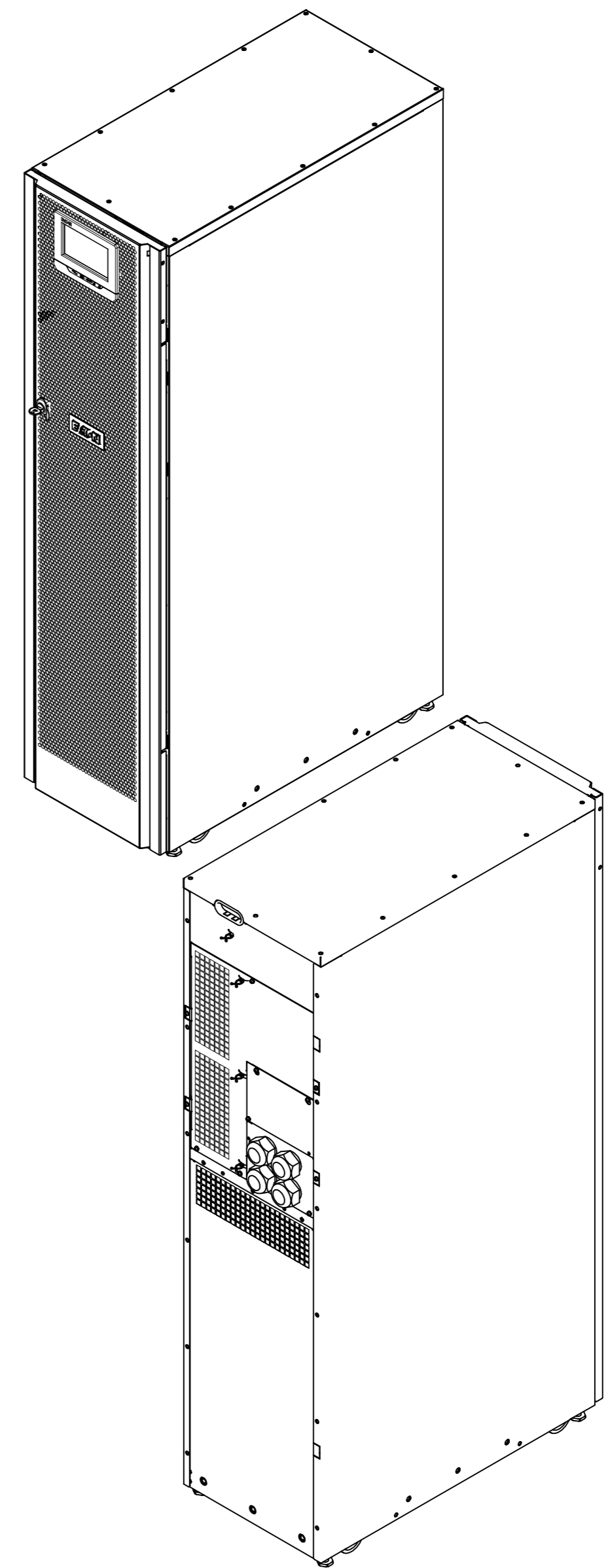
TOP VIEW



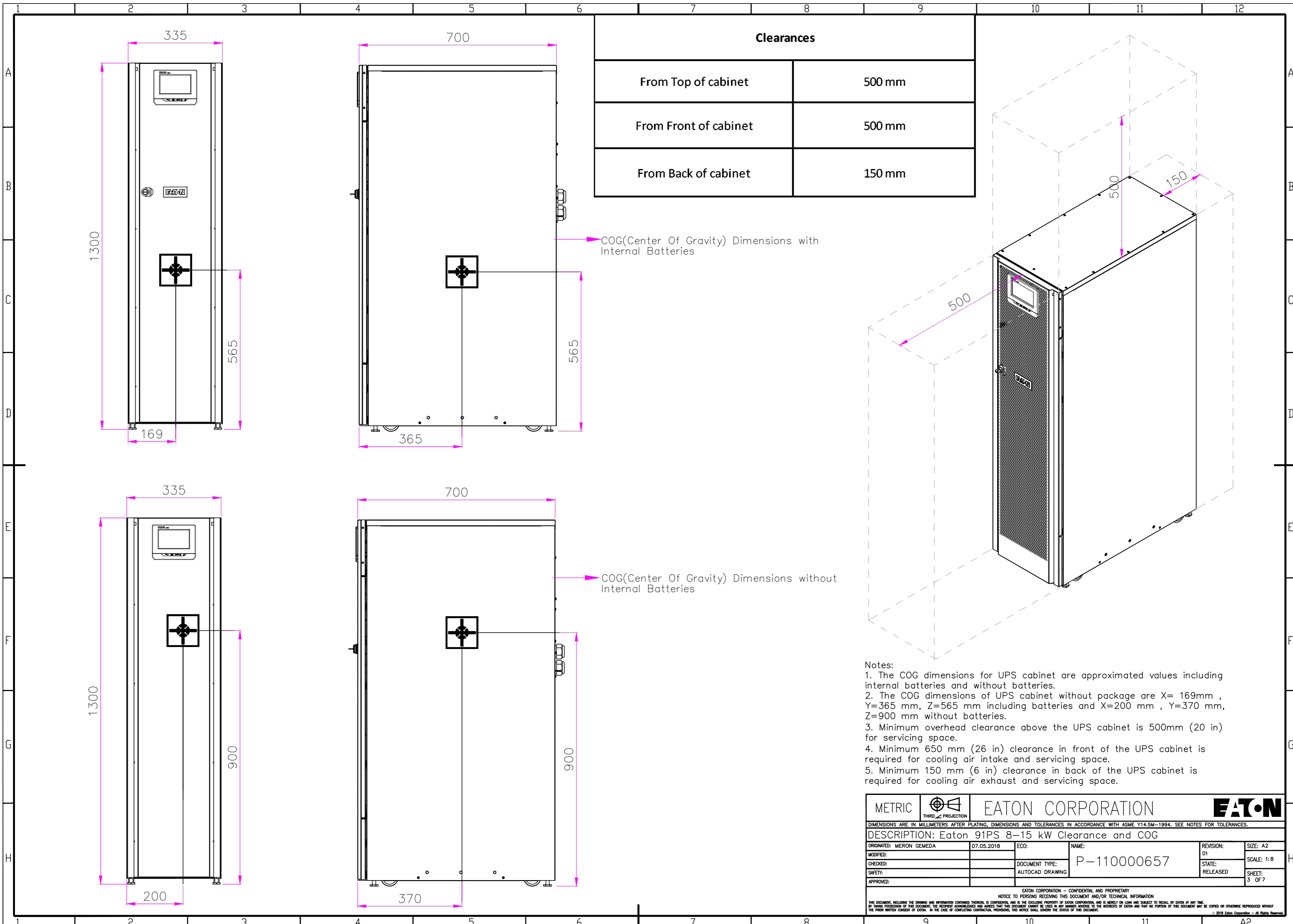
BOTTOM VIEW

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 (32–104°F); 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. Access plates shall be custom-modified to suit conduit sizes.
5. Ensure the necessary minimum air flow rate of 3 m<sup>3</sup>/h for internal batteries to avoid explosive gas mixture that can be created if the hydrogen concentration exceeds 4% by volume in air.



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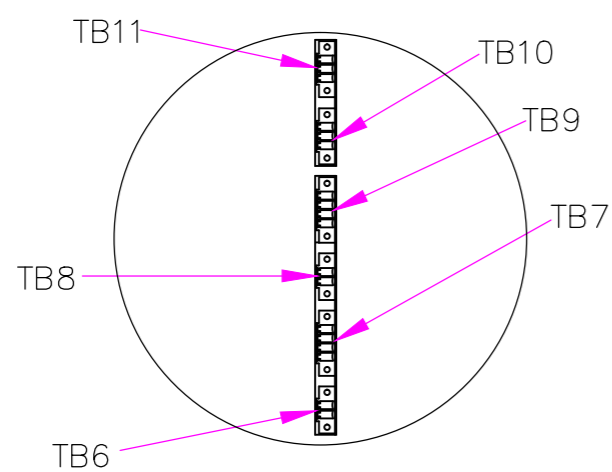


