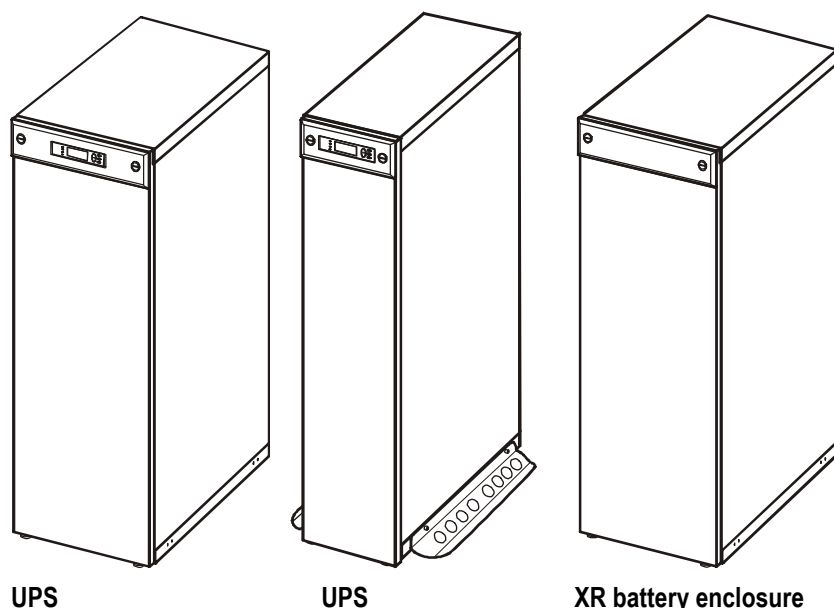




Installation

**MGE™ Galaxy™ 3500 3:1
15-40 kVA 380/400/415 V with batteries**



UPS

UPS

XR battery enclosure

IMPORTANT SAFETY INSTRUCTIONS SAVE THESE INSTRUCTIONS



Warning: ALL safety instructions in the Safety Sheet (990-2940) must be read, understood, and followed when installing the UPS system. Failure to do so could result in equipment damage, serious injury, or death.



Warning: After the UPS has been electrically wired, do not start it up. Start-up is commissioned to authorized personnel from Schneider Electric.



Caution: All electrical power and power control wiring must be installed by a qualified electrician, and must comply with local and national regulations for maximum power rating.



Note: Ensure that the unit is in its final location prior to installation.

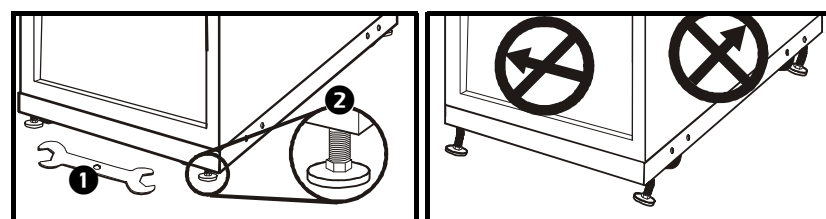


Note: Battery and utility/mains power must not be connected until all other wiring has been completed.

Level the Enclosure



Warning: The system must be installed on a level floor. The leveling feet will stabilize the enclosure, but will not account for a badly sloped floor.



❶ Use a 13/14 mm wrench to adjust the four leveling feet.

❷ Ensure that the system is level.



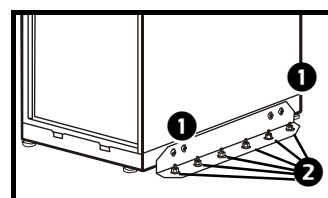
Caution: Do not move the enclosure after the leveling feet have been lowered.

Floor Anchoring (if applicable)

Anchor the UPS enclosure to the floor



Note: Floor-anchoring bolts are not provided with the UPS. Purchase the bolts locally (minimum size: M8). Follow the specifications given by the manufacturer of the floor anchoring system when bolting the UPS system to the floor.

