



### Main

Range of product	Phaseo
Product or component type	Power supply
Power supply type	Regulated switch mode
Input voltage	100...240 V AC phase to phase, terminal(s): L1-L2 100...240 V AC single phase, terminal(s): N-L1 110...220 V DC
Output voltage	24 V DC
Rated power in W	120 W
Input protection type	Integrated fuse (not interchangeable)
Power supply output current	5 A
Output protection type	Against overload, protection technology: 1.1 x In Against overvoltage, protection technology: tripping if $U > 1.5 \times U_n$ Against short-circuits, protection technology: automatic reset Against undervoltage, protection technology: tripping if $U < 0.8 \times U_n$
Ambient air temperature for operation	0...50 °C (without) 50...60 °C (with derating factor)

### Complementary

Input voltage limits	85...264 V 100...250 V
Network frequency	47...63 Hz
Inrush current	30 A
Cos phi	0.65
Efficiency	85 %
Output voltage limits	100...120 % adjustable
Power dissipation in W	21.2 W
Current consumption	1.2 A at 240 V 1.9 A at 100 V
Line and load regulation	+/- 3 %
Holding time	>= 10 ms at 100 V

>= 10 ms at 240 V

Connections - terminals	For input connection: screw type terminals, connection capacity: 2 x 0.14...2 x 2.5 mm <sup>2</sup> AWG 26...AWG 14 For output connection: screw type terminals, connection capacity: 4 x 0.14...4 x 2.5 mm <sup>2</sup> AWG 26...AWG 14 For input ground connection: screw type terminals, connection capacity: 1 x 0.14...1 x 2.5 mm <sup>2</sup> AWG 26...AWG 14 For output ground connection: screw type terminals, connection capacity: 2 x 0.14...2 x 2.5 mm <sup>2</sup> AWG 26...AWG 14
Marking	CE
Mounting support	35 x 15 mm symmetrical DIN rail 75 x 7.5 mm symmetrical DIN rail 35 x 7.5 mm symmetrical DIN rail
Operating position	Vertical
Operating altitude	2000 m
Output coupling	Series Parallel
Name of test	Electrostatic discharges conforming to EN/IEC 61000-4-2 Induced electromagnetic field conforming to EN/IEC 61000-4-6 Primary outage conforming to IEC 61000-4-11 Radiated electromagnetic field conforming to EN/IEC 61000-4-3 Rapid transient conforming to IEC 61000-4-4 Surge conforming to EN/IEC 61000-4-5 Emission conforming to EN 50081-1 Conducted/radiated emissions conforming to EN 55011 Conducted/radiated emissions conforming to EN 55022 class B
Status LED	1 LED (green)output voltage: 1 LED (orange)input voltage:
Depth	120 mm
Height	120 mm
Width	54 mm
Net weight	1 kg

## Environment

MTBF reliability	104640 H at 110 V AC with MIL-HDBK-217F calculation method 105777 H at 220 V AC with MIL-HDBK-217F calculation method
Product certifications	RCM EAC KC CCSAus UL
Standards	UL 508 CSA C22.2 No 60950-1
Environmental characteristic	EMC conforming to EN 50081-1 EMC conforming to EN 50082-2 EMC conforming to EN 55024 Safety conforming to EN/IEC 60950 Safety conforming to SELV
IP degree of protection	IP20 conforming to EN/IEC 60529
Ambient air temperature for storage	-25...70 °C
Relative humidity	0...95 % without condensation or dripping water
Overvoltage category	Class II conforming to IEC 60664-1
Dielectric strength	3000 V between input and ground 3000 V between input and output 500 V between output and ground 500 V between outputs

## Offer Sustainability

Sustainable offer status	Green Premium product
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)

[EU RoHS Declaration](#)

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>

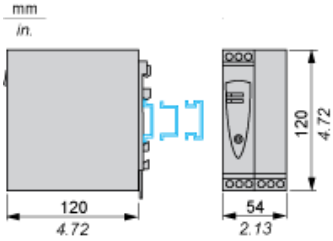
**Contractual warranty**

Warranty	18 months
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Regulated Switch Mode Power Supply

Dimensions and Mounting

Mounting on 35 mm/1.37 in. or 75 mm/2.95 in. Rail

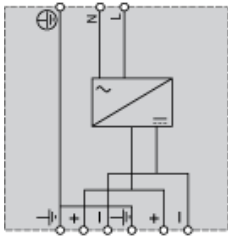


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Regulated Switch Mode Power Supply

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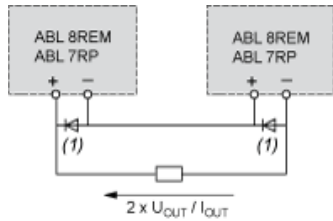
Internal Wiring Diagram



Regulated Switch Mode Power Supplies

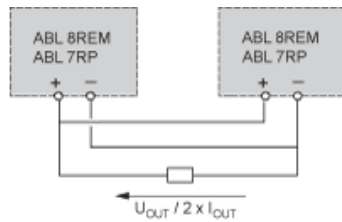
Series or Parallel Connection

Series Connection



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

Parallel Connection



Family	Series	Parallel
ABL 8REM/7RP	2 products max.	2 products max.

NOTE: Series or parallel connection is only recommended for products with identical references.

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## Regulated Switch Mode Power Supplies

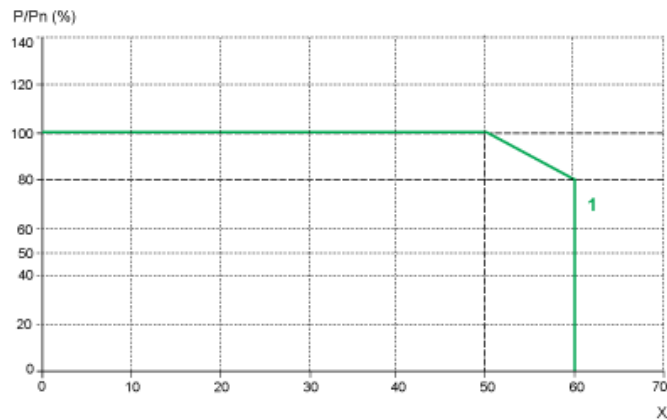
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### Derating

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 Optimum 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 as a percentage of the nominal power that the power supply can deliver continuously, depending on the ambient temperature.



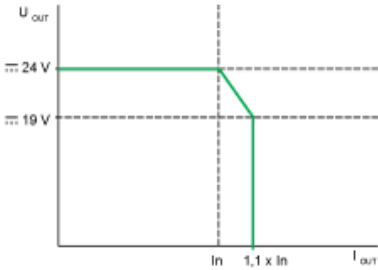
X Maximum operating temperature (°C)  
(1) ABL 8REM, ABL 7RP mounted vertically

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





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Regulated Switch Mode Power Supply

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Temporary Overloads

