Smarter Mobility

ABB charging portfolio for electric buses

Pioneering the future of e-mobility

Delivering end-to-end electrification solutions for the transport of tomorrow, today.

Long standing experience

More than a decade in launching innovative EV charging technology, complimented by a century of experience in power distribution and energy management.

Trusted problem solver

From highway to home, from EV Fleets to retail, we are the partner of choice for the world's biggest brands of electric vehicle OEMs to nation-wide EV network operators.

ABB charging porfolio for electric buses

ABB offers a complete portfolio for charging electric buses

With increasing air pollution levels in cities and a stronger public commitment to cleaner transportation, electric city buses offer a great opportunity to reduce emissions in cities, while also reducing operational costs. ABB offers a complete portfolio for charging electric buses. Charging can be done during daily operation at any given stop or rest opportunity, typically with charging times between 3 and 6 minutes using an automated connection device and high power charging. This so called Opportunity Charging provides an ideal solution to ensure zero-emission transport during the day without impacting the normal operation on the route.

Since most vehicles will return to a depot for overnight parking, this also provides an ideal moment to charge the vehicles up to 100% and to precondition the vehicle before it goes back into operation. Normally this requires lower charging powers and can be done by a connector or by automated connection devices and is called Overnight Charging. Different power levels and interfaces are available to either charge 1 vehicle per charger, sequential charging up to 3 vehicles, and parallel charging with the introduction of the Terra-HVC.

Charging powers start at 24 kW and can be extended up to 160 kW for overnight charging and up to 480 kW for opportunity charging. The following 3 interfaces are supported:

1. Connector – CCS1 or CCS2;
2. Pantograph Up - roof mounted pantograph;
3. Pantograph Down - pantograph mounted on the infrastructure.

Product portfolio

Connector

# of outlets	Single	Dual	Sequential
24 kW	DC wallbox 		
50 kW	Terra 54HV 		
90 kW	Terra 94 C HVC 		
100 kW			HVC 100C with 1-3 depot boxes single outlet  HVC 107C with 1-2 depot boxes dual outel 
120 kW	Terra 124 C HVC 	Terra 124 CC HVC 	
150 kW			HVC 150C with 1-3 depot boxes single outlet  HVC 160C with 1-2 depot boxes dual outlet 
180 kW	Terra 184 C HVC 	Terra 184 CC HVC 	

# of outlets	Pantograph Down – Single	Pantograph Up – Single	Pantograph Up – Sequential
100 kW			HVC 107PU-S with 1-3 contact hoods 
150 kW	HVC 150PD kit 		HVC 160PU-S with 1-3 contact hoods 
300 kW	HVC 300PD 	HVC 320PU 	
450 kW	HVC 450PD 	HVC 480PU 	

Flexibility
The Heavy Commercial Vehicle charging product line offers a wide range of chargers, providing maximum flexibility to the operator or fleet owner to electrify a single bus line up to a complete fleet of electric buses or trucks with the required power level.

Future proof
ABB products support a wide output voltage range of 150 – 850 V DC and some products even up to 920 V DC, supporting todays and next generation of cars, buses and trucks.

Interoperability
Use the same charging infrastructure for different vehicle configurations and different vehicle makes.

Modular design
The modular power cabinets can be expanded at any time, allowing customers to invest in increasing charging power in line with the emergence of higher-capacity in the (near) future.

Complies with international standards
ABB's HVC chargers are designed to the highest international electrical, quality and safety standards, including IEC 61851-23, guaranteeing safe and reliable operation in public areas.

Always connected – remote service & data management
ABB chargers come with an extensive suite of connectivity features including remote monitoring, remote management and smart software upgradeability. These advanced services enable high uptime of the equipment, a fast response to problems and provide owners of chargers with powerful insight into statistics of their charging operation.

ABB is your experienced partner
The new fast charging solution for Heavy Commercial Vehicles is based on ABB's solid experience in charging solutions for electric vehicles. Since early 2010, ABB has sold more than 10,500 fast charging systems for electric vehicles around the world and is a global leader in this market.

