

# Product data sheet

Specifications



## universal power supply, Phaseo, 1 or 2 phase, 100 to 500 V, 24 V, 5 A

ABL8RPS24050

**Product availability : Stock - Normally stocked in distribution facility**

**Price\* : 360.00 USD**

### 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 200...500 V AC phase to phase L1-L2
Input voltage limits	85...132 V AC 170...550 V AC
Rated power in W	120 W
Output voltage	24 V DC
Power supply output current	5 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	0.51 at 240 V AC 0.59 at 120 V AC
Efficiency	87 %
Output voltage adjustment	24...28.8 V adjustable
Power dissipation in W	15.5 W
Provided equipment	Power factor correction filter IEC 61000-3-2
Output protection type	Against overload manual or automatic reset Against overvoltage 30...32 V, manual reset Against short-circuits manual or automatic reset Against undervoltage tripping if U < 21.6 V Thermal automatic reset
Connections - terminals	Removable screw terminal block 2 x 2.5 mm <sup>2</sup> , diagnostic relay Screw type terminals 3 x 0.5...3 x 4 mm <sup>2</sup> , AWG 22...AWG 12) input connection Screw type terminals 1 x 0.5...1 x 4 mm <sup>2</sup> , AWG 22...AWG 12) input ground connection Screw type terminals 4 x 0.5...4 x 4 mm <sup>2</sup> , AWG 22...AWG 12) output connection 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) Output current 1 LED green, red and orange)
Depth	4.92 in (125 mm)

\* Price is "List Price" and may be subject to a trade discount – check with your local distributor or retailer for actual price.

<b>Height</b>	5.63 in (143 mm)
<b>Width</b>	2.20 in (56 mm)
<b>Net Weight</b>	1.54 lb(US) (0.7 kg)
<b>Output coupling</b>	Parallel Series
<b>Marking</b>	CE
<b>Mounting support</b>	35 x 15 mm symmetrical DIN rail 35 x 7.5 mm symmetrical DIN rail
<b>Operating position</b>	Vertical
<b>Supply</b>	SELV EN/IEC 60950-1 SELV EN/IEC 60204-1 SELV IEC 60364-4-41

## Environment

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

## Ordering and shipping details

<b>Category</b>	22525-ABL8 AND ABL7 POWER SUPPLIE
<b>Discount Schedule</b>	CP12
<b>GTIN</b>	3389119405614
<b>Nbr. of units in pkg.</b>	1
<b>Package weight(Lbs)</b>	32.13 oz (911 g)
<b>Returnability</b>	Yes
<b>Country of origin</b>	PH

## Packing Units

<b>Unit Type of Package 1</b>	PCE
<b>Package 1 Height</b>	2.98 in (7.576 cm)
<b>Package 1 width</b>	5.70 in (14.467 cm)

<b>Package 1 Length</b>	6.50 in (16.503 cm)
<b>Unit Type of Package 2</b>	S06
<b>Number of Units in Package 2</b>	105
<b>Package 2 Weight</b>	210.88 lb(US) (95.655 kg)
<b>Package 2 Height</b>	28.94 in (73.5 cm)
<b>Package 2 width</b>	23.62 in (60 cm)
<b>Package 2 Length</b>	31.50 in (80 cm)

## Offer Sustainability

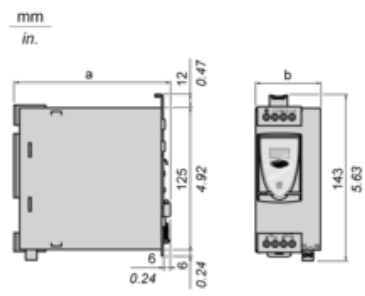
<b>Sustainable offer status</b>	Green Premium product
<b>California proposition 65</b>	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go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

## Contractual warranty

<b>Warranty</b>	18 months
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**Regulated Switch Mode Power Supplies**

