

12 V Super Capacitors Module



Multiple parallel and series connection are possible for voltage and/or current increase.

Simple but elegant look and ease of installation make it ideal for various industrial applications.





Key Features & Benefits

- Compact size, standard enclosure shape
- Reliable topology, based on new technology of Electric Double Layer Capacitors
- > 7.6 kJ (2.1 Wh) energy storage
- Replaces 12 V batteries for short term backup applications
- Extended operating temperature for high reliability
- Multiple parallel and series connection possibilities for voltage and/or current increase
- Reverse polarity and overcurrent protections
- Pluggable connectors
- Up to 85°C operating temperature
- Dimensions: 80.0 x 120.0 x 100.0 mm (3.15 x 4.72 x 3.94 in)



1. TECHNICAL SPECIFICATIONS

Input DC Rated Voltage Nominal: Range: 12 VDC Absolute Maximum Voltage 17 VDC Energy Storage Capacity 7.6 kJ (2.1 Wh) Input Current for Capacity Charging 20 A max Charging Time See Figure 1 Output Current for Capacitor Discharging After Discharging and Support Cornactions 30 A for 5 sec (see Figures 2, 3, 4) 20 A Protections See Figure 1 20 A Operating Temperature Overtemperature protection 40 to + 85°C Objecting Temperature Non-condensing 40 to + 80°C Storage Temperature Non-condensing 5 - 95% RH Cooling Natural convection 500 000 Charging / Discharjing Cycles At 25°C ambient 10 yeas MTEF MIL-HOBK-217F at 25°C ambient full load 5 500 000 DC Bus / Ground Isolation UL508 (reference) 10 yeas EMISSO (reference) NSD02 (CISPR11) 10 yeas EMIC Standards Emission Emission Exposition (Spering 2) 10 yeas EMC Standards Immunity Emission Exposition (Spering 2) 10 yeas <	PARAMETER		DESCRIPTION / CONDITION	SPECIFICATION
Absolute Maximum Voltage 17 VDC Energy Storage Capacity 7.6 kJ (2.1 Wh) Input Current for Capacitor Charging 20 A max Charging Time See Figure 1 Output Current for Capacitor Discharging 30 A for 5 sec (see Figures 2, 3, 4) 20 A Output Current for Capacitor Discharging 30 A for 5 sec (see Figures 2, 3, 4) 20 A Protections Reverse polarity connection Short circuit through 30x/32v ATO blade, user replaced-blocked protection -40 to + 85°C Operating Temperature Overtemperature protection -40 to + 85°C Voltage Derating 120 mV / °C over 65°C Storage Temperature Non-condensing 50 95% RH Cooling Natural convection 500 000 Charging / Discharging Cycles At 25°C ambient 10 years MTBF At 25°C ambient 10 years MTBF VIDEAL (Figure 2) Non-condensing 500 000 Safety Standards Emission Emission Class B EMSO30 (reference) ENBOSO2 (CISSPE11) ENSO11 (CISPR22) Class B Class B EMS011 (CISPR22) ENSO10 (CISPR22) Level 3 <td< td=""><td colspan="2">Input DC Rated Voltage</td><td></td><td></td></td<>	Input DC Rated Voltage			
Input Current for Capacitor Charging	Absolute Maximum Voltage		9	
Charging Time See Figure 1 Output Current for Capacitor Discharging Protections 30 A for 5 sec (see Figures 2, 3, 4) 20 A Protections Reverse polarity connection Power through 30A/32V ATO blade, user replaced ble Overvoltage protection - 40 to + 85°C Operating Temperature Overdemperature protection - 120 mV / °C over 65°C Storage Temperature Non-condensing 5 - 95% RH Cooling Natural convection 5 - 95% RH Cooling Obscharging Cycles At 25°C ambient 500 000 Life Time Expectancy At 25°C ambient 10 years MTEF MIL-HDBK-217F at 25°C ambient full load > 500 000 h DC Bus / Ground Isolation UL508 (reference) EN60950 (reference) Safety Standards Emission EN50950 (reference) Class B EMC Standards Emission EN55017 (CISPR2) Class B EMG Standards EN61000-42 Level 3 EN61000-4-2 EN61000-4-2 Level 3 EN61000-4-5 EN61000-4-5 Level 1 Protection Degree EN60529 IRC 60068-2-6 29 2Hours / axis (X,Y,Z)	Energy Storage Capacity			7.6 kJ (2.1 Wh)
