

LDX-C120 Series

Battery Charger / DC UPS Module

LDX-C120 Series is an integrated DIN Rail Battery Charger / DC UPS Module, suitable for wide variety of industrial applications.

In case of mains or unit failure the DC UPS function enables the power supply to feed the load from the battery without any interruption, until the mains is recovered or the battery reaches the “Deep Discharge Voltage” threshold.

These units have received excellent market approval for their high efficiency, excellent reliability and compactness. Simple but elegant look and easy installation make them market leaders for various industrial applications.

LDX-C120 Series are isolation devices suitable for SELV and PELV circuitry and are designed to be mounted on DIN rail and installed inside a protective enclosure.



Key Features & Benefits

- DC-UPS with charging function of a 12 or 24 VDC battery
- Suitable for power supplies with adjustable output
- Allows to feed the load and to charge the battery simultaneously
- Built-in battery overcurrent protection fuse
- Battery deep discharge protection
- To be used with lead acid and lithium batteries (compatible with lead acid batteries)
- Instantaneous LOAD switch to BACKUP mode



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1. MODEL SELECTION

MODEL	INPUT VOLTAGE RANGE FROM POWER SUPPLY	OUTPUT VOLTAGE	CHARGING CURRENT LIMIT (SETTABLE)	MAX LOAD CURRENT
LDX-C120-12	13 – 14.5 VDC	12 VDC	2 A or 4 A	10 A
LDX-C120-24	26 – 28.5 VDC	24 VDC	2 A or 4 A	10 A

2. INPUT SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Voltage Range from Power Supply	LDX-C120-12	13 – 14.5 VDC (UL Certified)
	LDX-C120-24	26 – 28.5 VDC (UL Certified)
Input DC Current	Rated	3 – 10 A

3. OUTPUT SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Load Nominal Voltage	LDX-C120-12	12 VDC
	LDX-C120-24	24 VDC
Charging Current Limit	Settable	2 A or 4 A
Maximum Load Current		10 A
Battery Fuse	Mini blade type, user replaceable	15 A / 32 V
Battery Float Voltage	LDX-C120-12	$V_{in} - 0.4 V$ 11 VDC min.
	LDX-C120-24	$V_{in} - 0.4 V$ 26 VDC min.
Deep Discharge Cut-Off Voltage	LDX-C120-12	9.2 VDC \pm 0.5 V
	LDX-C120-24	18 VDC \pm 0.5 V
Chargeable Capacity of the Battery vs Power Supply Voltage	LDX-C120-12	75% @ 13 VDC
		85% @ 13.5 VDC
	LDX-C120-24	100% @ 14 VDC
		75% @ 26 VDC
Battery OK Green LED	LDX-C120-12	ON for U Batt. > 11.6 VDC \pm 0.2 VDC
	LDX-C120-24	ON for U Batt. > 23.5 VDC \pm 0.2 VDC
Battery LOW Red LED	LDX-C120-12	ON for U Batt. < 11.6 VDC \pm 0.2 VDC
	LDX-C120-24	ON for U Batt. < 23.5 VDC \pm 0.2 VDC
Protections	Battery reverse connection Battery short-circuit / overload Battery deep discharge	
Status Signals	PS OK - green LED LOAD OK - amber LED BATT. OK - green LED BATT. LOW - red LED REVERSE POLARITY - red LED Dry contact (SPDT, 24 VDC / 1 A)	

4. GENERAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION	
Operating Temperature	(Start-up type tested: - 40°C ¹)	- 40 to + 70°C (UL certified up to 60°C)	
Storage Temperature		- 40 to + 80°C	
Derating		- 0.25 A/°C over 60°C	
Humidity	Non-condensing	5 - 95% RH	
Life Time Expectancy	At 25°C ambient full load	64000 h (7.3 years)	
Overvoltage Category	EN50178	1	
Pollution Degree	IEC60664-1	2	
Isolation against Closure		0.75 kVDC	
Safety Standards & Approvals	UL508 (certified) EN60950 (reference) EN50178 (reference)		
EMC Standards	Emission	EN55011 (CISPR11)	Class A
		EN55022 (CISPR22)	Class A
		EN61000-4-2	Level 3
	Immunity	EN61000-4-3	Level 3
		EN61000-4-4	Level 3
		EN61000-4-5	Level 1
	EN61000-4-11	Level 2	
Protection Degree	EN60529	IP20	
Vibration Sinusoidal	IEC 60068-2-6	5-17.8 Hz: ±1.6 mm; 17.8-500 Hz: 2g 2Hours / axis (X,Y,Z)	
Shock	IEC 60068-2-27	30 g 6 ms, 20 g 11 ms; 3 bumps / direction, 18 bumps total	

¹ Possible at nominal voltage with load derating

NOTES:

- For more details, performance and description regarding all parameters not indicated in the above table, refer to user manual.
- Technical parameters are typical, measured in laboratory environment at 25°C at nominal values, after minimum 5 minutes of operation.
- Power rating, losses, efficiency, ripple, thermal behaviour and start-up may change outside of the nominal rated input range. Contact factory for details.
- Data may change without prior notice in order to improve the product.

5. MECHANICAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Weight		300 g
Dimensions		55 x 110 x 113 mm
Mounting Rail		IEC 60715/H15/TH35-7.5(-15)
Connection Terminals	Screw type pluggable (24 - 12 AWG)	2.5 mm ²
Case Material	Aluminum	

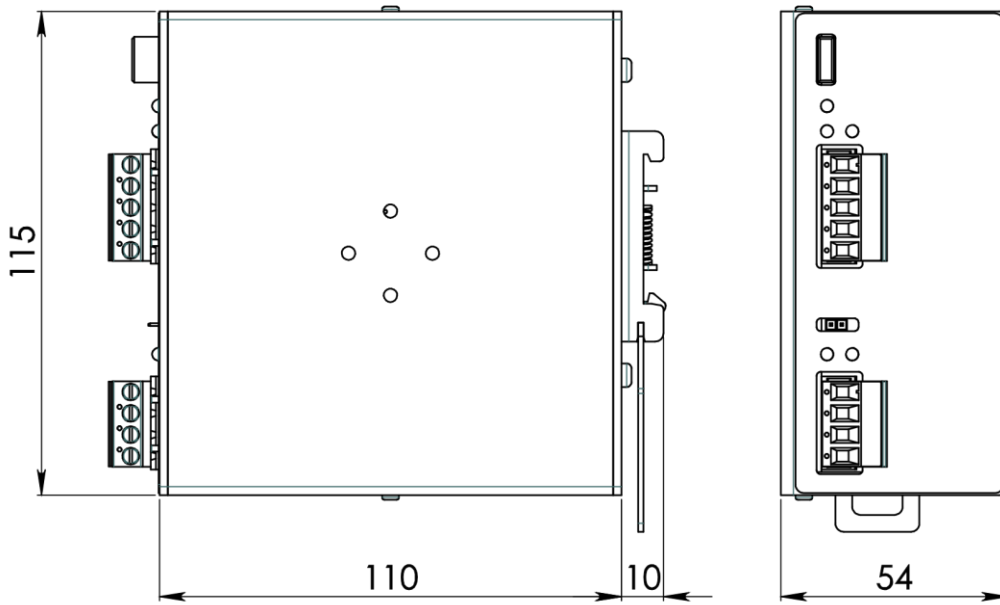


Figure 1. Mechanical Drawing

6. PIN LAYOUT & DESCRIPTION



INPUT / OUTPUT CONNECTION	
•	IN + = Positive DC (Power Supply)
•	IN - = Negative DC (Power Supply)
•	LOAD + = Positive DC
•	LOAD - = Negative DC
•	BATT.+ = Positive DC (Battery)
•	BATT.- = Negative DC (Battery)
Signaling: dry contact (SPDT)	
•	NO
•	NC
•	COM

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.

TECHNICAL REVISIONS - The appearance of products, including safety agency certifications pictured on labels, may change depending on the date manufactured. Specifications are subject to change without notice.