

# Industrial Power Supplies

## Reliable and Versatile Power Solutions

Emerson Industrial Power Supplies offer reliability, versatility and cost-efficiency so you can keep your system running smoothly without worry. Emerson power experts from SolaHD™ have created a comprehensive power supply portfolio which covers, essential, advanced, redundant, and on-machine power supply applications.

With a wide variety of capabilities, and reliable performance across the portfolio, Emerson Industrial Power Supplies can meet all of your automation and controls applications.

### Essential: SVL Series

SVL Series power supplies are perfect for high volume, controlled environment, and ordinary location applications where essential features are the only requirement. When space inside an enclosure is at a premium, their small footprint makes these power supplies an excellent alternative to embedded open frame switchers. The DIN rail mounting capability provides quicker and easier installation while allowing for design flexibility. These power supplies deliver 4A to 20A, at 24 Vdc.

### Advanced: SDN-C Series

SDN-C Series power supplies combine high efficiency and compact size with advanced features like alarm relay contact and 1.5x current rating for short periods (i.e. start-up transient). Multiple output connections allow for easier wiring of multiple devices and SDN-C units mount easily to a DIN rail for quick installation. Extensive certifications mean these modules are suitable internationally, for harsh industrial environments and hazardous locations.



### High Availability: Redundant SDN-C Series

SDN-C Series power supplies also offer Redundancy (RED) Modules for redundant or parallel power supply operation. The RED module continually monitors the condition of two power supplies connected to a single load. If one power supply fails, the RED module automatically changes over to the other power supply. RED modules utilize MOSFET technology instead of traditional diode based solutions, leading to lower voltage drop (and less heat dissipation) for better system reliability. Output status information can be easily provided to a PLC or other control equipment, using the RED module's relay output contact.

### On-Machine: SCP-X Series

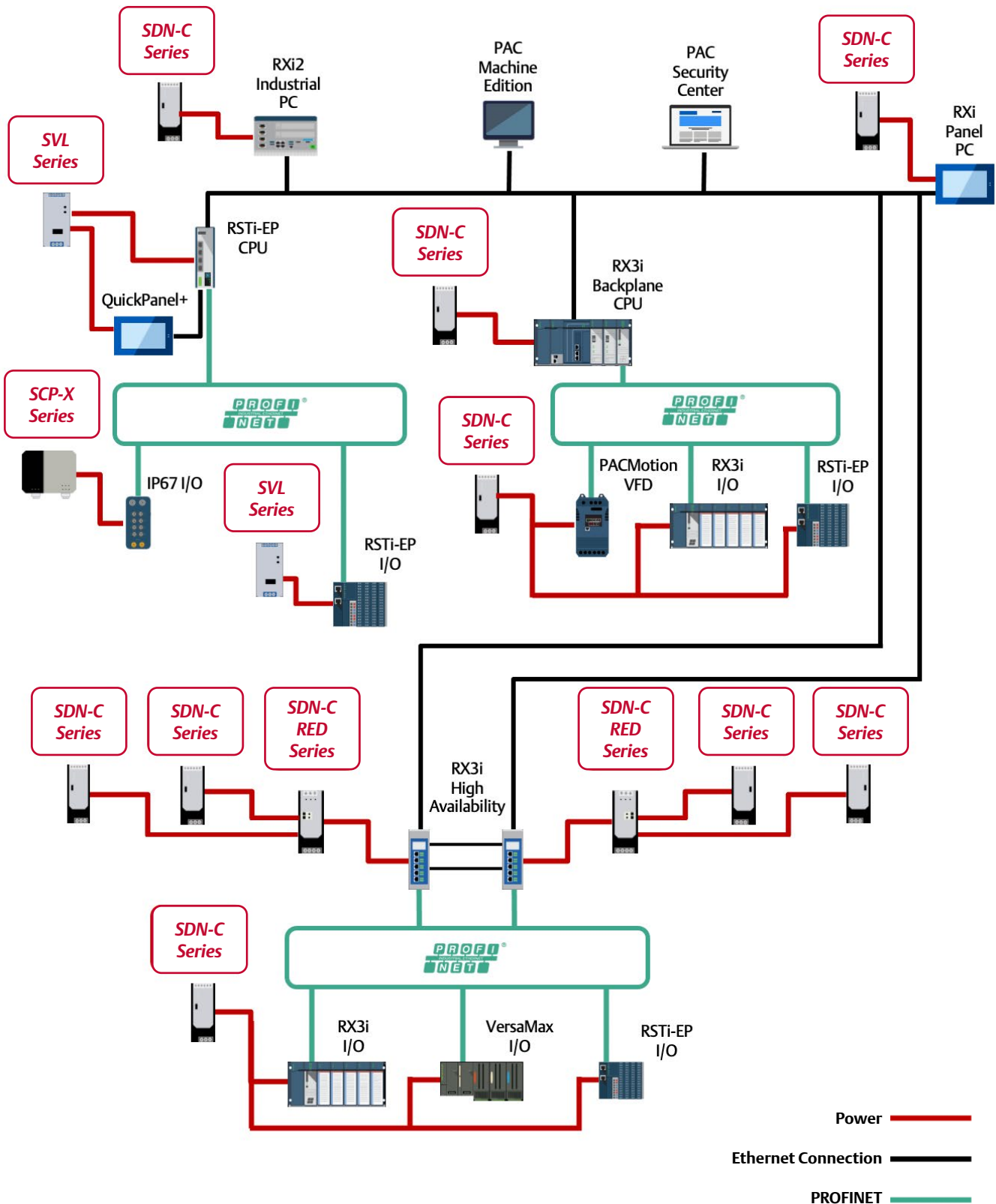
SCP-X power supplies provide the versatility and cost efficiency to deliver distributed field power to machine controls. With its IP67 rating, you can mount directly on the machine or production line eliminating the complexity and cost of unnecessary enclosures and excess wiring. Quick change connectors simplify connectivity for distributed I/O devices on industrial machinery. These Class 2 Listed, 24 Vdc power supplies are available in single and dual 100 Watt models and are perfect for your rugged automation needs.