Connector

Charge electric buses with a connector

ABB offers a complete portfolio for charging heavy electric vehicles such as buses and trucks with a CCS connector. A wide range of power ratings is offering starting at 24 kW with the DC wallbox and goes up all the way to 350 kW with the Terra HP using liquid cooled cables.

All the products can be used for single CCS charging and a selected number of products can be used for sequential CCS charging, connecting up to 3 vehicles to 1 charger. With the introduction of the new Terra-HVC (SEE ANNEX) parallel charging is now available to charge up to 2 vehicles at the same with the same charger.

Main features and key benefits:
- Power range of 24 kW up to 180 kW
- Voltage range of 150-920 V*
- Parallel charging with 2 x 60 kW or 2 x 90 kW
- Sequential charging with up to 3 outlets with 107 and 160 kW
- Compact footprint with possibility of remote control box
- Compliant with ISO 15118 / DIN 70121 / IEC 61851-23 & -24
- OCPP compliant
- Remote diagnostics and management tools

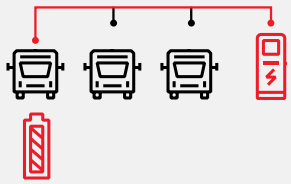
* See technical specifications for the ratings per product

Sequential charging
Instead of having one charger per vehicle, ABB offers sequential charging for the 107 kW and 160 kW chargers. A single power cabinet is paired with up to three depot charge boxes. After the first vehicle has finished charging, the next vehicle will start charging automatically.

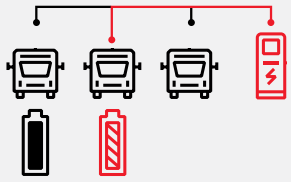
The advantages are:
- Vehicles are charged with high power, maximizing vehicle availability
- The required grid connection is smaller, reducing initial investments and operational costs
- Optimal utilization of installed infrastructure, meaning lower investments in charging equipment

Charging schedule

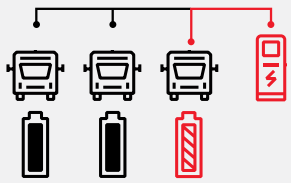
Bus 1
11:00 pm – 01:20 am



Bus 2
01:21 am – 03:40 am



Bus 3
03:41 am – 06:00 am



- At 6 am, the entire bus fleet will be ready

Terra-HVC power cabinet

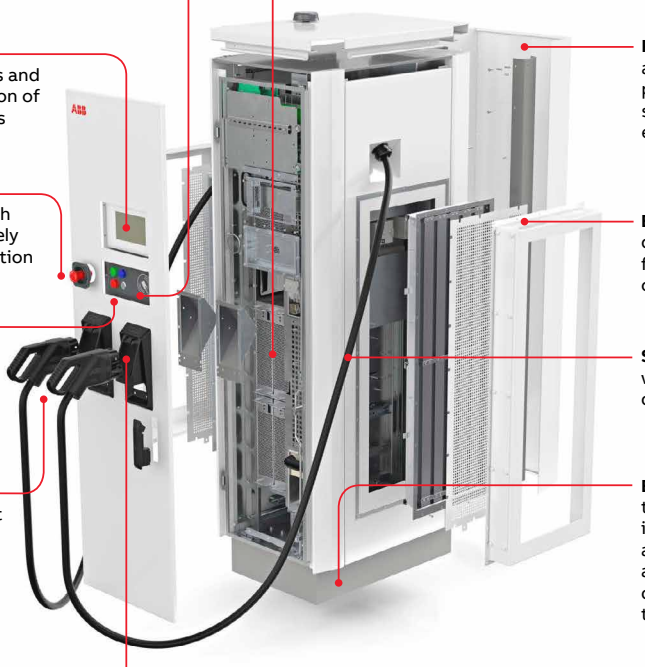
Simultaneously charging and compact footprint

The Terra-HVC is the latest addition to the HVC portfolio. The product offers a wide power range of 90-180 kW combined with one of the most compact footprints in the market. The Terra-HVC will be available both as an all-in-one charger (including CCS cable) and as a remote version (with a remote dispenser).

