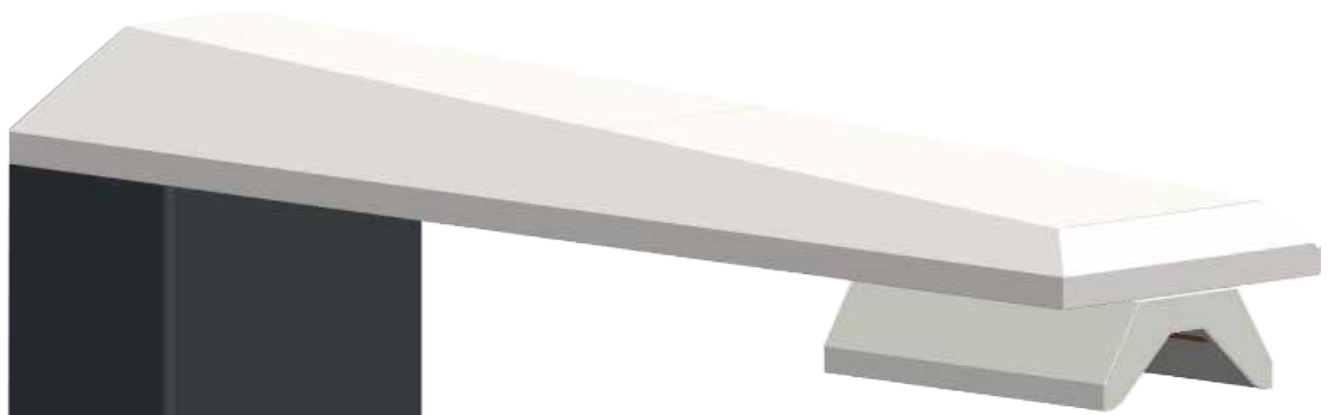
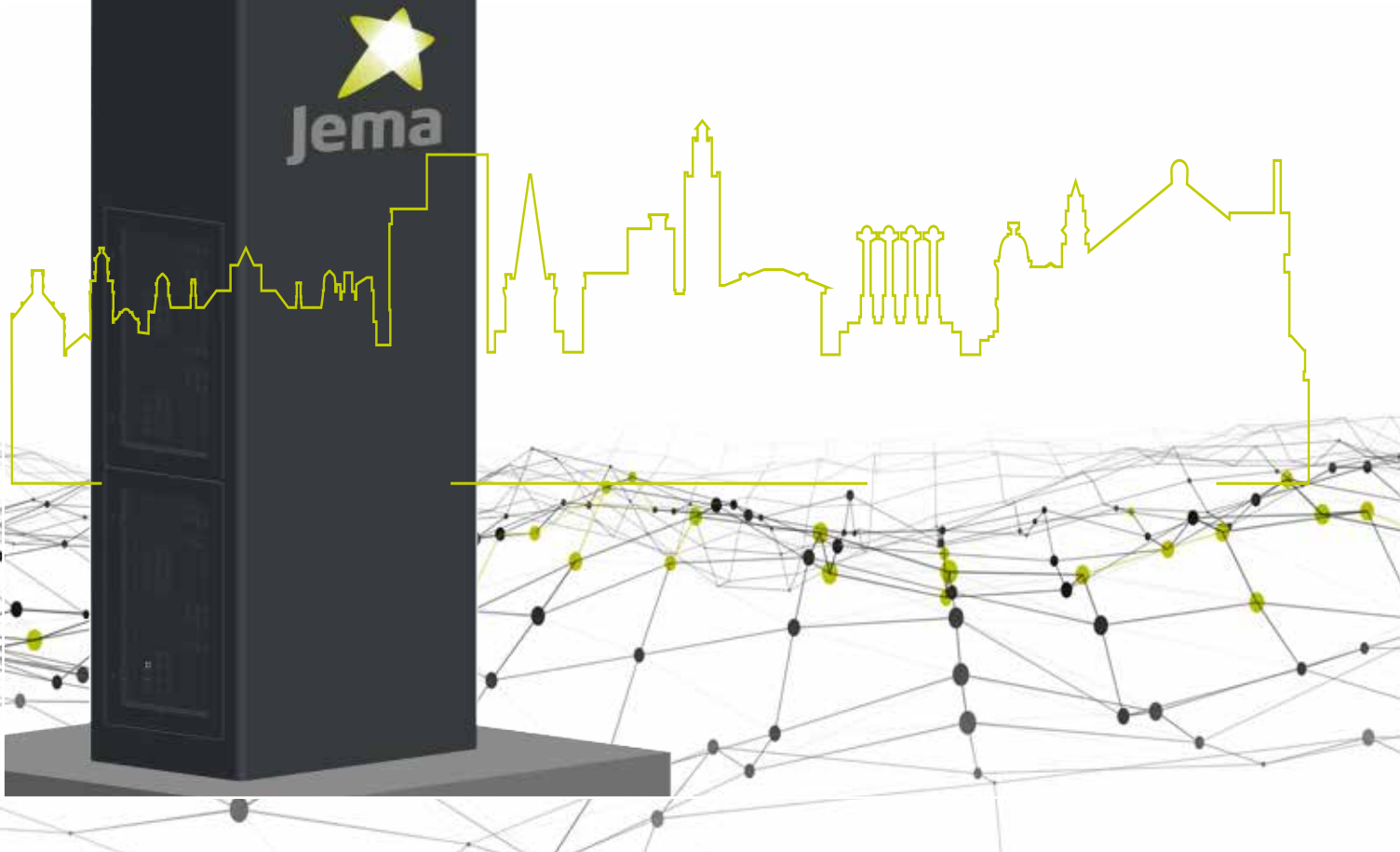


