

LOXONE

240W DIN Rail Mount Single Phase Power Supply

<https://product.tdk.com/en/power/drb>
www.emea.lambda.tdk.com/drb



Industrial



Test



Semi-Fab



The DRB series supports the growing trend for simple and economically priced DIN power supplies for industrial and process control applications. The series combines low cost, reliability and compact dimensions with energy saving efficiencies of up to 93%. Conservatively rated electrolytic capacitor temperatures offer improved field life-times of up to 10 years. An opto-isolated DC OK signal is fitted for remote monitoring.

Features	Benefits
• High Efficiency, up to 93%	• Lowers Operating Costs and Improves Thermal Performance
• Narrow Case Widths	• Increases Available Space on the DIN Rail
• Curve B Radiated and Conducted EMI	• Reduced Electrical Noise in the System
• Long E-Capacitor Life (Up to 10 Years)	• Improved Field Life
• Low Off-Load Power Consumption	• Saves Energy

Model Selector								
Model	Output Voltage (V)	Adjustment Range (V)	Maximum Current (A)	Peak Current (A) 10s maximum, <35% duty cycle	Maximum Power (W)	Maximum Peak Power (W)	Overvoltage Protection (V)	Efficiency (%) (120/230Vac) ⁽¹⁾
LOX-240-24-1	24	24 - 28	10	12	240	288	30 - 35	91 / 93 (Typ)

Related Products		
Type	Part Number(s)	Description
Redundancy module	DRM40	20 to 40A DIN Rail Redundancy Module
Low power DIN rail power supplies	DRB15, 30, 50, 100	15 to 100W AC-DC DIN rail power supplies
Mid to high power premium DIN rail power supplies	DRF120, 240, 480, 960	120 to 960W AC-DC DIN rail power supplies
DIN rail mount filters	RSMN	3A to 30A 250Vac 2 stage filters with pulse attenuation
DIN rail mount filters	RSEV	6A to 30A 250Vac 2 stage filters
RSEV DIN rail mounting kit	DIN-RSEV	RSEV DIN rail mounting kit

Specifications

Model		LOX-240-24-1
Input		
Input Voltage range	Vac	85 - 264
Input Surge Voltage	-	Withstands 300Vac for 5 seconds
Input Frequency	Hz	47 - 63
Input Current (115/230Vac)	A	2.4 / 1.4
Inrush Current (Cold Start)	A	<64 (at 230Vac)
Leakage Current (264Vac 63Hz)	mA	<1
Power Factor (115/230Vac)	-	0.98 / 0.9
Harmonic Compliance	-	Meets EN61000-3-2 Class A
No Load Power Consumption	W	<5
Hold Up Time at 100Vac Input (3)	ms	>20
Efficiency	-	See model selector table
Average Efficiency (230Vac) (2)	%	>87
Conducted & Radiated EMI	-	EN55011-B, EN55032-B, CISPR11-B, CISPR22-B, EN61204-3 Class A
Immunity	-	See immunity table
Safety Agency Certifications and Markings	-	IEC/EN/CSA/UL62368-1, 60950-1, UL508, CE Mark and UKCA Mark (240W: Built to meet IEC/EN62477-1 OVC III)

Immunity

Test	Standard	Test Level	Criteria	
ESD	EN61000-4-2	3	A	-
Radiated Susceptibility	EN61000-4-3	3	A	-
Electrical Fast Transient Burst	EN61000-4-4	4	A	-
Surge	EN61000-4-5	3	A	-
Conducted Susceptibility	EN61000-4-6	3	A	-
Magnetic fields	EN61000-4-8	4	A	-
Voltage Dips and Input Interruptions	EN61000-4-11 Class 3 Industrial	0% for 1/2 cycle	A	-
		0% for 1 cycle	B	-
		40% for 10/12 cycles	B	-
		70% for 25/30 cycles	B	-
Voltage Fluctuations	EN61000-4-14	80% for 250/300 cycles	B	-
		3	A	-
SEMI F47 Line Dip	SEMI F47	-	-	> 200Vac input (<70% load DRB120)

Specifications		
Model	LOX-240-24-1	
Output		
Output Voltage Tolerance (100% load)	%	±1
Switching Frequency (Output Converter)	kHz	76 - 142
Line Regulation	%	<0.1
Load Regulation	%	<1
Ripple & Noise	%	<1 at 25°C, <2.5 over full operating temperature range
Temperature Coefficient	%/°C	<±0.02
Minimum Load	-	No minimum load required
Overcurrent Protection (Hiccup Mode)	% / A	>1.01% of peak power rating
Overvoltage Protection	V	See model selector table
Overtemperature Protection		Yes. Latching, cycle input voltage to reset
Remote Sense	-	-
Remote On/Off	-	-
DC Good	-	Opto-isolated. On when Vout >80% of nominal output. 50V, 5mA maximum
Indicators	-	Green LED indicates DC is OK
Parallel Operation	-	Not possible
Series Operation	-	Please contact Technical Sales for guidance
Environmental		
Operating Temperature (-40°C start-up)	°C	-25 to +70 (Derate linearly to 50% load from 55 to 70).
Storage Temperature	°C	-40 to +85
Humidity (non condensing)	%RH	5 - 95 (Operating & Storage)
Cooling	-	Convection
Altitude	m	3,000
Withstand Voltage (For 1 minute)	Vac	Input to Output 3,000, Input to GND 1,500, Output to GND 500
Isolation Resistance	MΩ	>100 at 25°C, 70%RH & 500Vdc
Vibration (Non operating)	-	2G, 10 to 55Hz
Shock	-	20G, IEC 60068-2-27, half-sine, 22ms, 3 x each axis on DIN rail
Other		
Weight (Max)	g	750
Size (WxHxD)	mm	41 x 124 x 125
Size (WxHxD)	Inches	1.61 x 4.88 x 4.92
Case Material	-	Aluminum sides and back, steel wrap around cover
DIN Rail type (if applicable)	-	Suitable for mounting on TS-35/7.5 or TS35/15 DIN Rails
MTBF - Telcordia SR-332 issue 5*	Hours	443,841
Warranty	yrs	3