Unique features:

- Single or parallel charging with up to 2 outlets
- Available as all-in-one charger
- Modular design with 30 kW power modules
- Exchangeable filters on the outside
- Proven design based on Terra 54 control platform (>10.000 units in operation)

Terra 184 CC HVC



SPECIFICATIONS

CHARGING POWER
180 kW or 2 x 90 kW
normal duty

150 kW or 2 x 75 kW
heavy duty

MAX CHARGING VOLTAGE
920 V DC CCS Connector

POWER EFFICIENCY
95% (peak)

DIMENSIONS & WEIGHT
Charge Post
Height 190 cm
Width 56.5 cm
Depth 88 cm

395 kg

Pantograph Up

Charge electric buses with a roof mounted pantograph

ABB offers an ideal solution to charge electric buses that are equipped with a roof mounted pantograph. This allows to charge larger fleets of electric buses overnight in a range of 107-160 kW per vehicle and during the day with 160 kW up to 640 kW for opportunity charging.

Main features and key benefits:

- Voltage range from 150-850 V
- Power range of 107-160 kW for overnight charging
- Sequential charging with up to 3 outlets with 107 and 160 kW
- Power range of 160-640 kW for opportunity charging
- Safe and reliable fully automated connection
- Compliant with ISO 15118 / DIN 70121 / IEC 61851-23 & -24
- OCPP compliant
- Remote diagnostics and management tools

Pantograph Down

Charge electric buses following the OppCharge protocol

ABB offers an ideal solution to charge electric buses fully automated following the OppCharge protocol. With typical charge times of 3 to 6 minutes the system can easily be integrated in existing operations, ensuring zero-emission public transit during the day without impacting on the normal operation of the route. With the introduction of the new depot pantograph the Pantograph Down also offers an ideal solution for overnight charging.

Main features and key benefits:

- Voltage range from 150-850 V
- Power range of 150-480 kW
- RFID pairing technology for safe operation inside a depot
- One charger can serve multiple vehicle types and brands
- Safe and reliable fully automated connection
- Compliant with OppCharge / IEC 61851-23
- OCPP compliant
- Remote diagnostics and management tools

Charger with connector

Technical specifications	DC wallbox	Terra 54 HV	Terra 94 HVC	Terra 124 HVC	Terra 184 HVC
					
Charging interface					
CCS cable integrated	Yes	Yes	Yes	Yes	Yes
Depot charge box	-	-	-	-	-
CCS control box	-	-	-	-	-
CR control box	-	-	-	-	-
CP500 charge post	-	-	-	-	-
Dual charge session	-	-	-	Optional	Optional
Sequential charging	-	-	-	-	-
Communication	-	-	-	-	-
Product information					
DC output current (1)	60 A	125 A	200 A	200 A	200 A
DC output power rating	24 kW	50 kW	90 kW	120 kW	180 kW
DC output voltage	150-920 V				
Input AC power rating (400 V AC at 50 Hz)	40 A, 24 kVA	88 A, 55 kVA	140 A, 96 kVA	187 A, 128 kVA	280 A, 192 kVA
Input AC power rating (480 V AC at 60 Hz)	33 A, 24 kVA	73 A, 55 kVA	116 A, 96 kVA	156 A, 128 kVA	233 A, 192 kVA
Input AC power rating (600 V AC at 60 Hz)	-	-	-	-	-
Input voltage range	CE: 400 V AC +/- 10% (50 Hz or 60 Hz) UL: 480 or 600 V AC +/- 10% (50 Hz or 60 Hz) (2)				
Power factor	≥ 0.96				
Integrated cable length	7 m	8 m	7 m		
Distance between charger & charging interface	-	-	-	-	-
CCS cables maximum current	60 A	125 A	200 A	200 A	200 A
Connector Types	CCS1 or CCS2				
Efficiency	> 95% peak				
Cellular communication	GSM / 4G / LTE				
General characteristics					
IP and IK rating	IP-54 and IK-10 (cabinet) / IK-8 (touchscreen)				
Enclosure type	Stainless steel				
Operational attitude	Up to 2000 m				
Operation temperature range (3)	-35°C to +55°C				
Temperature derating	Linear derating 45-55°C	90-120-180 kW: Up to +40 °C, no power derating. +45 °C: Full power for the first 15 minutes, then 10% derating +50 °C: Full power for the first 15 minutes, then 20% derating +55 °C: Full power for the first 15 minutes, then 30% derating			
Dimensions (H x W x D)	770 x 584 x 294 mm	1900 x 565 x 780 mm	1900 x 565 x 880 mm	1900 x 565 x 880 mm	1900 x 565 x 880 mm
Mass	60 kg	325 kg	350 kg	395 kg	395 kg
Color	RAL 9003				
User interface					
Connectivity	Internet access via 4G / 3G / Ethernet (RJ45)				
Communication protocols	OCPP 1.5 / 1.6 and OPC-UA				
Emergency button	Yes for chargers with integrated CCS cable, for others on the charging interface				
HMI	7" LCD high-contrast touchscreen for chargers with integrated CCS cable				
RFID reader	Optional for chargers with integrated CCS cable				
Configuration					
Software update	Over-the-air updates via ABB web portal, OCPP 1.6				
Control and configuration	ABB web portal, on-board service portal, OCPP 1.6, OPC-UA				
Certification and standards					
Charging system	IEC 61851-1 ed 3, IEC 61851-21-2 ed 1, IEC 61851-23 ed 1, IEC 61851-24 ed 1, IEC 62196-2, IEC 62196-3, IEC 61000				
Communication to the EV	DIN 70121, ISO/IEC 15118 series ed 1				
Communication to the backend	OCPP 1.6 JSON				
Electro-Magnetic Compatibility	EMC-Class B Radiated and Conducted				
Compliance	CE and UL certification				
Warranty	Base warranty 24 months after Site Acceptance Test or 30 months after factory delivery. Warranty extensions available				

