## Product datasheet

Characteristics

|  |  | Green Premium Pooduct |
| :---: | :---: | :---: |
|  | Main |  |
|  | Range of product | Phaseo |
|  | Product or component type | Power supply |
|  | Power supply type | Regulated switch mode |
|  | Input voltage | 100... 120 V AC single phase, terminal(s): N-L1 200... 500 V AC phase to phase, terminal(s): L1-L2 |
|  | Output voltage | 24 V DC |
|  | Rated power in W | 240 W |
|  | Provided equipment | Power factor correction filter conforming to IEC 61000-3-2 |
|  | Power supply output current | 10 A |
|  | Output protection type | Against overload, protection technology: manual or automatic reset <br> Against overvoltage, protection technology: 30... 32 V , manual reset <br> Against short-circuits, protection technology: <br> manual or automatic reset <br> Against undervoltage, protection technology: <br> tripping if $U<21.6 \mathrm{~V}$ <br> Thermal, protection technology: automatic reset |
|  | Ambient air temperature for operation | $122 \ldots 140^{\circ} \mathrm{F}\left(50 \ldots 60^{\circ} \mathrm{C}\right)$ with <br> $-13 . . .122^{\circ} \mathrm{F}\left(-25 \ldots . .50^{\circ} \mathrm{C}\right)$ without |


| Complementary |  |
| :---: | :---: |
| Input voltage limits | $\begin{aligned} & 170 \ldots 550 \mathrm{~V} \\ & 85 \ldots . .132 \mathrm{~V} \end{aligned}$ |
| Network frequency | $47 . . .63 \mathrm{~Hz}$ |
| Inrush current | 30 A for 2 ms |
| Cosphi | $\begin{aligned} & 0.68 \text { at } 240 \mathrm{~V} \\ & 0.69 \text { at } 120 \mathrm{~V} \end{aligned}$ |
| Efficiency | 87 \% |
| Output voltage limits | $24 . .28 .8 \mathrm{~V}$ adjustable |
| Power dissipation in W | 31 W |
| Line and load regulation | 1... 3 \% |
| Holding time | $\begin{aligned} & >=120 \mathrm{~ms} \text { at } 400 \mathrm{~V} \\ & >=20 \mathrm{~ms} \text { at } 100 \mathrm{~V} \\ & >=40 \mathrm{~ms} \text { at } 240 \mathrm{~V} \end{aligned}$ |
| Permissible temporary current boost | $1.5 \times \ln$ for 4 s |
| Connections - terminals | Removable screw terminal block diagnostic relay, connection capacity: $2 \times 2.5 \mathrm{~mm}^{2}$ Screw type terminals input connection, connection capacity: $3 \times 0.5 \ldots \times 4 \mathrm{~mm}^{2}$ AWG 22...AWG 12 <br> Screw type terminals input ground connection, connection capacity: $1 \times 0.5 \ldots 1 \times 4$ $\mathrm{mm}^{2}$ AWG 22...AWG 12 <br> Screw type terminals output connection, connection capacity: $4 \times 0.5 . .4 \times 4 \mathrm{~mm}^{2}$ AWG 22...AWG 12 <br> Screw type terminals output ground connection, connection capacity: $1 \times 0.5 . . .1 \times 4$ $\mathrm{mm}^{2}$ AWG 22...AWG 12 |
| Marking | CE |
| Mounting support | $35 \times 15 \mathrm{~mm}$ symmetrical DIN rail $35 \times 7.5 \mathrm{~mm}$ symmetrical DIN rail |
| Operating position | Vertical |
| Operating altitude | 6561.68 ft (2000 m) |
| Output coupling | Parallel <br> Series |
| Name of test | Conducted emissions on the power line conforming to EN 55022 Class B |

Primary outage conforming to IEC 61000-4-11
Radiated electromagnetic field conforming to EN/IEC 61000-4-3
Radiated emissions conforming to EN 55022 Class B
Rapid transient conforming to IEC 61000-4-4
Surge conforming to EN/IEC 61000-4-5
Harmonic current emission conforming to EN/IEC 61000-3-2

| Status LED | 1 LED green and red output voltage <br> 1 LED green, red and orange output current |
| :--- | :--- |
| Depth | $5.71 \mathrm{in}(145 \mathrm{~mm})$ |
| Height | $5.63 \mathrm{in}(143 \mathrm{~mm})$ |
| Width | $3.39 \mathrm{in}(86 \mathrm{~mm})$ |
| Product weight | $2.2 \mathrm{lb}(\mathrm{US})(1 \mathrm{~kg})$ |