Series Comparisons



	Essential: SVL Series	Advanced: SDN-C Series	High Availability: Redundant SDN-C Series	On-Machine: SCP-X Series
<b>Features</b>	<ul style="list-style-type: none"> <li>■ Small footprint</li> <li>■ Universal Input</li> <li>■ Protection                             <ul style="list-style-type: none"> <li>- Short Circuit</li> <li>- Over Voltage</li> <li>- Overload</li> <li>- Over Temperature</li> </ul> </li> <li>■ Power Factor Correction</li> <li>■ Convection Cooling</li> <li>■ DC OK LED</li> <li>■ Blinking OCP Diagnostic</li> <li>■ DC OK Relay for 10A and 20A models</li> </ul>	<ul style="list-style-type: none"> <li>■ Diagnostic LEDs</li> <li>■ Higher efficiency</li> <li>■ PowerBoost™ overload capability</li> <li>■ Accepts Universal voltage 85-264 Vac, 50/60 Hz input</li> <li>■ Active Power Factor Correction</li> <li>■ User adjustable output voltage accessible via front face</li> <li>■ Large, rugged, accessible screw terminals</li> <li>■ Industrial grade design: -25 °C to 60 °C</li> <li>■ Fully tested and burned-in at factory</li> </ul>	<ul style="list-style-type: none"> <li>■ Redundant power supply operation with true isolation</li> <li>■ Compact size saves panel space</li> <li>■ Extensive diagnostics</li> <li>■ Load balancing support extends power supply life</li> <li>■ Use in hazardous locations, with T4 temperature rating</li> <li>■ Works with all SDN-C power supplies</li> </ul>	<ul style="list-style-type: none"> <li>■ IP66/67 rated versatile enclosure</li> <li>■ Can be mounted in any orientation without limitation</li> <li>■ Class 2 Listed power supply for standalone applications</li> <li>■ Safety approved for AC and DC universal input</li> <li>■ Reliable operation from -40 °C to 60 °C without derating</li> <li>■ DC OK Green LED</li> <li>■ Worldwide approvals</li> </ul>
<b>Applications</b>	<ul style="list-style-type: none"> <li>■ Ordinary locations</li> </ul>	<ul style="list-style-type: none"> <li>■ Hazardous locations</li> </ul>	<ul style="list-style-type: none"> <li>■ Hazardous locations</li> <li>■ High Availability</li> </ul>	<ul style="list-style-type: none"> <li>■ On-machine power</li> <li>■ Extreme environments</li> </ul>
<b>Certifications</b>	UL, CE, RoHS	UL, CE, RoHS, ATEX, EX EAC	UL, CE, RoHS, ATEX, EX EAC, IECEx, ABS, DNV GL, RoHS	UL, cRU, CE

