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Smart Charge Point Communications Controller

MANTARAY is an EV smart charge point controller add-in board providing OCPP communications and control of the charging process.

MANTARAY brings smart charging and load balancing to charge points via the industry accepted OCPP 1.6 communications protocol over Wi-Fi, Ethernet or mobile GPRS (2G). OTA (Over the Air) updates is an additional feature.

MANTARAY provides USB, RS485, RS232 and Ethernet communication interfaces for EVSE chargers. RS485 allows connection to mid-meters.
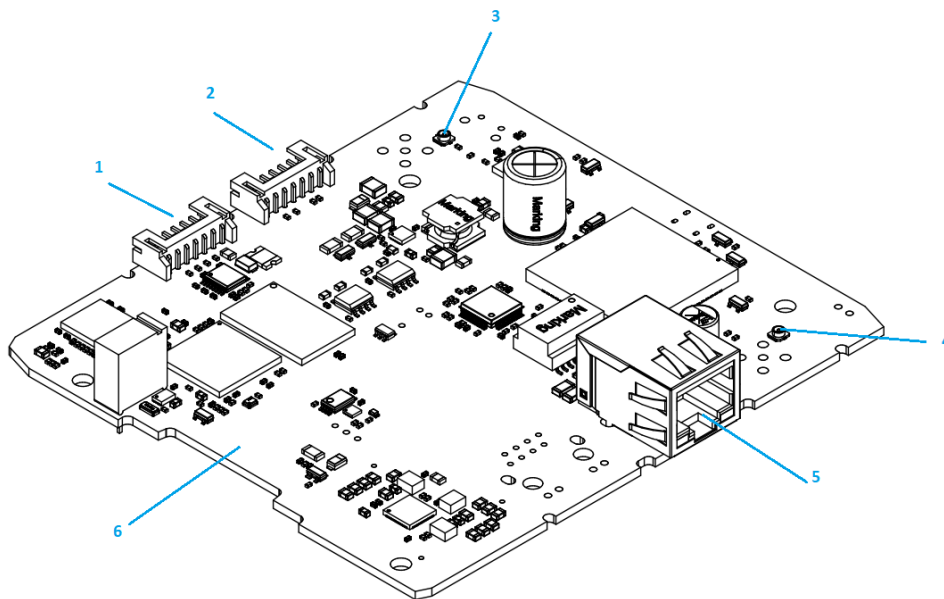
MANTARAY-enabled charge points can be connected together over Ethernet to provide load balancing between chargers. Dynamic load balancing with energy loads and sources is also possible. Multiple communication protocols can be supported.

Statistics can be gathered from each charging transaction enabling intelligent control via a building management system or CSMS (Charge Station Management System). This is a key function of the management of energy assets and plays a bigger role in V2G chargers.

MANTARAY has been designed to bring smart charging and load balancing to AC and DC chargers requiring OCPP communications and load balancing that can form the heart of your smart energy management chain.

Connectivity

Connector	Description
1	RS4851/RS4852/ 12VDC Input
2	RS232/3V3 DC Output power supply
3	UMMC (U.FL) Wi-Fi/Bluetooth External Antenna - SMA Fit option
4	UMMC (U.FL) Modem External Antenna - SMA Fit option
5	Ethernet Connection – 2nd port is a Fit option
6	LCD Expansion (Fit option)

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Supply Voltage	8-15V DC
Power Consumption	Nominal 1 Watt
Processor	High processing power, ARM applications processor with Flash storage and DDR memory
Communication	Onboard 4G Cat-M1 / GSM modem (Offboard antenna optional) 1 x 10/100Mbit RJ45 Ethernet connection Wi-Fi 2.4 GHz Bluetooth
Input/Output	RS232 - RFID interface 2 x RS485 USB LCD display expansion
kWh-meter interface	Read out of kWh-meters through RS485 connection
Workable temperature	-25 °C till +70 °C, 5% till 95%, non-condensing
Temperature Control	On-board temperature sensor on PCB
Back office connection	OCPP (JSON) 1.6 over Ethernet, Wi-Fi or GPRS OCPP (JSON) 2.0.1 planned
Updates	OTA (Over the air) updates
Display	High resolution screens supported