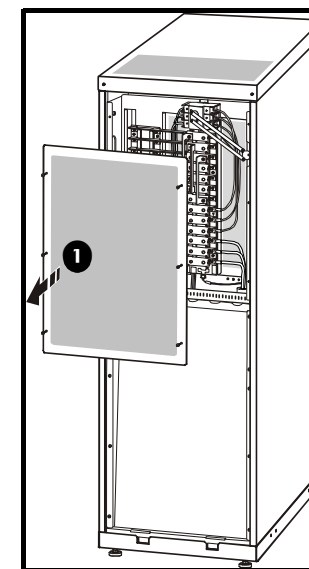


❶ Reuse the two transport brackets (one on each side) that were used to secure the UPS to the pallet during transport.

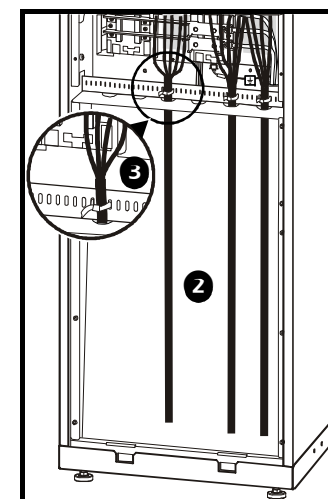
❷ Drill two to six holes in the floor for each bracket. Attach with bolts.

Prepare for Cables

Bottom cable entry



❶ From the rear of the UPS, loosen the six M4 screws from the upper cover (the cable landing area) on the back and remove.



❷ Route the cables from the slanted back plate, up through the punched bracket, and into the cable landing area.

❸ Fasten the cables with cable ties.



Note: A conduit box (part no. SUVTOPT001 or SUVTOPT002) is available as an option.

Connect the AC Input and AC Output Cables



Warning: Use compression type lugs ONLY. Do not loosen or add cables to any factory preinstalled cables on busbars. Use the front part of busbar for connection only.



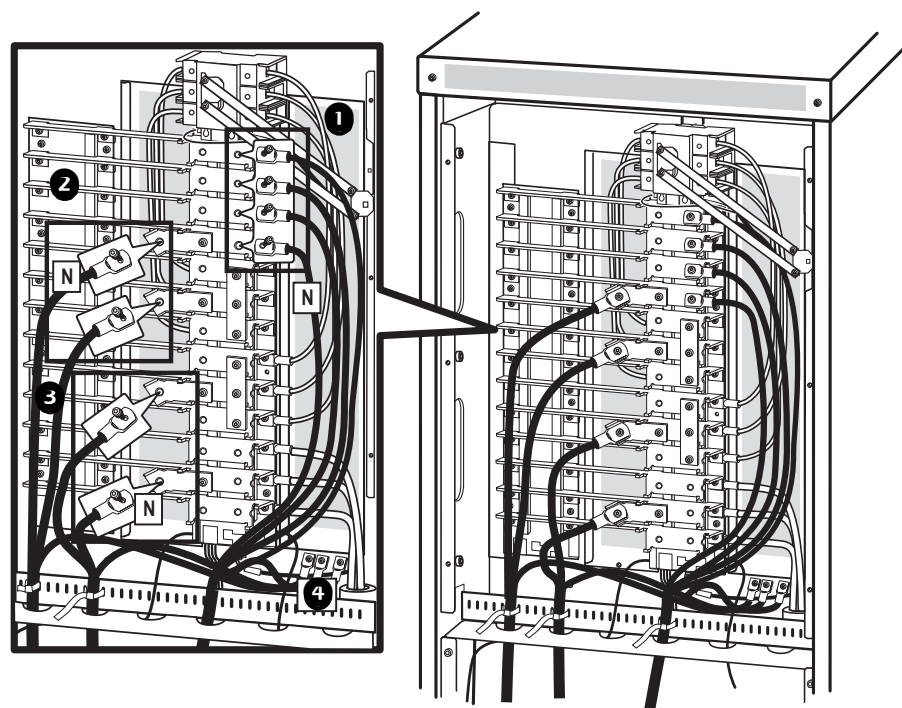
Note: Connection of the cables are shown on a wide 523 mm enclosure. For the narrow 352 enclosure the input, bypass, and output wires are connected on the same side.





