

3.3 kW Wireless Charging System

MOOV^{air} 03

Highly efficient wireless charging for AGVs, AMRs, and other industrial vehicles providing up to 132 A. Ideal for fast and opportunity charging.

- IP65 fanless design for demanding environments
- Fully automated charging of all battery types with BMS
- Full charging capacity across 24-V, 36-V, and 48-V batteries
- Suitable for fast and frequent charging of Lithium-Ion batteries

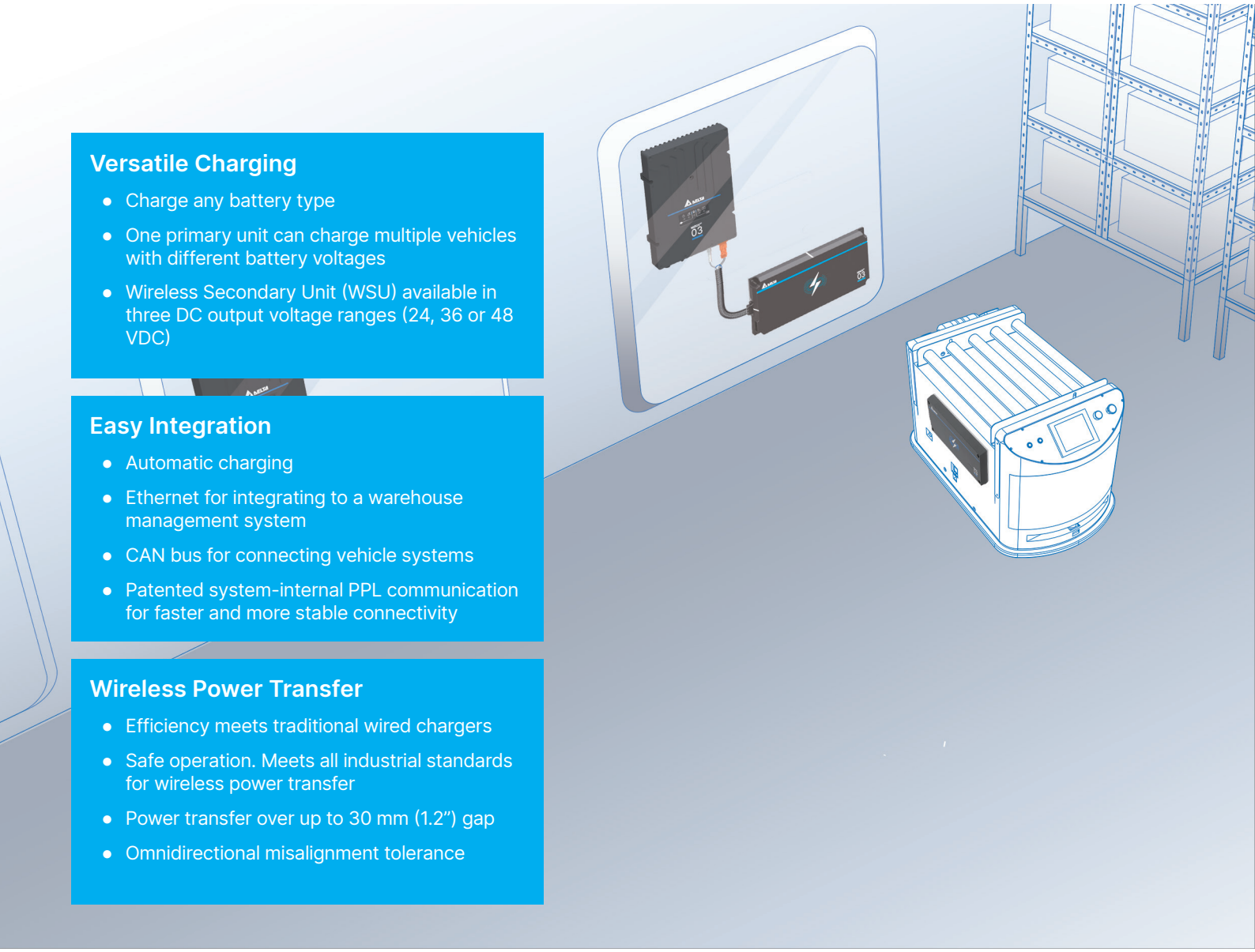
Wireless Power Transfer

Industrial

Battery Charging

DELTA

MOOV^{air}03 Wireless Charging System



Versatile Charging

- Charge any battery type
- One primary unit can charge multiple vehicles with different battery voltages
- Wireless Secondary Unit (WSU) available in three DC output voltage ranges (24, 36 or 48 VDC)

Easy Integration

- Automatic charging
- Ethernet for integrating to a warehouse management system
- CAN bus for connecting vehicle systems
- Patented system-internal PPL communication for faster and more stable connectivity

