

# ABL8RPS24100

universal power supply, Phaseo, 1 or 2 phase,  
100 to 500 V, 24 V, 10 A



## Main

|                                     |   |
|-------------------------------------|---|
| Range of Product                    | Modicon Power Supply  |
| Product or Component Type           | Power supply  |
| Power supply type                   | Regulated switch mode   |
| Nominal input voltage               | 100...120 V AC single phase N-L1<br>200...500 V AC phase to phase L1-L2 |
| Input voltage limits                | 170...550 V AC<br>85...132 V AC   |
| Kw Rating                           | 240 W   |
| Output voltage                      | 24 V DC   |
| Power supply output current         | 10 A  |
| Permissible temporary current boost | 1.5 x In for 4 s)   |
| Anti-harmonic filter                | Low frequency harmonic currents   |

## Complementary

|                           |   |
|---------------------------|---|
| Inrush current            | 30 A  |
| Power factor              | 0.68 at 240 V AC<br>0.69 at 120 V AC  |
| Efficiency                | 87 %  |
| Output voltage adjustment | 24...28.8 V adjustable  |
| Power dissipation in W    | 31 W  |
| Provided equipment        | Power factor correction filter IEC 61000-3-2  |
| Output protection type    | Against overload manual or automatic reset<br>Against overvoltage 30...32 V, manual reset<br>Against short-circuits manual or automatic reset<br>Against undervoltage tripping if U < 21.6 V<br>Thermal automatic reset   |
| Connections - terminals   | Removable screw terminal block 2 x 2.5 mm <sup>2</sup> , diagnostic relay<br>Screw type terminals 3 x 0.5...3 x 4 mm <sup>2</sup> , AWG 22...AWG 12) input connection<br>Screw type terminals 1 x 0.5...1 x 4 mm <sup>2</sup> , AWG 22...AWG 12) input ground connection<br>Screw type terminals 4 x 0.5...4 x 4 mm <sup>2</sup> , AWG 22...AWG 12) output connection<br>Screw type terminals 1 x 0.5...1 x 4 mm <sup>2</sup> , AWG 22...AWG 12) output ground connection |
| Status LED                | Output voltage 1 LED green and red)<br>Output current 1 LED green, red and orange)  |
| Depth                     | 5.71 in (145 mm)  |
| Height                    | 4.92 in (125 mm)  |
| Width                     | 3.39 in (86 mm)   |
| Net Weight                | 2.20 lb(US) (1 kg)  |
| Output coupling           | Parallel<br>Series  |
| Marking                   | CE  |
| Mounting support          | 35 x 7.5 mm symmetrical DIN rail<br>35 x 15 mm symmetrical DIN rail   |
| Operating position        | Vertical  |
| Supply                    | SELV EN/IEC 60950-1<br>SELV EN/IEC 60204-1<br>SELV IEC 60364-4-41   |

The information provided in this documentation contains general descriptions and/or technical characteristics of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

## Environment

|  |  |
|--|--|
| Standards  | UL 508<br>CSA C22.2 No 60950-1<br>EN/IEC 62368-1   |
| Product certifications                                   | CCSAus<br>EAC<br>KC<br>RCM<br>UL   |
| Environmental characteristic                             | EMC EN 61000-6-1<br>EMC EN 61000-6-3<br>EMC EN 55024<br>EMC EN/IEC 61000-6-4<br>EMC EN/IEC 61204-3<br>Safety EN/IEC 60950-1<br>Safety EN/IEC 61204-3 |
| Operating altitude                                       | 6561.68 ft (2000 m)  |
| IP degree of protection                                  | IP20 conforming to EN/IEC 60529  |
| Ambient air temperature for operation                    | 122...140 °F (50...60 °C) with derating factor)<br>-13...122 °F (-25...50 °C) without)   |
| Ambient Air Temperature for Storage                      | -40...158 °F (-40...70 °C)   |
| Relative Humidity  | 0...90 % during operation<br>0...95 % in storage   |
| Electrical energy source class conforming to IEC 62368-1 | ES1  |
| Dielectric strength                                      | 3500 V between input and ground<br>4000 V between input and output<br>500 V between output and ground  |

## Ordering and shipping details

|                       |                                     |
|-----------------------|-------------------------------------|
| Category              | 22525 - ABL8 AND ABL7 POWER SUPPLIE |
| Discount Schedule     | CP12                                |
| GTIN                  | 3389119405621                       |
| Nbr. of units in pkg. | 1                                   |
| Package weight(Lbs)   | 3.58 lb(US) (1.62 kg)               |
| Returnability         | Yes                                 |
| Country of origin     | PH                                  |

## Packing Units

|                  |          |
|------------------|----------|
| Package 1 Height | 1.100 dm |
| Package 1 width  | 1.670 dm |
| Package 1 Length | 1.820 dm |

## Offer Sustainability

|                            |   |
|----------------------------|---|
| Sustainable offer status   | Green Premium product   |
| California proposition 65  | WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> |
| REACH Regulation           | <a href="#">REACH Declaration</a>   |
| EU RoHS Directive          | Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>  |
| Mercury free               | Yes   |
| RoHS exemption information | <a href="#">Yes</a>   |
| China RoHS Regulation      | <a href="#">China RoHS Declaration</a>  |
| Environmental Disclosure   | <a href="#">Product Environmental Profile</a>   |
| Circularity Profile        | <a href="#">End Of Life Information</a>   |
| PVC free                   | Yes   |

