

LCR100040A

40kW@1000V Liquid Cooling ACDC Power 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. Suitable for harsh environments such as coastal areas and mining areas, with strong environmental adaptability.

+ 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.

Electromagnetic compatibility meets **Class B**

The electromagnetic compatibility meets Class B standards, boasting low electromagnetic radiation and robust anti-interference capabilities.

Ultra-wide output voltage range, suitable for various electric vehicle charging scenarios, designed for fully liquid-cooled ultra-fast chargers.

High Protection and Reliability

IP50 protection rating. Full liquid cooling technology significantly improves heat dissipation efficiency.

Zero Noise

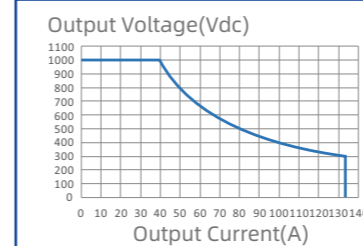
Featuring liquid cooling for silent noise operation, it is ideal for both residential and office areas.

Exceptional environmental adaptability allows for use in harsh environments such as seaside and mining areas.

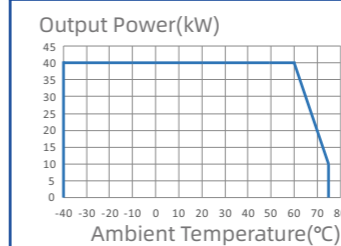
+ Key features

- Utilizes full liquid cooling technology to enhance heat dissipation efficiency;
- Hydroelectric isolation design for safety and reliability;
- 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, energy-saving;
- Industry-leading volume design with a power density of 41W/in³;
- Quick-pulg design for water inlet and outlet, allowing for leak-free module replacement;

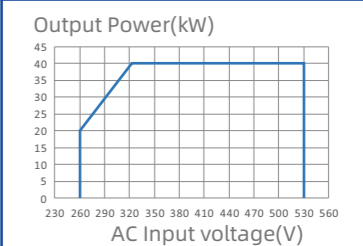
Output Voltage vs. Output Current Curve



Temperature Derating Curve



AC Input Power Limiting Curve



Item		Specifications
Basic Specifications	Dimensions	100mm (H) ×340mm (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: normal operation Yellow: alarm Red: fault
	Input Voltage	260 ~ 530 VAC, 3-Phase+PE, 45~65Hz
	Input Current	<80A
	Power Factor	≥0.99
Output Characteristic	ITHD	≤5%
	Output Power	40kW@output voltage≥300Vdc
	Voltage Range	50Vdc ~ 1000Vdc
	Current Range	0A~133.3A
	Voltage stabilized accuracy	≤±0.5%
	Current stabilized accuracy	≤±1%
	Current Sharing Imbalance	≤±3%
Peak-Peak Ripple	≤1%	
Environmental Conditions	Inlet temperature during operation(@10L/min)	- 40°C ~ +75°C, output derating at above 60°C
	Inlet temperature at storage env.(@10L/min)	- 40°C ~ +75°C
	Relative Humidity	≤ 95% RH, non-condensing
	Altitude	≤2000 m
	MTBF	>500,000 hours
Protection Specifications	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