



## Redundancy module for PSG power supply units, 40 A

**Part no.** PSG960R24RM  
**Catalog No.** 172889  
**Eaton Catalog No.** PSG960R24RM  
**EL-Nummer (Norway)** 4560887

### Delivery program

|                       |  |   |  |
|-----------------------|--|---|--|
| Product range         |  |   | Power supplies PSG   |
| Subrange              |  |   | Redundancy module  |
| Description           |  |   | For decoupling power supplies of the same type that are connected in parallel on the output side for redundancy purposes |
| Input voltage range   |  |   | 22 - 60 V DC   |
| Nominal input voltage |  |   | 24 - 48 V DC   |
| Rated output voltage  |  |   | $V_{in} - 0.65 V$  |
| Rated output current  |  | A | 40   |

### Technical data

#### Input characteristics

|                                      |       |   |  |
|--------------------------------------|-------|---|--|
| Nominal input voltage                |       |   | 24 - 48 V DC   |
| Input voltage range                  |       | V | 24 - 48 V DC   |
| Eingangsspannungsalarm_Relaiskontakt |       |   | Relay contact closed "OK" if $V_{in1}$ & $V_{in2} > 18 V \pm 5\%$ and $< 30 V$                   |
| Nominal current                      | $I_n$ | A | (1+1) Redundanz : Nom. 2 x 25<br>(N+1) Redundanz : Nom. 2 x 20<br>Einfache Nutzung : Nom. 1 x 40 |
| Back-up fuse                         |       |   | 3 x 6, 10, 16 A (recommended)  |

#### Output characteristics

|                                  |  |   |                       |
|----------------------------------|--|---|-----------------------|
| Rated output voltage             |  |   | $V_{in} - 0.65 V$     |
| Nominal current                  |  | A | max. 40               |
| Derating from $T_{amb} > +50$ °C |  |   | $> 50$ °C (2.5% / °C) |
| Heat dissipation                 |  | W | 26                    |
| Efficiency                       |  | % | 97 % norm.            |
| Short-circuit current            |  |   | $< 25 A$ , no damage  |

#### General characteristics

|  |  |                 |  |
|--|--|-----------------|--|
| Housing                                      |  |                 | Aluminium  |
| MTBF (mean time between failures)            |  |                 | $> 800,000$ h  |
| Height                                       |  | mm              | 121  |
| Width  |  | mm              | 50   |
| Depth  |  | mm              | 122  |
| Weight                                       |  | kg              | 0.52   |
| Terminations                                 |  |                 | Screw connection   |
| Terminal capacity                            |  |                 |  |
| flexible with ferrules/solid                 |  | mm <sup>2</sup> | 3.3 - 5.3 mm <sup>2</sup> (AWG 12 - 10)  |
| Tightening torque                            |  | Nm              | 0.7  |
| Ambient air temperature range                |  | °C              |  |
| Operation                                    |  | °C              | -40 - +80  |
| damp heat                                    |  |                 | $< 95$ % relative humidity at +25 °C, no condensation  |
| Vibrations (IEC/EN 60068-2-6)                |  |                 | 10 - 500 Hz at 30 m/s <sup>2</sup> (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 <sup>2</sup> ) in all directions   |
| Pollution degree                             |  |                 | 2  |
| Climatic class (IEC)                         |  |                 | 3K3 according to EN 60721  |

#### Safety and safety features

|                    |  |  |  |
|--------------------|--|--|--|
| Insulation voltage |  |  |  |
|--------------------|--|--|--|

|                      |  |  |                             |
|----------------------|--|--|-----------------------------|
| Input/PE             |  |  | 1.5 kV AC                   |
| Output/PE            |  |  | 1.5 kV AC                   |
| Degree of Protection |  |  | IP20                        |
| Protection class     |  |  | Class II with PE connection |

