

9. UNIT FOOTPRINTS AND CLEARANCES

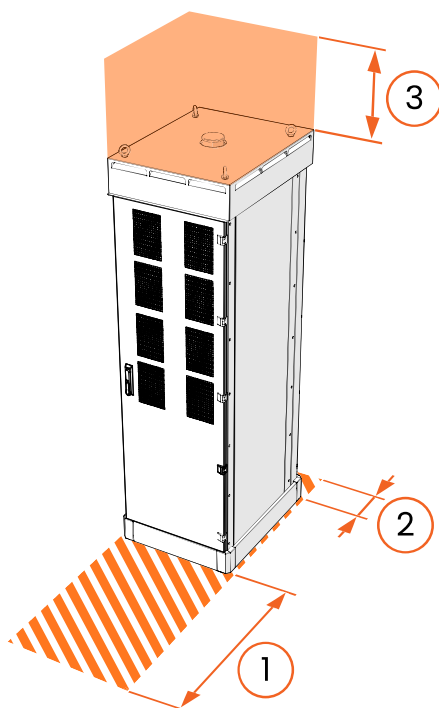


NOTICE

In addition to the given clearances, obey the cable bending radius if cables are surface-installed. Increase the clearance if necessary.

- The cables to all units are always routed from below the unit.
 - The AC mains power cables are routed to the charging power unit from the front or the left side of the unit.
 - The connection cables to the charging point(s) are routed from behind or the right side of the charging power unit.
- Leave at minimum 1000 mm free space in front of the installed cabinet. It must be possible to open the door of the unit fully and remove modules from the rack.
- Leave at minimum 200 mm free space between the back of the cabinet and a solid wall. If possible, we recommend leaving 800 mm accessible space behind the cabinet, for example by positioning the cabinet's side toward the wall. Otherwise, if it is necessary to remove the cabinet's back panel to gain access to the back of the cabinet, the cabinet must be moved.
- Leave at minimum 500 mm free space above the cabinet. If it is necessary to remove the cabinet's back panel to gain access to the back of the cabinet, the cabinet's roof element must first be removed.
- Leave at minimum approximately 20 mm free space between the charging power units. A double or triple cabinet is one unit.
- Leave at minimum 500 mm free working space in front of the installed Satellite. It must be possible to open the front panel of the unit fully.
- Leave at minimum 500 mm free space above the installed Satellite.