### An Integral Part of a Complete Emerson Solution



## Specifications - SVL Series

Max. Power	96W	240W	480W
<b>Input</b>			
<b>Input Voltage Range</b>	85-264 Vac		
<b>- AC Range</b>	100-240 Vac		
<b>- DC Range<sup>1</sup></b>	120-375 Vdc		
<b>- Inrush Current Max.</b>	35 A@115 Vac 60 A@230 Vac	20 A typ.@115 Vac 40 A typ.@230 Vac	40 A typ.@115 Vac 80 A typ.@230 Vac
<b>Power Factor correction</b>	Active PFC >.90	Active PFC >.95	
<b>Environmental Data</b>			
<b>Operating Temperature</b>	-20 °C to +70 °C (Refer to catalog specs for output derating curves)		
<b>Storage Temperature</b>	-40 °C to +85 °C		
<b>Protection</b>			
<b>Overvoltage Protection</b>	Latch mode, re-power to recover		
<b>Overload Protection</b>	Current foldforward and then hiccup, auto-recovery	105-150% of rated load; constant current and then hiccup, auto-recovery	
<b>Over Temperature Protection</b>	No component damage, latch mode, re-power to recover		
<b>Short Circuit</b>	Short circuit Hiccup mode, non-latching, auto-recovery		
<b>Reliability</b>			
<b>MTBF</b>	> 350 khrs (115 Vac/230 Vac @ 25 °C) as per Telcordia SR-332 issue 3 Jan 2011.	> 700 khrs (115 Vac & 230 Vac @ 25 °C) as per Telcordia SR-332 issue 3 Jan 2011	
<b>EMC</b>			
<b>Galvanic isolation</b>	I/P to O/P: 3K Vac; I/P to GND: 1.5K Vac; O/P to GND: 0.5K Vac	I/P to O/P: 3K Vac; I/P to GND: 2K Vac; O/P to GND: 0.5K Vac	
<b>Emissions</b>	EN55022 (CISPR22) Class B, EN55011 Class B, EN61000-6-3, EN61000-6-4, EN61000-3-3, EN61204-3, EN61000-3-2 Class A		
<b>Immunity</b>	EN55024, EN61000-6-1, EN61000-6-2 (EN61000-4-2, 3, 4, 5, 6, 8, 11, 12) Level 3, Performance Criteria A	EN55024, EN61000-6-1, EN61000-6-2 (EN61000-4-2, 3, 4, 5, 6, 8, 11, 12) Level 3, Performance Criteria A, SEMI F47 @ 200 Vac	
<b>General</b>			
<b>LED Signals</b>	GREEN light = DC OK , Blinking = Over voltage/current		

Power	Catalog Number	DC Output Voltage	Output Current	Ripple & Noise	Efficiency	Unit Weight lb (g)	Shipping Weight lb (g)
96 W	<b>SVL 4-24-100</b>	24 Vdc	4A	<75 mVp-p	89% typ.	0.698 (317)	0.816 (370)
240W	<b>SVL 10-24-100</b>		10 A				
480W	<b>SVL 20-24-100</b>		20A	<100 mVp-p	88% typ.	2.870 (1300)	3.200 (1452)

<sup>1</sup> DC input range based on product functional performance, not UL Listed.

## Specifications - SDN-C Series

	Catalog Number	
	SDN 5-24-100C	SDN 10-24-100C
<b>Description</b>	<b>INPUT</b>	
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
-Inrush current max.	Typ. < 15 A	Typ.< 30 A
Efficiency (Losses <sup>3</sup> )	> 88% typ. (14 W)	> 90% typ. (24 W)
Power Factor Correction	Active power factor correction to better than 0.92	
<b>OUTPUT</b>		
Nominal Voltage <sup>4</sup>	24 V (23.5 ~ 28.5 Vdc Adj.)	
-Tolerance	< ±2 % overall (combination Line, load, time and temperature related changes)	
Initial Voltage Setting	24.5 V ± 1%	
-Ripple <sup>5</sup>	< 50 mVpp	
PARD	PARD (Periodic and Random Deviation) = 100 mV peak-peak max	
Overvoltage Protection	> 30.5 but < 33 Vdc, auto recovery	
Power Back Immunity	< 35 V	
Nominal Current	5 A (120 W)	10 A (240 W)
-Peak Current <sup>6</sup>	1.5 × Nominal Current for 4 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™ (handles high inrush loads)	
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 amb = +25 °C (+77 °F) to 95% output voltage	
Voltage Fall Time	<150 mS from 95% to 10% rated voltage @ full load (T amb = +25 °C (+77 °F)	
Line and Load Regulation	< 0.5%	
<b>GENERAL</b>		
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	
Temperature <sup>7</sup>	Storage: -40 °C to + 85 °C (-40 °F to +185 °F), Operation -25 °C to +60 °C (-13 °F +140 °F) to full power, with linear derating to half power from +60 °C to +70 °C (+140 °F to +158 °F)(Convection cooling,no forced air required). Operation up to 50% load permissible with sideways or front side up mounting orientation.	
MTBF <sup>8</sup>	> 550,000 hrs	
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	Visual: 3 status LEDs (Input, Output, Alarm) Relay: N.O. contact rated 200ma/50 Vdc	
<b>INSTALLATION</b>		
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	Input: Screw terminals, connector size range: 16-10 AWG (1.5-6 mm2) for solid conductors. Screw torque: 4.4 lb-inch (~ 50 N-cm). Output: Two terminals per output, connector size range: 16-10 AWG (1.5-6 mm2) for solid conductors. Screw torque: 7 lb-inch (~ 80 N-cm).	
Case	Fully enclosed metal housing with fine ventilation grid to keep out small parts.	
-Free Space	25 mm above and below, 10 mm left and right, 15 mm in front	
H x W x D inches mm (in)	123.0 x 50.0 x 110.0 (4.85 x 1.97 x 4.36)	123.0 x 60.0 x 110.0 (4.85 x 2.36 x 4.36)
Weight kg (lbs)	0.50 (1.1)	0.80 (1.7)

Specifications - SDN-C Series (cont.)

