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Try our online  
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Product Selector!

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contact Technical Services at (800) 377-4384 with any questions.

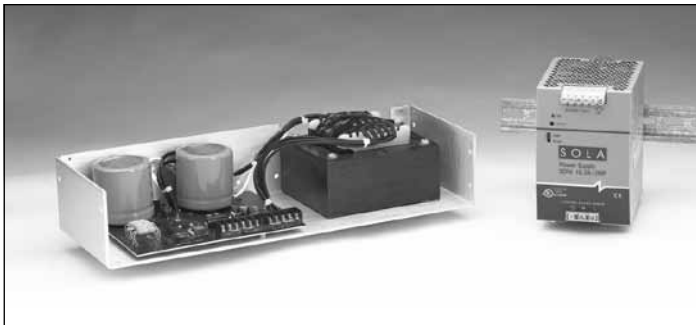
SolaHD has a broad range of standard power supplies to suit almost any industrial application. Updated approvals and user friendly features make power system design easy. The product line includes one of the broadest ranges of DIN Rail and linear-based power supplies in the marketplace. The DIN Rail products feature full CE compliance (including all the elements of CE design engineers need to worry about: safety/LVD, EMC, and ingress protection). UL 508 approvals eliminate derating in UL 508 listed panel systems. Global inputs are available for installations around the world.

Three phase input options are available on many of the SDN DIN Rail products that convert 380/480 three phase directly to 24 Vdc. They provide extremely stable, regulated low voltage without the need for a step down transformer saving space and money.

SolaHD now offers a DC UPS to provide backup power to the power supply in the event of a blackout.

#### Linear vs. Switcher

SolaHD has provided both linear and switching technology products for many years. As a leading supplier of power products to the industrial market, both technologies are still important. Switching technology (most of SolaHD's DIN Rail line) is the predominant method of AC-DC conversion for almost any type of electronic system sold today in the world, from PLC's to desktop PC's.



*Linear vs. Switcher*



*Linear Power Supplies for a broad range of applications*

The small size, lightweight and high efficiency of the switching products give them significant advantages over the linear technology products (Sola's SL and 83 series). SolaHD switching products provide well filtered and regulated DC of typically less than 1% deviation from the nominal output voltage.

Linears are about 50% efficient while their switching counterparts are typically over 80% efficient. Switchers are light enough to mount on a DIN Rail, while only the smallest linears are capable of being securely mounted to a DIN Rail. Linears are still popular today because they do provide very tight regulation (<.01% typically), almost perfectly clean DC, fast transient response and their low component count helps provide a lower material cost for its user. Linears are typically open frame because of the excessive heat dissipation from their low efficiency.

SolaHD's industry standard linears, however, are available with optional covers for safety. Most linears are recognized to UL 60950 and cannot meet the stricter temperature requirements of the UL 508 Listing, such as with SolaHD's DIN Rail power supplies.

## DC Power Supply Selection Process

Power supplies can be selected online by visiting our website. Enter your power requirements and a list of matching power supplies will list. You can also manually select a power supply by following the directions below:

- 1) Gather the required information.
  - Input voltage and frequency?
  - Wattage needed?
  - Number of outputs?
  - Voltage of each output?
  - Amperage of each output?
  - Don't forget to take into account the peak loading of each output.
  - Battery Backup
- 2) Calculate the power (wattage) of the DC power supply you need. If more than one output is required, do the following calculation:
  - Multiply the Voltage times the amperage of each output to calculate the wattage of each output. Next, add together the wattage of each output to get the total wattage for the supply.
- 3) Determine which models from the Power Supply Selection Chart (on the next page) meet all of the required specifications.
- 4) Download the specifications sheets from our web site ([www.solaheviduty.com](http://www.solaheviduty.com)).
- 5) Check the mounting style, connections and physical size of the power supply to ensure its suitability for the intended application.
- 6) Check for applicable safety approvals for the country and application the power supply will be used in.

Try our online product selector at  
[www.solahd.com/psselect](http://www.solahd.com/psselect).  
 Enter your power requirements and a list  
 of matching power supplies will list.  
 It's fast and easy.

### Selection Worksheet

Output:

\_\_\_\_\_ Vdc x \_\_\_\_\_ Amps = \_\_\_\_\_ Watts

\_\_\_\_\_ Vdc x \_\_\_\_\_ Amps = \_\_\_\_\_ Watts

\_\_\_\_\_ Vdc x \_\_\_\_\_ Amps = \_\_\_\_\_ Watts

\_\_\_\_\_ Vdc x \_\_\_\_\_ Amps = \_\_\_\_\_ Watts

\_\_\_\_\_ Vdc x \_\_\_\_\_ Amps = \_\_\_\_\_ Watts

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\_\_\_\_\_ Vdc x \_\_\_\_\_ Amps = \_\_\_\_\_ Watts

\_\_\_\_\_ Vdc x \_\_\_\_\_ Amps = \_\_\_\_\_ Watts

Add Watts from each output to calculate

Total Watts = \_\_\_\_\_

Physical Dimensions:

\_\_\_\_\_ H x \_\_\_\_\_ W x \_\_\_\_\_ D

Mounting:

\_\_\_\_\_ DIN Rail

\_\_\_\_\_ Chassis

\_\_\_\_\_ Other

Other required features or options:

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If you have filled out this form and cannot find the appropriate power supply, please fax (800-367-4384) or e-mail ([tech@solahd.com](mailto:tech@solahd.com)) this information to the Technical Services group.

## Power Supply Selection Table

This chart is intended only as a guide for selecting a series of DC power supply, some of the series listed may not work in all applications.

Series	Input Voltage				Output Voltage						Power Range (Total Watts)	Number of Outputs				Notes	Page
	DC	115 Vac	230 Vac	380/480 Vac	3.3 V	5 V	12 V	15 V	24 V	48 V		Single	Dual	Triple	>4		
SDN™	X	X	X	X					X		60 – 960	X				- DIN Rail mount - DC Battery Back-up Available - Redundant options - NEC Class 2/DeviceNet™	101
SDP™	X	X	X			X	X	X	X	X	15 – 100	X				- DIN Rail mount compact	118
SCP	X	X	X		X	X	X	X	X	X	30 – 100	X	X	X		- DIN Rail mount/Chassis	124
SCD	X					X	X	X	X	X	30	X	X			- DIN Rail mount/Chassis - DC input	128
SCL		X	X			X	X	X			4 – 10	X	X	X		- DIN Rail mount/Chassis	126
SFL		X	X				X		X	X	75 – 600	X				- DIN Rail mount - Adjustable Pot, Red or UPS option	134
GL OEM Switchers		X	X		X	X	X	X	X		25 – 500	X	X	X	X	- 40 - 110 Watt, open frame, Molex type connections - 200 Watt, enclosed with connected screw terminals	143
SHP		X	X			X	X	X	X	X	1500 – 2000	X	X	X	X	- Modular design - Screw Terminals (OEM) supply - Configurable Voltage Output	151
Silver Line Linears		X	X			X	X	X	X		15 – 244	X	X	X		- Industry standard footprint - Screw terminals and optional covers	137

## DIN Rail Selection Guide

Output Voltages											
	48	24	15	12	10	5	±15	±12	5/24	5/12/12	
A M P S	1	SDP 1-48-100T	SDP 06-24-100T				SCL 4D15-DN	SCL 4D12-DN	SCP 30D524-DN SCP 30S524B-DN	SCL 10T512-DN	
		SFL 1.5-48-100	SDP 1-24-100T	SCP 30S15-DN			SCL 10D15-DN	SCL 10D12-DN		SCP 30T512-DN	
	2.5		SDN 2.5-24-100P SDP 2-24-100T		SDP 2-12-100T SCP 30S12B-DN		SCP 30D15-DN	SCP 30D12-DN			
	3			SDP 3-15-100T		SDP 2-12-100T					
	3.8		SCP 100S24X-CM SDN 4-24-100LP SDP 4-24-100LT								
	4		SDP 4-24-100RT								
	5	SDN 5-48-100P	SDN 5-24-100P SDN 5-24-100C SDN 5-24-480 (30)			SDP 5-5-100T SCP 30S5B-DN					
	6	SFL 6-48-100									
	9				SDN 9-12-100P						
	10		SDN 10-24-100P SDN 10-24-100C SDN 10-24-480 (30)								
	12	SFL 12-48-100	SFL 12-24-100								
	16				SDN 16-12-100P						
	20		SDN 20-24-100C SDN 20-24-100P SDN 20-24-480C (30)								
	25		SFL 24-24-100								
	30		SDN 30-24-480 (30)								
	40		SDN 40-24-480 (30)								

Visit our website at [www.solahd.com](http://www.solahd.com) or  
contact Technical Services at (800) 377-4384 with any questions.

## SDN-C Compact DIN Rail Series

The SDN-C DIN rail power supplies are the next generation of the popular SDN series. These models combine high efficiency and compact size with new visual diagnostic LEDs to offer the most performance available from SolaHD. Essential industrial features such as Sag Immunity, Power Factor Correction, and universal voltage input have been retained in this series. Wide temperature operating range and parallel operation capability make the new SDN-C units suitable to a variety of industrial applications.

### Features

- Compact packaging to save space on the DIN rail
- New visual diagnostic LEDs for input and output status at a glance
- High MTBF means high reliability and long life
- Higher efficiency saves energy and lowers amount of heat generated in panel
- PowerBoost™ overload capability to start high inrush loads
- Accepts Universal voltage 85-264 Vac, 50/60 Hz input
- Single phase models meet SEMI F47 Sag Immunity standard
- Power Factor Correction (meets EN61000-3-2)
- Class I, Div. 2 Hazardous Locations
  - ATEX approval (pending)
  - Single and three-phase input available
- Patented DIN rail mounting clip
- User Adjustable output voltage accessible via front face
- Parallel capability standard
- Industrial grade design
  - -25°C to 60°C operation without derating
  - Rugged metal case and DIN connector
- User-friendly
  - LEDs for status
  - Large, rugged, accessible screw terminals
  - Easy on/off DIN mounting
- Fully tested and burned-in at factory
- RoHS compliant



UL 508 Listed  
IND. CONT. EQ.  
E61379



UL 60950  
E137632  
CUL/CSA-C22.2  
No. 234-M90



EMC and  
Low Volt.  
Directive

### Related Products

- SDN-P series
- SDP™ series
- SFL series
- SCP series
- SDU UPS

### Applications

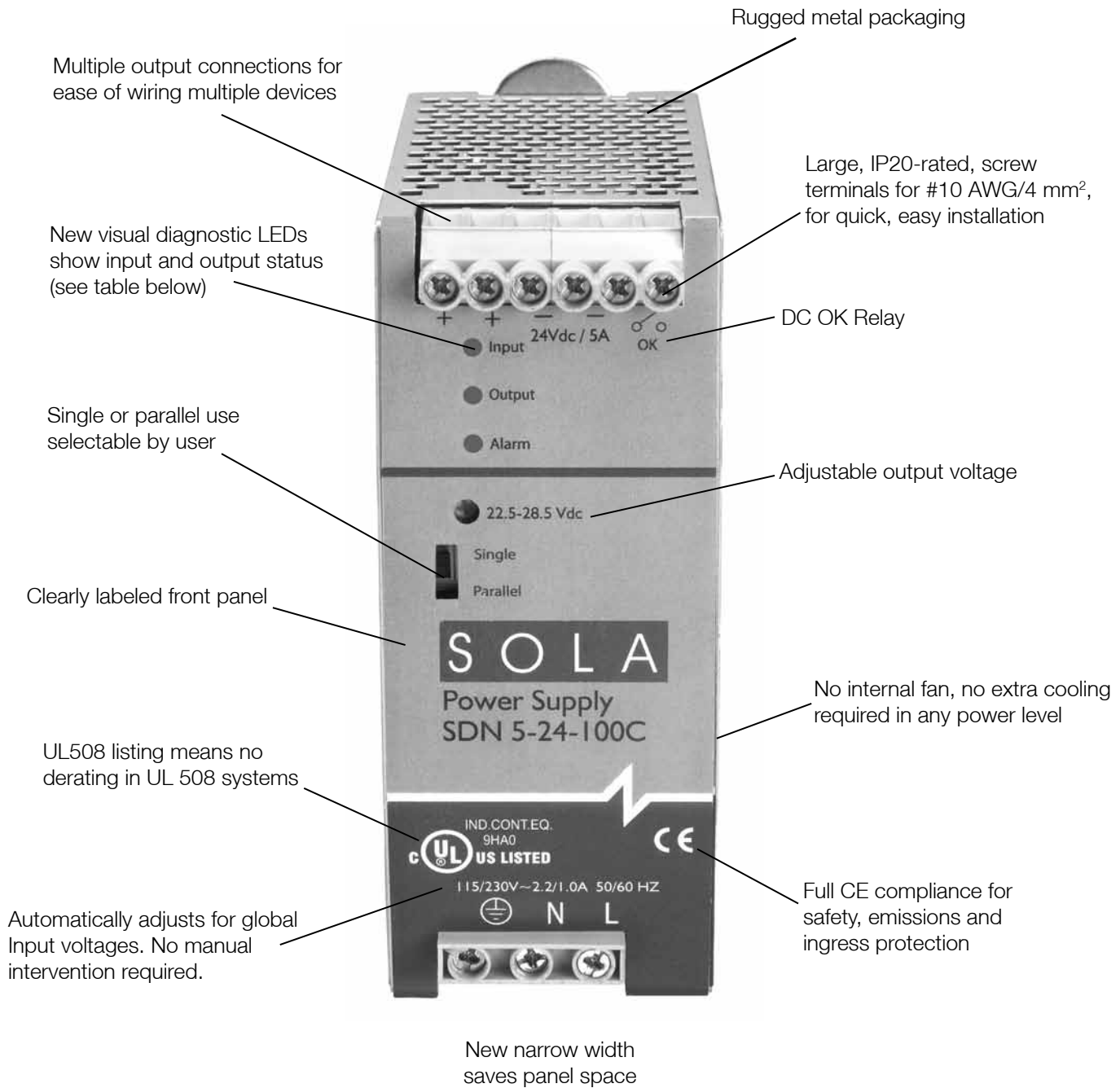
- Industrial Machine Control
- Process Control
- Conveying Equipment
- Material Handling
- Vending Machines
- Packaging Equipment
- Amusement Park Equipment
- Semiconductor Fabrication Equipment
- DeviceNet™

### Accessories

- Chassis Mount Bracket (SDN-PMBRK2)

Visit our website at [www.solahd.com](http://www.solahd.com) or  
contact Technical Services at (800) 377-4384 with any questions.

## The SolaHD Difference



## LED Light Status Conditions

	Normal	AC Power Loss	AC Input Low	No DC	High Load	Overload	Hot	Too Hot
<b>Input</b>	Green	-	Yellow	Green	Green	Green	Green	Green
<b>Output</b>	Green	-	Green	-	Yellow	Yellow	Green	-
<b>Alarm</b>	-	-	-	Red	Yellow	Red	Yellow	Yellow

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## SDN-C Specifications (Single Phase)

Description	Catalog Number		
	SDN 5–24–100C	SDN 10–24–100C	SDN 20–24–100C
Input			
Nominal Voltage	115/230 Vac		
–AC Range	85 - 264 Vac		
–DC Range <sup>1</sup>	90 - 375 Vdc		
–Frequency	43-67 Hz		
Nominal Current <sup>2</sup>	1.65 - 0.55 A	3.2 - 1.0 A	6A / 3A
–Inrush current max.	Typ. < 15 A	Typ.< 30 A	< 40 A
Efficiency (Losses <sup>3</sup> )	> 90% typ. (12 W)	> 90% typ. (24 W)	> 92% (38 W)
Power Factor Correction	Active power factor correction to better than 0.92		
Output			
Nominal Voltage	24 V (23.5~28.5 Vdc Adj.)		
–Tolerance	< ±2 % overall (combination Line, load, time and temperature related changes)		
Initial Voltage Setting	24.5V ± 1%		
–Ripple <sup>4</sup>	< 50 mVpp		<100mVpp
PARD	PARD (Periodic and Random Deviation) = 100 mV peak-peak max		
Overvoltage Protection	> 30.5 but < 33 Vdc, auto recovery		
Power Back Immunity	< 35V		
Nominal Current	5 A (120 W)	10 A (240 W)	20 A (480W)
–Peak Current <sup>5</sup>	1.5 × Nominal Current for 2 seconds minimum while holding voltage > 20 Vdc		
–Short Circuit Current	1.5 x Nominal Current at near zero volts at short circuit condition		
–Current Limit	PowerBoost™		
Parallel Operation	Switch selectable single unit or parallel unit operation. Units will not be damaged by parallel operation (regardless of switch position setting).		
Holdup Time	>20 ms (Full load, 100 Vac Input @ T <sub>amb</sub> =+25°C) to 95% output voltage		
Voltage Fall Time	<150 mS from 95% to 10% rated voltage @ full load (T <sub>amb</sub> =+25°C)		
Line and Load Regulation	< 0.5%		
General			
EMC: –Emissions	EN61000-6-2:2001, EN61000-6-3:2001, Class B EN55011, EN55022 Radiated and Conducted including Annex. A, EN61000-3-2		
–Immunity	EN61000-6-1:2001, EN61000-6-2:2001, EN61000-4-2 Level 4, EN61000-4-3 Level 3, EN61000-4-6 Level 3, EN61000-4-4 Level 4 input and level 3 output. EN61000-4-5 Isolation class 4, EN61000-4-11, IEC 61000-4-34 voltage dip immunity standard		
Approvals	UL508 Listed, cULus; UL 60950-1, cURus; IEC60950-1; Class I, Div. 2, Hazadous location approval; CE (LVD 73/23 & 2004/108/EC), (EMC 89/336 & 93/68/EEC); EN61000-3-2		
Temperature <sup>7</sup>	Storage: -40°C to + 85°C, Operation -25°C to +60°C full power, with linear derating to half power from 60 to 70°C (Convection cooling, no forced air required). Operation up to 50% load permissible with sideways or front side up mounting orientation.		
MTBF <sup>6</sup>	> 550,000 hrs		> 450,000 hrs
Warranty	5 Years		
General Protection/Safety	Protected against continuous short -circuit, continuous overload, continuous open circuit. Protection Class 1 (IEC536), degree of protection IP20 (IEC60529) Safe low voltage: SELV (acc. IEC60950-1)		
Status Indicators	<b>Visual:</b> 3 status LEDs (Input, Output, Alarm) <b>Relay:</b> N.O. contact rated 200ma/50 Vdc		
Installation			
Fusing –Input	Internally fused		
–Output	Outputs are capable of providing high currents for short periods of time for inductive load startup or switching. Fusing may be required for wire/loads if 2x Nominal O/P current rating cannot be tolerated. Continuous current overload allows for reliable fuse tripping.		
Mounting	Simple snap-on to DIN TS35/7.5 or TS35/15 rail system.		
Connections	<b>Input:</b> Screw terminals, connector size range: 16-10 AWG (1.5-6 mm <sup>2</sup> ) for solid conductors. <b>Output:</b> Two terminals per output, connector size range: 16-10 AWG (1.5-6 mm <sup>2</sup> ) for solid conductors.		
Case	Fully enclosed metal housing with fine ventilation grid to keep out small parts.		
–Free Space	15 mm in front, 25 ~ 40 mm above and below, 10 mm left and right.		
H x W x D (inches/mm)	4.88 × 1.97 × 4.55 (124 × 50 × 116)	4.88 × 2.36 × 4.55 (124 × 60 × 116)	4.88 x 3.42 x 4.98 (124 x 87 x 126.6)
Weight (lbs/kg)	1.65 (0.75)	1.98 (0.9)	2.6 (1.2)

- Not UL listed for DC input.
- Input current ratings are conservatively specified with low input, worst case efficiency and power factor.
- Losses are heat dissipation in watts at full load, nominal input line.

- Ripple/noise is stated as typical values when measured with a 20 MHz, bandwidth scope and 50 Ohm resistor.
- Peak current is calculated at 24 Volt levels.
- Demonstrated through extended life test.
- Contact tech support for operation at -25°C.

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contact Technical Services at (800) 377-4384 with any questions.



## SDN-C Specifications (Three Phase)

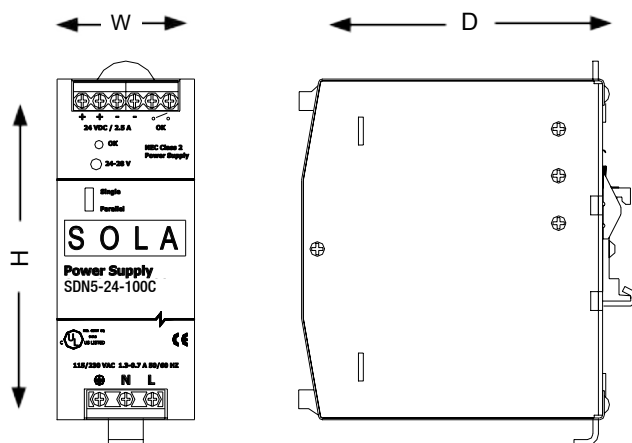
Description	Catalog Number	
	SDN 20–24–480CC	SDN 40–24–480C
Input		
Nominal Voltage	380 - 480 Vac	
Two–phase input	Yes <sup>1</sup>	
–AC Range Continuous <sup>2</sup>	320 - 540 Vac	
–DC Range Continuous	450 - 760 Vdc	TBD
–DC Range Short Term <sup>3</sup>	420 - 780 Vdc	TBD
–Frequency	50 - 60 Hz	
Nominal Current <sup>4</sup>	3 x 0.9 A or 2 x 1.3 A	3 x 1.6 A
–Inrush Current Max.	Negligible	Negligible
Efficiency (Losses <sup>5</sup> )	93% (42 W)	94% (78 W)
Power Factor Correction	Active Power Factor Correction	
Output		
Turn on Time	Typ. 1s	
Voltage Rise Time	< 100mS full resistance load (T <sub>amb</sub> =+25°C)	
Power Back Immunity	< 35V	
Overvoltage Protection	> 30.5 but < 33 Vdc, auto recovery	
Nominal Voltage	24V (24-28Vdc Adjustable)	
Voltage Regulation	< ± 2% overall	
Initial Voltage Setting	24.5V ± 1%	
–Ripple <sup>6</sup>	< 100mVpp	
PARD	PARD (Periodic and Random Deviation) = 200mV peak-peak max	
Nominal Current	20 A (480 W) (constant power, not constant)	40 A (960 W)
–Peak Current <sup>7</sup>	1.5 x Nominal Current for 4 seconds minimum while holding voltage > 20 Vdc	
–Current Limit	PowerBoost™	
Derating (T amb=60–70 °C)	typ. 24W/°C	typ. 48 W/°C
Holdup Time	>20 ms	>15 ms
Voltage Fall Time	<50 mS from 95% to 10% rated voltage @ full load (T <sub>amb</sub> =+25°C)	
Parallel Operation <sup>8</sup>	Single or parallel operation selectable via front switch. For redundant operation, use of external diode module is preferred	SDN 40 uses active paralleling
General		
Case	Fully enclosed metal housing with fine ventilation grid to keep out small parts.	
Min. Required Free Space	70mm above and below, 10mm left and right (same as manual)	70mm above and below, 15mm in front, 25mm left & right
Max. Dimensions HxWxD (in/mm)	4.85 x 2.56 x 4.68 (123.3 x 85 x 118.8)	4.85 x 7.09 x 4.85 (123.3 x 180 x 123.17)
Weight (lbs/g)	2.8 lb (1300 g)	5.3 lb (2400 g)
EMC: –Emissions	EN61000-6-3:2001, Class B EN55011, EN55022 Radiated and Conducted including Annex. A, EN61000-3-2	
–Immunity	EN61000-6-1:2001, EN61000-6-2:2001, EN61000-4-2 Level 4, EN61000-4-3 Level 3, EN61000-4-6 Level 3, EN61000-4-4 Level 4 input and level 3 output. EN61000-4-5 Isolation class 4, EN61000-4-11, Semi F47 sag immunity UL508 Listed, cULus; UL60950-1, cURus; IEC60950-1; ISA 12.12.01 Class 1 Div 2,	
Approvals	CE (LVD 73/23 & 2004/108/EC), (EMC 89/336 & 93/68/EEC); EN61000-3-2,EN 60079-15 (Class 1, Zone 2)	
Temperature	Storage: -40°C to + 85°C, Operation -25°C to +60°C full power, with linear derating to half power from 60°C to 70°C (Convection cooling, no forced air required). Operation up to 50% load permissible with sideways or front side up mounting orientation.	
Humidity	< 90% RH, noncondensing; IEC 60068-2-2, 68-2-3	
Altitude	0 to 3000 meters (0 to 10,000 feet)	
Vibration	2.5(g) RMS, 10-2000 Hz (random); three axes for 20 minutes each - IEC 60068-2-6	
Shock	3(g) peak, three axes, 11mseconds for each axis - IEC 60068-2-27	
Warranty	5 Years	
MTBF	> 550,000 hrs MTBF (Nominal voltage, full load, T ambient = 25°C	
General Protection/Safety	Protected against short -circuit, overload, open circuit. Protection class 1 (IEC536), degree of protection IP20 (IEC 529), Safe low voltage: SELV (acc. EN60950)	
Over–Temperature Protection	LED Alarm, Output shutdown with automatic restart	
Status Indicators	<b>Visual:</b> 3 status LEDs (Input, Output, Alarm); <b>Relay:</b> SSR or dry relay contact, signal active when Vout = 18.5Vdc = +/-5%	
Installation		
Fusing: –Input	Externally fused	
–Output	Not fused. Output is capable of providing high currents (PowerBoost) for motor load startup.	
Mounting	Simple snap-on to DIN TS35/7.5 or TS35/15 rail system.	
	Unit should handle normal shock and vibration of industrial use and transportation without falling off the rail.	
Connections <sup>9</sup>	<b>Input:</b> screw terminals, Wiring for the connector will be ground on the left (when looking at the front of the unit), connector size range: 16-10AWG (1.5-6mm²) for solid conductors. <b>Output:</b> connector size range, wire gauge 6-7 AWG for SDN40; all other models: 16-10AWG (1.5-6mm²) for solid conductors. The connector color will be gray or off-white.	

- SDN20 will operate at 75% load and SDN40 will operate at 50% load under loss of 1 phase. Units will shut down if thermal threshold is exceeded under this condition.
- Unit passed input voltage overstress test at 600 Vac maximum without failure.
- DC operation will require the user to provide the proper input circuit protection.
- Input current ratings are specified with low input, line conditions, worst case efficiency values and power factor spikes. Input current at nominal input settings will be typically half these values.
- Losses are heat dissipation in watts at full load, nominal line.
- Ripple/noise is stated as typical values when measured with a 20 MHz, bandwidth

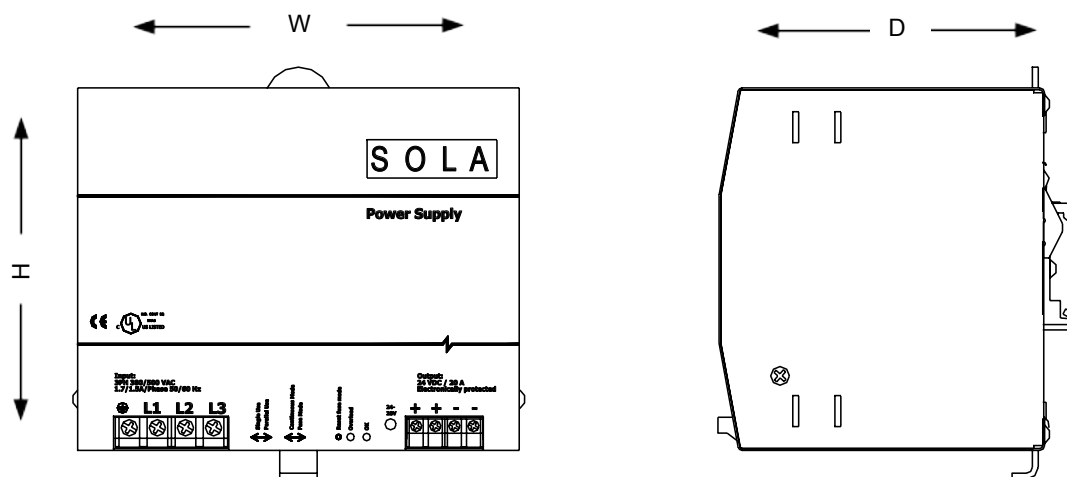
- scope and 50 Ohm resistor.
- SDN 20 and SDN 40 unit will go to HICUP mode. SDN 5 and SDN 10 will maintain min 4 secs to deliver 150% load then drops to almost zero V out. The output voltage will immediately drop to almost zero when load rises above 150%.
- All models except the 40amp unit are capable of parallel operation by use of a jumper pin, accessible by the end user. 40amp has current sharing signal.
- SDN40-24-480 only = Output signaling terminal block features (Shut down, Power Good, Current Monitor, Current Balance, signal GND).

Visit our website at [www.solahd.com](http://www.solahd.com) or  
contact Technical Services at (800) 377-4384 with any questions.

### SDN-C Series Dimensions



Catalog Number	Dimensions – inches (mm)		
	H	W	D
<b>SDN 5–24–100C</b>	4.88 (124)	1.97 (50)	4.55 (116)
<b>SDN 10–24–100C</b>	4.88 (124)	2.36 (60)	4.55 (116)
<b>SDN 20–24–100C</b>	4.88 (124)	3.42 (87)	4.98 (126.6)
<b>SDN 20–24–480CC</b>	4.85 (123)	2.56 (85)	4.68 (118.8)



Catalog Number	Dimensions – inches (mm)		
	H	W	D
<b>SDN 40–24–480C</b>	4.85 (123)	7.09 (180)	4.85 (123)

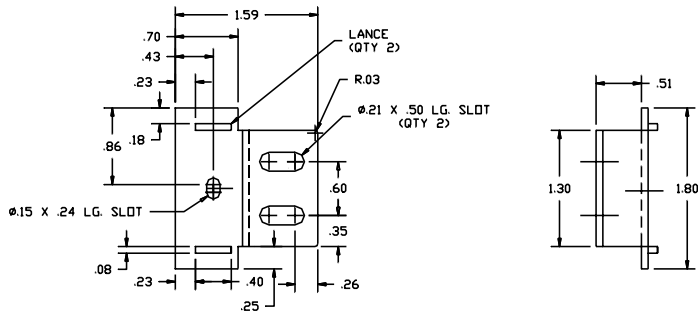
Visit our website at [www.solahd.com](http://www.solahd.com) or  
contact Technical Services at (800) 377-4384 with any questions.

## SDN-C Series Mounting (cont.)

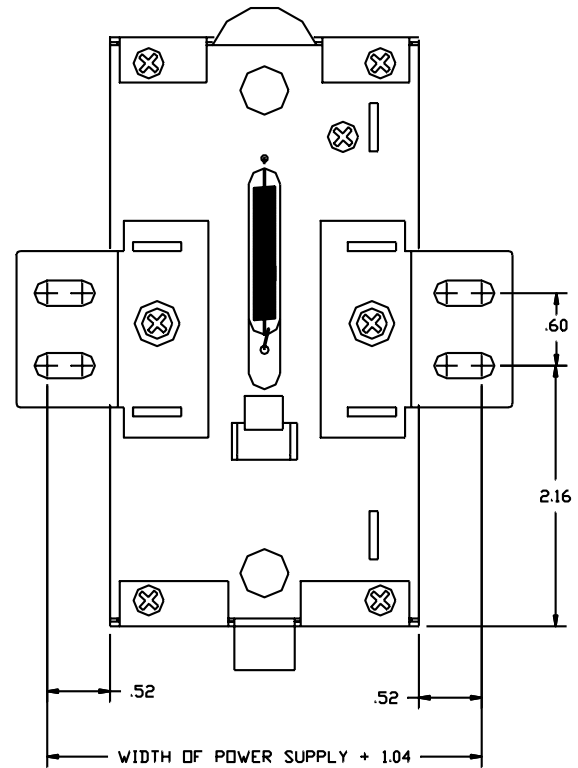
## Chassis Mounting

Instead of snapping a Sola SDN™ unit on the DIN Rail, you can also attach it using the screw mounting set SDN-PMBRK2.

This set consists of two metal brackets, which replace the existing two aluminum profiles.



## Dimensions



## SDN-C Series Mounting

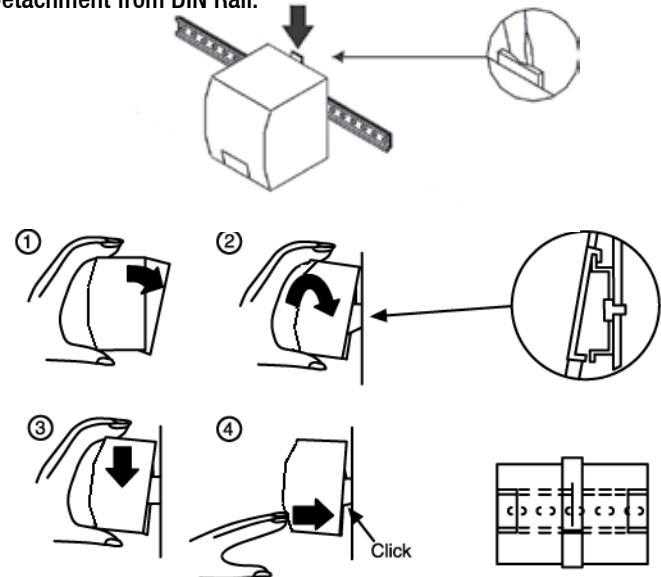
## DIN Rail Mounting

Snap on the DIN Rail:

1. Tilt unit slightly backwards
2. Put it onto the DIN Rail
3. Push downwards until stopped
4. Push at the lower front edge to lock
5. Shake the unit slightly to ensure that the retainer has locked

Alternative Panel Mount: Using the optional SDN-PMBRK2 accessory, the unit can be screw mounted to a panel.