COG(Center Of Gravity) Dimensions with Internal Batteries

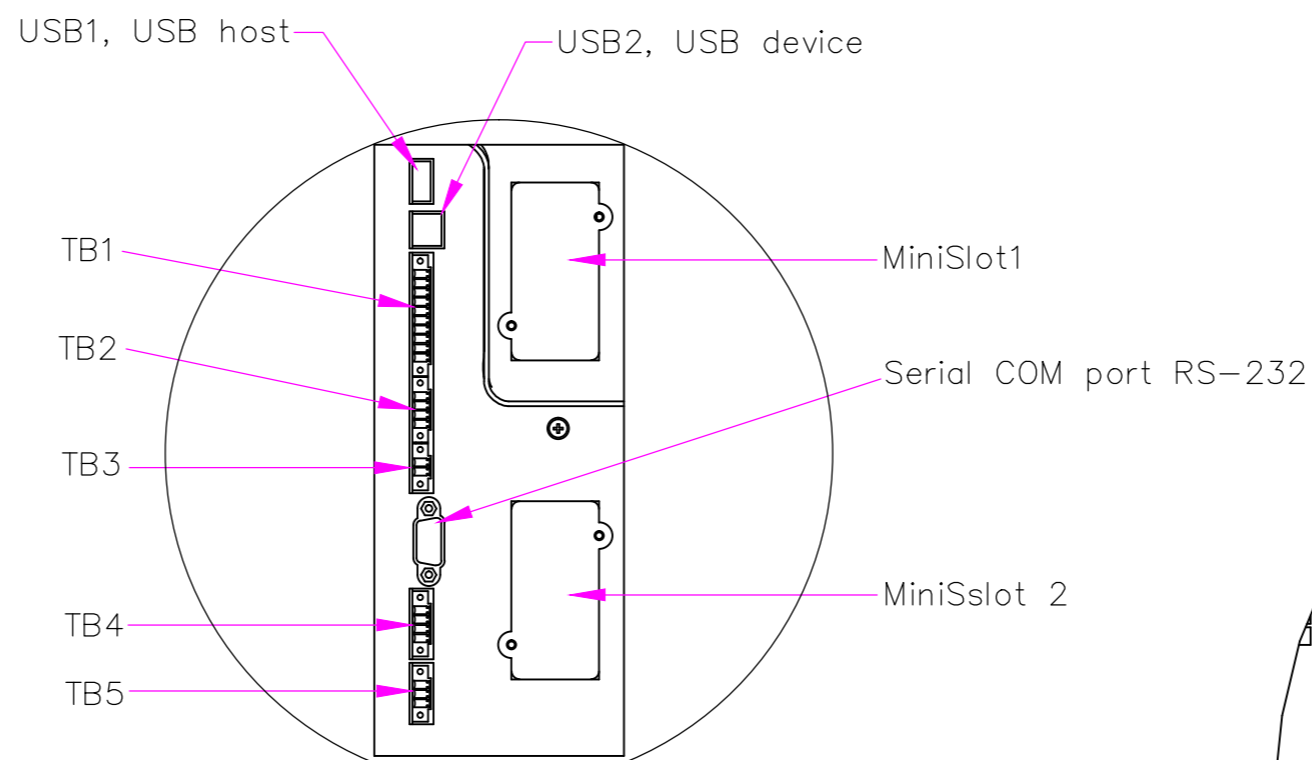
COG(Center Of Gravity) Dimensions without Internal Batteries

- Notes:
1. The COG dimensions for UPS cabinet are approximated values including internal batteries and without batteries.
  2. The COG dimensions of UPS cabinet without package are X= 169mm , Y=365 mm, Z=565 mm including batteries and X=200 mm , Y=370 mm, Z=900 mm without batteries.
  3. Minimum overhead clearance above the UPS cabinet is 500mm (20 in) for servicing space.
