

# Sorensen DCS Series

1–3 kW

## General Purpose Systems Power Supply

8–600 V

- High power density / low ripple and noise
- High programming resolution with Ethernet interface
- Constant voltage and current mode
- Remote sensing
- Isolated analog control and monitoring (optional)



1.7–350 A

|   |     |     |
|---|-----|-----|
| ~ | 115 | 230 |
| ⊜ | 208 | 230 |





### DCS Applications

The Sorensen DCS Series (hereafter DCS Series) 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 consumer products to beam steering, process control and laboratory R&D use.

The DCS Series 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 1.7A to 350A with low ripple and noise.

This user-friendly platform can be controlled from the front panel with 10-turn potentiometers to adjust voltage, current and OVP settings. LEDs indicate over temperature, 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 (options M9C, M130)

### 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.)

**AMETEK**  
**Programmable Power**  
 9250 Brown Deer Road  
 San Diego, CA 92121-2267  
 USA

  
**PROGRAMMABLE POWER**

# DCS Series : Product Specifications

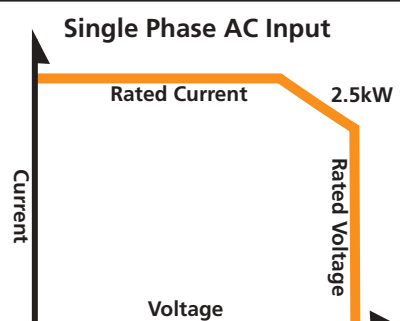
| Common   |   |
|--|---|
| Meter Accuracy   | 1% of full scale + 1 count  |
| Max. Voltage Differential from Output to Safety Ground | 150 VDC   |
| Remote Start/Stop and Interlock                        | TTL compatible input or 12-250 VAC (12-130 VDC) or a contact closure  |
| Cooling  | Internal fan, over temperature shutdown if internal heat sink exceeds set temperature   |
| Remote Sense   | The maximum allowed sense line drop is 4V per line (2V on the DCS 8/10V 1 kW/1.2 kW models and 1V/line for all 3 kW models). Line drop subtracts from the maximum available output voltage at full rated power. |
| Remote Programming                                     | Enabled via external jumper on 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                    | Typical error is less an 0.5% setting.  |
| Accuracy   | Accuracy is 1% of rated output.   |
| Regulatory   | Certified to UL/CSA 61010 (Not DCS 3K) and IEC/EN 61010-1 CE. Compliant (LVD and EMC directive)   |

| Input          | 1 kW  | 1.2 kW  | 3 kW  |
|----------------|---|---|---|
| Voltage Ranges | 200-250 VAC / 100-132 VAC                     | 200-250 VAC / 100-132 VAC                     | 190-250 VAC / 200-250 VAC   |
| Phases         | Single Phase                                  | Single Phase                                  | Three Phase / Single Phase * (See Below)  |
| Current        | 8A typical, 47-63 Hz<br>15A typical, 47-63 Hz | 9A typical, 47-63 Hz<br>18A typical, 47-63 Hz | 190-250 VAC, three phase,<br>14A, 47-63Hz. * (See Below)<br>User configurable for: 200-250VAC, single-phase operation, 20A,<br>47- 63Hz.<br>* See the modified operation curve below. |

| Output             |  |
|--------------------|--|
| Stability          | ±0.05% of maximum voltage or current over 8 hours after 30 minute warm-up time at fixed line, load and temperature                                   |
| Line Regulation    | For input voltage variation over the AC input voltage range, with constant rated load.   |
| Load Regulation    | For 0-100% load variation, with constant nominal line voltage.   |
| Voltage Resolution | 0.02%  |
| Transient Response | Typically recovers in 500 μs (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. |