(1) Maximum output current could be limited by the charging interface
(2) DC wallbox also available for single phase
(3) According to IEC 62196-1, for higher temperatures derating might occur

Charger with connector power cabinet

Technical specifications				
	HVC 100	**HVC 150**	**HVC 107 V2**	**HVC 160 V2**
				
Charging interface				
CCS cable integrated	-	-	-	-
Depot charge box	Yes	Yes	-	-
CCS control box	-	-	Yes	Yes
CR control box	-	-	Yes	Yes
CP500 charge post	-	-	Yes	Yes
Dual charge session	-	-	-	-
Sequential charging	Optional	Optional	Optional	Optional
Communication	CAN2Fiber	CAN2Fiber	CAN2Ethernet	CAN2Ethernet
Product information				
DC output current (1)	60 A	125 A	200 A	200 A
DC output peak power rating	24 kW	50 kW	90 kW	120 kW
DC output voltage	150-920 V		150-850 V	
Input AC power rating (400 V AC at 50 Hz)	159 A, 110kVA	238 A, 165 kVA	170A, 117kVA	254A, 175 kVA
Input AC power rating (480 V AC at 60 Hz)	159 A, 110kVA	198 A, 165kVA	140A, 117kVA	212A, 175kVA
Input AC power rating (600 V AC at 60 Hz)	108A, 110kVA	158 A, 165KVA	113A, 117kVA	170A, 175kVA
Input voltage range	CE: 400 V AC +/- 10% (50 Hz or 60 Hz) UL: 480 or 600 V AC +/- 10% (50 Hz or 60 Hz)			
Power factor	≥ 0.96			
Integrated cable length	-	-	-	-
Distance between charger & charging interface	100m standard and up to 150m with long distance package			
CCS cables maximum current	-	-	-	-
Connector Types	-			
Efficiency	94-96%			
Cellular communication	GSM / 4G / LTE			
General characteristics				
IP and IK rating	IP-54 and IK-10			
Enclosure type	Stainless steel			
Operational attitude	Up to 2000 m			
Operation temperature range (2)	-35°C to +55°C			
Temperature derating	Up to 50°C, no power derating. For higher temperatures derating might occur			
Dimensions (H x W x D)	2030 x 1170 x 770 mm	2030 x 1170 x 770 mm	2030 x 1170 x 770 mm	2030 x 1170 x 770 mm
Mass	1290 kg	1340 kg	1290 kg	1340 kg
Color	RAL 9002			
User interface				
Connectivity	Internet access via 4G / 3G / Ethernet (RJ45)			
Communication protocols	OCPP 1.5 / 1.6 and OPC-UA			
Emergency button	Yes for chargers with integrated CCS cable, for others on the charging interface			
HMI	7" LCD high-contrast touchscreen for chargers with integrated CCS cable			
RFID reader	Optional for chargers with integrated CCS cable			
Configuration				
Software update	Over-the-air updates via ABB web portal, OCPP 1.6			
Control and configuration	ABB web portal, on-board service portal, OCPP 1.6, OPC-UA			
Certification and standards				
Charging system	IEC 61851-1 ed 3, IEC 61851-21-2 ed 1, IEC 61851-23 ed 1, IEC 61851-24 ed 1, IEC 62196-2, IEC 62196-3, IEC 61000			
Communication to the EV	DIN 70121, ISO/IEC 15118 series ed 1			
Communication to the backend	OCPP 1.6 JSON			
Electro-Magnetic Compatibility	EMC-Class B Radiated and Conducted			
Compliance	CE and UL certification			
Warranty	Base warranty 24 months after Site Acceptance Test or 30 months after factory delivery. Warranty extensions available			

