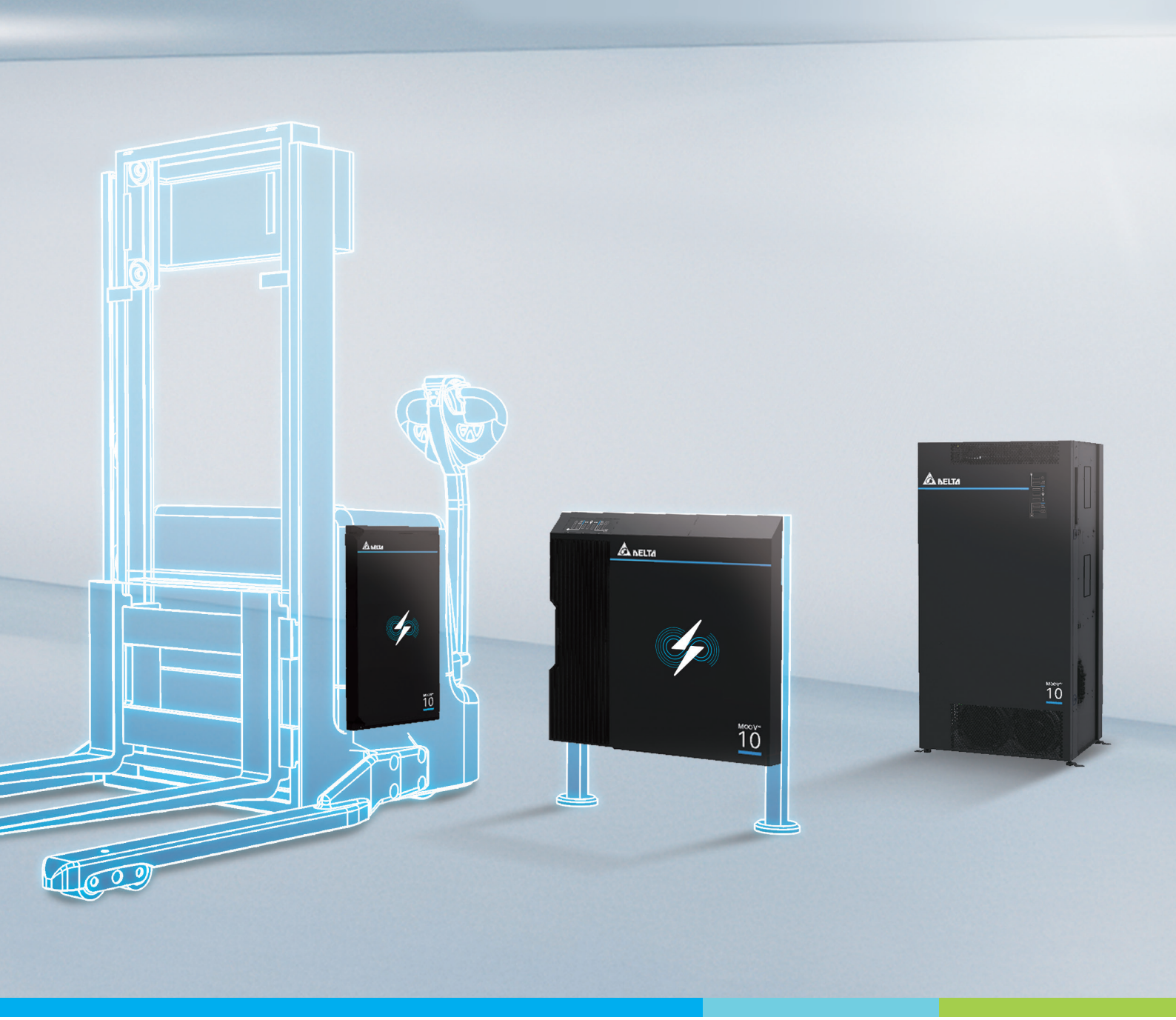


10 kW Wireless Charging System

MOOV air 10

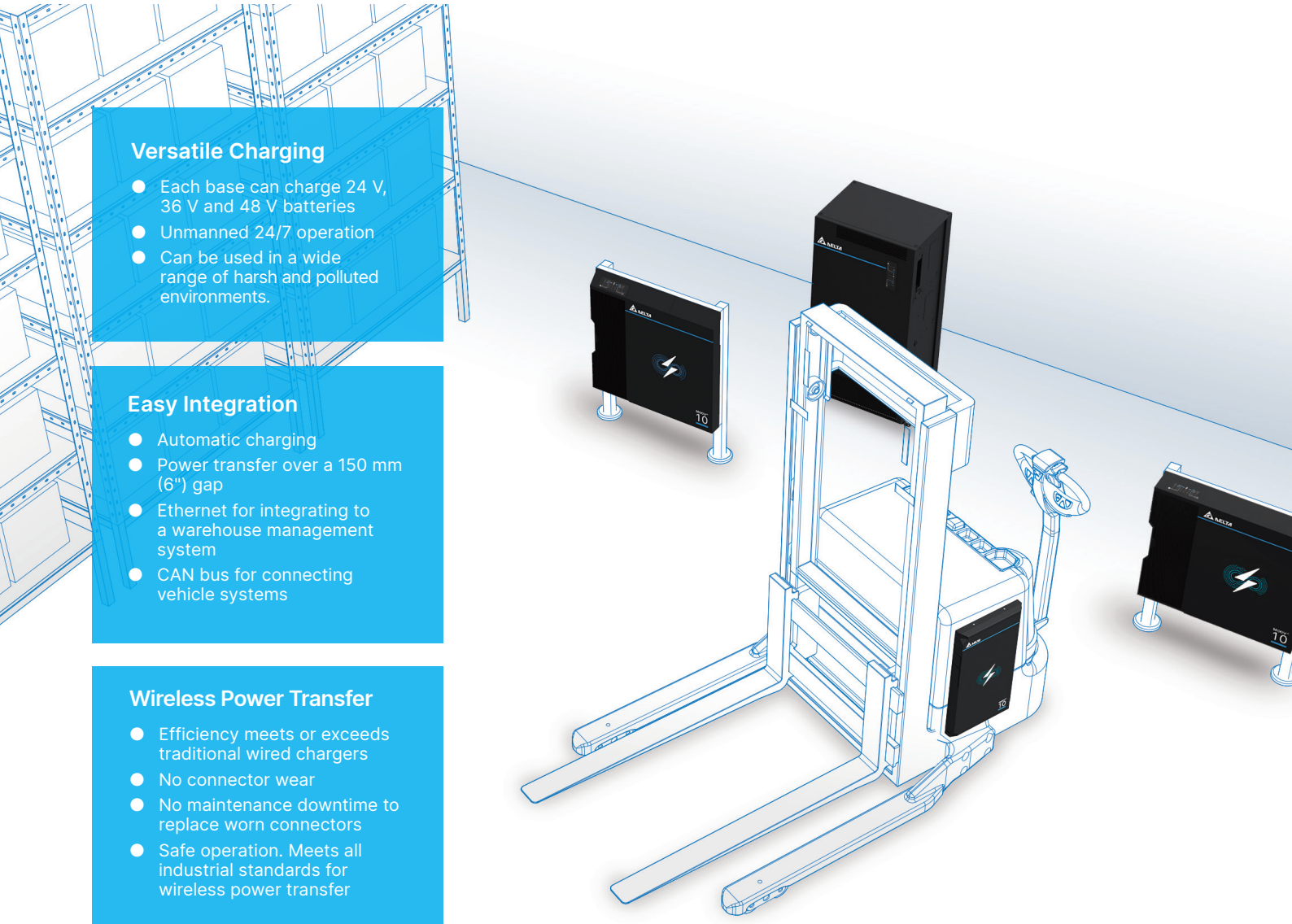
Highly efficiency wireless charging for industrial electric vehicles providing up to 275 A. Ideal for fast and opportunity charging.

- No part wear
- Fully automated charging
- Charges lithium batteries fast and frequently

Wireless Power Transfer | Forklift | Industrial

DELTA

MOOV^{air}10 Wireless Charging System



Versatile Charging

- Each base can charge 24 V, 36 V and 48 V batteries
- Unmanned 24/7 operation
- Can be used in a wide range of harsh and polluted environments.

