

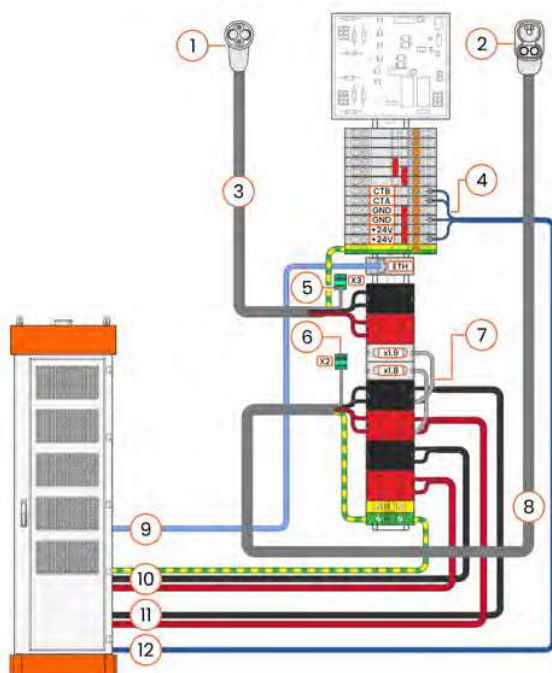
11.3. Satellite Version 1 with one CCS and one CHAdeMO vehicle connector



NOTE

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

Figure 64. Satellite Version 1 with one combined charging system (CCS) and one CHAdeMO vehicle connector



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

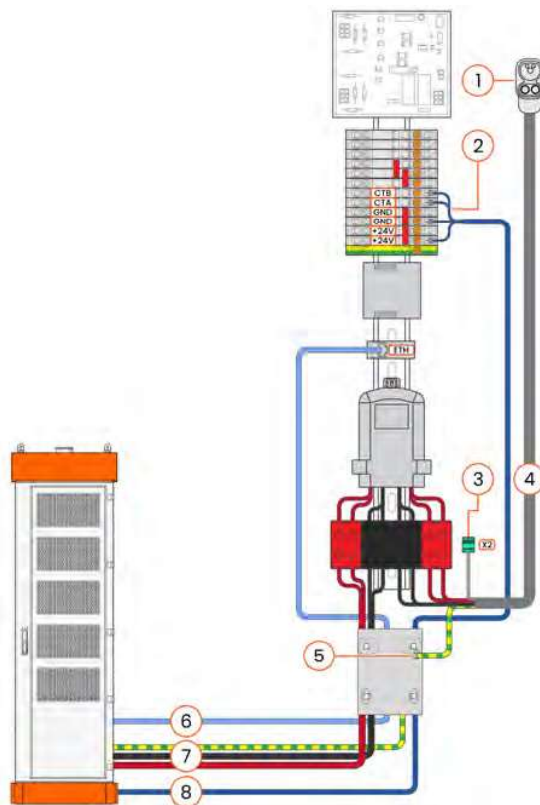
11.4. Satellite Version 2 with one CCS vehicle connector



NOTE

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

Figure 65. Satellite Version 2 with one combined charging system (CCS) vehicle connector



- 1 Configuration tag (right vehicle connector)
- 2 CT A line signal wires (CT B not connected)
- 3 Vehicle connector signal wires
- 4 Charging cable

- 5 Connect PE wire to Satellite installation flange with wire clamp
- 6 Communication cable
- 7 DC output power cables + PE
- 8 Control cable (CT line)

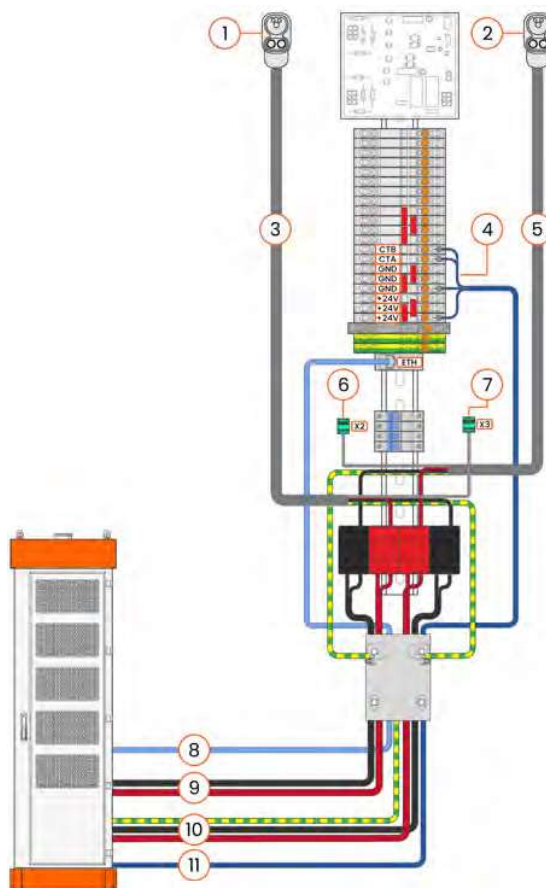
11.5. Satellite Version 2 with two CCS vehicle connectors



