



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

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

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 ² t (+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

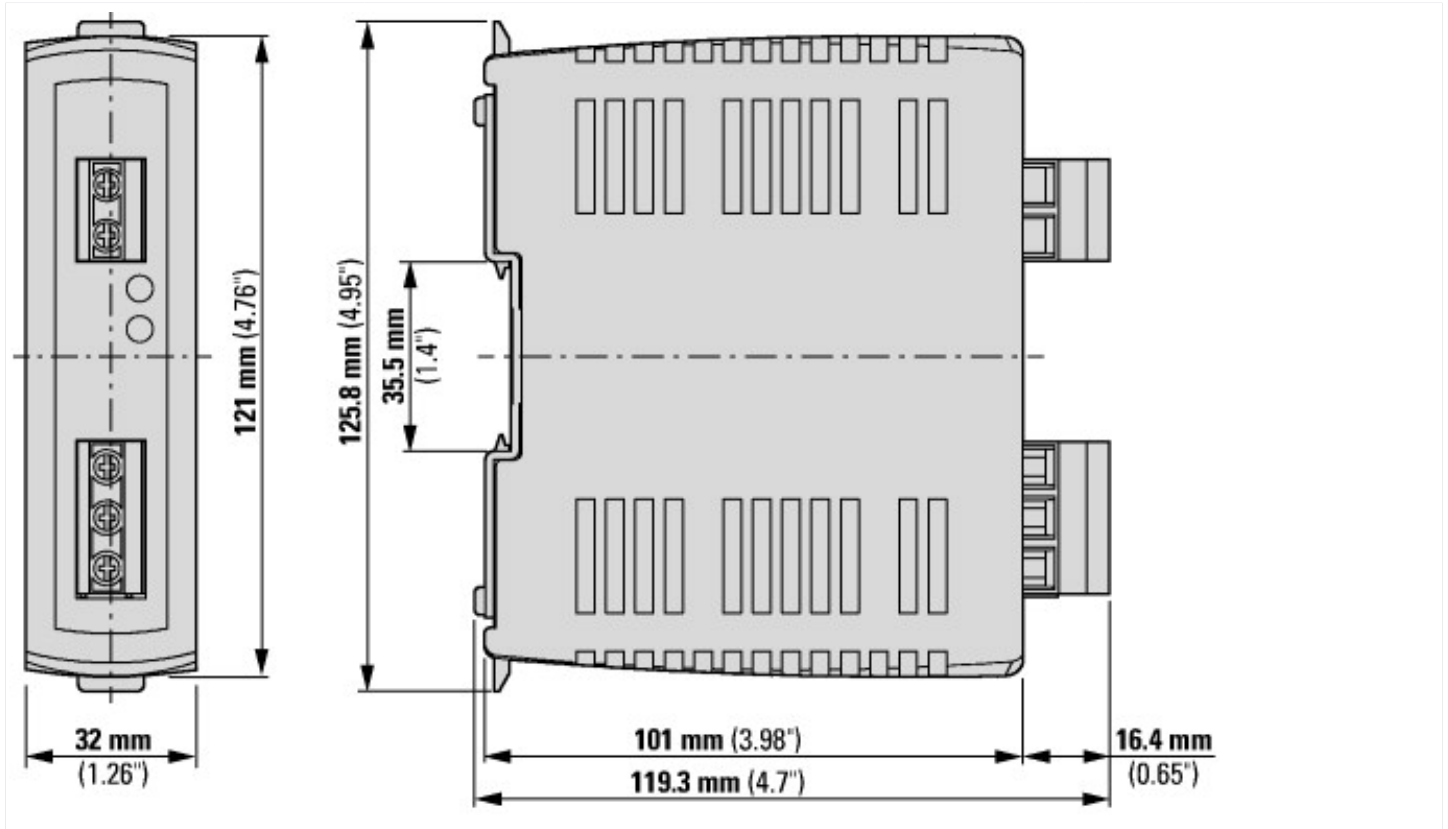
Low-voltage industrial components (EG000017) / DC-power supply (EC002540)

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



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>