PREDIXON

PREDIXON OMNIPLUG MC-11

Many Vehicles on One Site, Smart Management from One Point — Clustered AC Charging System

121 kW total	11 × Type 2	IP54 / IK10	OCPP 1.6J

Overview

The Predixon OmniPlug MC-11 is a centrally managed charging cluster that charges 11 vehicles simultaneously on one site. It consists of one Master unit, which handles user interaction via a touchscreen and RFID reader, and 10 simple, cost-efficient Satellite units connected to it over a data bus. The Master unit runs the user experience, the cluster's load management and back-end (CSMS) communication from a single point.

Key Features

- Central Management: The entire 11-socket cluster is monitored and managed from one Master unit.
- Built-in Load Management (LMS): Dynamically shares the site's grid capacity across active sessions.
- Flexible Authorization: RFID card/tag or mobile app (QR/BLE).
- Offline Operation: With a local authorization list, authorized users can charge even during network outages.
- Modular Expansion: Satellite units are daisy-chained over the data bus and scale with site needs.
- Smart Status Tracking: Independent LED status ring per socket (Idle / Connected / Charging / Fault).

1. Enclosure & Mechanical

Master Unit Dimensions (W×H×D)	500 × 1650 × 350 mm (preliminary)
Satellite Unit Dimensions (W×H×D)	350 × 1400 × 300 mm (preliminary)
Enclosure	Powder-coated sheet metal; top light strip on the Master unit, LED status ring on Satellite units
Protection Class (IP/IK)	IP54 / IK10
Operating Temperature	-25 °C to +50 °C
Mounting	Fixed indoor/outdoor installation on a floor anchor plate

2. Electrical Connection & Power

Charging Power per Socket	11 kW (3-phase) / 7.4 kW (1-phase) — software-selectable
Input Voltage	400 V AC (±10%), 3-phase + N + PE
Rated Current	16 A (per socket)
Total Connected Power	121 kW (nominal) — dynamically shared by the LMS within the site power limit
Connector Type	11 × Type 2 (IEC 62196-2), LED ring, tethered cable
Total Sockets	11

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3. Electrical Protection & Energy Metering

DC Leakage Protection	DC residual-current sensor per socket
Overcurrent Protection	Contactor + MCB/RCD (in the upstream distribution board, with MID meter)
Emergency Stop	Mechanical/lockable emergency-stop button on the Master unit — stops the whole cluster
Electric Shock Protection	Class I protection, PE earthing continuity monitoring
Energy Metering	MID-approved built-in meter per socket — RS-485 communication

4. Network, Communication & Authentication

Communication Protocol	OCPP 1.6J
Network Connectivity	Ethernet (primary) + 4G/LTE (backup) — uninterrupted CSMS communication
Authentication	RFID card/tag (ISO 14443A) or mobile app (QR / BLE)
Authorization Flow	Card/tag tap → local validation or central CSMS approval → charging starts / is declined

5. User Interface & Smart Features

Display	10.1" capacitive touchscreen HMI on the Master unit — socket selection, tariff/balance info, QR code display
LED Status Indicator	Smart LED ring on Satellite units (Idle / Connected / Charging / Fault)
Load Management Modes	Static (fixed current limit) and Dynamic (real-time redistribution, phase-imbalance monitoring) modes
Priority Rules	Configurable priority/reservation engine for fleet vehicles, VIP users and similar scenarios

6. Standards & Certification

Charging Standard	EN IEC 61851-1, EN IEC 61851-21-2, IEC TS 61439-7
Connector Standard	EN IEC 62196-1 / -2 (Type 2)
EMC	EN 61000-6-2 / 6-3, EN IEC 62368-1
Installation Standard	EN 60364-7-722
Residual Current Detection	EN 62955 (RDC-DD type)
Wireless Module Standards	ETSI EN 301 511/301 908 (4G/LTE), ETSI EN 300 328/EN 301 489 (BLE/Wi-Fi), EN 62311 (EMF exposure)
Compliance Directives	2014/35/EU (LVD), 2014/30/EU (EMC), 2014/53/EU (RED — where wireless components are fitted), 2011/65/EU (RoHS)

7. Maintenance & Customization

Commissioning Tests	Fan, controller, power module and contactor function tests
Firmware Updates	Remote updates via the central CSMS

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Service Access	Lockable service covers on Master and Satellite units

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