

1 kW Wireless Charging System

MOOV^{air} 01

Highly efficient wireless charging for AGVs, AMRs, and other industrial vehicles providing up to 41.7 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
- Leight weight on vehicle

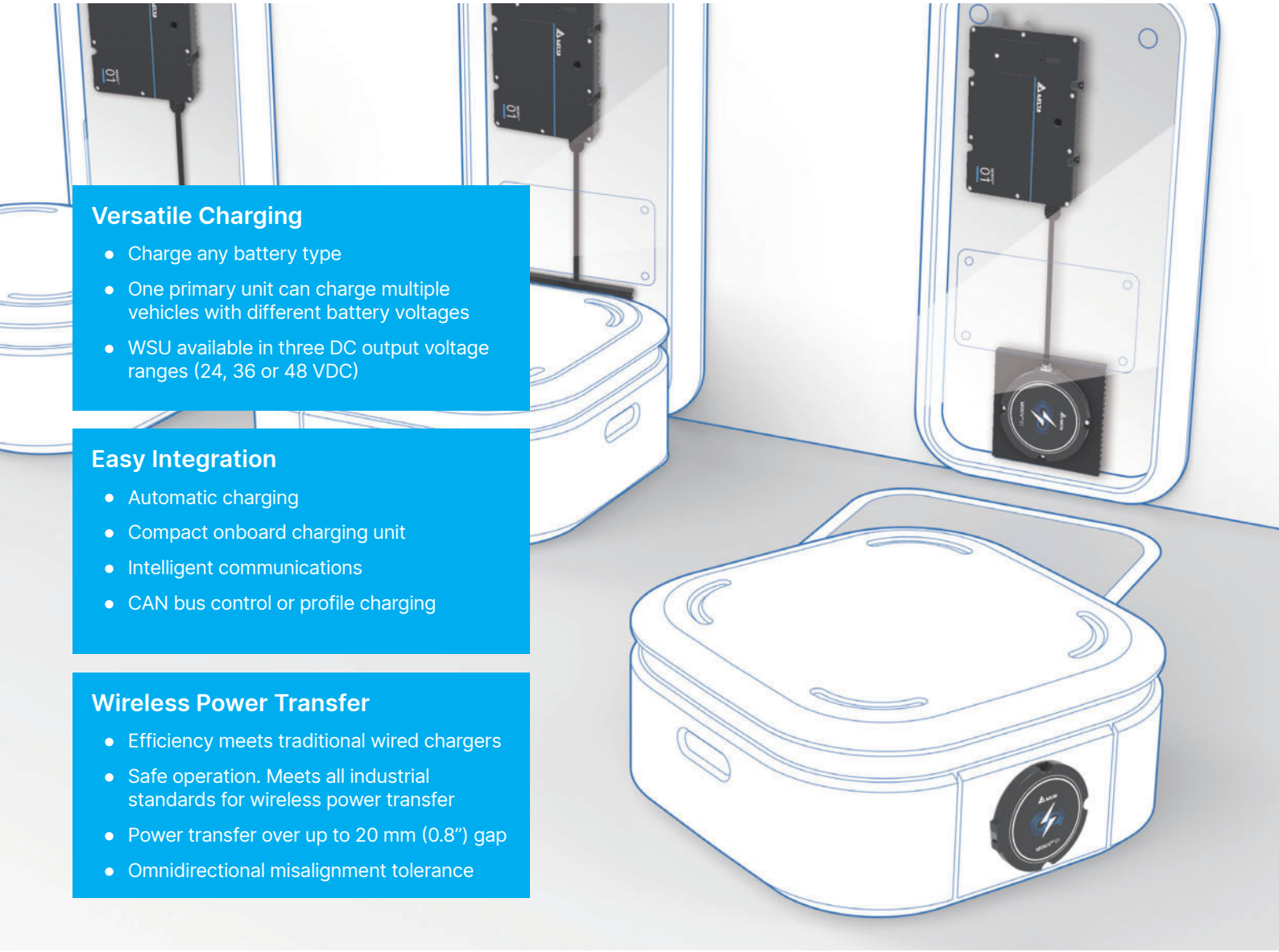
Wireless Power Transfer

Industrial

Battery Charging

DELTA

MOOV^{air}01 Wireless Charging System



Versatile Charging

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

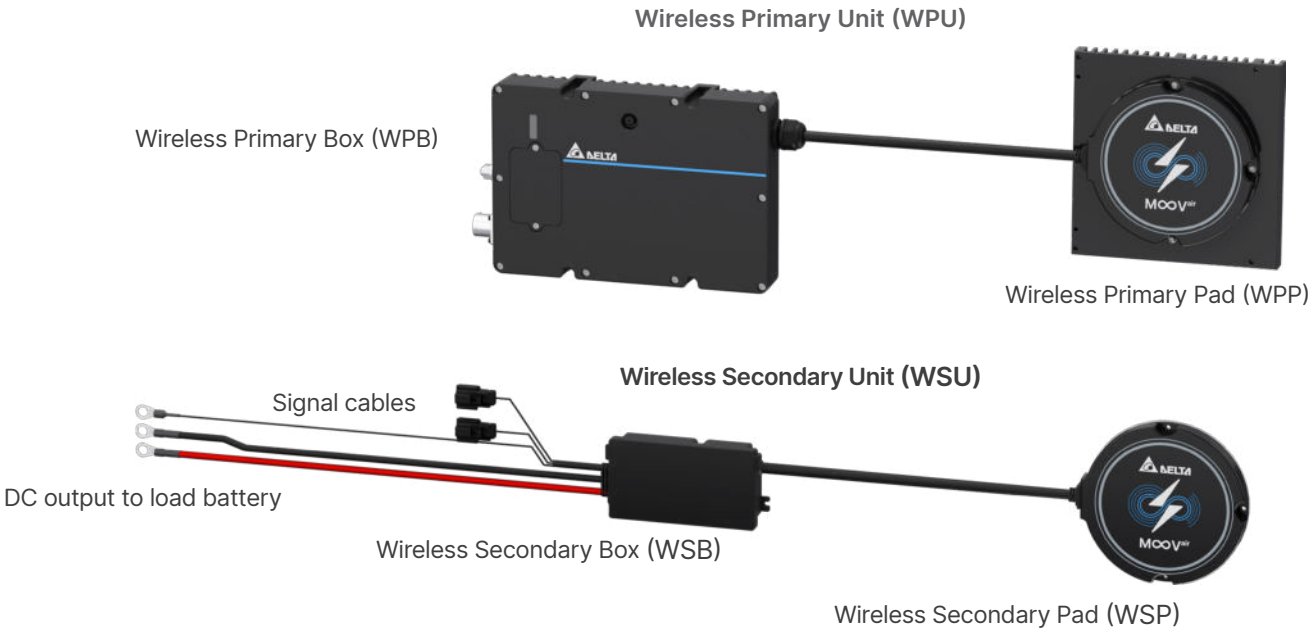
Easy Integration

- Automatic charging
- Compact onboard charging unit
- Intelligent communications
- CAN bus control or profile charging

Wireless Power Transfer

- Efficiency meets traditional wired chargers
- Safe operation. Meets all industrial standards for wireless power transfer
- Power transfer over up to 20 mm (0.8") gap
- Omnidirectional misalignment tolerance

System Components



Specifications

Product Line	MOOV^{air}01 Wireless Charging System
System Components	
Delta Part Numbers	
Wireless Primary Unit	EOE14011131
24 VDC Wireless Secondary Unit	EOE14011207
36 VDC Wireless Secondary Unit	EOE14011208
48 VDC Wireless Secondary Unit	EOE14011209

