



Choose the Right Industrial Power Supplies for EV Chargers

EV charging is one of the fastest-growing business verticals in the world. This article aims to provide EV charger manufacturers with a power supply selection guide, allowing them to focus on developing the core competencies of their end systems.

Inside EV Chargers

There are several sub-systems inside typical DC EV chargers requiring reliable industrial switching power supplies.

MCU The main control unit or controller of the EV charger requires power to manage charging sessions, communicate with the vehicle, handle user interfaces, and monitor safety features.

Connectivity EV chargers often include communication modules such as Ethernet switches, 5G routers, Wi-Fi modules, cellular modems, or other networking equipment. These modules enable communications with central management systems, user apps, and other charging stations.

Sensors and safety devices DIN rail power supplies might provide power to sensors (such as current sensors, temperature sensors, and proximity sensors) and safety devices (like emergency stop buttons) that are part of the charger's safety mechanisms.

Logic control circuits and relays Various logic and control circuits that manage the overall charging process, handle user interactions, and ensure safety are powered by these power supplies.

HMI If the EV charger has a user interface like an LCD screen, touch panel, or LED indicators, the power supply can provide power to these components.

Lighting, fans and other accessories Some EV chargers have integrated lighting to enhance visibility, especially at night. Some EV chargers are equipped with fans to improve heat dissipation. These components can be powered by DIN rail power supplies.

Access control systems If the charger requires access control mechanisms like RFID readers or biometric sensors, these components could be powered by DIN rail power supplies.

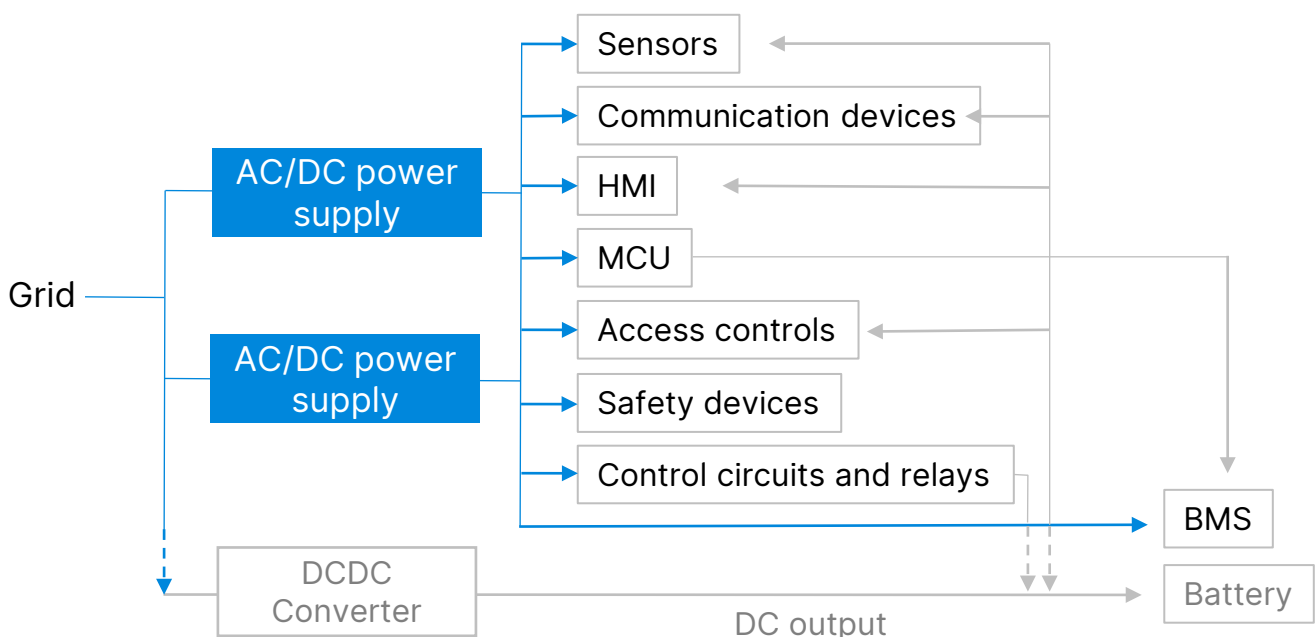


Figure: an N+1 system design of a DC EV charger with two industrial switching power supplies.