  4. Minimum 650 mm (26 in) clearance in front of the UPS cabinet is required for cooling air intake and servicing space.
  5. Minimum 150 mm (6 in) clearance in back of the UPS cabinet is required for cooling air exhaust and servicing space.

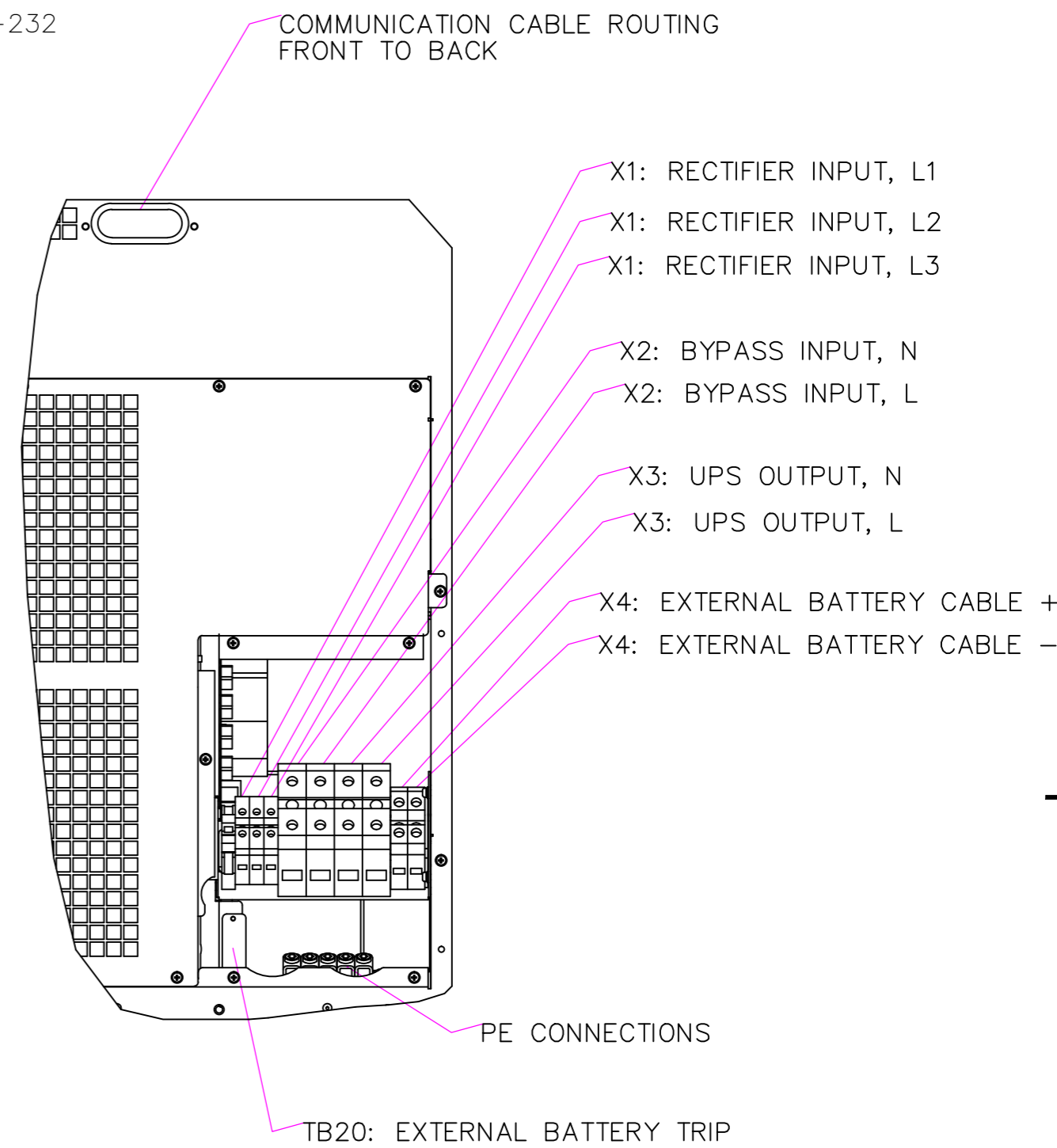
METRIC	THIRD ANGLE PROJECTION	EATON CORPORATION		
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DESCRIPTION: Eaton 91PS 8-15 kW Clearance and COG				
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SCALE 3:1  
DETAIL VIEW A

