

# 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

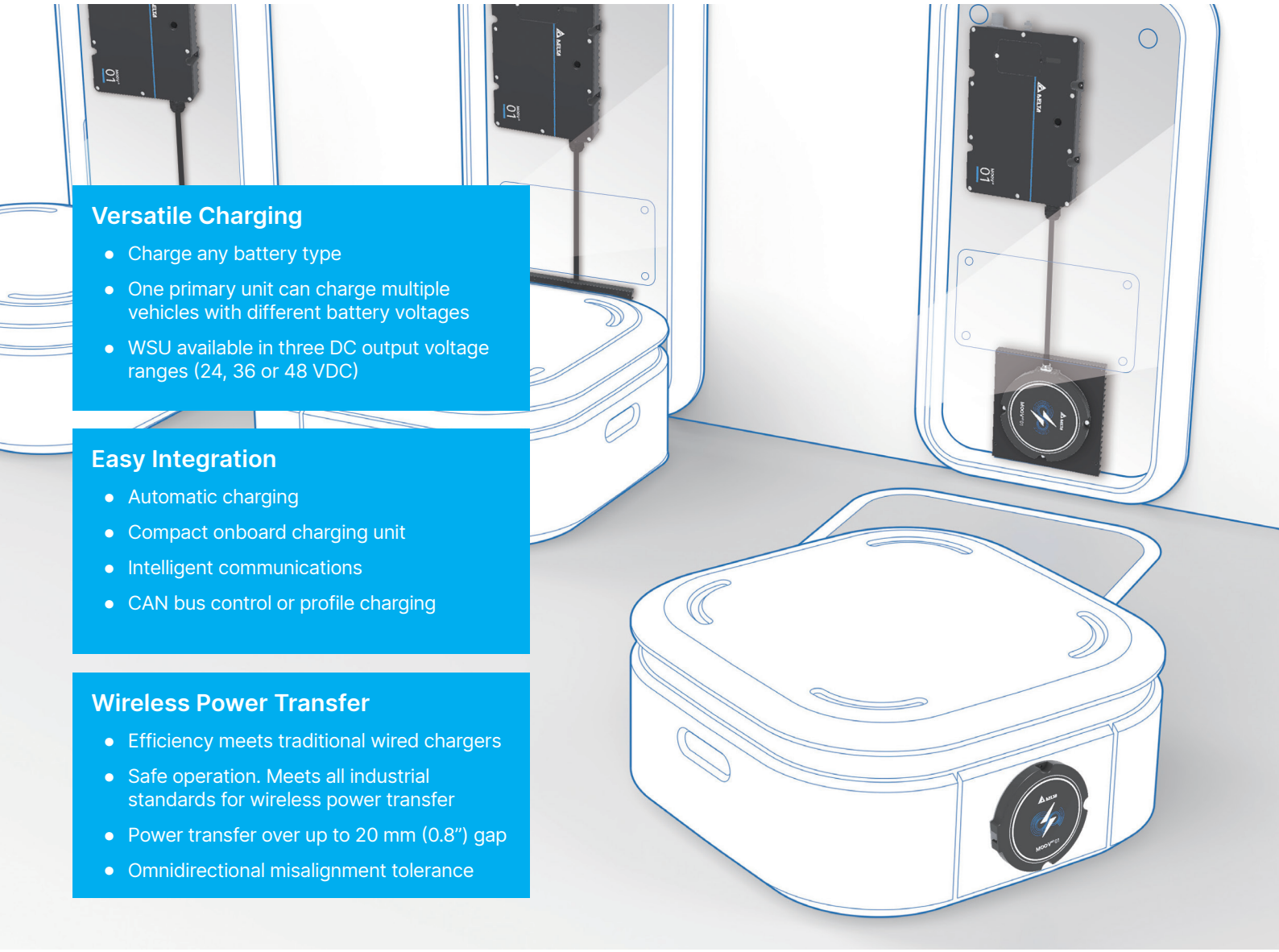
Wireless Power Transfer

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)