Figure 50. Clearances for Power Unit

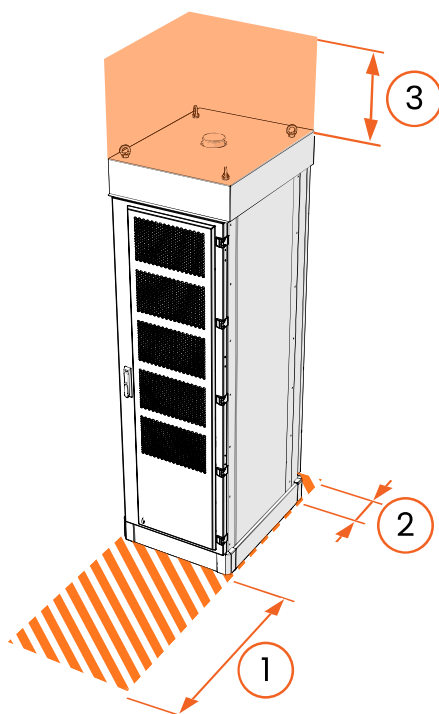


1 1000 mm

2 200 mm

3 500 mm

Figure 51. Clearances for Power Unit Version 3

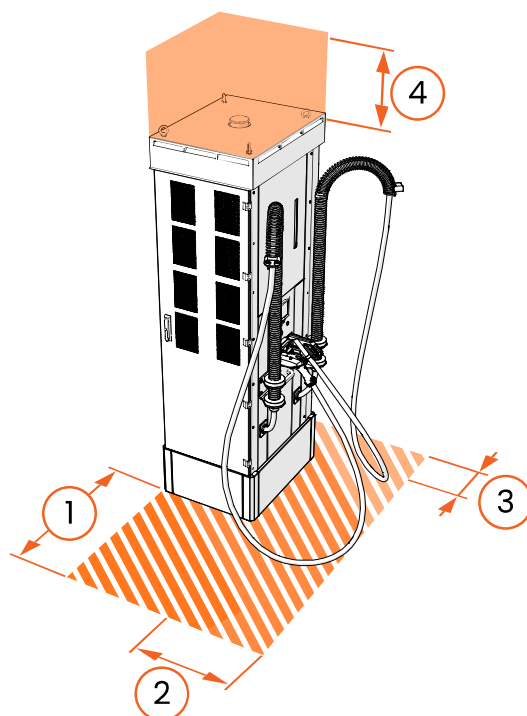


1 1000 mm

2 200 mm

3 500 mm

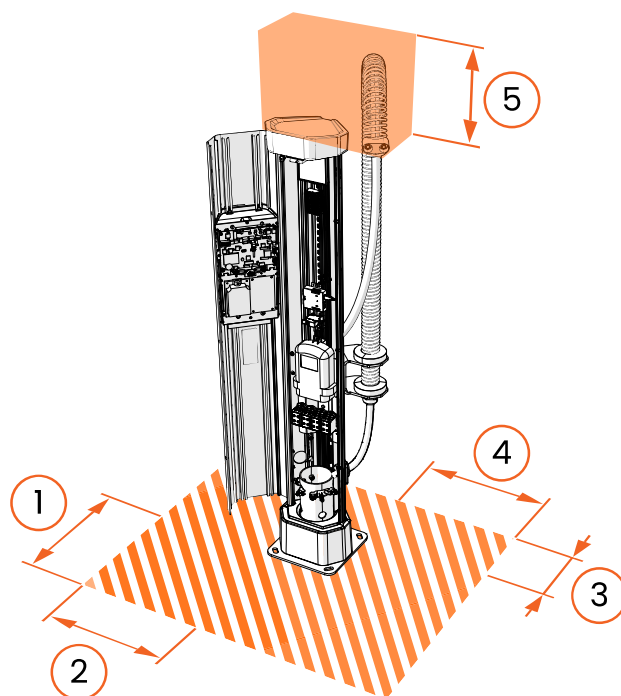
Figure 52. Clearances for Station Charger



1 1000 mm
2 500 mm

3 200 mm
4 500 mm

Figure 53. Clearances for Satellite



1 500 mm
2 500 mm
3 300 mm

4 500 mm
5 500 mm

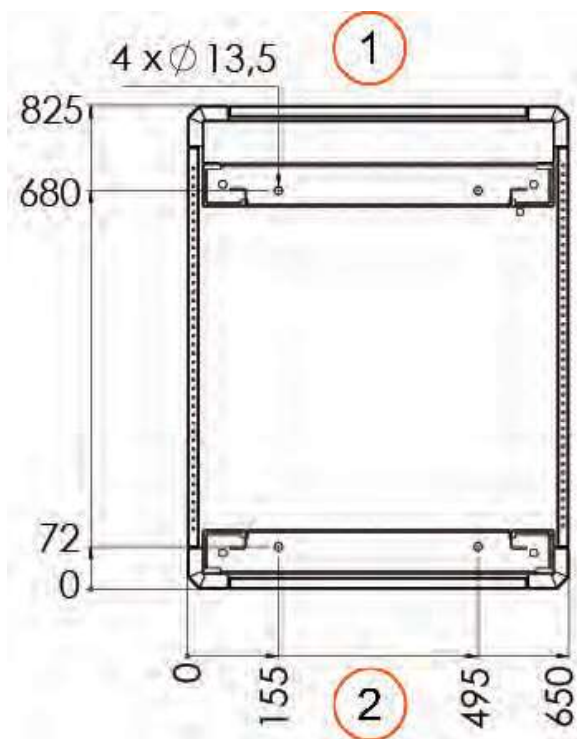
9.1. Single cabinet footprint and fixing points



NOTE

Use four M12 anchor bolts or equivalent per cabinet.