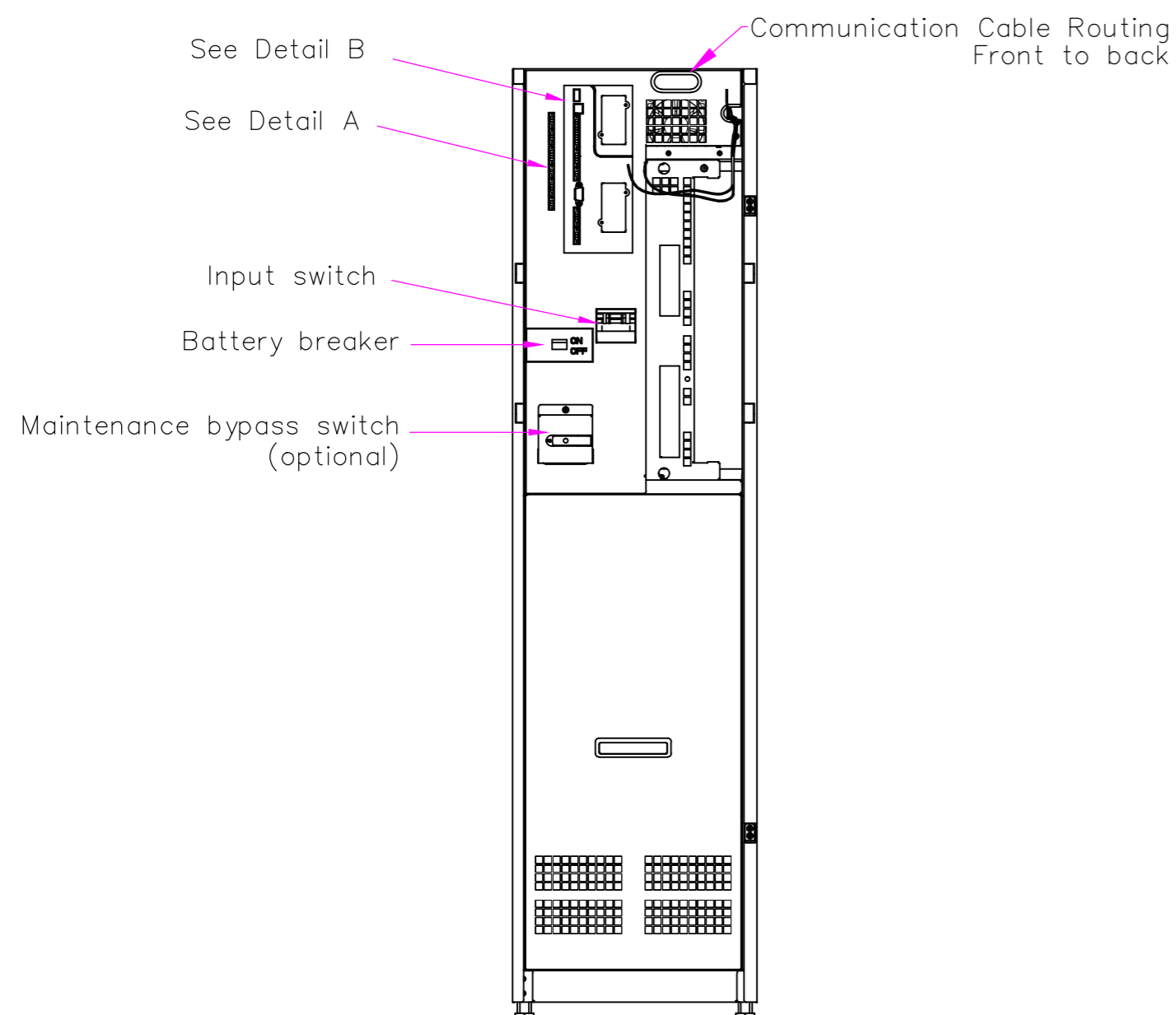


SCALE 3:1  
DETAIL VIEW B

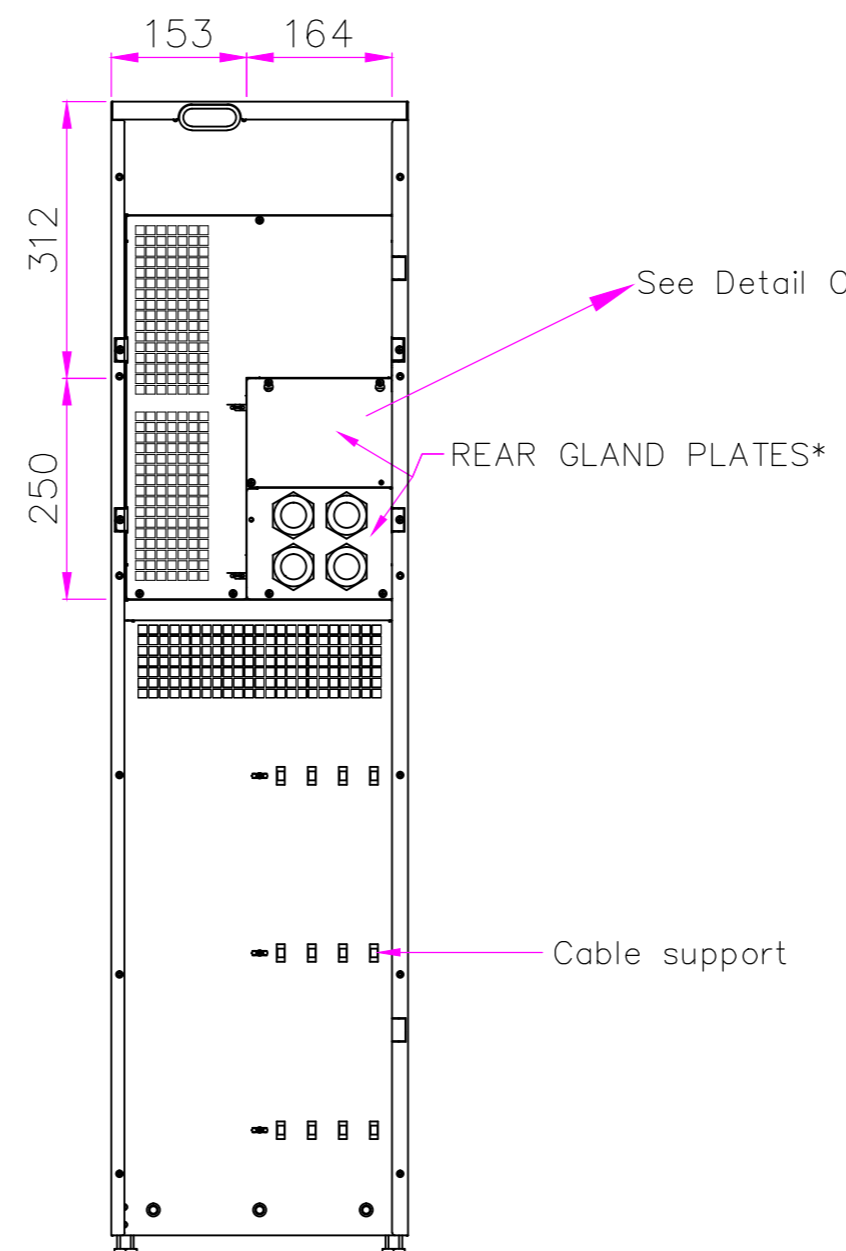


CONNECTIONS BEHIND GLAND PLATES  
DETAIL VIEW C

Notes:  
1. M40 size cable gland plates with strain relief bushing are used on the rear side of unit for power cabling.