| Output : Voltage and Current |         |         |              |         |         |             |         |         |
|------------------------------|---------|---------|--------------|---------|---------|-------------|---------|---------|
| 1 kW Model                   | Voltage | Current | 1.2 kW Model | Voltage | Current | 3 kW Model  | Voltage | Current |
| DCS 8-125E                   | 0-8     | 0-125   | DCS 8-140E   | 0-8     | 0-140   | DCS 8-350E  | 0-8     | 0-350   |
| DCS 10-100E                  | 0-10    | 0-100   | DCS 10-120E  | 0-10    | 0-120   | DCS 12-250E | 0-12    | 0-250   |
| DCS 20-50E                   | 0-20    | 0-50    | DCS 20-60E   | 0-20    | 0-60    | DCS 20-150E | 0-20    | 0-150   |
| DCS 33-33E                   | 0-33    | 0-33    | DCS 33-36E   | 0-33    | 0-36    | DCS 40-75E  | 0-40    | 0-75    |
| DCS 40-25E                   | 0-40    | 0-25    | DCS 40-30E   | 0-40    | 0-30    | DCS 55-55E  | 0-55    | 0-55    |
| DCS 50-20E                   | 0-50    | 0-20    | DCS 50-24E   | 0-50    | 0-24    | DCS 60-50E  | 0-60    | 0-50    |
| DCS 60-18E                   | 0-60    | 0-18    | DCS 60-20E   | 0-60    | 0-20    | DCS 80-37E  | 0-80    | 0-37    |
| DCS 80-13E                   | 0-80    | 0-13    | DCS 80-15E   | 0-80    | 0-15    | DCS 150-20E | 0-150   | 0-20    |
| DCS 100-10E                  | 0-100   | 0-10    | DCS 100-12E  | 0-100   | 0-12    |             |         |         |
| DCS 150-7E                   | 0-150   | 0-7     | DCS 150-8E   | 0-150   | 0-8     |             |         |         |
| DCS 300-3.5E                 | 0-300   | 0-3.5   | DCS 300-4E   | 0-300   | 0-4     |             |         |         |
| DCS 600-1.7E                 | 0-600   | 0-1.7   |              |         |         |             |         |         |

## Modified Operation Curve for DCS Series 3 kW



# DCS Series : Product Specifications

# 1–3 kW

| Environmental             |   |   |           |   |               |
|---------------------------|---|---|-----------|---|---------------|
| Operating Temperature     | 0°C to 50°C (no derating)   |   |           |   |               |
| Storage Temperature       | -55°C to 85°C   |   |           |   |               |
| Humidity (Non-condensing) | 0 to 85% RH   |   |           |   |               |
| Physical                  | 1kW   | 1.2kW   |           | 3kW   |               |
| Dimensions                | Width: 19" (483 mm)<br>Height: 1.72" (43 mm) - 1U<br>Depth: 17.52" (445 mm) | Width: 19" (483 mm)<br>Height: 1.72" (43 mm) - 1U<br>Depth: 17.52" (445 mm) |           | Width: 19" (483 mm)<br>Height: 3.46" (87 mm) - 2U<br>Depth: 17.52" (445 mm) |               |
| Weight                    | 19 lbs. ( 8.6 kg )  | 19 lbs. ( 8.6 kg )  |           | 33 lbs. ( 15 kg )   |               |
| Shipping Weight           | 24 lbs. ( 10.9 kg )   | 24 lbs. ( 10.9 kg )   |           | 42 lbs. ( 19 kg )   |               |
| Model                     | Programming Accuracy  |   |           | Readback Accuracy   |               |
|                           | M130 / M131 / M9C / M85 Options   |   |           | Voltage 0.1%+   | Current 0.1%+ |
|                           | Voltage 0.1%+   | Current 0.1%+   | OVP 0.5%+ |   |               |
| DCS Series 1 kW           |   |   |           |   |               |
| 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          |

