Success Story

EV Charging Station Safety

(New Taipei City Government, Taiwan)

Customer Background

Fortune Electric is one of the leading publicly traded heavy electrical machinery manufacturer in Taiwan. The company has been staying with the belief of Quality, Involvement, Welfare and Sustainability as the guide of the management and operations. In 2015, Fortune Electric created a new brand - EVALUE , with the spirit of conveying electricity and connecting the world. Successfully integrate electric vehicle related resources in our group and introduce a wide range of new products and innovative services. Including the construction of charging piles and charging stations for electric vehicles and electric scooters, high-efficiency charging equipment, intelligent cloud charging station management systems, home charging pile inspection and installation services, etc. Fortune Electric continues to build electric vehicle charging stations across Taiwan, which are compatible with all types of electric vehicles in Taiwan, and are equipped with a self-built cloud system and car owners' mobile APP to provide the most complete charging network environment and friendly charging services.

Project Background

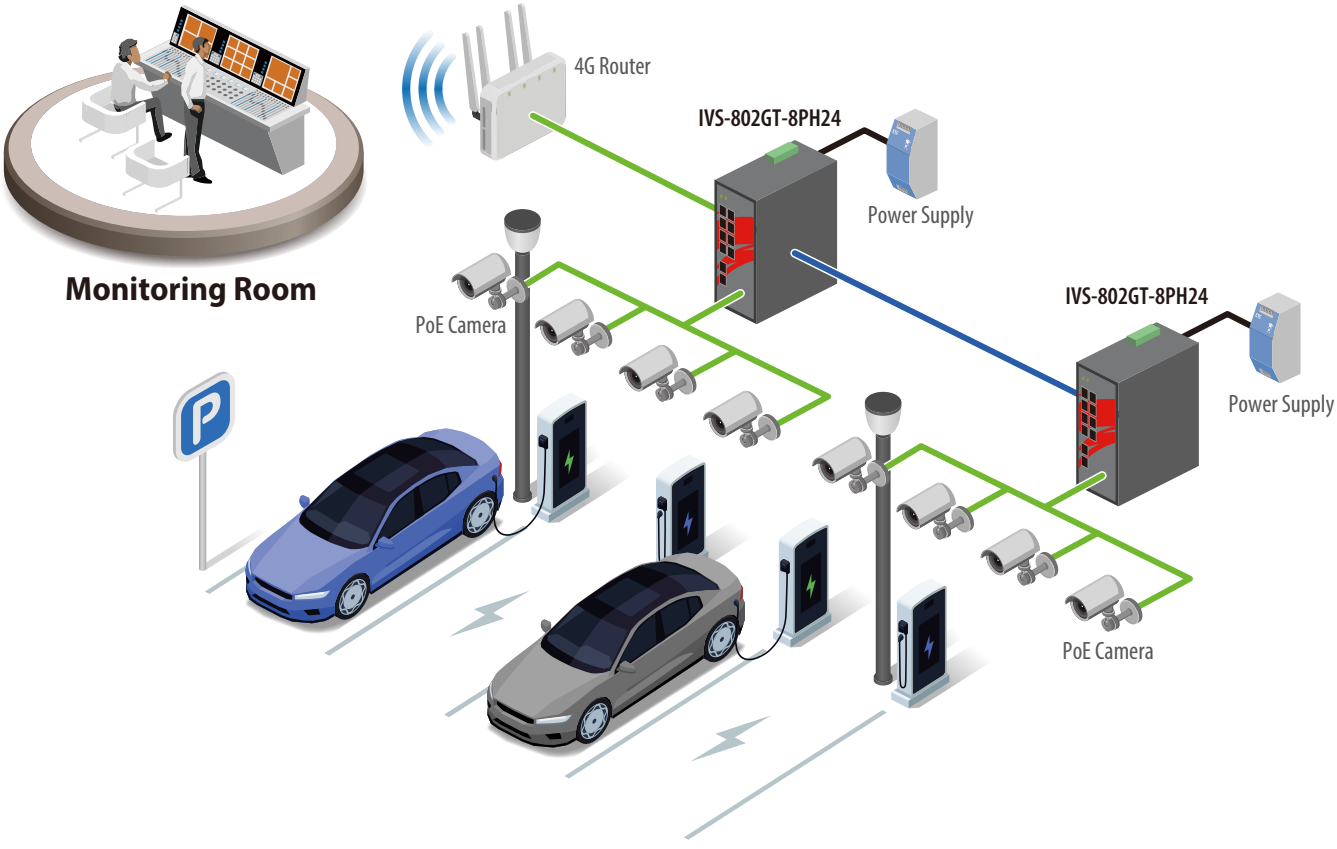
Along with the booming sales of electric vehicles (EV), the demands of EV charging stations are also rapidly growing. To provide timely EV charging services, our customer, EVALUE, which is a leading company in building up and maintaining EV charging stations has provided various charging services in different scenarios such as at home, at workplace, or in a public location for EVs. In a recent large-scale project, EVALUE deployed EV charging stations in New Taipei for parked EVs that cover everything from the design and construction to the safety and cybersecurity of the EV charging station. However, in this success story, it only illustrates practical measures that are established to guard against potential loss emerging from electrical and fire hazards and to strengthen security and cybersecurity measures by using easy-to-install and easy-to-maintain switch devices.