(1) Maximum output current could be limited by the charging interface
(2) According to IEC 62196-1, for higher temperatures derating might occur

Power cabinet for charging interfaces

Technical specifications				
	HVC 100	**HVC 150**	**HVC 300**	**HVC 450**
				
Charging interface				
PU control box	-	-	-	-
PD control box	-	Yes	-	-
PD charge pole	-	Yes	Yes	Yes
PU charge pole	-	-	-	-
PU kit	-	-	-	-
Sequential charging	Yes (1)	Yes (1)	-	-
Communication	CAN2Fiber	CAN2Fiber	CAN2Fiber	CAN2Fiber
Product information				
DC output current (2)	167 A	250 A	500 A	750 A
DC output power rating	100 kW	150 kW	300 kW	450 kW
DC output voltage	150-850 V			
Input AC power rating 400 V AC	110 kVA	165 kVA	330 kVA	495 kVA
Input current (nominal) 400 V AC	159 A	238 A	476 A	713 A
Input AC power rating 480 V AC	110 kVA	165 kVA	330 kVA	495 kVA
Input current (nominal) 480 V AC	132 A	198 A	396 A	594 A
Input AC power rating 600 V AC	110 kVA	165 kVA	330 kVA	495 kVA
Input current (nominal) 600 V AC	108 A	158 A	316 A	474 A
Input voltage range	CE: 400 V AC +/- 10% (50 Hz) UL: 480 or 600 V AC +/- 10% (60 Hz)			
Power factor	≥ 0.96			
Distance between charger & charging interface	100 m standard and up to 150 m with long distance package			
PU pantograph types	4-pole contact dome (DC+, DC-, CP, PE)			
PD pantograph types	4-pole pantograph (DC+, DC-, CP, PE)			
CCS cables maximum current	-			
Efficiency	94-96%			
Cellular communication	GSM / 4G / LTE			
General characteristics				
IP and IK rating	IP-54 and IK-10 (cabinet) / IK-8 (touchscreen)			
Enclosure type	Stainless steel			
Operational attitude	Up to 2000 m			
Operation temperature range (3)	-35°C to +50°C			
Temperature derating	up to 50°C no power derating. For higher temperatures derating might occur			
Dimensions (H x W x D) mm	2030 x 1170 x 770	2030 x 1170 x 770	2030 x 1170 x (770x2)	2030 x 1170 x (770x3)
Mass	1290 kg	1340 kg	1340 kg (x2)	1340 kg (x3)
Color	RAL 9002			
User interface				
Connectivity	Internet access via 4G / 3G / Ethernet (RJ45)			
Communication protocols	OCPP 1.5 / 1.6 / 2.0 and OPC-UA			
Emergency button	No, part of the charging interface			
HMI	Inside the cabinet for service purposes			
Vehicle ID recognition	Yes can be used to enable Autocharge			
Configuration				
Software update	Over-the-air updates via ABB web portal, OCPP 1.6			
Control and configuration	ABB web portal, on-board service portal, OCPP 1.6, OPC-UA			
Certification and standards				
Charging system	IEC 61851-1 ed 3, IEC 61851-21-2 ed 1, IEC 61851-23 ed 1, IEC 61851-24 ed 1, IEC 62196-2, IEC 62196-3, IEC 61000			
Communication to the EV	DIN 70121, ISO/IEC 15118 series ed 1 with PnC and EIM			
Communication to the backend	OCPP 1.6 JSON			
Electro-Magnetic Compatibility	Pantograph : EMC-Class A, Class B with optional filter			
Compliance	CE and UL certification			
Warranty	Base warranty 24 months after Site Acceptance Test or 30 months after factory delivery. Warranty extensions available			