## Contractual warranty

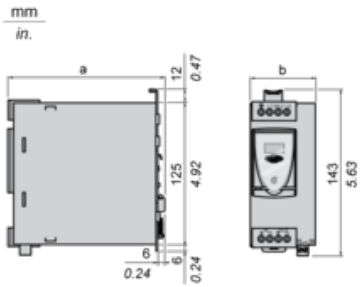
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|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

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Regulated Switch Mode Power Supplies

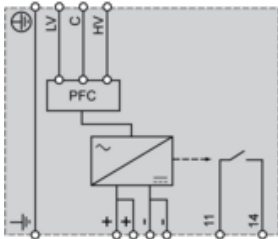
Dimensions



| ABL 8    | a in mm | a in in. | b in mm | b in in. |
|----------|---------|----------|---------|----------|
| RPS24030 | 125     | 4.92     | 45      | 1.77     |
| RPS24050 | 125     | 4.92     | 56      | 2.20     |
| RPS24100 | 145     | 5.71     | 86      | 3.39     |
| RPM24200 | 145     | 5.71     | 146     | 5.75     |
| WPS24200 | 160     | 6.30     | 96      | 3.78     |
| WPS24400 | 160     | 6.30     | 166     | 6.54     |

Regulated Switch Mode Power Supply

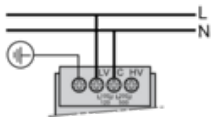
Internal Wiring Diagram



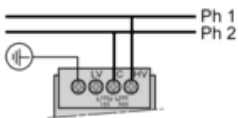
Regulated Switch Mode Power Supply

Line Supply Wiring Diagram

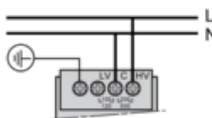
Single-phase (L-N) 100 to 120 V



Phase-to-phase (L1-L2) 200 to 500 V



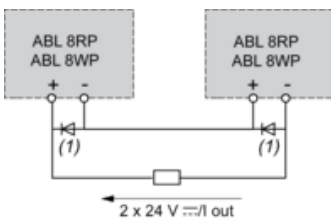
Single-phase (L-N) 200 to 500 V



Regulated Switch Mode Power Supplies

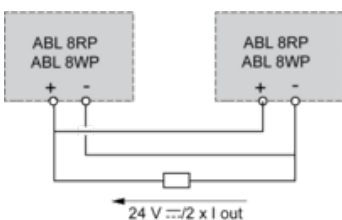
Series or Parallel Connection

Series Connection



(1) Two Schottky diodes  $I_{min}$  = power supply  $I_n$  and  $V_{min}$  = 50 V

Parallel Connection



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

NOTE: 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.

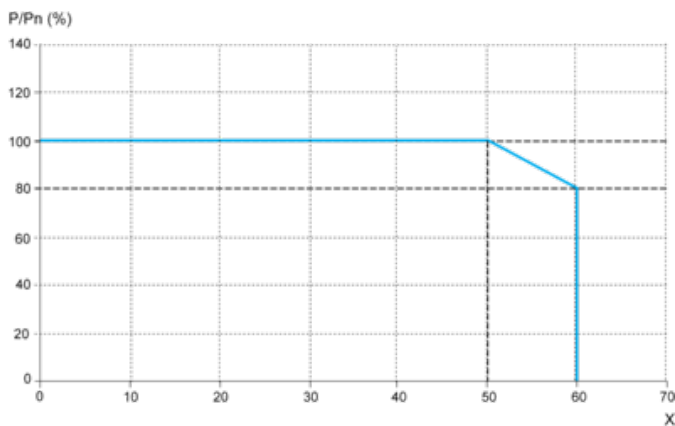
Regulated Switch Mode Power Supplies

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°C. Above this temperature, derating is necessary up to a maximum temperature of 60°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.



X Maximum operating temperature (°C)

ABL 8RPM, ABL 8RPS, ABL 8WPS mounted vertically

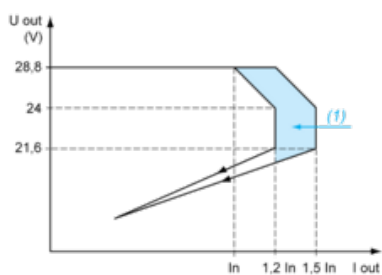
Derating should be considered in extreme operating conditions:

- Intensive operation (output current permanently close to the nominal current, combined with a high ambient temperature)
- 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

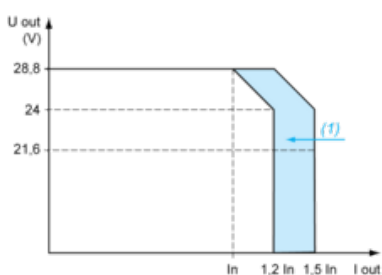
Load Limit

Manual Reset Protection Mode



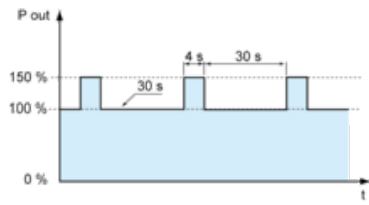
(1) Boost 4s

Automatic Reset Protection Mode



(1) Boost 4s

### "Boost" Repeat Accuracy



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