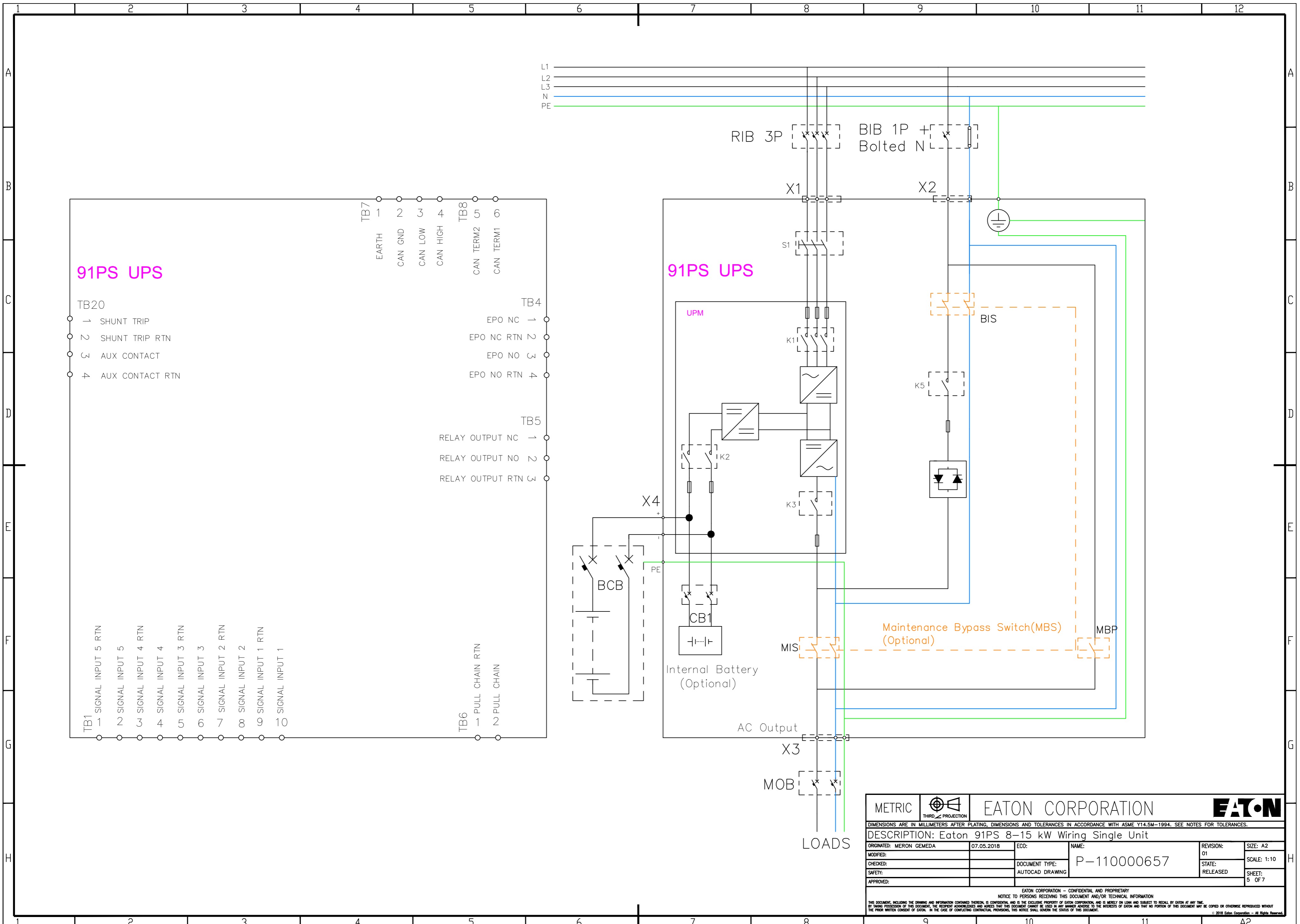
CONNECTIONS WITH FRONT PANEL REMOVED



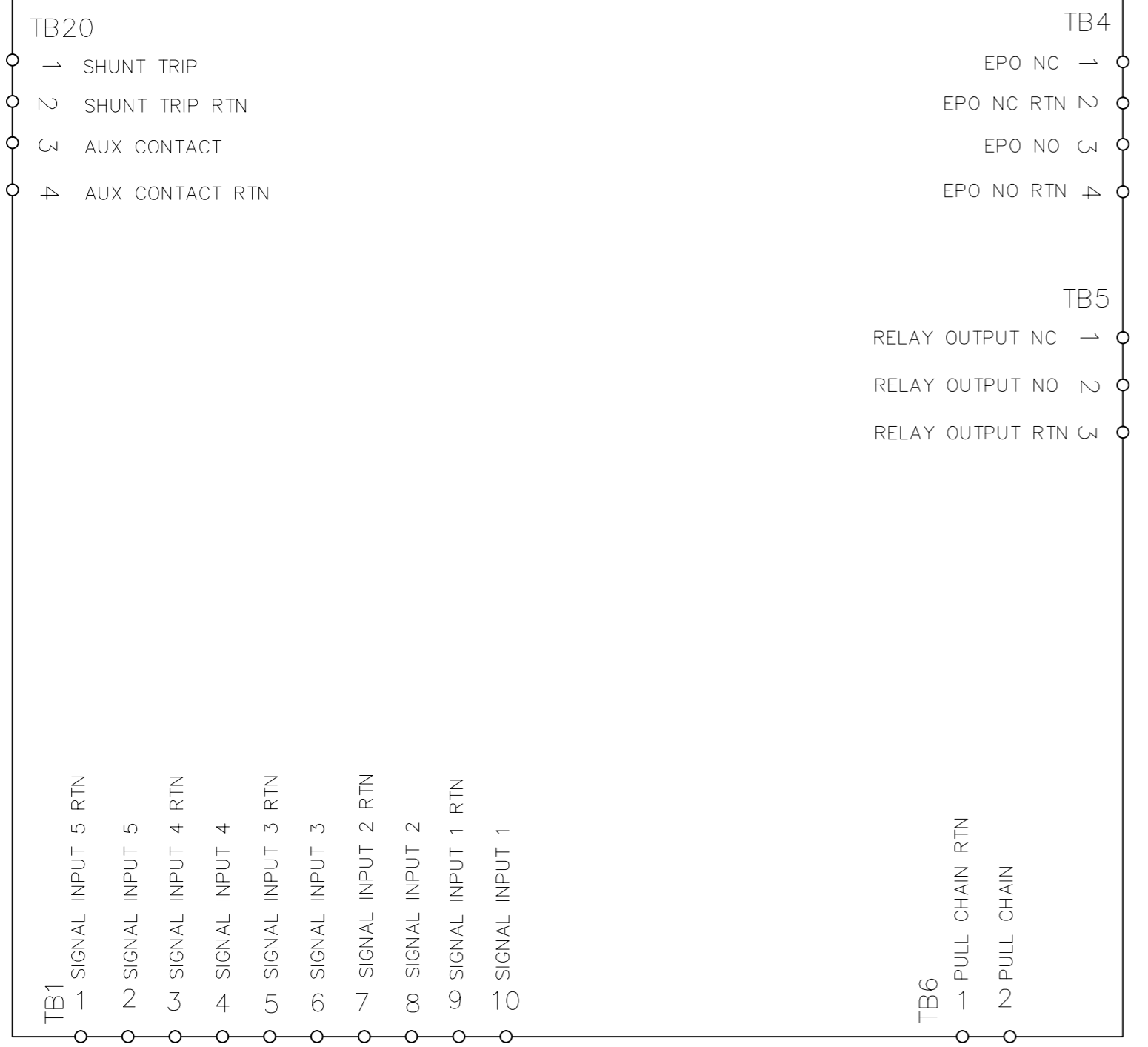
REAR CONNECTIONS

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