Wireless Power Transfer

- Efficiency meets traditional wired chargers
- Safe operation. Meets all industrial standards for wireless power transfer
- Power transfer over up to 30 mm (1.2”) gap
- Omnidirectional misalignment tolerance

System Components



Wireless Primary Box (WPB)

Wireless Primary Unit (WPU)

Wireless Primary Pad (WPP)





Wireless Secondary Box (WSB)

Wireless Secondary Unit (WSU)

Wireless Secondary Pad (WSP)



Specifications

Product Line		MOOV^{air}03 Wireless Charging System		
System Components				
Delta Part Numbers				
Wireless Primary Box (WPB)		EOE16010870		
Wireless Primary Pad (WPP)		EOE16010952		
24 VDC Wireless Secondary Box (WSB)		EOE16011067		
36 VDC Wireless Secondary Box		EOE16011066		
48 VDC Wireless Secondary Box		EOE16010871		
Wireless Secondary Pad (WSP)		EOE16010953		

AC Input	Wireless Primary Box (WPB)
AC Input Rated Voltage	200 to 240 V_{AC}, 1-phase
AC Input Voltage Range	180 to 264 V_{AC}, 1-phase
AC Input Frequency	47 Hz to 63 Hz
Maximum AC Input Current	16 A
Power Factor (100% Load)	> 0.99
Peak Efficiency	> 92%
Standby Power [1]	≤ 10 W

DC Output		24 VDC WSB	36 VDC WSB	48 VDC WSB
DC Output Nominal Voltage		24 V_{DC}	36 V_{DC}	48 V_{DC}
DC Output Voltage Range		12 to 33 V_{DC}	18 to 49.5 V_{DC}	24 to 66 V_{DC}
Maximum Charge Current		132 A	88 A	66 A
Maximum Output Power		3.3 kW		
Suitable Battery Types		All with Battery Management System (BMS)		
Output Protection		Over voltage, over current, short circuit, reverse connection		
Parallel Operation		Available on request		
Standby Power [2]		≤ 3 W		
Charging Control Modes	Set points from vehicle	CANopen®		
	Set points from infrastructure	Ethernet		
	Pre-programmed standalone operation	User programmable CC-CV profile		
		Multi-stage charge profile		

Environmental Conditions		
Operating Temperature	WPB + WPP	-40 °C to +40 °C (-40 °F to +104 °F)
	WSB + WSP	-40 to +70 °C (-40 to +158 °F)
Storage Temperature		-45 to +70 °C (-49 to +158 °F)
Relative Humidity		4 to 100%, non-condensing
Maximum Operating Altitude		3,000 m (9,842 ft)
Ingress Protection	WPB	IP65
	WPP	IP65
	WSU	IP65

Product Line		MOOV^{air}03 Wireless Charging System
Mechanical Design		
Pad Air-gap Range		10 to 30 mm (0.4 to 1.2 in)
Maximum Alignment Tolerance (Misalignment)		± 25 mm (± 1.0 in) up/down and left/right
Dimensions (L x W x H)	WPB	420 x 310 x 68 mm (16.5 x 12.2 x 2.7 in)
	WPP	230 x 515 x 44 mm (9.1 x 20.3 x 1.7 in)
	WSB	254 x 165 x 51 mm (10.0 x 6.5 x 2.0 in)
	WSP	150 x 360 x 32 mm (5.9 x 14.2 x 1.3 in)
Weight	WPU	20 kg (44.1 lbs)
	WSU	8 kg (17.6 lbs)
Cable Lengths	WPB → WPP	2.0 m (78.7 in)
	WSB → WSP	1.0 m (39.4 in)
	WSP (DC Output)	1.05 m (43.3 in)
Cooling	WPP	Natural convection
Status LEDs		WPB

Approvals and Compliance	Europe (EEA/EFTA/UK)	USA	Canada
Safety Marks	CE	$_{C}CSA_{US}$	
Safety	EN 62368-1:2014 + A11:2017	UL 62368-1:2019 (3rd Edition); CSA C22.2 No. 62368-1:19 (3rd Edition)	
EMC	EN 303 446-2 V1.2.1; EN 55011:2016 + A1:2017 + A11:2020; EN IEC 61000-6-2:2019; EN 301 489-1 V2.2.3; EN 301 489-3 V2.3.2	FCC Part 18, Subpart C	RSS-216 Issue 3
RF	EN 300 330 V2.1.1	47 CFR Part 15, Subpart C in conjunction with ANSI C63.10:2013	RSS-Gen Issue 5; RSS-210 Issue 11
EMF	EN IEC 62311:2020	47 CFR FCC Part 1.1307; KDB 447498 D01 v06; KDB 680106 D01 v03r01	RSS-102 Issue 6; RSS-102.NS.MEAS Issue 1

1) WPB connected to AC, but not charging.
2) Secondary box connected to battery and not charging and not in Sleep mode.

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