NOTE

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

Figure 66. Satellite Version 2 with two combined charging system (CCS) vehicle connectors



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

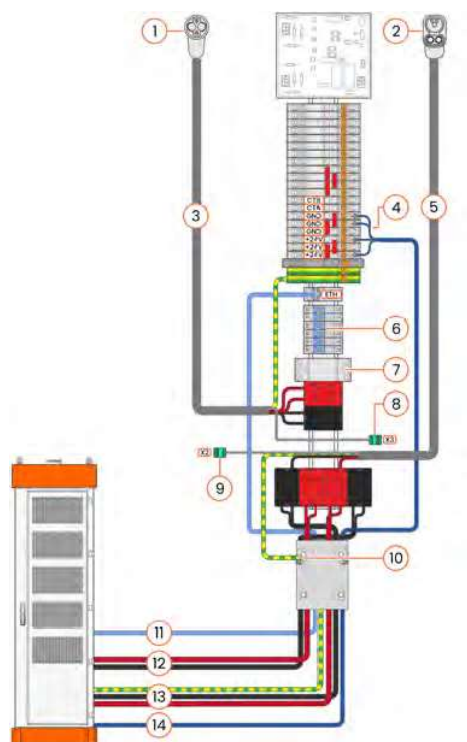
11.6. Satellite Version 2 with one CCS and one CHAdEMO vehicle connector



NOTE

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

Figure 67. Satellite Version 2 with one combined charging system (CCS) and one CHAdEMO vehicle connector



- | | | | |
|---|---|----|--|
| 1 | Configuration tag (left vehicle connector) | 8 | Vehicle connector signal wires (left) |
| 2 | Configuration tag (right vehicle connector) | 9 | Vehicle connector signal wire (right) |
| 3 | Charging cable (left) | 10 | Connect PE wire to Satellite installation flange with wire clamp |
| 4 | CT line signal wires | 11 | Communication cable |
| 5 | Charging cable (right) | 12 | DC output power cables (left) |
| 6 | Voltage measurement fuses | 13 | DC output power cables + PE (right) |
| 7 | Contactors for CHAdEMO | 14 | Control cable (CT line) |

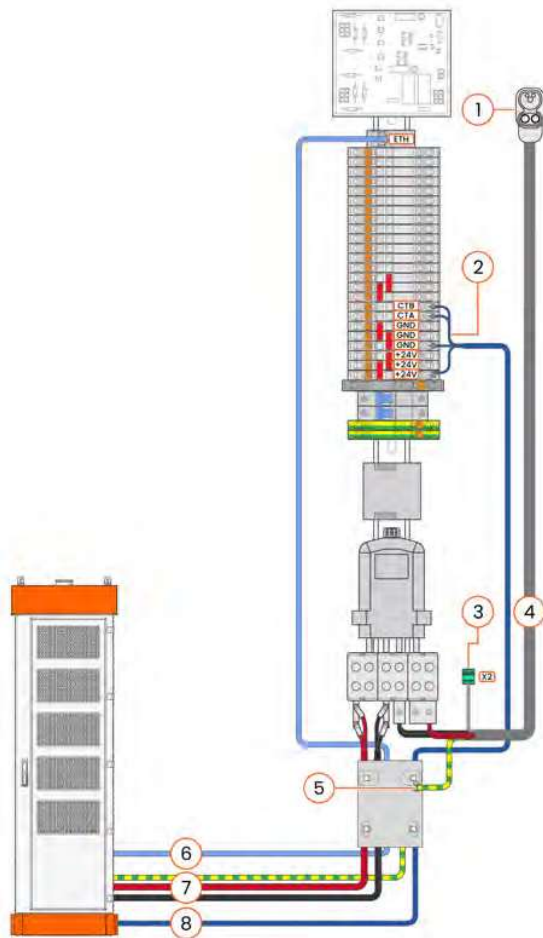
11.7. Liquid Cooled Satellite with one CCS vehicle connector



