

Power supply unit, 1-phase, 100-240VAC/24VDC, 5A



**Part no.** PSG120E24RM  
**172892**  
**EL Number** 4560890  
**(Norway)**

General specifications	
Product name	Eaton PSG power supply unit
Part no.	PSG120E24RM
EAN	4015081694808
Product Length/Depth	123 millimetre
Product height	121 millimetre
Product width	50 millimetre
Product weight	0.72 kilogram
Certifications	ITE: EN 55022, EN 61000-3-2, EN 61000-3-3, EN 55024 RoHS SELV (EN 60950) 2014/30/EU Mains harmonics limitation: EN 601000-3-2 Protection against electric shock: DIN 57100-410 Class2: UL1310 and CSA-C22.2 No. 223 IEC/EN 61204-3 EN 50178/IEC 62103 EN 55011 Electrical equipment of machines: IEC60204-1 (Overvoltage category III) 2014/35/EU PELV (EN 60204) Electrical Safety (of IT equipment) : SIQ to EN60950-1, UL/c-UL recognized to UL 60950-1, CSA-C22.2 No. 60950-1, CB scheme to IEC 60950-1 CSA Std. C22.2 UL 508 EAC EN Listed IEC Rated
Product Tradename	PSG
Product Type	Power supply unit
Product Sub Type	None
Catalog Notes	PELV (EN 60204), SELV (EN 60950) Power Boost via 1.5-fold rated operational current for 5 s Temperature derating: > 50 °C (2.5% / °C), Derating from Tamb > +50 °C
Features & Functions	
Electric connection type	Screw connection
Enclosure material	Aluminum
Features	Output voltage stabilized Mains overvoltage protection (against internal overvoltage) Stabilized Short-circuit-proof Modular version
Fitted with:	Not accessible internal input fuse (T4 AH/250 V) for device protection
Functions	Transient overvoltage protection (varistor) Secondary voltage adjustable
Number of phases	1
General information	
Degree of Protection	NEMA 1 IP20
Environmental class	3K3 (Climatic class, according to EN 60721)
Mounting Method	Rail mounting possible
Pollution degree	2
Product category	Power supply
Voltage type	AC
Connection type	Screw terminal, pluggable
LED indicator	Status indication of "DC OK": Green LED
Power consumption	253 VA
Rated operational current (Ie)	Max. 2.2 A at 115 V AC Max. 1.1 A at 230 V AC

<b>Ambient conditions, mechanical</b>		
Shock resistance		30 g (300 m/s <sup>2</sup> ) in all directions, Mechanical, According to IEC/EN 60068-2-27
Vibration resistance		10 - 500 Hz at 30 m/s <sup>2</sup> (3 G max ) for 60 min. in X-axis, Y-axis, Z-axis directions, (IEC/EN 60068-2-6)
<b>Climatic environmental conditions</b>		
Ambient operating temperature - min		-20 °C
Ambient operating temperature - max		80 °C
Ambient storage temperature - min		-25 °C
Ambient storage temperature - max		85 °C
Climatic proofing		< 95 % relative humidity at +25 °C, no condensation
<b>Terminal capacities</b>		
Terminal capacity (flexible with ferrule)		0.52 - 3.3 mm <sup>2</sup>
Terminal capacity (flexible with ferrule AWG)		20 - 12
Stripping length (main cable)		7 mm
Tightening torque		0.5 Nm, Screw terminals
<b>Safety</b>		
Protection class		1 (with PE connection)
Current limitation		Overcurrent = 150 % of max. output power, at short-circuit, safety and safety features
Insulation resistance		4 kV AC (type test, input/output) 500 V AC (routine test, output) 3 kV AC (routine test, input/output) 1.5 kV AC (routine test, input) 1.5 kV AC (type test, input) 1.5 kV AC (type test, output)
Mean time between failures (MTBF)		> 800,000 h
<b>Input characteristics</b>		
Input voltage at AC 50 Hz - min		85 V
Input voltage at AC 50 Hz - max		264 V
Input voltage at DC - min		120 V
Input voltage at DC - max		375 V
Inrush current		< 35 A at 115 V AC (Inrush current limitation I <sup>2</sup> t (+25 °C)) < 35 A at 230 V AC (Inrush current limitation I <sup>2</sup> t (+25 °C))
Leakage current at ground IPE - max		< 1 mA (at 240 V AC)
Mains failure bridging		> 20 ms (at 115 V AC) > 125 ms (at 230 V AC)
Ramp/run-up time		< 1000 ms
Short-term interruption		100% voltage dip, 1 cycle (20 ms at 50 Hz), automatic start, Input characteristics
Supply frequency		50/60 Hz, Input, Rated value 47 Hz, Input, min. Range 63 Hz, Input, max. Range
Supply voltage at AC, 50 Hz - min		85 V AC
Supply voltage at AC, 50 Hz - max		264 V AC
Supply voltage at DC - min		0 V DC
Supply voltage at DC - max		0 V DC
Tripping characteristic		B
<b>Output characteristics</b>		
Residual ripple		< 50 mV / < 150 mV
Capacitive load		10000 µF max. Capacitive load starting, Output characteristics
Efficiency		> 89 % (115 V AC) > 90 % (230 V AC)
Output		Parallel switching for redundancy, with O ring diode (PSG480R24RM/PSG960R24RM)
Output current at AC, 50 Hz - max		5 A
Output voltage at DC - min		24 V
Output voltage at DC - max		28 V
Rated output power		120 W
Voltage tolerance		± 2 %, Rated output voltage
<b>Design verification</b>		

