UXC150030

40kW@1500V Isolated Unidirectional DC/DC Power Module

The UXC150030 is a high-voltage isolated unidirectional DC/DC power module. It features an ultra-wide voltage range, high full-load operating temperature, and high efficiency. The module also boasts high protection and power density. It is widely used in applications such as EV charging, photovoltaic power generation systems, energy storage systems, urban rail transit, and industrial equipment that require ultra-high voltage DC input/output.

+ Application scenarios

- Electric Vehicle Field
- Charging for MW-class mining trucks
- Energy Storage Systems
- Urban Rail Transit

+ Excellent advantages

Ultra-wide dual-end voltage range 200-1500Vdc

The input and output voltage ranges of 200-1500Vdc make it suitable for various charging scenarios and meet the fast-charging needs of different battery packs.

High conversion efficiency 98.5%

The module achieves a peak conversion efficiency of 98.5%, significantly reducing system energy loss.

EMC Class B compliance

Low electromagnetic radiation and strong interference resistance.

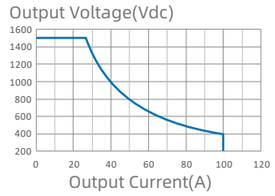
Wide constant power range

The module operates within a wide constant power range (input 500-1500Vdc, output 400-1500Vdc), meeting the fast energy conversion needs of different electric vehicle models and bus power supply environments.

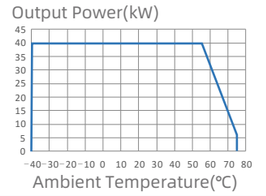
+ Key features

- Full load working temperature range-40~55℃;
- UHV DC input / output scenario application;
- 51.4W/in³ High power density, saving space;
- Fully SiC design for high efficiency across the entire range;
- Built-in high-frequency isolation transformer for enhanced safety and reliability;
- Fully potted protection greatly improve reliability, lifespan, and environmental adaptability;

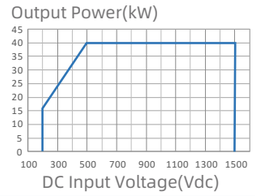
Output Voltage vs.Output Current Curve



Temperature Derating Curve



DC Input Power Limiting Curve



Item		Specifications
Basic Specifications	Dimensions	85mm (H) ×360 mm (W) ×416mm (D)
	Weight	≤17 kg
	Efficiency(peak)	≥98.5%
	Cooling Mode	Fan cooling
	Communication Bus Protocol	CAN Bus
	NO.of Parallel Modules	≤60 pcs
	Indicator	Green: normal operation Yellow: alarm Red: fault
Input Characteristics	Input Voltage	200 Vdc ~ 1500 Vdc , DC input + PE
	Input Current	< 80A
	Voltage Stabilization Accuracy	≤±0.5%
	Current Stabilization Accuracy	≤±1%
	Ripple Voltage Peak Value Coefficient	≤1%
	Current Sharing Imbalance	≤±5%
Output Characteristics	Output Power	40kW@Output voltage ≥400Vdc
	Voltage Range	200Vdc ~ 1500Vdc, default value: 200Vdc
	Current Range	0A ~ 100A
	Voltage Stabilization Accuracy	≤±0.5%
	Current Stabilization Accuracy	≤±1% （Output load @20% ~ 100% rated range）
	Current Stabilization Accuracy	≤1%
	Current Sharing Imbalance	≤±5%
Electrical Isolation Method	Electrical Isolation Method	High Frequency Isolation
Environmental Conditions	Operating Temperature	-40℃ ~ +75℃, output derating at above 55℃
	Storage Temperature	-40℃ ~ + 75℃
	Relative Humidity	≤95%RH, non-condensing
	Altitude	No derating@ 2000m. When altitude ≥ 2000m, operating temperature decreases by 1℃ for every 100m. The actual altitude value needs to be set @1000m
	MTBF	> 500,000 hrs
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