Figure 54. Single cabinet footprint and fixing points (mm)



- 1 Back
- 2 Front

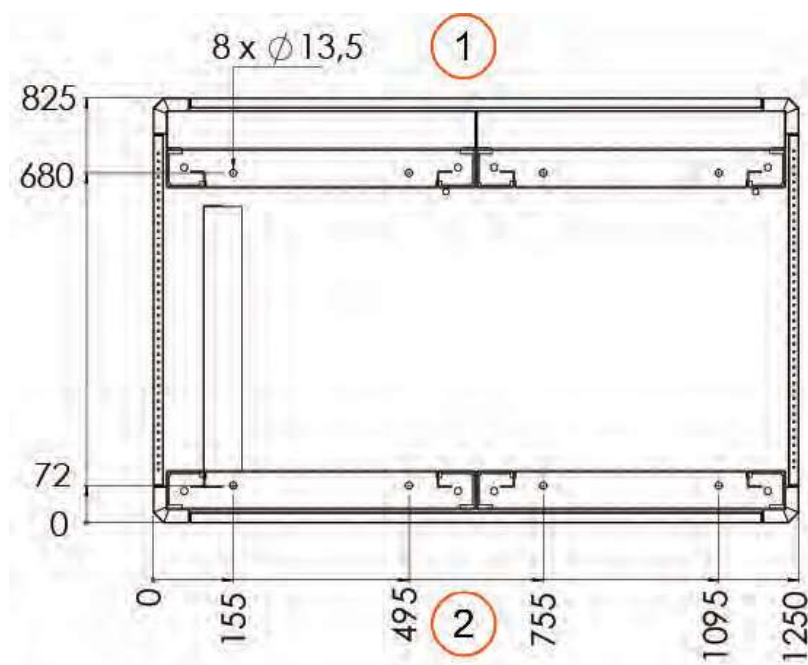
9.2. Double cabinet footprint and fixing points



NOTE

Use four M12 anchor bolts or equivalent per cabinet.

Figure 55. Double cabinet footprint and fixing points (mm)

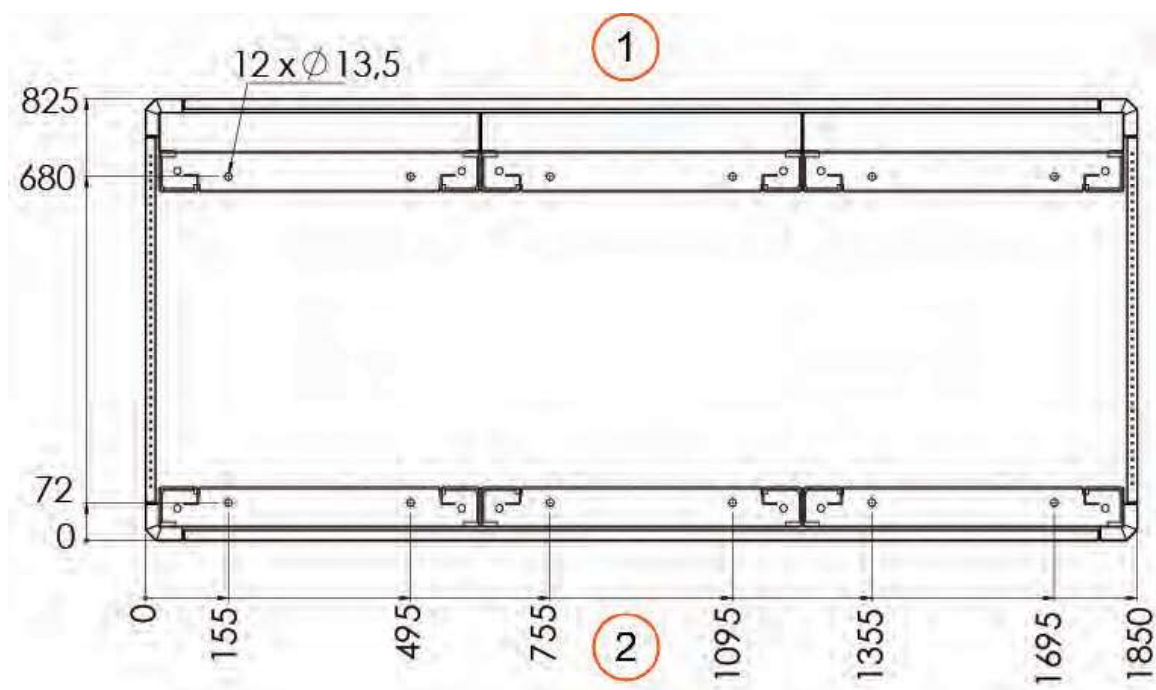


- 1 Back
- 2 Front

9.3. Triple cabinet footprint and fixing points

NOTE
Use four M12 anchor bolts or equivalent per cabinet.