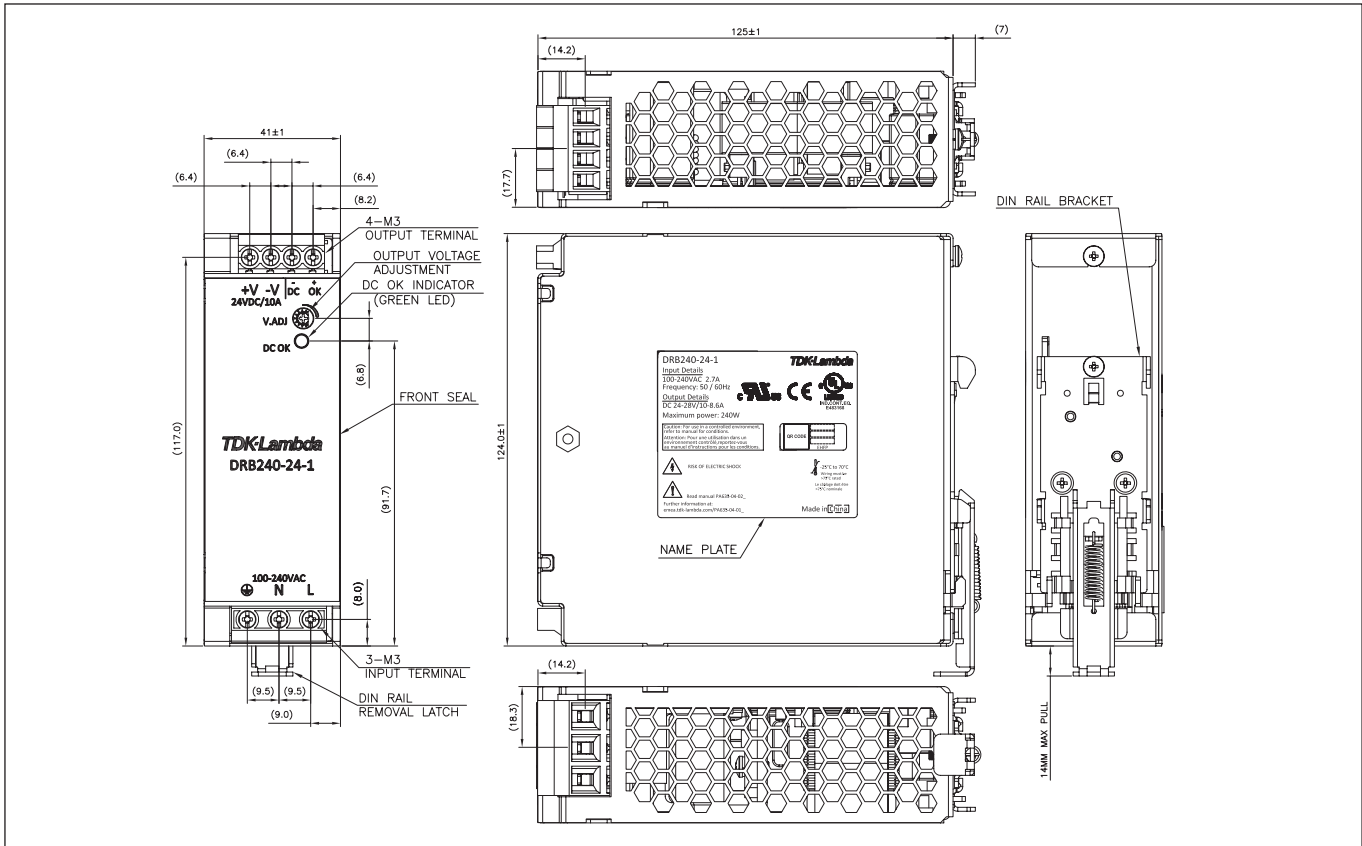
Notes

See website for detailed specifications, test methods and installation manual

- (1) 100% load
- (2) Measured at 25%, 50%, 75% and 100% load conditions
- (3) At beginning of life

*24V output model, 25°C ambient, full load, 230VAC input.

Outline LOX-240-24-1



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