	Catalog Number	
	SDN 20-24-100C	SDN 40-24-100C
<b>Description</b>	<b>INPUT</b>	
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>	6 - 3 A	12 - 4 A
-Inrush current max.	< 40 A	Typ. <60 A
Efficiency (Losses <sup>3</sup> )	> 92% (38 W)	> 93 % (67 W)
Power Factor Correction	Active power factor correction to better than 0.92	
<b>OUTPUT</b>		
Nominal Voltage <sup>4</sup>	24 V (23.5 ~ 28.5 Vdc Adj.)	
-Tolerance	< ±2 % overall (combination Line, load, time and temperature related changes)	
Initial Voltage Setting	24.5 V ± 1%	
-Ripple <sup>5</sup>	<100 mVpp	< 100 mVpp
PARC	PARC (Periodic and Random Deviation) = 100 mV peak-peak max	
Overvoltage Protection	> 30.5 but < 33 Vdc, auto recovery	
Power Back Immunity	< 35 V	
Nominal Current	20 A (480 W)	40 A (960 W)
-Peak Current <sup>6</sup>	1.5 × Nominal Current for 4 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™ (handles high inrush loads)	
Parallel Operation <sup>7</sup>	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 amb = +25°C (+77 °F) to 95% output voltage	
Voltage Fall Time	<150 mS from 95% to 10% rated voltage @ full load (T amb= +25°C (+77 °F)	
Line and Load Regulation	< 0.5%	
<b>GENERAL</b>		
EMC:-Emissions	EN61000-6-2:2001, EN61000-6-3:2001, Class B EN55011, EN55022 Radiated and Conducted including Annex A, EN61000-3-2	EN61000-6-3, EN61000-6-4, Class B EN55011, EN55022 Radiated and Conducted including Annex A, EN61000-3-2, EN61000-3-3
-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	EN61000-6-1, EN61000-6-2, EN61000-4-2 Level 4, EN61000-4-3 Level 3, EN61000-4-4 Level 4 input and Level 3 output, EN61000-4-5 Installation Class 4, EN61000-4-6 Level 3, EN61000-4-8, EN61000-4-11, SEMI F47 Sag Immunity, Transient protection according to VDE 0160/W2 over entire load range.
Temperature <sup>8</sup>	Storage: -40 °C to +85 °C (-40 °F to +185 °F) , Operation -25 °C to +60 °C (-13 °F to +140 °F) full power, with linear derating to half power from +60 °C to +70 °C (+140 °F to +158 °F) (Convection cooling, no forced air required). Operation up to 50% load permissible with sideways or front side up mounting orientation.	
MTBF <sup>9</sup>	> 450,000 hrs	> 500,000 hours demonstrated
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	Visual: 3 status LEDs (Input, Output, Alarm) Relay: N.O. contact rated 200ma/50 Vdc	
<b>INSTALLATION</b>		
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 <sup>10</sup>	Input: Screw terminals, connector size range: 16-10 AWG (1.5-6 mm2) for solid conductors. Screw Torque: 4.4 lb-in (~ 50 N-cm). Output: Two terminals per output, connector size range: 16-10 AWG (1.5-6 mm2) for solid conductors. Screw Torque: 7 lb-inch (~ 80 N-cm)	Input: Screw terminals, connector size range: 16-10 AWG (1.5-6 mm2) for solid conductors. Screw Torque: 4.4 lb-inch (~ 50 N-cm). Output: Two terminals per output, connector size range: 10-6 AWG (6-14 mm2) for solid conductors. Screw Torque: 15.6 lb-inch (~ 176 N-cm)
Case	Fully enclosed metal housing with fine ventilation grid to keep out small parts.	
-Free Space	25-40 mm above and below, 10 mm left and right, 15 mm in front	
H x W x D inches mm (in)	123.0 x 87.0 x 127.0 (4.85 x 3.42 x 4.98)	123.0 x 180.0 x 122.0 (4.85 x 7.09 x 4.81)
Weight kg (lbs)	1.20 (2.6)	2.75 (6.0)

- 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.
- 24-28 Vdc adjustable guaranteed at full load.
- 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.
- All models except the 40amp unit are capable of parallel operation by use of a jumper pin, accessible by the end user. 40 amp unit will have active current sharing signal.
- Contact tech support for operation at -25oC.
- Demonstrated through extended life test.
- SDN 40-24-100C only = Output signaling terminal block features (Shut down, Power Good, Current Monitor, Current Balance, signal GND).

