Sorensen

# DCS Series

1 kW, 1.2 kW, & 3 kW


## AVAILABLE WITH LXI STANDARD COMPLIANT ETHERNET

**Applications**

- Automotive Electronics
- Rackmount ATE System
- Battery Charging

# DCS Series

Sorensen


## DCS Series: 1 kW, 1.2 kW, & 3 kW

- Wide Selection of Output Voltages
  Voltage ranges from 0-8 VDC to 0-600 VDC; current levels from 1.7A to 350A
- High Power Density
  - 1 kW or 1.2 kW of power in a package only 1.75 inches high
  - 3 kW of power in a package only 3.5 inches high
- Improved programming resolution with Ethernet interface
  - 16 bit control
  - 0.002% programming and readback resolution
- Tight Regulation
  - Line regulation: 0.1%
  - Load regulation: 0.1%
- Flexible Remote Programming Options
  - Ethernet / RS-232
  - GPIB IEEE-488/ RS-232
  - Analog: Selectable remote programming for voltage, current and OVP. Optional isolated analog programming
- Software
  - LabVIEW® driver for GPIB
  - IVI-com driver for Ethernet
- 5 Year Warranty

**DCS Applications**

The DCS Family is ideally suited for a wide range of applications requiring DC power in a small form factor. Applications range from manufacturing test and burn-in of automotive components, avionics electronics, telecommunications and consumers products to beam steering, process control and laboratory R&D use.

The DCS Family is comprised of 1KW, 1.2KW and 3KW programmable power supplies utilizing switchmode technology to achieve high power density in a low profile chassis. The design platform provides a highly reliable power supply for years of constant use. The unique design is available in a variety of maximum voltages from 8V to 600V and maximum currents from 2A to 350A with low ripple and noise.

This user-friendly platform can be controlled form the front panel with 10-turn potentiometers to adjust voltage, current and OVP settings. LEDs indicate overtemperature, remote programming, shutdown and overvoltage protection

Remote control options allow full computer control through IEEE-488 (option M9C), LXI Standard Compliant* Ethernet LAN (option M130) or RS-232 (M9C, M130, M131)

**Automotive Component Test**

The 16-bit resolution of the Ethernet programming and hardware triggering allows for detailed sequencing associated with battery fluctuation simulation. The tight load regulation capability of the DCS series makes it a superior source for validation and acceptance testing and burn-in of automotive components. The 20V models, in particular, provide a full range of testing to simulate battery conditions. Margin testing of 12V and 14V nominal components, such as electronic control units (ECU) and electromechanical components, is easily achieved

**Rackmount ATE Systems**

The high power density of the DCs series makes it ideal for ATE System integration. The wide variety of voltage and current combinations in 1U and 2U heights allows multiple voltage outputs in a small amount of space. The wide variety of control methods possible allows easy integration into legacy systems as well as high speed systems.

**Battery Charging**

Battery charging requires high accuracy voltage and stable current output for fast bulk and absorption phase charging and high accuracy and stable voltage for float charging to avoid "gassing" the battery. The DCS series provides a high accuracy voltage output to optimize battery charging. With the remote interface options, the charging process can easily be automated for volume production.

* *http://www.lxistandard.org*


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## Output

### Voltage and Current

| 1 kW Model | Voltage | Current |
|---|---|---|
| DCS 8-125E | 0-8 | 0-125 |
| DCS 10-100E | 0-10 | 0-100 |
| DCS 20-50E | 0-20 | 0-50 |
| DCS 33-33E | 0-33 | 0-33 |
| DCS 40-25E | 0-40 | 0-25 |
| DCS 50-20E | 0-50 | 0-20 |
| DCS 60-18E | 0-60 | 0-18 |
| DCS 80-13E | 0-80 | 0-13 |
| DCS 100-10E | 0-100 | 0-10 |
| DCS 150-7E | 0-150 | 0-7 |
| DCS 300-3.5E | 0-300 | 0-3.5 |
| DCS 600-1.7E | 0-600 | 0-1.7 |

