LDX-C120 Series

Basic Battery Charger & DC-UPS Module

LDX-C120 Series is an integrated DIN Rail Battery Charger and 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 designed to be mounted on DIN rail and installed inside a protective enclosure.

FEATURES

- Output voltages 12 V, 24 V (adjustable)
- Operating ambient temperature range -40°C to +70°C
- 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-it 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
- Compact size in aluminum enclosure
- Dimensions: 54 x 115 x 110 mm

1. MODEL SELECTION

MODEL	INPUT VOLTAGE RANGE FROM POWER SUPPLY	INPUT CURRENT	OUTPUT VOLTAGE	MAX LOAD CURRENT	CHARGING CURRENT LIMIT (SETTABLE)
LDX-C120-12	13 - 14.5 VDC	3 - 10 A	12 V	10 A	2 A or 4 A
LDX-C120-24	26 - 28.5 VDC	3 - 10 A	24 V	10 A	2 A or 4 A

2. INPUT SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITIONS	SPECIFICATION
DC Input Voltage form Power Supply	LDX-C120-12 (UL Certified) LDX-C120-24 (UL Certified)	13 - 14.5 VDC 26 - 28.5 VDC
DC Input Voltage		3 - 10 A

3. OUTPUT SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITIONS		SPECIFICATION
Output Voltage (Adjustable)	LDX-C120-12 LDX-C120-24		12 VDC 24 VDC
Max. Load Current			10 A
Charging Current Limit	Settable		2 A 4 A
Battery Fuse	Mini blade type, user replaceable		15 A / 32 V
Battery Float Voltage	LDX-C120-12 [Vin - 0.4 V] LDX-C120-24 [Vin - 0.4 V]		11 VDC min. 26 VDC min.
Deep Discharge Cut-Off Voltage	LDX-C120-12 LDX-C120-24		9.2 VDC ± 0.5 V 18 VDC ± 0.5 V
Chargeable Capacity of the battery vs power supply voltage	LDX-C120-12		75 % @ 13 VDC 85 % @ 13.5 VDC 100 % @ 14 VDC
	LDX-C120-24		75 % @ 26 VDC 85 % @ 27 VDC 100 % @ 28 VDC
Status Signals	PS OK - green LED		
	LOAD OK - amber LED		
	BATT. OK - green LED	LDX-C120-12 ON for U Batt. LDX-C120-24 ON for U Batt.	> 11.6 VDC ± 0.2 V > 23.5 VDC ± 0.2 V
	BATT. LOW - red LED	LDX-C120-12 ON for U Batt. LDX-C120-24 ON for U Batt.	< 11.6 VDC ± 0.2 V < 23.5 VDC ± 0.2 V
	REVERSE POLARITY - red LED		
	Dry contact (SPDT, 24 VDC / 1 A)		

4. PROTECTIONS

PARAMETER	DESCRIPTION / CONDITIONS	SPECIFICATION
Battery Reverse Connection		
Battery Short-Circuit / Overload		
Battery Deep Discharge		

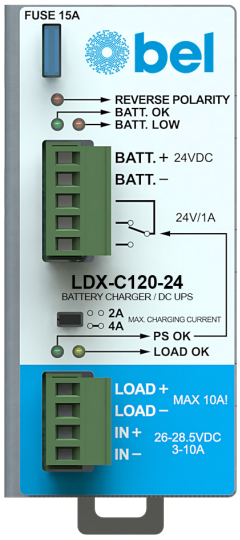
5. ENVIRONMENTAL, EMC & SAFETY SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITIONS	SPECIFICATION
Operating Temperature	UL certified up to 60°C Start-up type tested: - 40°C, possible at Vnom with load deration.	-40 to +70 °C
Storage Temperature		-40 to +80 °C
Derating	Over 60°C	- 0.25 W/°C
Humidity	Non-condescending	5 - 95 % RH
Life Time Expectancy	Ta = 25°C, full load	64 000 (7.3) hrs (years)
MTBF	MIL-HDBK-217F at Ta = 25°C, full load	> 500 000 hrs
Overvoltage Category	EN 50178	I
Pollution Degree	IEC 60664-1	2
Isolation against Enclosure		0.75 kVDC
Safety Standards & Approvals	UL 508 (certified) IEC/EN 61010-1 IEC/EN 61010-2-201 IEC/EN 60950	
EMC Emissions	EN 55011 / CISPR 11 EN 55022 / CISPR 22	Class A Class A
EMC Immunity	EN 61000-4-2 EN 61000-4-3 EN 61000-4-4 EN 61000-4-5 EN 61000-4-11	Level 3 Level 3 Level 3 Level 1 Level 2
Protection Degree	EN 60529	IP20
Vibration Sinusoidal	IEC 60068-2-6	5-17.8 Hz: ±1.6 mm; 17.8-500 Hz: 2 g 2 Hours / axis (X,Y,Z)
Shock	IEC 60068-2-27	30 g 6 ms, 20 g 11 ms; 3 bumps / direction, 18 bumps total

6. MECHANICAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITIONS	SPECIFICATION
Dimensions		54 x 115 x 110 mm 2.12 x 4.53 x 4.33 in
Weight		300 g
Mounting Rail	IEC 60715/H15/TH35-7.5(-15)	
Connection Terminals	Screw type pluggable (24 - 12 AWG)	2.5 mm²
Case Material	Aluminum	

7. 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)
SIGNALLING	SPDT dry contact • NO • NC • COM

8. MECHANICAL DRAWING

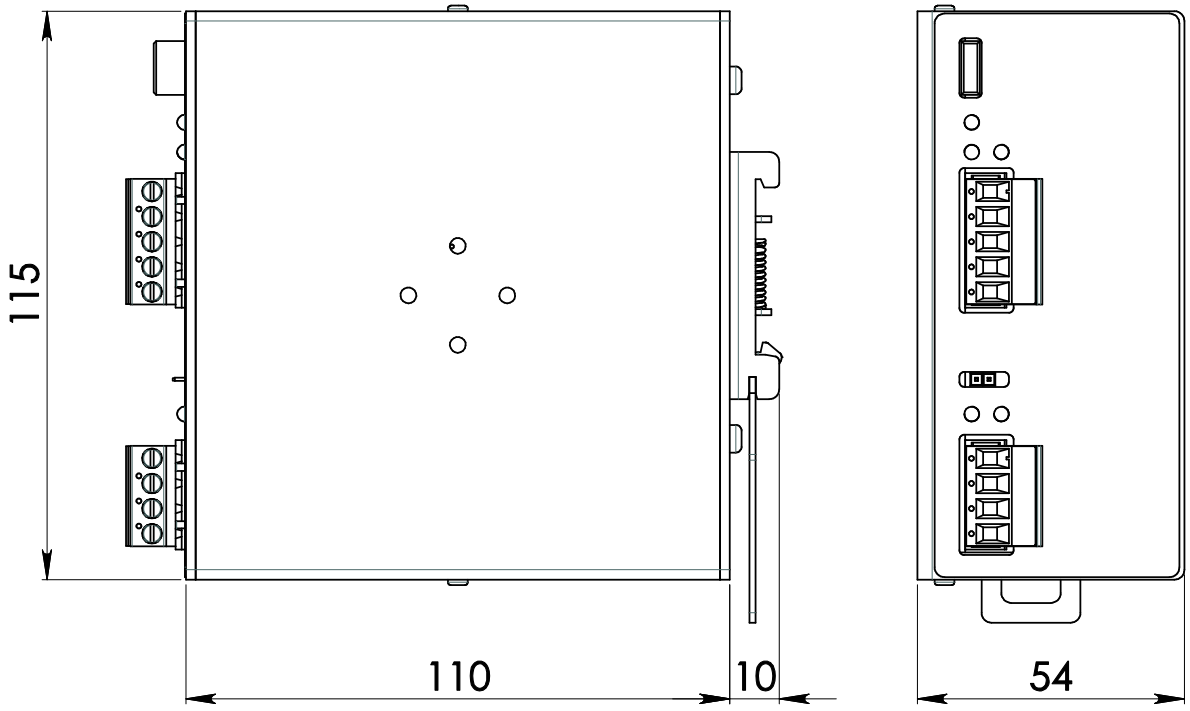


Figure 1. Mechanical Drawing

Notes:

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.