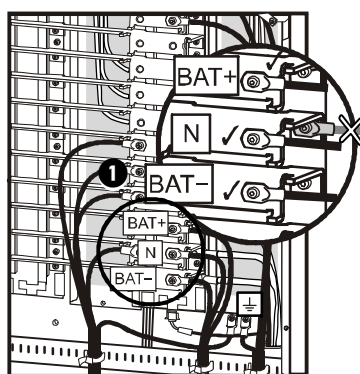
See Also: For different grounding configurations please see manual 990-3606.

Dual mains



- ❶ Connect the input cable lugs to the input busbars L1, L2, L3, and N by using the provided hex screws.
- ❷ Connect the bypass and the N cable lugs to the bypass busbars by using the provided hex screws.
- ❸ Connect the output and the N cable lugs to the output busbars by using the provided hex screws.
- ❹ Connect PE x 3 where shown.

Connect the DC Battery Cables (if applicable)



- ❶ Connect battery cables BAT+, BAT-, and N to the battery cable landings.

Connect the Communication Cables



Warning: Make sure that the UPS is completely OFF as the connectors are very close to the power busbars.

J106 (XR Battery Enclosure) and J108 (EPO)



Note: Use only 1-1½ mm² copper wire for the connection of the Emergency Power Off (EPO) and other optional equipment.



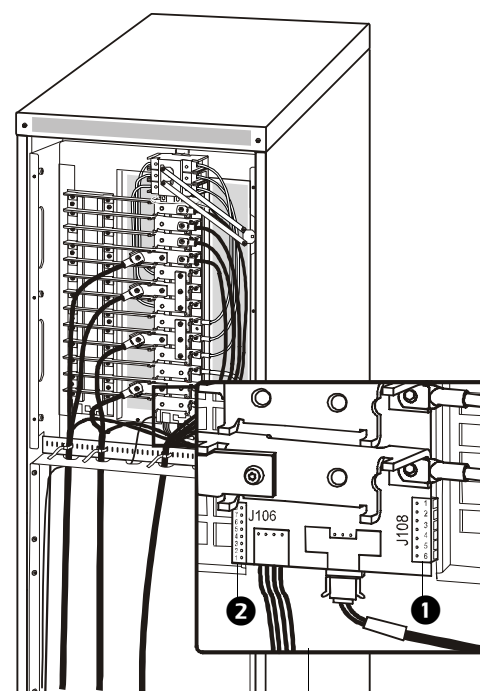
Note: The UPS must be connected to either a dry contact or a 24 VDC EPO (Emergency Power Off) switch.



Note: The external EPO +24 VDC, 1500 mA circuit can be supplied through other vendors.



Note: Always follow the pin connection procedures from the top and work down: J106 (8-1), J108 (1-6).



❶ J108 pin connections:

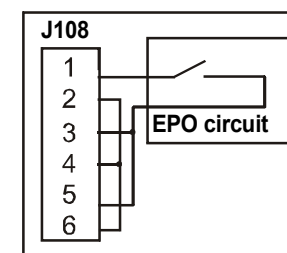
- 1 Normally open EPO
- 2 Normally open EPO return
- 3 Normally closed EPO
- 4 Normally closed EPO return
- 5 +24 V SELV supply
- 6 SELV ground

❷ J106 pin connections:

- 8 Ext. charging control return
- 7 External control of charging
- 6 Q3 active return
- 5 Q3 active
- 4 Battery measurement supply*
- 3 Battery unit quantity*
- 2 Max. battery temperature*
- 1 Battery measurement return*

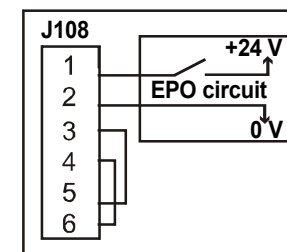
* Should be used with MGE Galaxy 3500 XR Enclosures

EPO wiring – pin connections J108. Connect the EPO cable using one of the following four wiring configurations.