## Detachment from DIN Rail:



## SDN-P DIN Rail Series

The SDN DIN Rail power supplies provide industry leading performance. Sag Immunity, transient suppression and noise tolerant, the SDN series ensures compatibility in demanding applications. Power factor correction to meet European directives, hazardous location approvals and optional redundant accessories allow the SDN series to be used in a wide variety of applications. Wide operation temperature range, high tolerance to shock and vibration and reliable design make the SDN series the preferred choice of users everywhere.

### Features

- Power Factor Correction (per EN61000-3-2)
- Auto Select 115/230 Vac, 50/60 Hz Input
- Single Phase models meet SEMI F47 Sag Immunity
- Class 1, Zone 2 Hazardous Locations
  - ATEX approval on 2.5 through 10A, 24 Vdc single phase models
- Improved metal mounting clip
- DC OK Signal
- Adjustable Voltage
- Parallel Capability standard on all units
- Industrial grade design
  - -10°C to 60°C operation without derating. Indefinite short circuit, overvoltage and overtemperature protection.
  - Powers high inrush loads without shutdown or foldback
  - Rugged metal case and DIN connector
- SDN2.5-24-100P and SDN4-24-100LP meet NEC Class 2
- Narrow width on rail for space critical applications
- User-friendly front panel
  - Large, rugged, accessible, multiple connection screw terminations
  - Easy installation
- Broad range of product to fit almost any application – 2.5 A through 40 A, 24 Vdc
- Single and three phase inputs available
- 12 Vdc and 48 Vdc single phase models available
- Highly efficient >90% switching technology
- High MTBF and reliability
- RoHS compliant



**UL**  
UL 508 Listed  
IND. CONT. EQ.  
E61379

**UL**  
UL 60950  
E137632  
CUL/CSA-C22.2  
No. 234-M90

**CE**  
EMC and  
Low Volt.  
Directive

### Related Products

- SDP™ Series
- SFL Series
- SCP Series
- SCL Series
- SDU UPS

### Applications

- Industrial/Machine Control
- Process Control
- Conveying Equipment
- Material Handling
- Vending Machines
- Packaging Equipment
- DeviceNet™
- Amusement Park Equipment
- Semiconductor Fabrication Equipment

### Accessories

- Chassis Mount Bracket (SDN-PMBRK2)

## SDN-P Specifications (Single Phase), 24 Vdc Output

DEMKO 06  
ATEX 05 21715U

Description	Catalog Number				
	SDN 2.5–24–100P	SDN 4–24–100LP	SDN 5–24–100P	SDN 10–24–100P	SDN 20–24–100P
Input					
Nominal Voltage	115/230 Vac auto select				
–AC Range	85-132/176-264 Vac				
–DC Range <sup>1</sup>	90-375 Vdc	210-375 Vdc			N/A
–Frequency	47 - 63 Hz				
Nominal Current <sup>2</sup>	1.3 A. / 0.7 A	2.1 A / 1.0 A	2.2 A / 1.0 A	5 A / 2 A typ.	9 A/ 3.9 A
–Inrush current max.	typ. < 25 A	typ. < 20 A		typ. < 40 A	
Efficiency (Losses <sup>3</sup> )	> 87.5% typ. (8.6 W)	> 88% typ. (13.1 W)	> 88% typ. (16.4 W)	> 88% typ. (32.7 W)	> 90% typ. (48 W)
Power Factor Correction	Units Fulfill EN61000-3-2				
Output					
Nominal Voltage	24 Vdc (22.5 - 28.5 Vdc adj.)	24 Vdc (22.5 - 25.5 Vdc adj.)	24 Vdc (22.5 - 28.5 Vdc adj.)		
–Tolerance	< ±2% overall (combination Line, load, time and temperature related changes)				
–Ripple <sup>4</sup>	< 50 mVpp				
Overvoltage Protection	> 30 Vdc, but < 33 Vdc, auto recovery				
Nominal Current	2.5 A (60 W)	3.8 A (92 W)	5 A (120 W)	10 A (240 W)	20 A (480 W)
–Current Limit	Fold Forward (Current rises, voltage drops to maintain constant power during overload up to max peak current)				
Holdup Time <sup>5</sup>	> 50 ms	> 100 ms			
Parallel Operation	Single or Parallel use is selectable via Front Panel Switch (SDN 2.5, 4 should not be used in parallel as Class 2 rating would be violated.)				
General					
EMC: –Emissions	EN61000-6-3, -4; Class B EN55011, EN55022 Radiated and Conducted including Annex A.				
–Immunity	EN61000-6-1, -2; EN61000-4-2 Level 4, EN61000-4-3 Level 3; EN61000-4-6 Level 3; EN61000-4-4 Level 4 input and Level 3 output; EN61000-4-5 Isolation Class 4, EN61000-4-11;				
Approvals	EN60950; UL508 Listed, cULus; UL60950, cRUlus, CE (LVD 73/23 & 93/68/EEC). EN61000-3-2, IEC60079-15 (Class 1, Zone 2, Hazardous Location, Groups A, B, C, D w/ T3A), SEMI F47 Sag Immunity. SDN 2.5 & SDN 4 - UL60950 testing to include approval as Class 2 power supply in accordance with UL1310.				
Temperature	Storage: -25°C...+85°C Operation. -10°-60°C full power with operation to 70°C possible with a linear derating to half power from 60°C to 70°C (Convection cooling, no forced air required). Operation up to 50% load permissible with sideways or front side up mounting orientation.				
Humidity	The relative humidity is < 90% RH, noncondensing; IEC 68-2-2, 68-2-3.				
MTBF:	> 820,000 hours	> 640,000 hours		> 600,000 hours	> 510,000 hours
– Standard	Bellcore Issue 6 Method 1 Case 3 @ 40°C				MIL STD 217F @ 30°C
Warranty	5 years				
General Protection/ Safety	Protected against continuous short-circuit, overload, open-circuit. Protection Class 1 (IEC536), degree of protection IP20 (IEC 529) Safe low voltage: SELV (acc. EN60950)				
Status Indicators	Green LED and DC OK signal (N.O. Solid State Contact rated 200 mA / 60 Vdc)				
Installation					
Fusing –Input	Internally fused. External 10 A slow acting fusing for the input is recommended to protect input wiring.				
–Output	Outputs are capable of providing high currents for short periods of time for inductive load startup or switching. Fusing may be required for wire/loads if 2x Nominal O/P current rating cannot be tolerated. Continuous current overload allows for reliable fuse tripping.				
Mounting	Simple snap-on system for DIN Rail TS35/7.5 or TS35/15 or chassis-mounted (optional screw mounting set SDN-PMBRK2 required).				
Connections	<b>Input:</b> IP20-rated screw terminals, connector size range: 16-10 AWG (1.5-6 mm²) for solid conductors. 16-12 AWG (0.5-4 mm²) for flexible conductors. <b>Output:</b> Two connectors per output, connector size range: 16-10 AWG (1.5 - 6 mm²) for solid conductors.				
Case	Fully enclosed metal housing with fine ventilation grid to keep out small parts.				
–Free Space	25 mm above and below, 25 mm left and right, 10 mm in front		25 mm above and below, 25 mm left and right, 15 mm in front	70 mm above and below, 25 mm left and right, 15 mm in front	
H x W x D (inches/mm)	4.88. x 1.97 x 4.55 (124 x 50 x 116)	4.88 x 2.56 x 4.55 (124 x 65 x 116)		4.88 x 3.26 x 4.55 (124 x 83 x 116)	4.88 x 6.88 x 4.55 (124 x 175 x 116)
Weight (lbs/kg)	1 (.45)	1.5 (.68)		2.2 (0.1)	3 (1.36)

- Not UL listed for DC input.
- Input current ratings are conservatively specified with low input, worst case efficiency and power factor.
- Losses are heat dissipation in watts at full load, nominal input line.

- Ripple/noise is stated as typical values when measured with a 20 MHz, bandwidth scope and 50 Ohm resistor.
- Full load, 100 Vac Input @ T<sub>amb</sub> = +25°C

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contact Technical Services at (800) 377-4384 with any questions.

## SDN-P Specifications (Single Phase), 12 Vdc and 48 Vdc Output

CE Ex II 3G DEMKO 06  
ATEX 05 21715U

Description	Catalog Number		
	SDN 9–12–100P	SDN 5–48–100P	SDN 16–12–100P
Input			
Nominal Voltage	115/230 Vac auto select		
–AC Range	85-132/176-264 Vac		
–DC Range <sup>1</sup>	210-375 Vdc		
–Frequency	47-63 Hz, 400 Hz		
Nominal Current <sup>2</sup>	2.0 A / 1.5 A	4 A / 2.3 A	3.3 A / 1.7 A
–Inrush current max.	Typ. < 20 A	typ. < 40 A	
Efficiency <sup>2</sup> (Losses <sup>3</sup> )	> 84% typ. (17.28 W)	> 88% typ. (28.8 W)	> 84% typ. (30.72 W)
Power Factor Correction	Units fulfill EN61000-3-2		
Output			
Nominal Voltage	12 V (11.8-15.2 Vdc Adj.)	48 V (35.8 - 52 Vdc Adj.)	12 V (11.6-14.0 Vdc Adj.)
Tolerance	< ±2 % overall (combination Line, load, time and temperature related changes)		
–Line Regulation	< 0.5%		
–Load Regulation	< 0.5%		
–Time & Temp. Drift	< 1%		
Ripple <sup>3</sup>	< 50 mVpp		
Overvoltage Protection	< 16 Vdc with auto-recovery	< 60 Vdc with auto-recovery	< 16 Vdc with auto-recovery
Nominal Current	9 A (108 W)	5 A (240 W)	16 A (192 W)
–Current Limit <sup>4</sup>	110% of nominal - Fold Forward (Current rises, voltage drops to maintain constant power during overload up to max peak current)		
Holdup Time <sup>5</sup>	>20 ms (Full load, 100 Vac Input @ T <sub>amb</sub> = +25°C) to 95% output Voltage		
Parallel Operation	Supplies will not be damaged with parallel operation		
Power Back Immunity	16 Vdc	60 Vdc	16 Vdc
General			
EMC:			
–Emissions	EN61000-6-3, EN61204-3, EN55022 Class B, EN61000-3-2, EN61000-3-3		
–Immunity	EN61000-6-2, EN61204-3, EN55024, IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-8, IEC61000-4-11		
Approvals	UL508 Listed, cULus; UL 60950-1, cURus; CE (LVD 73/23 & 93/68/EEC), (EMC 89/336 & 93/68/EEC). EN61000-3-2; UL 60079-15 (Class 1, Zone 2 hazardous location, Groups IIA, IIB, IIC w/ T3 temp. class up to 40°C Ambient.); SEMI F47 Sag Immunity, RoHS		
Temperature	Storage: -25 to +85°C, Operation -10 to +60°C full power; with linear derating to half power from 60 to 70°C (Convection cooling, no forced air required). Operation up to 50% load permissible with sideways or front side up mounting orientation.		
Humidity	< 90% RH, non-condensing; IEC 68-2-2, 68-2-3		
MTBF:	>500,000 hrs		
– Standard	Telcordia/Bellcore, Issue Case 3 @25°C		
Warranty	5 years		
General Protection/Safety	Protected against continuous short -circuit, continuous overload, continuous open circuit. Protection Class 1 (IEC536), Degree of Protection IP20 (IEC 529) Safe low voltage: SELV (acc. EN60950)		
Status Indicators (Visual)	Green LED on when V <sub>out</sub> > 75% (with ± 5% tolerance) of nominal output voltage		
Status Indicators (Relay)	Normally Open solid state relay - signal active when V <sub>out</sub> >70% of nominal output voltage (rated up to 200 mA, 60 Vdc)		
Installation			
Fusing			
–Input	Internally fused		
–Output	Outputs are capable of providing high currents for short periods of time for inductive load startup or switching. Fusing may be required if Nominal O/P current rating cannot be tolerated. Continuous current overload allows for reliable fuse tripping.		
Mounting	Simple snap-on to DIN TS35/7.5 or TS35/15 rail system. Unit should handle normal shock and vibration of industrial use and transportation without falling off the rail.		
Connections	<b>Input:</b> Screw terminals, connector size range: 16-10 AWG (1.5-6mm <sup>2</sup> ) for solid conductors. <b>Output:</b> Two terminals per output, connector size range: 16-10 AWG (1.5-6mm <sup>2</sup> ) for solid conductors.		
Case	Fully enclosed metal housing with fine ventilation grid to keep out small parts.		
–Free Space	70 mm above and below, 25 mm left and right, 15mm in front		
H x W x D (inches/mm)	4.88 × 2.56 × 4.55 (124 x 65 × 116)	4.88 × 3.26 × 4.55 (124 × 83 × 116)	
Weight (lbs/kg)	2.4 (1.05)	3.3 (1.48)	

1. Input current ratings are specified with low input, line conditions and worst case efficiency values. Input current at nominal input settings will be typically half these values.

2. Losses are heat dissipation in watts at full load, nominal line.

3. Ripple/ noise is stated as typical values when measured with a 20 MHz bandwidth scope and 50 Ohm resistor.

4. Unit shall not shutdown or 'hiccup' during overload or short circuit. Maximum current value shown shall be maintained indefinitely without damage to the supply. Voltage shall drop according to amount of overload to protect supply from damage.

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contact Technical Services at (800) 377-4384 with any questions.

## SDN-P Specifications (Three Phase)

Description	Catalog Number				
	SDN 5–24–480	SDN 10–24–480	SDN 20–24–480C	SDN 30–24–480	SDN 40–24–480
Input					
Nominal Voltage	1Ø or 3Ø 380-480 Vac		1Ø or 3Ø 380-480 Vac¹	3Ø 380 - 480 Vac	
–AC Range	340 - 576 Vac				
–DC Range²	450 - 820 Vdc				
–Frequency	47 - 63 Hz				
Nominal Current³	0.5 A	0.8 A	1.5 A	2.0 A	3.0 A
–Inrush current max.	typ. < 18 A			typ. < 30 A	
Efficiency (Losses⁴)	> 90% typ. (12 W)	> 90% typ. (48 W)		> 90% typ. (72 W)	> 90% typ. (96 W)
Power Factor Correction	Units Fulfill EN61000-3-2				
Output					
Nominal Voltage	24 Vdc (22.5 - 28.5 Vdc adj.)				
–Tolerance	< ±2% overall (combination Line, load, time and temperature related changes)				
–Ripple⁵	< 50 mVpp				
Overvoltage Protection	> 30 Vdc, but < 33 Vdc, auto recovery				
Nominal Current	5 A (120 W)	10 A (240 W)	20 A (480 W)	30 A (720 W)	40 A (960 W)
–Peak Current	6A, 2x Nominal Current < 2 sec.	12A, 2x Nominal Current < 2 sec.	25A, 2x Nominal Current < 2 sec.	35A, 2x Nominal Current < 2 sec.	45A, 2x Nominal Current < 2 sec
–Current Limit	Fold Forward (Current rises, voltage drops to maintain constant power during overload up to max peak current)				
Holdup Time⁶	> 40 ms		> 28 ms	> 20 ms	
Parallel Operation	5A through 30A units may be passively paralleled by selecting the “P” position of the switch on the unit. The SDN 40 contains active current balancing.				
General					
EMC: –Emissions	EN61000-6-3, -4; Class B EN55011, EN55022 Radiated and Conducted including Annex A.				
–Immunity	EN61000-6-1, -2; EN61000-4-2 Level 4, EN61000-4-3 Level 3; EN61000-4-6 Level 3; EN61000-4-4 Level 4 input and Level 3 output; EN61000-4-5 Isolation Class 4, EN61000-4-11;				
Approvals	CB Scheme, EN60950; UL508 Listed, cULus; UL60950, cRUus, CE (LVD 73/23 & 93/68/EEC). EN61000-3-2, UL60079-15 Class 1, Zone 2 Hazardous Location, Groups IIA, IIB, IIC w/T3.				
Temperature	Storage: -25°C...+85°C Operation. -10°C -60°C full power with operation to 70°C possible with a linear derating to half power from 60°C to 70°C (Convection cooling, no forced air required). Operation up to 50% load permissible with sideways or front side up mounting orientation. The relative humidity is < 90% RH, noncondensing; IEC 68-2-2, 68-2-3.				
MTBF:	> 1,110,000 hours	> 940,000 hours	> 550,000 hours	> 620,000 hours	> 490,000 hours
– Standard	MIL STD 217F @ 30°C				
Warranty	5 years				
General Protection/ Safety	Protected against continuous short-circuit, overload, open-circuit. Protection Class 1 (IEC536), degree of protection IP20 (IEC 60529) Safe low voltage: SELV (acc. EN60950)				
Status Indicators	Green LED on when V <sub>out</sub> = 18V or greater.				
Installation					
Fusing –Input	Internally fused				
–Output	Outputs are capable of providing high currents for short periods of time for inductive load startup or switching. Fusing may be required for wire/loads if 2x Nominal O/P current rating cannot be tolerated. Continuous current overload allows for reliable fuse tripping.				
Mounting	Simple snap-on system for DIN Rail TS35/7.5 or TS35/15 or chassis-mounted (optional screw mounting set SDN-PMBRK2 required).				
Connections⁷	Input: IP20-rated screw terminals, connector size range: 16-10 AWG (1.5-6 mm²) for solid conductors. 16-12 AWG (0.5-4 mm²) for flexible conductors. Output: Two connectors per output, connector size range: 16-10 AWG (1.5-6 mm²) for solid conductors.				
Case	Fully enclosed metal housing with fine ventilation grid to keep out small parts.				
–Free Space	25 mm above and below, 25 mm left and right, 15 mm in front		70 mm above and below, 25 mm left and right , 15 mm in front		
H x W x D (inches/mm)	4.88 x 2.91 x 4.55 (124 x 73 x 116)	4.88 x 3.5 x 4.55 (124 x 89 x 116)	4.88 x 5.9 x 4.55 (124 x 150 x 116)	4.88 x 9.72 x 4.55 (124 x 247 x 116)	4.88 x 11.1 x 4.55 (124 x 282 x 116)

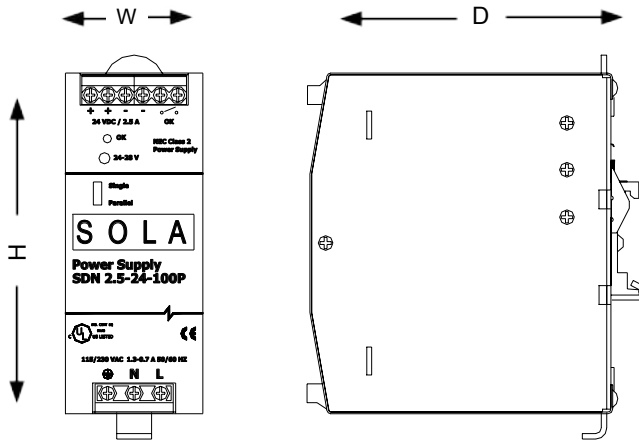
- For the SDN 20-24-480C, single phase input is permissible, but output is derated to 75% (15 Amps @ 24 Vdc).
- Not UL listed for DC input.
- Input current ratings are conservatively specified with low input, worst case efficiency and power factor.

- Losses are heat dissipation in watts at full load, nominal input line.
- Ripple/noise is stated as typical values when measured with a 20 MHz, bandwidth scope and 50 Ohm resistor.
- Full load, 100 Vac Input @  $T_{amb} = +25^{\circ}C$
- For the SDN 40-24-480, output: one (+) two (-) connectors, size range 16-5 AWG (1.5016 mm<sup>2</sup>) solid conductor.

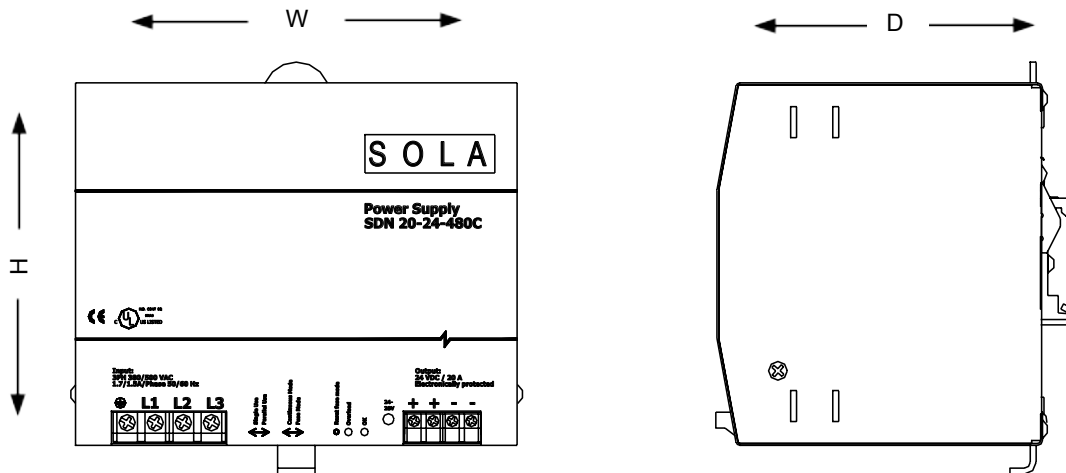
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contact Technical Services at (800) 377-4384 with any questions.



## SDN-P Series Dimensions



Catalog Number	Dimensions – inches (mm)		
	H	W	D
<b>12 Vdc</b>			
<b>SDN 9–12–100P</b>	4.88 (124)	2.56 (65)	4.55 (116)
<b>SDN 16–12–100P</b>	4.88 (124)	3.26 (83)	4.55 (116)
<b>24 Vdc</b>			
<b>SDN 2.5–24–100P</b>	4.88 (124)	1.97 (50)	4.55 (116)
<b>SDN 4–24–100LP</b>	4.88 (124)	2.56 (65)	4.55 (116)
<b>SDN 5–24–100P</b>	4.88 (124)	2.56 (65)	4.55 (116)
<b>SDN 5–24–480</b>	4.88 (124)	2.91 (73)	4.55 (116)
<b>SDN 10–24–100P</b>	4.88 (124)	3.26 (83)	4.55 (116)
<b>SDN 10–24–480</b>	4.88 (124)	3.5 (89)	4.55 (116)
<b>48 Vdc</b>			
<b>SDN 5–48–100P</b>	4.88 (124)	3.26 (83)	4.55 (116)



Catalog Number	Dimensions – inches (mm)		
	H	W	D
<b>SDN 20–24–100P</b>	4.88 (124)	6.88 (175)	4.55 (116)
<b>SDN 20–24–480C</b>	4.88 (124)	5.90 (150)	4.55 (116)
<b>SDN 30–24–480</b>	4.88 (124)	9.72 (247)	4.55 (116)
<b>SDN 40–24–480</b>	4.88 (124)	11.10 (282)	4.55 (116)

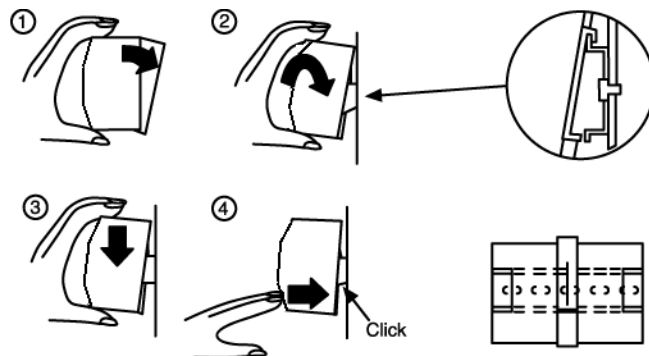
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### SDN-P Series Mounting

#### DIN Rail Mounting

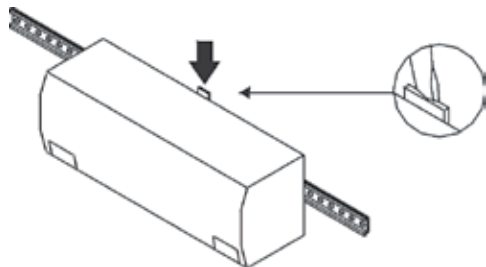
Snap on the DIN Rail:

1. Tilt unit slightly backwards
2. Put it onto the DIN Rail
3. Push downwards until stopped
4. Push at the lower front edge to lock
5. Shake the unit slightly to ensure that the retainer has locked



Alternative Panel Mount: Using the optional SDN-PMBRK2 accessory, the unit can be screw mounted to a panel.

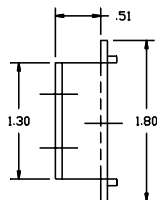
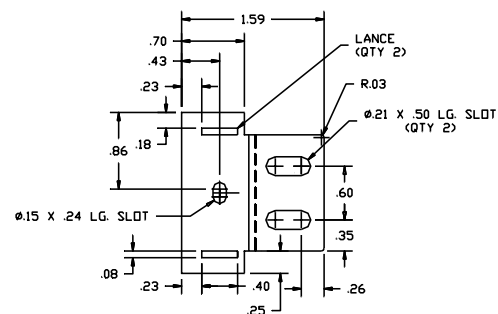
#### Detachment from DIN Rail:



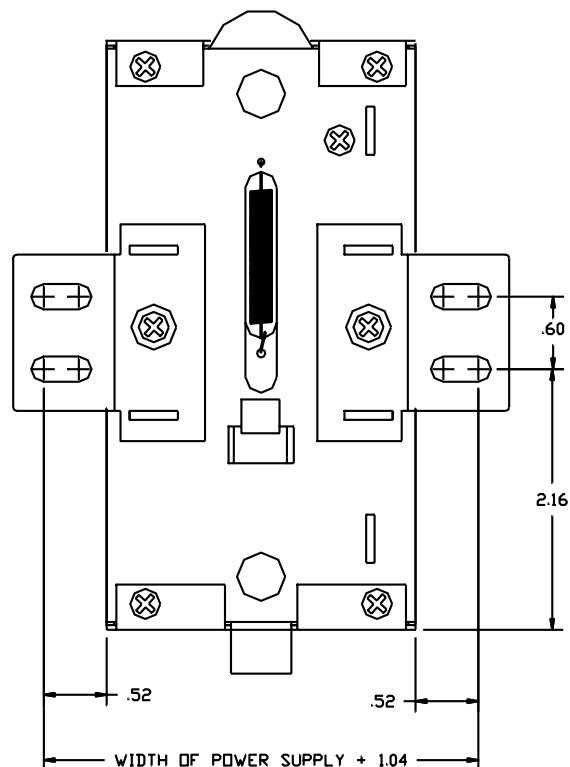
#### Chassis Mounting

Instead of snapping a Sola SDN™ unit on the DIN Rail, you can also attach it using the screw mounting set SDN-PMBRK2.

This set consists of two metal brackets, which replace the existing two aluminum profiles.



#### Dimensions



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## SDN™ DeviceNet™ Series

As members of the Open DeviceNet™ Vendors Association (ODVA), SolaHD has designed two power supplies specifically for DeviceNet™ applications. Sola's SDN DeviceNet™ models meet ODVA specifications for power supplies for either thin or thick cable applications.

The SDN 4-24-100LP has the highest output current possible while still meeting the requirements for NEC Class 2 and UL 1310. This is necessary for installations to meet the National Electrical Code (NEC) or the Canadian Electric Code (CE code) without the need for secondary fusing.

The SDN 10-24-100P is designed for installations that utilize the full 8A capability of the Thick Cable system. Note – local codes may prohibit the use of the full capacity of the power supply.



UL 508 Listed  
IND. CONT.  
EQ. E61379



UL 60950  
E137632  
CUL/CSA-C22.2  
No. 234-M90



EMC and  
Low Volt.  
Directive

### Features (General)

- Power Factor Correction
- SEMI F47 Sag Immunity Standard
- Class 1, Div. 2 Hazardous Locations
- DC Okay Signal
- Industrial Grade Design
  - Indefinite short-circuit, overvoltage and overtemperature protection
  - Rugged metal case and DIN connector
- Narrow width on rail for space critical applications
- User-friendly front panel
  - Large, rugged, accessible multiple connection screw terminations
  - Easy installation
- High efficiency for cooler operation and less heat losses
- High MTBF & reliability
- High grade and low stress design components
- No fans used or required
- RoHS Compliant
- Five year warranty

### Features (SDN 4-24-100LP only)

- Meets the requirements of NEC Class 2 & UL 1310
- No derating from -10°C to 60°C, operation to 70°C possible with a linear derating to half power from 60°C to 70°C.

### Related Products

- SDP™ Series
- SCD Series
- SCP Series
- SCL Series

### Applications

- Industrial Control
- Process Control
- Building Automation
- DeviceNet™

## SDN™ DeviceNet™ Specifications

Description	Catalog Number	
	SDN 5–24–100P	SDN 10–24–100P
Input		
Nominal Voltage	115/230 Vac auto select	
–AC Range	85-132/176-264 Vac	
–DC Range¹	210-375 Vdc	
–Frequency	47 - 63 Hz	
Nominal Current²	2.2 A / 1.0 A	5 A / 2 A typ.
–Inrush current max.	typ. < 20 A	typ. < 40 A
Efficiency (Losses³)	> 88% typ. (16.4 W)	> 88% typ. (32.7 W)
Power Factor Correction	Units fulfill EN61000-3-2	
Output		
Nominal Voltage	24 Vdc (22.5 - 28.5 Vdc adj.)	
–Tolerance	< ±2% overall (combination Line, load, time and temperature related changes)	
–Ripple⁴	< 50 mVpp	
Overvoltage Protection	> 30 Vdc, but < 33 Vdc, auto recovery	
Nominal Current	5 A (120 W)	10 A (240 W)
–Current Limit	Fold Forward (Current rises, voltage drops to maintain constant power during overload up to max peak current)	
Holdup Time⁵	> 100 ms	
Parallel Operation	Single or Parallel use is selectable via Front Panel Switch (SDN 2.5, 4 should not be used in parallel as Class 2 rating would be violated.)	
General		
EMC: –Emissions	EN61000-6-3, -4; Class B EN55011, EN55022 Radiated and Conducted including Annex A.	
–Immunity	EN61000-6-1, -2; EN61000-4-2 Level 4, EN61000-4-3 Level 3; EN61000-4-6 Level 3; EN61000-4-4 Level 4 input and Level 3 output; EN61000-4-5 Isolation Class 4, EN61000-4-11;	
Approvals	EN60950; UL508 Listed, cULus; UL60950, cRUus, CE (LVD 73/23 & 93/68/EEC). EN61000-3-2, IEC60079-15 (Class 1, Zone 2, Hazardous Location, Groups A, B, C, D w/ T3A temp class up to 60°C Ambient.) SEMI F47 Sag Immunity. SDN 2.5 & SDN 4 - UL60950 testing to include approval as Class 2 power supply in accordance with UL1310.	
Temperature	Storage: -25°C...+85°C Operation. -10°...-60°C full power with operation to 70°C possible with a linear derating to half power from 60°C to 70°C (Convection cooling, no forced air required). Operation up to 50% load permissible with sideways or front side up mounting orientation. The relative humidity is < 90% RH, noncondensing; IEC 68-2-2, 68-2-3.	
MTBF:	> 640,000 hours	> 600,000 hours
– Standard	Bellcore Issue 6 Method 1 Case 3 @ 40°C	
Warranty	5 years	
General Protection/Safety	Protected against continuous short-circuit, overload, open-circuit. Protection Class 1 (IEC536), degree of protection IP20 (IEC 529) Safe low voltage: SELV (acc. EN60950)	
Status Indicators	Green LED and DC OK signal (N.O. Solid State Contact rated 200 mA / 60 Vdc)	
Installation		
Fusing –Input	Internally fused. External 10 A slow acting fusing for the input is recommended to protect input wiring.	
–Output	Outputs are capable of providing high currents for short periods of time for inductive load startup or switching. Fusing may be required for wire/loads if 2x Nominal O/P current rating cannot be tolerated. Continuous current overload allows for reliable fuse tripping.	
Mounting	Simple snap-on system for DIN Rail TS35/7.5 or TS35/15 or chassis-mounted (optional screw mounting set SDN-PMBRK2 required).	
Connections	Input: IP20-rated screw terminals, connector size range: 16-10 AWG (1.5-6 mm²) for solid conductors. 16-12 AWG (0.5-4 mm²) for flexible conductors. Output: Two connectors per output, connector size range: 16-10 AWG (1.5 - 6 mm²) for solid conductors.	
Case	Fully enclosed metal housing with fine ventilation grid to keep out small parts.	
–Free Space	25 mm above and below, 25 mm left and right, 15 mm in front	70 mm above and below, 25 mm left and right, 15 mm in front
H x W x D (inches/mm)	4.88 x 2.56 x 4.55 (124 x 65 x 116)	4.88 x 3.26 x 4.55 (124 x 83 x 116)
Weight (lbs/kg)	1.5 (.68)	2.2 (0.10)

1. Not UL listed for DC input.

2. Input current ratings are conservatively specified with low input, worst case efficiency and power factor.

3. Losses are heat dissipation in watts at full load, nominal input line.

4. Ripple/noise is stated as typical values when measured with a 20 MHz, bandwidth scope and 50 Ohm resistor.

5. Full load, 100 Vac Input @ T<sub>amb</sub> = +25°C

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## SDN™ Series Redundant Options

The SDN Series standard options allow for operation in a wide variety of applications. With the addition of an external redundancy module, the SDN can also be used for true redundant operation including 2N and N+x configurations.

