

LCR100040A

40KW@1000V Liquid Cooling Charging Module



+ Introduction

LCR100040A is a high-frequency isolated liquid-cooled AC/DC charging module with core advantages such as ultra-wide voltage range, ultra-high full load liquid cooling operating temperature, super high efficiency. Additionally, liquid cooling for high protection, zero noise, high power density is the main features of this module. Widely applied in DC charging stations, suitable for harsh environments such as seaside areas, mining sites, and processing plants, as well as urban and residential areas.

+ Excellent advantages

Wide DC output voltage range **50-1000_{Vdc}**

Wide DC output voltage range of 50-1000Vdc to meet the charging voltage requirements of various electric models and battery packs.

High Protection and Reliability

Internal components transfer heat via liquid, minimizing the risk of external corrosive dust and conductive particle intrusion.

EMC meets the requirements for **Class B**

Meet requirements for CE and UL certifications.

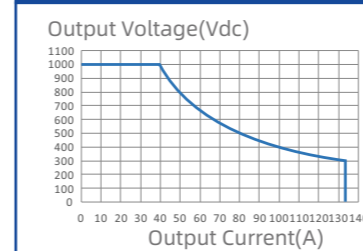
Zero Noise

Liquid cooling for silent operation, ideal for residential and office areas.

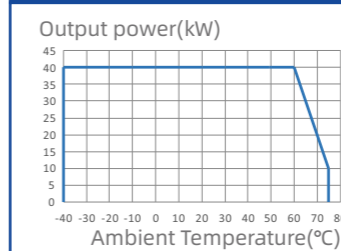
+ Key features

- Utilizes full liquid cooling technology to enhance heat dissipation efficiency;
- Wide constant power range of 300-1000V enables fast charging for vehicles with different voltage levels;
- Full-load efficiency exceeds 95.5%, ensuring high efficiency across the entire operating range and saving electricity;
- Industry-leading volume design with a power density of 41W/in³, saving space and volume in charging station design;
- Quick-pulg design for water inlet and outlet, allowing for leak-free module replacement;
- Fully digitalized control with dual DSP design, enabling comprehensive digital control of the charging module;

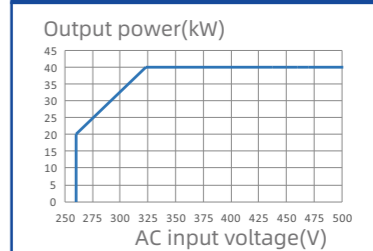
Output Voltage vs.output Current Curve



Temperature Derating Curve



AC input Power Limiting Curve



Item		Specifications
Basic Specifications	Dimensions	340mm (H) ×100mm (W) ×470mm (D)
	Weight	≤ 28 kg
	Efficiency (full load)	>95.5%
	Standby Power Consumption	<13W+/-0.5W
	Cooling Mode	Liquid cooling
	Communications bus protocol	CAN bus
	No. of Parallel Modules	≤60pcs
Input Characteristics	Indicator	Green / Yellow / Red
	Input Voltage	260 ~ 530 VAC, 3-Phase+PE, 45~65Hz
	Input Current	<80A
	Power Factor	≥0.99
Output Characteristic	ITHD	≤5%
	Output Power	40KW
	Voltage Range	100Vdc ~ 1000Vdc
	Current Range	0A~133.3A
	Voltage stabilized accuracy	≤±0.5%
	Current stabilized accuracy	≤±1%
Environmental Specifications	Current Sharing Imbalance	≤±3%
	Peak-Peak Ripple	≤1%
	Operating Temperature	- 40°C ~ +75°C, output derating at above 60°C
	Storage Temperature	- 40°C ~ + 75°C
	Relative Humidity	≤ 95% RH, non-condensing
Protection Specifications	Altitude	≤2000 m
	MTBF	>500,000 hours
	Input Over/Undervoltage Protection	Automatic recovery after power-off
	Output Overvoltage Protection	Manual recovery after power-off
	Overcurrent and Short-circuit Protection	Manual recovery after power-off
	Over temperature Protection	Automatic recovery after power-off