AC Input	Wireless Primary Box (WPB)
AC Input Rated Voltage	100 to 240 V_{AC}, 1-phase
AC Input Voltage Range	85 to 265 V_{AC}, 1-phase
AC Input Frequency	50/60 Hz (47 to 63 Hz)
Maximum AC Input Current	12 A
Power Factor (100% Load)	> 0.95
Peak Efficiency	92% (24/36 VDC WSU), 93% (48 VDC WSU)
Standby Power [1]	< 8 W

DC Output		24 VDC WSU	36 VDC WSU	48 VDC WSU
DC Output Nominal Voltage		24 V_{DC}	36 V_{DC}	48 V_{DC}
DC Output Voltage Range		12 to 30 V_{DC}	18 to 45 V_{DC}	24 to 60 V_{DC}
Maximum Charge Current		41.7 A	27.7 A	20.8 A
Maximum Output Power		1 kW		
Suitable Battery Types		Lithium Ion, Lead Acid (AGM / GEL)		
Output Protection		Over voltage, over current, short circuit, reverse connection		
Parallel Operation		Up to 4 systems in CAN mode		
Standby Power [2]		< 2 W		
Charging Control Modes	Set points from vehicle	CANbus		
	Pre-programmed standalone operation	Multi-stage charge profile		

Environmental Conditions		
Operating Temperature		-20 to +50 °C (-4 to +122 °F)
Storage Temperature		-40 to +85 °C (-40 to +185 °F)
Relative Humidity		0 to 95%, non-condensing
Maximum Operating Altitude		3,000 m (9,842 ft)
Ingress Protection [3]	WPB	IP65
	WPP and WSP	IP65
	WSB	IP40

Mechanical Design		
Pad Air-gap Range		0 to 20 mm (0 to 0.8 in)
Maximum Alignment Tolerance (Misalignment)		20 mm (0.8 in)
Dimensions (L x W x H)	WPB	192 × 280 × 60 mm (7.6 × 11.0 × 2.4 in)
	WPP and WSP	Ø 160 × 19 mm (6.3 × 0.7 in)
	WPP with heatsink [4]	200 × 200 × 39.5 mm (7.9 × 7.9 × 1.6 in)
	WSB	168 × 82 × 28 mm (6.6 × 3.2 × 1.1 in)

Product Line		MOOV^{air}01 Wireless Charging System
Mechanical Design		
Weight	WPB + WPP + heatsink [4]	5.4 kg (11.9 lb)
	WSB + WSP	1.5 kg (3.3 lb)
Cable Lengths	WPB (AC Input)	0.96 m (37.8 in)
	WPB → WPP	1.12 m (44.1 in) (typical)
	WSB (DC Output)	0.5 m (19.7 in)
	WSB (Signals)	0.1 m (3.97 in)
	WSB → WSP	0.38 m (15.0 in)
Cooling	WPB	Natural convection
	WPP	Heatsink or contact
	WSB and WSP	Contact
Status LEDs		WPB

Approvals and Compliance	Europe (EEA/EFTA/UK)	USA	Canada
Safety Marks	CE	$_{C}$DEKRA$_{US}$	
Safety	EN 60950-1 EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013; EN 62368-1:2014 + A11:2017	UL 60950-1:2007; UL 62368-1:2014; CAN/CSA C22.2 No. 60950-1:2007; CAN/CSA C22.2 No. 62368-1:2014	
EMC	ETSI EN 301 489-1 V2.2.3; ETSI EN 301 489-17 V3.3.0; EN 55011:2016 + A1:2017 + A11:2020; EN 61000-6-4:2019 EN 61000-6-2:2019	CFR 47 Part 15, subpart B and C; CFR 47 Part 18	Pending
RF	ETSI EN 300 328 V2.2.2	FCC Part 15.247; FCC Part 15.209	Pending
EMF	EN IEC 62311:2020	FCC 47 CFR Part 2.1091; FCC 47 CFR Part 1.1307; FCC 47 CFR Part 1.1310; IEEE Std C95.3-2021;	Pending

1) WPB connected AC, but not charging.
2) WSU connected to battery and not charging.
3) Class B available on request
4) WPP always delivered with heatsink which can be removed

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