

**SOLUM**  
EV Power



50kW EV Charging Module  
**SE05Q1KUFA/WCT**

Next Generation Power Module for  
Electric Vehicle Fast Charger

**SOLUM America Inc.**

65 Challenger Rd. Suite 220  
Ridgefield Park, NJ 07660

For more inquiries,  
Please contact:

**BJ Koo**

Power & Energy Solutions  
+1-408-618-5986  
bjkoo@solum.com

**SOLUM Europe GmbH**

Frankfurter Str. 10-14  
65760 Eschborn Germany

For more inquiries,  
Please contact:

**Hendrik Heime**

Group Leader, Power Modules  
+49 (0) 174 1763382  
hendrik.heime@solumesl.com

---

### Product Description

SE05Q1KUFA/WCT is an Ultra high-performance 50kW power module for EV chargers with advanced features. It has a compact design and high power density with a wide output voltage range and minimal ripple. It is equipped with various protection and alarm functions for safe and reliable operation.

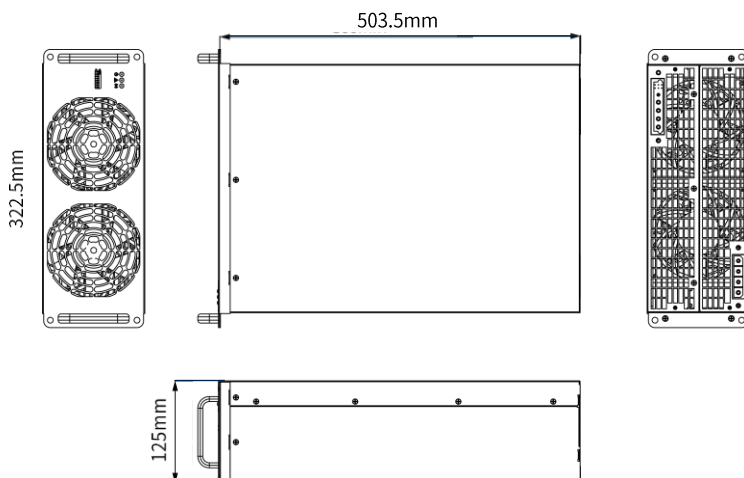


---

### Key Features

- Ultra-high efficiency > 97%, rated efficiency > 95.5% @ 1000V, 50A
- Compatible with the CCS Standard
- Compact Form Factor (W\*H\*D): 322.5mm\*125mm\*503.5mm
- Ultra-high-power density: up to 40.36W/in<sup>3</sup>
- Ultra-wide output voltage range: from 200VDC ~ 1000VDC
- Ultra-small output ripple voltage, peak-to-peak ripple = 2V
- Ultra-small standby power consumption: ~10W
- Complete protection and alarm features: input over/under voltage protection, output over voltage protection, over current protection, over-temperature protection, output under-voltage alarm, output short circuit protection, and fan failure alarm
- RGB LED for operation information
- CAN Bus communications with RJ45 : Easy to connect communication line through RJ45 connector and Tx/Rx can be checked with LED
- Group/module individual ID can be set (group 7, individual 14, total 98 can be connected)
- DSP digital control and supports voltage and current adjustments
- Built-in anti-battery reverse current protection circuit that supports Hot-Swapping
- Selectable fixed identification and verification of new addresses
- High life-time and high ripple current capacitor

