

# Product data sheet

## Characteristics

# ABL8RPS24050

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

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

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

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

## Environment

Standards	CSA C22.2 No 60950-1 UL 508 EN/IEC 62368-1
Product certifications	CCSAus EAC KC RCM UL
Environmental characteristic	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
Operating altitude	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 -13...122 °F (-25...50 °C) without)
Ambient air temperature for storage	-40...158 °F (-40...70 °C)
Relative humidity	0...90 % during operation 0...95 % in storage
Electrical energy source class conforming to IEC 62368-1	ES1
Dielectric strength	3500 V between input and ground 4000 V between input and output 500 V between output and ground

## Ordering and shipping details

Category	22525 - ABL8 AND ABL7 POWER SUPPLIE
Discount Schedule	CP12
GTIN	03389119405614
Nbr. of units in pkg.	1
Package weight(Lbs)	32.13 oz (911 g)
Returnability	Yes
Country of origin	PH

## Packing Units

Unit Type of Package 1	PCE
Package 1 Height	2.98 in (7.576 cm)
Package 1 width	5.70 in (14.467 cm)
Package 1 Length	6.50 in (16.503 cm)

## Offer Sustainability

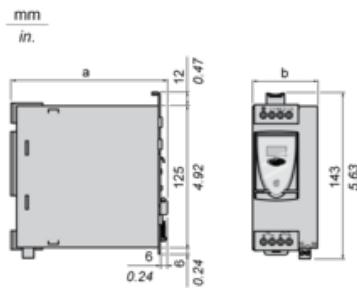
Sustainable offer status	Green Premium product
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>
REACH Regulation	<a href="#">REACH Declaration</a>
REACH free of SVHC	Yes
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

Warranty	18 months
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Regulated Switch Mode Power Supplies

Dimensions



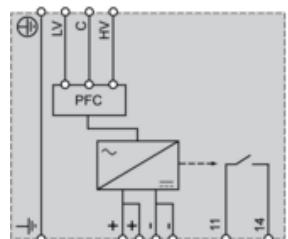
ABL 8	a in mm	a in in.	b in mm	b in in.
RPS24030	125	4.92	45	1.77
RPS24050	125	4.92	56	2.20
RPS24100	145	5.71	86	3.39
RPM24200	145	5.71	146	5.75
WPS24200	160	6.30	96	3.78
WPS24400	160	6.30	166	6.54

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Regulated Switch Mode Power Supply

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Internal Wiring Diagram



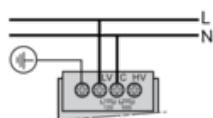
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### Regulated Switch Mode Power Supply

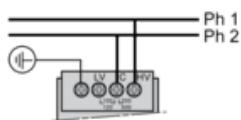
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#### Line Supply Wiring Diagram

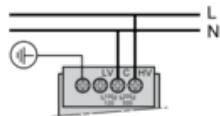
Single-phase (L-N) 100 to 120 V



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



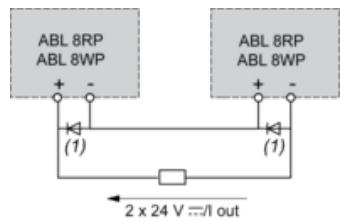
Single-phase (L-N) 200 to 500 V



Regulated Switch Mode Power Supplies

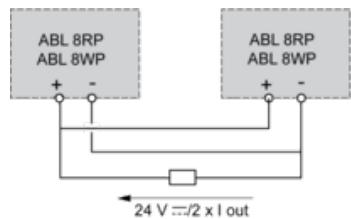
Series or Parallel Connection

Series Connection



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

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.

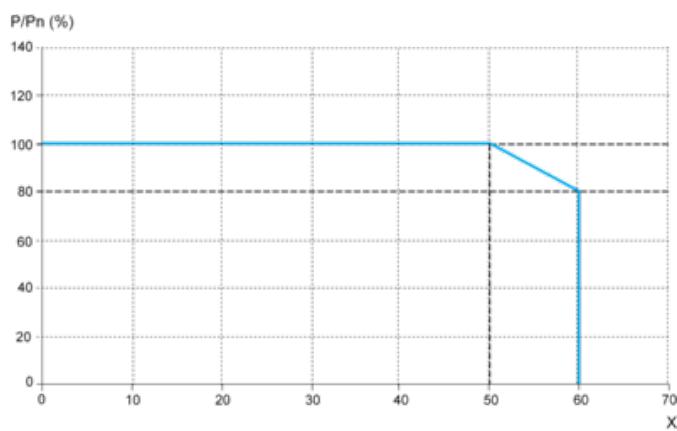
## Regulated Switch Mode Power Supplies

### 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

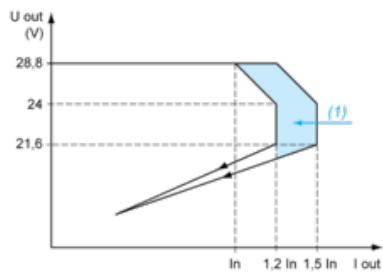
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## Regulated Switch Mode Power Supply

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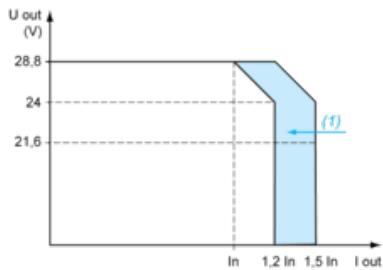
### Load Limit

#### Manual Reset Protection Mode



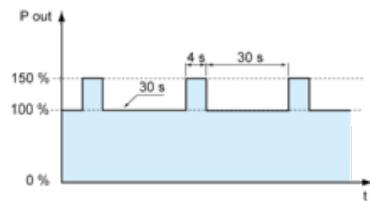
(1) Boost 4s

#### 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.