| 1.2 kW Model | Voltage | Current |
|---|---|---|
| DCS 8-140E | 0-8 | 0-140 |
| DCS 10-120E | 0-10 | 0-120 |
| DCS 20-60E | 0-20 | 0-60 |
| DCS 33-36E | 0-30 | 0-36 |
| DCS 40-30E | 0-40 | 0-30 |
| DCS 50-24E | 0-50 | 0-24 |
| DCS 60-20E | 0-60 | 0-20 |
| DCS 80-15E | 0-80 | 0-15 |
| DCS 100-12E | 0-100 | 0-12 |
| DCS 150-8E | 0-150 | 0-8 |
| DCS 300-4E | 0-300 | 0-4 |

| 3 kW Model | Voltage | Current |
|---|---|---|
| DCS 8-350E | 0-8 | 0-350 |
| DCS 12-250E | 0-12 | 0-250 |
| DCS 20-150E | 0-20 | 0-150 |
| DCS 40-75E | 0-40 | 0-75 |
| DCS 55-55E | 0-55 | 0-55 |
| DCS 60-50E | 0-60 | 0-50 |
| DCS 80-37E | 0-80 | 0-37 |
| DCS 150-20E | 0-150 | 0-20 |

**Voltage Resolution:** 0.02%

**Ripple (mV RMS or P-P):** See table

**Regulation (Line or Load)**

**Voltage:** 0.1%
**Current:** 0.1%

**Transient Response**: Typically recovers in 500 $\mu$s (1 & 1.2 kW) or 1ms (3k W) to 1% of steady-state output voltage (within 1% of Vmax) for 70-100% or 100-70% load change.

**Stability:** ±0.05% of maximum voltage or current over 8 hours after 30 minute warm-up time at fixed line, load and temperature

**Efficiency:** See table

**Temperature Coefficient:** 0.02%/°C of maximum output voltage; 0.03%/°C of maximum output current

## Input

**Voltage and Frequency**

**1 kW:** 200-250 VAC, single phase, 8A typical, 47-63 Hz; or 100-132 VAC, single phase, 15A typical, 47-63 Hz, internal jumper selectable (see M1 option)

**1.2 kW:** 200-250 VAC, single phase, 9A typical, 47-63 Hz; or 100-132 VAC, single phase, 18A typical, 47-63 Hz, internal jumper selectable (see M1 option)

**3 kW:** 190-250 VAC, three phase, 14A typical, 47-63 Hz; or 200-250 VAC, single phase, 20A typical, 47-63 Hz

**Note**: Maximum power output of 3 kW supplies must be limited to 2.5 kW for single phase input

**Soft Start:** Line current is lower than full load peak value during turn-on or power application after restart

## General

**Operating Temperature:** 0°C to 50°C (no derating)

**Storage Temperature:** -55°C to 85°C

**Humidity Range:** 0 to 80% RH, non condensing

**Meter Accuracy**: 1% of full scale + 1 count

**Max. Voltage Differential from Output to Safety Ground:** 150 VDC

**Remote Start/Stop and Interlock:** TTL compatible input or 12-250 VAC (12-130 VDC) or a contact closure

**Cooling:** Internal fan, overtemperature shutdown if internal heat sink exceeeds set temperature

**Remote Sense:** The maximum allowed sense line drop is 4V per line (2V on the DCS 8 and 10V 1kW and 1.2 kW models and 1V/line for all 3 kw models)

**Remote Programming:** External jumper via rear panel connector J3

**Overvoltage Protection:** Crowbar type adjustable from 5-110% of rated output using front panel control (local or remote program selectable via J3 jumper)