The Power Supplies Most Chosen by Our EV Charger Customers

	CLiQ M Series	CHROME Series	Force-GT Series	LYTE II Series	PJT Series
					
Output power range	80W~960W	10W~100W	120W~960W	120W~480W	40W~150W
Format	DIN Rail	DIN Rail	DIN Rail	DIN Rail	Open Frame
Special features and advantages	<ul style="list-style-type: none"> • DNV GL and ABS maritime approvals for salt spray protection • 1/2/3-phase available 	<ul style="list-style-type: none"> • NEC Class 2 and Limited Power Source (LPS) fire protection approvals • Space efficiency • 1-phase available 	<ul style="list-style-type: none"> • Built-in constant current circuit for charging applications • 1/2/3-phase available 	<ul style="list-style-type: none"> • Built-in constant current circuit for charging applications • 1-phase available 	<ul style="list-style-type: none"> • For distributed power system design • 1-phase available
	Learn more	Learn more	Learn more	Learn more	Learn more

*[Visit our website](#) for the complete model list and detailed specifications.



CLiQ M Series DIN Rail Power Supply

[CLiQ M Series](#) is one of the most environmentally-resistant DIN rail power supplies on the market. It is DNV GL and ABS certified to operate in the maritime environment, making it ideal for EV chargers installed in coastal areas. Although the housing of EV chargers usually provides sufficient protection for their internal components, maritime-grade durability adds extra reliability to the CLiQ M Series in extreme conditions.

CHROME and CHROME II Series DIN Rail Power Supply

Choose the [CHROME](#) or the latest [CHROME II Series](#) when you want to provide your EV chargers with additional protection against fire risks. Originally engineered for building automation applications, these series are NEC Class 2 and Limited Power Source (LPS) approved, ensuring the highest level of fire safety. These series are also ideal for EV chargers with limited internal space, as it has a smaller footprint than its counterparts.



Force-GT and LYTE II Series DIN Rail Power Supply

[Force-GT](#) and [LYTE II](#) Series are general-purpose power supplies that meet most industrial requirements, including wide operating temperatures, space efficiency, and energy efficiency. The higher-end Force-GT Series also features 2/3-phase models for situations where greater power density is required. Notably, their built-in constant current circuit makes them ideal for charging applications.

The General-Purpose Power Supplies Most Chosen by Our EV Charger Customers

Force-GT Series

LYTE II Series



Output power range	120W~960W	120W~480W
Power de-rating*	1-phase > 60°C de-rate power by 2.5% / °C 3-phase > 55°C de-rate power by 2.5% / °C	> 40°C de-rate power by 1.67% / °C @ 115 Vac > 50°C de-rate power by 2.5% / °C @ 230 Vac
Phase	1/2/3-phase available	1-phase available
Advantages	<ul style="list-style-type: none"> • Long life electrolytic capacitor • Built-in DC OK relay and LED indicator • Conformal coating on PCBAs to protect against common dust and pollutants 	<ul style="list-style-type: none"> • Economic model that meets common industrial requirements

*Visit our [website](#) for the complete model list and detailed specifications.

[Learn more](#)

[Learn more](#)

PJT Open Frame Power Supply

DIN rail is a popular power supply format for centralized power system design. In case you need a distributed design, choose open frame power supplies with similar features. [PJT series](#) is recommended and has been chosen by some of our customers. Notably, open frame power supplies offer the flexibility of mounting onto any surface, providing versatility in deployment for various applications.



Need help with model selection? Talk to us.

If you're still not sure which power supply is the best fit for each component, please don't hesitate to [contact us](#). We will provide you with more details on how to choose the right model for each critical sub-system inside EV chargers, taking into account power requirements, environmental conditions, thermal needs, space limitations, and budget.