Unlike traditional gasoline stations that are normally staffed with service attendants, EV charging stations are usually unstaffed or lacking sufficient service attendants. In this situation, EV owners have to manually and correctly top up their electrical cars on their own under scarce staff supports. Due to this reason, our customer, EVALUE, took the safety of EV charging station as the first priority and adopted several security measures to mitigate or minimize losses initiating from inappropriate charging operations or unpredictable hazards such as electrical or fire accidents. Therefore, in this project, EVALUE installed our IVS-802GT-8PH24 to facilitate and strengthen security measures. The safety demands of EVALUE project are outlined below:

Demands of the EVALUE Project

- The EVALUE project requires stable and reliable data transmission of usage analytics, video footage via IP-based Ethernet services.
- The EVALUE project needs to provide power over Ethernet services to the attached powered devices such as IP surveillance cameras.
- The IP-based Ethernet devices should be easy enough for on-site personnel to install, maintain and expand in future projects.
- The device should be able to withstand the wide range of temperature changes or extreme weather conditions such as scorching summertime, raining days, snowfalls and withstand surge and ESD in certain worse environment conditions.
- The device should be able to inter-connect to other devices such as EMS system in the same project via IP-Based Ethernet protocol.

Project Topology



Topology Descriptions

EVALUE, as the installer and maintainer of the EV charging station , identified the security of this unstaffed EV charging station in the public area as the first priority. Therefore, in this story, they used many multi-port switch devices to provide power to the attached IP cameras that help to reduce risks of potential electrical or fire hazards when connecting, disconnecting and charging vehicles. These switch devices are also industrial grade and certified with E-Mark, CE, FCC certification that can be installed outdoors in extreme weather conditions.

CTC's Solution

The product selected to strengthen security measures is IVS-802GT-8PH24 which is a cost-effective, fanless, wall-mounted or DIN-Rail enabled switch that can withstand wide range of temperature changes from -40°C to 75°C. Therefore, it is a perfect device especially for outdoor applications that may undergo extreme weather conditions. IVS-802GT-8PH24 is equipped with 2 RJ-45 uplinks and 8 RJ-45 Ethernet ports that provide maximum 30W power each port to the attached powered device. With multi-port design, IVS-802GT-8PH24 can connect to end devices such as IP charging sensor to collect charging status (voltage, current and charging time) from charging stations and IP cameras to collect real-time video images.

Features of Product

- Compact, IP30 rugged mental housing and fanless design
- Easy and quick wall-mounting or DIN-rail installation procedures
- IP-based Ethernet connection via RJ-45 ports
- Compatible with other IP-based Ethernet devices
- Wide range DC power input (12/24/48V) with terminal block
- Wide operating temperature range of -40°C to +75°C
- E-Mark, CE, FCC certified

IVS-802GT-8PH24

Conclusion

IVS-802GT-8PH24 deployed in EVALUE's newly-established EV charging stations are relatively easy to install and maintain and they play a major role in strengthening security quality of EV charging stations by providing stable and reliable Ethernet transmission services. All in all, the feedback from our customer, EVALUE, is positive in regard to security and safety of charging station sites. We believe that our products, not only IVS-802GT-8PH24 but also many other industrial grade products can be incorporated in projects or scenarios just described in this success story. For more information on our products, be sure to keep an eye on our recent updates and success stories.

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