Product data sheet

Specifications

Regulated Switch Power Supply, 3-phase, 380..500V AC, 24V, 20 A

ABL8WPS24200

Main

Range of product	Modicon Power Supply
Product or component type	Power supply
Power supply type	Regulated switch mode
Nominal input voltage	380...500 V AC three phase, terminal(s): L1, L2, L3
Input voltage limits	320...550 V AC
Rated power in W	480 W
Output voltage	24 V DC
Power supply output current	20 A
Permissible temporary current boost	1.5 x In (for 4 s)
Anti-harmonic filter	Low frequency harmonic currents

Complementary

Inrush current	25 A
Power factor	0.65 at 24 V DC
Efficiency	92 %
Output voltage adjustment	24...28.8 V adjustable
Power dissipation in W	38.4 W
Provided equipment	Power factor correction filter conforming to IEC 61000-3-2
Output protection type	Against overload, protection technology: manual or automatic reset Against overvoltage, protection technology: 30...32 V, manual reset Against short-circuits, protection technology: manual or automatic reset Against undervoltage, protection technology: tripping if U < 21.6 V Thermal, protection technology: automatic reset
Connections - terminals	Removable screw terminal block: 2 x 2.5 mm², for diagnostic relay Screw type terminals: 3 x 0.5...3 x 4 mm², (AWG 22...AWG 12) for input connection Screw type terminals: 1 x 0.5...1 x 4 mm², (AWG 22...AWG 12) for input ground connection Screw type terminals: 4 x 0.5...4 x 10 mm², (AWG 22...AWG 8) for output connection
Status LED	1 LED (green and red)output voltage 1 LED (green, red and orange)output current
Depth	160 mm
Height	143 mm
Width	96 mm
Net weight	1.6 kg

Output coupling	Series Parallel
Marking	CE
Mounting support	35 x 7.5 mm symmetrical DIN rail 35 x 15 mm symmetrical DIN rail
Operating position	Vertical
Supply	SELV conforming to EN/IEC 60950-1 SELV conforming to EN/IEC 60204-1 SELV conforming to IEC 60364-4-41

Environment

Standards	CSA C22.2 No 60950-1 UL 508 EN/IEC 62368-1
Product certifications	CCSAus EAC UL RCM
Environmental characteristic	EMC conforming to EN 61000-6-1 EMC conforming to EN 61000-6-3 EMC conforming to EN 55024 EMC conforming to EN/IEC 61000-6-4 EMC conforming to EN/IEC 61204-3 Safety conforming to EN 61204-4 Safety conforming to EN/IEC 60950-1
Operating altitude	2000 m
IP degree of protection	IP20 conforming to EN/IEC 60529
Ambient air temperature for operation	50…60 °C (with derating factor) -25…50 °C (without)
Ambient air temperature for storage	-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

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Weight	2.151 kg
Package 1 Height	12.882 cm
Package 1 width	15.928 cm
Package 1 Length	18.442 cm
Unit Type of Package 2	S06
Number of Units in Package 2	45
Package 2 Weight	110 kg
Package 2 Height	73.5 cm
Package 2 width	60 cm
Package 2 Length	80 cm

Offer Sustainability

Sustainable offer status	Green Premium product

REACh Regulation	REACh Declaration
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration
Mercury free	Yes
RoHS exemption information	Yes
China RoHS Regulation	China RoHS declaration
Environmental Disclosure	Product Environmental Profile
Circularity Profile	End of Life Information
PVC free	Yes
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 www.P65Warnings.ca.gov

Contractual warranty

Warranty	18 months

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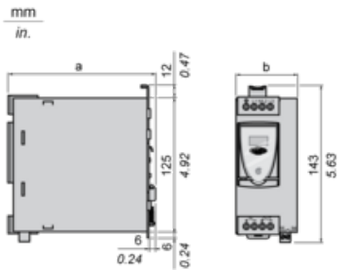
Dimensions Drawings

Regulated Switch Mode Power Supplies

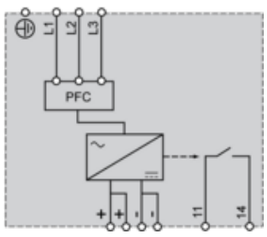
Dimensions



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

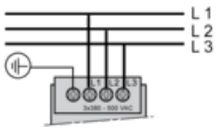
Internal Wiring Diagram



Regulated Switch Mode Power Supply

Line Supply Wiring Diagram

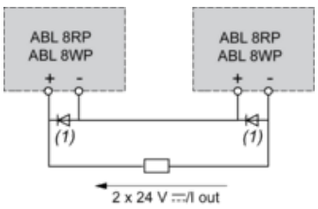
Three-phase (L1-L2-L3) 3 x 380 to 500 V



Regulated Switch Mode Power Supplies

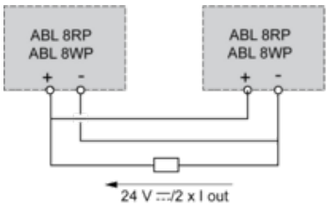
Series or Parallel Connection

Series Connection



(1) Two Shottky diodes Imin = power supply In and Vmin = 50 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.

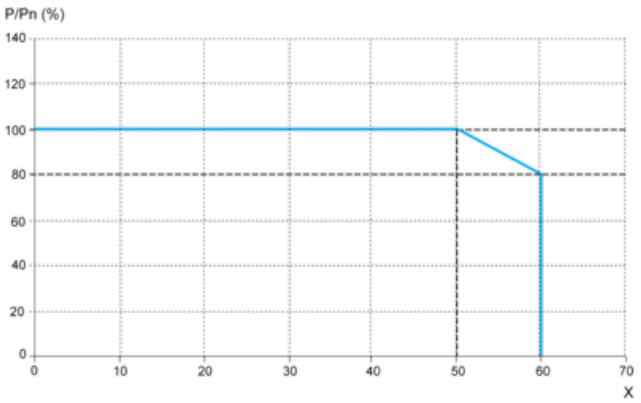
Regulated Switch Mode Power Supplies

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

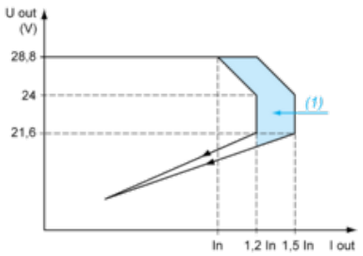
Derating should be considered in extreme operating conditions:

- 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

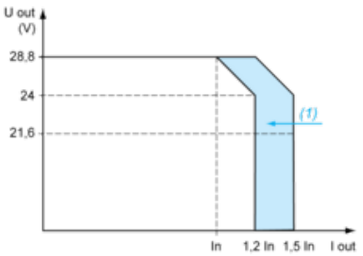
Load Limit

Manual Reset Protection Mode



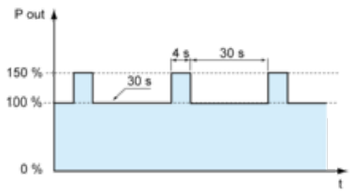
(1) Boost 4s

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.