**Remote Analog Programming Linearity:** ±1% Accuracy: ±5%

**Regulatory Compliance:** CE Mark (1, 1.2, 3k W); FCC Part 15 Class A, UL1012, CSA 22.2 #220 (1 and 1.2 kW only)

## Dimensions

1 **kW and 1.2 kW:** 1U or 1.75" (44 mm) H x 19" (482 mm) W x 17.5" (444 mm) D

**3 kW:** 2U or 3.5" (88 mm) H x 19" (482 mm) W x 17.5" (444 mm) D

## Weight

**1 kW and 1.2 kW:** 19 lbs. ( 8.6 kg)
**3 kW:** 33 lbs. (15 kg)

**Shipping Weight**

**1 kW and 1.2 kW:** 24 lbs. (10.9 kg)
**3 kW:** 42 lbs. (19 kg)

## Options & Accessories

**M1:** Factory configured for 115 VAC input (1 kW and 1.2 kW units only)

**M9C:** Internal IEEE-488/RS-232 Interface (can only support 12-bit slaves)

**M13:** Locking shafts (front panel potentiometers)

**M32:** Master/slave paralleling cable configured for two units

**M33:** Replace input connector with terminal block (3 kW only)

**M51A:** Isolated analog programming control of V/I/OVP and isolated V/I monitor outputs up to 500V relative to the supply's return line

**M85**: 12-bit slave interface option for use with M9 or M130 master (3 ft. control cable included)

**M102**: Front panel binding posts for 1kw or 1.2kw, Models ≤30A, ≤100V. Not compatible with M9C, M85, M130, M131, M133, M135, M136

**M130**: LXI compliant 10/100 Base T Ethernet remote control master interface; includes web server for direct control of power supply via web browser

**M131**: 16-bit slave interface option for use with a M130 master (3 ft. control cable included)

**M133**: Output disconnect and polarity reversal controlled via SCPI commands. Limited to 1k or 1.2 kw, ≤100V, ≤60A

**M135**: M130 & M133 combination

**M136**: M131 & M133 combination

## Software

IVI-Com and Labview drivers available for free download at http://www.elgar.com/support/downloads.htm