NOTE

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

Figure 68. Liquid Cooled Satellite with one combined charging system (CCS) vehicle connector



- 1 Configuration tag (right vehicle connector)
- 2 CT A line signal wires (CT B not connected)
- 3 Vehicle connector signal wires
- 4 Charging cable

- 5 PE wire connected to installation flange with wire clamp
- 6 Communication cable
- 7 DC output power cables + PE
- 8 Configuration tag (right vehicle connector)

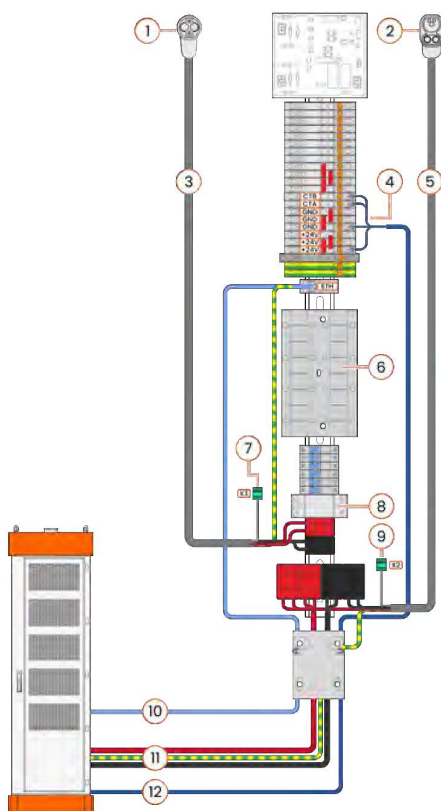
11.8. X-Satellite with one CCS and one CHAdeMO vehicle connector



NOTE

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

Figure 69. X-Satellite with one combined charging system (CCS) and one CHAdeMO vehicle connector



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

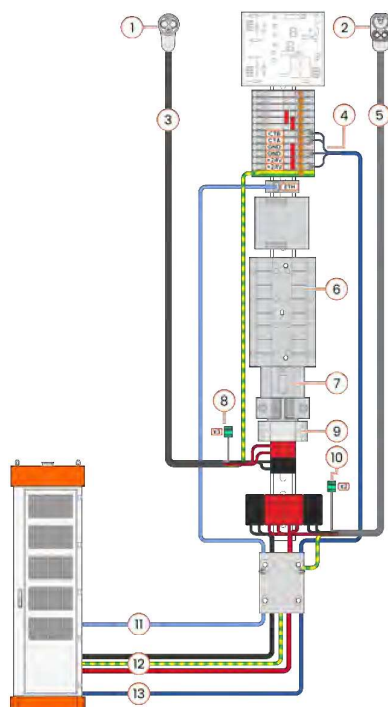
11.9. X-Satellite with one CCS, one CHAdeMO vehicle connector and a kWh meter



NOTE

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

Figure 70. X-Satellite with one combined charging system (CCS), one CHAdeMO vehicle connector and a kWh meter



- | | | | |
|---|---|----|--|
| 1 | Configuration tag (left vehicle connector) | 8 | Vehicle connector signal wires (right) |
| 2 | Configuration tag (right vehicle connector) | 9 | Contactor for CHAdeMO |
| 3 | Charging cable (left) | 10 | Vehicle connector signal wires (left) |
| 4 | CT line signal wires | 11 | Communication cable |
| 5 | Charging cable (right) | 12 | DC output power cables + PE |
| 6 | Relay board | 13 | Control cable (CT line) |
| 7 | kWh meter | | |