Output Current for Capacitor Discharging 30 A for 5 sec (see Figures 2, 3, 4) 20 A Protections Reverse polarity connection Short circuit through 30A/32V ATO blade, user replaceable Overvotrage protection - 40 to + 85°C Operating Temperature Overtemperature protection - 40 to + 85°C Voltage Derating - 120 mV / °C over 65°C Storage Temperature - 40 to + 80°C Humidity Non-condensing 5 - 95% RH Cooling Natural convection 500 000 Charging / Discharging Cycles At 25°C ambient 500 000 Life Time Expectancy At 25°C ambient 10 years MTBF MIL-HDBK-217F at 25°C ambient full load > 500 000 h DC Bus / Ground Isolation Lu508 (reference) ENS0050 (reference) EMISSOS (CISPR11) Class B ENS0050 (CISPR11) Class B EMC Standards Emission ENS1000 (CISPR12) Class B EN61000-4-2 Evel 3 Evel 3 EN61000-4-3 Evel 3 Evel 3 EN61000-4-5 Evel 3 Evel 3 EN61000-4-5 Evel 3 Evel 4 <td colspan="2">Input Current for Capacitor Charging</td> <td></td> <td>20 A max</td>	Input Current for Capacitor Charging			20 A max
Protections Reverse polarity connection Short circuit through 30A/32V ATO blade, user replaced be covered by coveroltage protection - 40 to + 85°C Operating Temperature Overtemperature protection - 120 mV / °C over 65°C Storage Temperature - 40 to + 80°C Humidity Non-condensing 5 - 95% RH Cooling Natural convection Charging / Discharging Cycles At 25°C ambient 500 000 Life Time Expectancy At 25°C ambient 10 years MTBF MIL-HDBK-217F at 25°C ambient full load > 500 000 h DC Bus / Ground Isolation 0.75 kVDC Safety Standards U.508 (reference) EN60950 (reference) EN50502 (CISPR11) EN5001 (CISPR2) Class B Class	Charging Time		See Figure 1	
Protections Short circuit through 30A/32V ATO blade, user replaceUseDeventure Operating Temperature Overtemperature protection - 40 to + 85°C Voltage Derating - 120 mV / °C over 65°C Storage Temperature - 40 to + 80°C Humidity Non-condensing 5 - 95% RH Cooling Natural convection Charging / Discharging Cycles At 25°C ambient 500 000 Life Time Expectancy At 25°C ambient 10 years MTBF MIL-HDBK-217F at 25°C ambient full load > 500 000 h DC Bus / Ground Isolation 0.75 kVDC Safety Standards LEM 500950 (reference) EN60950 (reference) EN60950 (reference) EN55022 (CISPR11) EN55011 (CISPR2) Class B CISPR11 (CISPR2) Class B CISPR11 (CISPR2) Class B CISPR1000-4-2 (EN61000-4-2 (EN61000-4-2 (EN61000-4-2 (EN61000-4-2 (EN61000-4-3 (EN61000-4-	Output Current for Capacitor Discharging		30 A for 5 sec (see Figures 2, 3, 4)	20 A
Voltage Derating - 120 mV / °C over 65°C Storage Temperature - 40 to + 80°C Humidity Non-condensing 5 - 95% RH Cooling Natural convection Charging / Discharging Cycles At 25°C ambient 500 000 Life Time Expectancy At 25°C ambient 10 years MTBF MIL-HDBK-217F at 25°C ambient full load > 500 000 h DC Bus / Ground Isolation 0.75 kVDC Safety Standards Emission EN60950 (reference) EN60950 (reference) EN60950 (reference) EN60950 (reference) EN60922 (CISPR11) Class B EMC Standards EN55011 (CISPR22) Class B EMC Standards EN61000-4-2 EN61000-4-2 EN61000-4-3 EVel 3 EVel 3 EVel 3 EVel 3 EVEL 4 EVEL 3 EVEL	Protections		Short circuit through 30A/32V ATO blade, user replace	eable