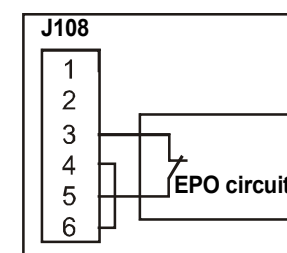
1: Dry Contacts Normally Open

EPO is activated when pin 1 is connected to pins 3 and 5.
Connections: 2-4-6,
3-5 and 1 (switch symbol)



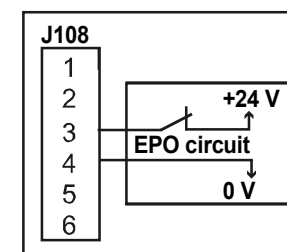
2: +24 V Normally Open

EPO is activated when an isolated SELV 24 VDC voltage is supplied on pin 1 with reference to pin 2.
Connections: 3-5 and 4-6.



3: Dry Contacts Normally Closed

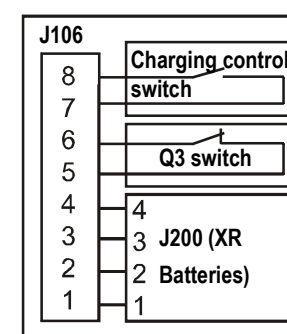
EPO is activated when a connection from pin 3 to pin 5 is opened.
Connections: 4-6.



4: +24 V Normally Closed

EPO is activated when a SELV 24 VDC voltage is removed from pin 3 with reference to pin 4.

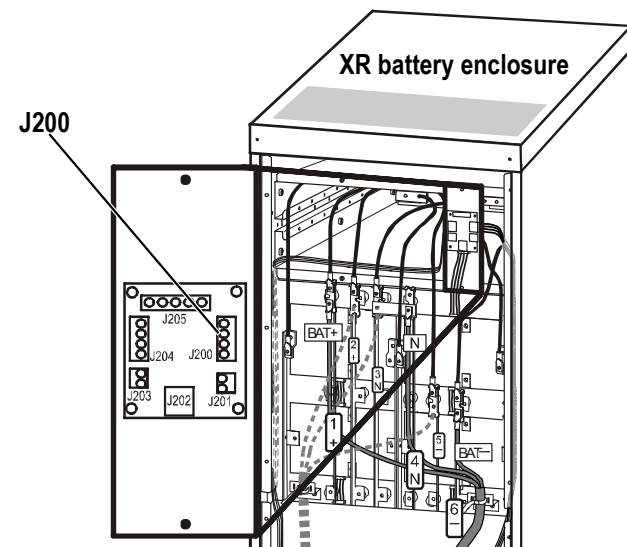
Pin connections J106 (UPS).



Pins 1 to 4 are for battery measurement (only applicable to MGE Galaxy 3500 XR Battery Enclosures (see J200 drawing).

Pins 5 and 6 are for external maintenance bypass Q3 (auxiliary switch N/C type).
When Q3 is closed, signals are fed back to the UPS controller (see Q3 drawing).

Pins 7 and 8 are for external charge control. When 7 and 8 are closed, the UPS charges batteries with a pre-defined percentage (0-25-50-75-100%) of the maximum charging power. To be used in generator applications, or if special codes require control of charging.
When Q3 is closed, signals are fed back to the UPS controller.



Note: When connecting the Q3 auxiliary signal, use gold-plated N/C auxiliary switch.

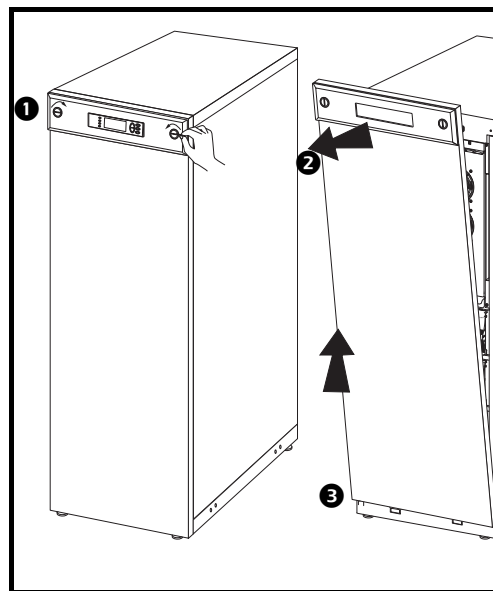
Note: Reinstall the cable landing cover.

