DATASHEET - PSG60N24RP

Power supply unit, 1-phase, 100-240VAC/24VDC, 2.5A

Part no.	**PSG60N24RP**
Catalog No.	**172890**
Alternate Catalog No.	**PSG60N24RP**
EL-Nummer (Norway)	**4560888**

Powering Business Worldwide™

Delivery program

Product range			Power supplies PSG
Subrange			power supply unit
Description			Power Boost via 1.5-fold rated operational current for 5 s PELV (EN 60204), SELV (EN 60950)
Phases			Single-phase
Input voltage range			85 - 264 V AC (120 - 375 V DC)
Nominal input voltage			100 - 240 V AC
Rated output voltage			24 V DC (± 2%)
Rated output current		A	2.5
Setting range for the output voltage			22 - 28 V DC
Rated output power		W	60

Technical data

Input characteristics

Nominal input voltage			100 - 240 V AC
Input voltage range		V	85 - 264 V AC 120 - 375 V DC
Supply frequency			
Rated value		Hz	50/60
Range		Hz	47 - 63
Nominal current	I_n	A	1.5 bei 100 V AC
Inrush current limitation I^2t (+25 °C)		A	< 40 A at 115 V AC < 80 A at 230 V AC
Mains buffering at nominal load		ms	
Mains failure bridging		ms	> 20 at 115 V AC > 125 at 230 V AC
Run-up time after mains voltage applied		ms	< 3000
Internal input fuse (device protection, not accessible)			T3.15 AH/250 V
Back-up fuse			6, 10, 16 A (recommended)
Tripping characteristic			B
Leakage Current			< 1 mA at 240 V AC
Short-term interruption			100% voltage dip, 1 cycle (20 ms at 50 Hz), automatic start

Output characteristics

Rated output power		W	60
Rated output voltage			24 V DC (± 2%)
Tolerance			±2 %
Setting range for the output voltage			22 - 28 V DC
Nominal current		A	2,5
Derating from T_{amb} > +50 °C			> 50 °C (2.5% / °C) > 70 °C (4% / °C),
Capacitive load starting			Max 8000 µF
Heat dissipation		W	9
Efficiency		%	> 86 with 115 V AC > 87 with 230 V AC
Residual ripple and switching peaks			< 50 mVpp / < 150 mVpp

General characteristics

Housing			Insulated material
Status indication			green LED for "DC OK"
MTBF (mean time between failures)			> 800,000 h
Height		mm	120.6
Width		mm	32
Depth		mm	119.3
Weight		kg	0.33
Terminations			Screw connection
Stripping length		mm	7
Terminal capacity			
flexible with ferrules/solid		mm^2	0.32 - 5.3 mm^2 (AWG 22 -10)
Tightening torque		Nm	0.5
Ambient air temperature range		°C	
Operation		°C	-20 - +80 (> 50 °C derating)
Storage, transport	ϑ	°C	
Storage	ϑ	°C	-25 - +85
damp heat			< 95 % relative humidity at +25 °C, no condensation
Vibrations (IEC/EN 60068-2-6)			10 - 500 Hz at 30 m/s^2 (3 G max) for 60 min. in X-axis, Y-axis, Z-axis directions
Mechanical shock resistance (IEC 60068-2-27)			30 g (300 m/s^2) in all directions
Pollution degree			2
Climatic class (IEC)			3K3 according to EN 60721

Safety and safety features

Transient overvoltage protection			Varistor
Current limitation at short-circuit			$I_{Überstrom}$ = 150 % der max. Ausgangsleistung
Overvoltage protection			Yes, against internal overvoltage
Insulation voltage			
Input/Output			4 kV AC (type test), 3 kV AC (routine test)
Input/PE			1.5 kV AC
Output/PE			1.5 kV AC
Degree of Protection			IP20
Protection class			Class I with PE connection

Standards

			Electrical equipment of machines: IEC60204-1 (Overvoltage category III) Equipping power installations with electronic apparatus: EN 50178/IEC 62103 Safety extra-low voltage: PELV (EN 60204), SELV (EN 60950) Protection against electric shock: DIN 57100-410 CE: according to EMC Directive 2014/30/EU and Low Voltage Directive 2014/35/EU RoHS-compliant: RoHS Directive 2011/65/EU ITE: EN 55022, EN 61000-3-2, EN 61000-3-3, EN 55024 Industrial: EN 55011 Mains harmonics limitation: EN 601000-3-2 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 UL508 Class2: UL/c-UL recognized to UL1310 and CSA C22.2 No. 223 | Component power supply unit for general use: EN61204-3
Approvals			EAC

Design verification as per IEC/EN 61439

Technical data for design verification			
Static heat dissipation, non-current-dependent	P_{vs}	W	9
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	80
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
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 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects			Meets the product standard's requirements.

