Product data sheet

Characteristics

ABL8REM24030
regulated SMPS - 1 or 2-phase - 100..240 V AC - 24 V - 3 A

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  72 W
Input protection type  Integrated fuse (not interchangeable)
Power supply output current  3 A
Output protection type  Against overload, protection technology: 1.1 x In
  Against overvoltage, protection technology: tripping if U > 1.5 x Un
  Against short-circuits, protection technology: automatic reset
  Against undervoltage, protection technology: tripping if U < 0.8 x Un
Ambient air temperature for operation  0...50 °C without
  50...60 °C with

Complementary

Input voltage limits  100...250 V
  85...264 V
Network frequency  47...63 Hz
Inrush current  30 A
Cos phi  0.065
Efficiency  85 %
Output voltage limits  100...120 % adjustable
Power dissipation in W  12.7 W
Current consumption  0.83 A at 240 V
  1.46 A at 100 V
Line and load regulation  +/- 3 %
Holding time  >= 10 ms at 100 V
  >= 10 ms at 240 V
Connections - terminals  Screw type terminals for input connection, connection capacity: 2 x 0.14...2 x 2.5 mm² AWG
  26...AWG 14
  Screw type terminals for input ground connection, connection capacity: 1 x 0.14...1 x 2.5 mm² AWG
  26...AWG 14

Disclaimer: 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.

Aug 30, 2019
Screw type terminals for output connection, connection capacity: 2 x 0.14...2 x 2.5 mm² AWG 26...AWG 14
Screw type terminals for output ground connection, connection capacity: 1 x 0.14...1 x 2.5 mm² AWG 26...AWG 14

<table>
<thead>
<tr>
<th>Marking</th>
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</table>
| Mounting support   | 35 x 7.5 mm symmetrical DIN rail  
|                    | 75 x 7.5 mm symmetrical DIN rail  
|                    | 35 x 15 mm symmetrical DIN rail |
| Operating position | Vertical |
| Operating altitude | 2000 m |
| Output coupling    | Series  
|                    | Parallel |
| Name of test       | Conducted/radiated emissions conforming to EN 55011  
|                    | Conducted/radiated emissions conforming to EN 55022 Class B  
|                    | Electrostatic discharges conforming to EN/IEC 61000-4-2  
|                    | Emission conforming to EN 50081-1  
|                    | 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 |
| Status LED         | 1 LED green for output voltage  
|                    | 1 LED orange for input voltage |
| Depth              | 120 mm |
| Height             | 120 mm |
| Width              | 27 mm |
| Product weight     | 0.52 kg |

**Environment**

| Product certifications | CSA 22-2 No 950  
|                        | EAC  
|                        | RCM  
|                        | KC  
|                        | UL |
| Standards             | CSA C22.2 No 60950-1  
|                        | UL 508 |
| Environmental characteristic | EMC conforming to EN 55024  
|                              | EMC conforming to EN 50081-1  
|                              | EMC conforming to EN 50082-2  
|                              | 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 I conforming to VDE 0106-1 |
| Dielectric strength | Between input and ground  
|                    | Between output and ground  
|                    | Between input and output  
|                    | Between outputs |
| MTBF reliability    | 115104 H at 110 V AC with MIL-HDBK-217F calculation method  
|                    | 116354 H at 220 V AC with MIL-HDBK-217F calculation method |

**Contractual warranty**

| Warranty period | 18 months |
Regulated Switch Mode Power Supply

Dimensions and Mounting
Mounting on a 35 mm/1.37 in. or 75 mm/2.95 in. Rail
Regulated Switch Mode Power Supply

Internal Wiring Diagram
Regulated Switch Mode Power Supplies

Series or Parallel Connection

Series Connection

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

Parallel Connection

<table>
<thead>
<tr>
<th>Family</th>
<th>Series</th>
<th>Parallel</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABL 8REM/7RP</td>
<td>2 products max.</td>
<td>2 products max.</td>
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</tbody>
</table>

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

![Graph showing power derating]

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

V_{OUT}

- 26 V
- 18 V

In 1.1 x In 1.1 x In