



IP67 SCP-X EXTREME ENVIRONMENT CLASS 2 SERIES

The SolaHD IP67 SCP-X power supplies provide the versatility and cost efficiency to deliver reliable distributed and remote field power to machine controls. Mounts directly on the machine or production line, eliminating the complexity and cost of unnecessary enclosures and excess wiring. Quick change connectors simplify connectivity to distributed I/O devices on industrial machinery. The SCP-X Series is available in a variety of configurations, to meet the diverse needs of automotive manufacturing, conveyor, and other applications where 24 Vdc power is required for geographically dispersed devices.

CLASS 2 LOW POWER MODELS

- Class 2 rating assures that each output will need not exceed 100 Watts
- A total of four models, providing single or dual outputs, and grounded or isolated output configurations
- Two output ratings:
 - Single Output provides 100 Watts maximum, using a single output connector.
 - Dual Output provides two electrically-isolated 100 Watt power supplies in a single IP67 case. Two connectors are provided for each output, for a total of 4 connectors, simplifying connection to multiple devices.
- Two output wiring configurations:
 - Grounded output models are designed for control power applications where a grounded power supply output is required.
 - Isolated Output models are designed for applications where the output must be isolated from ground, such as with DeviceNet™.
- Input connector: 3-pin IP67 7/8" plug, external thread
- Output connector: 4-pin IP67 7/8" receptacle, internal thread

GENERAL FEATURES

- IP66/67 rated versatile enclosure
- Reliable operation from -40 °C to 60 °C without derating
- Diagnostic Status LED to indicate that DC output is functioning correctly
- Can be mounted in any orientation without limitation
- Universal AC and DC input voltages
- Five year limited warranty

CERTIFICATIONS AND COMPLIANCES

All Models

- **UL** Listed, Audio/video, Information and Communication Technology Equipment, E137632
 - UL/CSA 62368-1, UL/CSA 60950-1
- **CE** Low Voltage Directive/ **UKCA** Electrical Equipment (Safety) Regulations 2016
 - IEC/EN 62368-1
- CB Certificate - IEC/EN 60950-1, IEC/EN 62368-1

Models SCP 100S24X-CP1, SCP 100S24X-DVN1, SCP 102D24X-C02, SCP 102D24X-D02

- **UL** Listed, Industrial Control Equipment, E61379
 - UL 508, CSA C22.2 No. 107.1

RELATED PRODUCTS

- SDN-D Series
- SDN-C Series
- SVL Series

RECOMMENDED CORDSETS (TO BE PROVIDED BY USER)

Input Cordset ①②	Output Cordset ①②
Molex, 3-pin mini-change Part #: 113030K13MxxxE (or equivalent)	Molex, 4-pin mini-change Part #: 114030K12Mxxx (or equivalent)
① Cordsets are to be provided by user.	
② xxx is the length of the cordset in tenths of a meter.	

SOLAHD For product information:
www.solahd.com
1.800.377.4384



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SPECIFICATIONS

Descriptions	Catalog Number	
	SCP 100S24X-CP1	SCP 102D24X-C02
	SCP 100S24X-DVN1	SCP 102D24X-D02
	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 ¹	1.6 A / 0.7 A	2.4 - 1.4 A / 2.4 - 0.7 A
-Inrush current max.	Typ. <30 A	
Power Factor Correction ²	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	
-Line Regulation	< 0.5%	
-Load Regulation	< 0.5%	
-Time & Temp. Drift	< 1%	
Input Voltage Setting	24.5 V +/-1%	
Ripple ³	< 50 mVpp	
Total Nominal Current	3.8 A	7.6 A Total (3.8 A max. per pair)
Holdup Time	> 50 ms (Full load, 100 Vac Input @ T _{amb} = +25°C) to 95% output voltage	
	General	
Emissions ⁴	EN61000-6-3, EN61000-6-4, EN55011 Group 1, Class B, EN55022 Class B, EN61000-3-2, EN61000-3-3	
Immunity ⁴	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 °C to +85 °C, Operation: -40 °C to +60 °C full power with linear derating to half power from +60 °C to +70 °C. No forced air required. Operation up to 100% load permissible with sideways or front-side-up mounting orientation.	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. 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)	
Warranty	5 Year Limited Warranty	
MTBF	>800,000 hours according to Telcoredia/Bellcore SR-332 Issue 1, (Vin 120 Vac, T _{amb} = +40°C)	>800,000 hr. according to Telcoredia/Bellcore SR-332 Issue 3, (Vin 120 Vac, ambient temp. = +40°C)
General Protection/Safety	Protected against continuous short-circuit, continuous overload, and continuous open circuit. Protection NEC Class II (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 I. Safety extra low voltage circuits: SELV (acc. EN60950).
Status Indicators - Visual	DC OK LED	

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.



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IP67 SCP-X EXTREME ENVIRONMENT HIGH OUTPUT SERIES

The SolaHD IP67 SCP-X power supplies provide the versatility and cost efficiency to deliver reliable distributed and remote field power to machine controls. Mounts directly on the machine or production line, eliminating the complexity and cost of unnecessary enclosures and excess wiring. Quick change connectors simplify connectivity to distributed I/O devices on industrial machinery. The SCP-X Series is available in a variety of configurations, to meet the diverse needs of automotive manufacturing, conveyor, and other applications where 24 Vdc power is required for geographically dispersed devices.

