DATASHEET - PSG240E24RM

Power supply unit, Single-phase, 85 - 264 V AC / 24 V DC, 10 A

Part no.	**PSG240E24RM**
	172893
EL Number (Norway)	**4560891**

General specifications

Product name	Eaton PSG power supply unit
Part no.	PSG240E24RM
EAN	4015081694815
Product Length/Depth	160 millimetre
Product height	145 millimetre
Product width	135 millimetre
Product weight	0.96 kilogram
Certifications	UL 508 EAC EN Listed CSA Std. C22.2 IEC Rated 2014/35/EU 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 PELV (EN 60204) RoHS EN 50178/IEC 62103 Class2: UL1310 and CSA-C22.2 No. 223 ITE: EN 55022, EN 61000-3-2, EN 61000-3-3, EN 55024 SELV (EN 60950) Electrical equipment of machines: IEC60204-1 (Overvoltage category III) IEC/EN 61204-3 EN 55011 Mains harmonics limitation: EN 601000-3-2 2014/30/EU Protection against electric shock: DIN 57100-410
Product Tradename	PSG
Product Type	Power supply unit
Product Sub Type	None

Features & Functions

Electric connection type	Screw connection
Enclosure material	Aluminum
Features	Short-circuit-proof Modular version Stabilized Output voltage stabilized Mains overvoltage protection (against internal overvoltage)
Fitted with:	Not accessible internal input fuse (T4 AH/250 V) for device protection
Functions	Secondary voltage adjustable Transient overvoltage protection (varistor)
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	299 VA
Rated operational current (Ie)	Max. 2.5 A at 115 V AC Max. 1.3 A at 230 V AC

Ambient conditions, mechanical

Shock resistance	30 g (300 m/s^2) in all directions, Mechanical, According to IEC/EN 60068-2-27

Vibration resistance	10 - 500 Hz at 30 m/s² (3 G max) for 60 min. in X-axis, Y-axis, Z-axis directions, (IEC/EN 60068-2-6)
Climatic environmental conditions	
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
Terminal capacities	
Terminal capacity (flexible with ferrule)	1.3 - 2.1 mm²
Terminal capacity (flexible with ferrule AWG)	16 - 14
Stripping length (main cable)	7 mm
Tightening torque	0.5 Nm, Screw terminals
Safety	
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 (type test, output) 4 kV AC (type test, input/output) 1.5 kV AC (routine test, input) 3 kV AC (routine test, input/output) 1.5 kV AC (type test, input) 500 V AC (routine test, output)
Mean time between failures (MTBF)	> 500,000 h
Input characteristics	
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 I²t (+25 °C)) < 35 A at 230 V AC (Inrush current limitation I²t (+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	47 Hz, Input, min. Range 63 Hz, Input, max. Range 50/60 Hz, Input, Rated value
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
Output characteristics	
Residual ripple	< 50 mV / < 150 mV
Capacitive load	10000 µF max. Capacitive load starting, Output characteristics
Efficiency	> 90 % (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	10 A
Output voltage	24 V
Output voltage at DC - min	24 V
Output voltage at DC - max	28 V
Rated output power	240 W
Voltage tolerance	± 2 %, Rated output voltage
Design verification	
Equipment heat dissipation, current-dependent Pvid	0 W
Heat dissipation capacity Pdiss	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		30 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	10
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	10
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	299
Power output	W	240
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	85
Built-in height		mm	121
Direct mounting possible			No
Width		mm	135
Height		mm	145
Depth		mm	160
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