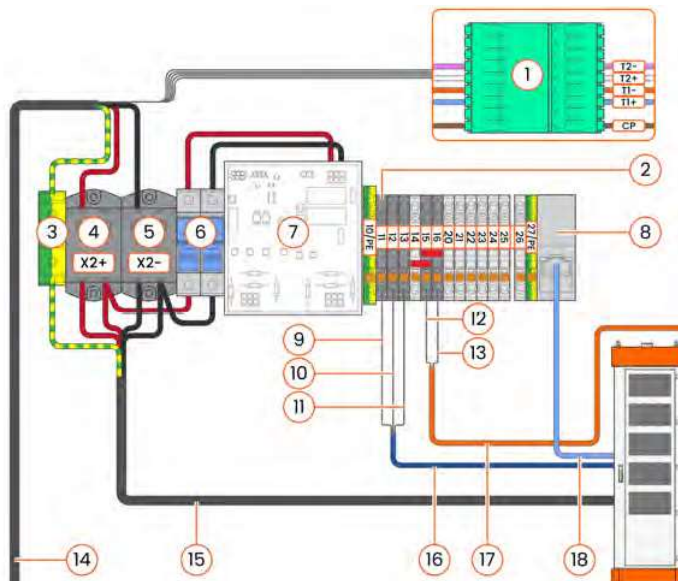
11.10. Control Unit 200 A with one CCS vehicle connector



NOTE

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

Figure 71. Control Unit 200 A with one combined charging system (CCS) vehicle connector



1	Terminal block for power cable PE	10	Control cable ground wire
2	Fuse terminal block (24 VDC, 2 A)	11	Control cable (CT A)
3	Charging cable Phoenix Connector	12	Equipment stop button
4	DC+ terminal (X2+)	13	Equipment stop button communication cable
5	DC- terminal (X2-)	14	DC power charging cable (vehicle connector)
6	DC Voltage measurement fuses (1000 VDC)	15	DC power cable from cabinet
7	Voltage and insulation monitor (A019)	16	Control cable
8	Ethernet terminal	17	Equipment stop button cable
9	Control cable auxiliary power wires (+24 V)	18	Communication cable

11.11. AC Satellite Version 2 with two vehicle connectors



NOTICE

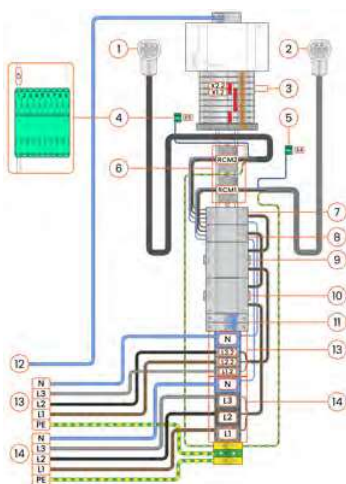
The AC Satellite is not connected to the charging power unit. It requires only AC supply cables that are connected to the main AC supply.



NOTE

If the optional communication cable is used, ground the Ethernet shield at one end only: AC Satellite or network connection switch.

Figure 72. AC Satellite Version 2 with two vehicle connectors



- | | | | |
|---|---|----|--|
| 1 | Configuration tag (left vehicle connector) | 8 | Contactor (right) |
| 2 | Configuration tag (right vehicle connector) | 9 | kWh meter (left) |
| 3 | Connection for equipment stop (option) | 10 | kWh meter (right) |
| 4 | Socket signal wires (left) | 11 | Operating power circuit breaker |
| 5 | Socket signal wires (right) | 12 | Ethernet (public LAN) communication cable (option) |
| 6 | Residual current monitoring sensors | 13 | AC input 2 ^a |
| 7 | Contactor (left) | 14 | AC input 1 |

^aIf the site has multiple AC Satellites, we recommend shifting the phase order L1→L2.2 | L2→L3.2 | L3→L1.2 to balance the power consumption in the grid.

11.12. AC Satellite Version 2 with two sockets



NOTICE

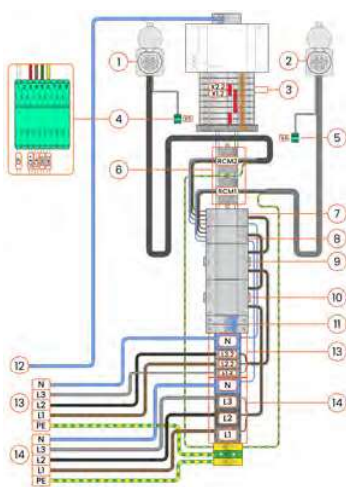
The AC Satellite is not connected to the charging power unit. It requires only AC supply cables that are connected to the main AC supply.



NOTE

If the optional communication cable is used, ground the Ethernet shield at one end only: AC Satellite or network connection switch.