HIGH POWER MODEL

- 10 A 24 Vdc output capacity provides more power in a stand-alone enclosure
- Power Boost up to 150% of nominal output (15 A) for 4 seconds, provides additional capacity for loads with high inrush current requirements
- Same mounting dimensions as competitive power supplies with lower output capacity
- DC OK Relay contact, for providing diagnostic information to a PLC, DCS, IPC, or other controller
- High efficiency, greater than 90% at 120 Vac input
- Input connector: 3-pin IP67 7/8" plug, external thread
- Low inrush current of less than 10 A
- Output connector: 5-pin IP67 L-Code M12 receptacle, internal thread
- DC OK connector: 4-pin IP67 A-Code M12 receptacle, external thread

FEATURES

- IP66/67 rated versatile enclosure
- Reliable operation from -40 °C to +60 °C without derating
- Diagnostic Status LED to indicate that DC output is functioning correctly
- Can be mounted in any orientation without limitation
- Universal AC and DC input voltages
- Five year limited warranty

CERTIFICATIONS AND COMPLIANCES

All Models

- Listed, Audio/video, Information and Communication Technology Equipment, E137632
 - UL/CSA 62368-1, UL/CSA 60950-1
- Low Voltage Directive/ Electrical Equipment (Safety) Regulations 2016
 - IEC/EN 62368-1
- CB Certificate - IEC/EN 60950-1, IEC/EN 62368-1

Model SCP 240S24X-CP1

- Listed, Electrical Equipment for Measurement, Control and Laboratory Use; Control Equipment, E61379
 - UL/CSA 61010-1, UL/CSA 61010-2-201
- Low Voltage Directive/ Electrical Equipment (Safety) Regulations 2016
 - IEC/EN 61010-1, IEC/EN 61010-2-201
- CB Certificate - IEC/EN 61010-1, IEC/EN 61010-2-201

RELATED PRODUCTS

- SDN-D Series
- SDN-C Series
- SVL Series

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SPECIFICATIONS

Descriptions	Catalog Number	
	SCP240S24X-CP1	
	Input	
Nominal Voltage	24 Vdc	
-AC Range	100 - 240 Vac ±10%	
-DC Range	100 - 340 Vdc	
Frequency	50 - 60 Hz	
Nominal Current ¹	3.0 A	
-Inrush current max.	≤ 10 A	
Efficiency (Losses ²)	95% (typ.) over the entire input voltage range and full load	
Power Factor Correction	Active power factor correction, > 0.9 over entire input voltage range and 50% - 100% load	
	Output	
Input Voltage Setting	24.5 Vdc ± 1%	
Tolerance	< ±3 % overall (combination Line, load, time, sample-sample and ambient temperature range)	
Ripple ³	< 50 mVpp	
Periodic and Random Deviation (PARD)	100 mVpp max	
Nominal Current (Rated Power at 60 °C)	10 A (240 W)	
Turn-on Time	< 1 s after AC is applied to input at full resistive load (Tamb=+25 °C), <1.5 ms with capacitive load 7000 µF	
Holdup Time	> 20 ms (Full load, 100 Vac Input @ Tamb=+25 °C) to 95% output voltage	
Voltage Full Time	< 150 ms from 95% to 10% rated voltage @ full load Tamb =+25 °C)	
	Protection	
Short Circuit	Output turns off and goes on hiccup mode. Auto-recovery.	
Peak Current ⁴	1.5 × Nominal Current for > 4 seconds minimum while holding voltage > 20 Vdc	
Over Current	PowerBoost™	
Back EMF Immunity	< 35 V no damage, auto recovery	
Over Voltage	> 30.5 but < 33 Vdc, auto-recovery	
Over Temperature	Output shutdown, auto-recovery	
	Environmental Data	
Electromagnetic Emissions/Immunity	EN61000-6-1, EN61000-6-2, EN 55035, EN61000-6-3, EN61000-6-4, EN55011 - Class B, EN55032 – Class B, EN61000-3-2, EN61000-3-3, EN61326-1, SEMI F47 Sag Immunity	
Temperature ⁵	Storage: -40 °C to +85 °C, Operation: -40 °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 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)	
Warranty	5 Year Limited Warranty	
MTBF	>500,000 hr. or better (determined by Siemens norm SN 29500 at full load current and 40 °C.)	>800,000 hr. according to Telcoredia/Bellcore SR-332 Issue 3, (Vin 120 Vac, ambient temp. = 40 °C)
Status Indicators - Visual	Green LED	

1. Input current ratings are conservatively specified with low AC input, worst case efficiency values and power factor.
 2. Losses are heat dissipation in Watts at full load, nominal AC input line.
 3. Ripple/noise is stated as typical AC values when measured with a 20 MHz, bandwidth scope and 50 Ohm resistor.
 4. Peak current is calculated at nominal voltage levels.
 5. Contact tech support for operation at -40 °C.

RECOMMENDED CORDSETS (TO BE PROVIDED BY USER)

Input Cordset ①②	Output Cordset ①②	DC OK Relay Cordset ①②
Molex, 3-pin mini-change Part #: 113030K13MxxxE (or equivalent)	Molex, 5-pin L-Code M12 plug Part #: LLP5030B63Mxxx (or equivalent)	Molex, 4-pin IP67 A-Code M12 plug Part #: 884030K05Mxxx (or equivalent)
① Cordsets are to be provided by user. ② xxx is the length of the cordset in tenths of a meter.		

