

PSL Series



PSL Series

Product Description

Eaton's single-phase Low Profile DIN Rail Power Supply series offers double isolated input with no earth connection required, resulting in low leakage current and a longer lifespan. The PSL series provides a universal input voltage range of 90–264 Vac, and a wide temperature range of –25 °C to +71 °C with greater than 80% efficiency. The low-profile series is certified to safety standard according to IEC/EN/UL 60950-1 Information Technology Equipment (ITE) and UL 508 Industrial Control Equipment (ICE). The series is also fully compliant with RoHS Directive 2011/65/EU for environmental protection. NEC Class 2 and Limited Power Source (LPS) approvals are available for this product.

Application Description

The Low Profile is part of the PSL DIN Rail Power Supply series, which is designed for use in compact cabinets for home automations and the food and beverage industry. Applications include communication networks, sensors, PLCs and many other electrical systems.

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Features, Benefits and Functions

- Universal input voltage: 90–264 Vac or 125–375 Vdc
- Under 100 W power output at 24 Vdc
- Wide operating temperature range: –25 °C to +71 °C
- MTBF greater than 500,000 hours ensures uptime and reliability
- Protection from overvoltage, short circuit, overcurrent and over-temperature conditions
- Plastic housings provide the durability required to withstand harsh environments
- Finger-safe terminals
- LED indicating light for DC OK simplifies troubleshooting
- Redundancy modules keep loads up and running in the event of a device failure
- NEC Class 2 rated model
- 150% power surge output
- IP20 protection degree
- Protection Class 2, double isolation
- No earth connection required

Standards and Certifications

- UL/cUL Listed 60950
- UL 60950-1
- IEC
- NEC Class 2
- CE marked



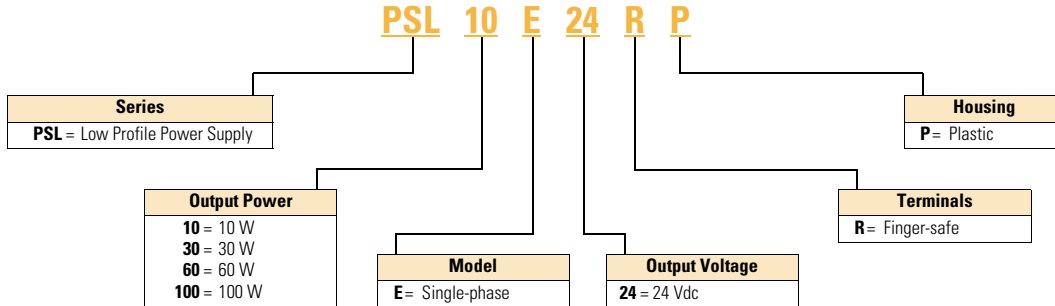
Note: The NEC Class 2 model is certified as an NEC Class 2 power source. This means that after a small startup window, the power supply cannot exceed a maximum of 100 W under any circumstances, including overload, short-circuit or internal failure.

It also reduces wiring, labor and additional system components acting as a short-circuit current limiter. The redundancy modules allow for two or more power supplies to be connected together to perform parallel or redundancy operation. Parallel operation or load sharing is when the load is split evenly between two or more power supplies. Redundancy operation is where *N* (number of power supplies) is required for the load and one additional power supply is connected in the event that one should fail.

Catalog Number Selection

Note: Catalog number selection breakdown shown below is for illustrative purposes only and not to be used to create new catalog number configurations.

PSL Series



Product Selection

PSL10E24RP

PSL Series



Power	Description	Catalog Number
24 Vdc output, single-phase power supplies (100–240 Vac nominal input)	10 W, 0.42 A output, plastic housing	PSL10E24RP
	30 W, 1.25 A output, plastic housing	PSL30E24RP
	60 W, 2.5 A output, plastic housing	PSL60E24RP
	100 W, 3.8 A output, plastic housing	PSL100E24RP