| Model | Constant Current Mode* | | Temp. Coeff. | Current Drift | Programming Constants, Current Mode | | Input Current, A Nominal | | Efficiency % (Typ.) |
|---|---|---|---|---|---|---|---|---|---|
| | Regulation Line and Load% Combined | Ripple (RMS)** mA | %/°C (Typ.) | %I0 Max. (Typ.) | Ohms/A | V/A | 230V Single Phase | 208V Three Phase | |
| **DCS Series: 1KW** | | | | | | | | | |
| DCS 8-125E | 0.2 | 160 | 0.03 | 0.05 | 40 | 0-10V = 0-100% $I_o$ or 0-5V = 0-100% $I_o$ | 8 | N/A | 82 |
| DCS 10-100E | 0.2 | 128 | 0.03 | 0.05 | 50 | | 8 | N/A | 82 |
| DCS 20-50E | 0.2 | 25 | 0.03 | 0.05 | 100 | | 8 | N/A | 82 |
| DCS 33-33E | 0.2 | 10 | 0.03 | 0.05 | 151.5 | | 8 | N/A | 84 |
| DCS 40-25E | 0.2 | 7 | 0.03 | 0.05 | 200 | | 8 | N/A | 84 |
| DCS 50-20E | 0.2 | 7 | 0.03 | 0.05 | 250 | | 8 | N/A | 84 |
| DCS 60-18E | 0.2 | 6 | 0.03 | 0.05 | 277.8 | | 8 | N/A | 86 |
| DCS 80-13E | 0.2 | 4 | 0.03 | 0.05 | 384.6 | | 8 | N/A | 86 |
| DCS 100-10E | 0.2 | 3 | 0.03 | 0.05 | 500 | | 8 | N/A | 86 |
| DCS 150-7E | 0.2 | 2 | 0.03 | 0.05 | 714.3 | | 8 | N/A | 86 |
| DCS 300-3.5E | 0.2 | 1 | 0.03 | 0.05 | 1428.6 | | 8 | N/A | 86 |
| DCS 600-1.7E | 0.2 | 1 | 0.03 | 0.05 | 2941.2 | | 9.5 | N/A | 86 |
| **DCS Series: 1.2 kW** | | | | | | | | | |
| DCS 8-140E | 0.2 | 180 | 0.03 | 0.05 | 35.7 | 0-10V = 0-100% $I_o$ or 0-5V = 0-100% $I_o$ | 9 | N/A | 82 |
| DCS 10-120E | 0.2 | 153 | 0.03 | 0.05 | 41.7 | | 9 | N/A | 82 |
| DCS 20-60E | 0.2 | 30 | 0.03 | 0.05 | 83.3 | | 9 | N/A | 82 |
| DCS 33-36E | 0.2 | 11 | 0.03 | 0.05 | 138.9 | | 9 | N/A | 84 |
| DCS 40-30E | 0.2 | 9 | 0.03 | 0.05 | 166.7 | | 9 | N/A | 84 |
| DCS 50-24E | 0.2 | 8.5 | 0.03 | 0.05 | 208.3 | | 9 | N/A | 84 |
| DCS 60-20E | 0.2 | 6.6 | 0.03 | 0.05 | 250.0 | | 9 | N/A | 85 |
| DCS 80-15E | 0.2 | 6 | 0.03 | 0.05 | 333.3 | | 9 | N/A | 85 |
| DCS 100-12E | 0.2 | 3.6 | 0.03 | 0.05 | 416.7 | | 9 | N/A | 85 |
| DCS 150-8E | 0.2 | 2.3 | 0.03 | 0.05 | 625.0 | | 9 | N/A | 85 |
| DCS 300-4E | 0.2 | 1.2 | 0.03 | 0.05 | 1250.0 | | 9 | N/A | 85 |
| | | | | | | | | | |
| **DCS Series: 3 kW** | | | | | | | | | |
| DCS 8-350E | 0.2 | 870 | 0.03 | 0.05 | 14.3 | 0-10V = 0-100% $I_o$ or 0-5V = 0-100% $I_o$ | 24 | 13 | 82 |
| DCS 12-250E | 0.2 | 400 | 0.03 | 0.05 | 20 | | 26 | 14 | 82 |
| DCS 20-150E | 0.2 | 100 | 0.03 | 0.05 | 33.3 | | 26 | 14 | 82 |
| DCS 40-75E | 0.2 | 75 | 0.03 | 0.05 | 66.7 | | 26 | 14 | 86 |
| DCS 55-55E | 0.2 | 40 | 0.03 | 0.05 | 90.9 | | 26 | 14 | 82 |
| DCS 60-50E | 0.2 | 33 | 0.03 | 0.05 | 100 | | 26 | 14 | 86 |
| DCS 80-37E | 0.2 | 20 | 0.03 | 0.05 | 135 | | 26 | 14 | 86 |
| DCS 150-20E | 0.2 | 10 | 0.03 | 0.05 | 250 | | 26 | 14 | 86 |

* Typical resolution is 0.02% ** RMS ripple typical from 20 Hz to 300 kHz ***Consult factory