Connect APC communication options

Note: The cable routing of the power chute software and the temperature sensor is identical.

Note: The temperature sensor is provided in a plastic bag attached to the front of the UPS behind the front panel.

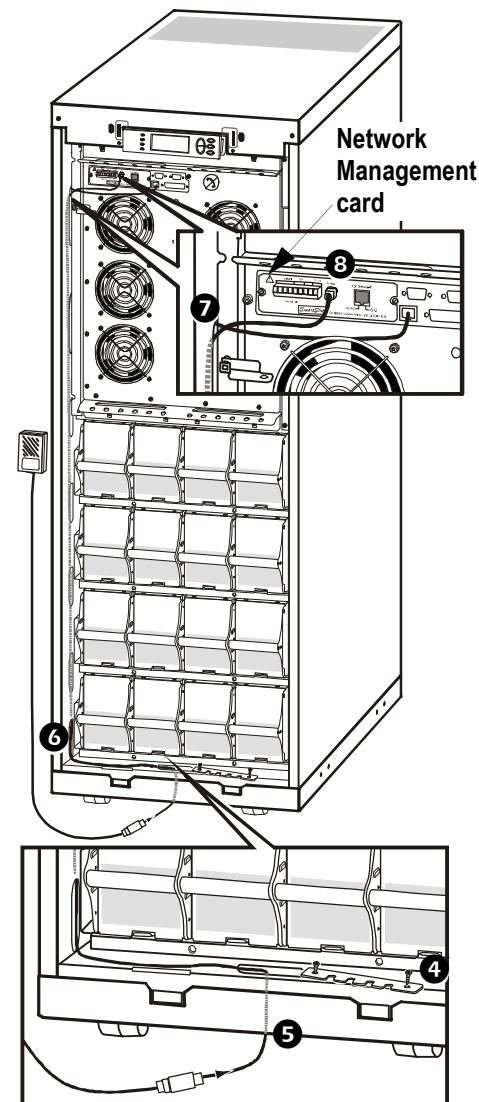
Front panel removal.



❶ Use a coin or similar to turn the two black lock devices on either side of the display in the direction of each other to a vertical position.

❷ Push the front panel upwards and pull it outwards to disengage the locking device at the top of the enclosure.

❸ Lift the front panel free of the two slots at the bottom.



❹ Remove the two screws from the cable-inlet at the front and remove the cable-inlet plate.

❺ Guide the cable through the hole in the bottom plate and up through the cable-inlet.

❻ Guide the cable through the side panel hole and run the cable upwards inside the panel.

❼ Pull the cable out of the side panel through the hole closest to the Network Management Card area.

❽ Plug the cable into the probe socket / PowerChute inlet.

❾ Reattach the cable-inlet plate (❹).

Specifications



Warning: The UPS must be supplied from a 380/220 V, 400/230 V or 415/240 V L1, L2, L3, N, PE, 50 Hz.

AC input

UPS ratings	15 kVA			20 kVA		
	380 V	400 V	415 V	380 V	400 V	415 V
Input frequency (Hz)	40-70	40-70	40-70	40-70	40-70	40-70
Nominal input current (A) ¹	19.4	18.5	17.8	26.0	24.8	23.8
Max. input current (A) ²	21.4	20.3	19.6	28.6	27.3	26.2
Input current limit (A) ³	25.2	25.2	25.2	33.8	33.8	33.8

UPS ratings	30 kVA			40 kVA		
	380 V	400 V	415 V	380 V	400 V	415 V
Input frequency (Hz)	40-70	40-70	40-70	40-70	40-70	40-70
Nominal input current (A) ¹	38.6	36.7	35.3	51.7	49.6	47.3
Max. input current (A) ²	42.5	40.3	38.9	56.8	54.6	52.1
Input current limit (A) ³	50.1	50.1	50.1	66.9	66.9	66.9

