

Schneider Series Service Manual

ABL8RPS24100

1. Description

The ABL8RPS24100 by Schneider Electric is a versatile universal power supply designed for adaptability in various applications. It features a regulated switch mode power supply that delivers consistent output.

2. Specifications

Specification	Value
Manufacturer	Schneider Electric
Product	Line Modicon
Part	Number ABL8RPS24100
EAN	3389119405621
Weight	3.19 lbs (1.45 kg)
Module	Name Universal Power Supply
Power	Supply Type Regulated Switch Mode
Nominal	Input Voltage 100 to 120 V AC single phase N-L1 and 200 to 500 V AC phase to phase L1-L2
Input	Voltage Limits 170 to 550 V AC and 85 to 132 V AC
Power	Rating 240 Watt
Output	Voltage 24 V DC
Power	Supply Output Current 10 A
Inrush	Current 30 A
Power	Factor 0.68 at 240 V AC and 0.69 at 120 V AC
Power	Dissipation 31 W

3. Product Information

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Technical specifications for ABL8RPS24100

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Product Line Modicon

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EAN 3389119405621

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Power Supply Output Current 10 A

Inrush Current 30 A

Power Factor 0.68 at 240 V AC and 0.69 at 120 V AC

Power Dissipation 31 W

Description

The Schneider Electric ABL8RPS24100 universal power supply module operates under regulated switch mode technology, ensuring stable power for connected devices. It accommodates a nominal input voltage between 100 and 120 V AC for single-phase configurations, while also supporting a range of 200 to 500 V AC from phase to phase. The power supply has input voltage limits, allowing operation between 170 and 550 V AC or 85 to 132 V AC.

Providing a power rating of up to 240 Watts, this unit offers an output of 24 V DC at a current capacity of 10 A. The initial inrush current is rated at 30 A, allowing for brief surges during operation. The power factor is measured at 0.68 when powered by 240 V AC, and at 0.69 when running with 120 V AC.

In terms of efficiency, the power dissipation of the module is specified at 31 W. The unit is compact, weighing approximately 1 kg, with dimensions of 145 mm in depth, 125 mm in height, and 86 mm in width. This configuration makes the ABL8RPS24100 suitable for a variety of installations where reliable power supply is essential.

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

Rated power in W

240 W

Output voltage

24 V DC

Power supply output current

10 A

Permissible temporary current boost

1.5 x In for 4 s)

Anti-harmonic filter

Low frequency harmonic currents

Complementary

Efficiency at full load

170...550 V AC

85...132 V AC

Inrush current

30 A

Power factor

0.68 at 240 V AC

0.69 at 120 V AC

Efficiency

87 %

Output voltage adjustment

24...28.8 V adjustable

Power dissipation in W

31 W

Provided equipment

Power factor correction filter 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 $U < 21.6 \text{ V}$

Thermal, protection technology: automatic reset

Connections - terminals

Removable screw terminal block 2 x 2.5 mm², diagnostic relay

Screw type terminals 3 x 0.5...3 x 4 mm², AWG 22...AWG 12) input connection

Screw type terminals 1 x 0.5...1 x 4 mm², AWG 22...AWG 12) input ground connection

Screw type terminals 4 x 0.5...4 x 4 mm², AWG 22...AWG 12) output connection

Screw type terminals 1 x 0.5...1 x 4 mm², AWG 22...AWG 12) output ground connection

Status LED

1 LED (green and red) output voltage

1 LED (green, red and orange) output current

Depth

5.7 in (145 mm)

Height

4.9 in (125 mm)

Width

3.4 in (86 mm)

Net Weight

2.2 lb(US) (1 kg)

Output coupling

Parallel

Series

Marking

CE

Mounting support

35 x 7.5 mm symmetrical DIN rail

35 x 15 mm symmetrical DIN rail

Operating position

Vertical

Supply

SELV IEC 60950-1

SELV IEC 60204-1

SELV IEC 60364-4-41

Dielectric strength

3500 V with between input and ground

4000 V with between input and output

500 V with between output and ground

Environment

Standards

UL 508

CSA C22.2 No 60950-1

EN/IEC 62368-1

Product certifications

CCSAus

EAC

KC

RCM

UL

Environmental characteristic

EMC conforming to IEC 61000-6-1

EMC conforming to IEC 61000-6-3

EMC conforming to EN 55024

EMC conforming to IEC 61000-6-4

EMC conforming to EN/IEC 61204-3

Safety conforming to IEC 60950-1

Safety conforming to EN/IEC 61204-3

Operating altitude

6561.68 ft (2000 m)

IP degree of protection

IP20 conforming to IEC 60529

Ambient air temperature for operation

122...140 °F (50...60 °C) with derating factor mounting position A < 6561.68 ft (2000 m)

-13...122 °F (-25...50 °C) without derating mounting position A < 6561.68 ft (2000 m)