

ORENSEN (AMETEK)

DCS20-50E

The Sorensen DCS20-50E is a high-performance, 1000W switch-mode programmable DC power supply. Designed for ATE system integration, laboratory, and OEM applications, it offers a 0-20V, 0-50A output in a compact 1U rackmount chassis, combining low noise, excellent regulation, and diverse control options.

SPECIFICATIONS

General

Interfaces	Analog (standard); GPIB, RS-232, LXI/Ethernet (optional)
Display	Dual 3.5-digit LED displays for voltage and current

Physical

Power Supply	85 - 264 VAC (operating), 47 - 63 Hz, single-phase
Operating Temperature	0 to 50 °C °C
Dimensions (W×H×D)	482.6 × 44.4 × 444.5 mm mm
Weight	8.6 kg
Form Factor	1U Rackmount

Output Specifications

Rated Output Voltage Range	0 - 20 VDC
Rated Output Current Range	0 - 50 A
Maximum Output Power	1000 W
Voltage Ripple and Noise (RMS)	10 mV
Voltage Ripple and Noise (Peak-to-Peak)	75 mV
Current Ripple and Noise (RMS)	25 mA
Line Regulation (Voltage)	0.01% of maximum output voltage
Load Regulation (Voltage)	0.01% of maximum output voltage
Line Regulation (Current)	0.05% of max current
Load Regulation (Current)	0.1% of max current
Transient Recovery Time	< 1 ms for a 50% to 100% load change to within 1% of nominal output voltage
Temperature Coefficient (Voltage)	0.02% of max voltage per °C
Temperature Coefficient (Current)	0.03% of max current per °C
Maximum Remote Sense Compensation	1 V per line

AC Input Specifications

Power Factor	0.99 typical at full load
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Protection and Diagnostics

Over Voltage Protection (OVP) Range	2 - 22 VDC
Output Isolation Voltage (to Chassis)	125 VDC

Control and Interface

Remote Shutdown	TTL compatible input or contact closure
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Environmental

Cooling	Forced air, internal fan
Storage Temperature Range	-40°C to +85°C
Operating Humidity	0% to 90% RH (non-condensing)
Storage Humidity	0% to 95% RH (non-condensing)
Maximum Operating Altitude	2000 m (6500 ft)

Performance

Efficiency	72% (typical at full load)
Output Stability (8 hours)	0.05% of maximum rating
Voltage Programming Linearity	0.1% of maximum rated output voltage
Current Programming Linearity	0.1% of maximum rated output current
Voltage Monitor Linearity	0.1% of maximum rated output voltage
Current Monitor Linearity	0.1% of maximum rated output current
Warm-up Time	30 minutes

Electrical Input

AC Input Frequency Range	47 - 63 Hz
AC Input Current	12 A RMS @ 115 VAC / 6 A RMS @ 230 VAC (typical at full load)

Control & Programming

Analog Programming Input Ranges	0-5 V / 0-10 V (selectable) or 0-5 kΩ / 0-10 kΩ (selectable) for 0-100% of output
Analog Monitor Output Ranges	0-5 V / 0-10 V (selectable) for 0-100% of output
Current Limit Adjustment	0% to 100% of rated current

Operation

Series Operation	Up to 2 identical units (up to 150 V maximum total output)
Parallel Operation	Up to 5 identical units in master-slave configuration

Protection

OVP Shutdown Time	<10 ms
Over Temperature Protection	Heatsink over-temperature shutdown with automatic recovery

Standards & Compliance

Regulatory Compliance	CE Mark (LVD & EMC Directive), FCC Class A
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Connections

Rear Panel AC Input Connector	3-terminal barrier strip
Rear Panel DC Output Connector	Nickel-plated copper bus bars

User Interface

Voltage Adjustment	10-turn potentiometer
Current Adjustment	10-turn potentiometer

TECHNOLOGY

Switch-mode programmable DC power supply

APPLICATIONS

ATE system integration, laboratory testing, OEM power, product design verification

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