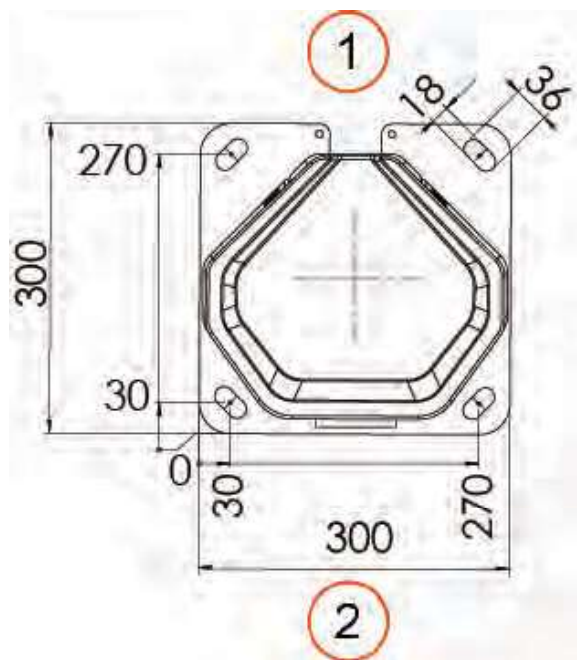
Figure 56. Triple cabinet footprint and fixing points (mm)



- 1 Back
- 2 Front

9.4. Satellite footprint and fixing points

Figure 57. Satellite footprint and fixing points (mm)



- | | |
|---|-------|
| 1 | Back |
| 2 | Front |

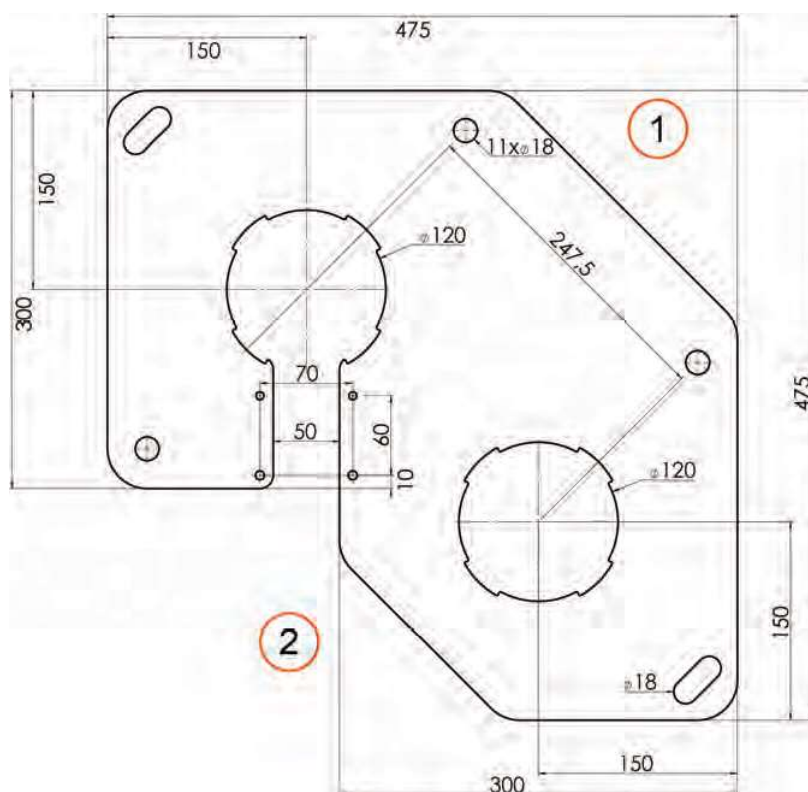
9.5. Liquid Cooled Satellite footprint and fixing points



NOTE

Use five M16 anchor bolts or equivalent per Liquid Cooled Satellite installation flange. The tube of the installation flange with the opening for cable routing is for the Liquid Cooled Satellite frame that has the user interface.