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| Model | Output Power | | Combined Regulation Line and Load % | Constant Voltage Mode* | | | Temp. Coeff. Voltage% /°C (Typ) | Voltage Drift% Vmax (Typ) | Programming Constants Voltage Mode | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Voltage VDC | Current ADC@ 50°C | | Ripple | Noise (P-P) | Transient Response Time μs (Typ) | | | Ohms/ V | V/V |
| **DCS Series: 1KW** | | | | | | | | | | |
| DCS 8-125E | 0-8 | 0-125 | 0.2 | 4 mV | 60 mV | 500 | 0.02 | 0.05 | 625 | 0-10V = 0-100% $V_o$ or 0-5V = 0-100% $V_o$ |
| DCS 10-100E | 0-10 | 0-100 | 0.2 | 4 mV | 60 mV | 500 | 0.02 | 0.05 | 500 | |
| DCS 20-50E | 0-20 | 0-50 | 0.2 | 4 mV | 60 mV | 500 | 0.02 | 0.05 | 250 | |
| DCS 33-33E | 0-33 | 0-33 | 0.2 | 4 mV | 60 mV | 500 | 0.02 | 0.05 | 151.5 | |
| DCS 40-25E | 0-40 | 0-25 | 0.2 | 4 mV | 60 mV | 500 | 0.02 | 0.05 | 125 | |
| DCS 50-20E | 0-50 | 0-20 | 0.2 | 4 mV | 60 mV | 500 | 0.02 | 0.05 | 100 | |
| DCS 60-18E | 0-60 | 0-18 | 0.2 | 4 mV | 60 mV | 500 | 0.02 | 0.05 | 83 | |
| DCS 80-13E | 0-80 | 0-13 | 0.2 | 4 mV | 60 mV | 500 | 0.02 | 0.05 | 62.5 | |
| DCS 100-10E | 0-100 | 0-10 | 0.2 | 6 mV | 60 mV | 500 | 0.02 | 0.05 | 50 | |
| DCS 150-7E | 0-150 | 0-7 | 0.2 | 12 mV | 160 mV | 500 | 0.02 | 0.05 | 33.3 | |
| DCS 300-3.5E | 0-300 | 0-3.5 | 0.2 | 20 mV | 200 mV | 500 | 0.02 | 0.05 | 16.67 | |
| DCS 600-1.7E | 0-600 | 0-1.7 | 0.2 | 50 mV | 300 mV | 500 | 0.02 | 0.05 | 8.33 | |
| **DCS Series: 1.2 kW** | | | | | | | | | | |
| DCS 8-140E | 0-8 | 0-140 | 0.2 | 5 mV | 60 mV | 500 | 0.02 | 0.05 | 625 | 0-10V = 0-100% $V_o$ or 0-5V = 0-100% $V_o$ |
| DCS 10-120E | 0-10 | 0-120 | 0.2 | 5 mV | 60 mV | 500 | 0.02 | 0.05 | 500 | |
| DCS 20-60E | 0-20 | 0-60 | 0.2 | 5 mV | 60 mV | 500 | 0.02 | 0.05 | 250 | |
| DCS 33-36E | 0-33 | 0-36 | 0.2 | 5 mV | 60 mV | 500 | 0.02 | 0.05 | 151.5 | |
| DCS 40-30E | 0-40 | 0-30 | 0.2 | 5 mV | 60 mV | 500 | 0.02 | 0.05 | 125 | |
| DCS 50-24E | 0-50 | 0-24 | 0.2 | 5 mV | 60 mV | 500 | 0.02 | 0.05 | 100 | |
| DCS 60-20E | 0-60 | 0-20 | 0.2 | 5 mV | 60 mV | 500 | 0.02 | 0.05 | 83 | |
| DCS 80-15E | 0-80 | 0-15 | 0.2 | 5 mV | 60 mV | 500 | 0.02 | 0.05 | 62.5 | |
| DCS 100-12E | 0-100 | 0-12 | 0.2 | 10 mV | 60 mV | 500 | 0.02 | 0.05 | 50 | |
| DCS 150-8E | 0-150 | 0-8 | 0.2 | 15 mV | 160 mV | 500 | 0.02 | 0.05 | 33.3 | |
| DCS 300-4E | 0-300 | 0-4 | 0.2 | 25 mV | 200 mV | 500 | 0.02 | 0.05 | 16.67 | |
| | | | | | | | | | | |
| **DCS Series: 3 kW** | | | | | | | | | | |
| DCS 8-350E | 0-8 | 0-350 | 0.2 | 15 mV | 100 mV | 1000 | 0.02 | 0.05 | 625 | 0-10V = 0-100% $V_o$ or 0-5V = 0-100% $V_o$ |
| DCS 12-250E | 0-12 | 0-250 | 0.2 | 10 mV | 100 mV | 1000 | 0.02 | 0.05 | 416.7 | |
| DCS 20-150E | 0-20 | 0-150 | 0.2 | 10 mV | 100 mV | 1000 | 0.02 | 0.05 | 250 | |
| DCS 40-75E | 0-40 | 0-75 | 0.2 | 20 mV | 100 mV | 1000 | 0.02 | 0.05 | 125 | |
| DCS 55-55E | 0-55 | 0-55 | 0.2 | 20 mV | 100 mV | 1000 | 0.02 | 0.05 | 90.9 | |
| DCS 60-50E | 0-60 | 0-50 | 0.2 | 20 mV | 100 mV | 1000 | 0.02 | 0.05 | 83 | |
| DCS 80-37E | 0-80 | 0-37 | 0.2 | 20 mV | 100 mV | 1000 | 0.02 | 0.05 | 62.5 | |
| DCS 150-20E | 0-150 | 0-20 | 0.2 | 30 mV | 200 mV | 1000 | 0.02 | 0.05 | 33.3 | |