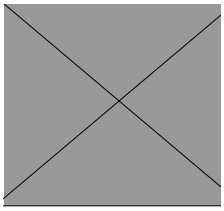
(1) Sequential charging only possible with Panto Up, maximum 3 PU control boxes
(2) DC output current on the charger, might be limited by the charging interface, cable or pantograph
(3) According to IEC 62196-1, for higher temperatures derating might occur

Power cabinet for charging interfaces

Technical specifications				
	HVC 107 V2	**HVC 160 V2**	**HVC 320 V2**	**HVC 480 V2**
				
Charging interface				
PU control box	Yes	Yes	-	-
PD control box	-	-	-	-
PD charge pole	-	-	-	-
PU charge pole	-	Yes	Yes	Yes
PU kit	-	Yes	Yes	Yes
Sequential charging	Yes (1)	Yes (1)	-	-
Communication	CAN2Ethernet	CAN2Ethernet	CAN2Ethernet	CAN2Ethernet
Product information				
DC output current	187 A	280 A	560 A	840 A
DC output power rating	107 kW	160 kW	320 kW	480 kW
DC output voltage	150-850 V			
Input AC power rating 400 V AC	117kVA	175 kVA	350 kVA	525 kVA
Input current (nominal) 400 V AC	170 A	254 A	508 A	762 A
Input AC power rating 480 V AC	117kVA	175 kVA	350 kVA	525 kVA
Input current (nominal) 480 V AC	140 A	212 A	424 A	636 A
Input AC power rating 600 V AC	117kVA	175 kVA	350 kVA	525 kVA
Input current (nominal) 600 V AC	113 A	170 A	340 A	510 A
Input voltage range	CE: 400 V AC +/- 10% (50 Hz) UL: 480 or 600 V AC +/- 10% (60 Hz)			
Power factor	≥ 0.96			
Distance between charger & charging interface	100 m standard and up to 150 m with long distance package			
PU pantograph types	4-pole contact dome (DC+, DC-, CP, PE)			
PD pantograph types	4-pole pantograph (DC+, DC-, CP, PE)			
CCS cables maximum current	-			
Efficiency	94-96%			
Cellular communication	GSM / 4G / LTE			
General characteristics				
IP and IK rating	IP-54 and IK-10 (cabinet) / IK-8 (touchscreen)			
Enclosure type	Stainless steel			
Operational attitude	Up to 2000 m			
Operation temperature range	-35°C to +50°C			
Temperature derating	up to 50°C no power derating. For higher temperatures derating might occur			
Dimensions (H x W x D) mm	2030 x 1170 x 770	2030 x 1170 x 770	2030 x 1170 x (770x2)	2030 x 1170 x (770x3)
Mass	1290 kg	1340 kg	1340 kg (x2)	1340 kg (x3)
Color	RAL 9002			
User interface				
Connectivity	Internet access via 4G / 3G / Ethernet (RJ45)			
Communication protocols	OCPP 1.5 / 1.6 / 2.0 and OPC-UA			
Emergency button	No, part of the charging interface			
HMI	Inside the cabinet for service purposes			
Vehicle ID recognition	Yes can be used to enable Autocharge			
Configuration				
Software update	Over-the-air updates via ABB web portal, OCPP 1.6			
Control and configuration	ABB web portal, on-board service portal, OCPP 1.6, OPC-UA			
Certification and standards				
Charging system	IEC 61851-1 ed 3, IEC 61851-21-2 ed 1, IEC 61851-23 ed 1, IEC 61851-24 ed 1, IEC 62196-2, IEC 62196-3, IEC 61000			
Communication to the EV	DIN 70121, ISO/IEC 15118 series ed 1 with PnC and EIM			
Communication to the backend	OCPP 1.6 JSON			
Electro-Magnetic Compatibility	Pantograph : EMC-Class A, Class B with optional filter			
Compliance	CE and UL certification			
Warranty	Base warranty 24 months after Site Acceptance Test or 30 months after factory delivery. Warranty extensions available			