AC output

UPS ratings	15 kVA			20 kVA		
	220 V	230 V	240 V	220 V	230 V	240 V
Nominal output current (A)	68.4	65.0	62.6	91.2	86.6	83.5

UPS ratings	30 kVA			40 kVA		
	220 V	230 V	240 V	220 V	230 V	240 V
Nominal output current (A)	136.7	129.9	125.2	182.3	173.2	166.9

Battery input

UPS ratings	15 kVA	20 kVA	30 kVA	40 kVA
Nominal voltage (V)	± 192	± 192	± 192	± 192
External battery fuse (A)	125	125	125	125
	1.6-1.75 V/cell (automatic, depending on load)			

Bypass input

UPS ratings	15 kVA			20 kVA		
	220 V	230 V	240 V	220 V	230 V	240 V
Input frequency (Hz) ⁴	50±10/ 60±10	50±10/ 60±10	50±10/ 60±10	50±10/ 60±10	50±10/ 60±10	50±10/ 60±10
Nominal input current (A) ¹	68.4	65.0	62.6	91.2	86.6	83.5

UPS ratings	30 kVA			40 kVA		
	220 V	230 V	240 V	220 V	230 V	240 V
Input frequency (Hz) ⁴	50±10/ 60±10	50±10/ 60±10	50±10/ 60±10	50±10/ 60±10	50±10/ 60±10	50±10/ 60±10
Nominal input current (A) ¹	136.7	129.9	125.2	182.3	173.2	166.9

Notes

¹ Input current based on rated load and batteries fully charged.

² Input current based on full battery recharge, nominal voltage and rated load.

³ Current limitation through electronic current limiting is based on full battery recharge and low input voltage.

⁴ Synchronization adjustable: +/-10Hz, +/-3Hz or +/-0.1Hz.

Recommended current protection



Note: AC input/output over-current protection and AC input/output disconnect must be provided by the customer

	Q1 ¹ Mains input	Q3 ² Bypass input	Q2 Output
15 kVA	25	80	not
20 kVA	35	100	not
30 kVA	50	150	not
40 kVA	63	200	not

¹ Required upstream current protection, mains input: gL type fuse.

² Required upstream current protection, bypass input: gL type fuse.

Recommended cable sizes



Note: The recommended cable sizes are based on an environment with an ambient temperature of 30°C.

	Mains input [mm²]	AC output [mm²]	Battery input [mm²] 75°C Wire	Bypass input [mm²]
15 kVA	6	25	50	25
20 kVA	10	35	50	35
30 kVA	16	70 ¹	50	70 ¹
40 kVA	25	95 ²	50	95 ²

¹ 70 can be replaced by 2x35.

² 95 can be replaced by 2x50..



Note: Use Molex lug type or equivalent, and crimp to manufacturer's specifications.

Minimum breaker settings

	800% overload bypass operation	150% overload normal/ battery operation	125% overload normal/ battery operation	Continuously
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15 kVA

Mains input	–	–	–	24.6
Bypass input	547	–	–	75
Output	547	103	86	75
Duration	500 ms	60 s	10 min	∞

20 kVA

Mains input	–	–	–	32.5
Bypass input	730	–	–	100
Output	730	137	114	100
Duration	500 ms	60 s	10 min	∞

30 kVA

Mains input	–	–	–	49.1
Bypass input	1094	–	–	150
Output	1094	205	171	150
Duration	500 ms	60 s	10 min	∞

40 kVA

Mains input	–	–	–	65.6
Bypass input	1459	–	–	200
Output	1459	274	228	200
Duration	500 ms	60 s	10 min	∞

Recommended lug size and torque value



Note: Power terminal lug diameter: 6 mm. Torque value: 7 Nm.

Contact Information

For local, country-specific centers: go to www.apc.com/support/contact.

Appendix

Wiring diagrams