* Typical resolution is 0.02% ** RMS ripple typical from 20 Hz to 300 kHz ***Consult factory


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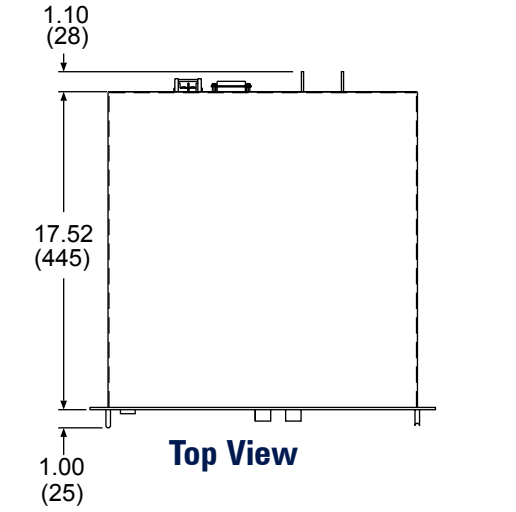
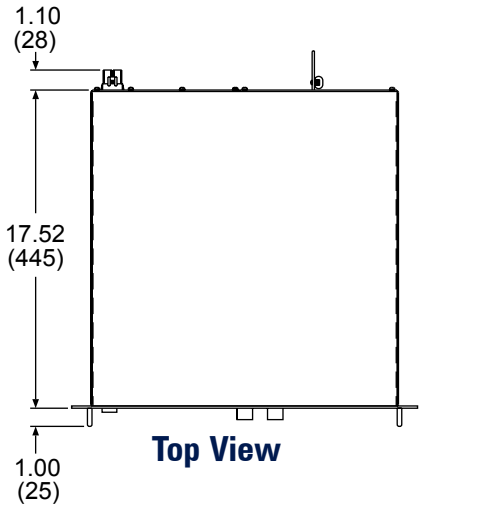
| Model | Programming Accuracy M130/M131/M9C Options | | | Readback Accuracy | |
|---|---|---|---|---|---|
| | Voltage 0.1% + | Current 0.1% + | OVP 0.5% + | Voltage 0.1% + | Current 0.1 + |
| **DCS Series: 1KW** | | | | | |
| DCS 8-125E | 8mV | 500mA | 44mV | 12mV | 500mA |
| DCS 10-100E | 10mV | 400mA | 55mV | 15mV | 400mA |
| DCS 20-50E | 20mV | 200mA | 110mV | 30mV | 200mA |
| DCS 33-33E | 33mV | 132mA | 182mV | 50mV | 132mA |
| DCS 40-25E | 40mV | 100mA | 220mV | 60mV | 100mA |
| DCS 50-20E | 50mV | 80mA | 275mV | 75mV | 80mA |
| DCS 60-18E | 60mV | 72mA | 330mV | 90mV | 72mA |
| DCS 80-13E | 80mV | 52mA | 440mV | 120mV | 52mA |
| DCS 100-10E | 100mV | 40mA | 550mV | 150mV | 40mA |
| DCS 150-7E | 150mV | 28mA | 825mV | 225mV | 28mA |
| DCS 300-3.5E | 300mV | 14mA | 1650mV | 450mV | 14mA |
| DCS 600-1.7E | 600mV | 6.8mA | 3300mV | 900mV | 7mA |
| **DCS Series: 1.2 kW** | | | | | |
| DCS 8-140E | 8mV | 560mA | 44mV | 12mV | 560mA |
| DCS 10-120E | 10mV | 480mA | 55mV | 15mV | 480mA |
| DCS 20-60E | 20mV | 240mA | 110mV | 30mV | 240mA |
| DCS 33-36E | 33mV | 144mA | 182mV | 50mV | 144mA |
| DCS 40-30E | 40mV | 120mA | 220mV | 60mV | 120mA |
| DCS 50-24E | 50mV | 96mA | 275mV | 75mV | 96mA |
| DCS 60-20E | 60mV | 80mA | 330mV | 90mV | 80mA |
| DCS 80-15E | 80mV | 60mA | 440mV | 120mV | 60mA |
| DCS 100-12E | 100mV | 48mA | 550mV | 150mV | 48mA |
| DCS 150-8E | 150mV | 32mA | 825mV | 225mV | 32mA |
| DCS 300-4E | 300mV | 16mA | 1650mV | 450mV | 16mA |
| | | | | | |
| **DCS Series: 3 kW** | | | | | |
| DCS 8-350E | 8mV | 1400mA | 44mV | 12mV | 1400mA |
| DCS 12-250E | 12mV | 1000mA | 66mV | 18mV | 1000mA |
| DCS 20-150E | 20mV | 600mA | 110mV | 30mV | 600mA |
| DCS 40-75E | 40mV | 300mA | 220mV | 60mV | 300mA |
| DCS 55-55E | 55mV | 220mA | 303mV | 83mV | 220mA |
| DCS 60-50E | 60mV | 200mA | 330mV | 90mV | 200mA |
| DCS 80-37E | 80mV | 148mA | 440mV | 120mV | 148mA |
| DCS 150-20E | 150mV | 80mA | 825mV | 225mV | 80mA |