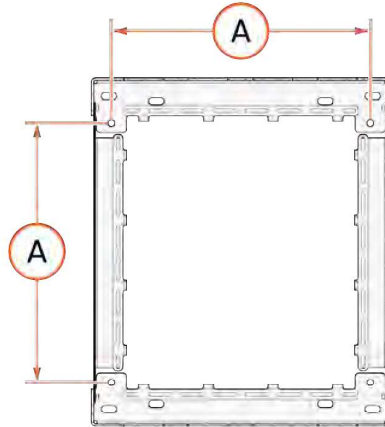
Figure 58. Liquid Cooled Satellite footprint and fixing points (mm)



- 1 Front
- 2 Back

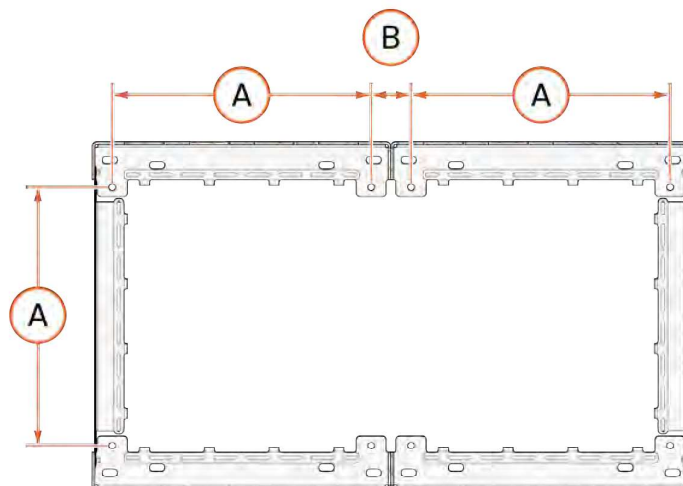
9.6. Steel base footprints and fixing points

Figure 59. Single cabinet footprint and fixing points (mm)



A 520

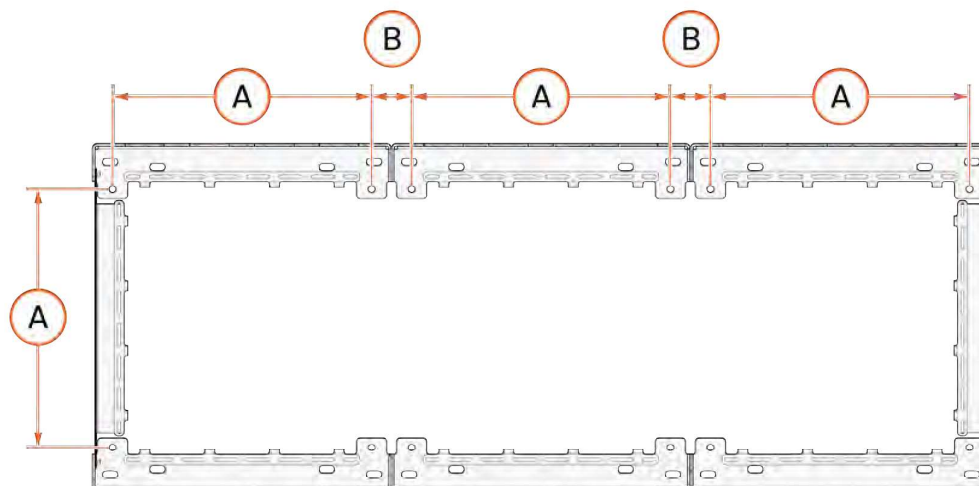
Figure 60. Double cabinet footprint and fixing points (mm)



A 520

B 80

Figure 61. Triple cabinet footprint and fixing points (mm)



A 520

B 80

10. EXAMPLES OF CONNECTING OUTPUT AND CONTROL CABLES TO CHARGING POINTS

In the cabinet, the DC output (OUT n) and control cable (CT n) terminals are numbered.

In the double Satellite, the DC input terminals are marked CAB 1 (right-hand side) and CAB 2 (left-hand side), and the control cable terminals CT A (right-hand side) and CT B (left-hand side). In the single Satellite, the vehicle connector is always on the right-hand side.

Connect the corresponding output and control cable pairs from the cabinet to the same Satellite. If the site has several Satellites, connect them in ascending order starting from cabinet terminal 1 to Satellite 1. If the cabinet has more DC output terminals than you need, leave the last terminals empty.

Depending on the needed charging capacity, you can connect DC outputs in parallel in the cabinet to form one configuration output. Connect the corresponding configuration output and control cable pair to the same Satellite.

The ChargeEye connector is configured in ChargeEye during commissioning. The first number notates the sequence number of the Satellite, and the second number notates the vehicle connector. Number 2 is the right-hand side vehicle connector, and number 1 the left-hand side vehicle connector. The CHAdeMO vehicle connector is the exception and it is always number 2 regardless of which side it is on.