Equipment heat dissipation, current-dependent Pvid		0 W
Heat dissipation capacity Pdis		0 W
Heat dissipation per pole, current-dependent Pvid		0 W
Rated operational current for specified heat dissipation (In)		0 A
Static heat dissipation, non-current-dependent Pvs		14.8 W
10.2.2 Corrosion resistance		Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures		Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat		Meets the product standard's requirements.
10.2.3.3 Resist. of insul. mat. to abnormal heat/fire by internal elect. effects		Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation		Meets the product standard's requirements.
10.2.5 Lifting		Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact		Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions		Meets the product standard's requirements.
10.3 Degree of protection of assemblies		Meets the product standard's requirements.
10.4 Clearances and creepage distances		Meets the product standard's requirements.
10.5 Protection against electric shock		Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components		Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections		Is the panel builder's responsibility.
10.8 Connections for external conductors		Is the panel builder's responsibility.
10.9.2 Power-frequency electric strength		Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage		Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material		Is the panel builder's responsibility.
10.10 Temperature rise		The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 Short-circuit rating		Is the panel builder's responsibility.
10.12 Electromagnetic compatibility		Is the panel builder's responsibility.
10.13 Mechanical function		The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

## Technical data ETIM 9.0

Low-voltage industrial components (EG000017) / DC-power supply (EC002540)

Electric engineering, automation, process control engineering / Power supply devices / Power supply device / Continuous current supply (ecl@ss13-27-04-07-01 [AFX040008])

Voltage type (supply voltage)		AC
1st secondary output voltage	V	24 - 24
2nd secondary output voltage	V	0 - 0
3rd secondary output voltage	V	0 - 0
Max. output current 1	A	5
Max. output current 2	A	0
Max. output current 3	A	0
Secondary voltage adjustable		Yes
Nominal value output voltage 1	V	24
Nominal value output voltage 2	V	0
Nominal value output voltage 3	V	0
Nominal value output current 1	A	5
Nominal value output current 2	A	0
Nominal value output current 3	A	0
Short-circuit-proof		Yes
Rated supply voltage AC 50 Hz	V	85 - 264
Rated supply voltage AC 60 Hz	V	85 - 264
Rated supply voltage DC	V	0 - 0
Output voltage stabilized		Yes
Power consumption	VA	253
Power output	W	120
Stabilized		Yes
Type of electric connection		Screw connection
Rail mounting possible		Yes

Wall mounting possible		No
Modular version		Yes
Width in number of modular spacings		0
Built-in width	mm	50
Built-in height	mm	121
Direct mounting possible		No
Width	mm	50
Height	mm	121
Depth	mm	123
Suitable for safety functions		No
SIL according to IEC 61508		None
Performance level according to EN ISO 13849-1		None
Degree of protection (IP)		IP20
Degree of protection (NEMA)		1