(1) Sequential charging only possible with Panto Up, maximum 3 PU control boxes
(2) DC output current on the charger, might be limited by the charging interface, cable or pantograph
(3) According to IEC 62196-1, for higher temperatures derating might occur

Charging interface with connector

Technical specifications	Depot charge box	Depot charge box double CCS	CCS control box	CR control box
				
Main features				
Overnight charging	Yes	Yes	Yes	Yes
Opportunity charging	-	-	-	-
CCS cable integrated	Yes	Yes	Yes	-
Optimized for hanging cable	-	-	Yes	-
Compatible with Cable Reel	-	-	-	Yes
Sequential charging	Optional	Yes	Optional	Optional
Communication	CAN2Fiber	CAN2Ethernet	CAN2Ethernet	CAN2Ethernet
Product information				
DC output current rating (1)	200 A	200A for CCS1 250 A peak for CCS2	200 A	200 A
DC output power rating	100-160 kW	100-160 kW	100-160 kW	100-160 kW
Cable length	7 m / 9.5 m	7 m / 9.5 m	7 m	-
Distance between charging interface & cable reel	-	-	-	10 m according to standards
Connector Types	CCS1 / CCS2			
General characteristics				
IP and IK rating	IP-65			
Enclosure type	Stainless steel			
Dimensions (H x W x D)	940 x 699 x 240 mm	940 x 699 x 280 mm	450 x 600 x 250 mm	450 x 600 x 250 mm
Mass	65 kg (7 m cable)	103 kg (2x 7m cable)	50 kg	30 kg (excl. cable reel)
Color	RAL 9002			
User interface				
Emergency button	Yes & external option		Option for external emergency button	
Stop button	Yes & external option		Option for external emergency button	
LED indicator	Yes 3 color LED, Red/ Green/ Blue & external option			
HMI	-	-	-	-
RFID reader	-	-	-	-

(1) Limited by CCS cable

Charging interface with Pantograph

Technical specifications					
	PU depot set	**PU kit**	**PD control box**	**Panto Up pole**	**Panto Down pole**
					
Main features					
Overnight charging	Yes	Yes	Yes	-	-
Opportunity charging	-	Yes	Yes	Yes	Yes
CCS cable integrated	-	-	-	-	-
Optimized for hanging cable	-	-	-	-	-
Compatible with Cable Reel	-	-	-	-	-
Sequential charging	Optional	-	-	-	-
Communication	CAN2Ethernet	CAN2Ethernet	CAN2Fiber	CAN2Fiber	CAN2Fiber
Product information					
DC output current rating	350 A	840 A	600 A**	840 A	600 A**
DC output power rating	100-160kW	160-480kW	150-450kW	160-480kW	150-450kW
Cable length		-	-	-	-
Distance between charging interface & pantograph	10 m according to standards			-	-
Connector Types		-	-	-	-
General characteristics					
IP and IK rating	IP-65				
Enclosure type	Stainless steel				
Dimensions (H x W x D)	450 x 600 x 250 mm	-	800 x 600 x 230 mm	5300 x 1300 x 4600 mm	5520 x 1060 x 4850 mm
Mass	30 kg (excl hood)	-	50 kg (excl panto)	500 kg	1650 kg
Color	RAL 9002			RAL 9003	
User interface					
Emergency button	Option for external emergency button			Yes	Yes
Stop button	Option for external emergency button			-	-
LED indicator	Yes 3 color LED, Red/ Green/ Blue & external option	External option		Yes 3 color LED, Red/Green/Blue	
HMI	-				
RFID reader	-				

** Limited by pantograph

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For more information please contact:

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