10.1. Dynamic (Ds2) – 1 double Satellite

Table 5. Ds2 connected to 1 double Satellites (2 x 375 A configuration output)

Config. output	ChargEye connector	Max. current	Terminals			
			DC output	Control cable	DC input	Control cable
1	12 (right)	375 A	Power Unit 1		Satellite 1	
			OUT 1	CT 1	CAB 1	CT A
			OUT 5			
			OUT 3			
2	11 (left)	375 A	Power Unit 1		Satellite 1	
			OUT 2	CT 2	CAB 2	CT B
			OUT 6			
			OUT 4			

10.2. Dynamic (Ds2) – 2 single Satellites

Table 6. Ds2 connected to 2 single Satellites (2 x 500 A configuration output)

Config. output	ChargEye connector	Max. current	Terminals			
			DC output	Control cable	DC input	Control cable
1	12 (right)	500 A	Power Unit 1		Satellite 1	
			OUT 1	CT 1	CAB 1	CT A
			OUT 5			
			OUT 3			
2	22 (right)	500 A	Power Unit 1		Satellite 2	
			OUT 2	CT 2	CAB 1	CT A
			OUT 6			
			OUT 4			

10.3. Dynamic (Ds4) – 2 double Satellites

Table 7. Ds4 connected to 2 double Satellites (4 x 2 x 200 A configuration output)

Config. output	ChargEye connector	Max. current	Terminals			
			DC output	Control cable	DC input	Control cable
1	12 (right)	2 x 200 A	Power Unit 1		Satellite 1	
			OUT 1	CT 1	CAB 1	CT A
			OUT 5			
2	11 (left)	2 x 200 A	Power Unit		Satellite	
			OUT 2	CT 2	CAB 2	CT B
			OUT 6			
3	22 (right)	2 x 200 A	Power Unit 1		Satellite 2	
			OUT 3	CT 3	CAB 1	CT A
			OUT 7			
4	21 (left)	2 x 200 A	Power Unit 1		Satellite 2	
			OUT 4	CT 4	CAB 2	CT B
			OUT 8			

10.4. Dynamic (Ds4) – 4 single Satellites

Table 8. Ds4 connected to 4 single Satellites (4 x 200 A configuration output)

Config. output	ChargEye connector	Max. current	Terminals			
			DC output	Control cable	DC input	Control cable
1	12 (right)	200 A	Power Unit 1		Satellite 1	
			OUT 1	CT 1	CAB 1	CT A
2	22 (right)	200 A	Power Unit 1		Satellite 2	
			OUT 2	CT 2	CAB 1	CT A
3	32 (right)	200 A	Power Unit 1		Satellite 3	
			OUT 3	CT 3	CAB 1	CT A
4	42 (right)	200 A	Power Unit		Satellite 4	
			OUT 4	CT 4	CAB 1	CT A

10.5. Dynamic (Ds6) – 3 double Satellites

Table 9. Ds6 connected to 3 double Satellites (6 x 200 A configuration output)

Config. output	ChargEye connector	Max. current	Terminals			
			DC output	Control cable	DC input	Control cable
1	12 (right)	200 A	Power Unit 1		Satellite 1	
			OUT 1	CT 1	CAB 1	CT A
2	11 (left)	200 A	Power Unit 1		Satellite 1	
			OUT 2	CT 2	CAB 2	CT B
3	22 (right)	200 A	Power Unit 1		Satellite 2	
			OUT 3	CT 3	CAB 1	CT A
4	21 (left)	200 A	Power Unit 1		Satellite 2	
			OUT 4	CT 4	CAB 2	CT B
5	32 (right)	200 A	Power Unit 1		Satellite 3	
			OUT 5	CT 5	CAB 1	CT A
6	31 (left)	200 A	Power Unit 1		Satellite 3	
			OUT 6	CT 6	CAB 2	CT B

10.6. Dynamic (Ds6) – 6 single Satellites

Table 10. Ds6 connected to 6 single Satellites (6 x 200 A configuration output)

Config. output	ChargEye connector	Max. current	Terminals			
			DC output	Control cable	DC input	Control cable
1	12 (right)	200 A	Power Unit 1		Satellite 1	
			OUT 1	CT 1	CAB 1	CT A
2	22 (right)	200 A	Power Unit 1		Satellite 2	
			OUT 2	CT 2	CAB 1	CT A
3	32 (right)	200 A	Power Unit 1		Satellite 3	
			OUT 3	CT 3	CAB 1	CT A
4	42 (right)	200 A	Power Unit 1		Satellite 4	
			OUT 4	CT 4	CAB 1	CT A
5	52 (right)	200 A	Power Unit 1		Satellite 5	
			OUT 5	CT 5	CAB 1	CT A
6	62 (right)	200 A	Power Unit 1		Satellite 6	
			OUT 6	CT 6	CAB 1	CT A