# DCS Series : Product Specifications

| 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** (rms) mV      | Noise** (p-p) mV | Transient Response Time µs (Typ) |                                |                           | Ohms / V                           | V / V   |
| <b>DCS Series 1 kW</b>   |              |                    |                                     |                        |                  |                                  |                                |                           |                                    |   |
| DCS 8-125E   | 0-8          | 0-125              | 0.2                                 | 4                      | 60               | 500                              | 0.02                           | 0.05                      | 625                                | 0-10V = 0-100% V <sub>o</sub> or 0-5V = 0-100% V <sub>o</sub> |
| DCS 10-100E  | 0-10         | 0-100              | 0.2                                 | 4                      | 60               | 500                              | 0.02                           | 0.05                      | 500                                |   |
| DCS 20-50E   | 0-20         | 0-50               | 0.2                                 | 4                      | 60               | 500                              | 0.02                           | 0.05                      | 250                                |   |
| DCS 33-33E   | 0-33         | 0-33               | 0.2                                 | 4                      | 60               | 500                              | 0.02                           | 0.05                      | 151.5                              |   |
| DCS 40-25E   | 0-40         | 0-25               | 0.2                                 | 4                      | 60               | 500                              | 0.02                           | 0.05                      | 125                                |   |
| DCS 50-20E   | 0-50         | 0-20               | 0.2                                 | 4                      | 60               | 500                              | 0.02                           | 0.05                      | 100                                |   |
| DCS 60-18E   | 0-60         | 0-18               | 0.2                                 | 4                      | 60               | 500                              | 0.02                           | 0.05                      | 83                                 |   |
| DCS 80-13E   | 0-80         | 0-13               | 0.2                                 | 4                      | 60               | 500                              | 0.02                           | 0.05                      | 62.5                               |   |
| DCS 100-10E  | 0-100        | 0-10               | 0.2                                 | 6                      | 60               | 500                              | 0.02                           | 0.05                      | 50                                 |   |
| DCS 150-7E   | 0-150        | 0-7                | 0.2                                 | 12                     | 160              | 500                              | 0.02                           | 0.05                      | 33.3                               |   |
| DCS 300-3.5E   | 0-300        | 0-3.5              | 0.2                                 | 20                     | 200              | 500                              | 0.02                           | 0.05                      | 16.67                              |   |
| DCS 600-1.7E   | 0-600        | 0-1.7              | 0.2                                 | 50                     | 300              | 500                              | 0.02                           | 0.05                      | 8.33                               |   |
| <b>DCS Series 1.2 kW</b>   |              |                    |                                     |                        |                  |                                  |                                |                           |                                    |   |
| DCS 8-140E   | 0-8          | 0-140              | 0.2                                 | 5                      | 60               | 500                              | 0.02                           | 0.05                      | 625                                | 0-10V = 0-100% V <sub>o</sub> or 0-5V = 0-100% V <sub>o</sub> |
| DCS 10-120E  | 0-10         | 0-120              | 0.2                                 | 5                      | 60               | 500                              | 0.02                           | 0.05                      | 500                                |   |
| DCS 20-60E   | 0-20         | 0-60               | 0.2                                 | 5                      | 60               | 500                              | 0.02                           | 0.05                      | 250                                |   |