Figure 73. AC Satellite Version 2 with two sockets or vehicle connectors



- | | | | |
|---|--|----|--|
| 1 | Configuration tag (left socket) | 8 | Contacteur (right) |
| 2 | Configuration tag (right socket) | 9 | kWh meter (left) |
| 3 | Connection for equipment stop (option) | 10 | kWh meter (right) |
| 4 | Socket signal wires (left) | 11 | Operating power circuit breaker |
| 5 | Socket signal wires (right) | 12 | Ethernet (public LAN) communication cable (option) |
| 6 | Residual current monitoring sensors | 13 | AC input 2 ^a |
| 7 | Contacteur (left) | 14 | AC input 1 |

^aIf the site has multiple AC Satellites, we recommend shifting the phase order L1→L2.2 | L2→L3.2 | L3→L1.2 to balance the power consumption in the grid.

11.13. AC Satellite Version 2 with two sockets or vehicle connectors



NOTICE

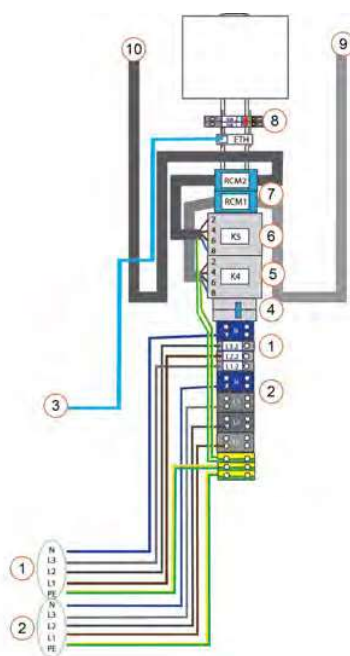
The AC Satellite Version 2 is not connected to the charging power unit. It requires only AC supply cables that are connected to the main AC supply.



NOTE

If the optional communication cable is used, ground the Ethernet shield at one end only: AC Satellite Version 2 or network connection switch.

Figure 74. AC Satellite Version 2 with two sockets or vehicle connectors



- | | | | |
|---|--|----|--|
| 1 | AC input 2 ^a | 6 | kWh meter (left) |
| 2 | AC input 1 | 7 | Residual current monitoring sensors |
| 3 | Ethernet (public LAN) communication cable (option) | 8 | Connection for equipment stop (optional) |
| 4 | Operating power circuit breaker | 9 | Configuration tag (right) |
| 5 | kWh meter (right) | 10 | Configuration tag (left) |

^aIf the site has multiple AC Satellites, we recommend shifting the phase order L1→L2.2 | L2→L3.2 | L3→L1.2 to balance the power consumption in the grid.

12. CONTROL SIGNAL WIRES OF THE CHARGING CABLE

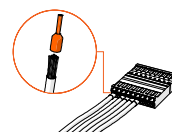
The units have pre-installed wiring harnesses with mating connectors for the control signal wires of the charging cable. Before you connect the signal wires to the mating connector, terminate the signal wires with ferrules to protect the wires from corrosion.

12.1. CCS charging cables



NOTICE

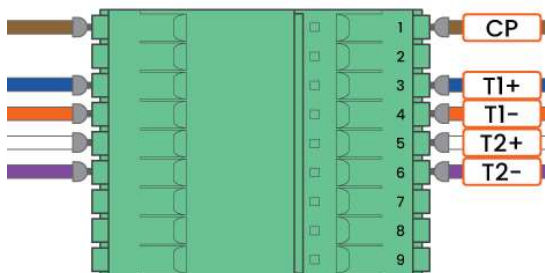
Before you connect the signal wires to the mating connector, terminate the signal wires with ferrules to protect the wires from corrosion.



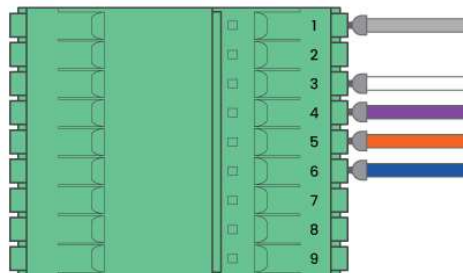
Connect the five control signal wires of the CCS charging cable to the mating connector:

- X2 for the charging cable on the right hand side
- X3 for the charging cable on the left hand side