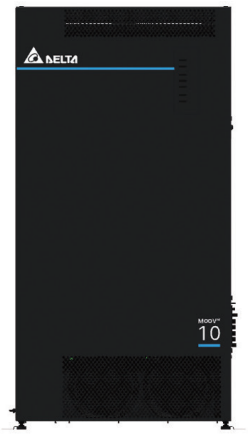
Easy Integration

- Automatic charging
- Power transfer over a 150 mm (6") gap
- Ethernet for integrating to a warehouse management system
- CAN bus for connecting vehicle systems

Wireless Power Transfer

- Efficiency meets or exceeds traditional wired chargers
- No connector wear
- No maintenance downtime to replace worn connectors
- Safe operation. Meets all industrial standards for wireless power transfer

Product Overview



Primary Box (WPB)

Primary Pad (WPP)

Secondary Unit (WSU)

Specifications

Product Line		MOOV^{air}10	
AC Input			
AC Input Rated Voltage		380 to 480 V_{AC} 3PH	
AC Input Voltage Range		342 to 528 V_{AC} 3PH	
AC Input Frequency		47 Hz to 63 Hz	
Maximum AC Input Current		18 A	
Power Factor (100% Load)		0.95	
Peak Efficiency		> 92%	
Standby Power [1]		≤ 10 W	
DC Output			
DC Output Nominal Voltage		24 & 36 V_{DC}	48 V_{DC}
DC Output Voltage Range		18 to 44 V_{DC}	36 to 60 V_{DC}
Maximum Charge Current		275 A	200 A
Maximum Output Power		10 kW	
Battery Protection		Lithium Ion	
Output Protection		Over voltage, over current, short circuit, reverse connection	
Parallel Operation		Pending	
Standby Power [2]		< 2 W	
Environmental Conditions			
Operating Temperature[3]	WPB	+5 °C to +40 °C (41 °F to 104 °F)	
	WPP	-40 °C to +70 °C (-40 °F to 158 °F)	
	WSU	-40 °C to +80 °C (-40 °F to 176 °F)	
Storage Temperature		-45 °C to +70 °C (-49 °F to 158 °F)	
Relative Humidity	WPB	5% to 85%, non-condensing	
	WPP	4% to 100%	
	WSU	15% to 100%	
Maximum Operating Altitude		3,000 m (9,842 ft)	
Ingress Protection	WPB	IP21	
	WPP	IP69	
	WSU	IP69	
Mechanical Design			
Pad Air-gap Range		$105^{+/-5}$ to $155^{+/-5}$ mm ($4.1^{+/-0.2}$ to $6.1^{+/-0.2}$ in)	
Maximum Misalignment		± 50 mm (± 2.0 in) up/down and left/right	
Dimensions (L x W x H)	WPB	1,050 x 550 x 400 mm (41.3 x 21.7 x 15.7 in)	
	WPP	665 x 695 x 65 mm (26.1 x 27.4 x 2.6 in)	
	WSU	565 x 327 x 50 mm (22.2 x 12.9 x 2 in)	
Weight	WPB	107 kg (235.9 lbs)	
	WPP	30 kg (66.1 lbs)	
	WSU	15 kg (33.1 lbs)	
Cable Lengths	WPB → WPP	5.0 m (196.8 in)	
	WSU (DC Output)	2.0 m (78.7 in)	
	WSU Aux / Comms	0.5 m (19.7 in)	
Cooling	WPB	Forced air	
	WPP	Convection	
	WSU	Convection	
Status LED's		WPB & WPP, stack light interface	

Approvals and Compliance	Europe (EEA/EFTA/UK)	USA	Canada
Safety Marks	CE	$_{C}$MET$_{US}$	
Safety	EN 62368-1:2014 + A11:2017	UL 62368-1:2019 Ed.3 CSA C22.2 No.62368-1:2019 Ed.3 UL 1564 Ed.4 CSA 22.2 No. 107.2-01	
EMC	EN 303 446-2 V1.2.1 EN 301 489-1 V2.2.3; EN 301 489-3 V1.6.1 EN 55011:2016 + A1:2017+A11 :2020 EN IEC 61000-6-2:2019	FCC part 18 subpart C	Pending
RF	EN 300 330	FCC part 15 subpart C	Pending
EMF	EN 62311	FCC Part 1.1307 KDB 447498 D01 KDB 680106 D01	Pending
Interfaces			
Infrastructure	Ethernet		
Vehicle	CANopen®		

1 WPB connected to AC but not charging
2 Secondary Unit connected to battery and not charging
3 Derating above 40 °C

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