| DCS 33-36E   | 0-33         | 0-36               | 0.2                                 | 5                      | 60               | 500                              | 0.02                           | 0.05                      | 151.5                              |   |
| DCS 40-30E   | 0-40         | 0-30               | 0.2                                 | 5                      | 60               | 500                              | 0.02                           | 0.05                      | 125                                |   |
| DCS 50-24E   | 0-50         | 0-24               | 0.2                                 | 5                      | 60               | 500                              | 0.02                           | 0.05                      | 100                                |   |
| DCS 60-20E   | 0-60         | 0-20               | 0.2                                 | 5                      | 60               | 500                              | 0.02                           | 0.05                      | 83                                 |   |
| DCS 80-15E   | 0-80         | 0-15               | 0.2                                 | 5                      | 60               | 500                              | 0.02                           | 0.05                      | 62.5                               |   |
| DCS 100-12E  | 0-100        | 0-12               | 0.2                                 | 10                     | 60               | 500                              | 0.02                           | 0.05                      | 50                                 |   |
| DCS 150-8E   | 0-150        | 0-8                | 0.2                                 | 15                     | 160              | 500                              | 0.02                           | 0.05                      | 33.3                               |   |
| DCS 300-4E   | 0-300        | 0-4                | 0.2                                 | 25                     | 200              | 500                              | 0.02                           | 0.05                      | 16.67                              |   |
| <b>DCS Series 3 kW</b>   |              |                    |                                     |                        |                  |                                  |                                |                           |                                    |   |
| DCS 8-350E   | 0-8          | 0-350              | 0.2                                 | 15                     | 100              | 1000                             | 0.02                           | 0.05                      | 625                                | 0-10V = 0-100% V <sub>o</sub> or 0-5V = 0-100% V <sub>o</sub> |
| DCS 12-250E  | 0-12         | 0-250              | 0.2                                 | 10                     | 100              | 1000                             | 0.02                           | 0.05                      | 416.7                              |   |
| DCS 20-150E  | 0-20         | 0-150              | 0.2                                 | 10                     | 100              | 1000                             | 0.02                           | 0.05                      | 250                                |   |
| DCS 40-75E   | 0-40         | 0-75               | 0.2                                 | 20                     | 100              | 1000                             | 0.02                           | 0.05                      | 125                                |   |
| DCS 55-55E   | 0-55         | 0-55               | 0.2                                 | 20                     | 100              | 1000                             | 0.02                           | 0.05                      | 90.9                               |   |
| DCS 60-50E   | 0-60         | 0-50               | 0.2                                 | 20                     | 100              | 1000                             | 0.02                           | 0.05                      | 83                                 |   |
| DCS 80-37E   | 0-80         | 0-37               | 0.2                                 | 20                     | 100              | 1000                             | 0.02                           | 0.05                      | 62.5                               |   |
| DCS 150-20E  | 0-150        | 0-20               | 0.2                                 | 30                     | 200              | 1000                             | 0.02                           | 0.05                      | 33.3                               |   |
| * Typical resolution is 0.02% ** Typical P-P noise and ripple (20Hz to 300kHz) |              |                    |                                     |                        |                  |                                  |                                |                           |                                    |   |

