Sorensen SFA Series

High Slew Rate Current Source

5–150 kW

60–160 V

31–2500 A

	208	400	480

ETHERNET GPIB LXI RS232

The SFA family builds on the industry leading Sorensen SGA series to provide a high power current source for laser diode applications. State of the art high power laser diodes require well-regulated current control to avoid catastrophic damage. Under anomalous operating conditions, excessive stored energy in the output circuit of the power supply can result in peak stresses that can permanently damage the device. Providing a constant current regulation mode only, the SFA's low stored energy output minimizes damage potential for sensitive devices as well as enabling a current slew rate of up to 400 A/msec.

Power	3U			6U		
	5 kW	10 kW	15 kW	20 kW	25 kW	30 kW
Voltage	Maximum Current *(parallel for higher current.)*					
60	83	167	250	333	417	500
100	50	100	150	200	250	300
160	31	63	94	125	156	188
Specifications (at nominal AC line and 25°C)						
Output Slew Rate (10-90% resistive load)	250A/ms (400A/ms typical) rise, 200A/ms typical fall; 160V model 87A/ms/5kW (145A/ms/5kW typical), 60A/ms, typical, fall					
Control Mode	Current Control Only					
Front Panel Meter Accuracy	Voltage ±0.5% of full-scale + 1 digit, Current ±0.5% of full-scale + 1 digit					
Load Regulation	(no load to full load, nominal AC input) Current 0.1% of rated output current					
Line Regulation	(±10% of nominal AC input) Current 0.05% of rated output current					
Current Ripple	1% p-p of full-scale current					
Transient Response	Output current recovers to within 1% of current setpoint within 1ms for a 10 to 100% or 100% to 10% step load change					
Current Overshoot	Maximum 8% of full-scale for 0 to 100% change into a resistive load					
Output Capacitance	60V Models <10 µF / 5 kW, 100/160V Models 3 µF / 5 kW					
Stability	±0.05% of setpoint after 8–hr. warm-up at fixed line, load, and temperature using remote sense					
Power Factor	>0.9 typical for 208/220VAC input, >0.78 typical for 380/400VAC input, >0.7 typical for 440/480VAC input					
Remote Analog Control	Current Setpoint Accuracy, ±0.8% of full-scale output; Overcurrent Protection, ±1% of full-scale output; Resistive Control, 0–5 Ω = 0-100% Current; Voltage Control, 0–5 or 0–10 VDC = 0-100% Current; Overcurrent Protection, 0–5.5 VDC = 0-110%					
Efficiency	87% typical at full load, nominal line					
Remote Control/Monitor	On/Off control via contact closure, 6-120 VDC or 12-240VAC, and TTL or CMOS switch, current monitor, OCP limit set, summary fault status					
Overvoltage Protection	Fixed at approximately 110% of the rating compliance voltage. Reset requires cycling the front panel standby power switch off/on					
Ethernet Control (optional)	LXI compliant 10/100 Base T Ethernet remote control with web server for direct control of power supply via web browser.					
Isolated Analog Control (optional)	Input to Output Isolation: 500 V Compliant with maximum terminal float voltage. Recommended operation under SELV normal conditions.					
Regulatory	Certified to UL/CSA 61010 and IEC/EN 61010-1, CE Compliant (LVD and EMC Directives), Input power options					
Input Power Configuration	3–phase, 3–wire plus ground. Not phase, rotation sensitive. Neutral not used.					
Input Power Voltage Selection	208/220 VAC±10%, 47 to 63 Hz, 380/400 VAC±10%, 47 to 63 Hz, 440/480 VAC±10%, 47 to 63 Hz					
Environmental						
Ambient Operating Temperature	0 to 50°C					
Storage Temperature	-25 to 65°C					
Temperature Coefficient	Current Setpoint 0.03%/°C of rated current					
Cooling	Internal Fans. Zero clearance stacking					
Humidity	0 to 90% at 40°C; 0 to 50% at 25°C, non-condensing					
Altitude	Full power at 5,000 feet, 10% derating of full power for every 1,000 feet above 5,000 feet					
Physical						
5 to 15 kW in 3U	19.00in W x 25.12in D x 5.25inH; 80 lbs., (48.3cm W x 63.8cm D x 13.3cm H; 36 kg)					
20 - 30 kW in 6U	19.00in W x 25.12in Dx 10.5in x H; 160 lbs., (48.3cm W x 63.8cm D x 36.7cm H; 73 kg)					
Accessories						
K550212-01	3U Rack Slides (for 5kW, 10kW and 15kW models)					
K550213-01	6U Rack Slides (for 20kW, 25kW and 30kW models)					