## Specifications - SDN-C Series (Three Phase)

Catalog Number	SDN 10-24-480C	SDN 20-24-480CD
<b>input</b>		
Nominal AC Voltage (Range)	380 - 480 Vac (320 - 540 Vac), 3-phase	
Two-phase input <sup>1</sup>	Yes	
Nominal DC Voltage (Range)	600 Vdc (+/- 50 Vdc)	
Frequency	50/60 Hz	
Nominal Current <sup>2</sup>	3 x 0.8 A	3 x 0.9A
-Inrush current max.	Typ. < 25 A	Negligible
Efficiency (Losses <sup>3</sup> )	91% (24W)	93% (42 W)
Power Factor Correction	Meets EN61000-3-2 Class A	Active Power Factor Correction > 0.92
<b>Output</b>		
Nominal Voltage <sup>4</sup>	24 V (23.5 – 28.5 Vdc Adj.)	
Initial Voltage Setting	24.5 V ± 1%	
-Tolerance	< ±2 % overall (combination Line, load, time and temperature related changes)	
-Ripple <sup>5</sup>	< 50 mVpp	< 100 mVpp
PARD (Periodic and Random Deviation)	100 mVpp max	200 mVpp max
Nominal Current (Rated Power)	10 A (240 W)	20 A (480 W)
Parallel Operation <sup>6</sup>	Single or Parallel operation selectable via front switch.	
Turn On Time	< 1 s after AC is applied to input at full resistive load ( T <sub>amb</sub> =+25°C). <1.5 s With capacitive load 7000µF	
Holdup Time (Full load, 100 Vac Input @ T = +25°C)	20 ms	
Voltage Fall Time	<150 mS from 95% to 10% rated voltage @ full load (T =+25°C)	
<b>Protection</b>		
-Short Circuit Current	Voltage output automatically goes to near zero and output is protected from continuous short circuit. Auto-recovery	
-Peak Current <sup>7</sup>	1.5 × Nominal Current for > 4 seconds minimum while holding voltage > 20 Vdc	
-Current Limit	PowerBoost™ (handles high inrush loads)	
Back EMF Immunity	< 35 V No damage, auto-recovery	
Overvoltage Protection	> 30.5 but < 33 Vdc, auto-recovery	
Over Temperature Protection	LED Alarm and Output shutdown , auto-recovery	
<b>Environmental Data</b>		
Emissions	EN 61000-6-3, EN 55011 Class B, EN 55022 Class B, EN 61326-1, EN 61000-3-2, EN 61000-3-3	EN 61000-6-3, EN 55011 Class B, EN 55032 Class B, EN 61326-1, EN 61000-3-2, EN 61000-3-3
Immunity	EN 55024, EN 61326-1, EN 61000-6-1, EN 61000-6-2, SEMI F47	EN 55024, EN 61326-1, EN 61000-6-1, EN 61000-6-2, SEMI F47
General Protection/ Safety	Protected against continuous short circuit, continuous overload, continuous open circuit. IEC 60950-1: Class I Earthed, Output is SELV (Safety Extra Low Voltage), Environmental Rating: Pollution Degree 2 IEC 60529 Ingress Protection Rating: IP20	
Temperature <sup>8</sup>	Storage: -40°C to + 85°C, Operation -40°C to +60°C full power, with linear derating to 75% 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	5 to 95 % RH Non-condensing, IEC 60068-2-2, IEC 60068-2-3	
Vibration	2.5g RMS, 10-2000 Hz (random); three axes for 20 minutes each - IEC 60068-2-6	
Shock	10g RMS, three axes, 11mseconds for each axis - IEC 60068-2-27	
Altitude	0 to 3000 meters (0 to 10,000 feet)	

1. In the event of a phase loss, the power supply will continue to operate normally. However, the resulting lower rectified RMS voltage can cause excessive heat build up, which may eventually cause the unit to shut down if maximum operating temperature is exceeded.

2. Input current ratings are specified with low AC 3-phase input, line conditions, worst case efficiency values and power factor spikes. Input current at nominal AC 3-phase input will typically be half these values.

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

4. 24-28 Vdc adjustable guaranteed at full load.

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

6. All models are capable of paralleling. For redundant operation, please use external Redundancy module. Only the 40A uses active paralleling scheme. Please refer to user manual for details.

7. SDN 20 and SDN 40 are capable of delivering 150% load for approximately 4s before the unit will go to HICCUP mode. SDN 5 and 10 will maintain minimum 4s to deliver 150% load then drops to almost zero Vout. The output voltage will immediately drop to almost zero when load rises above 150%.

