

Smart Charge Point Communications Controller

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

RAY brings smart charging and load balancing to any charge point via the industry-accepted OCPP 2.0 and 1.6 communications protocol over Wi-Fi, Ethernet or mobile GPRS.

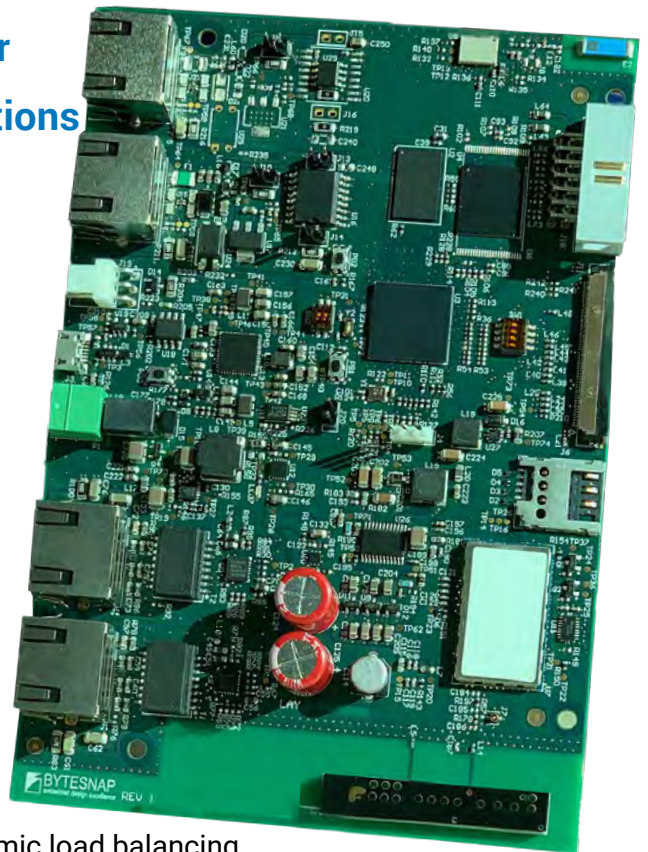
There is support for high resolution LCD screens.

RAY can interface with a charger via USB, CAN, isolated CAN, RS485, SPI and Ethernet.

The RS485 connection can also communicate to meters.

Static load balancing between chargers is possible where multiple RAY boards communicate with each other. Dynamic load balancing with building management system is also supported. The isolated CAN interface solves many communication issues when linking chargers together, avoiding earthing problems.

Statistics can be gathered from each charging transaction and reported back via OCPP - 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.



**RAY is low-powered and incredibly flexible
- bringing OCPP 2.0 and 1.6 to any EV charger**



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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	On board GPRS modem, with onboard antenna (offboard antenna optional) 10/100Mbit RJ45 Ethernet connection Wi-Fi 2.4 GHz
Input/Output	SPI interface RS485 GPIO USB 10/100Mbit RJ45 Ethernet connection CAN Isolated CAN
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 and 2.0 over Ethernet, Wi-Fi or GPRS
Updates	Remote firmware update
Display	High resolution screens supported

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