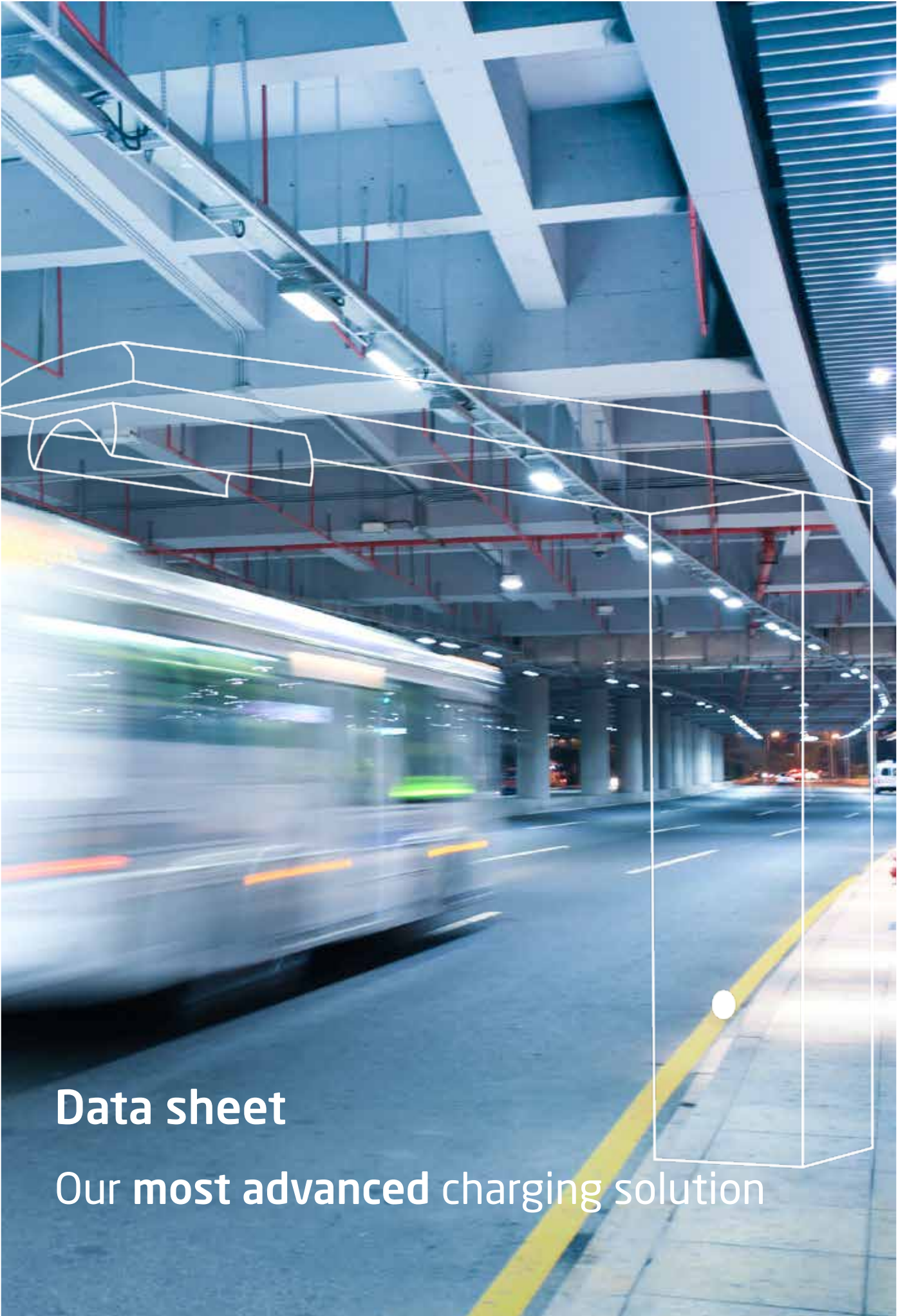
# GAMMA

60 · 450 kW



 Powering **the future**





**Data sheet**

**Our most advanced charging solution**

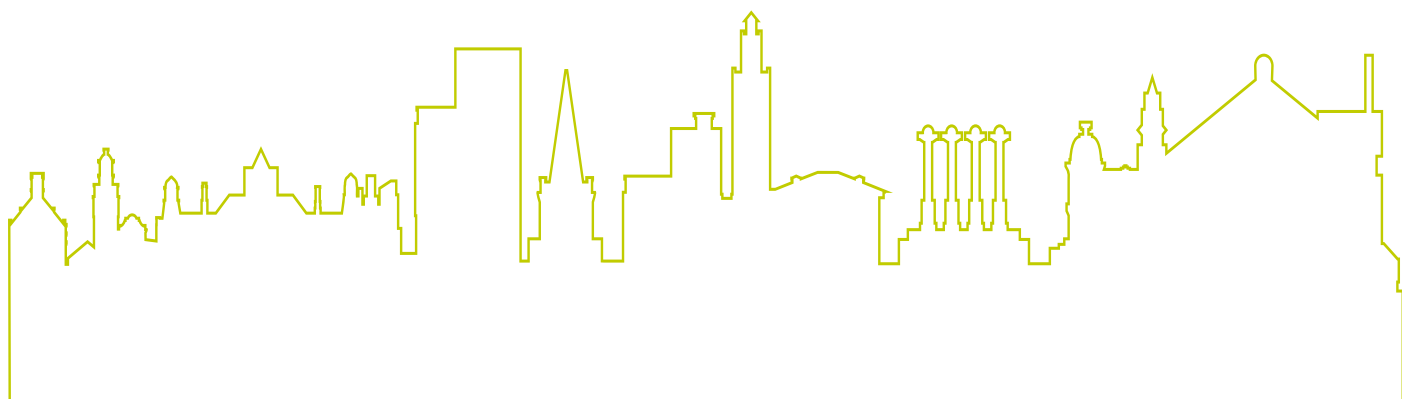


# Powering **the future**

## GAMMA`S HIGHLIGHTS

- Automation of charging process. *Increased capacity and wireless depot*
- All integrated charging system. *Scalable, compact & versatil*
- Reduced installation footprint. *Integration of charger and connection to the pantograph in the same structure.*
- Chargers up to 450 kW. *No need of a transformer station*
- Based on SIGMA charger topology. *Optimization of charging system*

