NXR1K020H

RoHS

20kW@1000V AC/DC Charging Power Module

NXR1K020H is a charging module designed to overcome the bottleneck of charging station industry with prominent advantages of ultra-high full load working temperature and ultra-wide constant power range in the industry. At the same time, key features of this module include high reliability, high efficiency, high power factor, high power density, wide output voltage range, low noise, low standby power consumption and good EMC performance.

+ Application scenarios

- Electric vehicle charging points in scenic areas
- Charging facilities accompanying gas stations
- Remote area emergency charging facilities
- Intelligent battery - swapping station

+ Excellent advantages

Full load working during ultra-high temperature: 55 ℃

Charging station is a product used for outdoor applications. During summer,air intake temperatures range from 50 to 60℃, posing a significant challenge for thermal dissipation in the charging power module. Many modules on the market cannot endure such high temperatures.

NXR1K020H works at full power under 55℃ ambient temperature, ensuring fast charging speed in high temperature environment.

Ultra-wide constant power range: 300–1000 Vdc

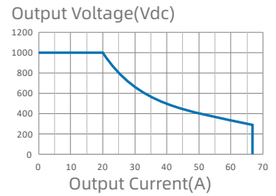
NXR1K020H offers an output voltage range of 50-1000Vdc, and maintains a constant power output of 20kW across the entire range from 300V to 1000V. Its exceptionally wide constant power output range sets an industry-leading standard among charging modules of similar size.

Ultra-wide constant power output range and is compatible in size with the NXR75030H, facilitating voltage level upgrades for chargers of the same dimensions.

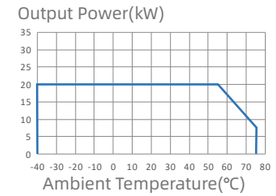
+ Key features

- Wide output voltage range of 50~1000Vdc, suitable for different types of EVs;
- Ultra low standby power consumption, under 8W for whole series of products;
- Full-power Wide working temperature range, -40~55℃;
- Full-load working efficiency ≥ 95.5%, high efficiency infull working range, extra energy saving;
- Ultra low noise, improving user experience;
- No current retraction in low voltage range, faster charging rate;
- Built-in residual voltage releasing circuit, lower cost and higher reliability;
- The same size as NXR75030H， compatible for interchangeability;

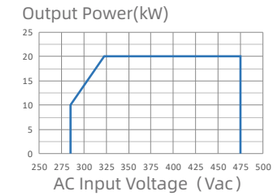
Output Voltage vs.Output Current Curve



Temperature Derating Curve



AC Input Power Limiting Curve



Item		Specifications
Basic Specifications	Dimensions	85mm（H）×226mm（W）×390mm（D）
	Weight	≤11kg
	Efficiency(full load)	≥95.5%
	Standby Power Consumption	<8W
	Cooling Mode	Fan cooling
	Communication Bus Protocol	CAN bus
	No.of Parallel Modules	≤60pcs
	Indicator	Green: normal operation Yellow: alarm Red: fault
Input Characteristics	Input Voltage	285Vac~475Vac,3P+PE
	Input Current	<40A
	Grid Frequency	45Hz~65Hz
	Power Factor	≥0.99
	iTHD	≤5%
Output Characteristics	Output Power	20kW@output voltage≥300Vdc
	Voltage Range	50V ~ 1000Vdc, default value： 200Vdc
	Current Range	0A~ 67A
	Voltage Stabilization Accuracy	≤±0.5%
	Current Stabilization Accuracy	≤±1%
	Current Sharing Imbalance	≤±5%
	Ripple Voltage Peak Value Coefficient	≤1%
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