All SDN units include built in current sharing for parallel and redundant operation. All models ending in P also include a DC OK status relay contact. The external modules SDN 2.5-20RED and SDN 30/40RED increase the reliability by isolating the supplies and adding more signal options. Paralleling for increased power does not require the use of these modules.

### Module Compatibility

Two separate modules are available to provide the maximum flexibility in size, cost and signaling capability. Refer to the chart below for information on which module can be used for each SDN power supply.

**Power Rating** – A simple Yes or No indication that this module can or cannot handle the power rating of that power supply.

**Input/Output Signals** – Yes indicates that each power supply would have an independent relay contact to provide power supply status, and the DC bus output from the redundant module has it's own DC OK relay contact. Output only indicates that only the output of the redundant module would have a DC OK relay contact.

### Features

- DC OK Relay Contact
- True Isolation
- High availability
- SDN features and quality



EMC and  
Low Volt.  
Directive

### Related Products

- SDN™ Series
- SFL Series

### Applications

- Process Control
- Remote Location
- Critical Production

## Redundancy Module Compatibility Chart

Single Phase SDN Series						
		SDN 2.5–24–100P*	SDN 4–24–100P*	SDN 5–24–100P	SDN 10–24–100P	SDN 20–24–100P
SDN 2.5–20RED	Power Rating	Yes	Yes	Yes	Yes	Yes
	Input / Output Signals	Yes	Yes	Yes	Yes	Yes
SDN 30/40RED	Power Rating	Yes	Yes	Yes	Yes	Yes
	Input / Output Signals	Yes	Yes	Yes	Yes	Yes
Three Phase SDN Series						
		SDN 5–24–480	SDN 10–24–480	SDN 20–24–480	SDN 30–24–480	SDN 40–24–480
SDN 2.5–20RED	Power Rating	Yes	Yes	Yes	No	No
	Input / Output Signals	Output Only	Output Only	Output Only	N/A	N/A
SDN 30/40RED	Power Rating	Yes	Yes	Yes	Yes	Yes
	Input / Output Signals	Yes	Yes	Yes	Yes	Yes

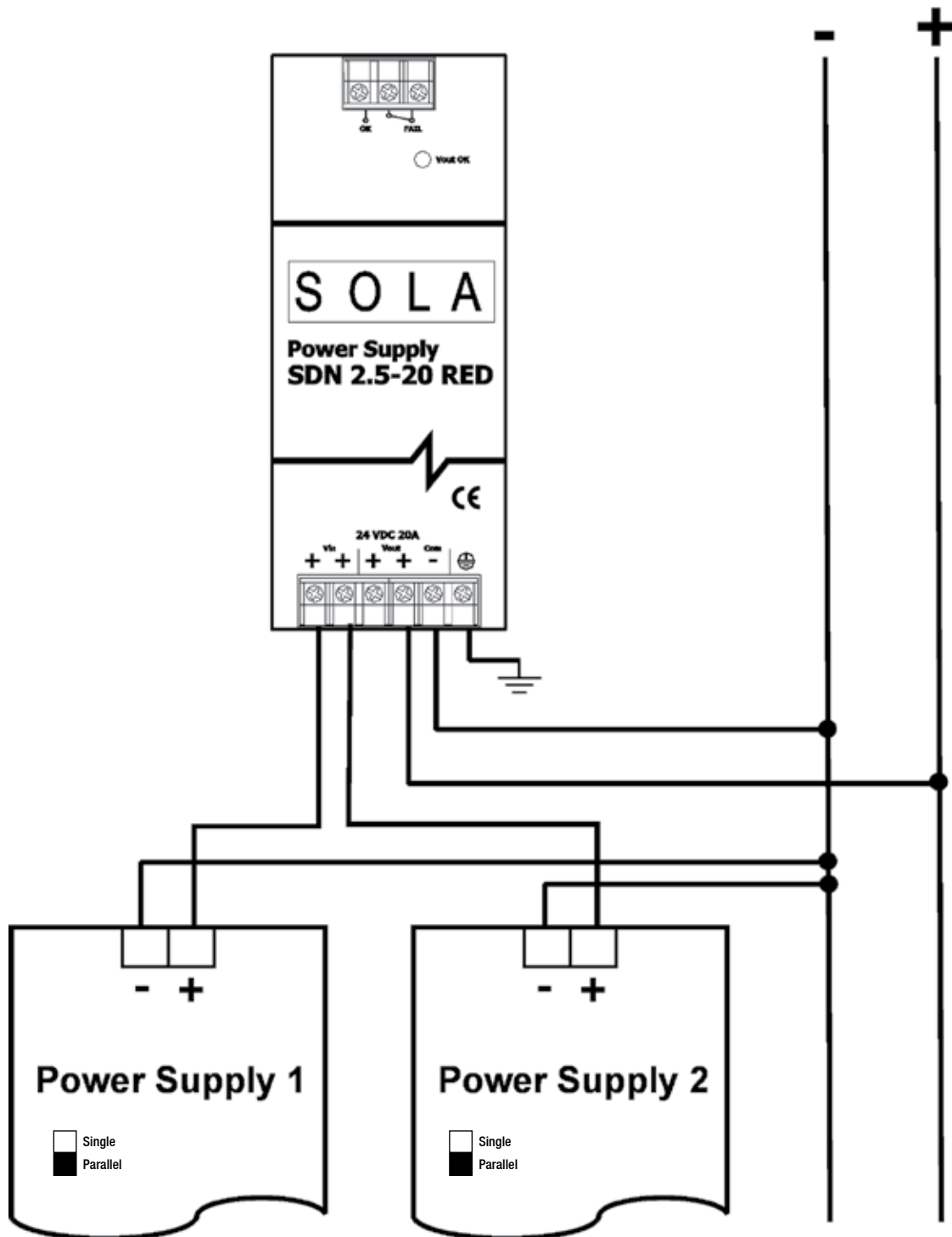
\* Paralleling will violate Class 2 current limits.

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contact Technical Services at (800) 377-4384 with any questions.

## SDN™ Redundant Series Specifications for SDN2.5-20RED and SDN 30/40RED

Catalog Number		
Description	SDN 2.5–20RED	SDN 30/40RED
Concept		
By means of a separate redundancy module, you can interconnect several identical SDN power supply units in a N+1 redundant mode. These external modules decouple the power supply outputs from each other so that, in case of failure, one power supply unit cannot overload the other units. The modules incorporate DC OK relay contacts. The switch on front of the SDN power supply should be placed in parallel mode (not single mode) when power supplies are used with redundant module.		
Electrical Characteristics		
Voltage		
–Nominal Value	24 Vdc	
–Max. Rated	35 V	
Voltage Drop		
–V <sub>in</sub> → V <sub>out</sub>	Typ. 0.6 V	
Current Handling Capacity		
–Maximum Value	20 A	40 A
Inverse Battery Protection	Yes	
Connection	Via captive screw terminals	
–Connector size range	Solid: 16-10 AWG (1.5 - 6 mm²) Stranded: 16-12 AWG (1.5 - 4 mm²)	Solid: 16-5 AWG (1.5 - 16 mm²) Stranded: 16-8 AWG (1.5 - 10 mm²)
	Note: GND must be connected to module for voltage monitor to operate properly. See Connectors and Wiring diagrams on next page.	
Relay Contacts		
DC Okay Contacts (qty) description	(1) V <sub>out</sub> “OK” - N.O. & N.C. Contact	(1) V <sub>out</sub> “OK” - N.O. Contact (2) V <sub>in</sub> “OK” - N.O. Contact
–Voltage Set Point	> 18 Vdc ±5%	
–Contact Rating	30 Vdc @ 2A / 250 V @ 2A	
DC OK LED	V <sub>out</sub> “OK” Green LED	
–Voltage Set Point	> 18 Vdc ±5%	
Dimensions		
H x W x D – inches (mm)	4.88 in x 1.97 in x 4.55 in (124 mm x 50 mm x 116 mm)	4.88 in x 2.56 in x 4.55 in (124 mm x 65 mm x 116 mm)
Free Space for Ventilation – inches (mm)	Above/Below: 0.39 in. (10 mm) recommended Left/Right: 0.39 in. (10 mm) recommended	
Weight lbs (kg)	1.38 (625)	1.43 (646)
General		
Ambient Temperature	Storage: -25°C...+85°C Operation: -10°C...+60°C full power with operation to 70°C possible with a linear derating to half power from 60°C to 70°C (Convection cooling, no forced air required). Operation up to 50% load permissible with sideways or front side up mounting orientation. The relative humidity is < 90% RH, noncondensing.	

## Wiring Diagram for SDN 2.5-20RED

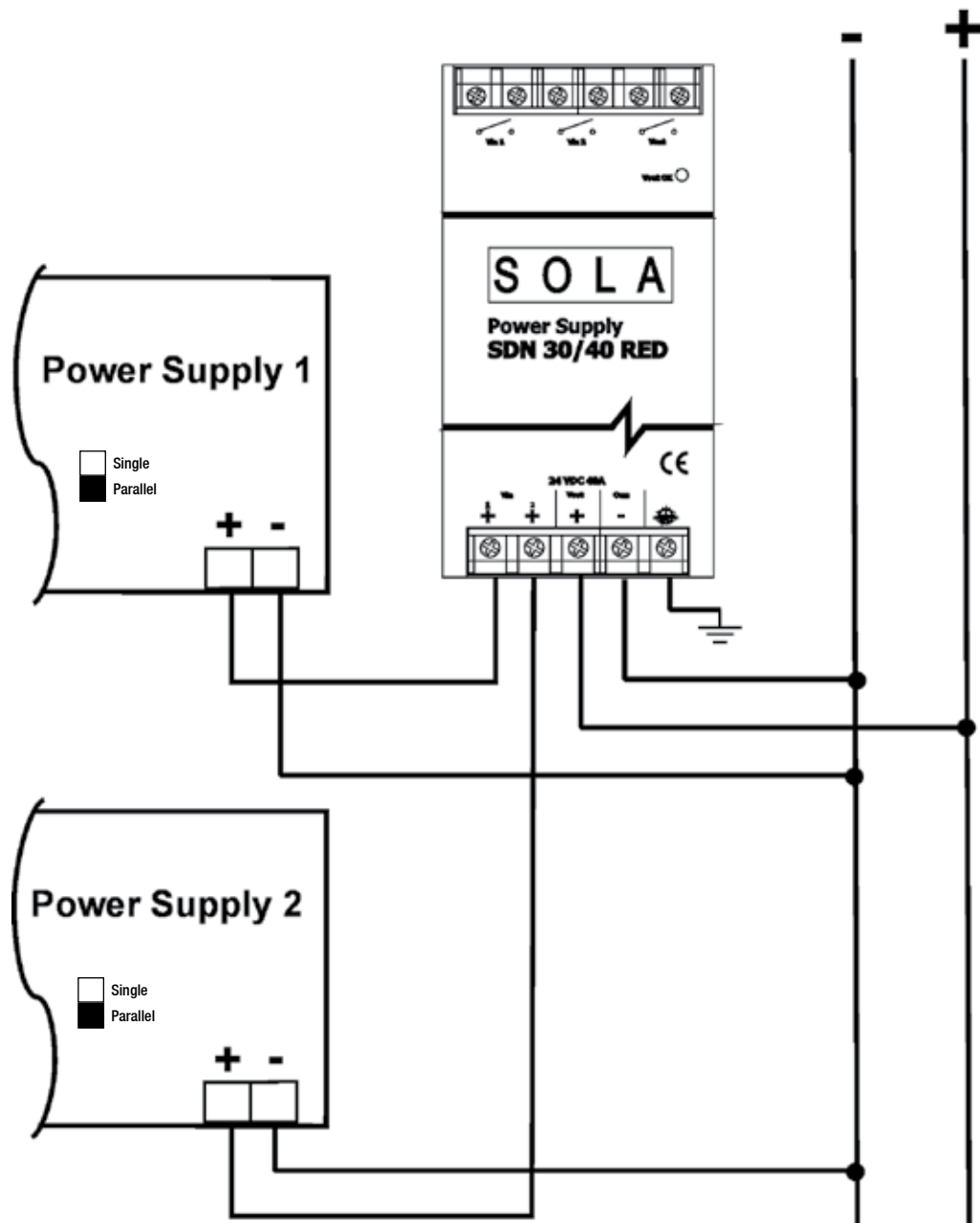


## Notes:

1. The Common (marked "COM -") connection to the module is required for voltage monitoring (DC OK Contacts), and is not meant to be part of the current path from the power supply to the load.
2. Protective earth connection only provides protective ground to the metal case of the module. This connection is isolated from the positive and common connections.



## Wiring Diagram for SDN 30/40RED



## Notes:

1. The Common (marked "COM -") connection to the module is required for voltage monitoring (DC OK Contacts), and is not meant to be part of the current path from the power supply to the load.
2. Protective earth connection only provides protective ground to the metal case of the module. This connection is isolated from the positive and common connections.

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## SDP™ Low Power DIN Rail Series

The compact, lightweight DIN Rail power supplies come in output voltages from 5 to 48 Vdc and power ratings of up to 100 Watts. These extra small, efficient units are designed specifically for the industrial environment. Each unit is rated from -10°C to 70°C, with no derating necessary until above 60°C.

Many extra “industrial” features are standard for the SDP PowerBoost™ overload circuitry can start up industrial loads (i.e. motors, relays, solenoids and DC-DC converters), that can cause ordinary power supplies to foldback or shutdown. Each unit contains a DC indicator and front panel adjustment potentiometer. With the Sola SDP series, you can count on a high grade design.



**UL** **US**  
UL 508 Listed  
IND. CONT.  
EQ.E61379

**C** **UL** **US**  
UL 60950  
E137632  
CUL/CSA-C22.2  
No. 234-M90

**CE**  
EMC and  
Low Volt.  
Directive

### Features

- Ultra slim 15W footprint
- No tools required for mounting
- Adjustable output
- PowerBoost™ industrial overload design
- Overvoltage, short circuit protection
- NEC Class 2 Current Limited
- Continuous short circuit protection
- Low output noise
- Screw terminal connections
- RoHS Compliant
- Three year warranty

### Related Products

- SDN™ Series
- SCP Series
- SCL Series

### Applications

- Industrial Control
- Process Control
- Machine Control
- Building Automation
- Instrumentation

### Selection Table

Catalog Number	DC Output Voltage	Output Current	Ripple / Noise	Size (H x W x D)
<b>SDP 5-5-100T</b>	5 - 6 V	5 A	<50 mVpp	2.95 in x 1.77 in x 3.58 in (75 mm x 45 mm x 91 mm)
<b>SDP 2-12-100T</b>	10 - 12 V	3 - 2.5 A		
<b>SDP 3-15-100T</b>	12 - 15 V	4.2 - 3.4 A		
<b>SDP 1-48-100T</b>	48 - 56 V	1 A		
<b>SDP 06-24-100T</b>	24-28 Vdc	0.6 A		2.95 in x 0.9 in x 3.8 in (75 mm x 22.8 mm x 96.7 mm)
<b>SDP 1-24-100T</b>		1.3 A		2.95 in x 1.77 in x 3.58 in (75 mm x 45 mm x 91 mm)
<b>SDP 2-24-100T</b>		2.1 A		
<b>SDP 4-24-100LT</b>		3.8 A		2.95 in x 2.85 in x 3.8 in (75 mm x 72.5 mm x 96.7 mm)
<b>SDP 4-24-100RT*</b>		4.2 A		

\* NEC Class 1

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## SDPTM Series Specifications (24 V models)

Description	Catalog Number				
	SDP 06–24–100T	SDP 1–24–100T	SDP 2–24–100T	SDP 4–24–100LT	SDP 4–24–100RT
Input					
Input Voltage <sup>1</sup>	85-264 Vac, 90-375 Vdc			85-132 / 176-264 Vac, 210-375 Vdc	
Input Frequency	47-63 Hz				
Input Current	0.4 A / 0.25 A	0.7 A / 0.4 A	1.1 A / 0.7 A	1.8 A / 1.0 A	2.2 A / 1.2 A
External Fusing	Not required. Unit provides internal fuse (T3A, not accessible)				
Hold–Up Time	> 25 ms				
Efficiency	> 80% typ.	> 83% typ.	> 86% typ.	> 88% typ.	
Losses	< 3.75 W typ.	< 6.1 W typ.	< 8.1 W typ.	< 12 W typ.	
Output					
Output Voltage	24 V (22.5 - 28.5 Vdc Adj.)			24 V (24 - 25.7 Vdc Adj.)	24 V (22.5 - 28.5 Vdc Adj.)
Voltage Regulation	Static 0.5% V <sub>out</sub> , dynamic + 2% V <sub>out</sub> overall\				
Ripple/Noise <sup>2</sup>	< 50 mVpp				
Overvoltage Protection (OVP)	> 30 Vdc, but < 33 Vdc, auto recovery			> 26 Vdc, but < 27.2 Vdc, auto recovery	> 30 Vdc, but < 33 Vdc, auto recovery
Output Noise Suppression	Radiated EMI values below EN61000-6-2				
Rated Continuous Loading	0.63 A @ 24 Vdc / 0.54 A @ 28 Vdc	1.3 A @ 24 Vdc / 1.1 A @ 28 Vdc	2.1 A @ 24 Vdc / 1.8 A @ 28 Vdc	3.8 A @ 24.5 Vdc	4.2 A @ 24.5 Vdc / 3.6 A @ 28 Vdc
Overload Behavior	Continuous operation at overload/short-circuit: up to 1.5 x Nominal Current Continuous				
Protection	Unit is continuously protected against short-circuit, overload and open-circuit.				
Power Back Immunity	35 V				
Installation					
Status Indicators	Green LED on, when V <sub>out</sub> “OK”.				
Case & Mounting	Molded plastic housing using UL 94 approved flameproof material rating 94V-2. Simple snap-on to DIN TS35/7.5 or TS35/15 rail system.				
Dimensions					
(H x W x D) (in/mm)	2.95 x 0.9 x 3.8 (75 x 22.8 x 96.7)	2.95 x 1.77 x 3.58 (75 x 45 x 91)		2.95 x 2.85 x 3.8 (75 x 72.5 x 96.7)	
Weight – lbs (kg)	0.35 lbs (.16 kg)	0.5 lbs (.23 kg)		0.7 lbs (.32 kg)	
Mounting Orientation	Standard: Vertical; Optional: Horizontal or on top (Contact Technical Services).				
Ventilation/Cooling •Free space for cooling	Normal convection, no fan required; Above/below: 25 mm recommended.				
Connection •Connector size range	Input: screw terminals, connector size range: 20-12AWG (1.5 - 6 mm²) for solid or stranded conductors.				
General					
Temperature	Storage: -25°C...+85°C Operation: -10°...+60°C full power with linear derating to half power from 60°C to 70°C. (Convection cooling, no forced air required).				
MTBF	> 500,000 hours according to Telcordia/Bellcore Document SR-332, Issue 1.				
Humidity	Up to 90% RH, noncondensing; IEC 68-2-2, 68-2-3				
Electromagnetic Emissions (EME)	EN61000-6-3 (Includes EN61000-6-4) Class B (EN 55022) incl. Annex A				
Electromagnetic Immunity (EMI)	EN61000-6-2 (Includes EN61000-6-1) (EN55024) Criterion A: no derogation of performance				
Safe Low Voltage	SELV (acc. EN60950)				
Protection Class/Voltage	IP20 (IEC529), Protection Class 1 (IEC536)				
Warranty	3 years				
Safety					
CB Scheme, EN60950, UL60079-15 (Class 1, Zone 2 Hazardous Locations, Temp Class T3), UL508 Listed, cULus, UL 60950, cURus, CE (LVD 73/23 & 93/68/EEC). (EMC 89/336 & 93/68/EEC). EN61000-3-2. NEC Class 2 power supply acc. To NFPA 70 art. 725-41 (a)(2). <sup>3</sup>					

## Notes:

1. Not UL listed for DC input.
2. Ripple/noise is stated as typical values when measured with a 20 MHz, bandwidth scope and 50 Ohm resistor.
3. For all models except SDP 4-24-100LT.

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## SDP™ Series Specifications (Other Voltages)

Description	Catalog Number			
	SDP 5–5–100T	SDP 2–12–100T	SDP 3–15–100T	SDP 1–48–100T
Input				
Input Voltage¹	85-264 Vac, 90-375 Vdc			
Input Frequency	47-63 Hz			
Input Current	0.6 A @ 102 Vac; 0.33 A @196 Vac		1.0 A @ 102 Vac; 0.6 A @ 196 Vac	<1.0 A @ 100 Vac; <0.6 A @ 196 Vac
External Fusing	Not required. Unit provides internal fuse (T3A, not accessible)			
Hold–Up Time	> 25 ms			
Efficiency	> 80% typ.		> 86% typ.	> 90% typ.
Losses	7.5 W typ.	8.1 W typ.	< 8.1 W typ.	
Output				
Output Voltage	5 - 5.5 Vdc (5 - 6 min adj.)	12 Vdc (9.9 - 12.1 min adj. )	15 Vdc (11.9 - 15.1 min adj.)	48 Vdc (48 - 56 min adj.)
Voltage Regulation	< 2% Dynamic; < 0.5% Static			
Ripple/Noise²	< 50 mVpp			
Overvoltage Protection (OVP)	> 6.7 Vdc	> 18 Vdc	> 20 Vdc	> 56 Vdc
Output Noise Suppression	Radiated EMI values below EN61000-6-2			
Rated Continuous Loading	I <sub>out</sub> = 5A @ V <sub>out</sub> = 5.1V	3A @ 10 Vdc 2.5A @12 Vdc	4.2A @ 12 Vdc 3.4A @ 15 Vdc	Up to 1.05A @ 48 V 0.9A @ 56 V
Overload Behavior	Continuous operation at overload/short-circuit: up to 1.5 x Nominal Current Continuous			
Protection	Unit is continuously protected against short-circuit, overload and open-circuit.			
Power Back Immunity	10 V	22 V		80 V
Installation				
Status Indicators	Green LED on, when V <sub>out</sub> “OK”.			
Case & Mounting	Molded plastic housing using UL 94 approved flameproof material rating 94V-2. Simple snap-on to DIN TS35/7.5 or TS35/15 rail system.			
Dimensions				
(H x W x D) (in/mm)	2.95 x 1.77 x 3.58 (75 x 45 x 91)			
Weight – lbs (kg)	0.5 lbs (.23 kg)			
Mounting Orientation	Standard: Vertical; Optional: Horizontal or On Top (Contact Technical Services).			
Ventilation/Cooling •Free space for cooling	Normal convection, no fan required; Above/below: 25 mm recommended.			
Connection •Connector size range	Input: screw terminals, connector size range: 20-12 AWG (1.5 - 6 mm²) for solid or stranded conductors.			
General				
Temperature	Storage: -25°C...+85°C Operation: -10°...+60°C full power with linear derating to half power from 60°C to 70°C. (Convection cooling, no forced air required).			
MTBF	> 500,000 hours according to Telcordia/Bellcore Document SR-332, Issue 1.			
Humidity	Up to 90% RH, noncondensing; IEC 68-2-2, 68-2-3			
Electromagnetic Emissions (EME)	EN61000-6-3 (Includes EN61000-6-4) Class B (EN 55022) incl. Annex A			
Electromagnetic Immunity (EMI)	EN61000-6-2 (Includes EN61000-6-1) (EN55024) Criterion A: no degradation of performance			
Safe Low Voltage	SELV (acc. EN60950)			
Protection Class/Voltage	IP20 (IEC529), Protection Class 1 (IEC536)			
Warranty	3 years			
Safety				
CB Scheme, EN60950, UL60079-15 (Class 1, Zone 2 Hazardous Locations, Temp Class T3), UL508 Listed, cULus, UL 60950, cURus, CE (LVD 73/23 & 93/68/EEC), (EMC 89/336 & 93/68/EEC). EN61000-3-2, NEC Class 2 power supply acc. To NFPA 70 art. 725-41 (a)(2).³				

## Notes:

1. Not UL listed for DC input.
2. Ripple/noise is stated as typical values when measured with a 20 MHz, bandwidth scope and 50 Ohm resistor.
3. Not to exceed 30 watts total.

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contact Technical Services at (800) 377-4384 with any questions.

## SCP-X Extreme Environment Series



9HA0  
IND. CONT. EQ.  
Also listed I.T.E.  
Power Supply



E234790  
Class 1 Zone 2  
AEx nA IIC T4  
Ex nA IIC T4 U



DEMKO 06 ATEX 05  
21715U  
EEx nA IIC T4 U  
-40°C ≤ Tam ≤ +60°C



The SCP-X is a rugged power supply designed for use in extreme environments. The metal case reduces costs by eliminating separate enclosures. Quick change connectors simplify connectivity for distributed I/O devices on industrial machinery. This model provides 24 Vdc output with limited power to meet Class 2 requirements. Three models are currently offered based on application.

## Features

- IP66/67 Versatile/NEMA 4X Rated
- 24 Vdc, 115/230 Vac, 3.8A Nominal Current
- Listed power supply for stand alone applications
- Can be mounted in any orientation without limitation
- Universal input
- High ambient temperature up to 60°C without derating
- DC OK Green LED
- Worldwide approvals
- Limited five-year warranty

## Related Products

- SDN Series
- SCP Series

## Accessory

Catalog Number	Description	Approx. Ship Weight lbs (kg)
SCP-DINBKT	Mounting bracket to secure SCP-X to DIN Rail (included)	1 (.45)

## Selection Table

Catalog Number	Output Current	Output Voltage	Output Power
SCP 100S24X-CP	3.8 A	24 Vdc	95 W
SCP 100S24X-DVN			

## Control Power (-CP) Applications

The SCP100S24X-CP is designed for Control Power applications where a grounded power supply output is required (Figure 2). The output power is limited to approx 96 total watts.

- Input connector: 3-pole, male receptacle **externally** threaded with ½-14NPT mounting thread.
- Output connector: 4-pole, female receptacle **internally** threaded with ½-14 NPT mounting thread.

## DeviceNet™ (-DVN) Applications

The SCP100S24X-DVN is designed for DeviceNet™ application where an isolated output from ground is required (Figure 2).

- Input connector: 3-pole, male receptacle **externally** threaded with ½-14NPT mounting thread.
- Output connector: 4-pole, female receptacle **internally** threaded with ½-14 NPT mounting thread.

Recommended Electrical Connections<sup>(1)</sup>

Catalog Number	Input 3-PIN Connections	Output 4-PIN Connections
SCP 100S24X-CP	Daniel Woodhead P/N 103000A01FXX0 <sup>(2)</sup>	Turck RSM46*M *length in meters
SCP 100S24X-DVN		

1. Connections to be provided by the user.

2. XX is the length of the cordset in foot.

## SCP100S24X-CP and SCP100S24X-DVN Mechanical Diagrams

## Electrical Connections

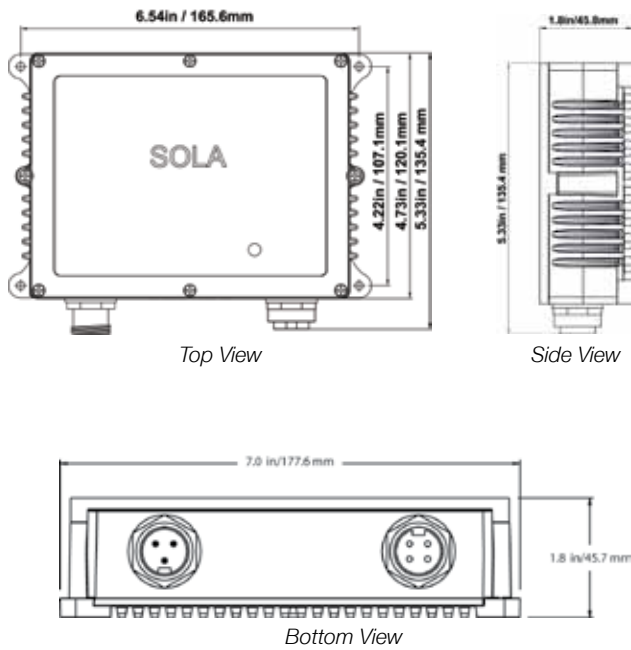
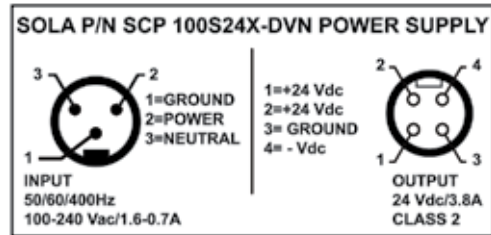
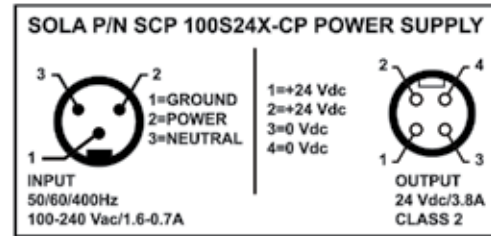


Figure 2



1. Vdc connections are internally bonded to ground
2. V- is isolated from ground. V- is a separately derived source so it is permissible to bond to ground if required in the application.

## SCP-X Specifications

Input	
Nominal Voltage	Any voltage from 100 to 240 Vac Input
–AC Range	85-264 Vac Universal Input
–DC Range	100-353 Vdc
Nominal Current <sup>1</sup>	1.6A/0.7A
–Inrush current max.	Typ. <25A
Power Factor Correction <sup>2</sup>	0.95
Frequency	50/60/400 Hz
Output	
Power Back Immunity	35 V
Overvoltage Protection	25-25.5 Vdc, autorecovery
Nominal Voltage	24 Vdc
Tolerance	< +/-2% overall (combination line, load, time and temperature related changes)
– Line Regulation	< 0.5%
– Load Regulation	< 0.5%
– Time & Temp. Drift	< 1%
Ripple <sup>3</sup>	< 50 mVpp
Total Nominal Current	3.8A
Holdup Time	> 25 ms (Full load, 100 Vac Input @ T <sub>amb</sub> =+25°) to 95% output voltage
General	
Case	IP66/67 versatile ingress protection; also meets UL50 Type 4X enclosure.
Min. Required Free Space	1 in. (25 mm) all sides but mounted base (permissible to mount in any orientation)
H x W x D (inches/mm)	4.7 x 7 x 1.8 (119 x 178 x 46)
Weight – lbs (kg)	2.6 lbs (1.16 kg)
EMC	
Emissions	EN61000-6-3, EN61204-3, EN55022 Class B, EN61000-3-2, EN61000-3-3
Immunity	EN61000-6-2, EN61204-3, EN55024, IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-8, IEC61000-4-11
Approvals	UL508, cULus; UL60950, cULus; UL60079-15 cRUus; IEC60950; CE (LVD 73/23 & 93/68/EEC). (EMC 89/336 & 93/68/EEC). EN61000-3-2, EN50021 (Class 1, Division 2 Hazardous Location, EEX nA IIC T4 U up to 60°C Ambient.) <sup>4</sup>
Temperature	<b>Storage:</b> -40° to +85°C, <b>Operation:</b> -40° to +60°C full power with linear derating to half power from 60° to 70°C (Convection cooling, no forced air required). Operation up to 100% load permissible with sideways or front side up mounting orientation.
Humidity	Up to 100% RH with condensation.
Altitude	0 to 3,000 meters (0 to 10,000 feet)
Vibration	1.0 gravity (g) peak, 10-500 Hz (random wave). Passed random vibration test conditions for 3 axes for 60 minutes duration while energized and operating.
Shock	4 g peak, 22 milliseconds half-sine pulse, 3 times on 6 faces while energized and operating
Warranty	5 years
MTBF	>500,000 hours according to Telecordia/Bellcore SR-332 Issue 1, (V <sub>in</sub> 120 Vac, T <sub>amb</sub> =40°C)
General Protection/Safety	Protected against continuous short-circuit, continuous overload, continuous open circuit. Protection Class 1 (IEC536), degree of protection IP66/67 versatile (IEC 529). Safe low voltage: SELV (acc. IEC60950)
Status Indicators – Visual	DC OK LED
Installation	
Fusing	
–Input	Internally fused, fuses not replaceable
–Output	Inherently limited current to meet Class 2 requirements per UL1310
Mounting	Chassis mounted via built in mounting tabs. Removal and replacement of the unit shall be possible from front of panel.
Connections	<b>Input:</b> 3 pin IP67 molded plug (quick disconnect). <b>Output:</b> 4 pin IP67 molded receptacle (quick disconnect).