# DCS Series : Product Specifications

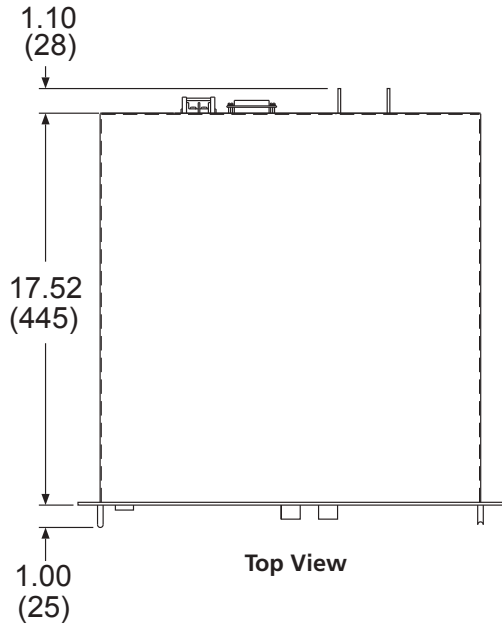
# 1–3 kW

| Model                    | Constant Current Mode*             |                   | Temperature Coefficient %/°C (Typ.) | Current Drift %/out Max. (Typ.) | Programming Constants, Current Mode |   | Efficiency % (Typ.)   |    |
|--------------------------|------------------------------------|-------------------|-------------------------------------|---------------------------------|-------------------------------------|---|---|----|
|                          | Regulation Line and Load% Combined | Ripple (rms)** mA |                                     |                                 | Ohms/A                              | V/A   |   |    |
| <b>DCS Series 1 kW</b>   |                                    |                   |                                     |                                 |                                     |   |   |    |
| DCS 8-125E               | 0.2                                | 160               | 0.03                                | 0.05                            | 40                                  | 0-10V = 0-100% I <sub>o</sub><br>or<br>0-5V = 0-100% I <sub>o</sub> | 82  |    |
| DCS 10-100E              | 0.2                                | 128               | 0.03                                | 0.05                            | 50                                  |   | 82  |    |
| DCS 20-50E               | 0.2                                | 25                | 0.03                                | 0.05                            | 100                                 |   | 82  |    |
| DCS 33-33E               | 0.2                                | 10                | 0.03                                | 0.05                            | 151.5                               |   | 84  |    |
| DCS 40-25E               | 0.2                                | 7                 | 0.03                                | 0.05                            | 200                                 |   | 84  |    |
| DCS 50-20E               | 0.2                                | 7                 | 0.03                                | 0.05                            | 250                                 |   | 84  |    |
| DCS 60-18E               | 0.2                                | 6                 | 0.03                                | 0.05                            | 277.8                               |   | 86  |    |
| DCS 80-13E               | 0.2                                | 4                 | 0.03                                | 0.05                            | 384.6                               |   | 86  |    |
| DCS 100-10E              | 0.2                                | 3                 | 0.03                                | 0.05                            | 500                                 |   | 86  |    |
| DCS 150-7E               | 0.2                                | 2                 | 0.03                                | 0.05                            | 714.3                               |   | 86  |    |
| DCS 300-3.5E             | 0.2                                | 1                 | 0.03                                | 0.05                            | 1428.6                              |   | 86  |    |
| DCS 600-1.7E             | 0.2                                | 1                 | 0.03                                | 0.05                            | 2941.2                              |   | 86  |    |
| <b>DCS Series 1.2 kW</b> |                                    |                   |                                     |                                 |                                     |   |   |    |
| DCS 8-140E               | 0.2                                | 180               | 0.03                                | 0.05                            | 35.7                                | 0-10V = 0-100% I <sub>o</sub><br>or<br>0-5V = 0-100% I <sub>o</sub> | 82  |    |
| DCS 10-120E              | 0.2                                | 153               | 0.03                                | 0.05                            | 41.7                                |   | 82  |    |
| DCS 20-60E               | 0.2                                | 30                | 0.03                                | 0.05                            | 83.3                                |   | 82  |    |
| DCS 33-36E               | 0.2                                | 11                | 0.03                                | 0.05                            | 138.9                               |   | 84  |    |
| DCS 40-30E               | 0.2                                | 9                 | 0.03                                | 0.05                            | 166.7                               |   | 84  |    |
| DCS 50-24E               | 0.2                                | 8.5               | 0.03                                | 0.05                            | 208.3                               |   | 84  |    |
| DCS 60-20E               | 0.2                                | 6.6               | 0.03                                | 0.05                            | 250.0                               |   | 85  |    |
| DCS 80-15E               | 0.2                                | 6                 | 0.03                                | 0.05                            | 333.3                               |   | 85  |    |
| DCS 100-12E              | 0.2                                | 3.6               | 0.03                                | 0.05                            | 416.7                               |   | 85  |    |
| DCS 150-8E               | 0.2                                | 2.3               | 0.03                                | 0.05                            | 625.0                               |   | 85  |    |
| DCS 300-4E               | 0.2                                | 1.2               | 0.03                                | 0.05                            | 1250.0                              |   | 85  |    |
| <b>DCS Series 3 kW</b>   |                                    |                   |                                     |                                 |                                     |   |   |    |
| DCS 8-350E               | 0.2                                |                   | 0.03                                | 0.05                            |                                     |   | 0-10V = 0-100% I <sub>o</sub><br>or<br>0-5V = 0-100% I <sub>o</sub> | 82 |
| DCS 12-250E              | 0.2                                |                   | 0.03                                | 0.05                            |                                     | 82  |   |    |
| DCS 20-150E              | 0.2                                |                   | 0.03                                | 0.05                            |                                     | 82  |   |    |
| DCS 40-75E               | 0.2                                |                   | 0.03                                | 0.05                            |                                     | 86  |   |    |
| DCS 55-55E               | 0.2                                |                   | 0.03                                | 0.05                            |                                     | 82  |   |    |
| DCS 60-50E               | 0.2                                |                   | 0.03                                | 0.05                            |                                     | 86  |   |    |
| DCS 80-37E               | 0.2                                |                   | 0.03                                | 0.05                            |                                     | 86  |   |    |
| DCS 150-20E              | 0.2                                |                   | 0.03                                | 0.05                            |                                     | 86  |   |    |