## Design verification as per IEC/EN 61439

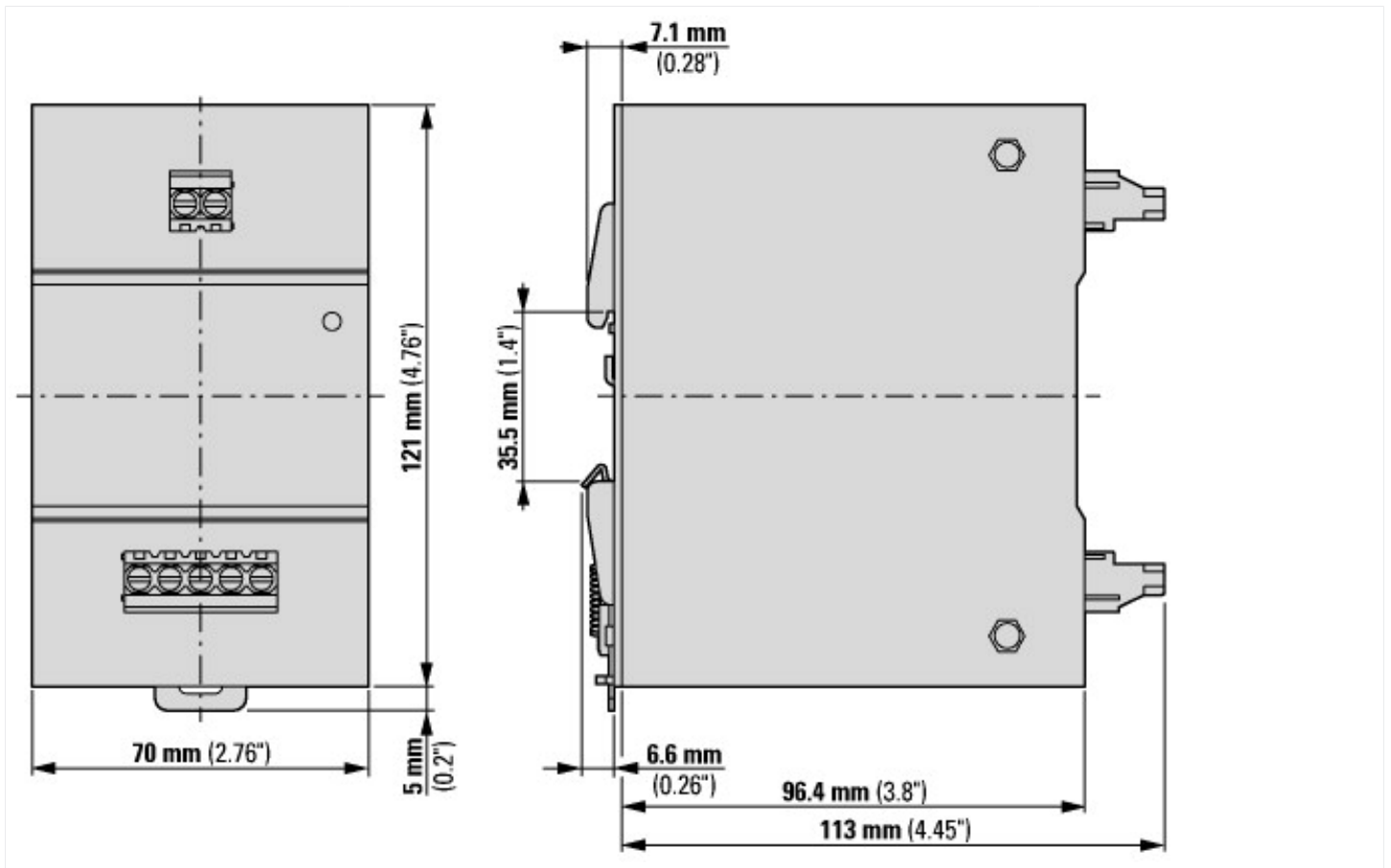
| Technical data for design verification   |            |    |  |
|--|------------|----|--|
| Rated operational current for specified heat dissipation   | $I_n$      | A  | 0  |
| Heat dissipation per pole, current-dependent   | $P_{vid}$  | W  | 0  |
| Equipment heat dissipation, current-dependent  | $P_{vid}$  | W  | 0  |
| Static heat dissipation, non-current-dependent   | $P_{vs}$   | W  | 26   |
| Heat dissipation capacity  | $P_{diss}$ | W  | 0  |
| Operating ambient temperature min.   |            | °C | -40  |
| 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 6.0

| Low-voltage industrial components (EG000017) / DC-power supply (EC002540)   |  |   |               |
|---|--|---|---------------|
| Electric engineering, automation, process control engineering / Power supply / Power supply (other) / DC-power supply (ecl@ss8.1-27-04-90-02 [AFZ644012]) |  |   |               |
| Voltage type of supply voltage  |  |   | DC            |
| 1st secondary output voltage  |  | V | 21.35 - 59.35 |
| 2nd secondary output voltage  |  | V | 0 - 0         |
| 3rd secondary output voltage  |  | V | 0 - 0         |
| Max. output current 1   |  | A | 40            |
| Max. output current 2   |  | A | 0             |
| Max. output current 3   |  | A | 0             |
| Secondary voltage adjustable  |  |   | No            |
| 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  | 24               |
| 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  | 0 - 0            |
| Rated supply voltage at AC 60 Hz         | V  | 0 - 0            |
| Rated supply voltage at DC               | V  | 22 - 60          |
| Output voltage stabilized                |    | No               |
| Power consumption                        | VA | 0                |
| Power output                             | W  | 960              |
| Stabilized                               |    | No               |
| 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 | 122              |
| Suitable for safety functions            |    | No               |
| SIL according to IEC 61508               |    | None             |
| Performance level acc. to EN ISO 13849-1 |    | None             |
| Degree of protection (IP)                |    | IP20             |

## Dimensions



## Additional product information (links)

### IL125018EN Installation Instructions for PSG960R24RM REDUNDANCY MODULE

IL125018EN Installation Instructions for  
PSG960R24RM REDUNDANCY MODULE

[ftp://ftp.moeller.net/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL125018EN2014\\_06.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL125018EN2014_06.pdf)