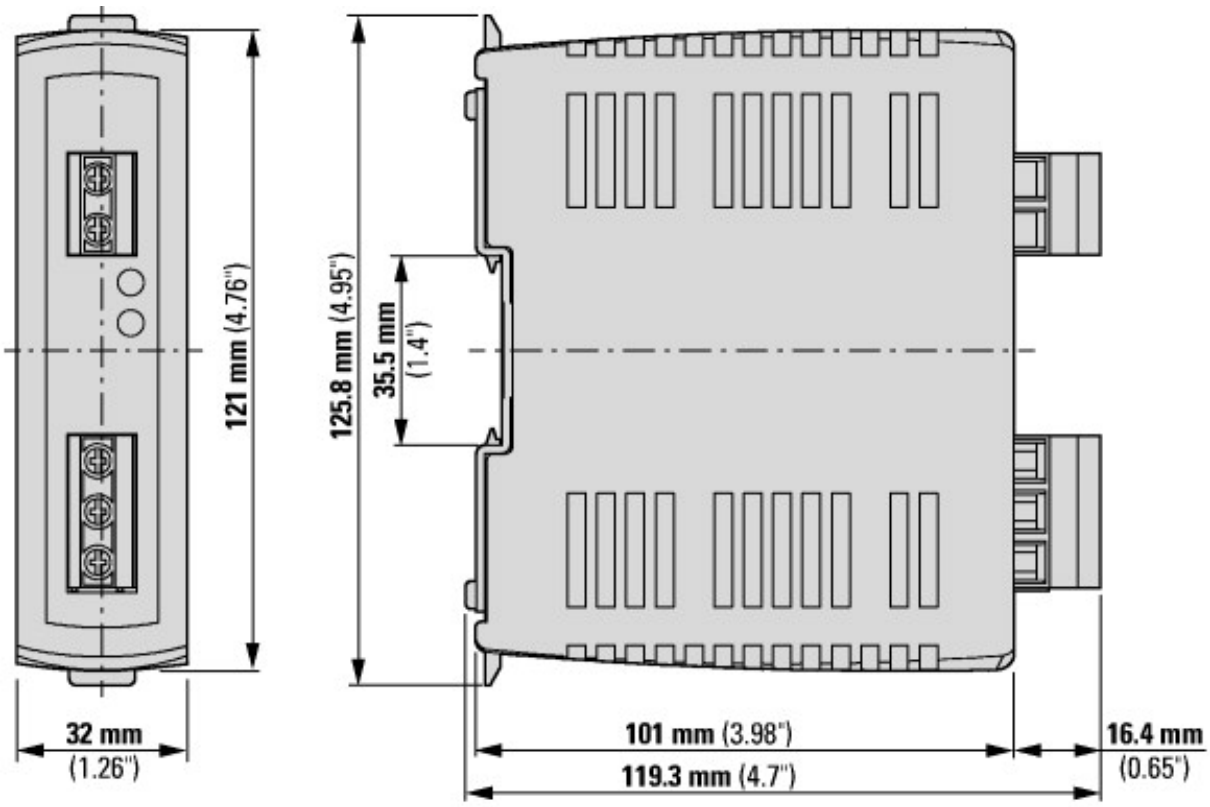
10.2.4 Resistance to ultra-violet (UV) radiation			Meets the product standard's requirements.
10.2.5 Lifting			Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact			Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions			Meets the 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 Insulation properties			
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 7.0

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@ss10.0.1-27-04-07-01 [AFX040003])			
Voltage type of supply voltage			AC
1st secondary output voltage		V	24 - 28
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 at AC 50 Hz		V	85 - 264
Rated supply voltage at AC 60 Hz		V	85 - 264
Rated supply voltage at DC		V	0 - 0
Output voltage stabilized			Yes
Power consumption		VA	150
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	32
Built-in height		mm	120.6
Direct mounting possible			No
Width		mm	32
Height		mm	120.6

Depth		mm	119.3
Suitable for safety functions			No
SIL according to IEC 61508			None
Performance level acc. EN ISO 13849-1			None
Degree of protection (IP)			IP20
Degree of protection (NEMA)			1

Dimensions



Assets (links)

Declaration of CE Conformity

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Instruction Leaflets

IL125016EN2018_02

Additional product information (links)

IL125016EN Installation Instructions for PSG60N24RP POWER SUPPLY	
IL125016EN Installation Instructions for PSG60N24RP POWER SUPPLY	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL125016EN2018_02.pdf
Product overview WEB)	http://www.eaton.eu/psg