10.7. Dynamic (Ds4) – 4 Liquid Cooled Satellites

Table 11. Triple cabinet Ds4 connected to 4 Liquid Cooled Satellites

Config. output	ChargEye connector	Max. current	Terminals			
			DC output	Control cable	DC input	Control cable
1	12 (right)	500 A	Power Unit 1, 2, 3		Satellite 1	
			OUT 1	CT 1	CAB 1	CT A
			OUT 5			
2	22 (right)	500 A	Power Unit 1, 2, 3		Satellite 2	
			OUT 2	CT 2	CAB 1	CT A
			OUT 6			
3	32 (right)	500 A	Power Unit 1, 2, 3		Satellite 3	
			OUT 3	CT 3	CAB 1	CT A
			OUT 7			
4	42 (right)	500 A	Power Unit 1, 2, 3		Satellite 4	
			OUT 4	CT 4	CAB 1	CT A
			OUT 8			

10.8. Static (S4) – 1 single Satellite

Table 12. S4 connected to 1 single Satellite (1 x 500 A/300 A configuration output)

Config. output	ChargEye connector	Max. current	Terminals			
			DC output	Control cable	DC input	Control cable
1	12 (right)	500 A/300 A	Power Unit 1		Satellite 1	
			OUT 1	CT 1	CAB 1	CT A
			OUT 2			
			OUT 3			
			OUT 4			

10.9. Static (S4) – 4 single Satellites

Table 13. S4 connected to 4 single Satellites (4 x 125 A/75 A configuration output)

Config. output	ChargEye connector	Max. current	Terminals			
			DC output	Control cable	DC input	Control cable
1	12 (right)	125 A/75 A	Power Unit 1		Satellite 1	
			OUT 1	CT 1	CAB 1	CT A
2	22 (right)	125 A/75 A	Power Unit 1		Satellite 2	
			OUT 2	CT 2	CAB 1	CT A
3	32 (right)	125 A/75 A	Power Unit 1		Satellite 3	
			OUT 3	CT 3	CAB 1	CT A
4	42 (right)	125 A/75 A	Power Unit		Satellite 4	
			OUT 4	CT 4	CAB 1	CT A

10.10. Static (S4) – 2 double Satellites

Table 14. S4 connected to 2 double Satellites (4 x 125 A/75 A configuration output)

Config. output	ChargEye connector	Max. current	Terminals			
			DC output	Control cable	DC input	Control cable
1	12 (right)	125 A/75 A	Power Unit 1		Satellite 1	
			OUT 1	CT 1	CAB 1	CT A
2	11 (left)	125 A/75 A	Power Unit 1		Satellite 1	
			OUT 2	CT 2	CAB 2	CT B
3	22 (right)	125 A/75 A	Power Unit 1		Satellite 2	
			OUT 3	CT 3	CAB 1	CT A
4	21 (left)	125 A/75 A	Power Unit		Satellite	
			OUT 4	CT 4	CAB 2	CT B

10.11. Static (S8) – 8 single Satellites

Table 15. S8 connected to 8 single Satellites (8 x 62.5/37.5 A configuration output)

Config. output	ChargEye connector	Max. current	Terminals			
			DC output	Control cable	DC input	Control cable
1	12 (right)	62.5 A/37.5 A	Power Unit 1		Satellite 1	
			OUT 1	CT 1	CAB 1	CT A
2	22 (right)	62.5 A/37.5 A	Power Unit 1		Satellite 2	
			OUT 2	CT 2	CAB 1	CT A
3	32 (right)	62.5 A/37.5 A	Power Unit 1		Satellite 3	
			OUT 3	CT 3	CAB 1	CT A
4	42 (right)	62.5 A/37.5 A	Power Unit 1		Satellite 4	
			OUT 4	CT 4	CAB 1	CT A
5	52 (right)	62.5 A/37.5 A	Power Unit 1		Satellite 5	
			OUT 5	CT 5	CAB 1	CT A
6	62 (right)	62.5 A/37.5 A	Power Unit 1		Satellite 6	
			OUT 6	CT 6	CAB 1	CT A
7	72 (right)	62.5 A/37.5 A	Power Unit 1		Satellite 7	
			OUT 7	CT 7	CAB 1	CT A
8	82 (right)	62.5 A/37.5 A	Power Unit 1		Satellite 8	
			OUT 8	CT 8	CAB 1	CT A