8. Contact Tech Support for operation -40°C.

## Specifications - SDN-C Series (Three Phase)

Catalog Number		SDN 10-24-480C	SDN 20-24-480CD
<b>Reliability</b>			
MTBF	Telcordia SR-332 Issue 2 Method 1 Case 3 @ 25°C	>1,400,000 hours @ 380 Vac >900,000 hours @ 480 Vac	>630,000 hours @ 380 Vac >630,000 hours @ 480 Vac
	Telcordia SR-332 Issue 2 Method 1 Case 3 @ 40°C	>910,000 hours @ 380 Vac >600,000 hours @ 480 Vac	>460,000 hours @ 380 Vac >450,000 hours @ 480 Vac SDN 20-24-480CR
Status Indicators		Visual: 3 status LEDs (Input, Output, Alarm) Relay: N.O. contact rated 200mA/50 Vdc, Signal Active when Vout> 18.5 Vdc +/-5%	
<b>Installation</b>			
Fusing -Input		Input Branch fuse or circuit breaker should be provided by customer. See manual for details.	
-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 <sup>9,10</sup> (Screw Type)	Input	16-10 AWG (1.5-6 mm <sup>2</sup> ) for solid conductors. Screw Torque: 4.4 lb-in (~ 50 N-cm).	
	Output	16-10 AWG (1.5-6 mm <sup>2</sup> ) for solid conductors. Screw Torque: 7 lb-inch (~ 80 N-cm)	
-Free Space	Above & Below	0.98 in (25 mm)	1.6 in (40 mm)
	Left & Right	0.98in (25mm)	
	Front	0.59 in. (15 mm)	
Dimensions - WxDxH in (mm)		4.85 × 2.36 × 4.36 (123.0 × 60.0 × 110.0)	4.85 × 3.42 × 4.98 (123.0 × 87.0 × 127.0)
Weight - lbs (kg)		1.5 (0.7)	2.7 (1.2)
<b>General</b>			
Case		Fully enclosed metal housing with fine ventilation grid to keep out small parts. IP20 touch proof	
Status Indicators		Visual: 3 status LEDs (Input, Output, Alarm) Relay: N.O. contact rated 200mA/50 Vdc, Signal Active when Vout> 18.5 Vdc +/-5%	

9. Screw terminals. Use only one copper wire per terminal. Non-ratcheting torque driver recommended.

10. SDN 40-24-480C only: Output signaling terminal block features (Shut down, Power Good, Current Monitor, Current Balance, signal GND). Please refer to Signals Manual for details.



## Specifications – Redundant SDN-C Series (Red)

Catalog Number	SDN 2X10RED	SDN 2X20RED	SDN 2X40RED
<b>input</b>			
Input Voltage Range	10.8-30.8 V DC (SELV)		
- Nominal Voltage	12-28 Vdc		
- Maximum Voltage	30.8 Vdc		
Maximum Current	2 x 10A, 1 x 20A (-40°C to +70°C) 2 x 12A, 1 x 24A (-40°C to +60°C) 2 x 12.5A, 1 x 25A (-40°C to +50°C) 2 x 13A, 1 x 26A (-40°C to +40°C)	2 x 20A, 1 x 40A (-40°C to +70°C) 2 x 24A, 1 x 48A (-40°C to +60°C) 2 x 25A, 1 x 50A (-40°C to +50°C) 2 x 26A, 1 x 52A (-40°C to +40°C)	2 x 35A, 1 x 70A (-40°C to +70°C) 2 x 40A, 1 x 80A (-40°C to +60°C) 2 x 42A, 1 x 85A (-40°C to +50°C) 2 x 45A, 1 x 90A (-40°C to +40°C)
Type of Protection	Protect against static surge voltages >30V		
<b>Output</b>			
Nominal Voltage	12-28 Vdc		
Voltage Drop (input-output)	0.2V Typical		
Nominal Output Current	10A (Redundant) 20A (Non-Redundant)	20A (Redundant) 40A (Non-Redundant)	40A (Redundant) 80A (Non-Redundant)
Current Handling Capacity (Power Boost)	50A for 5 seconds	65A for 5 seconds	120A for 5 seconds
Inverse Polarity Protection	Yes		
<b>installation</b>			
Mounting	DIN TS35/7.5 or TS35/15 rail system.		
Connection			
- Input	10–12 AWG (5.3–3.3 mm2) for solid/stranded conductors. Torque: 7 lb-inch (79.1 N-cm).		6–8AWG (13.3–8.4 mm2) for solid/stranded conductors. Torque: 15.6 lb-inch (176.3 N-cm)
- Output	6–8AWG (13.3–8.4 mm2) for solid/stranded conductors. Torque: 15.6 lb-inch (176.3 N-cm)		2–6AWG (33.6–13.3 mm2) for solid/stranded conductors. Torque: 15.6 lb-inch (176.3 N-cm).
- Contact Relay	12-22 AWG (3.3-0.33 mm2) for solid/stranded conductors. Torque: 4.4 lb-inch (49.7 N-cm)		
Dimensions H x W x D in (mm)	4.85 (123.2) x 1.38 (35.0) x 4.46 (113.3)		4.85 (123.2) x 1.81 (46.0) x 4.61 (117.0)
Weight lb. (kg)	0.8 (0.36)		1.1 (0.48)
<b>Environmental Data</b>			
Ambient Temperature	Storage/Shipment: -40°C to +85°C Full Nominal Load: -40°C to +70°C		
Relative Humidity	0 to 95% RH, non-condensing		
Altitude	0 to 6,000 meters (0 to 20,000 feet) per MIL-STD-810F		
Degree of Protection	IP20		
Minimum Required Free Space for Cooling	0.39 in. [10.0 mm] above/below, 0.39 in. [10.0 mm] left/right. Do not obstruct air flow.		
EMC	EN 61326-1; EN 55022 +AC: Class B; EN 55011 + A1: Group 1 Class B; EN 61000-3-2; EN 61000-3-3; EN 55024; EN 61000-6-1; EN 61000-6-2:2005; EN 61000-6-3:2007+A1; EN 61000-6-4:2007+A1; IEC/EN 61000-4 SERIES REGULATIONS		
MTBF Telecordia SR-322 Issue 2	>1.3M h (25°C)		>1.2M h (25°C)
<b>General</b>			
Emissions/Immunity	According generic standards: EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4		
Status Indicators	(3) two-color LEDs (Vin1, Vin2, Vout) Normally Open "Vout OK" Relay Contact (60Vdc, 1A maximum)		