Storage Temperature	Operating Temperature		Overtemperature protection	- 40 to + 85°C
Humidity	Voltage Derating			- 120 mV / °C over 65°C
Cooling Natural convection Charging / Discharging Cycles At 25°C ambient 500 000 Life Time Expectancy At 25°C ambient 10 years MTBF MIL-HDBK-217F at 25°C ambient full load > 500 000 h DC Bus / Ground Isolation 0.75 kVDC Safety Standards Emission EN50026 (reference) Emission EN50022 (CISPR11) CISPR29 Class B	Storage Temperature			- 40 to + 80°C
Charging / Discharging Cycles At 25°C ambient 500 000 Life Time Expectancy At 25°C ambient 10 years MTBF MIL-HDBK-217F at 25°C ambient full load > 500 000 h DC Bus / Ground Isolation 0.75 kVDC Safety Standards UL508 (reference) EN60950 (reference) EN60950 (reference) Class B Class Class B Class Class Cla	Humidity		Non-condensing	5 - 95% RH
Life Time Expectancy At 25°C ambient 10 years MTBF MIL-HDBK-217F at 25°C ambient full load > 500 000 h DC Bus / Ground Isolation 0.75 kVDC Safety Standards UL508 (reference) EN60950 (reference) Emission EN55022 (CISPR11) EN55011 (CISPR22) Class B	Cooling		Natural convection	
MTBF MIL-HDBK-217F at 25°C ambient full load > 500 000 h DC Bus / Ground Isolation 0.75 kVDC Safety Standards UL508 (reference) EM0950 (reference) Emission EN55022 (CISPR11) EN55011 (CISPR22) Class B Class	Charging / Discharging Cycles		At 25°C ambient	500 000
DC Bus / Ground Isolation 0.75 kVDC Safety Standards UL508 (reference) EN60950 (reference) Emission EN55022 (CISPR11) Class B (Class Class B (Class B (Class Class C	Life Time Expectancy		At 25°C ambient	10 years
Safety Standards UL508 (reference) EMG Standards Emission EN55022 (CISPR11) EN55011 (CISPR22) Class B Class B Class B EMC Standards Immunity EN61000-4-2 Level 3 Level 3 Level 3 Level 3 Level 3 EN61000-4-4 Level 3 EN61000-4-5 Level 1 Protection Degree EN60529 IP20 Vibration Sinusoidal IEC 60068-2-6 5-17.8 Hz: ±1.6 mm; 17.8-500 Hz: 2 g 2Hours / axis (X,Y,Z) Shock IEC 60068-2-27 30 g 6 ms, 20 g 11 ms; 3 bumps / direction, 18 bumps total Weight 750 g Dimensions 80 x 120 x 110 mm Connection Terminals Screw type pluggable (24 - 12 AWG) 2.5 mm²	MTBF		MIL-HDBK-217F at 25°C ambient full load	> 500 000 h
Enlosion Enloso Enloso	DC Bus / Ground Isolation			0.75 kVDC
EMC Standards Immunity	Safety Standards		· · · · · · · · · · · · · · · · · · ·	
Vibration Sinusoidal IEC 60068-2-6 5-17.8 Hz: ±1.6 mm; 17.8-500 Hz: 2 g 2Hours / axis (X,Y,Z) Shock IEC 60068-2-27 30 g 6 ms, 20 g 11 ms; 3 bumps / direction, 18 bumps total Weight 750 g Dimensions 80 x 120 x 110 mm Connection Terminals Screw type pluggable (24 - 12 AWG) 2.5 mm²	EMC Standards		EN55011 (CISPR22) EN61000-4-2 EN61000-4-3 EN61000-4-4	Class B Level 3 Level 3 Level 3
Vibration Sinusoidal 2 g 2Hours / axis (X,Y,Z) Shock IEC 60068-2-27 30 g 6 ms, 20 g 11 ms; 3 bumps / direction, 18 bumps total Weight 750 g Dimensions 80 x 120 x 110 mm Connection Terminals Screw type pluggable (24 - 12 AWG) 2.5 mm²	Protection Degree		EN60529	IP20
Weight 750 g Dimensions 80 x 120 x 110 mm Connection Terminals Screw type pluggable (24 - 12 AWG) 2.5 mm ²	Vibration Sinusoidal		IEC 60068-2-6	
Dimensions 80 x 120 x 110 mm Connection Terminals Screw type pluggable (24 - 12 AWG) 2.5 mm ²	Shock		IEC 60068-2-27	
Connection Terminals Screw type pluggable (24 - 12 AWG) 2.5 mm ²	Weight			750 g
, , , , , , , , , , , , , , , , , , ,	Dimensions			80 x 120 x 110 mm
Case Material Aluminum	Connection Terminals		Screw type pluggable (24 - 12 AWG)	2.5 mm ²
	Case Material		Aluminum	

