

LDX-B20

150J Buffer Module

The LDX-B20 is a microprocessor controlled buffer unit rated 20 A usable in 12 V, 24 V, 48 V and 72 V systems.

The LDX-B20 monitors the voltage coming from a DC power supply and in case of failure a capacitor bank is used to keep the output regulated for at least 300 ms at full load.



Key Features & Benefits

- Wide voltage range 12 - 85 VDC
- Compact size
- DC BUS voltage self-tracking
- Boost Max peak power of DC supply
- Multiple protections
- Digital regulation
- Reliable topology, based on standard electrolytic capacitors
- > 150 Joules energy storage
- Integrates low power step-up (boost) converter to charge the capacitor bank
- Integrates 20 A step-down (buck) converter to discharge the capacitor bank at an adjustable output voltage in case of mains failure
- Relays dry contact and an opto-isolated input for inhibit
- Integrated safety circuit that disconnects the capacitor bank in case of internal failure
- Parallelable for power and backup time increase

1. MODEL SELECTION

MODEL	INPUT VOLTAGE	INPUT CURRENT	OUTPUT VOLTAGE	OUTPUT CURRENT
LDX-B20	12 / 24 / 48 / 72 VDC (12 - 85 VDC)	Max. 2 A	V _{in} - 1 V (12 / 24 / 48 / 72 VDC - 1 V)	20 A @ < 48 VDC 16 A @ > 48 VDC

2. INPUT SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Input Voltage (Range)	Auto detection	12 / 24 / 48 / 72 VDC (12 - 85 VDC)
Input Current	For capacitor charging, voltage dependent	Max. 2 A
Charging Time	Voltage dependent	< 40 s

3. OUTPUT SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Output Voltage		U _{in} - 1 V (12 / 24 / 48 / 72 VDC - 1 V)
Output Current	Continuous	20 A @ < 48 VDC 16 A @ > 48 VDC
Max. Duration of the Output Voltage	12 VDC @ 20 A 24 VDC @ 20 A 48 VDC @ 20 A 72 VDC @ 16 A	600 ms 300 ms 130 ms 140 ms
Ripple & Noise @ I Max		< 250 mVpp / 24 VDC
Status Signals	Voltage level by Bi-color LED Charging / Ready by LED Backup dry contact (1 A / 30 V) Ready dry contact (1 A / 30 V)	
Overload / Short Circuit Protection	Active - One Shot	
Overvoltage Protection	Active	

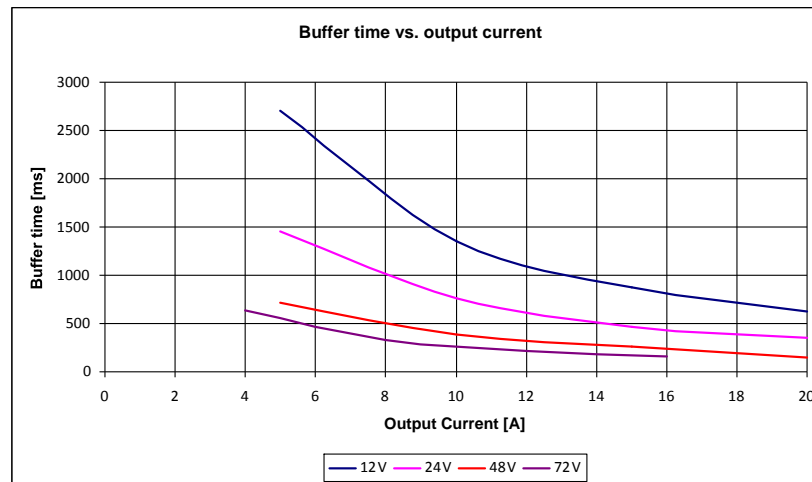
4. GENERAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION	
Operating Modes	AUTO: Senses the input voltage and supplies the load when the voltage drops MANUAL: Fixed output voltage (12 / 24 / 48 / 72 VDC), user settable by front button		
Control		CPU	
Operating Temperature		-40°C to +70°C	
Storage Temperature		-20°C to +80°C	
Humidity	Non-condensing	5 - 95% r.H.	
Isolation	DC bus / ground isolation	0.75 kVDC	
Cooling Method	Natural convection cooling		
Safety Standards & Approvals	UL508 (reference) EN60950 (reference)		
EMC Standards	Emission	EN55022: 2010 (CISPR22)	Class A
		EN55011: 2009 /A1:2010	Class A
	Immunity	EN61000-4-2:2008	Level 3
		EN61000-4-3:2006 /A2:2010	Level 3
		EN61000-4-4:2012	Level 3
		EN61000-4-5:2014	Level 1
		EN61000-4-11:2004 /A1:2010	Level 2