## Specifications - SCP-X Series

	Catalog Number	
	SCP 100S24X-DVN1	SCP 102D24X-D02
<b>Description</b>	<b>INPUT</b>	
Nominal Voltage	115 - 230 Vac	
-AC Range	85 - 264 Vac	
-DC Range	90 - 375 Vdc	
Nominal Current <sup>1</sup>	1.6A / 0.7A	2.4 - 1.4A / 2.4 - 0.7A
-Inrush current max.	Typ. <30A	
Power Factor Correction <sup>2</sup>	0.95	
Frequency	50/60/400 Hz	
Power Factor Correction	Active power factor correction to better than 0.92	
<b>OUTPUT</b>		
Power Back Immunity	35 V	
Overvoltage Protection	25-25.5 Vdc, autorecovery	
Nominal Voltage	24 Vdc	
Tolerance	< +/-2% overall	
- Line Regulation	< 0.5%	
- Load Regulation	< 0.5%	
- Time & Temp. Drift	< 1%	
Input Voltage Setting	24.5 V +/-1%	
Ripple <sup>3</sup>	< 50 mVpp	
Total Nominal Current	3.8A	7.6A Total (3.8A max. per pair)
Holdup Time	> 50 ms (Full load, 100 Vac Input @ Tamb=+25°C) to 95% output voltage	
<b>GENERAL</b>		
Emissions <sup>4</sup>	EN61000-6-3, EN61000-6-4, EN55011 Group 1, Class B, EN55022 Class B, EN61000-3-2, EN61000-3-3	
Immunity <sup>4</sup>	EN61000-6-1, EN61000-6-2, EN55024, IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-8, IEC61000-4-11, SEMI F47 Sag Immunity	
Temperature	Storage: -40° to +85°C, Operation: -40° to +60°C full power with linear derating to half power from +60° to +70°C. No forced air required. Operation up to 100% load permissible with sideways or front side up mounting orientation	Storage: -40° to +85°C, Operation: -25° to +60°C full power with linear derating to half power from +60° to +70°C. 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 m (0 to 10,000 ft.)	
Vibration	1 g non-operating swept sine over 10–500 Hz (IEC 60068-2-6). Non-operating random vibration test: 1.87 g over 10–500 Hz (IEC 60068-2-64). Operating random vibration test: 0.15 g over 5–100 Hz (IEC 60068-2-64)	
Shock	Non-operating: 30 g peak, 18 ms half-sine pulse (IEC 68-2-27). Operating: 4 g peak, 22 ms half-sine pulse (IEC 68-2-27)	
MTBF	>800,000 hours according to Telcoredia/Bellcore SR-332 Issue 1, (Vin 120 V ac, Tamb = 40°C)	>800,000 hr. according to Telcoredia/Bellcore SR-332 Issue 3, (Vin 120 V ac, ambient temp. = 40°C)
General Protection/Safety	Protected against continuous short-circuit, continuous overload, and continuous open circuit. Protection NEC Class 2 (IEC536), degree of protection IP66/IP67 versatile (IEC60529). Safety extra low voltage circuits: SELV (acc. EN60950-1).	Protected against continuous short-circuit, continuous overload, continuous open circuit. Protection Class 1. Safety extra low voltage circuits: SELV (acc. EN60950).
Status Indicators - Visual	DC OK LED	
<b>INSTALLATION</b>		
Fusing -Input	Internally fused, fuses not replaceable	
-Output	Electronically current limited to meet NEC Class 2 per UL1310	
Mounting	Chassis mounted using integral mounting tabs. Recommended Screw Size: M4 x 0.7. Tightening Torque: 1N-m	
Connections	An accessible disconnect device shall be installed external to the equipment. Input: 3-PIN IP67 molded plug (quick disconnect). Output: 4-PIN IP67 molded receptacle (quick disconnect). Use UL 758 wire rated min. 24 V, VW-1/FT-1, max. 3.05 m.	
Case	IP66/67 versatile ingress protection; also meets UL50 Type 4X enclosure	
Min. Required Free Space	0.39 in. (10 mm) all sides but base	1 in. (25 mm) all sides but base
H x W x D inches mm (in)	4.73 x 7.00 x 1.80 (120.1 x 177.8 x 45.7)	4.73 x 7.00 x 3.27 (120.1 x 177.8 x 83.0)
Weight kg (lbs)	2.2 (1.0)	3.3 (1.5)

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. Emissions and immunity are met by individual power supply modules.

