Proscend Compact Industrial Cellular Router M330-W5 for intelligent charging stations in electric-powered transport applications.

Background

The low-carbon smart mobility is starting to emerge in cities around the world since pollution is on the rise, fossil fuels are limited and with the ever-tighter emission norms. The wide adoption of electric vehicles (EVs) and electric two-wheelers are seen as a catalyst to the reduction of carbon dioxide emissions and more intelligent transportation systems. When the electric-powered transport are moving seamlessly into our lifestyle by cellular-phone applications or mobile-network solutions which deliver you information in real time, as well as integrated electronic fare-payment options, all services connected to the cloud.

Application Requirements

The extensive data systems are equipped with a communication unit in the intelligent charging stations that can monitor, and control the charging process to measure, collect, transmit, and display information to the mobile devices, like smart phones and portable tablets. The important task is to how make the intelligent charging stations easily for real-time communication, reliable transmission, and complete security.

Application Features

- **Easy-to-Use Modbus Protocol**

  Proscend's M330-W5 Industrial Cellular Router offers Modbus protocol that follows a master–slave model and provides a client/server communication between Ethernet-based Modbus/TCP equipment, and serial Modbus/RTU devices. With RS-485 serial interface, the M330-W5 Industrial Cellular Router as a Modbus gateway converts the Modbus TCP to the Modbus RTU protocol and sends the data to the connected RS-485 devices. For instance, the EV charging systems can be integrated with the M330-W5 Industrial Cellular Router to measure the power load conditions and communicate the results to the control center.

- **Flexible Wired and Wireless Connectivity**

  Proscend's M330-W5 Industrial Cellular Router utilizes existing equipment with RS-485, Ethernet, 4G LTE, or WiFi to enable monitoring and controlling locally via wired and wireless networks. For example, you can set up the charging power from using M330-W5 Industrial Cellular Router built-in RS-485 serial interface for load management. It is an

easy way without additional RS-485 connectors for your legacy serial devices. If the charging stations are not easy to deploy broadband fixed lines, the M330-W5 Industrial Cellular Router allows you to transmit over cellular networks. It can also be the best backup solution when the fixed line connection fails or is congested.

- **Hardened Design Uninterrupted Connections**
  Some of electric charging systems are set up outdoor parking lots in rigorous environments, or located with much electromagnetic interference to cause data loss. Proscend's M330-W5 Industrial Cellular Router is designed to withstand extreme climates in a wide temperature range of -30 to 70°C. With EMI (electromagnetic interference) protection, the M330-W5 Industrial Cellular Router can avoid interrupting or reducing the effective performance of the circuit in harsh industrial environments.

Product Used
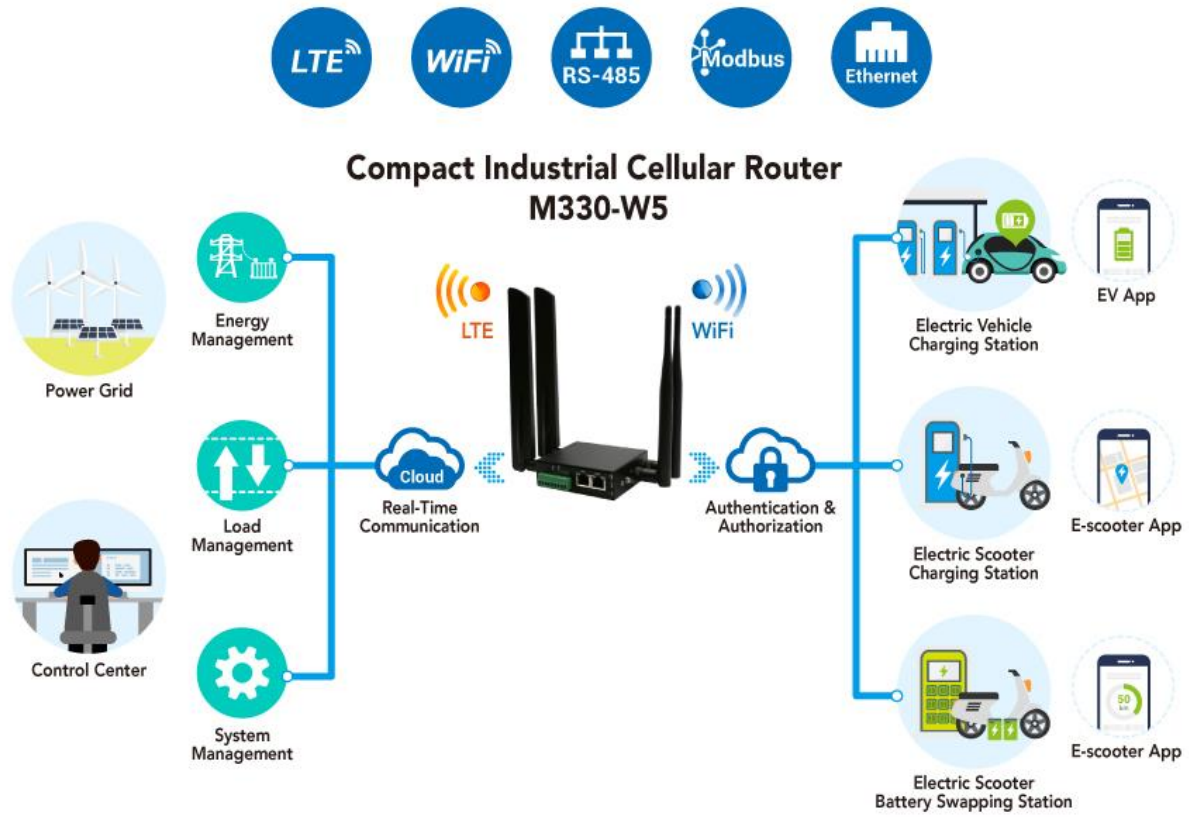

Compact Industrial Cellular Router M330-W

Compact Industrial Cellular Router M330-W5

- 1 x 10/100 Base-TX RJ45 LAN port; 1x 10/100 Base-TX RJ45 WAN port.
- Multi-band support for FDD LTE / TDD LTE / WCDMA / GSM / LTE Cat4.
- IEEE 802.11b/g/n Wi-Fi standards compatibility.
- Built-in micro SIM connector, RS-485 serial port, and DI/DO interfaces.
- Ultra-compact and lightweight metal design with DIN-Rail installation.
- LED indicators for connection and data transmission status.
- Industrial rated from -30 to +70°C for use in harsh environments.
- Flexible power supply range of 8-48 VDC.
- IPv4 and IPv6 dual stack management.
- VPN tunnels, Firewall and cryptographic protocols for cybersecurity.
- Support serial communication protocols for M2M connectivity.

Application Topology

The Industrial Cellular Router M330-W5 supports LTE/WiFi/RS-485/Ethernet interfaces for EV charging applications.