1. Input current ratings are specified with low input, line conditions, worst case efficiency values and power factor.

2. Power Factor Correction at 50/60 Hz only.

3. Ripple/noise is stated as typical AC values when measured with a 20 MHz, bandwidth scope and 50 Ohm termination.

4. Additional installation requirements apply when used in hazardous locations (refer to user manual).

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## SCP Series, 30 Watt; Single, Dual and Triple



 **UL**  
 UL 60950  
 E137632  
 CUL/CSA-C22.2  
 No. 234-M90

 **CE**  
 EMC and  
 Low Volt.  
 Directive

These switchers are compact, rugged power supplies designed to power many of your industrial control and instrumentation devices and equipment, with high reliability and tight regulation through the most difficult factory-floor conditions around the globe. “User friendly” applies to these unique power supplies that feature easy-to-install DIN Rail and chassis mounting. Terminations are also easy to access (AC and DC terminations are well separated) and simple to wire. Safety is another aspect where the SCP distinguishes itself. The encapsulated design meets IP20 specifications, and the wide range of voltages will reliably support almost any low-power device in your cabinet or system for years to come.

## Features

- International approvals for global use
- DIN Rail or Chassis Mount
- Rugged, encapsulated design to resist environment
- IP20 protection
- Many output voltages, 3.3-48 Volts; single, dual, triple
- Five year warranty

## Packaging and Mounting Specifications

- Simple snap-on for DIN Rail TS35/7.5 or TS35/15
- M3 screw clamp terminations
- Chassis mounting possible on -DN Low-Profile versions by removing DIN clips (simply unscrew at the back of the unit).

## Selection Table

Low Profile Catalog Number	Description	Output Voltages						Min Load V1 A	Efficiency %
		V1		V2		V3			
		Vdc	A	Vdc	A	Vdc	A		
SCP 30S3.3-DN	3.3 V	3.3	6.0	-	-	-	-	0	≥ 62
SCP 30S5-DN	5 V	5	6.0	-	-	-	-	0	≥ 70
SCP 30S12-DN	12 V	12	2.5	-	-	-	-	0	≥ 75
SCP 30S15-DN	15 V	15	2.0	-	-	-	-	0	≥ 75
SCP 30S24-DN	24 V	24	1.3	-	-	-	-	0	≥ 77
SCP 30S48-DN	48 V	48	0.6	-	-	-	-	0	≥ 77
SCP 30D12-DN	Dual O/P +/- 12 V	12	1.2	-12	1.2	-	-	0.12	≥ 68
SCP 30D15-DN	Dual O/P +/- 15 V	15	1.0	-15	1.0	-	-	0.15	≥ 68
SCP 30D512-DN	Dual O/P 5 V & 12 V	5	3.0	12	1.2	-	-	0.3	≥ 68
SCP 30D524-DN	Dual O/P 5 V & 24 V	5	3.0	24	0.6	-	-	0.3	≥ 68
SCP 30T512-DN	Triple O/P 5/12/12 V	5	3.0	-12	0.6	12	0.6	0.3	≥ 68
SCP 30T515-DN	Triple O/P 5/15/15 V	5	3.0	-15	0.5	15	0.5	0.3	≥ 68

Please order using the following model number suffixes:

**-DN:** Low Profile – DIN Rail or Chassis Mount (ie: SCP30S3.3-DN).

**B-DN:** Slim Line – DIN Rail Mount Availability Only (ie: SCP30S3.3B-DN).

**Note:** Slim line version not available on SCP30D512-DN

## Options and Accessories

- SCP-MDC – Pair of metal DIN clips
- SCP-PDC – 1 plastic DIN clip with lever for removal from rail

## Standards

- UL60950, E137632
- EN60950
- CE and IP20

## Specifications

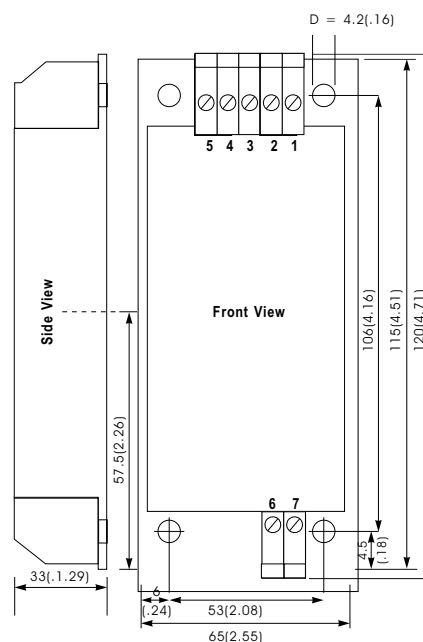
Parameter	Condition	Value
<b>Input</b>		
AC Input Voltage		85...264 Vac
DC Input Voltage		100...375 Vdc
Input Frequency		50/60 HZ
Filtering EMI/RFI		EN 55011/B, 55022/B
Switching Frequency		Typ. 100 kHz
Input Fusing Required		Use 2.0 A Slow Fuse
<b>Output</b>		
Output Voltage Accuracy	$V_{in} = 230V, I_{out} = \max, 25^{\circ}C$	$V1 \leq \pm 1\%, V2/3 \leq \pm 3\%$
Ripple	$V_{in} = \min, I_{out} = \max, 25^{\circ}C$	$\leq 1\%, V_{out}$
Noise	$V_{in} = \min, I_{out} = \max, 25^{\circ}C$	$\leq 2\%, V_{out}$
Line Regulation	$V_{in} = \min/\max, 25^{\circ}C$ $I_{out} = \max, 25^{\circ}C$	$\leq +0.5\%, V_{out}$
Load Regulation	$I_{out} = 10\% \dots 90\%, 25^{\circ}C$ $V_{in} = 230Vac, 25^{\circ}C$	$\leq +0.5\%, V_{out}$
Overcurrent Protection		105...130% $I_{nom}$
Load Regulation Timing	10...90...10%, 25°C	<4 ms
Temperature Coefficient	$T_{amb} = -25...+65^{\circ}C$	0.01%/K
Overload/Short Circuit	Continuous	
Derating Single/Dual/Triple	$T_{amb} > 50^{\circ}C$	2/3/5%/K max
<b>General</b>		
Holdup Time	$V_{in} = 230 Vac$	>50 ms
Operating Temperature		-25...+65°C
Storage Temperature	$T_{amb} = 25^{\circ}C$	45...+85°C
Case Temperature Rise at Full Load		45 K max
MTBF at 25°C (input/output)	acc. MIL-HDBK-217F	800,000 hrs
Transient Protection		EN61000-4-2, 3, 4, 5
Cooling		Convection
Weight – lbs (kg)	0.75 lbs (.34 kg)	0.84 lbs (.38 kg)
Case Material/Potting		UL94-VO
CSA Power Supply Class		Level 3
Protection		IP20
Visual Indicators		Green LED indicates DC OK for B-DN Slim Line versions only

## Dimensions (H x W x D)

- **Low Profile “–DN”**  
4.72 x 2.55 x 1.29 inches (120 x 65 x 33 mm)  
(Takes up 2.55 inches or 65 mm on DIN Rail)
- **Slim Line “B–DN”**  
4.72 x 1.29 x 2.68 inches (120 x 33 x 68 mm)  
(Takes up 1.29 inches or 33 mm on DIN Rail)

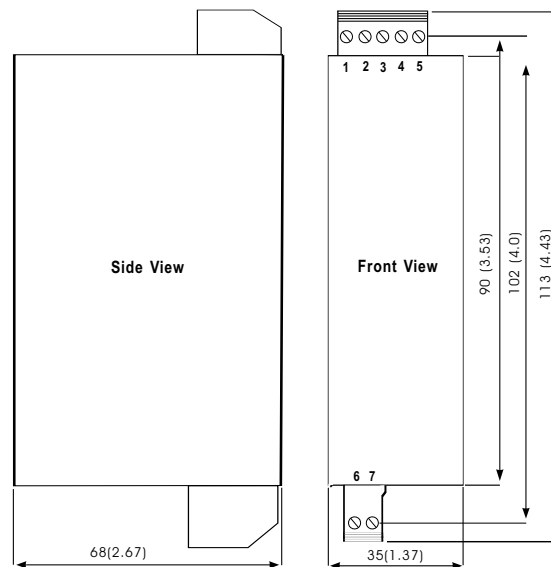
## Dimensions – mm (inches)

### Low Profile DIN Rail (–DN) or Chassis Mount\*



\* Unscrew DIN connector for chassis mounting.

### Slim Line DIN Rail Mount only (B–DN)

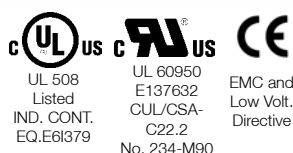


## Pin-Out

SCP 30	1	2	3	4	5	6	7
Single				RETURN	+V1	IN	IN
Dual sym			-V2	COM	+V1	IN	IN
Dual asym		COM (V1)	+V1	COM V3	+V3	IN	IN
Triple	-V2	COM (V1)	COM (V2/3)	+V1	+V3	IN	IN

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contact Technical Services at (800) 377-4384 with any questions.

## SCL Series, 4 and 10 Watt CE Linears



The 4 and 10 Watt encapsulated linears are available in dual and triple outputs for applications with sensitive electronics and analog circuitry. The rugged enclosed encapsulated package, with screw terminals and DIN Rail clips, make for easy installation and maintenance. These low-noise modules are capable of being DIN Rail or Chassis mounted.

## Features

- Quiet, low noise DC Linear technology
- DIN Rail or Chassis mount for easy installation
- Rugged encapsulated design
- Global specifications including CE and UL 508
- Two year warranty

## Packaging and Mounting Specifications

- Simple snap-on for DIN Rail TS35/7.5 or TS35/15
- M3 screw clamp terminations
- Chassis mounting possible on -DN Low-Profile versions by removing DIN clips (simply unscrew at the back of the unit).

## Selection Table

Catalog Number	Description	Output Voltages					
		V1		V2		V3	
		Vdc	A	Vdc	A	Vdc	A
4 Watt; Linear DC Power Supply; DIN Rail Mount							
SCL 4D12-DN	Dual O/P $\pm 12$ V	12	0.13	-12	0.13	-	-
SCL 4D15-DN	Dual O/P $\pm 15$ V	15	0.1	-15	0.1	-	-
10 Watt; Linear DC Power Supply; DIN Rail Mount							
SCL 10D12-DN	Dual O/P $\pm 12$ V	12	0.35	-12	0.35	-	-
SCL 10D15-DN	Dual O/P $\pm 15$ V	15	0.3	-15	0.3	-	-
SCL 10T512-DN	Triple O/P, 5 V $\pm 12$ V	5	0.2	12	0.3	-12	0.3
SCL 10T515-DN	Triple O/P, 5 V $\pm 15$ V	5	0.2	15	0.25	-15	0.25

**Note:** Dual output units can be series connected for 24V or 30V applications.

## Standards

- UL60950, E137632
- EN60950
- CE and IP20
- UL 508 Listed

## Dimensions (H x W x D)

- 4 watt: 4.31 x 2.0 x 0.90 inches  
110 x 51 x 23 mm
- 10 watt: 4.71 x 2.55 x 1.29 inches  
120 x 65 x 33 mm

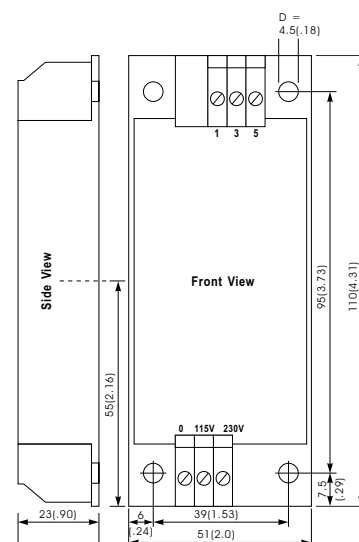
## SCL Series

## Specifications

Parameter	Condition	Value
<b>Input</b>		
AC Input Voltage		115/230 $\pm 10\%$ Vac Field Selectable
Input Frequency		47-63 Hz
Input Current 115/230 V		10 Watt: 0.2 A/0.1 A max 4 Watt: 0.1 A/0.05 A max
Efficiency		Typ. 50%
Filtering		10 Watt Only: VDE 871/B
<b>Output</b>		
Trimming		Fixed, preset
Ripple	$V_{in} = \min, I_{out} = \max, 25^{\circ}\text{C}$	<5 mVpp
Noise	$V_{in} = \min, I_{out} = \max, 25^{\circ}\text{C}$	<5 mVpp
Regulation Accuracy	100...50%, 25°C	<0.05%
Load Regulation Timing	10...90...10%, 25°C	100 ms
Temperature Coefficient	$T_A = -25...+65^{\circ}\text{C}$	0.01%/K typ.
Holdup Time		min. 20 ms
Overload/Short Circuit		Continuous
<b>General</b>		
Conducted Emissions		EN 55 011, Level B
Inducted Noise ESD HF Burst		EN 61000-4-2, Level 4 ENV 50140 (10 V/m) EN 61000-4-4, Level 4
Isolation Voltage (input/output)	$T_A = 25^{\circ}\text{C}$	3.0k Vac, EN 60 950
Isolation Resistance	$V = 230 \text{ Vac}, 50 \text{ Hz}$	>100 MOhm
Leakage Current	2 cm side, middle case	<0.05 mA
Operating Temperature		10 W: -20...+70°C 4 W: -25...+70°C
Derating	$T_A > 50^{\circ}\text{C}$	3%/K
Storage Temperature		-40...+85°C
Cooling		Convection
Weight – lbs (kg)		10 Watt: 1.2 lbs (.55 kg) 4 Watt: 0.44 lbs (.20 kg)
Case Material/Potting		UL94-VO
SELV	Protection Class	Class 2

## Dimensions – mm (inches)

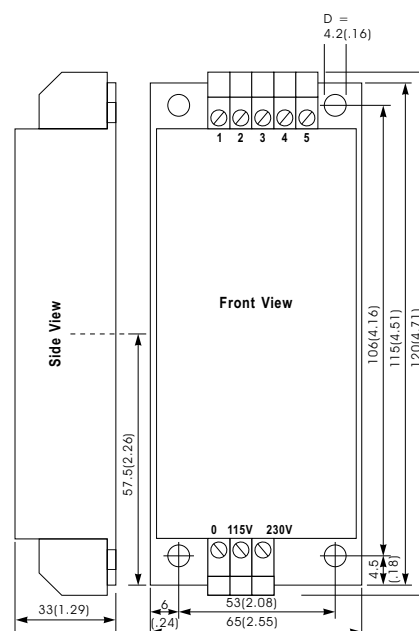
## SCL 4 Watt Linear



## Pin-Out

SCL 4	1	3	5	6	7	8
Dual	12/15V	COM 12/15V	-12/-15V	IN	IN	IN

## SCL 10 Watt Linear



## Pin-Out

SCL 10	1	2	3	4	5	6	7	8
Dual	-12/15V		GND 12/15V		12/15V	IN	IN	IN
Triple	-12/15V	5V	GND 12/15V	COM 5V	12/15V	IN	IN	IN

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contact Technical Services at (800) 377-4384 with any questions.

## SCD Series, Encapsulated, Industrial DC to DC Converter

These compact, rugged DC to DC converters are power supplies designed to power industrial control instrumentation devices and equipment where AC power is not convenient or accessible. With high reliability and wide input range, these units can operate through the most difficult factory-floor conditions around the globe. "User friendly" applies to these unique power supplies that feature easy-to-install DIN Rail and chassis mounting. Terminations are also easy to access and simple to wire. Encapsulated design meets IP20 specifications for use in harsh environments.



### Features

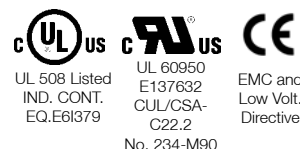
- DIN Rail or Chassis mount by removing DIN clips
- Rugged, encapsulated design to resist environment
- IP20 protection
- Wide 20 to 72 Vdc input range
- M3 screw clamp terminations
- Simple snap-on for DIN Rail TS35/7.5 or TS35/15
- Galvanic isolation
- 5 year warranty

### Options and Accessories

- SCP-MDC – Pair of metal DIN clips
- SCP-PDC – 1 plastic DIN clip with lever for removal from rail

### Standards

- UL60950, E137632
- EN60950
- CE and IP20
- UL 508 Listed



### Applications

These units regulate voltage for sensitive electronic equipment run from battery power. For example, a 24 Vdc battery system where the battery voltage can be 30 volts, sometimes higher during charging, and dip below 22 volts under heavy load. The SCD can be used to stabilize the voltage for those devices not designed to handle wider voltage swings.

They are also a convenient and inexpensive alternative to running AC power through a large industrial machine. The SCD can use 24 Vdc commonly available on many parts of the machine to create other voltages needed to run sensors, transducers and other devices that the machine requires to work properly.

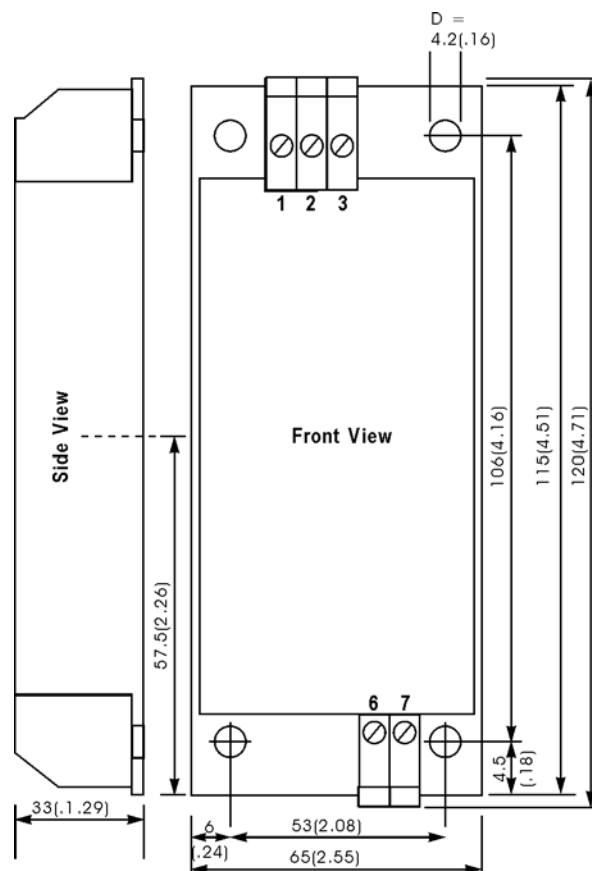
- Industrial
  - Encoders, special sensors, communications and instrumentation
- Telecommunications systems
- Remote Site/Harsh Environment

## SCD Series, Encapsulated, Industrial DC to DC Converter

Selection Table

Low Profile Catalog Num- ber	Description	Output Voltages				Min Load V1 A
		V1		V2		
		Vdc	A	Vdc	A	
30 Watts; Switching DC Power Supply						
SCD 30S5-DN	5 V	5	5	-	-	0
SCD 30S12-DN	12 V	12	2.5	-	-	0
SCD 30S15-DN	15 V	15	2	-	-	0
SCD 30S24-DN	24 V	24	1.3	-	-	0
SCD 30S48-DN	48 V	48	0.6	-	-	0
SCD 30D15-DN	Dual O/P+15 V	15	0.8	-15	0.8	0.15

Dimensions



Pin-Out

SCD 30	1	2	3	6	7
Single	+V1	-V1		+IN	-IN
Dual	V1	COM	V2	+IN	-IN

Specifications

Parameter	Condition	Value
Input		
Input Voltage		20...72 Vdc
Filtering EMI/RFI		EN 55011/B, 55022/B
Switching Frequency		Typ. 100 kHz
Output		
Output Voltage Accuracy	$V_{in} = 48V$ , $I_{out} = \max$ , 25°C	$V1 \leq \pm 1\%$ , $V2 \leq \pm 4\%$
Ripple	$V_{in} = \min$ , $I_{out} = \max$ , 25°C	$\leq 1\%$ , $V_{out}$
Noise	$V_{in} = \min$ , $I_{out} = \max$ , 25°C	$\leq 2\%$ , $V_{out}$
Line Regulation	$V_{in} = \min/\max$ 25°C $I_{out} = \max$ , 25°C	$\leq \pm 0.5\%$ , $V_{out}$
Load Regulation	$I_{out} = 10...90...10\%$ , 25°C, $V_{in} = 48V$ , 25°C	$\leq \pm 0.5\%$ , $V_{out}$
Overcurrent Protection		105...130% $I_{nom}$
Load Regulation Timing	10...90...10%, 25°C	<4 ms
Temperature Coefficient	$T_A = -25...+65^\circ C$	0.01%/K
Overload/Short Circuit		Continuous
Derating Single/Dual/ Triple	$T_A > 50^\circ C$	5%/K max
General		
Holdup Time	$V_{in} = 48V$	>10 ms
Operating Temperature		-25...+65°C
Storage Temperature	$T_A = 25^\circ C$	45...+85°C
Case Temperature Rise at Full Load		45 K max
MTBF at 25°C (input/output)	acc. MIL-STD-217F	800,000 hrs
Transient Protection		EN61000-4-2, 3, 4, 5
Cooling		Convection
Weight – lbs (kg)		0.86 lbs (.39 kg)
Case Material/Potting		UL94-VO
CSA Power Supply Class		Level 3
Protection		IP20

**Note:** No input protection against reverse voltage.

## SDU Series, Direct Current Uninterruptible Power Supply (DC UPS) System

The SDU DIN Rail DC UPS is an advanced 24 Vdc uninterruptible power system that combines an industry leading design with a wide operational temperature range and unique installation options. The SDU DC UPS is a powerful, microprocessor controlled UPS that provides protection from power interruptions. With an input voltage range of 22.5 to 30.0 Vdc, the DC UPS is the ideal power back-up solution for your critical connected loads.

These units were designed specifically for use with Sola's popular SDN Series of power supplies. Sola's external battery module is the only one on the market that allows you to seal the electronics in the panel and maintain safety by placing the battery outside of a non-ventilated enclosure.

These units include easy to wire screw terminations for critical devices needing battery back-up. The SDU DC UPS includes an automatic self-test feature that checks the UPS and battery functions. Battery charging occurs automatically when input DC power is applied. When power fails, the DC UPS will switch to battery back-up. If the battery is no longer useful, the UPS will sound an alarm and an LED indicator will illuminate.

Back-up power protection in modern industrial applications depends mainly on AC UPS. AC is converted to DC, and converted back to AC in the AC UPS, then converted back to DC in the protected equipment power supply. By applying the new Sola SDU DIN Rail DC UPS, you avoid the inefficiencies of all these conversions. This design maximizes system up-time flexibility, and optimizes reliability assurance.

### Applications

- Industrial/Machine Control
- Automation process Control
- Computer-based Control Systems
- Conveying Equipment
- Material Handling
- Packaging Machines
- Semiconductor Fabrication Equipment
- DeviceNet™
- Amusement Park Equipment
- Pharmaceutical Applications
- Control Rooms



### Features

- Modular, rugged industrial grade design
- Microprocessor based controls
- Automatic self-test feature for UPS function and battery management check
- Power module wide operation temperature range (-20° to +50°C)
- Flexible batteries back-up expansion capabilities
- Overload protection in normal and battery modes
- User replaceable batteries
- IP20 rated input and output screw terminals
- No internal fan, no extra cooling required
- Sturdy, reliable all metal DIN Rail mounting connector
- LED Status Indicators
- Universal Dry Contact Relay terminals provide remote signaling
- Monitoring, diagnostics, and remote turn-on and shut-off capabilities
- Two year warranty

### Related Products

- SDN-P Series DIN Rail Power Supplies
- SDN-C Series DIN Rail Power Supplies
- STV 25K Series Surge Suppressors



## Selection Table

Catalog Number	Description	Approx. Ship Weight lbs (kg)
<b>SDU 10-24</b>	240 VA, 24V/10A DIN Rail DC UPS power module, battery module is required	1.65 (0.65)
<b>SDU 20-24</b>	480 VA, 24V/20A DIN Rail DC UPS power module, battery module is required	1.65 (0.65)
<b>SDU 24-BAT</b>	24V DIN Rail/Panel Mount Battery Module (cable included)	12.0 (5.33)
<b>SDU 24-BATEM</b>	24V External Mount Battery Module (cable included)	16.0 (7.11)
<b>SDU 24EXTBC6</b>	Optional 6 ft. Battery Module cable to 24V DC UPS	0.5 (0.22)
<b>SDU 24-DB9</b>	Optional interface kit to convert relay contacts signals to DB9 signals	1.0 (0.45)
<b>SDU-PMBRK</b>	Optional chassis mount brackets to secure UPS to wall, panel, or enclosure	0.5 (0.22)

There are three individual hardware products when putting an SDU DC UPS system into operation:

1. 24 Vdc Power Supply (Recommended Sola SDN Series)
2. 24 Vdc SDU DC UPS Power Module
3. 24 Vdc SDU DC UPS Battery Module; or  
24 Vdc SDU DC UPS External Battery Module

There are two models of the SDU DC UPS Power Module:

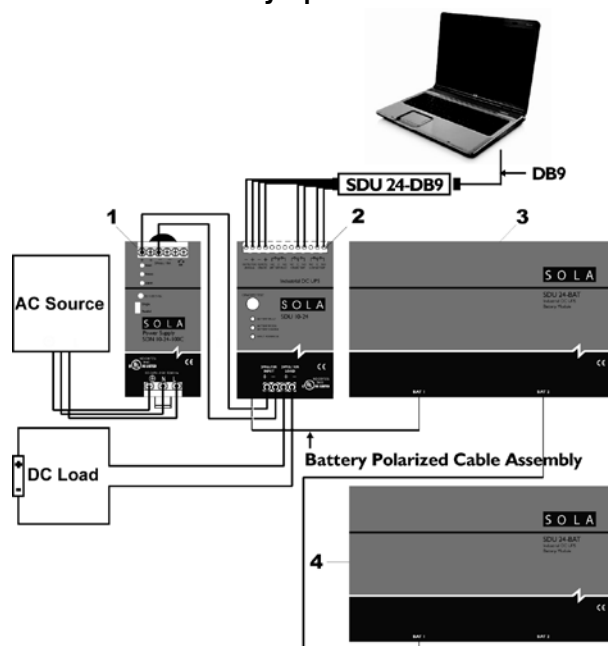
1. SDU 10-24, 24 Vdc/10amp (battery modules are required)
2. SDU 20-24, 24 Vdc/20amp (battery modules are required)

There are two models\* of the SDU DC UPS Battery Modules:

1. SDU 24-BAT, DIN Rail/Panel mount for installation in ventilated enclosure, up to 4 battery modules can be connected to the SDU DC UPS.
2. SDU 24-BATEM, Panel mount, alternate battery module for external installation of non-ventilated enclosures, only 1 battery module can be connected to the SDU DC UPS.

\*Can not use a combination of both models of the battery modules, only one model of the battery module can be connected to the SDU DC UPS.

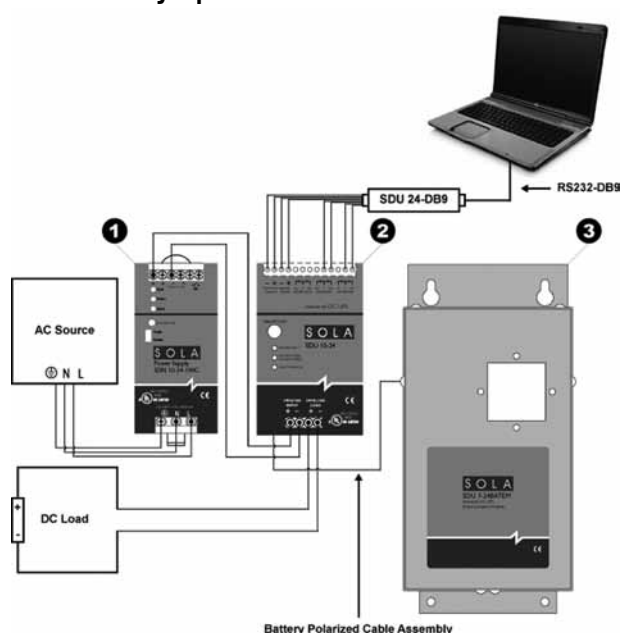
## DIN Rail Mounted Battery Option



## Notes:

- 1) AC/DC Power Supply
- 2) Power Module: SDU 10-24 or SDU 20-24
- 3) Battery Module: SDU 24-BAT
- 4) Optional battery module for extended runtime.

## External Battery Option



## Notes:

- 1) AC/DC Power Supply
- 2) Power Module: SDU 10-24 or SDU 20-24
- 3) Battery Module: SDU 24-BATEM

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contact Technical Services at (800) 377-4384 with any questions.

## SDU DC UPS Power Modules Specifications

Specification	SDU 10–24	SDU 20–24
Input		
Nominal Input Voltage	24 Vdc	
Input Voltage Range	22.5 - 30 Vdc	
Input Fuse	DC Fuse 30A	
Output		
Nominal Output Voltage	24 Vdc	
Output Voltage Range	22.5 - 30 Vdc	
Output Current	10A	20A
Current Limit	12A	22A
Protection		
Input Protection	Fuse for overload & short circuit protection	
Overload Protection	Electrical Circuit Protection	
Short Circuit	UPS output cut off immediately	
Battery Module		
Type	Sealed, maintenance-free lead acid batteries.	
Charging Current	0.5 A	
Typical Recharge Time (to 90% of full capacity)	8 Hours for 1 Battery Module 24 Hours for 2 Battery Module 12 Hours for each additional Battery Module	
Back–up Time (full load) <sup>1</sup>	14 min.	4 min.
Protection	UPS Shutdown when battery voltage drops below 22V, to prevent the complete depletion of the battery, short circuit protection by a 30A fuse.	
Physical		
Net Weight – lbs (kg)	1.65 (0.75)	
Dimensions H x W x D – in. (mm)	4.88 x 3.02 x 4.55 (124 x 77 x 116)	
Alarm		
Battery Low	Rapid Audible Indicator every 1 second	
Overload	Continuous Audible Indicator	
Environment		
Audible Noise	<40 dBA (1 meter from surface)	
Power Module Operating Temperature	-20°C to +50°C	
Storage Temperature	-20°C to +70°C	
Humidity	0-95%	
Max Elevation	3500 meters (11,483 feet)	
Shock & Vibration	According to ISTA 2A	
DC UPS System <sup>2</sup> Safety		
US Standard	UL 60950-1, UL508, FCC Part 15, Class A	
Canadian Standard	CAN/CSA C22.2 No 107.1-01, CAN/CSA C22.2 No. 60950-1	
CE	Low Voltage Directive IEC 60950-1 (CB Scheme)	
	Directive 2004/108/EC: EN 62040-2 Category C2 EN 55022 Class A + A1 + A2, CISPR 22 Class A (2005), IEC 61000-3-2, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6 + A1, IEC 61000-4-8, IEC 61000-2-2	
General		
MTBF	> 200,000 Hours, MIL-STD HDBK-217F	
Installation		
Output	Outputs are capable of providing high currents for short periods of time for inductive load startup or switching. Fusing may be required for wire/loads if 2x Nominal O/P current rating cannot be tolerated. Continuous current overload allows for reliable fuse tripping	
Mounting	Simple snap-on system for DIN Rail TS35/7.5 or TS35/15 or chassis-mounted, optional screw mounting set SDU-PMBRK.	
Connections	Input & Output: IP20-rated screw terminals, connector size range: 16-12 AWG (0.5-4 mm²) for copper conductors rated 90°.	
Relay Contact Terminal Connections	IP20 screw terminals; connector size range: 24-16 AWG (0.34-4mm²)	
Case	Fully enclosed metal housing with ventilation grid to keep out small particles.	
Free Space	20 mm above and 35 mm below, 20 mm left and right, 10 mm in front	

## Notes:

1. See Battery Back-Up Times on next page.
2. DC UPS System includes one power module (SDU 10-24 or SDU 20-24) and one or more battery modules (SDU 24-BAT or SDU 24BATEM)

## SDN DC UPS Battery Module Specifications

Parameter	SDU 24-BAT	SDU 24-BATEM
Nominal Voltage	24 Vdc	
Protection	Fuse: 30A	Circuit Breaker: 24V, 25A
Charging Current	0.5A	0.8A
Enclosure Dimension in. (mm)	4.88 x 8.27 x 4.55 (124 x 210 x 116)	11.5 x 5.57 x 4.57 (292 x 142 x 116)
Enclosure Type	IP20	NEMA 1
Terminal Connector Type	Polarized Powerpole Connectors	
Batteries	Replaceable Batteries	
Accessories	1 ft. polarized battery cable	6 ft. polarized battery cable
Operating Temperature	-20° to +50°C	
Storage Temperature	-20° to +40°C	
Humidity	95% no condensation	
Safety Standard For DC UPS System*	UL60950-1, IEC 60950-1, UL508, CE CAN/CSA C22.2 No 107.1-01 CAN/CSA C22.2 No 60950-1	
Weight – lbs (kg)	12 (5.33)	16 (7.11)
Mounting	Simple snap-on system for DIN Rail TS35/7.5 or TS35/15 or chassis-mounted, optional screw mounting set <b>SDU-PMBRK.</b>	Wall/Chassis Mounting

## SDU DC UPS Back-Up Times (Typical)

SDU 10-24 with SDU 24-BAT					
Load	20% (2A)	40% (4A)	60% (6A)	80% (8A)	100% (10A)
1 unit	113	45	30	21	14
2 units	247	114	74	48	38
3 units	396	178	117	80	58
4 units	531	233	148	111	81
SDU 10-24 with SDU 24-BATEM					
1 EBP	200	82	44	30	21
SDU 20-24 with SDU 24-BAT					
Load	20% (4A)	40% (8A)	60% (12A)	80% (16A)	100% (20A)
1 unit	46	21	10	06	04
2 units	116	50	28	17	10
3 units	178	80	46	31	20
4 units	237	113	65	43	31
SDU 20-24 with SDU 24-BATEM					
1 EBP	84	30	16	11	7

## SFL Series, 75–600 Watt

The SFL series is a DIN Rail switching power supply series that complements the Sola SDN™ products with more input voltage, output voltage and power levels to give an even broader range of industrial DC power solutions.