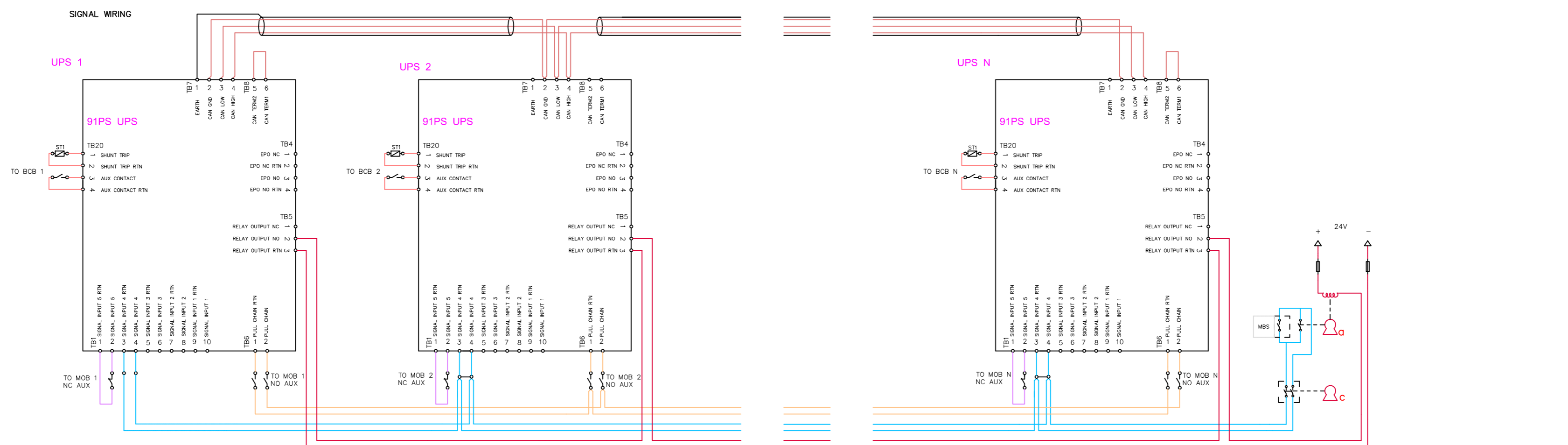
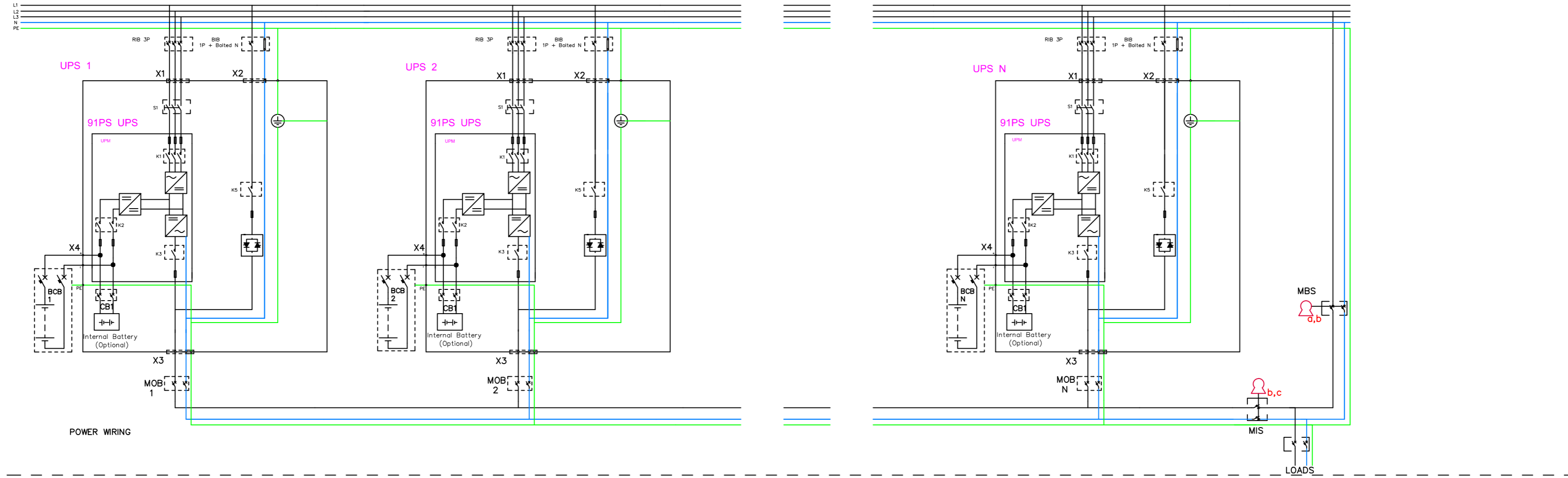
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**91PS UPS**