From 60 to 450 kW



# GAMMA



60 · 90 · 120 · 150 · 180

INPUT	60	90	120	150	180
Input voltage <sup>(1)</sup>	400 V <sub>AC</sub> 3Ph + N + PE / 480 VAC 3Ph + N + PE (N only for auxiliaries)				
Max. input power	64 kVA	95 kVA	125 kVA	155 kVA	186 kVA
Max. input current. / I <sub>max</sub> . input	93 A / 116 A	138 A / 174 A	181 A / 232 A	224 A / 290 A	269 A / 348 A
Harmonic distortion and power rating	<5%   0.99				
Efficiency	>95%				
Frequency	50/60 Hz				
Galvanic isolation	Yes				

OUTPUT	60	90	120	150	180
Output power (P <sub>nom</sub> ) <sup>(2)</sup>	60 kW	90 kW	120 kW	150 kW	180 kW
Output voltage range	150-1000 V <sub>dc</sub>				
Max. output current	200 A	250 A	250 A	250 A	375 A
Control structure	Logical control and DSP technology, SVM				
Soft Start	Yes				

PROTECTIONS	60	90	120	150	180
Overvoltage, overcurrent and shortcircuit	AC In: varistors AC & M+T CB / DC Out: varistors DC & ultrafast fuses				
Polarity reversal	Yes				
Insulation leakage detection system	Yes				
Overheating	Yes (included in power regulation)				
Max.&i/Min frequency and voltage	Yes				

GENERAL DATA	60	90	120	150	180
Vehicle connection	Pantograph				
Communications/OCPP	Ethernet communication port/ 1.6				
Standard	EC. IEC-61851, IEC 61000, DIN 70121, ISO 15118				
Operating temperature	-20 °C a +50 °C nominal power <sup>(3)</sup>				
Relative humidity	10% a 95% non-condensing				
Altitude	2000 m.s.n.m <sup>(6)</sup>				
Dimensions h / l / d (mm) / Weight	View dimensional drawing / TBD				
Color	White structure (RAL7035) and grey truss (RAL 7000)				
Access protection (IP)	Outdoor IP54/IK10				
Polution level / Corrosion	P3 / C4M				
Ventilation	Forced Air				
Standby consumption	Without heating <180 W / With heating <850 W				
Category electric shock / charging mode / EV connection system / control system	Class 1 / Mode 4 / Sistem C / Combination of current + controlled voltage				

(1) V nominal grid; (2) Consult our technical department; (3) Consult our technical department

# GAMMA



## 240 · 300 · 360 · 450

INPUT	240	300	360	450
Input voltage <sup>(1)</sup>	400 V <sub>AC</sub> 3Ph + N + PE / 480 VAC 3Ph + N + PE (N only for auxiliaries)			
Max. input power	250 kVA	310 kVA	375 kVA	469 kVA
Max. input current. / I <sub>max</sub> input	361A / 464A	448A / 580A	542A / 696A	677A / 870A
Harmonic distortion and power rating	<5%   0.99			
Efficiency	>95%			
Frequency	50/60 Hz			
Galvanic isolation	Yes			

OUTPUT	240	300	360	450
Output power (P <sub>nom</sub> ) <sup>(2)</sup>	240 kW	300 kW	360 kW	450 kW
Output voltage range	150 - 1000 VDC			
Max. output current	700 A	700 A	700 A	900 A
Control structure	Logical control and DSP technology, SVM			
Soft Start	Yes			

PROTECTIONS	240	300	360	450
Overvoltage, overcurrent and shortcircuit	AC In: varistors AC & M+T CB / DC Out: varistors DC & ultrafast fuses			
Polarity reversal	Yes			
Insulation leakage detection system	Yes			
Overheating	Yes (included in power regulation)			
Max.&/Min frequency and voltage	Yes			

