ORENSEN (AMETEK)

DCS60-18E

The Sorensen DCS60-18E is a high-performance, 1080W programmable DC power supply belonging to the Sorensen DCS (Direct Current Source) series by AMETEK. Designed for high power density in a compact 1U rackmount form factor, it delivers a continuously variable output of 0 to 60 VDC at up to 18 ADC. It is widely used in industrial automation, R&D design, and ATE system integration due to its highly stable output, analog control features, and rugged build.

SPECIFICATIONS

General

Interfaces	Analog (standard); RS-232, GPIB, Multi-Channel (optional)
Display	Dual 3.5-digit LED digital displays for voltage and current
Front Panel Controls	10-turn voltage and current potentiometers, OVP limit screwdriver trimpot, power on/off switch
Warranty	5 years

Physical

Power Supply	190 - 250 VAC, single-phase, 47 - 63 Hz, 9.5 A max
Operating Temperature	0 to 50 °C °C
Dimensions (W×H×D)	482.6 × 44.4 × 444.5 mm mm
Weight	8.6 kg

Output Specifications

Rated Output Voltage	0 - 60 VDC
Rated Output Current	0 - 18 ADC
Rated Output Power	1080 W
Line Regulation (Voltage)	0.1% of maximum output voltage (60 mV)
Line Regulation (Current)	0.1% of maximum output current (18 mA)
Load Regulation (Voltage)	0.1% of maximum output voltage (60 mV)
Load Regulation (Current)	0.1% of maximum output current (18 mA)
Ripple and Noise (Voltage, RMS)	10 mV RMS
Ripple and Noise (Voltage, Peak-to-Peak)	100 mV p-p (20 MHz bandwidth)
Ripple and Noise (Current, RMS)	30 mA RMS
Transient Recovery Time	< 1 ms (to within 1% of nominal output voltage for a 50% to 100% or 100% to 50% step load change)
Output Drift (Voltage, 8 Hours)	0.05% of maximum rated output voltage
Output Drift (Current, 8 Hours)	0.05% of maximum rated output current
Temperature Coefficient (Voltage)	0.02% / °C of maximum output voltage
Temperature Coefficient (Current)	0.03% / °C of maximum output current

AC Input Specifications

AC Input Voltage Range	190 - 250 VAC
AC Input Frequency Range	47 - 63 Hz
Input Phases	1 (Single Phase)
Maximum Input Current	9.5 A @ 190 VAC
Efficiency (Full Load)	82% typical

Programming and Readback Accuracy

Voltage Programming Accuracy	±0.5% of maximum output voltage (analog)
Current Programming Accuracy	±1.0% of maximum output current (analog)

Protection and Diagnostics

Over Voltage Protection (OVP) Range	2 - 66 VDC
Over Temperature Protection (OTP)	Thermal shutdown on overtemperature, automatic recovery
Output Isolation (Float Voltage)	±250 VDC maximum relative to chassis ground

Analog Interface and Control

Analog Programming Voltage Ranges	0-5 VDC or 0-10 VDC (selectable)
Analog Programming Resistance Ranges	0-5 kΩ or 0-10 kΩ (selectable)
Remote Shutdown/Interlock Input	TTL-compatible input or dry contact closure closure
Status Indicator Signals	Over-Temperature, Over-Voltage, Foldback, CV/CC Mode
Series Operation	Up to 2 units (max 250 VDC total float voltage)
Parallel Operation	Up to 4 units with master/slave active current sharing

Environmental Specifications

Storage Temperature Range	-55 to +85 °C
Operating Humidity Range	0% to 90% RH (non-condensing)
Cooling Method	Internal forced air fan cooling, rear exhaust

Physical Characteristics

Form Factor	1U 19-inch rackmount
DC Output Connection	Rear-panel copper bus bars

Regulatory and Compliance

CE Mark Compliance	Compliant (DCS60-18E variant explicitly certified)

Performance

Remote Sense Compensation	1 V maximum drop per line

Power Supply

AC Power Factor	0.99 typical (active PFC)

Analog Programming & Monitoring

Analog Voltage Monitor Output	0-5 VDC or 0-10 VDC (selectable)
Analog Current Monitor Output	0-5 VDC or 0-10 VDC (selectable)
Analog Control Connector	25-pin D-Sub female

Digital Programming Options

Optional Programming Interfaces	M9C (GPIB), M130 (RS-232), M85 (Multichannel control)
Digital Programming Resolution	12-bit

TECHNOLOGY

Switch-mode power supply (SMPS)

APPLICATIONS

ATE system integration, product design verification, industrial process control, and laboratory research