These products are available in 12, 24 and 48 Vdc output and 115/230 Vac Input. They feature pluggable screw connectors\* (mating connectors are included in each box sold) for easy installation and service. The products feature a DIN Rail connection, front panel DC OK indicators, and easily accessible AC and DC connections.

For parallel operation with power sharing, a redundant version is available for the 300 W (24 V/12 A) and 600 W (24 V/24 A) models.

### Features

- DIN Rail Mount regulated switch mode power supplies
- 12 V, 24 V, and 48 V outputs available from 1.5-24 A
- Easy-to-wire pluggable\* and screw terminal connectors
- Adjustable output voltage
- Selectable input: 115/230 Vac
- UL1604 Listed for Class 1, Division 2 hazardous locations (except -RED and -UDS versions)
- UL 508 Listed (except -RED and -UDS versions). No derating necessary.
- Two year warranty

\* Except 600 watt models.



UL 508 Listed  
IND. CONT.  
EQ.E61379



UL 60950  
E137632  
CUL/CSA-C22.2  
No. 234-M90



EMC and  
Low Volt.  
Directive

- Fully Integrated Redundant models available:
  - RED (For SFL24-24-100 and SFL12-24-100 only)  
Designed for N + 1 redundant power supply systems, these units provide active current sharing and allow up to 5 power supplies to be paralleled. Decoupling diodes and an alarm output to signal a unit failure are included in this option. Multiple units are required for redundancy.
- Models with optional battery back-up available:
  - UDS (For SFL24-24-100 and SFL12-24-100 only)  
Contact Technical Services for details.

### Selection Table

Catalog Number	Input Voltage Selectable	Output Power Maximum	Output Voltage Nominal	Output Current Maximum
SFL 6–12–100 SFL 1.5–48–100	115/230 Vac	75 Watt	12 Vdc 48 Vdc	6 A 1.5 A
SFL 3–48–100		150 Watt	48 Vdc	3 A
SFL 12–24–100 SFL 6–48–100		300 Watt	24 Vdc 48 Vdc	12 A 6 A
SFL 24–24–100 SFL 12–48–100		600 Watt	24 Vdc 48 Vdc	24 A 12 A
Redundant Models				
SFL 12–24–100RED SFL 24–24–100RED	115/230 Vac	300 Watt 600 Watt	24 Vdc	12 A 24 A

Visit our website at [www.solahd.com](http://www.solahd.com) or  
contact Technical Services at (800) 377-4384 with any questions.

## SFL Specifications

Parameter	Value	
Input		
Input voltages nominal (user selectable)	93-132 Vac / 187-264 Vac	
Input Frequency	47-63 Hz	
Input current at full load (typical) – 75 W (12 V/6 A, 24 V/3 A, 48 V/1.5 A) – 150 W (24 V/6 A, 48 V/3 A) – 300 W (24 V/12 A, 48 V/6 A) – 600 W (24 V/24 A, 48 V/12 A)	115 Vac 1.7A 3.0A 5.4A 10.5A	230 Vac 0.9 A 1.7 A 3.3 A 6.4 A
Inrush current (max.) – 75 W – 150 W – 300 W – 600 W	115 Vac 16.5 A 35.0 A 35.0 A 70.0 A	230 Vac 33.0 A 70.0 A 70.0 A 80.0 A
Internal fuse (slow blow) not accessible – 75 W / 150 W – 300 W – 600 W	4.0 A 6.3 A 12.0 A	
Output		
Voltage Adjustment Range – 12 V models – 24 V models – 48 V models	12 – 14 Vdc 24 – 28 Vdc 48 – 52 Vdc	
Output Regulation – Line voltage variation – Load variation 10–90% 75W, 150W models 300W, 600W models	±0.2% max.  ±1.0% max. ±0.5% max.	
Ripple and noise (20 MHz bandwidth)	< 50 mVpp	
Electronic short circuit protection / current limitation	110 % typ. (constant current)	
Parallel Operation – SFL12–24–100RED – SFL24–24–100RED	Up to 5 units	
Overvoltage Protection, trigger point at	140% typical out nominal	
Holdup Time	min. 20 mS	

Parameter	Value	
General		
Operating Temperature Range Derating above 50°C	-25°C...+70°C 2%/°C	
Storage Temperature	-25°C...+85°C	
Humidity (non condensing)	95% rel H max.	
Switching Frequency – 75 W – 150 W/300 W/600 W	100 kHz typical 67 kHz typical	
Efficiency	>85%	
Operation Indication	LED, DC OK	
Isolation Voltage – Input/output – Input/case – Output/case	3,000 Vac (1 minute) 2,000 Vac (1 minute) 500 Vac (1 minute)	
Safety Class (IEC536)	Class 1	
Safety Standards Met	IEC950, EN60950, CE marked for LVD, UL60950 recognized and UL 508.	
Conducted EMI according to:	EN55022 Class B, EN55011 Class B, FCC-B	
Electromagnetic Susceptibility – Electrostatic discharge ESD. – RF field susceptibility. – Electrical fast transients/ bursts on main line. – Immunity to conducted radio frequency disturbances above 9 kHz. – Mains frequency field	EN61000-4-2 EN61000-4-3 EN61000-4-4  EN61000-4-6 EN61000-4-8	4 kV/8 kV 10 V/m 2 kV  10 V 30 A/m
Case protection according to IEC529	IP 20	
Case material	Steel	
Mounting	Snap-on 35 mm DIN Rail as per EN50022 or Chassis mounting option available	

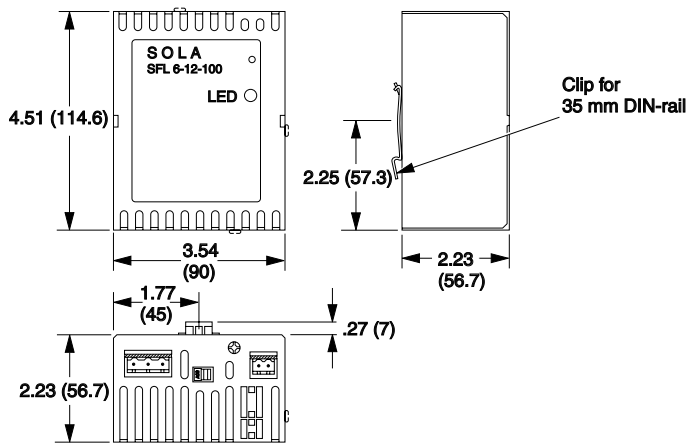
## Mounting Brackets

For easy conversion to panel or chassis mounting.

Catalog Number	Output Power Maximum
SFL 75–PMBRK	75 Watt
SFL 150–PMBRK	150 Watt
SFL 300–PMBRK	300 Watt
SFL 600–PMBRK	600 Watt

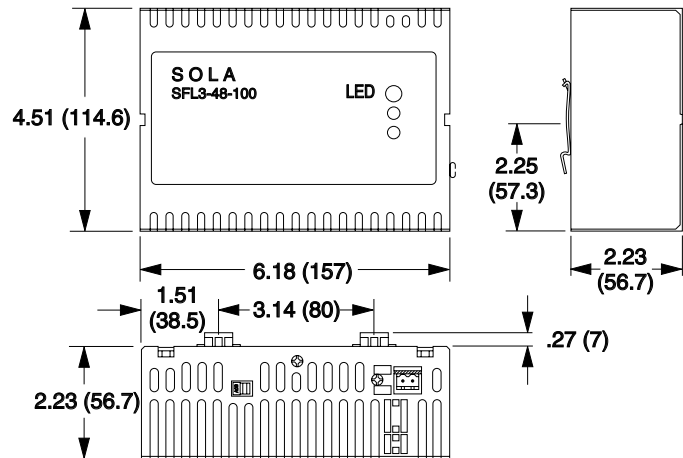
## SFL Series Dimensions (inches/mm)

SFL 75 Watt (12 V/6 A, 48 V/1.5 A)



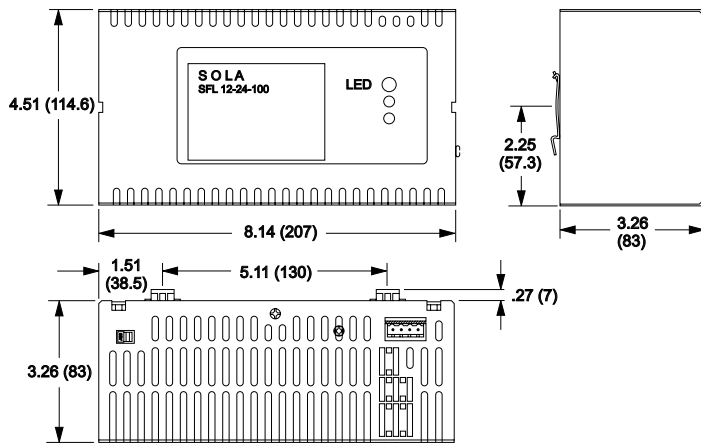
Weight: 1.06 lbs/.48 kg approx.

SFL 150 Watt (SFL 3-48-100)



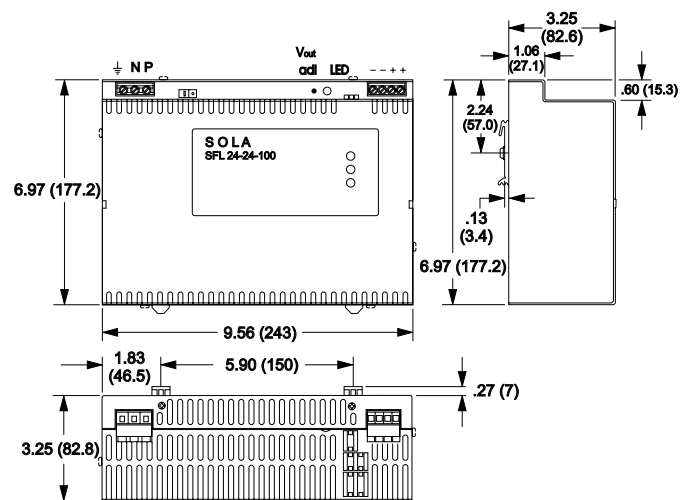
Weight: 1.6 lbs/.73 kg approx.

SFL 300 Watt (SFL 12-24-100[RED], SFL 6-48-100)



Weight: 3.09 lbs/1.4 kg approx.

SFL 600 Watt (SFL 12-48-100, SFL 24-24-100[RED])



Weight: 4 lbs/1.81 kg approx.

## Silver Line Series – Single &amp; Multi-Output Linear



The Silver Line series follows the industry accepted footprint for open frame, linear power supplies. Standard screw terminal connections and optional covers are offered for safety considerations.

## Features

- Easy-to-install screw terminal connections
- Cover options
- Industry standard footprint
- Universal input and approvals (115/230 Vac)
- Low noise, extremely quiet DC output. For noise sensitive or analog circuitry.
- Fast transient response. Ideal for test applications.
- Built-in OVP on 5 V models and optional on 12, 15 and 24 V models
- Automatic resetting overload protection
- Short circuit protected
- Two year warranty

## Applications

- Industrial Control Circuits and Components
- Instrumentation
- Drives
- CNC Machinery
- Equipment for food industry
- Microprocessor Circuits
- Analog Circuits
- Noise sensitive Circuitry and Sensors

## Specifications

Parameter	Condition	Limit
<b>Input</b>		
<b>Input Voltage</b>		100/120/220/230/240 Vac Selectable
<b>Input Frequency</b>		47-63 Hz
<b>Output</b>		
<b>Line Regulation</b>	for 10% change	0.05%
<b>Load Regulation</b>	for 50% change	0.05%
<b>Ripple</b>		3.0 mV maximum Peak-to-Peak
<b>DC Output Adjustment Range</b>		±5% Minimum
<b>Overvoltage Protection</b>		All 5-Volt outputs include build-in OVP as standard (setting is 6.2 V ±0.4 V) OVP is optionally available on other types
<b>Transient Response Time</b>	at 50% Load Changes	50 msec.
<b>Overload Protection</b>		Automatic current limit foldback
<b>Remote Sensing</b>	Available to compensate for output voltage drop on selected models.	0.5 Vdc
<b>General</b>		
<b>Operating Temperature Range</b>	Derate to 40% at +70°C	0 to +50°C
<b>Storage Temperature Range</b>		-25°C to +85°C
<b>Temperature Coefficient (Typical)</b>		0.01% 0°C
<b>Stability</b>	After warm-up	±.5%
<b>EMI/RFI</b>	Linear power supplies have inherently low conducted and radiate noise levels	For most system applications they will meet requirements of FCC Class B and VDE 0871 for Class B
<b>Cover Option</b>	Derate power by an additional 15%	
<b>Cooling</b>	Forced air. 20 CFM required for full rating Derate 30% without cooling	

Specifications are typical. Load Regulation on outputs without Remote Sense, .1% typical.



SL Series Selection Table

Catalog Number	Output 1	Output 2	Output 3	Case
SLS-05-030-1T	5 V @ 3 A*#	—	—	A
SLS-05-060-1T	5 V @ 6 A*#	—	—	B1
SLS-05-090-1T	5 V @ 9 A*#	—	—	C
SLS-05-120-1T	5 V @ 12 A*#	—	—	I2
SLS-12-017T1	12 V @ 1.7 A# or 15 V @ 1.5 A	—	—	A
SLS-12-034T	12 V @ 3.4 A#	—	—	B1
SLS-12-051T	12 V @ 5.1 A#	—	—	C
SLS-12-068T	12 V @ 6.8 A#	—	—	I2
SLS-15-045T	15 V @ 4.5 A#	—	—	C
SLS-15-060T	15 V @ 6 A#	—	—	I2
SLS-24-012T	24 V @ 1.2 A#	—	—	A
SLS-24-024T	24 V @ 2.4 A#	—	—	B2
SLS-24-036T	24 V @ 3.6 A#	—	—	C
SLS-24-048T	24 V @ 4.8 A#	—	—	I2
SLS-24-072T	24 V @ 7.2 A#	—	—	K
SLS-24-120T	24 V @ 12.0 A#	—	—	L
SLD-12-1010-12T <sup>1</sup>	12 V @ 1 A or 15 V @ .8 A	-12 V @ 1 A or -15 V @ .8	—	H1
SLD-12-1818-12T <sup>1</sup>	12 V @ 1.8 A or 15 V @ 1.5 A	-12 V @ 1.8 A or -15 V @ 1.5 A	—	D
SLD-12-3434-12T	12 V @ 3.4 A#	-12 V @ 3.4 A#	—	I3
SLD-15-3030-15T	15 V @ 3 A#	-15 V @ 3 A#	—	I3
SLD-12-6034-05T	5 V @ 6 A*#	12 V @ 3.4 A#	—	I1
SLD-12-3015-05T	5 V @ 3 A*#	12 V @ 1.5 A	—	C1
SLT 12-20404-12T <sup>1</sup>	5 V @ 2 A*#	12 V @ .4 A or 15 V @ .4 A	-12 V @ .4 A or -15 V @ .4 A	H2
SLT 12-31010-12T1	5 V @ 3 A*#	12 V @ 1 A# or 15 V @ .8 A	-12 V @ 1 A# or -15 V @ .8 A	F
SLT 12-61818-12T1	5V @ 6A*#	12 V @ 1.8 A or 15 V @ 1.5 A	-12 V @ 1.8 A or -15 V @ 1.5 A	G2
<b>Over Voltage Protector (OVP)</b>				
SLO-12-000-1	6.2 V to 34 V Adjustable @ 8 A	For Cases B through K		J1
SLO-12-000-TB	6.2 V to 34 V Adjustable @ 8 A	For Case A or Cases B through K (when used with a cover)		J2

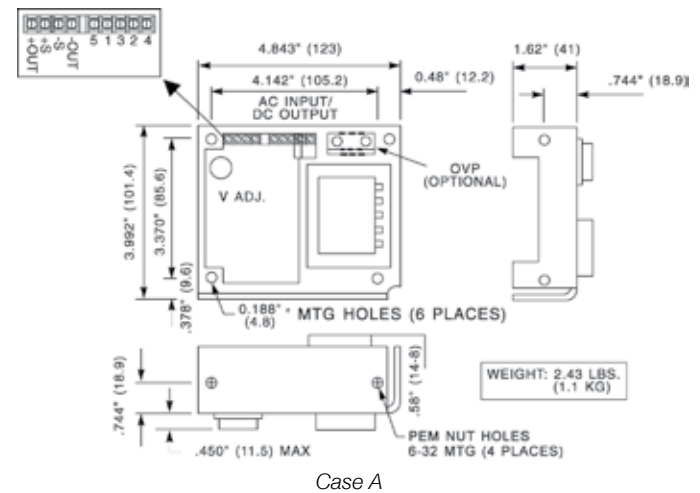
## Notes:

\* With Built-In OVP

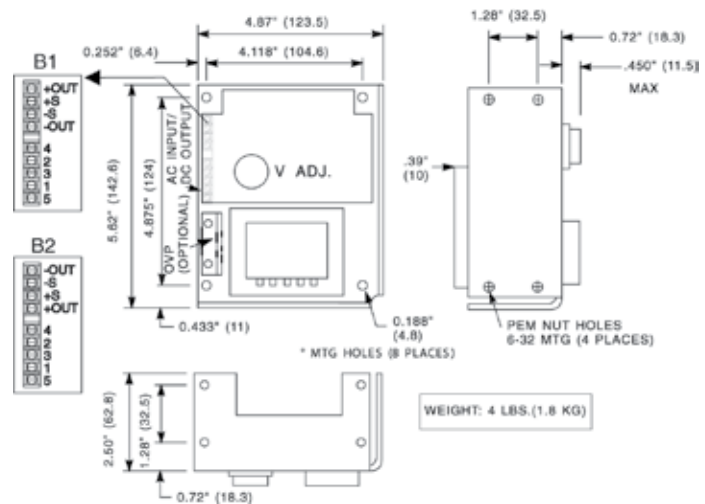
# With Remote Sense (R.S.)

1. 12/15 Volt models are factory set for 12 Volt operation. 15 Volt operation is field adjustable.

Dimensions - inches (mm)



Case A



Case B

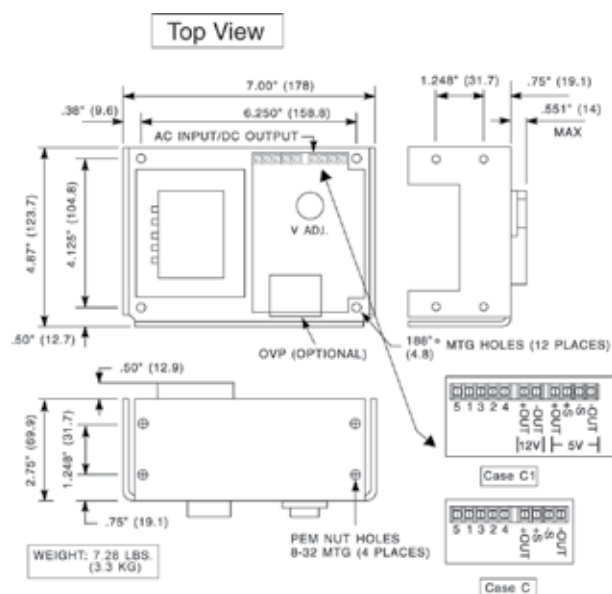
## Cover Options

Catalog Number	Description	Catalog Number	Description
SLCASA-CVR	Cover for Case A	SLCASI-CVR	Cover for Cases I1, I2, & I3
SLCASB-CVR	Cover for Case B	SLCASK-CVR	Cover for Case K
SLCASC-CVR	Cover for Case C	SLCASL-CVR	Cover for Case L

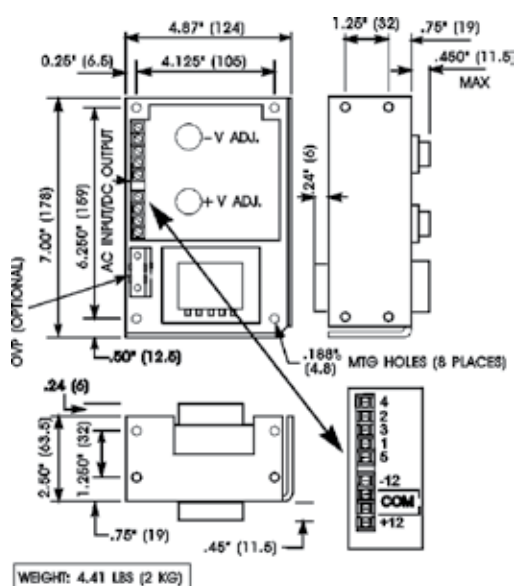
## Note:

Covers are sold separately. When used, derate the power supply by 15% of its rated value.

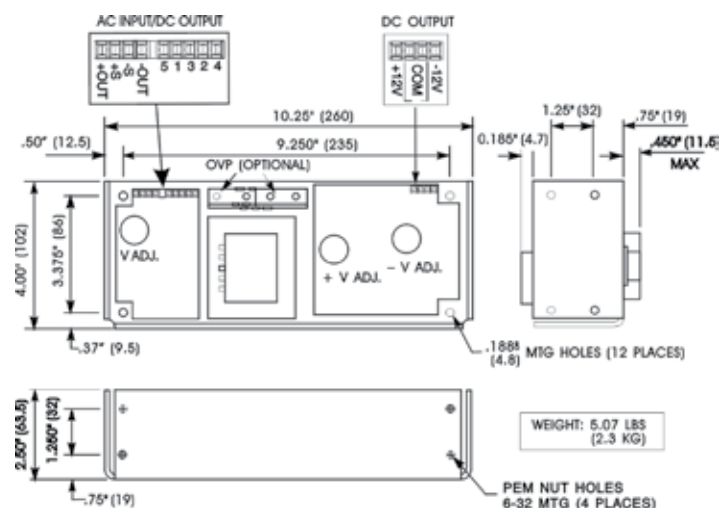
### Silver Line Dimensions (inches/mm)



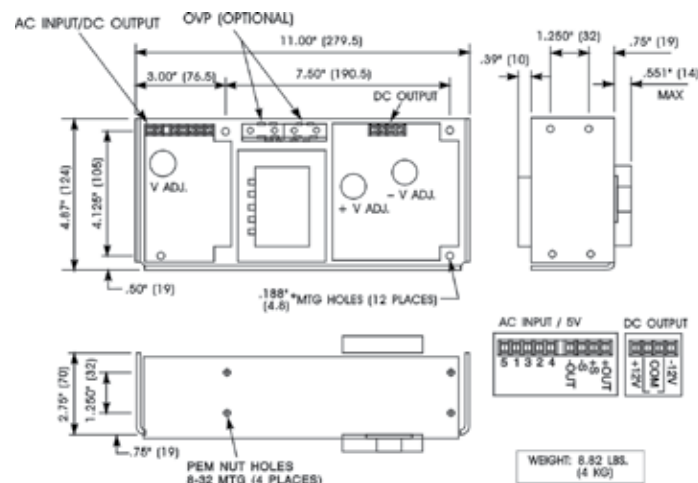
### Cases C and C1



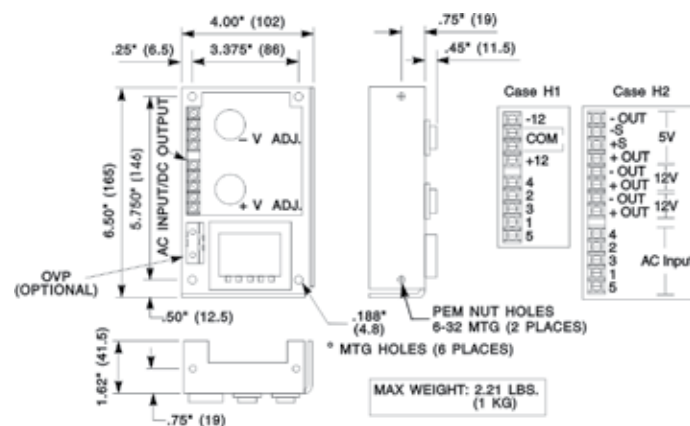
Case D



Case F



Case G2



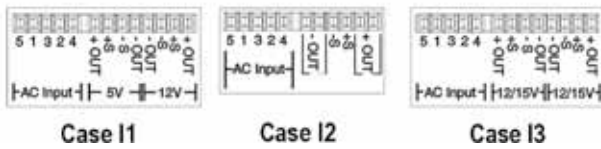
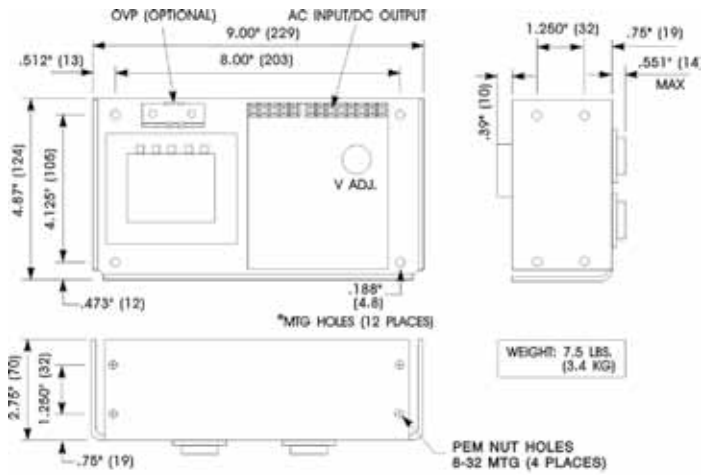
### Cases $H1$ and $H2$

## AC Input Jumper Connections

For use at:	100 Vac	120 Vac	220 Vac	230/240 Vac
<b>Connect:</b>	1-3, 2-4	1-3, 2-4	2-3	2-3
<b>Apply AC:</b>	1 & 5	1 & 4	1 & 5	1 & 4

Visit our website at [www.solahd.com](http://www.solahd.com) or  
contact Technical Services at (800) 377-4384 with any questions.

## Silver Line Dimensions (inches/mm)

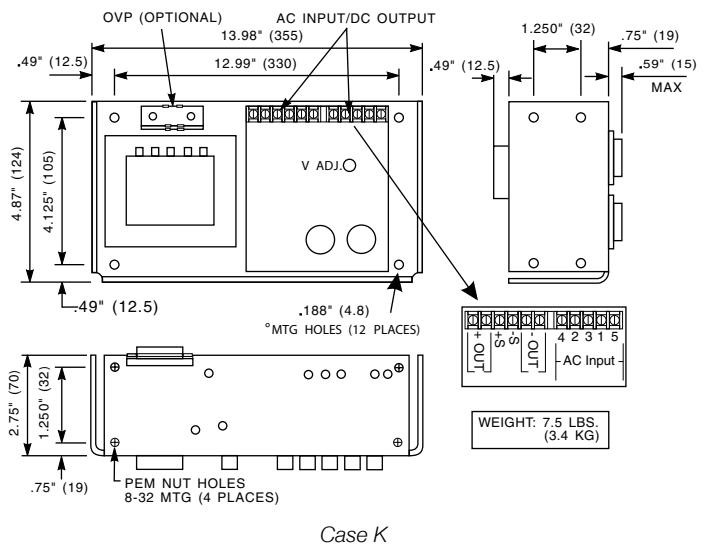
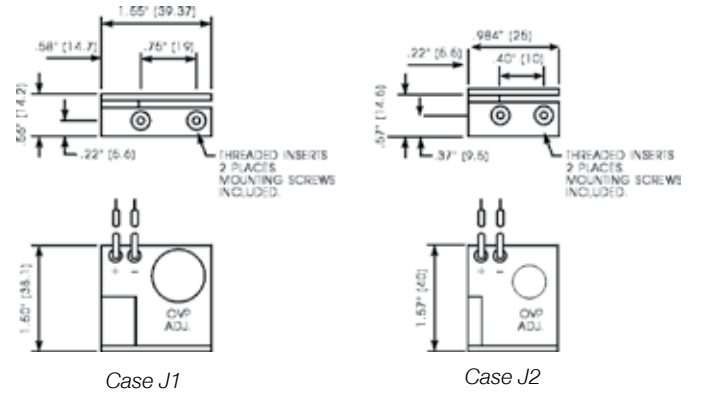


Cases I1, I2 and I3

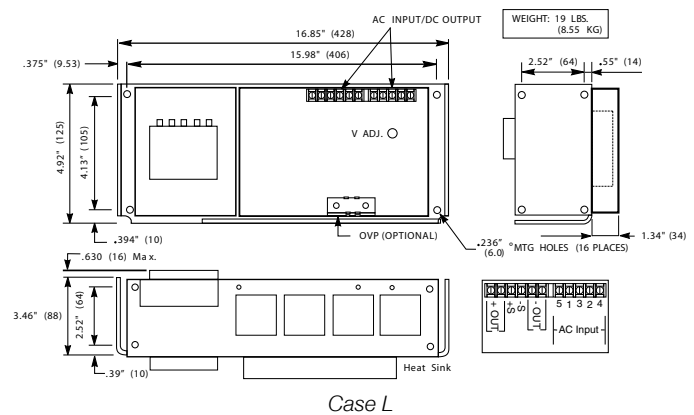
## Notes:

All dimensions in inches (mm). Dimensions may change and should not be used for construction purposes.

Be sure to specify the complete part number when ordering. Orders may be placed with your local SolahD distributor.



Case K



Case L

Visit our website at [www.solahd.com](http://www.solahd.com) or contact Technical Services at (800) 377-4384 with any questions.

## GL Series: Single &amp; Multi Output Switchers



The new GL series provides a broad range of AC/DC power supply solutions that covers power ratings from 25 watts to 500 watts for use in various industrial and medical applications requiring standard footprint size and very high reliability.

These low-profile AC/DC switchers offer universal input voltage with no switches or jumpers, ideal for higher volume worldwide applications.

**All models feature:**

- Industry standard footprints
- Universal input
- Full power to 50°C
- High demonstrated MTBF
- Automatic overvoltage protection
- Overload protection
- Built-in EMI Filtering
- Extensive safety approvals
- Derated operation to 70°C
- 250 VA and higher VA size enclosed
- Two year limited warranty

**Many models feature:**

- EN61000-3-2 Compliance
- Supervisory outputs (5 V/12 V)
- Wide-adjustable floating 4<sup>th</sup> output
- Single wire current share
- Medical approvals
- Remote Sense
- Adjustable main output
- Power Fail and DC Good signals
- Wide-adjustable on single output models

**Cover and Bracket Options**

- Cover options can be ordered separately. They are designed to simplify mechanical integration of the power supplies into systems and add an extra measure of electrical safety for service personnel.
- Bracket kits can be ordered separately for GL110 series only. It is needed when the cover option is used.

Catalog Number	Description
<b>GLX40</b>	Enclosure kit for the GL20 and GL40
<b>GLX50</b>	Enclosure kit for the GL50 and GL100-M
<b>GLX60</b>	Enclosure kit for the GL60
<b>GLX110-B</b>	Bracket kit for the GL110
<b>GLX110-C</b>	Cover kit for the GL110
<b>GLX120</b>	Enclosure kit for the GLS120 and GLQ120
<b>GLX140-C</b>	Cover kit for the GLQ140
<b>GLX140-CF</b>	Cover with top fan kit for the GLQ140
<b>GLX150-C</b>	Cover kit for the GL150
<b>GLX170-C</b>	Cover kit for the quad output GL170
<b>GLX17S-C</b>	Cover kit for the single output GL170
<b>GLX200</b>	Enclosure kit for the GL200-M
<b>GLX250-CEF</b>	Cover end fan kit for the GL250
<b>GLX250-CF</b>	Cover with top fan kit for the GL250/350

(Table 1)

**Mating Connectors**

- Can be ordered separately for units with Molex connection
- Kits include mating housing and pins for input and output connection

Catalog Number	Description
<b>70-841-006</b>	GLX40, GLX50 and GLX60 Mating Connector Kit
<b>70-841-007</b>	GLS110 Mating Connector Kit
<b>70-841-008</b>	GLQ110 Mating Connector Kit
<b>70-841-020</b>	GLS120 Mating Connector Kit
<b>70-841-012</b>	GLQ123 Mating Connector Kit
<b>70-841-017</b>	GLQ142 Mating Connector Kit
<b>70-841-009</b>	GLS150 Mating Connector Kit
<b>70-841-010</b>	GLQ150 Mating Connector Kit
<b>70-841-015</b>	GLQ170 Mating Connector Kit
<b>70-841-016</b>	GLS170 Mating Connector Kit
<b>70-841-005</b>	GLX250 Mating Connector Kit
<b>70-841-024</b>	GLS500 Mating Connector Kit

(Table 2)

Visit our website at [www.solahd.com](http://www.solahd.com) or  
contact Technical Services at (800) 377-4384 with any questions.

