

ORENSEN (AMETEK)

DCR60

The Sorensen DCR60 series (comprising phase-controlled SCR models such as the DCR 60-1.5B, DCR 60-3B, DCR 60-7B, DCR 60-14B, DCR 60-45B, and DCR 60-115B) provides highly regulated, precise, and adjustable DC output up to 60V. Utilizing Silicon Controlled Rectifier (SCR) or Triac technology at the transformer input followed by a passive LC filter, the DCR60 series delivers highly efficient regulated power with excellent transient recovery times and automatic crossover between voltage and current modes.

SPECIFICATIONS

General

Interfaces	Analog remote programming (voltage, resistance), remote sensing
Display	Dual front-panel analog meters (voltage and current); optional digital meters

Physical

Power Supply	115 VAC $\pm 10\%$ single-phase standard, 50/60 Hz; optional 208/220/230 VAC inputs
Operating Temperature	0 to 70 °C °C
Dimensions (W×H×D)	Benchtop or 19-inch rackmount (height and depth vary by current rating option) mm

Output Specifications

Rated Output Voltage Range	0 to 60 VDC
Line Regulation (Voltage)	0.05% of maximum output voltage (30 mV) for a $\pm 10\%$ line change
Load Regulation (Voltage)	0.05% of maximum output voltage (30 mV) for a 0 to 100% load change
Line Regulation (Current)	0.15% of maximum output current for a $\pm 10\%$ line change
Load Regulation (Current)	0.15% of maximum output current for a 100% compliance voltage change
Temperature Coefficient (Voltage)	0.015% of maximum output voltage per °C
Temperature Coefficient (Current)	0.05% of maximum output current per °C
Transient Recovery Time	50 ms (typical, for a 50% step load change to return to within 1% of rated voltage)
Remote Sense Compensation	Up to 1 V drop per output lead
Operating Modes	Constant Voltage (CV) and Constant Current (CC) with automatic crossover

AC Input Specifications

Input Voltage Range	115 VAC $\pm 10\%$ standard (208 / 220 / 230 VAC optional)
Input Frequency Range	47 to 63 Hz

Protection and Diagnostics

Over Voltage Protection (OVP) Range	6V to 80V (approximate, adjustable crowbar)
Output Isolation Voltage	700 VDC maximum from output to chassis ground

Control and Interface

Remote Shutdown	Supported via rear-terminal contact closure or TTL signal
Series/Parallel Operation	Capable of series or parallel configuration for increased voltage or current

Environmental and Safety

Operating Temperature Range	0 °C to +70 °C (full performance to 50 °C; derate linearly from 50 °C to 40% load at 70 °C)
Storage Temperature Range	-40 °C to +85 °C
Cooling System	Convection or internal fan (model and current rating dependent)

Physical Characteristics

Front Panel Controls	Power circuit breaker, Coarse and Fine Voltage potentiometers, Coarse and Fine Current potentiometers, OVP adjust (screwdriver slot)
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TECHNOLOGY

Phase-Controlled SCR

APPLICATIONS

Industrial burn-in, battery charging, electroplating, magnet supplies, and general-purpose laboratory R&D

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