| product certifications | CCSAus <br> UL <br> RCM <br> EAC <br> KC |
| :---: | :---: |
| standards | $\begin{aligned} & \text { UL } 508 \\ & \text { CSA C22.2 No 60950-1 } \end{aligned}$ |
| environmental characteristic | EMC conforming to EN 61000-6-1 <br> EMC conforming to EN 61000-6-3 <br> EMC conforming to EN/IEC 61000-6-4 <br> EMC conforming to EN/IEC 61204-3 <br> Safety conforming to EN/IEC 60950-1 <br> Safety conforming to EN/IEC 61204-3 <br> Safety conforming to SELV <br> EMC conforming to EN 55024 |
| IP degree of protection | IP20 conforming to EN/IEC 60529 |
| ambient air temperature for storage | $-40 \ldots 158{ }^{\circ} \mathrm{F}\left(-40 \ldots 70^{\circ} \mathrm{C}\right)$ |
| relative humidity | 0... 90 \% during operation $0 . . .95 \%$ in storage |
| overvoltage category | Class I conforming to VDE 0106-1 |
| dielectric strength | Between input and ground Between output and ground Between input and output |
| MTBF reliability | 613500 H at 100 V AC with UTE C80-810 calculation method 892000 H at 200...500 V AC with UTE C80-810 calculation method |

Offer Sustainability
Green Premium product $\quad$ Green Premium product

Compliant - since 0501 - Schneider Electric declaration Compliant - since 0501 - Schneider Electric declaration of conformity of conformity

| Reference not containing SVHC above the threshold | Reference not containing SVHC above the threshold |
| :--- | :--- |
| Available | Available |
| Available | Available |
| WARNING: This product can expose you to chemicals WARNING: This product can expose you to chemicals including: <br> including:  |  |

Lead and lead compounds, which is known to the State Lead and lead compounds, which is known to the State of California to cause cancer of California to cause cancer and birth defects or other and birth defects or other reproductive harm.
reproductive harm.
For more information go to www.p65warnings.ca.gov For more information go to www.p65warnings.ca.gov

Contractual warranty
Warranty period 18 months

Regulated Switch Mode Power Supplies
Dimensions

## $\frac{m m}{m}$



| ABL 8 | a in mm | a in in. | b in mm | b in in. |
| :--- | :--- | :--- | :--- | :--- |
| RPS24030 | 120 | 4.72 | 44 | 1.73 |
| RPS24050 | 120 | 4.72 | 56 | 2.20 |
| RPS24100 | 140 | 5.51 | 85 | 3.34 |
| RPM24200 | 140 | 5.51 | 145 | 5.70 |
| WPS24200 | 155 | 6.10 | 95 | 3.74 |
| WPS24400 | 155 | 6.10 | 165 | 6.49 |

## Regulated Switch Mode Power Supply

## Internal Wiring Diagram



## Regulated Switch Mode Power Supply

Line Supply Wiring Diagram
Single-phase (L-N) 100 to 120 V


Single-phase (L-N) 200 to 500 V


## Regulated Switch Mode Power Supplies

## Series or Parallel Connection

## Series Connection


(1) Two Shottky diodes Imin = power supply In and Vmin $=50 \mathrm{~V}$


| Family | Series | Parallel |
| :---: | :---: | :---: |
| ABL 8RPS/8RPM/8WPS | 2 products max. (1) | 2 products max. |

Series or parallel connection is only recommended for products with identical references.
For better availability, the power supplies can also be connected in parallel using the ABL8RED24400 Redundancy module.

## Regulated Switch Mode Power Supplies

## Derating

The ambient temperature is a determining factor that limits the power an electronic power supply can deliver continuously. If the temperature around the electronic components is too high, their life will be significantly reduced.
The nominal ambient temperature for the Universal range of Phaseo power supplies is $50^{\circ} \mathrm{C}$. Above this temperature, derating is necessary up to a maximum temperature of $60^{\circ} \mathrm{C}$.

The graph below shows the power (in relation to the nominal power) that the power supply can deliver continuously, depending on the ambient temperature.

## PP Pn (\%)



X Maximum operating temperature $\left({ }^{\circ} \mathrm{C}\right)$
ABL 8RPM, ABL 8RPS, ABL 8WPS mounted vertically
Derating should be considered in extreme operating conditions:
I Intensive operation (output current permanently close to the nominal current, combined with a high ambient temperature)
1 Output voltage set above 24 Vdc (to compensate for line voltage drops, for example)
। Parallel connection to increase the total power

## Regulated Switch Mode Power Supply

## Load Limit

Manual Reset Protection Mode

(1) Boost 4s

Automatic Reset Protection Mode

(1) Boost 4s


This type of operation is described in detail in the user manual, which can be downloaded from the website.

