ORENSEN (AMETEK)

DCS33-33E

The Sorensen DCS33-33E is a highly reliable, 1089W programmable DC power supply designed for diverse development, testing, and system applications. Belonging to the Sorensen DCS (Direct Current Source) 1kW series, it features an ultra-low profile 1U chassis design, high power density, and built-in RS-232 and analog control interfaces, offering precise control over its 0-33V and 0-33A output ranges.

SPECIFICATIONS

General

Display	Dual 3.5-digit LED digital meters for voltage and current readouts
Warm-up Time	30 minutes
Warranty	5 years

Physical

Power Supply	85-264 VAC, single-phase, 47-63 Hz (universal active PFC input)
Operating Temperature	0 to 50 °C (derates linearly to 50% power from 50 °C to 70 °C) °C
Dimensions (W×H×D)	482.6 mm × 44.4 mm × 444.5 mm mm
Weight	8.6 kg kg

Output Specifications

Rated Output Voltage	0 to 33 VDC
Rated Output Current	0 to 33 ADC
Maximum Output Power	1089 W
Line Regulation (Voltage)	0.01% of max voltage + 2 mV
Line Regulation (Current)	0.05% of max current
Load Regulation (Voltage)	0.02% of max voltage + 5 mV
Load Regulation (Current)	0.05% of max current
Output Ripple and Noise (RMS)	10 mV
Output Ripple and Noise (Peak-to-Peak)	80 mV
Transient Recovery Time	< 1 ms (for 50% to 100% or 100% to 50% load change to within 100 mV of nominal)
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

Efficiency (Full Load)	82% typical
Power Factor (Full Load)	0.99 typical
Maximum AC Input Current	13.5 A @ 115 VAC, 7 A @ 230 VAC

Protection and Diagnostics

Over Voltage Protection (OVP) Range	1 V to 37 V (adjustable)
Foldback Protection Mode	Shutdown on transition from CV to CC or CC to CV mode (user selectable)
Output Isolation Voltage (to Chassis)	125 VDC

Control and Interface

Programming Accuracy (Analog Voltage)	±0.5% of max output voltage
Programming Accuracy (Analog Current)	±1.0% of max output current
Analog Programming Input Ranges	0-5 V, 0-10 V, or 0-5k / 0-10k ohms resistively (selectable)

Environmental and Safety

Storage Temperature Range	-55 to +85 °C
Operating Humidity Range	0% to 90% RH, non-condensing
Cooling System	Internal fan (airflow from front and sides, exhaust at rear)
Compliance Standards	CE Mark, FCC Part 15 Class A

Physical Characteristics

Form Factor	1U Rackmount
Chassis Width	19 inches
Chassis Height	1.75 inches (1U)
Chassis Depth	17.5 inches

Programming & Control

Analog Programming Voltage Range	0-5 V / 0-10 V (selectable)
Analog Programming Resistive Range	0-5 kΩ / 0-10 kΩ (selectable)
Remote Shutdown	TTL compatible (active high or low) or dry contact closure
Parallel Operation	Up to 4 identical units in Master/Slave configuration
Series Operation	Up to 2 identical units

Output Parameters

Output Rise Time (Full Load)	80 ms
Output Fall Time (Full Load)	80 ms
Output Drift (8 Hours)	0.03% of max output voltage / 0.03% of max output current

Protection

Over-Temperature Protection (OTP)	Automatic shutdown

AC Input

Input Phase	Single phase
Input Frequency Range	47 - 63 Hz

Front Panel Controls & Indicators

Voltage/Current Control	10-turn potentiometers
Digital Meter Resolution	3.5 digits
Digital Meter Accuracy	0.5% of maximum rating ± 1 count

Programming & Monitoring

Analog Monitor Voltage Range	0 - 10 V (or 0 - 5 V selectable)

Operational Features

Parallel Connection Capacity	Up to 4 units
Series Connection Capacity	Up to 2 units

TECHNOLOGY

Switch-mode programmable DC power supply

APPLICATIONS

Automated Test Equipment (ATE), laboratory R&D, product burn-in, battery charging, and semiconductor testing