

LDX-D50

Active ORing Controller

LDX-D50 is a modern, CPU controlled device and responds to a wide range of applications where strong redundancy of DC power supplies is needed. By keeping the 2 power supplies (PS) “hot” (each operating at half of the load need) the system reaches higher MTBF than by using one PS “hot” and the other “cold” (as per standard ORing devices). It allows same life expectancy for the electrolytic capacitors and other sensitive parts of both PS and it prevents an excessive ageing of the unit that should be kept “hot”.

LDX-D50 allows the paralleling of the output of any two identical PS with any current up to 50 A and voltages from 12 V to 85 V. The isolation between the units is achieved through power MOSFETs with advanced control circuitry.

Several LDX-D50 can be interconnected in order to achieve redundancy for > 2 PS systems.

LDX-D50 allows perfect current distribution between 2 PS, in case of their use for shared power.

LDX-D50 provides perfect isolation between 2 PS in case of one unit failure and also the continuous delivery of energy towards a critical load. It is specially designed for high MTBF and compliance to a wide choice of PS and loads.



Key Features & Benefits

- Ultra Compact Redundancy Module
- CPU controlled
- Wide input voltage range: 12 – 85 VDC (on a single model)
- Out: 50 A Max
- Extremely low loss up to 99% efficiency
- Pluggable connectors
- Hot pluggable
- EASY acknowledgment of the power supplies availability status
- EASY correct current share status
- Up to 75°C operating temperature with no derating

1. TECHNICAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION	
Input DC Voltage Range	UL certified	12 - 85 VDC	
Maximum Input Current	UL certified	50 A	
Output DC Voltage Range	UL certified	12 - 85 VDC	
Maximum Continuous Output Current	UL certified	50 A	
Peak Output Current		> 300 A	
Conduction Resistance		< 4 mΩ	
Maximum Dissipated Power		< 10 W	
No Load Input Power		< 1.5 W	
Status Signals	IN1 OK green LED IN2 OK green LED Fail red LED redundancy fault SHARE current bargraph Redundancy OK dry contact (1 A / 30 V) Current share dry contact (1 A / 30 V)		
Input Protection	Overvoltage Reverse polarity connection	≥ 100 V	
Operating Temperature	UL certified up to 75°C, No derating	- 40°C to 75°C	
Storage Temperature		- 40°C to +80°C	
Humidity	Non-condensing	5 - 95% r.H.	
Overvoltage Category Pollution Degree		III 2 (IEC664-1)	
Insulation Enclosure To Live Parts		0.75 kVDC	
Safety Standards	UL508 (certified) EN60950 (reference)		
EMC	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 2 Hours / axis (X,Y,Z)	
Shock	IEC 60068-2-27:2008	30 g 6 ms, 20g 11ms; 3 bumps / direction, 18 bumps total	

NOTES:

- Technical parameters are typical, measured in laboratory environment at 25°C and 24 VDC.
- Power rating, losses, efficiency, thermal behavior and start-up may change outside of the nominal rated input. Contact factory for details.
- Data may change without prior notice in order to improve the product.

2. MECHANICAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Weight		350 g
Dimensions		40 x 115 x 110 mm
Mounting Rail		IEC 60715/H15/TH35-7.5(-15)
IN / OUT Connectors	Pluggable screw type (6 – 20 AWG), 6 poles	16 mm ²
Dry Contact Connector	Pluggable screw type (24 – 16 AWG), 2 poles	1.5 mm ²
Case Material	Aluminum	

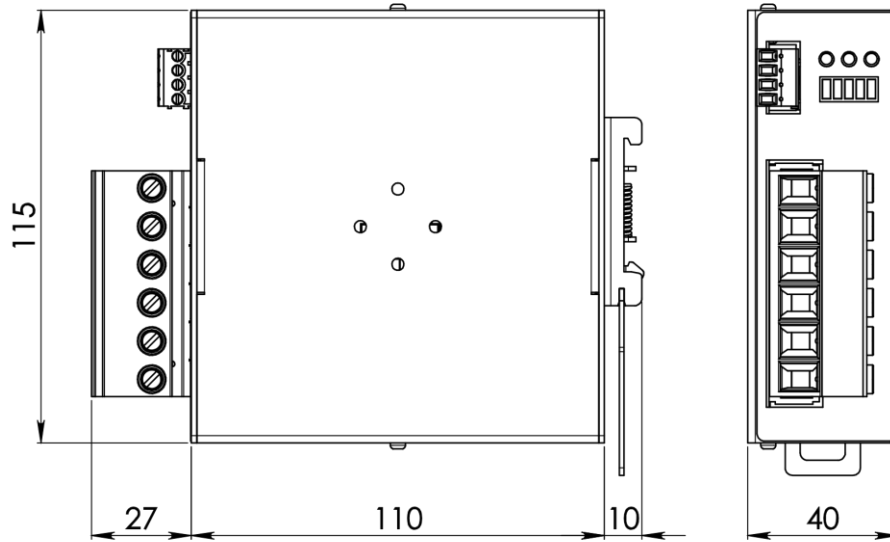
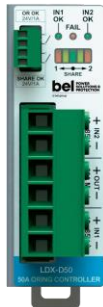


Figure 1. Mechanical Drawing

3. PIN LAYOUT & DESCRIPTION



INPUT CONNECTION
<ul style="list-style-type: none"> IN1 (+/-) = connect DC (+/-) power supply IN2 (+/-) = connect DC (+/-) power supply
OUTPUT CONNECTION
<ul style="list-style-type: none"> OUT (+/-) = connect DC (+/-) Load OR OK Dry contact = NC SHARE OK Dry contact = NC

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.



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