

Power supply unit, 3-phase, 100-240VAC/24VDC, 2.5A



**Part no.** PSG60F24RM  
**172882**  
**EL Number** 4560880  
**(Norway)**

General specifications		
Product name		Eaton PSG power supply unit
Part no.		PSG60F24RM
EAN		4015081694709
Product Length/Depth		117 millimetre
Product height		121 millimetre
Product width		50 millimetre
Product weight		0.61 kilogram
Compliances		RoHS Compliant CE Marked
Certifications		CSA Std. C22.2 IEC Rated EN Listed UL 508 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 Mains harmonics limitation: EN 601000-3-2 RoHS IEC/EN 61204-3 SELV (EN 60950) Electrical equipment of machines: IEC60204-1 (Overvoltage category III) 2014/30/EU EN 55011 Class2: UL1310 and CSA-C22.2 No. 223 ITE: EN 55022, EN 61000-3-2, EN 61000-3-3, EN 55024 PELV (EN 60204) Protection against electric shock: DIN 57100-410 EN 50178/IEC 62103 2014/35/EU EAC
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: Vertical: > 50 °C (2.5% / °C), > 70 °C (5% / °C); Horizontal: > 45 °C (2.5% / °C), > 55 °C (1.66% / °C), > 70 °C (5% / °C); Derating from Tamb > +50 °C
Features & Functions		
Electric connection type		Screw connection
Enclosure material		Aluminum
Features		Modular version Stabilized Output voltage stabilized Mains overvoltage protection (against internal overvoltage) Short-circuit-proof
Fitted with:		Not accessible internal input fuse (T3.15 AH/500 V, 600 V) for device protection
Functions		Secondary voltage adjustable Transient overvoltage protection (varistor)
Number of phases		3
General information		
Degree of Protection		IP20 NEMA 1
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		L1 +, L2 nc, L3 -, PE #, Input characteristics, DC duty L1 +, L2 -, L3 nc, PE #, Input characteristics, DC duty
Connection type		Screw connection

LED indicator		Status indication of "DC OK": Green LED
Power consumption		120 VA
Rated operational current (I <sub>e</sub> )		Max. 0.3 A at 3 x 400 V AC Max. 0.25 A at 3 x 500 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		-25 °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)		Secondary side: 0.82 - 3.3 mm <sup>2</sup> Primary side: 0.82 - 3.3 mm <sup>2</sup>
Terminal capacity (flexible with ferrule AWG)		Secondary side: 18 - 12 Primary side: 18 - 12
Stripping length (main cable)		7 mm
Tightening torque		0.6 Nm, Screw terminals, Secondary side 0.9 Nm, Screw terminals, Primary side
<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		1.5 kV AC (output) 2 kV AC (input) 4 kV AC (input/output)
Mean time between failures (MTBF)		> 500,000 h
<b>Input characteristics</b>		
Input voltage at AC 50 Hz - min		320 V
Input voltage at AC 50 Hz - max		600 V
Input voltage at DC - min		450 V
Input voltage at DC - max		800 V
Inrush current		Voltage source up to 3 kVA: < 30 A with 3 x 400 V AC & 3 x 500 V AC (Inrush current limitation I <sup>2</sup> t (+25 °C)) Voltage source up to 18 kVA: < 55 A with 3 x 400 V AC & 3 x 500 V AC (Inrush current limitation I <sup>2</sup> t (+25 °C))
Leakage current at ground IPE - max		< 3.5 mA (at 500 V AC)
Mains failure bridging		> 20 ms (with 3 x 400 V AC) > 40 ms (with 3 x 500 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		63 Hz, Input, max. Range 47 Hz, Input, min. Range 50/60 Hz, Input, Rated value
Supply voltage at AC, 50 Hz - min		320 V AC
Supply voltage at AC, 50 Hz - max		600 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 / < 240 mV
Capacitive load		10000 µF max. Capacitive load starting, Output characteristics
Efficiency		> 86 % (3 x 400 V AC) > 86 % (3 x 500 V AC)
Output		960 W Parallel switching for redundancy, with O ring diode (PSG480R24RM/PSG960R24RM)
Output current at AC, 50 Hz - max		2.5 A

Output voltage		24 V
Output voltage at DC - min		24 V
Output voltage at DC - max		28 V
Rated output power		60 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		9.8 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	2.5
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	2.5
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	320 - 600
Rated supply voltage AC 60 Hz	V	320 - 600
Rated supply voltage DC	V	0 - 0

Output voltage stabilized		Yes
Power consumption	VA	120
Power output	W	60
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	117
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