NOTE:

Technical parameters are typical, measured in laboratory environment at 25°C and 16 VDC.



LDX-SC12

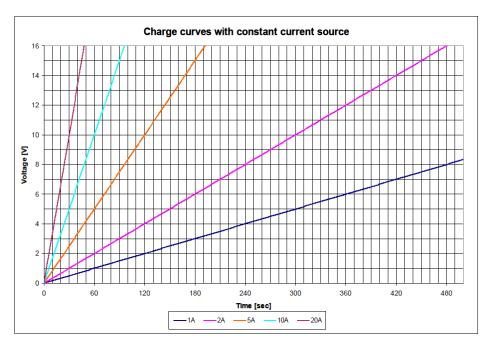


Figure 1.

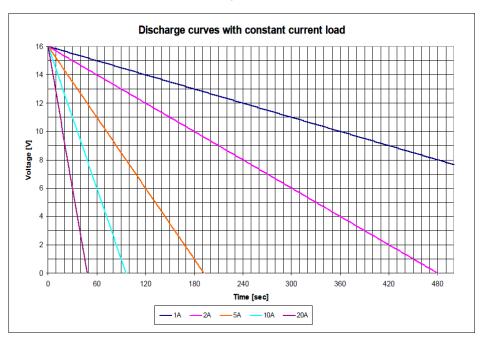


Figure 2.



LDX-SC12

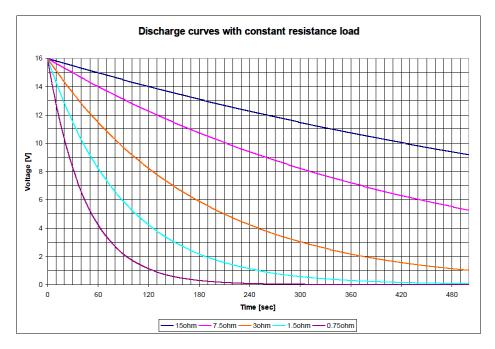


Figure 3.

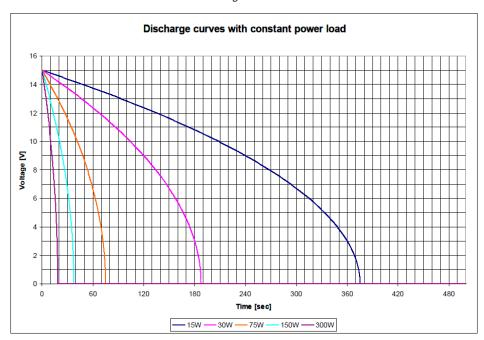


Figure 4.



LDX-SC12

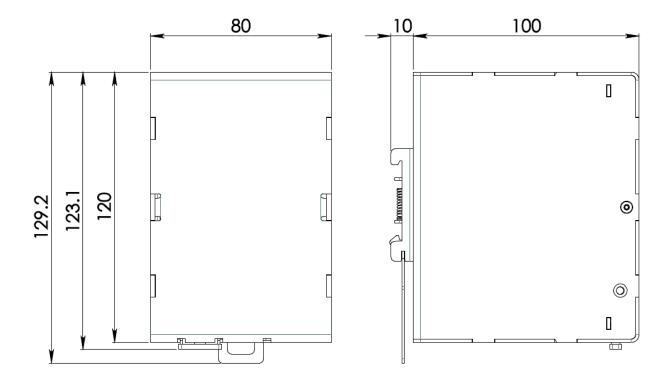
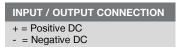


Figure 5. Mechanical Drawing

2. PIN LAYOUT & DESCRIPTION





For more information on these products consult: tech.support@psbel.com

NUCLEAR AND MEDICAL APPLICATIONS - Products are not designed or intended for use as critical components in life support systems, equipment used in hazardous environments, or nuclear control systems.

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