## Ordering Information

Family	Part Number	Description
<b>Essential: SVL Series</b>	SVL 424 100	85-264Vac to 24Vdc, 4A
	SVL1024100	85-264Vac to 24Vdc, 10A
	SVL2024100	85-264Vac to 24Vdc, 20A
<b>Advanced: SDN-C Series</b>	SDNPMBRK2	SDN Chassis Panel Mounting Kit
	SDN 5-24-100C-EPM	100-240 Vac to 24 VDC, 5A
	SDN 5-24-100CX- EPM	100-240 Vac to 24 VDC, 5A, conformal coat
	SDN 10-24-100C-EPM	100-240 Vac to 24 VDC, 10A
	SDN 10-24-100CX- EPM	100-240 Vac to 24 VDC, 10A, conformal coat
	SDN 20-24-100C-EPM	100-240 Vac to 24 VDC, 20A
	SDN 20-24-100CX- EPM	100-240 Vac to 24 VDC, 20A, conformal coat
	SDN 40-24-100C-EPM	100-240 Vac to 24 VDC, 40A
	SDN 40-24-100CX-EPM	100-240 Vac to 24 VDC, 40A, conformal coat
	SDN 1024480C	380/480Vac, 3 phase 2 to 24Vdc, 10A
	SDN 2024480CD	380/480Vac, 3 phase 2 to 24Vdc, 20A
<b>High Availability: Redundant SDN-C Series</b>	SDN 2X10REDx-EPM	SDN-C Redundancy Module, 12-28V, 20A, conformal coat
	SDN 2X20REDx-EPM	SDN-C Redundancy Module, 12-28V, 40A, conformal coat
	SDN 2X40REDx-EPM	SDN-C Redundancy Module, 12-28V, 80A, conformal coat
<b>On-Machine: SCP-X Series</b>	SCP100S24XDVN1E	100-240 VAC to 24 VDC, 3.8A, IP67
	SCP102D24XD02E	100-240 VAC to 24 VDC, Dual 3.8A, IP67

**United State Office**

Emerson Automation Solutions  
Intelligent Platforms, LLC  
2500 Austin Dr  
Charlottesville, VA

**China Office**

Emerson Automation Solutions Intelligent  
Platforms (Shanghai) Co., Ltd  
No.1277, Xin Jin Qiao Rd, Pudong,  
Shanghai, China, 201206

**Singapore Office**

Emerson Automation Solutions Intelligent  
Platforms Asia Pacific Pte. Ltd.  
1 Pandan Cres,  
Singapore, 128461

**Germany Office**

Emerson Automation Solutions  
ICC Intelligent Platforms GmbH  
Memminger Straße 14  
Augsburg, Germany 86159

**Brazil Office**

Emerson Automation Solutions  
Av. Hollingsworth, 325 – Iporanga  
Sorocaba – SP, 18087-105

**India Offices**

Emerson Automation Solutions  
Intelligent Platforms Pvt. Ltd.,  
Building No.8, Ground Floor  
Velankani Tech Park, No.43  
Electronics City Phase I, Hosur Rd  
Bangalore-560100

**Americas Support – Technical and Commercial**

Phone: 1-888-565-4155 or 1-434-214-8532 (if toll free 800 option is unavailable)

Email for Technical Support: support.mas@emerson.com

Email for Commercial Support: customercare.mas@emerson.com

Primary language of support: English

**Europe, Middle East, & Africa Support – Technical and Commercial**

Phone: +800-4-444-8001

or +420-225-379-328 (if toll free 800 option is unavailable or dialing from a mobile telephone)

Email for Technical Support: support.mas.emea@emerson.com

Email for Commercial Support: customercare.emea.mas@emerson.com

Primary languages of support: English, German, Italian, Spanish

**Asia Support – Technical and Commercial**

Phone: +86-400-842-8599 for Greater China

+65-6955-9413 (All Other Countries)

Email for Technical Support: support.mas.apac@emerson.com

Email for Commercial Support Asia: customercare.cn.mas@emerson.com

Primary languages of support: Chinese, English

**Support Website:** [www.emerson.com/iac-support](http://www.emerson.com/iac-support)

**Home Website:** [www.Emerson.com/industrial-automation-controls](http://www.Emerson.com/industrial-automation-controls)

©2020 Emerson. All rights reserved.

The Emerson logo is a trademark and service mark of Emerson Electric Co. All other marks are property of their respective owners. The contents of this publication are presented for information purposes only, and while effort has been made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services describe herein or their use or applicability. All sales are governed by our terms and conditions, which are available on request, We reserve the right to modify or improve the designs or specifications of our products an any time without notice.