Protection Degree	EN60529:1989 / A:2013	IP20
Vibration Sinusoidal	IEC 60068-2-6:2007	5-17.8 Hz: ± 1.6 mm; 17.8-500 Hz: 2g 2Hours / axis (X, Y, Z)
Shock	IEC 60068-2-27:2008	30 g 6 ms, 20 g 11 ms; 3 bumps / direction, 18 bumps total

NOTES:

- Technical parameters are typical, measured in laboratory environment at 25°C.
- For more details, performance and description regarding all parameters not indicated in the above table, refer to user manual.
- Data may change without prior notice in order to improve the product
-



5. MECHANICAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Weight		900 g
Dimensions		63 x 140 x 117 mm
Case Material		Aluminum
Mounting Rail		IEC 60715/H15/TH35-7.5(-15)

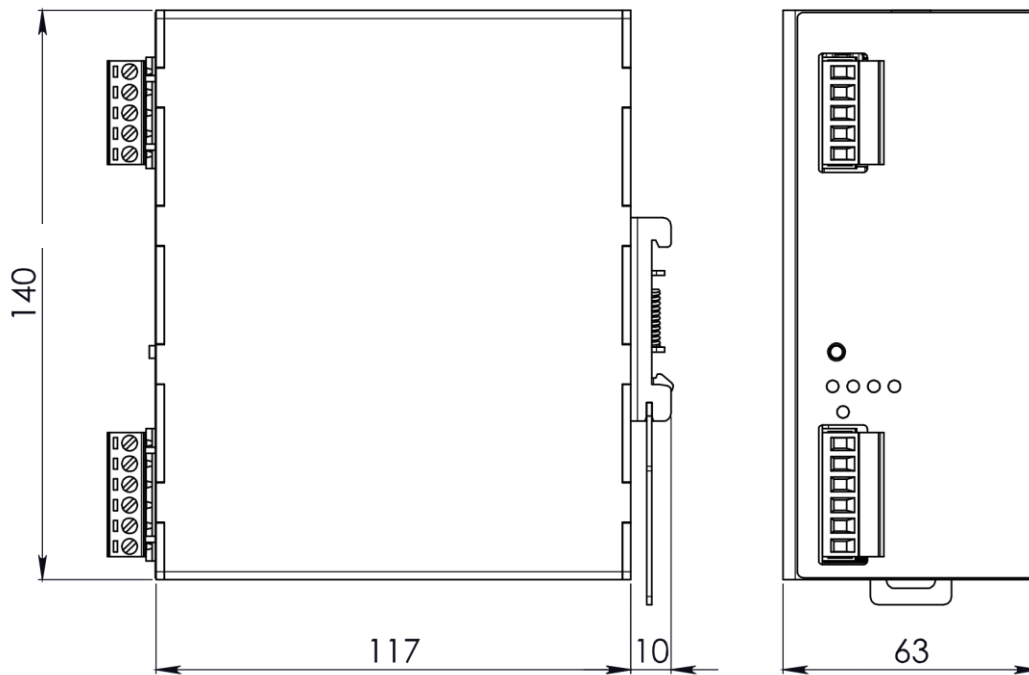


Figure 1. Mechanical Drawing

6. PIN DESCRIPTION / CONNECTIONS



INPUT / OUTPUT CONNECTION:

- DC BUS + = wired in parallel with + DC
- DC BUS - = wired in parallel with - DC
- I = earth ground
- INHIBIT = used to disable the buffering function
- Backup = dry contact closed while LDX-B20 is delivering power
- Ready = dry contact closed when the internal capacitors are charged at least at 1/2 of their maximal energy and the inhibit input is inactive.

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.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Bel Power Solutions:](#)

[LDX-B20](#)