Technical Data and Specifications

PSL Series

	PSL10E24RP	PSL30E24RP	PSL60E24RP	PSL100E24RP
Input				
Nominal voltage	100–240 Vac	100–240 Vac	100–240 Vac	100–240 Vac / 125–250 Vdc
AC input range	90–264 Vac	90–264 Vac	90–264 Vac	90–264 Vac
DC input range	125–375 Vdc	125–375 Vdc	125–375 Vdc	125–375 Vdc
Input frequency range	47–63 Hz	47–63 Hz	47–63 Hz	47–63 Hz
Nominal current	<0.30 A at 115 Vac, <0.20 A at 230 Vac	<0.8 A at 115 Vac, <0.6 A at 230 Vac	<1.5 A at 115 Vac, <1.0 A at 230 Vac	<2.2 A at 115 Vac, <1.0 A at 230 Vac
Inrush current limitation	<15 A at 115 Vac, <30 A at 230 Vac	<25 A at 115 Vac, <50 A at 230 Vac	<30 A at 115 Vac, <60 A at 230 Vac	<30 A at 115 Vac, <60 A at 230 Vac
Mains buffering at nominal load	>10 ms at 115 Vac, >30 ms at 230 Vac	>25 ms at 115 Vac, >30 ms at 230 Vac	>16 ms at 115 Vac, >30 ms at 230 Vac	>10 ms at 115 Vac, >30 ms at 230 Vac
Turn-on time	<3 sec.	<3 sec.	<3 sec.	<1.5 sec. at 115 Vac, <1 sec. at 230 Vac
Internal fuse	T 1 A / 250 V	T 3.15 A / 250 V	T 3.15 A / 250 V	T 3.15 A / 250 V
Leakage current	<0.25 mA at 240 Vac	<0.25 mA at 240 Vac	<0.25 mA at 240 Vac	<0.25 mA at 240 Vac
Output				
Power	10 W	30 W	60 W	91.2W
Nominal output voltage	24 Vdc \pm 2%	24 Vdc \pm 2%	24 Vdc \pm 2%	24 Vdc \pm 2%
Adjustment range	24–28 Vdc	24–28 Vdc	24–28 Vdc	22–24 Vdc
Nominal current	0.42A	1.25 A	2.5 A	3.8 A
Derating	>55 °C (2.5% / °C) in vertical	>55 °C (2.5% / °C) in vertical	>55 °C (2.5% / °C) in vertical	>55 °C (2.5% / °C) in vertical
Power derating—horizontal mounting	N/A	N/A	N/A	N/A
Startup with capacitive loads	Max. 3,000 μ F	Max. 3,000 μ F	Max. 3,000 μ F	Max. 3,000 μ F
Max. power dissipation idling / nominal load approx.	2 W	3.8 W	8.5 W	12 W
Efficiency	>80.0% at 115 Vac and 230 Vac	>83.0% at 115 Vac and 230 Vac	>86.0% at 115 Vac and 230 Vac	>85.0% at 115 Vac, >87.0% at 230 Vac
Residual ripple / peak switching (20 M Hz)	<50mVpp / 150mVpp	<50 mVpp / <150 mVpp	<50 mVpp / <150 mVpp	<50 mVpp / <150 mVpp
Parallel operation	PSG480R24RM / PSG960R24RM / With o-ring diode	PSG480R24RM / PSG960R24RM / With o-ring diode	PSG480R24RM / PSG960R24RM / With o-ring diode	PSG480R24RM / PSG960R24RM / With o-ring diode
Galvanic isolation				
Input / output	3.0K Vac	3.0K Vac	3.0K Vac	3.0K Vac
Input / ground	N/A	N/A	N/A	N/A
Output / ground	N/A	N/A	N/A	N/A
General / physical data				
Housing material	Plastic (PC), enclosed	Plastic (PC), enclosed	Plastic (PC), enclosed	Plastic (PC), enclosed
Signals	Green LED DC OK	Green LED DC OK	Green LED DC OK	Green LED DC OK
MTBF	>500,000 hr	>500,000 hr	>500,000 hr	>500,000 hr
Dimensions (length)	91 mm	91 mm	91 mm	91 mm
Dimensions (width)	18 mm	53 mm	71 mm	89.9 mm
Dimensions (height)	55.6 mm	55.6 mm	55.6 mm	55.6 mm
Weight (kg)	0.065 kg	0.14 kg	0.24 kg	0.35 kg
Terminals	Finger-safe	Finger-safe	Finger-safe	Finger-safe
Wire size	AWG 26-12	AWG 24-12	AWG 22-12	AWG 22-12 (1 piece) AWG 24-12 (2 pieces)
Operating temperature	–25 °C to +71 °C	–25 °C to +71 °C	–25 °C to +71 °C	–25 °C to +71 °C
Storage temperature	–25 °C to +85 °C	–25 °C to +85 °C	–25 °C to +85 °C	–25 °C to +85 °C
Operating humidity	<95% RH	<95% RH	<95% RH	<95% RH