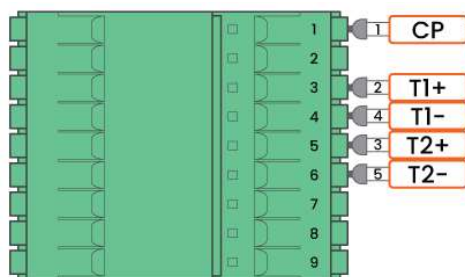
Unit wiring



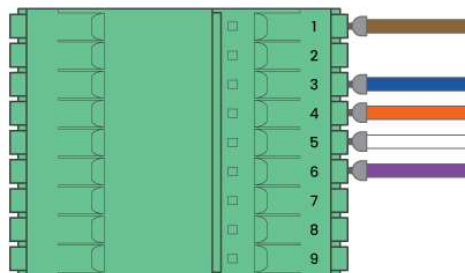
Amphenol charging cable



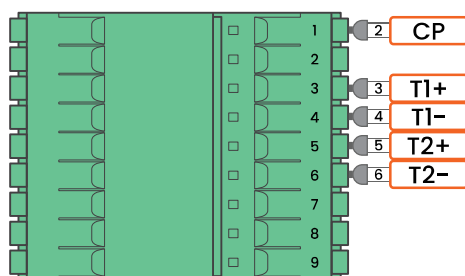
Amphenol charging cable (numbered wires)



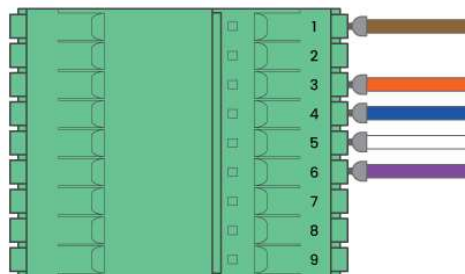
Brugg/Phoenix charging cable



Brugg charging cable (numbered wires)



REMA charging cable

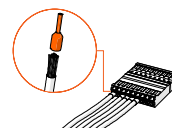


12.2. CHAdeMO charging cables



NOTICE

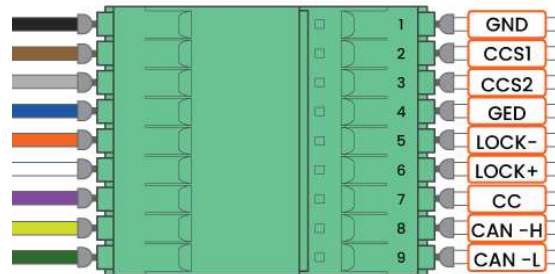
Before you connect the signal wires to the mating connector, terminate the signal wires with ferrules to protect the wires from corrosion.



Connect the nine control signal wires of the CHAdeMO charging cable to the mating connector:

- X2 for the charging cable on the right hand side
- X3 for the charging cable on the left hand side

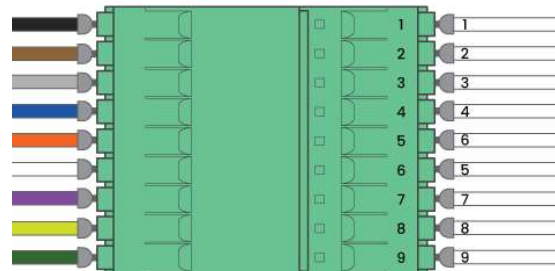
Unit wiring



CHAdemo 40142

DC+ BROWN

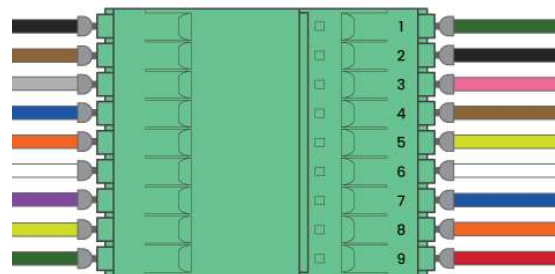
DC- BLUE



CHAdemo 40147

DC+ WHITE

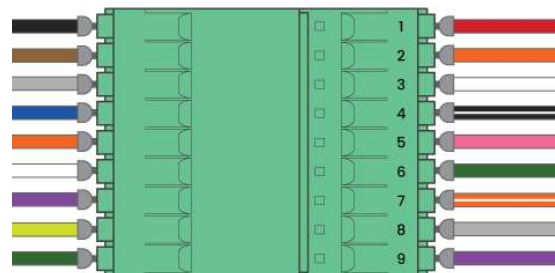
DC- BLACK



CHAdemo 40222

DC+ BLACK

DC- BLUE

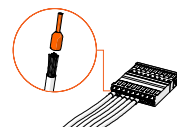


12.3. AC charging cables



NOTICE

Before you connect the signal wires to the mating connector, terminate the signal wires with ferrules to protect the wires from corrosion.



