Fast and Secure Network Solution for EV Charging Stations

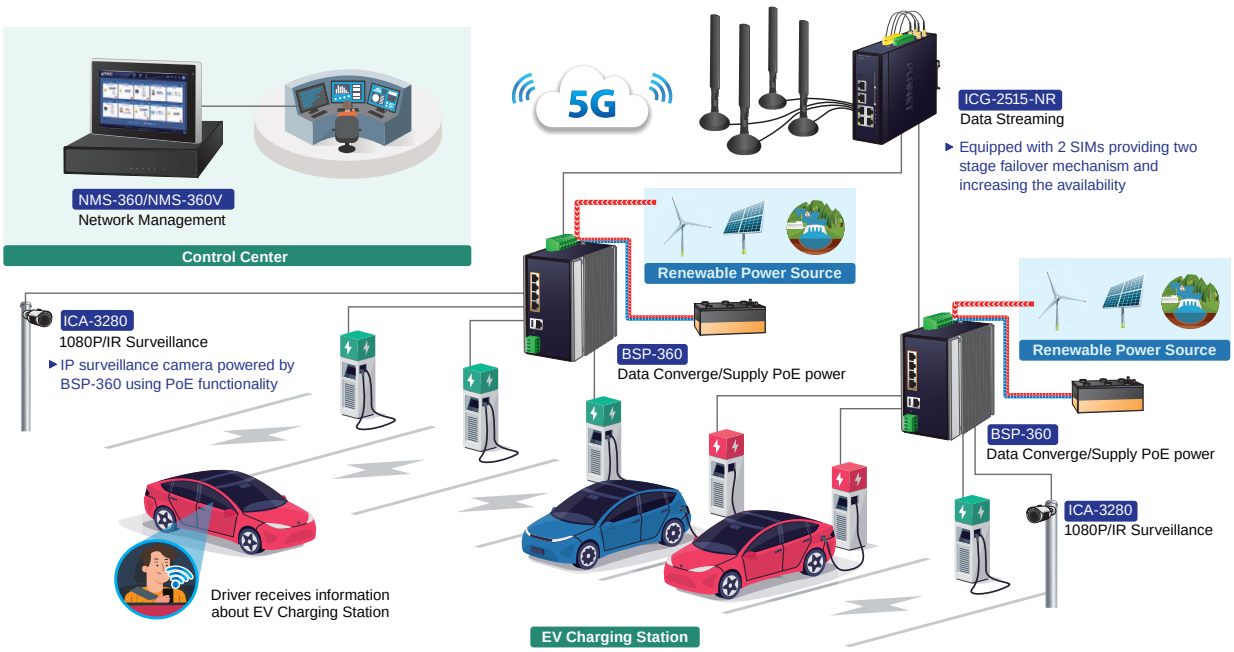
Charging stations for commercial electric vehicles (EVs) are becoming popular among consumers as more people want to save costs on fuel, reduce the usage of gasoline and reduce carbon emissions. These stations will usually provide useful information to the station operators such as accurate power measurement, device management and data security so that the operators can ensure the availability, timely maintenance and appropriate pricing policy adoption.

The Challenge

The key element is to provide EV station operators with a fast, accurate and efficient way to quickly receive the information they need about each charging station. Therefore, a stable network connection is the most crucial issue that needs to be addressed before the charging service can be delivered.

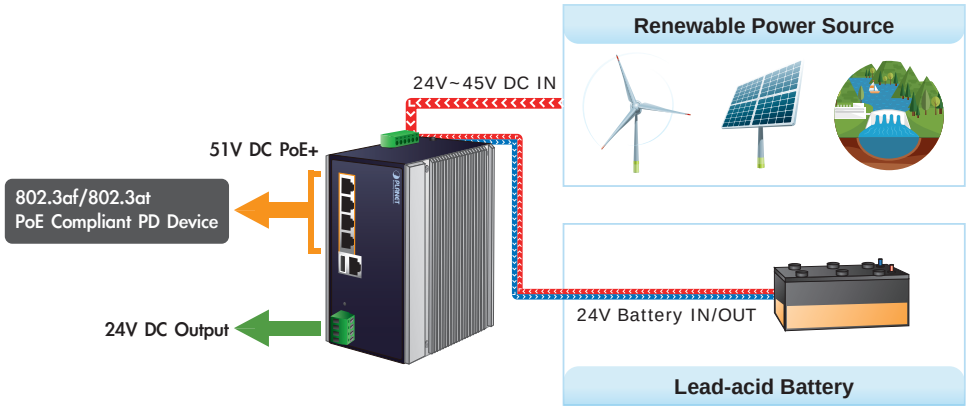
The Solution

By utilizing a Renewable Power Managed Ethernet Switch (BSP-360), the network connectivity of the charging station can achieve power independence which is able to collect renewable power on its own and send data via the 5G NR Cellular Gateway (ICG-2515-NR) to the station operator. The 5G NR network will allow charging service providers to efficiently send useful information to the users such as station locations, station availability, pricing information, etc. The entire network can be easily monitored and managed by the Renewable Energy Management Controller (NMS-360, NMS-360V) which can automatically detect up to 512 remote devices powered by BSP-360.



Zero-Carbon and Stable Power Supply

The 24V lithium or lead-acid battery gets recharged by way of the BSP-360 where solar power is sourced. Thus, the BSP-360 will keep powering PD devices without the need of any cabling from the main power grid. Its zero-carbon feature is made possible as the energy the unit gets is renewable. Most importantly, the operation of outdoor wireless IP-based surveillance can be continued into the night as the battery is charged during the day.



ICG-2515-NR Series
5G NR Cellular Gateway

- Global 5G NR (NSA/SA)/4G LTE network with dual SIM design for cellular network redundancy
- SSL VPN and robust hybrid VPN (IPSec/PPTP/L2TP over IPSec)
- Stateful packet inspection (SPI) firewall and content filtering
- Blocks DoS/DDOS attack, port range forwarding
- 1000x fiber port up to 120km (ICG-2515F-NR)
- IEEE 11ax Wi-Fi capability (ICG-2515FW-NR)

BSP-360
Renewable Power Gigabit Managed Switch/Router

- 5-port 10/100/1000BASE-T Gigabit RJ45 copper with 4-port IEEE 802.3at/af PoE injector function
- Complies with IEEE 802.3at Power over Ethernet Plus end-span PSE
- Supports PoE power up to 36 watts for each PoE port

NMS-360
Renewable Energy Management Controller

- Watch over energy usage level, and system and device events within minutes
- App-like device table to directly oversee energy usage status, etc.
- Real-time centralized monitoring with configuration of PoE
- Instant E-mail alarm function

NMS-360V
Renewable Energy Management Controller with LCD Touch Screen

- Integrates SNMP, ONVIF, and MQTT protocols and PLANET Smart Discovery
- Auto discovery of up to 512 BSP-360
- Event alert notification via e-mail
- Map view and monitor snapshot from IP camera

PLANET Networking & Communication

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