\* Typical resolution is 0.02% \*\* rms ripple typical from 20 Hz to 300 kHz

# DCS Series : Diagram

## 1 kW and 1.2 kW

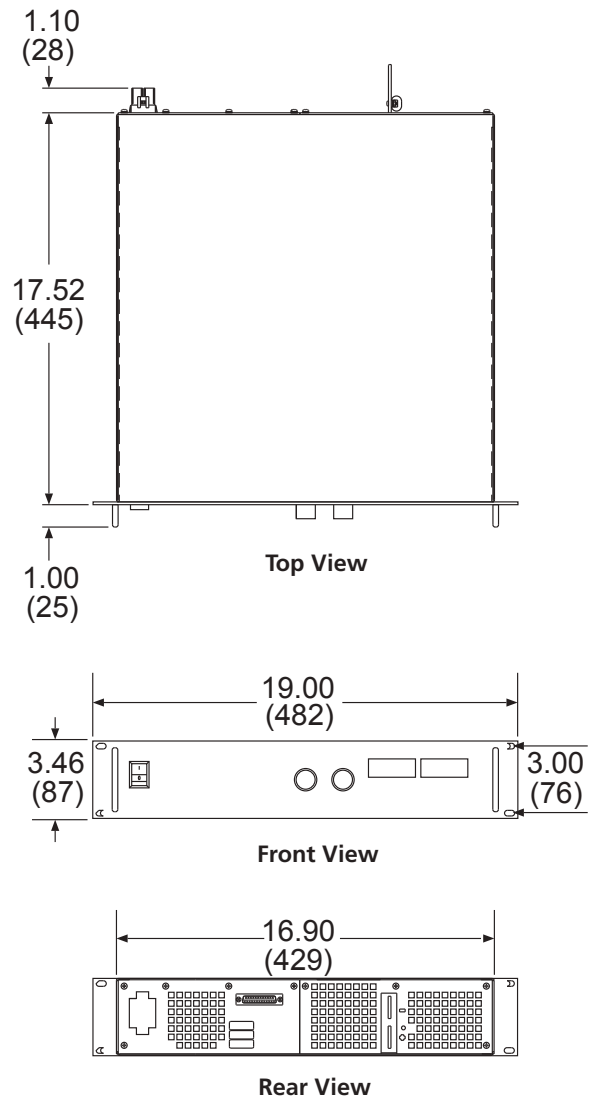


Top View

Front View

Rear View

## 3 kW



Top View

Front View

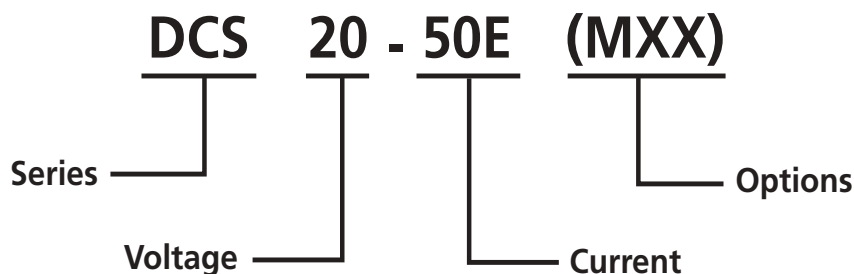
Rear View

Dimensions in inches (millimeters)

### J3 Connector

|    |                                |    |                                 |
|----|--------------------------------|----|---------------------------------|
| 1  | 90-250 VAC Remote Shutdown     | 14 | TTL Shutdown                    |
| 2  | Shutdown Return                | 15 | +12 VDC                         |
| 3  | OVP Program                    | 16 | 1 mA Current 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) |    |                                 |

## Model Number Description



## Options and 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. This isolation allows users to control power supplies not connected to a common ground. In addition, in systems with high ambient noise or with large ground loop currents the control ground can be isolated from the power ground eliminating problems. |
| M85        | 12-bit slave interface option for use with M9 or M130 master (3 ft. control cable included)  |
| M102       | Front panel binding posts for 1 kW or 1.2 kW, Models $\leq 30A$ , $\leq 100V$ .<br>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 (MS Internet Explorer 6.0 or later)  |
| M131       | 16-bit slave interface option for use with a M130 master (3 ft. control cable included)  |
| M133       | Output disconnect and polarity reversal relays controlled via SCPI commands. Limited to 1kW or 1.2 kW, $\leq 100V$ , $\leq 60A$  |
| M135       | M130 & M133 combination. Limited to 1kW or 1.2 kW, $\leq 100V$ , $\leq 60A$  |
| M136       | M131 & M133 combination. Limited to 1kW or 1.2 kW, $\leq 100V$ , $\leq 60A$  |
| 105-300-26 | Rack slide kit (3 kW only)   |

## Software

IVI-Com and Labview drivers available for free download at [http://www.elgar.com/products/DCS/DCS\\_Downloads.htm](http://www.elgar.com/products/DCS/DCS_Downloads.htm)

