

# 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 <sub>in</sub> - 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		V <sub>in</sub> - 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	

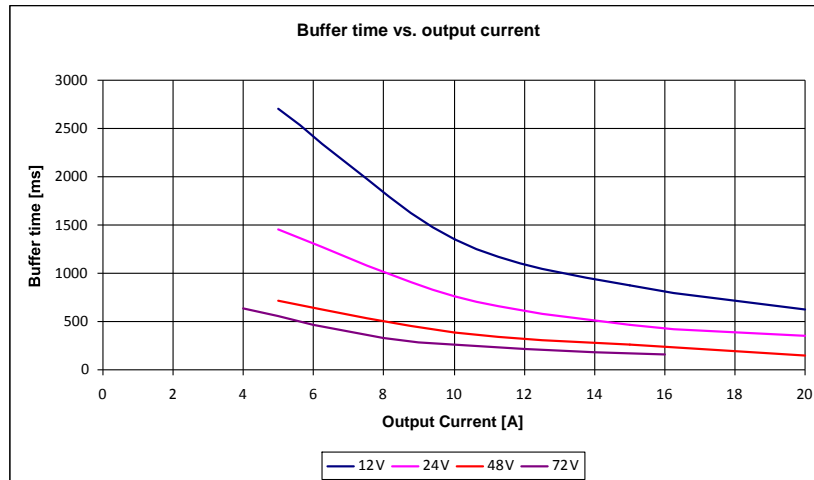
## 4. GENERAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION	
Operating Modes	<b>AUTO:</b> Senses the input voltage and supplies the load when the voltage drops <b>MANUAL:</b> 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)



Asia-Pacific  
+86 755 298 85888

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+1 408 785 5200

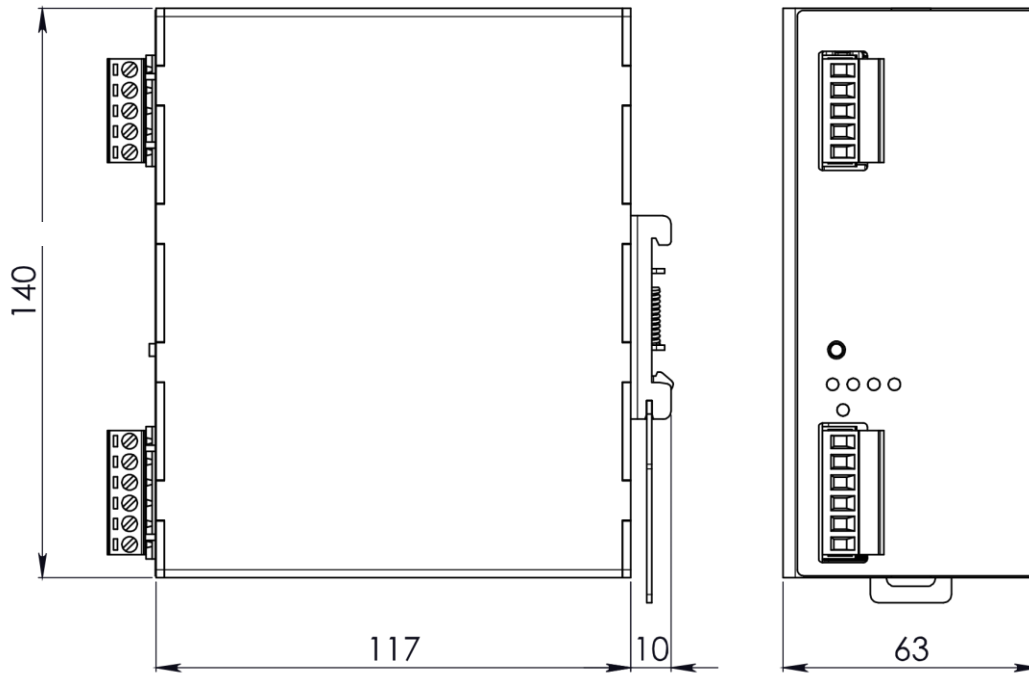


Figure 1. Mechanical Drawing

## 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](mailto:tech.support@psbel.com)

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