## Specifications

	GL20, GL40	GL50	GL60, GL110	GLQ120, GLS120	GL140	GL150	GL170	GL250, GL350	GL500	
Input										
Input Voltage <sup>(1)</sup>	85 - 264 Vac; 120 - 300 Vdc	90 - 264 Vac 127 - 300 Vdc	85 - 264 Vac 120 - 300 Vdc			85 - 132 Vac or 170 - 264 Vac auto-selected. 220 - 300 Vdc	85 - 264 Vac; 120 - 300 Vdc		85 - 264 Vac	
Frequency	47-63 Hz , 400± 40 Hz					47-63 Hz				
Inrush Current	GL20: <15A peak @ 115 Vac; <30A peak @ 230 Vac, cold start @ 25°C.  GL40: <18A peak @ 115 Vac; <36A peak @ 230 Vac, cold start @ 25°C	<60A peak @ 230 Vac, cold start @ 25°C	<18A peak @ 115 Vac, <36 A peak @ 230 Vac, cold start @ 25°C	GLQ120: 38 A max., cold start @ 25°C  GLS120: 40A max., cold start @ 25°C	38 A max, cold start @ 25°C			GL250: 20 A max., cold start @ 25°C.  GL350: 38 A max., cold start @ 25°C.	50 A max., cold start @ 25°C	
Efficiency	70% typical at full load	80% - 85% typical at full load	70% typical at full load	GLQ120: 65% typical at full load. GLS120: 80% typical at full load				75% typical at full load		85% typical at full load, nominal line
EMI/RFI	FCC Class B ; CISPR 22 Class B ; EN55022 Class B									
Safety Ground Leakage Current	Non-Medical: <0.5 mA Medical: < 75 µA @ 50/60 Hz, 264 Vac input	Non-medical: <0.5mA Medical: 275 µA @ 50/60 Hz; 264 Vac input for Class I; <0.25mA @ 50/60 Hz; 264 Vac input for Class II (for single output only)	Non-Medical: <0.5 mA Medical: < 75µA @ 50/60 Hz; 264 Vac input	GLQ120: <1 mA @ 50/60 Hz, 264 Vac input. GLS120: 0.5mA @ 50/60 Hz, 264 Vac input	1.0 mA @ 50/60 Hz, 264 Vac input	<0.5 mA @ 50/60 Hz, 264 Vac input	Non-Medical: 0.1 mA Medical: < 250 µA 1.0 mA @ 50/60 Hz, 264 Vac input	<0.5 mA @ 50/60 Hz, 264 Vac input	Non-Medical: <0.5 mA Medical: <0.3mA @ 50/60 Hz, 264 Vac input	
Output										
Power	Refer to the selection table									
Adjustment Range on Main Output	-5, +10% minimum	±20% minimum for single output only models	GL60: -5, +10% minimum GL110: ±5% on main, 5-25 V on 4 <sup>th</sup> output	±5% minimum	3.3 - 5.5V on main; -12 - 15V on 3rd output 3.3 - 25 V on 4th output	±5% minimum on main, 5-25 V on 4 <sup>th</sup> output	2:1 wide ratio minimum	2:1 wide ratio	±5%	
Hold-up Time	20 ms @ full load, 115 Vac nominal line	10/20 ms 115/230 Vac Input line	20 ms @ full load, 115 Vac nominal line							
Overload	Short circuit protection on all outputs. Primary overload protection									
Overvoltage Protection	5 V output; 5.7 to 6.7 Vdc. Other outputs 10% to 25% above nominal output	30-50% above nominal output	5 V output; 5.7 - 6.7 Vdc. Other outputs 10% to 25% above nominal output	3.3 V and 5 V output: 20% to 35% above nominal output	Tracks outputs 1, 3 & 4; 10 to 35%	5 V output: 5.7 to 6.7 Vdc. Other outputs 10% to 25% above nominal output	10% to 40% above nominal output	5 V output: 5.7 to 6.7 Vdc. Other outputs 10% to 25% above nominal output	20-35% above nominal output	
Remote Sense	Compensates for 0.5 V lead drop minimum; Will operate without remote sense connected, Reverse connection protected									
General										
Temperature <sup>(2)</sup>	Storage: -40°C to +85°C; Operating: 0° to 50°C ambient. Derate each output 2.5% per degree from 50° to 70°C, -20°C start up.									
Electro-magnetic Susceptibility	Designed to meet IEC 801, -2, -3, -4, -5, -6, Level 3 or EN61000-4; -2, -3, -4, -5, -6, -8, -11 Level 3									
Humidity	Operating; non-condensing up to 95% RH									
Vibration	Three orthogonal axes, sweep at 1 oct/min, 5 min. dwell at four major resonances 0.75G peak 5Hz to 500 Hz (2 G peak 8 Hz to 500 Hz for GL500)									
MTBF	>550,000 hours demonstrated at full load and 25°C ambient conditions									
Safety	Non-Medical: EN60950, UL UL60950 E132002, CSA CSA 22.2-234 Level 3 LR53982C, CB Certificate and report; CE Mark (LVD) Medical: UL 2601; CSA 22.2 No. 601.1; EN 60601-1									

## Notes:

(1) Proper circuit protection required when operating with a DC input voltage. (2) Regulation and ripple may deviate from the spec at -20°C start up.

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Selection Table

	Catalog Number	Output 1	Output 2	Output 3	Output 4	Case <sup>(3)</sup>	Pin Assignments <sup>(3)</sup>	Mating Connectors <sup>(3)</sup>
GL20 [40 W] 25 W	GLS22	5 V @ 5 A [8 A] <sup>(6)</sup>	-	-	-	1	1A	1B
	GLS23	12 V @ 2.1 A [3.3 A] <sup>(6)</sup>	-	-	-			
	GLS24	15 V @ 1.7 A [2.7] <sup>(6)</sup>	-	-	-			
	GLT22	5 V @ 3 A [4 A] <sup>(7)</sup>	12 V @ 1.5 A [2 A] <sup>(7)</sup>	-12 V @ 0.5 A [0.7 A]	-		2A	
	GLT23	5 V @ 4 A [5 A] <sup>(7)</sup>	12 V @ 0.5 A [0.7 A]	-12 V @ 0.5 A [0.7 A]	-			
	GLT24	5 V @ 3 A [4 A] <sup>(7)</sup>	12 V @ 1.5 A [2 A] <sup>(7)</sup>	-5 V @ 0.5 A [0.7 A]	-			
	GLT25	5 V @ 3 A [4 A] <sup>(7)</sup>	15 V @ 1.5 A [2 A] <sup>(7)</sup>	-15 V @ 0.5 A [0.7 A]	-			
GL40 [55 W] 40 W <sup>(1)</sup> [40 W] 25 W <sup>(2)</sup>	GLS42 <sup>(4)</sup>	5 V @ 8 A [11 A] <sup>(6)</sup>	-	-	-	1	3A	1B
	GLS43 <sup>(4)</sup>	12 V @ 3.3 A [4.5] <sup>(6)</sup>	-	-	-			
	GLS44 <sup>(4)</sup>	15 V @ 2.6 A [3.6 A] <sup>(6)</sup>	-	-	-			
	GLS45 <sup>(4)</sup>	24 V @ 1.6 A [2.3 A] <sup>(6)</sup>	-	-	-		4A	
	GLT42 <sup>(4)</sup>	5 V @ 4 A [5 A] <sup>(7)</sup>	12 V @ 2 A [2.5 A] <sup>(7)</sup>	-12 V @ 0.5 A [0.7 A]	-			
	GLT43	5 V @ 6 A [8 A] <sup>(7)</sup>	12 V @ 0.5 A [0.7 A]	-12 V @ 0.5 A [0.7 A]	-			
	GLT44	5 V @ 4 A [5 A] <sup>(7)</sup>	12 V @ 2 A [2.5 A] <sup>(7)</sup>	-5 V @ 0.5 A [0.7 A]	-			
	GLT45 <sup>(4)</sup>	5 V @ 4 A [5 A] <sup>(7)</sup>	15 V @ 2 A [2.5 A] <sup>(7)</sup>	-15 V @ 0.5 A [0.7 A]	-			
	GLT46	5 V @ 4 A [5 A] <sup>(7)</sup>	24 V @ 1 A [1.5 A] <sup>(7)</sup>	+12 V @ 0.5 A [0.7 A]	-			
GL50 [50 W] 50 W	GLT52 <sup>(4)</sup>	5 V @ 8 A <sup>(7)</sup>	12 V @ 3 A <sup>(7)</sup>	-12 V @ 0.5 A	-	2	5A	2B
	GLT53 <sup>(4)</sup>	5 V @ 8 A <sup>(7)</sup>	15 V @ 2.4 A <sup>(7)</sup>	-15 V @ 0.5 A	-			
	GLT54 <sup>(4)</sup>	5 V @ 8 A <sup>(7)</sup>	24 V @ 1.5 A <sup>(7)</sup>	12 V @ 0.5 A	-			
GL50 [60 W] 60 W	GLS52 <sup>(4)</sup>	5 V @ 11 A	-	-	-	3	6A	2B
	GLS53—I <sup>(5)</sup>	12 V @ 5A	-	-	-			
	GLS53 <sup>(4)</sup>	12 V @ 5 A <sup>(6)</sup>	-	-	-			
	GLS54 <sup>(4)</sup>	15 V @ 4 A <sup>(6)</sup>	-	-	-			
	GLS55 <sup>(4)</sup>	24 V @ 2.5 A <sup>(6)</sup>	-	-	-			
	GLS58 <sup>(4)</sup>	48 V @ 1.25 A <sup>(6)</sup>	-	-	-			
GL60 [80 W] 60 W <sup>(1)</sup> [60 W] 40 W <sup>(2)</sup>	GLS62	5 V @ 12 A [16 A] <sup>(6)</sup>	-	-	-	4	7A	3B
	GLS63 <sup>(4)</sup>	12 V @ 5 A [6.7 A] <sup>(6)</sup>	-	-	-			
	GLS64 <sup>(4)</sup>	15 V @ 4 A [5.3 A] <sup>(6)</sup>	-	-	-			
	GLS65 <sup>(4)</sup>	24 V @ 2.5 A [3.3 A] <sup>(6)</sup>	-	-	-		8A	4B
	GLT62 <sup>(4)</sup>	5 V @ 7 A [8 A] <sup>(7)</sup>	12 V @ 3 A [3.5 A] <sup>(7)</sup>	-12 V @ 0.7 A [1 A]	-			
	GLT63 <sup>(4)</sup>	5 V @ 7 A [8 A] <sup>(7)</sup>	15 V @ 2.8 A [3.3 A] <sup>(7)</sup>	-15 V @ 0.7 A [1 A]	-			
	GLT64	5 V @ 7 A [8 A] <sup>(7)</sup>	12 V @ 3 A [3.5 A] <sup>(7)</sup>	-5 V @ 0.7 A [1 A]	-			
	GLT65	5 V @ 7 A [8 A] <sup>(7)</sup>	24 V @ 1.5 A [2 A] <sup>(7)</sup>	+12 V @ 0.7 A [1 A]	-			
GL110 [110 W] 80 W <sup>(1)</sup> [90 W] 70 W <sup>(2)</sup>	GLS114	15 V @ 5.3 A [7.3 A] <sup>(6)</sup>	-	-	-	5	9A	5B
	GLS115	24 V @ 3.3 A [4.6 A] <sup>(6)</sup>	-	-	-		10A	6B
	GLQ112	5 V @ 9 A [11 A] <sup>(8)</sup>	12 V @ 4.5 A [5 A]	-12 V @ 0.7 A [1 A]	±5-25 V @ 2.5 A [3 A] <sup>(6)</sup>			
	GLQ113	5 V @ 9 A [11 A] <sup>(8)</sup>	15 V @ 4.5 A [5 A]	-15 V @ 0.7 A [1 A]	±5-25 V @ 2.5 A [3 A] <sup>(6)</sup>			
	GLQ114	5 V @ 9 A [11 A] <sup>(8)</sup>	12 V @ 4.5 A [5 A]	-12 V @ 0.7 A [1 A]	24 V @ 3.5 A [4.5 A] <sup>(8)</sup>			

Notes:

[ ] Rating with 30 CFM of air

(1) Power rating when no cover option is used

(2) Power rating when the cover/enclosure option is used

(3) Refer to GL Series Dimensions and the sections that follow

(4) Add "-M" suffix for the medical model numbers

(5) Industrial version - Operating temperature -40°C to 80°C

(6) Floating output

(7) Approximate minimum loading: 10%

(8) Approximate minimum loading: 23%

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Selection Table (continued)

	Catalog Number	Output 1	Output 2	Output 3	Output 4	Case <sup>(5)</sup>	Pin Assignments <sup>(5)</sup>	Mating Connectors <sup>(5)</sup>
<b>GLQ120</b> [120 W] 70 W	<b>GLQ123</b>	3.3 V @ 14 A [25 A]	5 V @ 12.5 A [24 A] <sup>(9)</sup>	+12 V @ 1 A [2 A]	-12 V @ 0.5 A [1 A]	6	11A	7B
<b>GLS120</b> [130 W] 80 W	<b>GLS122</b>	5 V @ 16 A [26 A] <sup>(8)</sup>	-	-	-	7	12A	8B
	<b>GLS123</b>	12 V @ 6.6 A [10.8 A] <sup>(8)</sup>	-	-	-			
<b>GL140</b> [145 W] 80 W	<b>GLQ142</b>	5 V @ 12 A [25 A] (3.3 V - 5 V)	12 V @ 5 A [6 A]	-12 V @ 1 A [1.5 A] (-12 V - 15 V)	±3.3-25 V @ 1.5 A [4.5 A] <sup>(8)</sup> <sup>(10)</sup>	8	13A	9B
<b>GL150</b> [150 W] 110 W <sup>(1)</sup> [130 W] 75 W <sup>(2)</sup>	<b>GLS152</b>	5 V @ 22 A [30 A] <sup>(8)</sup>	-	-	-	9	14A	10B
	<b>GLS153</b>	12 V @ 9.1 A [12.5 A] <sup>(8)</sup> (12 V - 15 V)	-	-	-			
	<b>GLS155</b>	24 V @ 4.5 A [6.2 A] <sup>(8)</sup> (24 V - 28 V)	-	-	-			
	<b>GLQ152</b>	5 V @ 15 A [22 A] <sup>(9)</sup>	12 V @ 2.6 A [8 A] <sup>(11)</sup>	-12 V @ 2 A [2.5 A] <sup>(11)</sup>	±5-25 V @ 2.5 A [3 A] <sup>(8)</sup>	10	15A	11B
	<b>GLQ153</b>	5 V @ 15 A [22 A] <sup>(9)</sup>	15 V @ 4.8 A [6.4 A] <sup>(11)</sup>	-15 V @ 1.6 A [2 A] <sup>(11)</sup>	±5-25 V @ 2.5 A [3 A] <sup>(8)</sup>			
	<b>GLQ154</b>	5 V @ 15 A [22 A] <sup>(9)</sup>	12 V @ 6 A [8 A] <sup>(11)</sup>	-12 V @ 2 A [2.5 A] <sup>(11)</sup>	24 V @ 3.5 A [4.5 A] <sup>(9)</sup>			
<b>GL170</b> [175 W] 110 W <sup>(1)</sup> [130 W] 75 W <sup>(2)</sup>	<b>GLS172</b> <sup>(6)</sup>	5 V @ 22 A [35 A] <sup>(8)</sup> (2.5 V - 6 V)	-	-	-	11	16A	12B
	<b>GLS173</b> <sup>(6)</sup>	12 V @ 9.1 A [15 A] <sup>(8)</sup> (6 V - 12 V)	-	-	-			
	<b>GLS174</b> <sup>(6)</sup>	15 V @ 7.3 A [12 A] <sup>(8)</sup> (12 V - 24 V)	-	-	-			
	<b>GLS175</b> <sup>(6)</sup>	24 V @ 4.5 A [7.5] <sup>(8)</sup> (24 V - 54 V)	-	-	-			
	<b>GLQ172</b>	5 V @ 15 A [30 A] (3.3 V - 5.5 V)	12 V @ 6 A [8 A] <sup>(10)</sup>	-12 V @ 0.2 A [3 A] (-12 V - 15 V)	±3.3-25 V @ 2 A [5 A] <sup>(8)</sup>	12	17A	13B
<b>GL250</b> [250 W] <sup>(3)</sup> <sup>(4)</sup>	<b>GLS253-C</b>	12 V (6-12 V) @ [21 A]	-	-	-	13	18A	14B
	<b>GLS255-C</b>	24 V (24-48) @ [10.4 A] <sup>(8)</sup>	-	-	-			
	<b>GLQ252-C</b>	5 V @ [35 A] <sup>(11)</sup>	12 V @ [10 A]	-12 V @ [6 A]	±5-25 V @ [6 A] <sup>(8)</sup>	14	19A	
	<b>GLQ253-C</b>	5 V @ [35 A] <sup>(11)</sup>	15 V @ [10 A]	-15 V @ [6A]	±5-25 V @ [6 A] <sup>(8)</sup>			
<b>GL350</b> [350 W] <sup>(3)</sup> <sup>(4)</sup>	<b>GLS352-C</b>	5 V (3-6 V) @ [70 A]	-	-	-	15	20A	15B
	<b>GLS353-C</b>	12 V (6-12 V) @ [29.2 A] <sup>(8)</sup>	-	-	-			
	<b>GLS354-C</b>	15 V (12-24 V) @ [23.3 A] <sup>(8)</sup>	-	-	-			
	<b>GLS355-C</b>	24 V (24-48 V) @ [14.6 A] <sup>(8)</sup>	-	-	-			
	<b>GLS355-CEF</b>	24 V (24-48 V) @ [14.6 A] <sup>(8)</sup>	-	-	-			
	<b>GLQ352-C</b>	5 V @ [50 A] <sup>(11)</sup>	12 V @ [12 A]	-12 V @ [6 A]	±3.3-24 V @ [6 A] <sup>(8)</sup>	16	21A	16B
	<b>GLQ352-CEF</b>	5 V @ [50 A] <sup>(11)</sup>	12 V @ [12 A]	-12 V @ [6 A]	±3.3-24 V @ [6 A] <sup>(8)</sup>			
<b>GL500</b> [500 W] 200 W	<b>GLS503-CF</b> <sup>(7)</sup>	12 V @ 16.6 A [41.7 A]	-	-	-	17	22A	17B
	<b>GLS505-CF</b> <sup>(7)</sup>	24 V @ 8.3 A [20.8 A]	-	-	-			
	<b>GLS508-CF</b> <sup>(7)</sup>	48 V @ 4.2 A [10.4 A]	-	-	-			

## Notes:

[ ] Rating with 30 CFM of air

(1) Power rating when no cover option is used

(2) Power rating when the cover/enclosure option is used

(3) Optional fan cover, See Table 1

(4) Optional end fan cover, See Table 1

(5) Refer to GL Series Dimensions and the sections that follow

(6) Add "-M" suffix for the medical models numbers.

(7) Insert (-M) as in GLS 50x-M-CF for medical model numbers

(8) Floating output

(9) Approximate minimum loading: 16%

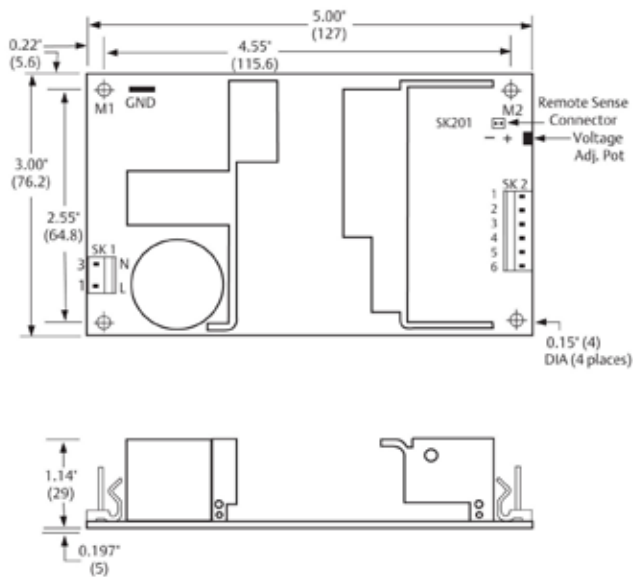
(10) Approximate minimum loading: 30%

(11) Approximate minimum loading: 10%

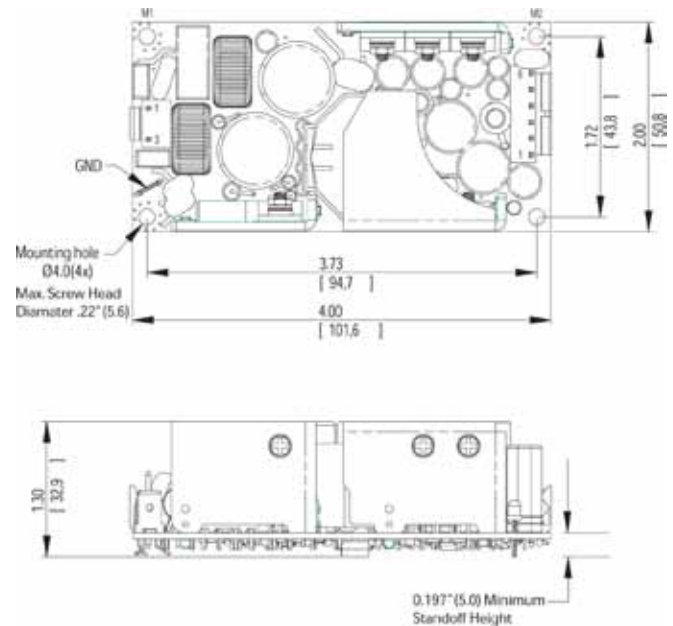
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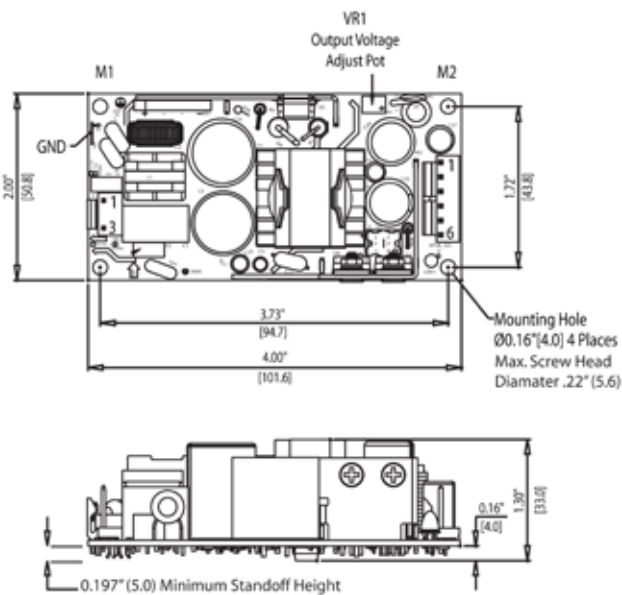
### GL Series Dimensions



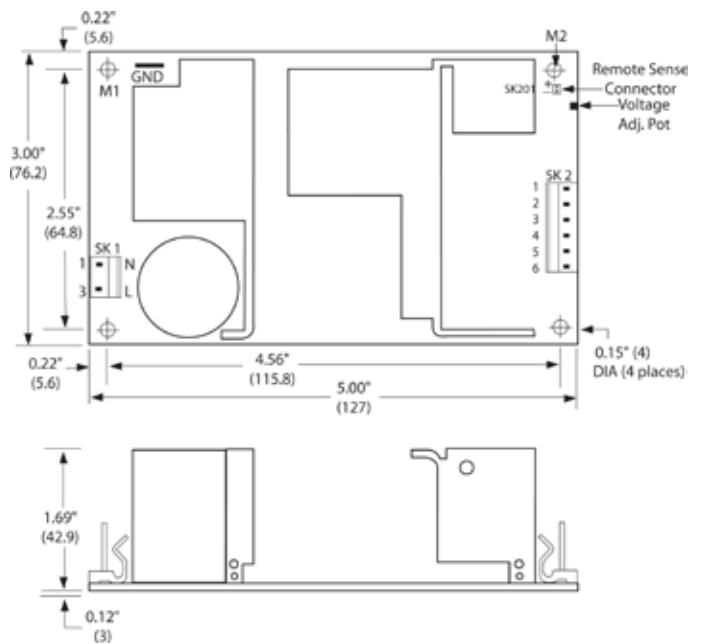
**Case 1**  
 (Weight: 0.5 lbs/0.23 kg approx.)



**Case 2**  
 (Weight: 0.45 lbs/0.20 kg approx.)



**Case 3**  
 (Weight: 0.41 lbs/0.18 kg approx.)



**Case 4**  
 (Weight: 0.75 lbs/0.34 kg approx.)

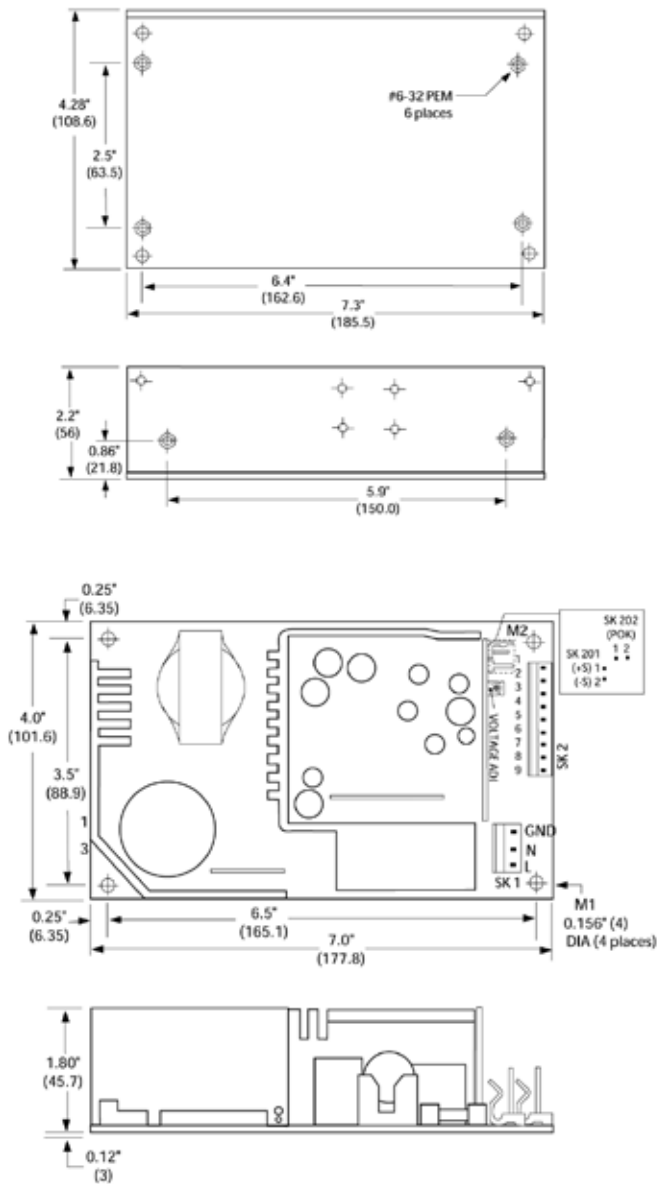
#### Notes:

1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is  $\pm 0.02"$  ( $\pm 0.5$  mm)
3. Mounting holes M1 and M2 should be grounded for EMI purposes.
4. Mounting hole M1 is safety ground connection.
5. Specifications are for convection rating at factory settings at 115 Vac input, 25°C unless otherwise stated.

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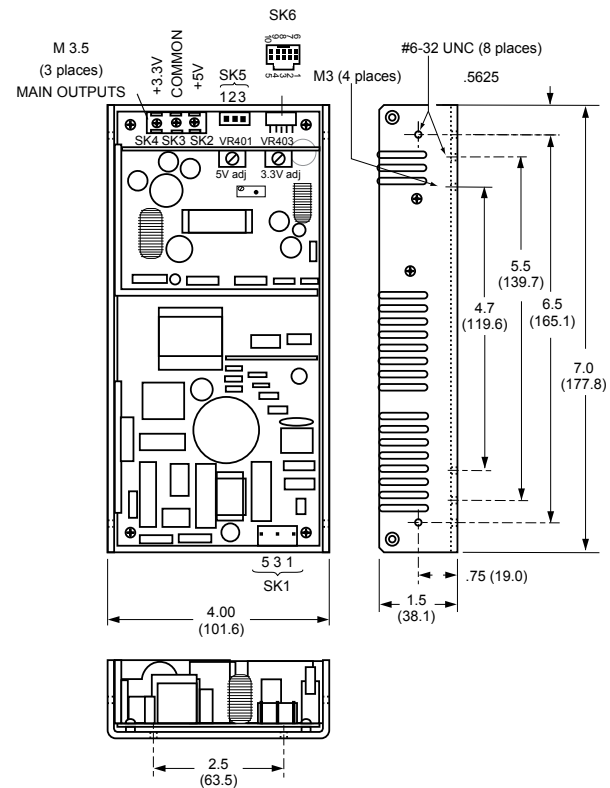
## GL Series Dimensions (continued)

## Bracket



## Case 5

(Weight: 1.25 lbs/0.57 kg approx.)



## Case 6

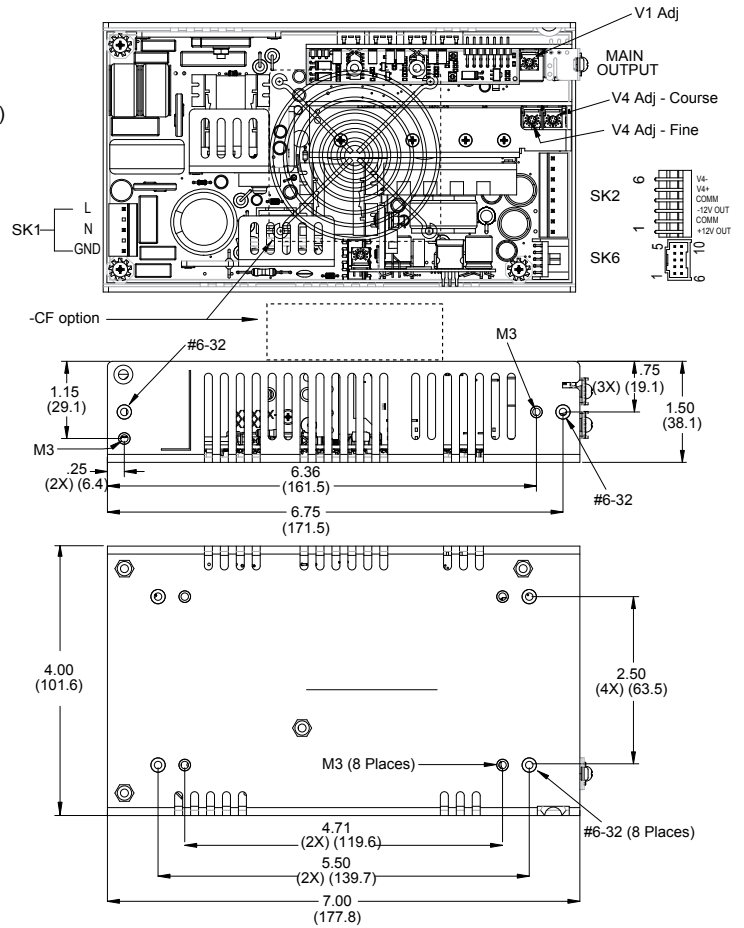
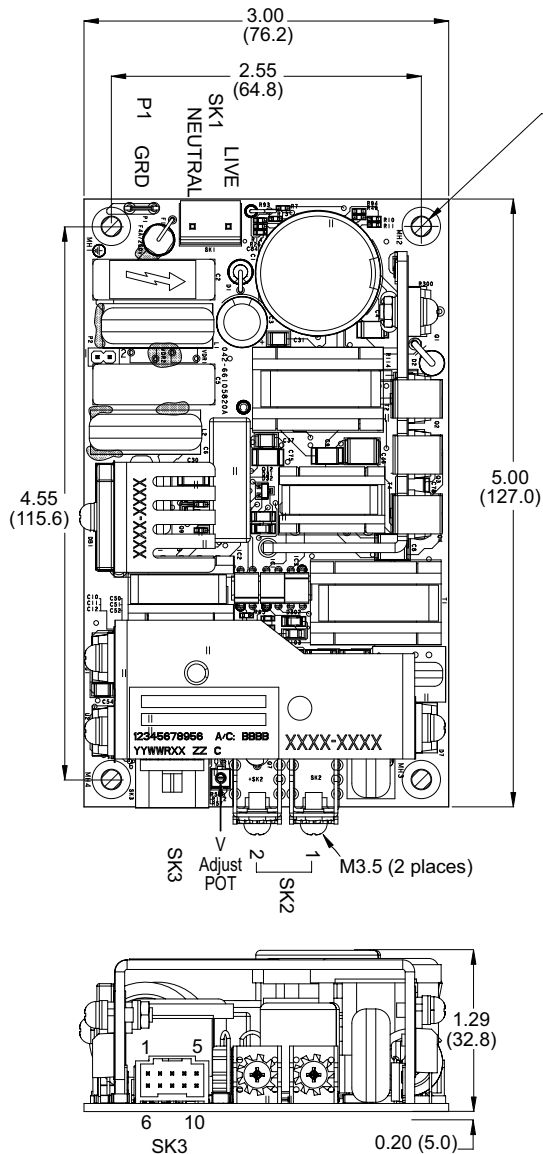
(Weight: 1.38 lbs/0.63 kg approx.)  
(See notes 7 & 8)

## Notes:

1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is  $\pm 0.02$ ".
3. Specifications are for convection rating at factory settings unless otherwise stated.
4. Mounting holes M1 and M2 should be grounded for EMI purposes.
5. Mounting hole M1 is safety ground connection.
6. L Bracket mounting (6-32) maximum insertion depth is .20" (5).
7. Remote inhibit requires an external 5 V @ 10 mA to activate.
8. Mounting maximum insertion depth is 0.12".