**Dimensions**

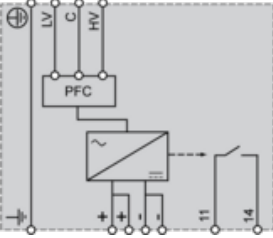


ABL 8	a in mm	a in in.	b in mm	b in in.
RPS24030	125	4.92	45	1.77
RPS24050	125	4.92	56	2.20
RPS24100	145	5.71	86	3.39
RPM24200	145	5.71	146	5.75
WPS24200	160	6.30	96	3.78
WPS24400	160	6.30	166	6.54

**Regulated Switch Mode Power Supply**

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**Internal Wiring Diagram**

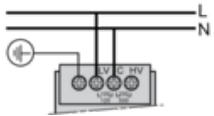


**Regulated Switch Mode Power Supply**

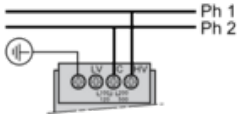
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**Line Supply Wiring Diagram**

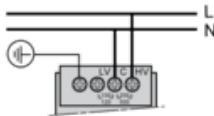
Single-phase (L-N) 100 to 120 V



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



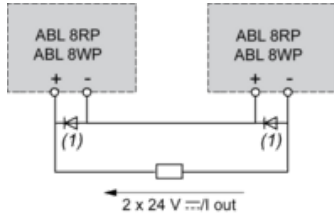
Single-phase (L-N) 200 to 500 V



**Regulated Switch Mode Power Supplies**

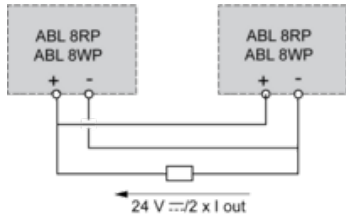
**Series or Parallel Connection**

**Series Connection**



(1) Two Schottky diodes I<sub>min</sub> = power supply I<sub>n</sub> and V<sub>min</sub> = 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

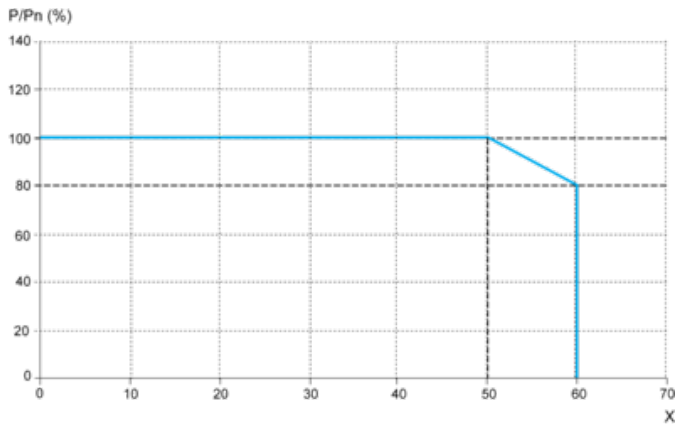
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#### Derating

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

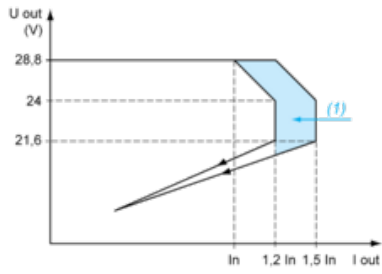
Derating should be considered in extreme operating conditions:

- 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**

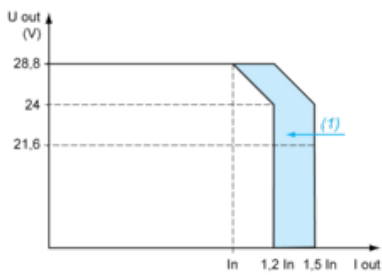
**Load Limit**

**Manual Reset Protection Mode**



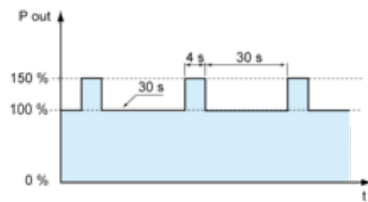
(1) Boost 4s

**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.