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**MBS STATUS** (Provided by others, Installed by others)  
0.75 - 2.5mm<sup>2</sup> twisted pair (if possible, else shielded)  
No earth needed

**MOB STATUS** (Provided by others, Installed by others)  
0.75 - 2.5mm<sup>2</sup> twisted pair (if possible, else shielded)  
No earth needed

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

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

**ON BYPASS STATUS (NO INVERTORS ONLINE)**  
1.5 - 2.5mm<sup>2</sup>, provided by others, Installed by others

- 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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## 91PS 8-15 kW UPS Site Planning Data

### Product Specifications

UPS Rating		AC Input		3P Rectifier Input Breaker (RIB)		Bypass AC Input	1P+Bolted N Bypass Input Breaker (BIB)			2P Inverter AC output Breaker MOB			Battery Breaker (BCB) (Ratings at the end of discharge, 1.67 V/cell)				For Single Unit Maintenance Bypass Switch (MBS)	
				Nominal Current	Maximum Current		Nominal Current at 230 v Input	Maximum Current at 15% under voltage	Integrated Bypass Fuse	AC Output	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
kVA	kW	V	A	A	V	A	A	Type	V	A	A / 300 ms	Qty	VDC	A	A	VDC	Qty	A
8	8	400	12	18	230	36	41	3 x 160FEE (parallel)	230	36	156	2	500	NA	63	24	1	36
10	10	400	15	22	230	45	51	3 x 160FEE (parallel)	230	45	156	2	500	NA	63	24	1	45
15	15	400	23	29	230	68	77	3 x 160FEE (parallel)	230	68	156	2	500	NA	63	24	1	68

### Minimum recommended cable and fuse sizes

UPS RATING kW	Rectifier Cable [mm <sup>2</sup> ]	Rectifier Fuse [A]	Bypass, output cable [mm <sup>2</sup> ]	Bypass Fuse [A]	PE Cable [mm <sup>2</sup> ]	POS. & NEG. Line [mm <sup>2</sup> ]	Battery Fuse [A]
8	2,5	20	10	50	10	1*16	63
10	4	20	16	63	16	1*16	63
15	10	32	25	80	16	1*16	63

### Maximum conductor cross section

Rectifier	Bypass/Output	EX. Battery
Solid/stranded wire: 16 mm <sup>2</sup> Stranded wire with ferrule: 10 mm <sup>2</sup>	Solid/stranded wire: 50 mm <sup>2</sup> Stranded wire with ferrule: 70 mm <sup>2</sup>	Solid/stranded wire: 25 mm <sup>2</sup> Stranded wire with ferrule: 16 mm <sup>2</sup>

**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. Rectifier AC input to UPS: (3) phases and (1) ground.  
Bypass AC input to UPS: (1) phase, (1) neutral, (1) ground.  
AC output to load: (1) phase, (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. For UPS installation that utilizes single feed input, The input breaker should be configured according to the rated rectifier input current.
8. 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.
9. Specifications are subject to change.

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