## 1KW and 1.2KW




*Dimensions in inches (millimeters)*

## 3KW




## Options &

| Input Voltage Options | | |
|---|---|---|
| M1 | Factory configured for 115 VAC input (1 and 1.2 kW only) | |
| Remote Interface Options | | |
| M9C | Internal IEEE-488/RS 232 interface (Supports only 12-bit slaves) | |
| M13 | Locking shafts (front panel potentiometers) | |
| M32 | Master/slave cable configured for two or more units | |
| M33 | Replace input connector with terminal block(3 kW only) | |
| M51A | Isolated analog programming control | |
| M102 | Front Panel Binding Posts (1KW and 1.2KW only≤30A) | |
| M85 | 12-bit slave interface | |
| M130 | Ethernet/RS232 Interface (Supports both 12- & 16-bit slaves) | |
| M131 | 16-bit slave interface | |
| M133 | Output disconnect and polarity reversal relays* | 1 and 1.2 kW only |
| M135 | Output disconnect and polarity reversal relays** | |
| M136 | Output disconnect and polarity reversal relays*** | |
| 105-330-26 | Rack slide kit (3 kW only) | |

** Requires M9C ** Includes option M130 ***Includes option M131*

| J3 Program and Sense | | | |
|---|---|---|---|
| 1 | 90-250 VAC Remote Shutdown | 14 | TTL Shutdown |
| 2 | Shutdown Return | 15 | +12 VDC |
| 3 | OVP Program | 16 | 1 mACurrent Source (OVP) |
| 4 | Remote/Local Status Indicator | 17 | OVP Indicator |
| 5 | Mode Status Indicator | 18 | Thermal S/DN Status |
| 6 | Ground | 19 | 0-5V Voltage Monitor |
| 7 | 0-5V Current Monitor | 20 | Remote Voltage Select |
| 8 | Voltage Control | 21 | 1 mA Current Source (V) |
| 9 | Voltage Program Input | 22 | 1 mA Current Source (I) |
| 10 | Current Program Unit | 23 | Remote Current Select |
| 11 | Current Control | 24 | Return |
| 12 | Return Sense | 25 | POS Output (8-100V Models Only) |
| 13 | POS Sense (8-100V Models Only) | | |

POWER EVOLVED

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