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## GL Series Dimensions (continued)



**Case 8**  
(Weight: 1.63 lbs/0.74 kg approx.)  
(See notes 6 & 7)

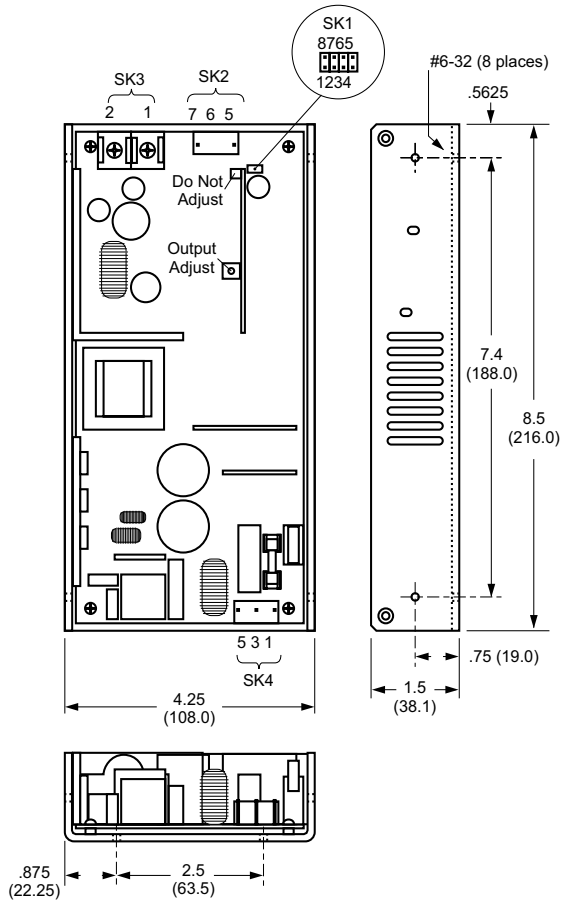
**Case 7**  
(Weight: .71 lbs/0.32 kg approx.)

### Notes:

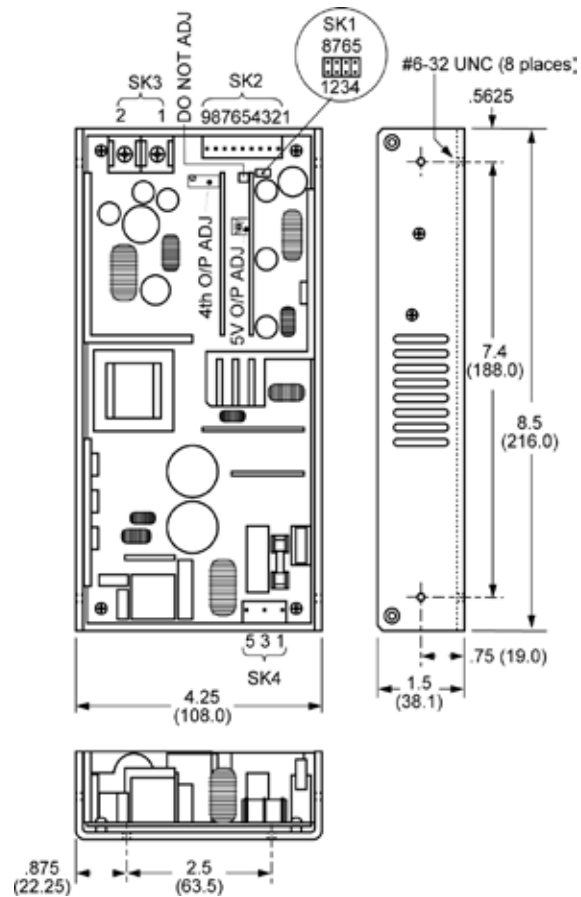
1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is  $\pm 0.02$ ".
3. Mounting holes MH1, MH2 and MH3 should be grounded for EMI purposes.
4. Mounting hole M1 is safety ground connection.
5. This power supply requires mounting on metal standoffs 0.20" (5 m) in height.
6. Specifications are for convection rating at factory settings at 115 Vac input 25°C unless otherwise stated.
7. Mounting screw maximum insertion depth is 0.12".

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## GL Series Dimensions (continued)



Case 9  
(Weight: 1.75 lbs/0.80 kg approx.)

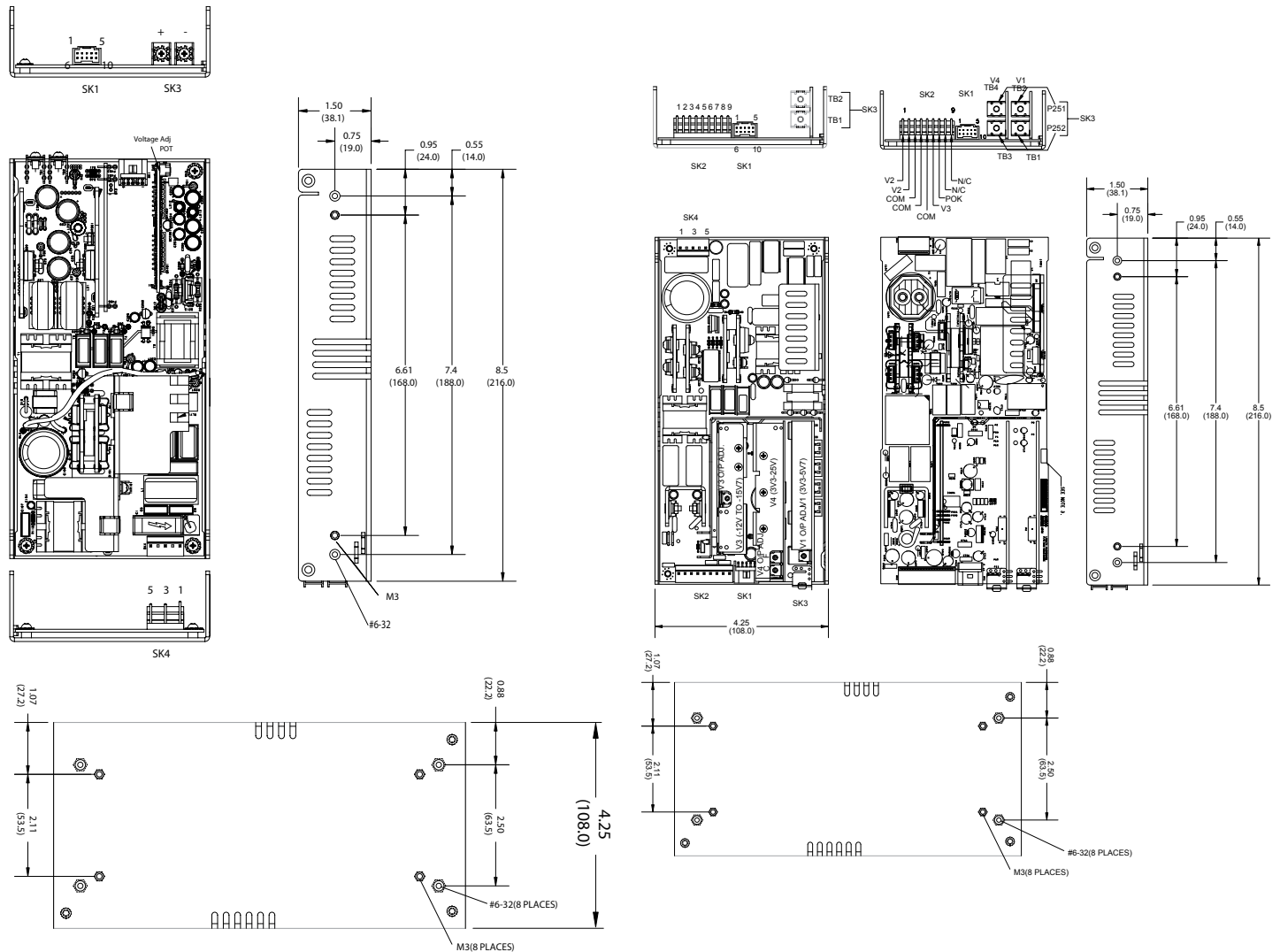


Case 10  
(Weight: 1.75 lbs/0.80 kg approx.)

## Notes:

1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is  $\pm 0.02$ ".
3. Specifications are for convection rating at factory settings unless otherwise stated.
4. Remote inhibit requires an external 5 V @ 10 mA to activate.
5. Mounting (6-32) maximum insertion depth is 0.12".

### GL Series Dimensions (continued)



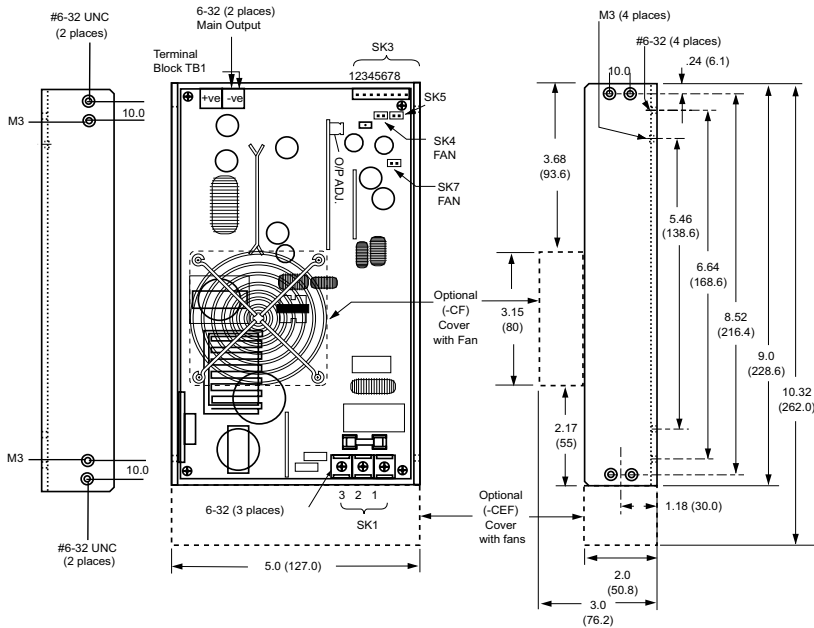
**Case 11**  
(Weight: 0.5 lb/0.23 kg approx.)

**Case 12**  
(Weight: 2 lbs/0.91 kg approx.)  
(See notes 1-4)

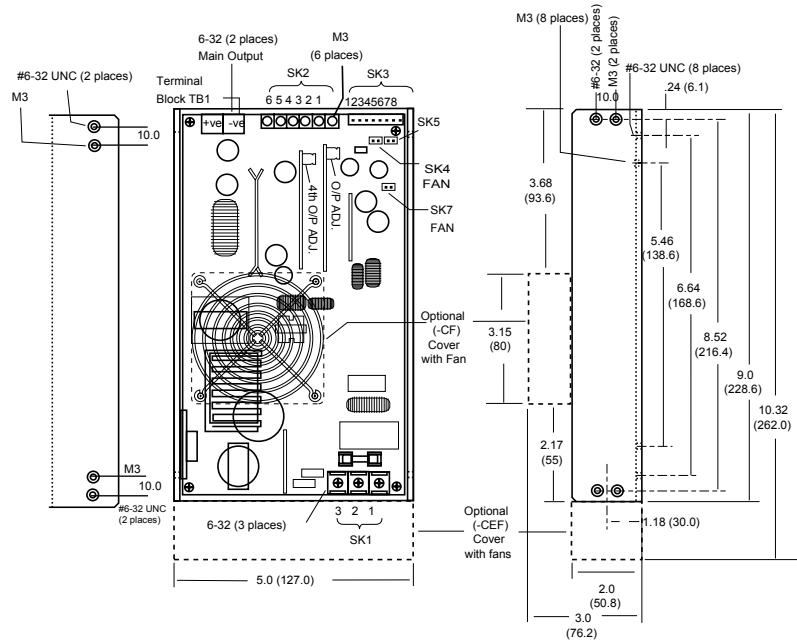
#### Notes:

1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is  $\pm 0.02$ ".
3. Specifications are for convection rating at factory settings at 115 Vac input, 25°C unless otherwise stated.
4. Mounting screw maximum insertion depth is 0.12".
5. Mounting holes M1 and M2 should be grounded for EMI purposes.
6. Mounting hole M1 is safety ground connection.

## GL Series Dimensions (continued)



Case 13  
(Weight: 2.6 lbs/1.19 kg approx.)

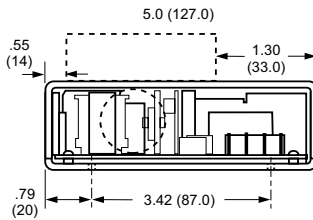
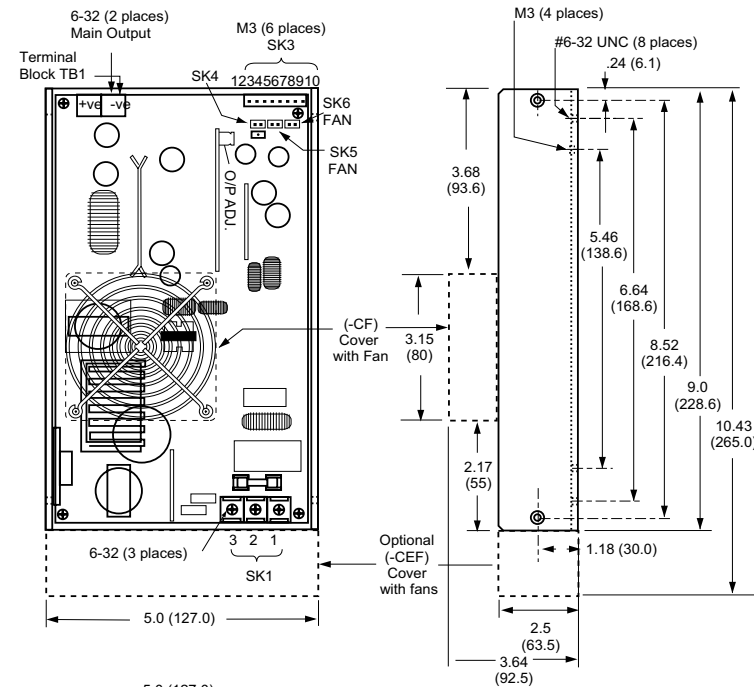


Case 14  
(Weight: 3.1 lbs/1.41 kg approx.)

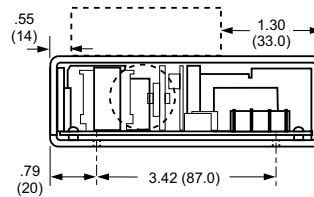
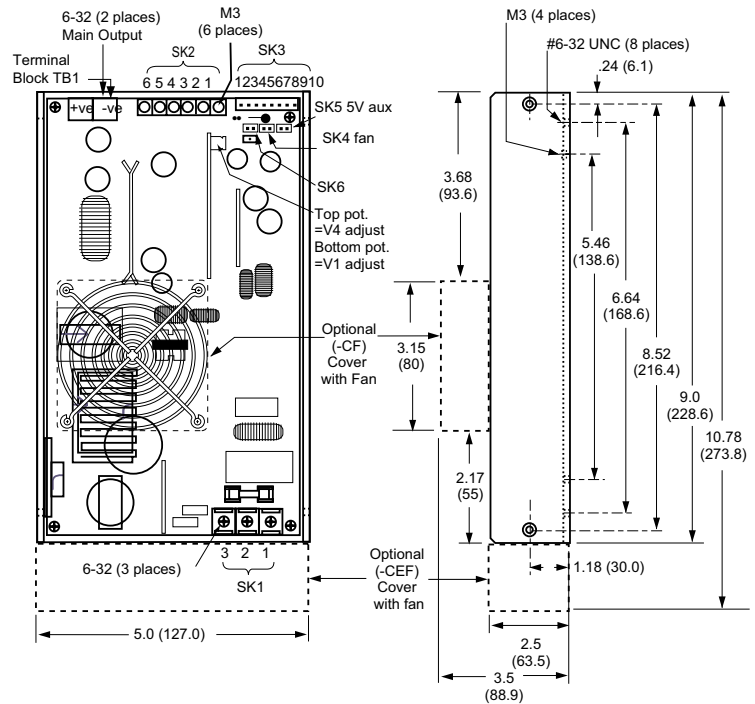
## Notes:

1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is  $\pm 0.02$ ".
3. Specifications are at factory settings.
4. To enable normally closed remote inhibit, cut jumper J1.
5. Mounting maximum insertion depth is 0.12".

## GL Series Dimensions (continued)



**Case 15**  
(Weight: 3.6 lbs/1.64 kg approx.)



**Case 16**  
(Weight: 4 lbs/1.8 kg approx.)

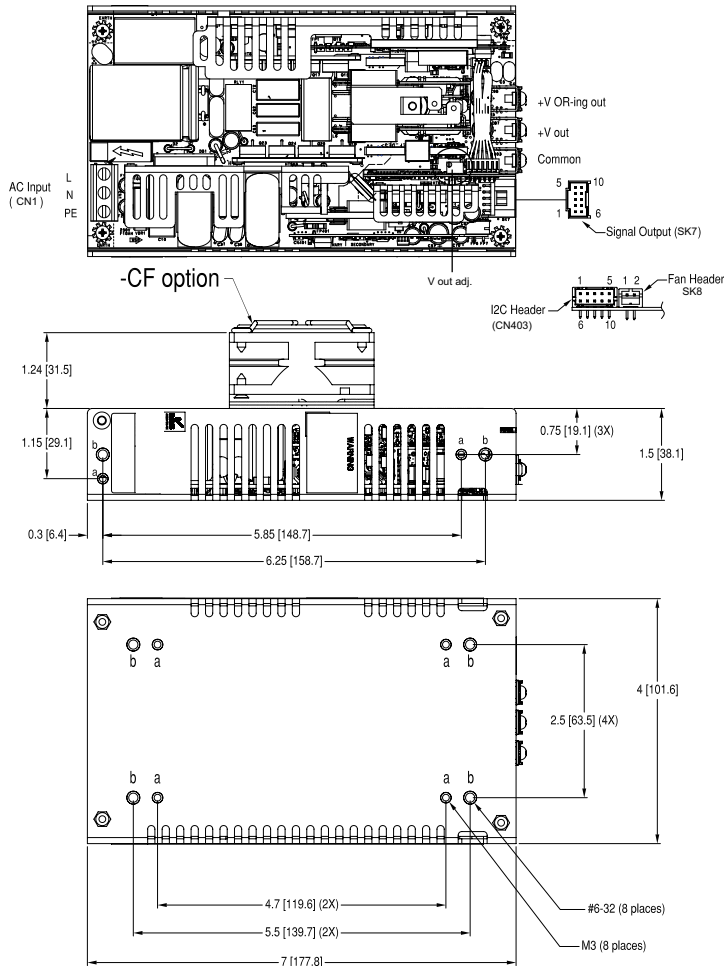
### Notes:

- Specifications subject to change without notice.
- All dimensions in inches (mm), tolerance is  $\pm 0.02$ ".
- Specifications are at factory settings.
- To enable normally closed remote inhibit, cut jumper J1.
- Mounting maximum insertion depth is 0.12".

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## GL Series Dimensions (continued)



Case 17  
(Weight: 3.016 lbs/1.18 kg approx.)

## Notes:

1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is  $\pm 0.02$ ".
3. Specifications are at factory settings.
4. Mounting maximum insertion depth is 0.12".

## GL Series Pin Assignments

## 1A

Connector	GLS22	GLS23	GLS24
SK1	PIN 1	Line	
	PIN 3	Neutral	
SK2	PIN 1	+5 V	+12 V
	PIN 2	+5 V	+12 V
	PIN 3	+5 V	+12 V
	PIN 4	Common	
	PIN 5	Common	
	PIN 6	Common	
SK201	PIN 1	+Sense	
	PIN 2	-Sense	

## GL Series Pin Assignments (continued)

## 2A

Connector	GLT22	GLT23	GLT24	GLT25
SK1	PIN 1	Line		
	PIN 3	Neutral		
SK2	PIN 1	+12 V	+12 V	+12 V
	PIN 2	+5 V	+5 V	+5 V
	PIN 3	+5 V	+5 V	+5 V
	PIN 4	Common		
	PIN 5	Common		
	PIN 6	-12 V	-12 V	-5 V
SK201	PIN 1	+Sense		
	PIN 2	-Sense		

## 3A

Connector	GLS42*	GLS43*	GLS44*	GLS45*
SK1	PIN 1	Line		
	PIN 3	Neutral		
SK2	PIN 1	+5 V	+12 V	+15 V
	PIN 2	+5 V	+12 V	+15 V
	PIN 3	+5 V	+12 V	+15 V
	PIN 4	Common		
	PIN 5	Common		
	PIN 6	Common		
SK201	PIN 1	+Sense		
	PIN 2	-Sense		

## 4A

Connector	GLT42*	GLT43	GLT44	GLT45	GLT45*
SK1	PIN 1	Line			
	PIN 3	Neutral			
SK2	PIN 1	+12 V		+15 V	+24 V
	PIN 2	+5 V			
	PIN 3	+5 V			
	PIN 4	Common			
	PIN 5	Common			
	PIN 6	-12 V	-5 V	-15 V	+12 V
SK201	PIN 1	+Sense			
	PIN 2	-Sense			

## 5A

Connector	GLT52*	GLT53*	GLT54*
SK1	PIN 1	Neutral	
	PIN 3	Line	
SK2	PIN 1	+5 V	
	PIN 2	+5 V	
	PIN 3	Common	
	PIN 4	Common	
	PIN 5	-12 V	-15 V
	PIN 6	+12 V	+15 V

\* Same Pin Assignments are attributed to both the non-medical and medical models.

## GL Series Pin Assignments (continued)

### 6A

Connector	GLS52*	GLS53*	GLS54*	GLS55*	GLS58*
SK1	PIN 1	Line			
	PIN 3	Neutral			
SK2	PIN 1	+5 V	+12 V	+15 V	+24 V +48 V
	PIN 2	+5 V	+12 V	+15 V	+24 V +48 V
	PIN 3	Common			
	PIN 4	Common			
	PIN 5	-Sense			
	PIN 6	+Sense			

### 7A

Connector	GLS62	GLS63 (GLS62-M)	GLS64 (GLS63-M)	GLS65
SK1	PIN 1	Neutral		
	PIN 3	Line		
SK2	PIN 1	5 V	+12 V	+15 V +24 V
	PIN 2	5 V	+12 V	+15 V +24 V
	PIN 3	5 V	+12 V	+15 V +24 V
	PIN 4	Common		
	PIN 5	Common		
	PIN 6	Common		
SK201	PIN 1	+Sense		
	PIN 2	-Sense		

### 8A

Connector	GLT62	GLT63	GLT64	GLT65
SK1	PIN 1	Neutral		
	PIN 3	Line		
SK2	PIN 1	+12 V	+15 V	+12 V +24 V
	PIN 2	+5 V	+5 V	+5 V +5 V
	PIN 3	+5 V	+5 V	+5 V +5 V
	PIN 4	Common		
	PIN 5	Common		
	PIN 6	-12 V	-15 V	-5 V +12 V
SK201	PIN 1	+Sense		
	PIN 2	-Sense		

### 9A

Connector	GLS114	GLS115
SK1	PIN 1	Ground
	PIN 3	Neutral
	PIN 5	Line
SK2	PIN 1	+15 V +24 V
	PIN 2	+15 V +24 V
	PIN 3	+15 V +24 V
	PIN 4	Common
	PIN 5	Common
	PIN 6	Common
	PIN 7	Common
	PIN 8	+15 V +24 V
	PIN 9	+15 V +24 V
SK201	PIN 1	+Sense
	PIN 2	-Sense
SK202	PIN 1	Power OK
	PIN 2	Ground

### 10A

Connector	GLQ112	GLQ113	GLQ114
SK1	PIN 1	Ground	
	PIN 3	Neutral	
	PIN 5	Line	
SK2	PIN 1	+5 V	
	PIN 2	+5 V	
	PIN 3	+5 V	
	PIN 4	Common	
	PIN 5	Common	
	PIN 6	Common	
	PIN 7	Common	
	PIN 8	+12 V	+15 V +12 V
	PIN 9	+12 V	+15 V +12 V
	PIN 10	-12 V	-15 V -12 V
	PIN 11	+5-25 V	+5-25 V +24 V
	PIN 12	-5-25 V	-5-25 V Common
SK201	PIN 1	+Sense	
	PIN 2	-Sense	
SK202	PIN 1	Power OK	
	PIN 2	Ground	

### 11A

Connector		GLQ123
SK1	PIN 1	Ground
	PIN 3	Neutral
	PIN 5	Line
SK5	PIN 1	+12 V
	PIN 2	Common
	PIN 3	-12 V
SK6	PIN 1	3.3 V Single Wire Parallel
	PIN 2	-3.3 V Sense
	PIN 3	+3.3 V +Sense
	PIN 4	5 V Single Wire Parallel
	PIN 5	Common
	PIN 6	+5 V Sense
	PIN 7	-5 V Sense
	PIN 8	+ Inhibit
	PIN 9	- Inhibit
	PIN 10	Power Fail

### 12A

Connector		GLS120
SK1	PIN 1	Neutral
	PIN 3	Line
SK2	TB-1	Common
	TB-2	Main Output
SK3	PIN 1	+V1 Remote Sense
	PIN 2	-V1 Remote Sense
	PIN 3	+Remote Inhibit
	PIN 4	-Remote Inhibit
	PIN 5	+Power Fail
	PIN 6	Common
	PIN 7	Single Wire Parallel
	PIN 8	+12 V
	PIN 9	12 V Common
	PIN 10	+5 V Standby

\* Same Pin Assignments are attributed to both the non-medical and medical models.

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contact Technical Services at (800) 377-4384 with any questions.

## GL Series Pin Assignments (continued)

## 13A

Connector	GLQ142
SK1	PIN 1 Ground
	PIN 3 Neutral
	PIN 5 Line
SK2	PIN 1 +12 V
	PIN 2 Common
	PIN 3 -12 V
	PIN 4 Common
	PIN 5 +5 V to +25 V (Float)
	PIN 6 Common (Float)
SK4	TB-1 Common
	TB-2 +5 V
SK3	PIN 1 No Connection
	PIN 2 DC Power Good
	PIN 3 No Connection
	PIN 4 V1 Single Wire Parallel
	PIN 5 Common
	PIN 6 +V1 Sense
	PIN 7 Sense Common
	PIN 8 +Inhibit
	PIN 9 -Inhibit
	PIN 10 Power Fail

## 14A

Connector	GLS152	GLS153	GLS155
SK1	PIN 1	Inhibit -ve	
	PIN 2	Inhibit +ve	
	PIN 3	VCC	
	PIN 4	No Connection	
	PIN 5	Common	
	PIN 6	-Sense	
	PIN 7	+Sense	
	PIN 8	Current Share	
SK2	PIN 5	Common	
	PIN 6	Pin Removed	
	PIN 7	Power OK	
SK3	TB-1	Common	
	TB-2	+5 V	+12 V to +15 V
SK4	PIN 1	Ground	
	PIN 3	Line	
	PIN 5	Neutral	

## 15A

Connector	GLQ152	GLQ153	GLQ154
SK1	PIN 1	Inhibit -ve	
	PIN 2	Inhibit +ve	
	PIN 3	+12 V	+15 V
	PIN 4	No Connection	
	PIN 5	Common	
	PIN 6	-Sense	
	PIN 7	+Sense	
	PIN 8	I Share	
SK2	PIN 1,2	+12 V	+15 V
	PIN 3,4,5	Common	Common
	PIN 6	-12 V	-15 V
	PIN 7	Power OK	
	PIN 8	+5 V to +25 V (Float)	
	PIN 9	Common (Float)	Common
SK3	TB-1	Common	
	TB-2	+5 V	
SK4	PIN 1	Ground	
	PIN 3	Line	
	PIN 5	Neutral	

## 16A

Connector	GLS17x*
SK1	PIN 1 +12 V
	PIN 2 5 V Standby
	PIN 3 Common
	PIN 4 V1 Single Wire Parallel
	PIN 5 Common
	PIN 6 +V1 Sense
	PIN 7 Sense Common
	PIN 8 Remote Inhibit
	PIN 9 DC Power Good
	PIN 10 Power OK
SK2	TB-1 Common
	TB-2 Main Output
SK3	PIN 1 Ground
	PIN 2 Line
	PIN 5 Neutral

\* Same Pin Assignments are attributed to both the non-medical and medical models.

## 17A

Connector	GLQ172	GLQ173
SK1	PIN 1	No Connection
	PIN 2	5 V Standby
	PIN 3	No Connection
	PIN 4	V1 Single Wire Parallel
	PIN 5	Common
	PIN 6	+V1 Sense
	PIN 7	Sense Common
	PIN 8	Remote Inhibit
	PIN 9	DC Power Good
	PIN 10	Power OK
SK2	PIN 1,2	+12 V
	PIN 3,4,5	Common
	PIN 6	-12 V
	PIN 7	Power OK
	PIN 8	+3.3 V to +25 V (Float)
SK3	PIN 9	Common (Float)
	TB-1,3	Common
	TB-2	+5 V (3.3 V to 5.5 V)
	TB-4	No Connection
SK4	PIN 1	Ground
	PIN 3	Line
	PIN 5	Neutral

## 18A

Connector	GLS250
SK1	PIN 1 Neutral
	PIN 2 Line
	PIN 3 Ground
SK3	PIN 1 +Remote Sense
	PIN 2 -Remote Sense
	PIN 3 Remote Inhibit (N.O)
	PIN 4 Remote Inhibit (N.C)
	PIN 5 Common
	PIN 6 Current Share
	PIN 7 Power Fail
	PIN 8 DC Power Good
SK4	PIN 1 +Fan's power source (12 V @ 500 mA)
	PIN 2 -Fan's power source (12 V @ 500 mA)
SK5	PIN 1 +Supervisory output supply (5 V @ 100 mA)
	PIN 2 -Supervisory output supply (5 V @ 100 mA)
SK7	PIN 1 +Fan's power source (12 V @ 500 mA)
	PIN 2 +Fan's power source (12 V @ 500 mA)

## GL Series Pin Assignments (continued)

### 19A

Connector		GLQ250
SK1	PIN 1	Neutral
	PIN 2	Line
	PIN 3	Ground
SK2	PIN 1	+12 / 15 V
	PIN 2	Common
	PIN 3	Common
	PIN 4	-12 / 15 V
	PIN 5	5-25 V RET Float
	PIN 6	5-25 V Float
SK3	PIN 1	+Remote Sense
	PIN 2	-Remote Sense
	PIN 3	Remote Inhibit (N.O.)
	PIN 4	Remote Inhibit (N.C.)
	PIN 5	Common
	PIN 6	Current Share
	PIN 7	Power Fail
	PIN 8	DC Power Good
SK4	PIN 1	+Fan's power source (12 V @ 500 mA)
	PIN 2	+Fan's power source (12 V @ 500 mA)
SK5	PIN 1	+Supervisory output supply (5 V @ 100 mA)
	PIN 2	-Supervisory output supply (5 V @ 100 mA)
SK7	PIN 1	+Fan's power source (12 V @ 500 mA)
	PIN 2	+Fan's power source (12 V @ 500 mA)

### 20A

Connector		GLS350
SK1	PIN 1	Neutral
	PIN 2	Line
	PIN 3	Ground
SK3	PIN 1	No Connection
	PIN 2	No Connection
	PIN 3	+Sense
	PIN 4	-Sense
	PIN 5	Power OK
	PIN 6	Current Share
	PIN 7	DC Power Good
	PIN 8	Inhibit (N.O.)
	PIN 9	Inhibit (N.C.)
	PIN 10	Common
SK4	PIN 1	+5 V aux (5 V @ 100 mA)
	PIN 2	-Common
SK5	PIN 1	+Fan 1 (12 V @ 150 mA)
	PIN 2	-Common
SK6	PIN 1	+Fan 2 (12 V @ 150 mA)
	PIN 2	-Common

\* Same Pin Assignments are attributed to both the non-medical and medical models.