11. EXAMPLES OF CONNECTING CABLES TO THE SATELLITES

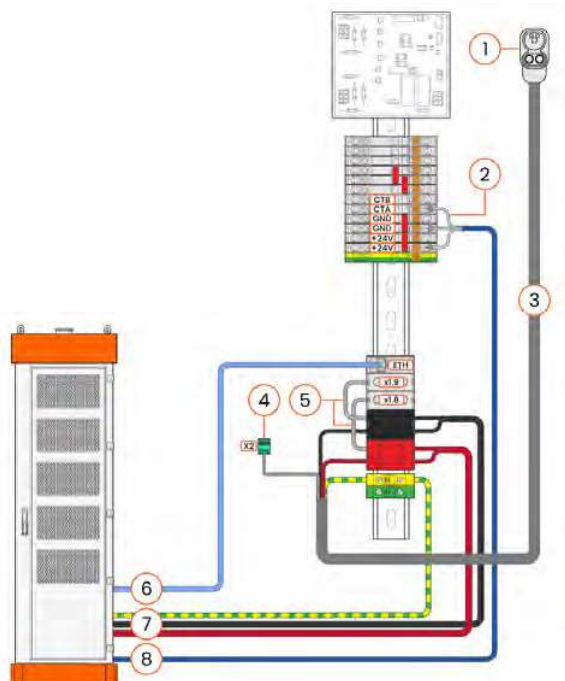
11.1. Satellite Version 1 with one CCS vehicle connector



NOTE

Grounding of the Ethernet shield at one end only, charging power unit or Satellite.

Figure 62. Satellite Version 1 with one combined charging system (CCS) vehicle connector



1 Configuration tag (right vehicle connector)

2 CT line signal wires

3 Charging cable

4 Vehicle connector signal wires

5 Voltage measurement wires

6 Communication cable

7 DC output power cables + PE

8 Control cable (CT line)

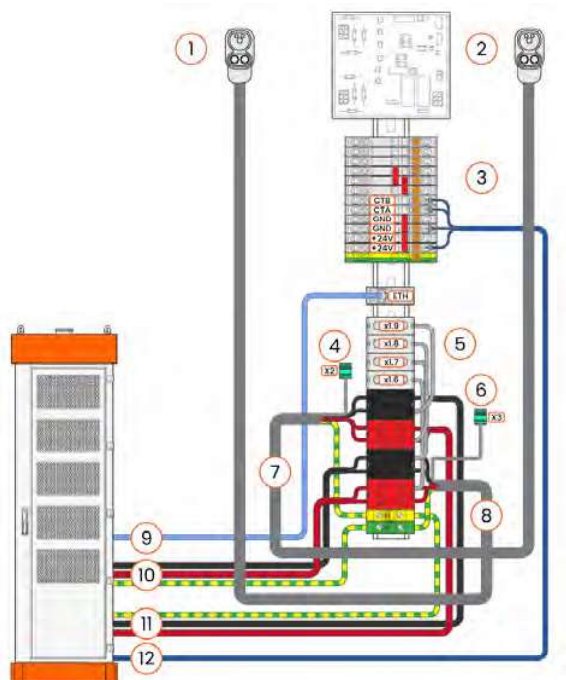
11.2. Satellite Version 1 with two CCS vehicle connectors



NOTE

Grounding of the Ethernet shield at one end only, charging power unit or Satellite.

Figure 63. Satellite Version 1 with two combined charging system (CCS) vehicle connectors



- | | | | |
|---|---|----|-------------------------------------|
| 1 | Configuration tag (left vehicle connector) | 7 | Charging cable (right) |
| 2 | Configuration tag (right vehicle connector) | 8 | Charging cable (left) |
| 3 | CT line signal wires | 9 | Communication cable |
| 4 | Vehicle connector signal wires (right) | 10 | DC output power cables + PE (left) |
| 5 | Voltage measurement wires | 11 | DC output power cables + PE (right) |
| 6 | Vehicle connector signal wires (left) | 12 | Control cable (CT line) |