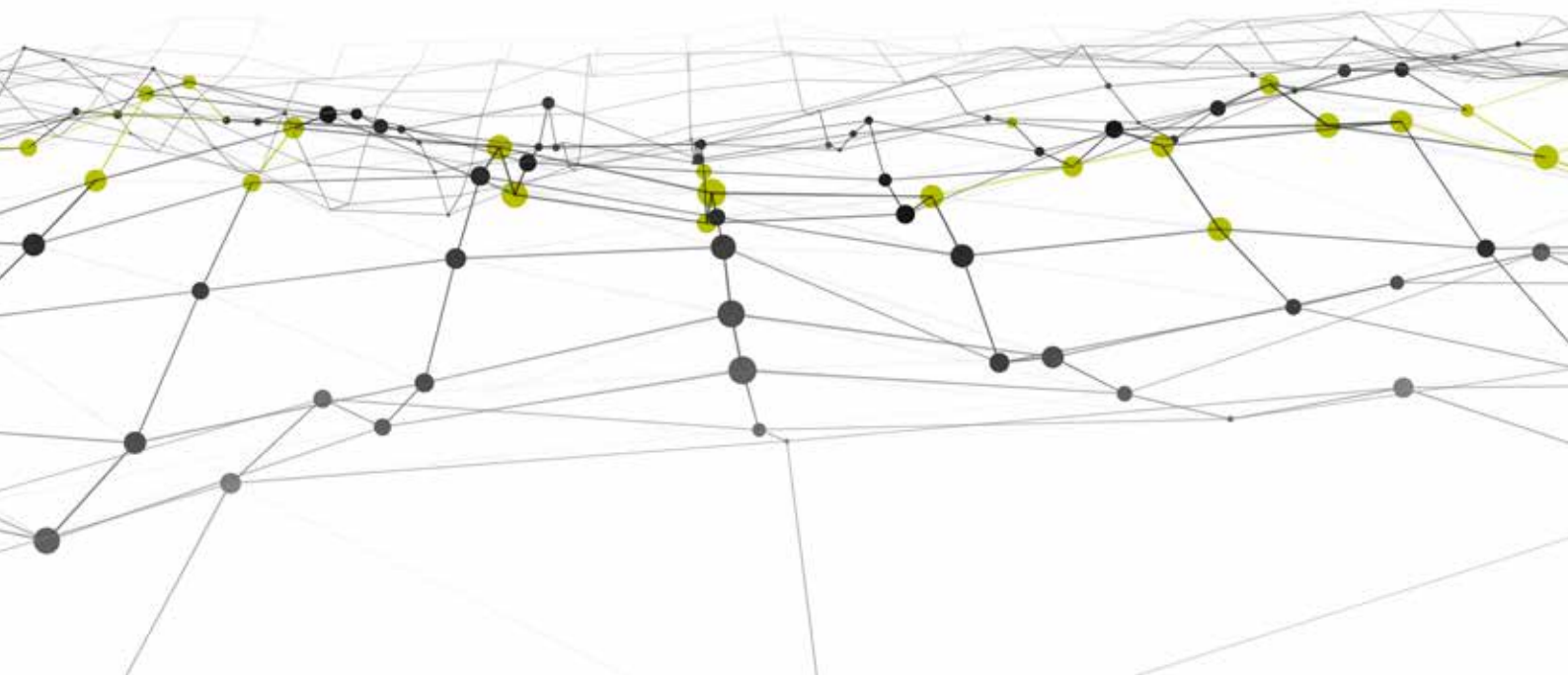
GENERAL DATA	240	300	360	450
Vehicle connection	Pantograph			
Communications/OCPP	Ethernet communication port/ 1.6			
Standard	EC. IEC-61851, IEC 61000, DIN 70121, ISO 15118			
Operating temperature	-20 °C a +50 °C nominal power <sup>(3)</sup>			
Relative humidity	10% a 95% non-condensing			
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Dimensions h / l / d (mm) / Weight	View dimensional drawing / TBD			
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Category electric shock / charging mode / EV connection system / control system	Class 1 / Mode 4 / Sistem C / Combination of current + controlled voltage			

(1) V nominal grid; (2) Consult our technical department; (3) Consult our technical department





Do you want more information  
about our heavy-duty charging  
systems solutions?



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