### 21A

Connector		GLQ350
SK1	PIN 1	Neutral
	PIN 2	Line
	PIN 3	Ground
SK2	PIN 1	+12 / 15 V
	PIN 2	Common
	PIN 3	Common
	PIN 4	-12 / 15 V
	PIN 5	3.3-25 V RET Float
	PIN 6	3.3-25 V Float
SK3	PIN 1	+Sense V4
	PIN 2	-Sense V4
	PIN 3	+Sense V1
	PIN 4	-Sense V1
	PIN 5	Power OK
	PIN 6	Current Share
	PIN 7	DC Power Good
	PIN 8	Inhibit (N.O.)
	PIN 9	Inhibit (N.C.)
	PIN 10	Common
SK4	PIN 1	+Fan 1 (12 V @ 150 mA)
	PIN 2	-Common
SK5	PIN 1	+5 V aux (5 V @ 100 mA)
	PIN 2	-Common
SK6	PIN 1	+Fan 2 (12 V @ 150 mA)
	PIN 2	-Common

### 22A

Connector		GL500*
CN1	PIN 1	Line
	PIN 3	Neutral
	PIN 5	Ground
SK7	PIN 1	V1 Single Wire Parallel
	PIN 2	-Remote Sense
	PIN 3	+Remote Sense
	PIN 4	5 VSB (Standby)
	PIN 5	5 VSB Return
	PIN 6	+12 V
	PIN 7	Common
	PIN 8	Inhibit
	PIN 9	DC Power Good
	PIN 10	Power Fail (POK)
CN403	PIN 1	5 V_I <sup>2</sup> C
	PIN 2	Ground
	PIN 3	A2
	PIN 4	A0
	PIN 5	SVCC2_OR
	PIN 6	I <sup>2</sup> C_SDA
	PIN 7	I <sup>2</sup> C_SLC
	PIN 8	A1
	PIN 9	No Connection
	PIN 10	+12V_RTN_CTRL
<b>Adjustment Potentiometers</b>		
P1		+V1 Output Adjust

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contact Technical Services at (800) 377-4384 with any questions.

## GL Series Mating Connectors

## 1B\*

Connector Kit #70-841-006 includes the following:	
<b>AC Input:</b>	Molex 09-50-8031 (USA) Not required for (-T) option 09-91-0300 (UK) PINS: 08-52-0113 (-0111 for medical)
<b>DC Outputs:</b>	Molex 09-50-8061 (USA) Not required for (-T) option 09-91-0600 (UK) PINS: 08-52-0113 (-0111 for medical)
<b>Remote Sense:</b>	Molex 22-01-2025 PINS: 08-52-0123 (-0114 for medical)

## 2B\*

Connector Kit #70-841-006 includes the following:	
<b>AC Input:</b>	Molex 09-50-8031 (USA) 09-91-0300 (UK) PINS: 08-52-0113
<b>DC Outputs:</b>	Molex 09-50-8061 (USA) 09-91-0600 (UK) PINS: 08-52-0113

## 3B\*

Connector Kit #70-841-006 includes the following:	
<b>AC Input:</b>	Molex 09-50-8031 (USA) Not required for (-T) option 09-91-0300 (UK) PINS: 08-58-0111 (-0113 for medical)
<b>DC Outputs:</b>	Molex 09-50-8061 (USA) Not required for (-T) option 09-91-0600 (UK) PINS: 08-58-0113
<b>Remote Sense:</b>	Molex 22-01-2025 PINS: 08-52-0113

## 4B\*

Connector Kit #70-841-006 includes the following:	
<b>AC Input:</b>	Molex 09-50-8031 (USA) 09-91-0300 (UK) PINS: 08-58-0111
<b>DC Outputs:</b>	Molex 09-50-8061 (USA) 09-91-0600 (UK) PINS: 08-52-0113
<b>Remote Sense:</b>	Molex 22-01-2025 PINS: 08-52-0113

## 5B

Connector Kit #70-841-007 includes the following:	
<b>AC Input:</b>	Molex 09-50-8051 (USA) 09-91-0500 (UK) PINS: 08-58-0111
<b>DC Outputs:</b>	Molex 09-50-8091 (USA) 09-91-0900 (UK) PINS: 08-58-0111
<b>Remote Sense/ Power Fail:</b>	Molex 22-01-1022 (USA) 22-01-1023 (UK) PINS: 08-50-0114

## 6B

Connector Kit #70-841-008 includes the following:	
<b>AC Input:</b>	Molex 09-50-8051 (USA) 09-91-0500 (UK) PINS: 08-58-0111
<b>DC Outputs:</b>	Molex 09-50-8121 (USA) 09-91-1200 (UK) PINS: 08-58-0111
<b>Remote Sense/ Power Fail:</b>	Molex 22-01-1022 (USA) 22-01-1023 (UK) PINS: 08-50-0114

## 7B

Connector Kit #70-841-012 includes the following:	
<b>(SK1) AC Input:</b>	Molex 09-50-8051 (USA) 09-91-0500 (UK) PINS: 08-58-0111
<b>SK2,3,4:</b>	Molex series 19141-0058/0063
<b>(SK5) ±12V:</b>	Molex: 09-50-8031 (USA) Molex: 09-91-0300 (UK) PINS: 08-58-0111
<b>(SK6) Control Signals:</b>	Molex: 90142-0010; PINS: 90119-2110 or AMP: 87977-3; PINS: 87309-8

## 8B

Connector Kit #70-841-020 includes the following:	
<b>(SK1) AC Input:</b>	Molex 09-50-8031 (connector) PINS: 08-52-0113
<b>(SK2) DC Outputs:</b>	Molex series 19141-0058/0063 Spade lug
<b>(SK3) Control Signals:</b>	Molex: 90142-0010 (USA) PINS: 90119-2110 or AMP: 87977-3 PINS: 87309-8

## 9B

Connector Kit #70-841-017 includes the following:	
<b>(SK1) AC Input:</b>	Molex 09-50-8051 (USA) 09-91-0500 (UK) PINS: 08-58-0111
<b>(SK2) Aux DC Outputs:</b>	Molex: 09-50-8061 (USA) Molex: 09-91-0600 (UK) PINS: 08-58-0111
<b>(SK6) Control Signals:</b>	Molex: 90142-0010 (USA) PINS: 90119-2110 or AMP: 87977-3 PINS: 87309-8
<b>(SK4) Main Output:</b>	Molex: BB-124-08

\* Same Mating Connectors are attributed to both standard and medical models.

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contact Technical Services at (800) 377-4384 with any questions.

## GL Series Mating Connectors (continued)

## 10B

Connector Kit #70-841-009 includes the following:	
<b>(SK4) AC Input:</b>	Molex: 09-50-8051 (USA) Molex:09-91-0500 (UK) PINS: 08-58-0111
<b>(SK2) Power Fail:</b>	Molex: 09-50-8031 (USA) Molex: 09-91-0300 (UK) PINS: 08-58-0111
<b>(SK1) Remote Sense/ Remote Inhibit:</b>	Molex 51110-0851 (USA) PINS: 50394-8100

## 11B

Connector Kit #70-841-010 includes the following:	
<b>(SK4) AC Input:</b>	Molex: 09-50-8051 (USA) Molex:09-91-0500 (UK) PINS: 08-58-0111
<b>(SK2) Aux DC Outputs/ Power Fail:</b>	Molex: 09-50-8091 (USA) Molex: 09-91-0900 (UK) PINS: 08-58-0111
<b>(SK1) Remote Sense/ Remote Inhibit:</b>	Molex 51110-0851 (USA) PINS: 503-94-8100

## 12B\*

Connector Kit #70-841-016 includes the following:	
<b>(SK4) AC Input:</b>	Molex: 09-50-8051 (USA) Molex:09-91-0500 (UK) PINS: 08-58-0111
<b>(SK3) DC Outputs:</b>	Molex: 19141-0058
<b>(SK1) Remote Sense/ Remote Inhibit:</b>	Molex 90142-0010 (USA) PINS: 90119-2110 Amp: 87977-3 PINS: 87309-8

## 13B

Connector Kit #70-841-015 includes the following:	
<b>(SK4) AC Input:</b>	Molex 09-50-8051 (USA) Molex:09-91-0500 (UK) PINS: 08-58-0111
<b>(SK3) Main Output:</b>	Molex series 19141-0058/0063
<b>(SK2) Aux DC Outputs/ Power Fail:</b>	Molex 09-50-8091 (USA) Molex:09-91-0900 (UK) PINS: 08-58-0111
<b>(SK1) Control Signals:</b>	Molex: 90142-0010 (USA) PINS: 90119-2110 or AMP: 87977-3 PINS: 87309-8

## 14B

Connector Kit #70-841-005 includes the following:	
<b>SK3</b>	Molex 22-01-1084; PINS: 08-70-0057
<b>SK4</b>	Molex 22-01-3027; PINS: 08-50-0114
<b>SK5</b>	Molex 22-01-3027; PINS:08-50-0114
<b>SK7</b>	Molex: 22-01-3027 PINS: 08-50-0114

## 15B

Connector Kit #70-841-011 includes the following:	
<b>SK3</b>	Molex 22-01-1104; PINS: 08-70-0057
<b>SK4</b>	Molex 22-01-3027; PINS: 08-50-0114
<b>SK5</b>	Molex 22-01-3027; PINS:08-50-0114
<b>SK6</b>	Molex: 22-01-3027; PINS: 08-50-0114

## 16B

Connector Kit #70-841-011 includes the following:	
<b>SK3</b>	Molex 22-01-1084; PINS: 08-70-0057
<b>SK4</b>	Molex 22-01-3027; PINS: 08-50-0114
<b>SK5</b>	Molex 22-01-3027; PINS:08-50-0114
<b>SK6</b>	Molex: 22-01-3027; PINS: 08-50-0114

## 17B

Connector Kit #70-841-024 includes the following:	
<b>SK4,5,6</b>	Molex 19141-0058
<b>SK7 Control Signals</b>	Molex 90142-0010; PINS: 90119-2110 or AMP: 87977-3; PINS: 87309-8
<b>SK8</b>	Molex 22-01-2025; PINS:08-52-0123
<b>CN403</b>	JST PHDR-10VS PINS: JST 5PHD-002T-PO.5-L/P or Landwin 2050 S1000; PINS: 2053T011P

\* Same Mating Connectors are attributed to both standard and medical models.

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contact Technical Services at (800) 377-4384 with any questions.

## GL Compact Series: Single Output Switchers

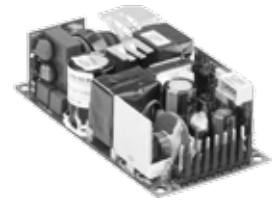


The GL Compact Series combines both medical and non-medical approvals into one unit. These models offer very high reliability, high efficiency, active Power Factor Correction, compact size and very low ground leakage current.

Each model of GL100-M and GL200-M series complies with the medical and ITE safety standards, enabling it to be used for both medical or non-medical standard applications.

### Features:

- Medical Approvals
- Smaller Size
- Dual Rating
- High demonstrated MTBF
- Automatic overvoltage protection
- Overload protection
- Extensive safety approvals
- Two year limited warranty



### Specifications

	GL100—M Series	GL200—M Series
Input		
Input Voltage	90 - 264 Vac; 120 - 300 Vdc	
Frequency	47-63 Hz	
Inrush Current	50 A max., cold start @ 25°C	
Efficiency	88% typical at full load	
EMI/RFI	FCC Class B conducted; CISPR 22 Class B conducted; EN55022 Class B conducted; VDE0878PT3 Class B conducted	
Power Factor	0.99 typical	
Safety Ground Leakage Current	275 uA @ 50/60 Hz, 264 Vac input	
Output		
Power	100 W convection (80 W for GLS102-M)	125 W for convection; 200W
Adjustment Range on Main Output	±10% minimum on the main outputs	
Fan Output	12 V @ 1 A isolated, ±5%	
Hold—up Time	10 ms @ 150 W load, 120 Vac input	16 ms @ 250 W load, 120 Vac input
Overload	Short circuit protection on all outputs. Case overload protected @ 110-160% above rating	
Overvoltage Protection	15-35% above nominal output	
Logical Control		
Power Failure	Open collector logic signal goes high 100-500 msec after main output; it goes low at least 6 msec before loss of regulation	
Remote Sense	Compensates for 0.5 V lead drop minimum; Will operate without remote sense connected, Reverse connection	
General		
Temperature	Storage: -40°C to +85°C; Operating: 0° to 50°C ambient. Derate each output 2.5% per degree from 50° to 70°C, -20°C start up.	
Electromagnetic Susceptibility	Designed to meet EN61000-4; -2, -3, -4, -5, -6, -8, -11 Level 3	
Humidity	Operating; non-condensing 10% to 95% RH	
Vibration	IEC68-2-6 to the levels of IEC721-3-2	
MTBF	>550,000 hours demonstrated at full load, and 25°C ambient conditions	
Safety	IEC/EN/UL 60950-1, IEC/EN/UL 60601-1	

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contact Technical Services at (800) 377-4384 with any questions.

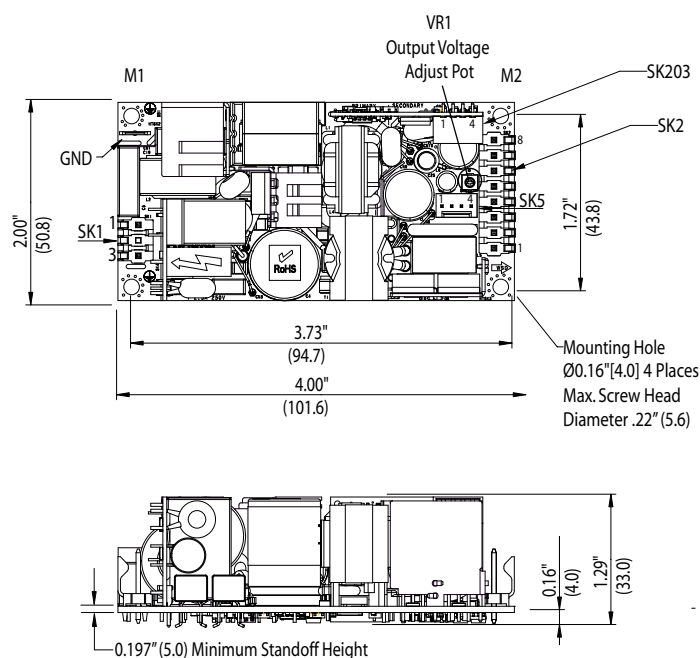


## Selection Table

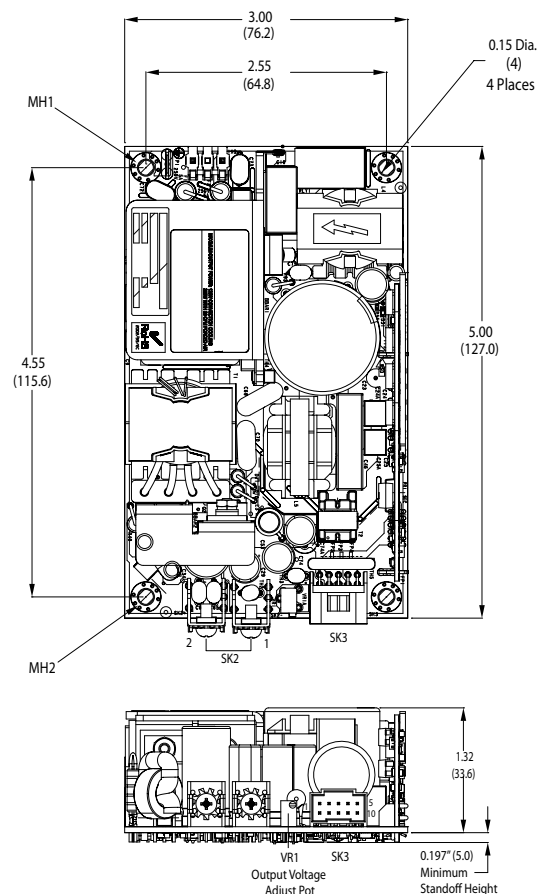
Medical and Non-Medical Series									
	Catalog Number	Description	Output 1	Output 2	Output 3	Output 4	Case*	Pin Assignments*	Mating Connectors*
GL100-M	GLS102-M	5 V 150W 2" X 4"	5 V @ 16 A [24 A]	-	-	-	1	1A	1B
	GLS103-M	12 V 150W 2" X 4"	12 V @ 8.3 A [12.5 A]	-	-	-			
	GLS104-M	15 V 150W 2" X 4"	15 V @ 6.7 A [10 A]	-	-	-			
	GLS105-M	24 V 150W 2" X 4"	24 V @ 4.2 A [6.3 A]	-	-	-			
	GLS108-M	48 V 150W 2" X 4"	48 V @ 2.1 A [3.1 A]	-	-	-			
GL200-M	GLS202-M	5 V 250W 3" X 5"	5 V @ 20 A [40 A]	-	-	-	2	2A	2B
	GLS203-M	12 V 250W 3" X 5"	12 V @ 10.3 A [20.8 A]	-	-	-			
	GLS204-M	15 V 250W 3" X 5"	15 V @ 8.3 A [16.6 A]	-	-	-			
	GLS205-M	24 V 250W 3" X 5"	24 V @ 5.2 A [10.4 A]	-	-	-			
	GLS208-M	48 V 250W 3" X 5"	48 V @ 2.6 A [5.2 A]	-	-	-			

\* Refer to GL Series Dimensions and the sections that follow

## GL Compact Series Dimensions



Case 1  
(Weight: 0.44 lb/0.20 kg approx.)



Case 2  
(Weight: 0.75 lb/0.34 kg approx.)

## Notes:

- Specifications subject to change without notice.
- All dimensions in inches (mm), tolerance is  $\pm 0.02$ ".
- Mounting holes MH1, MH2, MH3 should be grounded for EMI purposes.
- Mounting MH1 is safety ground connection.
- Specifications are for convection rating at factory settings at 115 Vac input 25°C unless otherwise stated.
- This power supply requires mounting on metal standoffs 0.20" (5 m) in height.

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contact Technical Services at (800) 377-4384 with any questions.

## GL Compact Series Pin Assignments

## 1A

Connector		GLS102M	GLS103M	GLS104M	GLS105M	GLS108M
SK1	PIN 1	Neutral				
	PIN 3	Line				
SK2	PIN 1	Ground				
	PIN 2	Ground				
	PIN 3	Ground				
	PIN 4	Ground				
	PIN 5	+5	+12	+15	+24	+48
	PIN 6					
	PIN 7					
	PIN 8					
SK 203	PIN 1	Ground				
	PIN 2	Power Fail				
	PIN 3	-Remote Sense				
	PIN 4	+Remote Sense				
SK5	PIN 1	+12 V Fan				
	PIN 2	+12 V Fan				
	PIN 3	Fan Ground				
	PIN 4	Fan Ground				

## 2A

Connector		GLS202M	GLS203M	GLS204M	GLS205M	GLS208M
SK1	PIN 1	Neutral				
	PIN 3	Line				
SK2	TB-1	Common				
	TB-2	+5	+12	+15	+24	+48
SK3	PIN 1	+V1 Remote Sense				
	PIN 2	-V1 Remote Sense				
	PIN 3	No Connection				
	PIN 4	No Connection				
	PIN 5	+Power Fail				
	PIN 6	Common				
SK 203	PIN 7	No Connection				
	PIN 8	Common				
	PIN 9	+12 V Fan				
	PIN 10	+12 V Fan Ground				

## GL Compact Series Mating Connectors

## 1B

Connector Kit #70-841-025 includes the following:	
(SK1) AC Input:	Molex P/N 09-50-3031 or Landwin P/N: 3060S0302
(SK2) DC Outputs:	Molex P/N 09-50-3081 or Landwin P/N: 3060S0802
(SK203) Remote Sense:	Molex P/N 35155-0400 or Landwin P/N: 2640S04A0
(SK5) Fan:	Molex P/N 22-10-2047 or Landwin P/N: 2510S0400

## 2B

Connector Kit #70-841-018 includes the following:	
(SK1) AC Input:	Molex 09-50-8031 (connector) PINS: 08-52-0113
(SK2) DC Outputs:	Molex 19141-0058/0063 Spade lug
(SK3) Control Signals:	Molex: 90142-0010 (USA) PINS: 90119-2110 or Amp: 87977-3 / PINS: 87309-8

## SHP Series: Heavy Duty Modular Power Supplies

These high power, modular power supplies, from 1500 through 2000 watts, are capable of up to 12 independent outputs. Modular design makes these units easy to customize for unusual voltage and power combinations. All units have power factor corrected inputs, an end mounted fan for cooling and a variety of built-in signals and controls. High reliability and a flexible design make these an excellent choice for process control and semiconductor fabrication applications.

### Features

- Capable of up to 12 outputs
- Single output 24 V up to 87.4 A
- IEC 801 immunity standards
- Current Share on all outputs
- End mounted fan
- Voltage adjustment on all outputs  $\pm 10\%$
- Overload protection on all outputs
- Power factor correction (.99 typ.)
- Margining on all outputs
- Modular Construction
- Signals
  - Global and individual module inhibits/enable
- Single phase and three phase inputs
- Two year warranty

### Applications

- Process Controls
- Semi-conductor Fabrication
- Automated Service Equipment

### Related Products

- Surge Suppression
- SCD DC to DC Converters
- Active Tracking® Filters



### Specifications

Parameter	Condition	Limit
<b>Input</b>		
<b>Input Voltage</b>	SH Series	86 to 264 Vac (1Ø)
	S3H Series	180 to 264 (3Ø)
<b>Frequency</b>		47 to 440 Hz
<b>Protection</b>		Internally Fused
<b>Inrush Current</b>		40A Max
<b>Output</b>		
<b>Line Regulation</b>	Full Rated Load	0.2% or 5mV max
<b>Load Regulation</b>	Full Rated Load	0.2% or 5mV max
<b>Minimum Loading</b>	Where indicated	
<b>Temp. Coefficient</b>		$\pm 0.02\%/^{\circ}\text{C}$
<b>Hold up Time</b>	Full Rated Load	No less than 20ms
<b>Overvoltage Protection</b>		2-5 V 122% to 134%
<b>Short-Circuit Protection</b>	Continuous	Protected for short-circuit, auto-recovery
<b>Output Ripple</b>		0.1% or 10mV RMS
<b>General</b>		
<b>Operating Temperature</b>	Full Rated Load	-10 to 50°C
<b>Storage Temperature</b>		-55 to +85°C
<b>Efficiency</b>	Full Rated Load	75% to 82%
<b>MTBF</b>		>500,000 hours
<b>Shock &amp; Vibration</b>		MIL-HDBK 810E
<b>EMI</b>		CISPR 22, EN55022 Level B
<b>Safety</b>	All Models	UL, CE and CSA
<b>Cooling</b>		Internal DC fan 24

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contact Technical Services at (800) 377-4384 with any questions.

## Selection Tables

## Single Phase 1500 Watt, SH15 Series

Catalog Number	Output 1	Output 2	Output 3	Output 4	Maximum Output
SH15-Q2	3.3 V, 300 A	-	-		1500 W
SH15-Q3	5 V, 300 A	-	-		1500 W
SH15-Q4	12 V, 125 A	-	-		1500 W
SH15-Q5	15 V, 100 A	-	-		1500 W
SH15-Q6	24 V, 62.4 A	-	-		1500 W
SH15-Q7	28 V, 53.4 A	-	-		1500 W
SH15-Q8	36 V, 41.6 A	-	-		1500 W
SH15-Q9	48 V, 31.2 A	-	-		1500 W
SH20-P3T53J4	5 V, 150 A	24 V, 10.5 A	12 V, 25 A	12 V, 20 A	1500 W
SH20-P3T54J5	5 V, 150 A	24 V, 10.5 A	15 V, 20 A	15 V, 20 A	1500 W

## Single Phase 2000 Watt, SH20 Series

Catalog Number	Output 1	Output 2	Output 3	Output 4	Output 5	Output 6	Maximum Output
SH20-Q3K3-7	5 V, 420 A	-	-	-	-	-	2000 W
SH20-Q6K6-7	24 V, 87.4 A	-	-	-	-	-	2000 W
SH20-Q9K9-7	48 V, 43.7 A	-	-	-	-	-	2000 W
SH20-M3K2	5 V, 240 A	3.3 V, 120 A	12 V, 4 A	-	-	-	2000 W
SH20-Z6Z7M3	5 V, 240 A	12 V, 21 A	12 V, 20 A	5 V, 50 A	15 V, 10 A	24 V, 5 A	2000 W

## Three Phase 1500 Watt, S3H15 Series

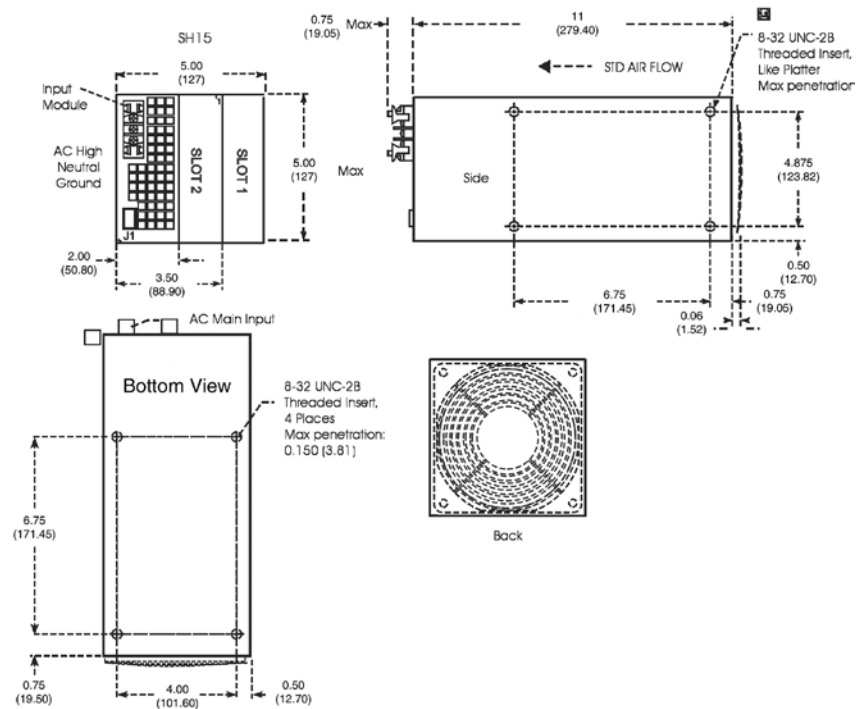
Catalog Number	Output 1	Output 2	Output 3	Output 4	Maximum Output
S3H15-Q2	3.3 V, 300 A	-	-	-	1500 W
S3H15-Q3	5 V, 300 A	-	-	-	1500 W
S3H15-Q4	12 V, 125 A	-	-	-	1500 W
S3H15-Q5	15 V, 100 A	-	-	-	1500 W
S3H15-Q6	24 V, 62.4 A	-	-	-	1500 W
S3H15-Q7	28 V, 53.4 A	-	-	-	1500 W
S3H15-Q8	36 V, 41.6 A	-	-	-	1500 W
S3H15-Q9	48 V, 31.2 A	-	-	-	1500 W
S3H20-P3T53J4	5 V, 150 A	24 V, 10.5 A	12 V, 25 A	12 V, 20 A	1500 W
S3H20-P3T54J5	5 V, 150 A	24 V, 10.5 A	15 V, 20 A	15 V, 20 A	1500 W

## Three Phase 2000 Watt, S3H20 Series

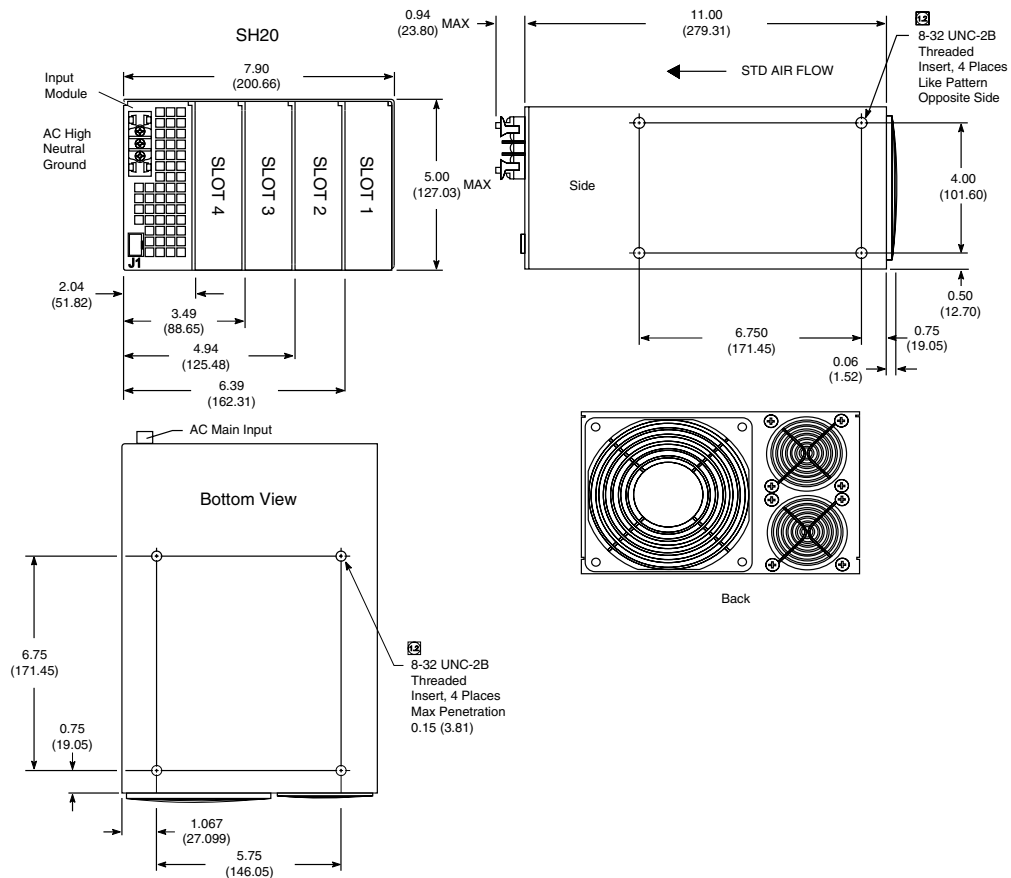
Catalog Number	Output 1	Output 2	Output 3	Output 4	Output 5	Output 6	Maximum Output
S3H20-Q3K3-7	5 V, 420 A	-	-	-	-	-	2000 W
S3H20-Q6K6-7	24 V, 87.4 A	-	-	-	-	-	2000 W
S3H20-Q9K9-7	48 V, 43.7 A	-	-	-	-	-	2000 W
S3H20-M3K2	5 V, 240 A	3.3 V, 120 A	-	-	-	-	2000 W
S3H20-Z6Z7M3	5 V, 240 A	12 V, 21 A	12 V, 20 A	5 V, 50 A	15 V, 10 A	24 V, 5 A	2000 W

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## SH15 & S3H15 Dimensions



## SH20 & S3H20 Dimensions



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contact Technical Services at (800) 377-4384 with any questions.

## 39 Series Copper Line



**CALUS**  
E47379

## Features

- Full range adjustable output voltage and current
- Universal 120/240 Vac, 50/60 Hz input
- Single supply for multiple applications
- Parallel operation for increased power output
- UL Recognized

## Applications

- Engineering bench supply
- Test equipment
- Manufacturing test applications
- Automotive product testing

## Selection Table

Power Watts	Catalog Number	Maximum Current		Shipping Weight lbs (kg)
		Amps* @25 Vdc (Adj. 2.5-25 Vdc)	Amps* @50 Vdc (Adj. 5-50 Vdc)	
300	<b>39-407</b>	12 A	6 A	23 (10.4)
600	<b>39-408</b>	24 A	12 A	30 (13.6)
1200	<b>39-409</b>	48 A	24 A	73 (33.1)

\* Current listed is the maximum at any voltage in that range.

Model	A	B	B1	C	D	E	F	F1	G	G1
<b>39-407</b>	10.4	-	7.7	6.8	3.8	5.3	-	3.5	-	3.6
<b>39-408</b>	11.4	-	7.7	6.8	3.8	5.3	-	3.5	-	4.6
<b>39-409</b>	14.0	11.1	-	10.0	6.0	8.0	8.3	-	3.5	-

## Specifications

Parameter	Condition	Limit
<b>Input</b>		
Input Voltage		105-130/210-260 Vac (user selectable)
Input Frequency		47 to 440 Hz
Input Protection		Ext. Slow-blow fuse required
<b>Output</b>		
Line Regulation		0.1% or 50 mV
Load Regulation		0.1% or 50 mV
Ripple	Full Rated Load	<1% RMS
<b>Controls</b>		
Current Limit Adjust		0-100%
Output Volt Adjust		10-100% Coarse Adjust (may be mounted remotely). Fine adjust fine tunes output for no loads and full load conditions.
<b>General</b>		
Operating Temperature	Full Rated Load	0° to 50°C
Storage Temperature	Full Rated Load	-20° to +70°C
Efficiency	Full Rated Load	75%
Vibration		Designed to meet MIL-STD-810D, Method 514.3, Category Procedure 1.
Shock		Designed to meet MIL-STD-810D, Method 516.3, Category Procedure 3.

## Dimensions