Connect only the CP signal wire of the AC charging cable to the mating connector:

- X4 for the charging cable on the right hand side
- X5 for the charging cable on the left hand side

L1 BROWN

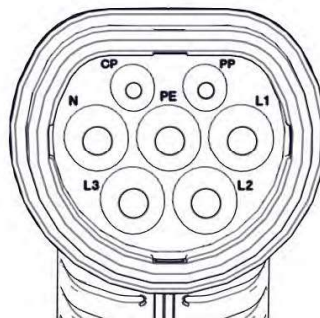
L2 BLACK

L3 GRAY

N BLUE

PE GREEN-YELLOW

CP BLACK-WHITE or WHITE



13. EXAMPLES OF CONCRETE FOUNDATIONS



NOTE

Concrete foundations are not supplied by Kempower.

Figure 75. Example of single, double, and triple cabinets on concrete foundations



Figure 76. Example of concrete foundation (triple cabinet)



14. INDICATIVE DIMENSIONS FOR CONCRETE FOUNDATIONS



NOTE

Concrete foundations are not supplied by Kempower.

Figure 77. Indicative drawing for cabinet's concrete foundation, side view (mm)

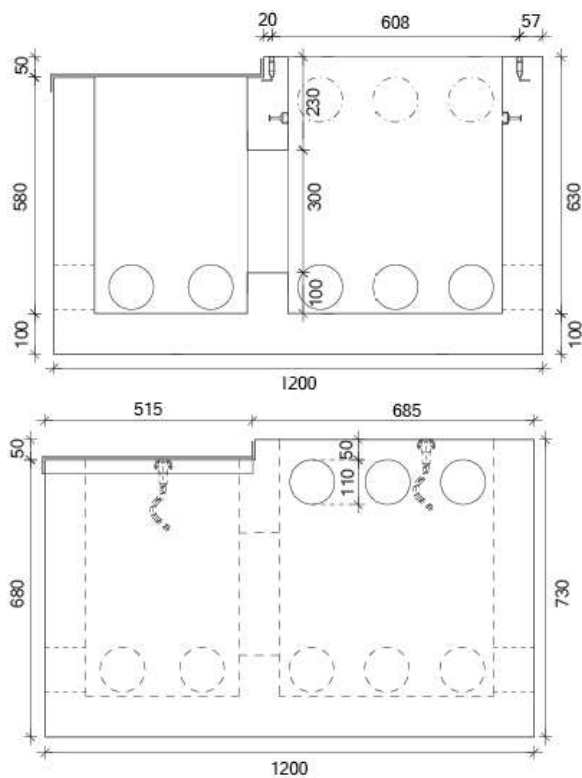


Figure 78. Indicative drawing for single cabinet's concrete foundation, top view (mm)

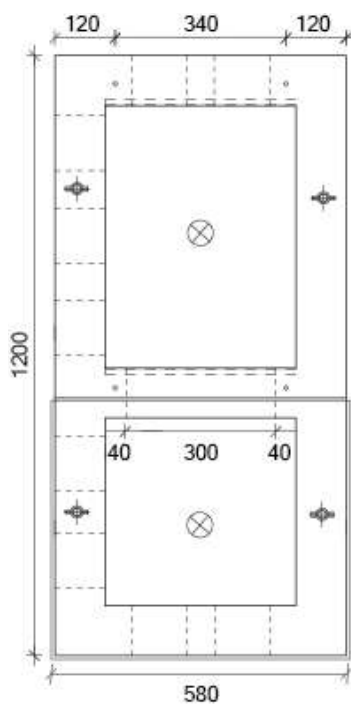


Figure 79. Indicative drawing for double cabinet's concrete foundation, top view (mm)

