



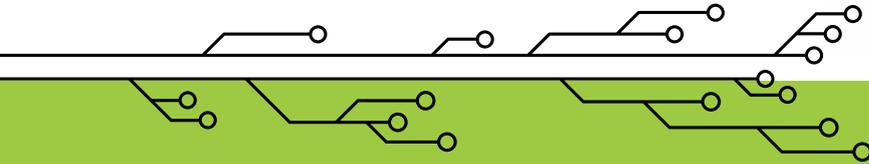
Driving Innovation,
Powering a Sustainable Tomorrow

10 kW Bi-Directional DC-DC Converter

SCS25BD400

A perfect solution for battery charging/discharging, energy-storage interfaces, and DC-grid power conversion.

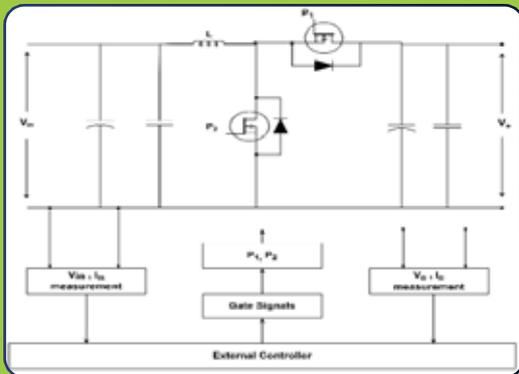
SCS's SCS25BD400 10 kW Bi-Directional Converter is a compact, modular, and easy-to-use DC-DC platform built using SiC/Si power switches, enabling high-efficiency and high-speed operation. As shown in the block architecture, the design offers a complete evaluation environment directly out of the box while maintaining full flexibility to tailor the converter for the target battery-storage or DC-microgrid application. The converter integrates a reinforced-isolated sensing stage for input/output voltage and current, high-speed gate drivers capable of 250 kHz switching, and a low-inductance PCB power stage. Thermal management is handled through an optimized heatsink and airflow system ensuring reliable operation under high power. This DC-DC platform is ideal for battery testing systems, EV charging modules, renewable-energy storage coupling, industrial DC power supplies, and bi-directional power-flow applications. A pre-flashed (50% duty PWM) microcontroller is provided for quick functional evaluation of both Buck and Boost modes.



Customizing it to meet the specific requirements or standards is possible.

SCS25BD400 Ratings

Symbol	Symbol	Min.	Typ.	Max.	Unit
P_{OUT}	Output Power	-	-	10	kW
V_{DC}	DC Bus Voltage	-	350	400	V
V_{AUX}	Auxiliary Voltage	22	24	25	V
I_{AUX}	Auxiliary Current	-	-	2	A
I_{OUT}	Output Current	-	-	25	A
f_s	Switching Frequency	-	-	250	kHz



*Note: For switching frequency above 100kHz, change in snubber components required for smooth switching voltages