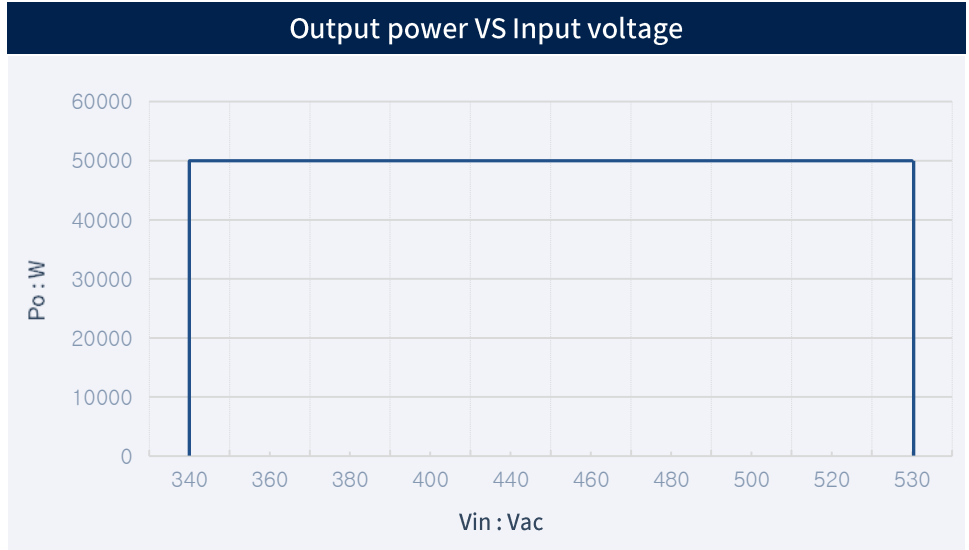
## Dimensions



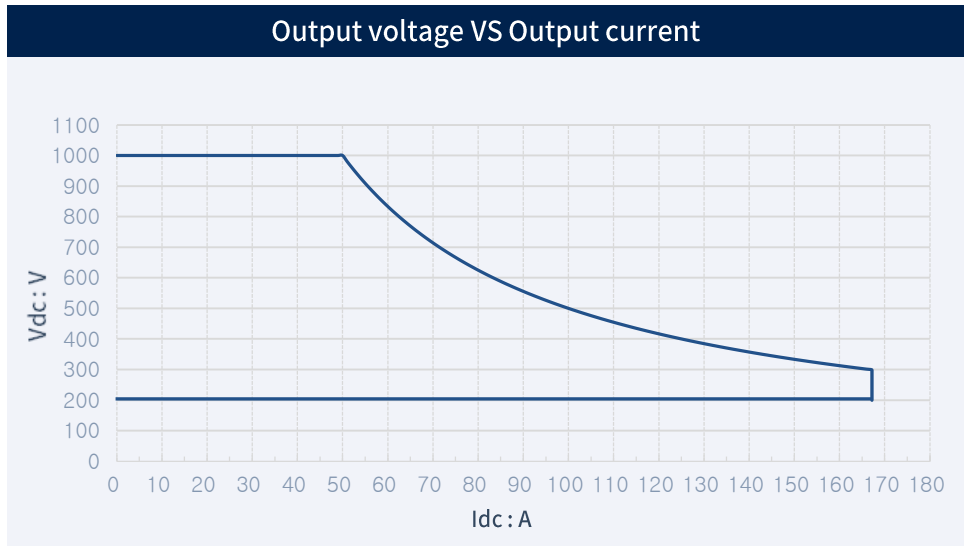
## Product Specifications (Preliminary)

DC Output	Output	1000V/50A
	Output rated power	50KW
	Output voltage range	200~1000V
	Output current range	0~167A
	Output overvoltage protection	1010±5V
	Output undervoltage alarm	140V±5V
	Short circuit protection	In event of a short circuit, module can automatically restore.
	Output voltage tolerance	≤±0.5%
	Max. startup overshoot	≤±1%
	Boot time	Start time 3s≤t≤8s
Efficiency	Highest efficiency>97.0%, rated efficiency>95.5%@1000V, 50A	
AC Input	Input voltage	380 / 400 / 480VAC (Nominal)
	Input frequency	50Hz / 60Hz
	Number of phases	Three-phase + Protected earth wire
	Power factor	Rated output load PF≥0.99
	THD	≤5%
	Max. input current	<89A
	Input undervoltage protection	340V±5V
Input overvoltage protection	535V±5V	
Communication & Alarm	Communication	CAN
	Max. No. of parallel machines Alarm and status	Group 7ea, individual 14ea Total 98ea Report to monitor via CAN bus and LED
Operating Environment	Operating temperature	From -40°C to 75°C
	Over temperature protection	On temperature >75°C±3°C or <-40°C±3°C, module will shut down automatically
	Storage temperature	From -40°C to 85°C
	Humidity	≤95% without condensation
Certification	Pressure / Altitude	70kPa~106kPa / ≤3000m
	EMI	IEC/EN 61851-21-2, Class B
	Safety	EN 61851-1, EN 61851-23, UL2202, CSA C22.2 NO.1701-16
Physical Characteristics	Noise	<67dB
	Cooling method	Fan cooling
	Weight	<30Kg
	Dimensions (W*H*D)	322.5mm * 125mm * 503.5mm

### Input Characteristics



### Output Characteristics



### Temperature Limited Power Characteristics