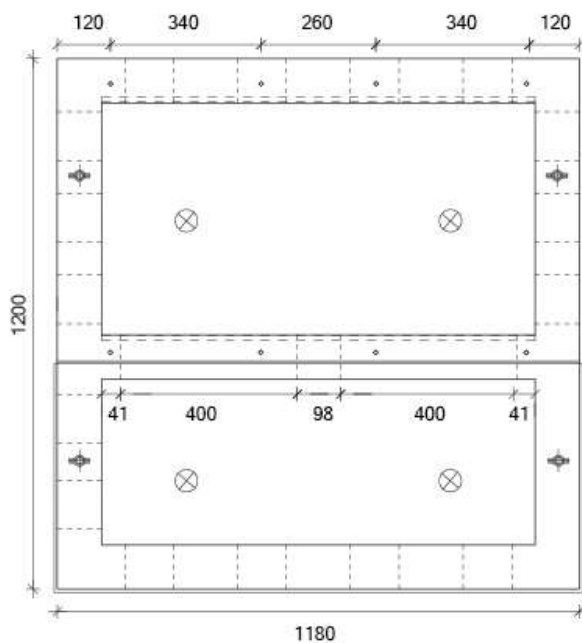


Figure 80. Indicative drawing for triple cabinet's concrete foundation, top view (mm)

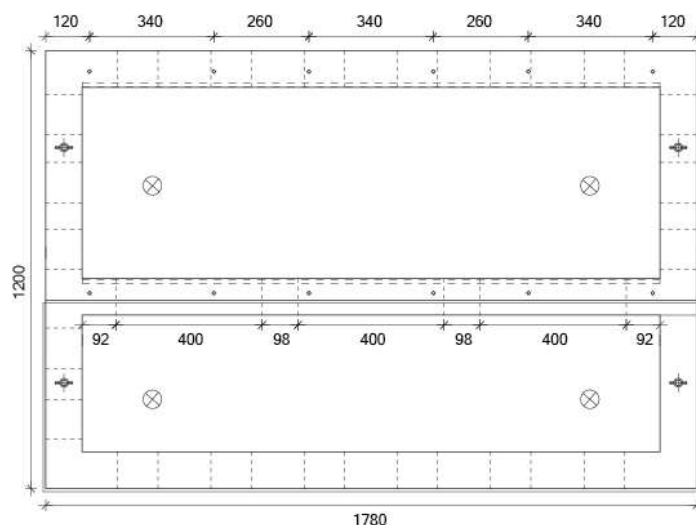
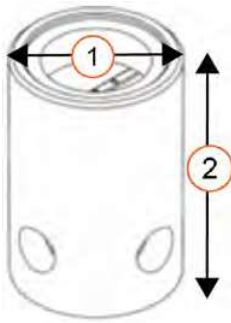
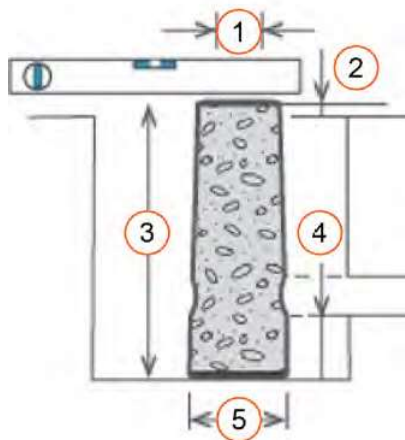


Figure 81. Indicative drawing for Satellite concrete foundation (standard installation flange)



- 1 Outer diameter 400 mm
 - 2 Height 600 mm
- Top of foundation above ground 25–55 mm
Cable channel diameter approximately 150 mm
Weight approximately 100 kg

Figure 82. Indicative drawing for Satellite concrete foundation, typically used for e.g. lamp posts (requires optional mounting tube)



- 1 Inner diameter 127 mm
 - 2 Top of foundation above ground 25–55 mm
 - 3 Height 600 mm
 - 4 Cable channel diameter 150 mm
 - 5 Outer diameter 264 mm
- Weight approximately 80 kg

15. CHANGE LOG

Charging equipment for electric vehicles Installation manual REV 2.40 04-2024	Changes
<u>3: Kempower charging equipment for electric vehicles</u>	Added Power Unit Version 3 Corrected AC Satellite description
<u>3.3.3: Station Charger</u>	Corrected Station Charger description
<u>4.2.1: AC mains power cables to the charging power unit</u>	Updated PE wire recommendation
<u>4.2.2: Cabling between the charging power unit and DC charging points</u>	Updates wire recommendation
<u>5: Installing the charging equipment</u>	Added Power Unit Version 3
<u>5.2.8: Installing the AC mains power cables to the charging power unit</u>	Updated PE wire recommendation
<u>7: Finishing the installation</u>	Added Power Unit Version 3
<u>8: Commissioning</u>	Added Power Unit Version 3
<u>9: Unit footprints and clearances</u>	Added clearance illustrations Converted measurements to mm