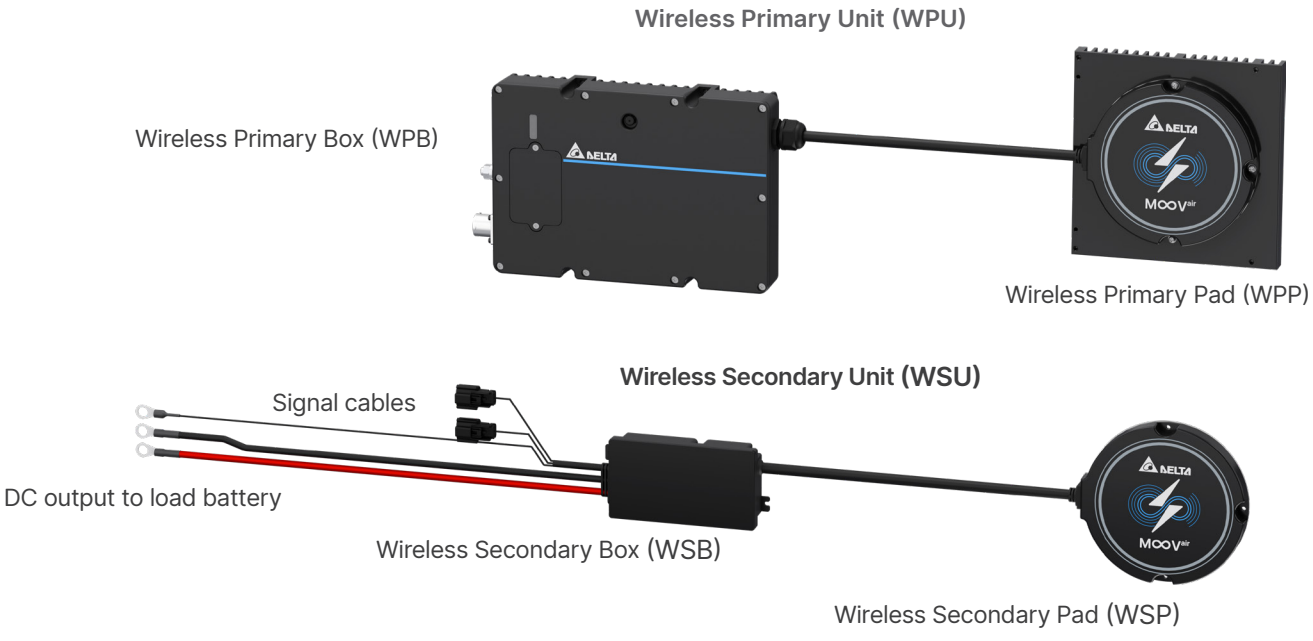
## Easy Integration

- 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<br>EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013;<br>EN 62368-1:2014 + A11:2017 | UL 60950-1:2007;<br>UL 62368-1:2014;<br>CAN/CSA C22.2 No. 60950-1:2007;<br>CAN/CSA C22.2 No. 62368-1:2014 | |
| EMC | ETSI EN 301 489-1 V2.2.3;<br>ETSI EN 301 489-17 V3.3.0;<br>EN 55011:2016 + A1:2017 + A11:2020;<br>EN 61000-6-4:2019<br>EN 61000-6-2:2019 | CFR 47 Part 15, subpart B and C;<br>CFR 47 Part 18 | Pending |
| RF | ETSI EN 300 328 V2.2.2 | FCC Part 15.247;<br>FCC Part 15.209 | Pending |
| EMF | EN IEC 62311:2020 | FCC 47 CFR Part 2.1091;<br>FCC 47 CFR Part 1.1307;<br>FCC 47 CFR Part 1.1310;<br>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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Product Webpage


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