

# Product datasheet

Specifications



## Regulated Power Supply, 100-240V AC, 5V 3.6 A, single phase, Modular

ABLM1A05036

### Main

Range of product	Modicon Power Supply
product or component type	Power supply
Power supply type	Regulated switch mode
Variant option	Modular
Enclosure material	Plastic
Nominal input voltage	100...240 V AC single phase 100...240 V AC phase to phase
Rated power in W	18 W
Output voltage	5 V DC
Power supply output current	3.6 A

### Complementary

Input voltage limits	90...264 V AC
Nominal network frequency	50...60 Hz
Network system compatibility	TN TT IT
Maximum leakage current	0.25 mA 240 V AC
Input protection type	Integrated fuse (not interchangeable) 3.15 A External protection (recommended) 20 A Curve B External protection (recommended) 20 A Curve C External protection (recommended) 4 A Curve B External protection (recommended) 4 A Curve C
Inrush current	25 A at 115 V 50 A at 230 V
Power factor	0.48 at 115 V AC 0.38 at 230 V AC
Efficiency	80 % at 115 V AC 80 % at 230 V AC
Output voltage adjustment	4.5...5.5 V
Power dissipation in W	4.5 W
Current consumption	< 0.6 A 115 V AC < 0.4 A 230 V AC
Turn-on time	< 2 s
Holding time	> 20 ms 115 V AC > 60 ms 230 V AC
Startup with capacitive loads	3000 $\mu$ F

<b>residual ripple</b>	< 100 mV
<b>Meantime between failure [MTBF]</b>	2500000 h at 25 °C, full load 1000000 h at 55 °C, 80 % load
<b>Output protection type</b>	Against overload and short-circuits, protection technology: automatic reset Against over temperature, protection technology: manual reset Against overvoltage, protection technology: manual reset
<b>Connections - terminals</b>	Screw connection: 0.5...1.5 mm <sup>2</sup> , (AWG 20...AWG 16) without wire end ferrule for input/output Screw connection: 0.5...1 mm <sup>2</sup> , (AWG 20...AWG 18) with wire end ferrule for input/output
<b>Line and load regulation</b>	< 0.5 % at in line < 1 % at 0 to 100 % load
<b>Status LED</b>	1 LED (green) output voltage
<b>Depth</b>	55.6 mm
<b>Height</b>	91 mm
<b>Width</b>	36 mm
<b>net weight</b>	0.170 kg
<b>Output coupling</b>	Serial
<b>Mounting support</b>	Top hat type TH35-15 rail conforming to IEC 60715 Top hat type TH35-7.5 rail conforming to IEC 60715 Double-profile DIN rail panel mounting
<b>Supply</b>	SELV conforming to IEC 60950-1 SELV conforming to IEC 60204-1 SELV conforming to IEC 60364-4-41
<b>Dielectric strength</b>	3000 V AC input/output
<b>Service life</b>	10 year(s)
<b>Overvoltage category</b>	II

## Environment

<b>Standards</b>	IEC 62368-1 EN/IEC 61010-1 EN 61010-2-201 EN/IEC 61204-3 IEC 61000-6-1 IEC 61000-6-2 IEC 61000-6-3 IEC 61000-6-4 IEC 61000-3-2 EN 61000-3-3 UL 62368-1 UL 61010-1 UL 61010-2-201 CSA C22.2 No 62368-1 CSA C22.2 No 61010-1 CSA C22.2 No 61010-2-201 EN/IEC 62368-1
<b>Product certifications</b>	CE CUL listed CUL recognized RCM CB Scheme EAC KC NEC: class 2
<b>Operating altitude</b>	< 2000 m overvoltage category III 2000 m...5000 m overvoltage category II
<b>Shock resistance</b>	150 m/s <sup>2</sup> for 11 ms
<b>IP degree of protection</b>	IP20

<b>Ambient air temperature for operation</b>	-25...55 °C without current derating mounting position A < 2000 m 55...70 °C with current derating of 2.67 % per °C mounting position A < 2000 m
<b>Electrical shock protection class</b>	Class II without PE connection
<b>Pollution degree</b>	2
<b>Vibration resistance</b>	3 mm (f= 2...9 Hz) conforming to IEC 60721-3-3 10 m/s <sup>2</sup> (f= 9...200 Hz) conforming to IEC 60721-3-3
<b>Electromagnetic immunity</b>	Immunity to electrostatic discharge - test level: 8 kV (contact discharge) conforming to IEC 61000-4-2 Immunity to electrostatic discharge - test level: 15 kV (air discharge) conforming to IEC 61000-4-2 Electromagnetic field immunity test - test level: 15 V/m (80 MHz...2 GHz) conforming to IEC 61000-4-3 Electromagnetic field immunity test - test level: 5 V/m (2...2.7 GHz) conforming to IEC 61000-4-3 Electromagnetic field immunity test - test level: 5 V/m (2.7...6 GHz) conforming to IEC 61000-4-3 Immunity to fast transients - test level: 4 kV (on input-output) conforming to IEC 61000-4-4 Surge immunity test - test level: 4 kV (between power supply and earth) conforming to IEC 61000-4-5 Surge immunity test - test level: 3 kV (between phases) conforming to IEC 61000-4-5 Immunity to conducted disturbances - test level: 15 V (0.15...80 MHz) conforming to IEC 61000-4-6 Immunity to magnetic fields - test level: 30 A/m (50...60 Hz) conforming to IEC 61000-4-8 Immunity to voltage dips - test level: 100 % (1 cycle) conforming to IEC 61000-4-11 Immunity to voltage dips - test level: 60 % (10 cycles) conforming to IEC 61000-4-11 Immunity to voltage dips - test level: 30 % (25 cycles) conforming to IEC 61000-4-11 Disturbing field emission conforming to EN 55016-2-3 Limits for harmonic current emissions conforming to IEC 61000-3-2 conforming to EN 55016-1-2 conforming to EN 55016-2-1
<b>Electromagnetic emission</b>	Conducted emissions conforming to IEC 61000-6-3 Radiated emissions conforming to IEC 61000-6-4

## Packing Units

<b>Unit Type of Package 1</b>	PCE
<b>Number of Units in Package 1</b>	1
<b>Package 1 Height</b>	4.5 cm
<b>Package 1 Width</b>	6.2 cm
<b>Package 1 Length</b>	11 cm
<b>Package 1 Weight</b>	173 g
<b>Unit Type of Package 2</b>	S02
<b>Number of Units in Package 2</b>	29
<b>Package 2 Height</b>	15 cm
<b>Package 2 Width</b>	30 cm
<b>Package 2 Length</b>	40 cm
<b>Package 2 Weight</b>	5.51 kg
<b>Unit Type of Package 3</b>	P12
<b>Number of Units in Package 3</b>	928
<b>Package 3 Height</b>	75.0 cm
<b>Package 3 Width</b>	120.0 cm
<b>Package 3 Length</b>	80.0 cm
<b>Package 3 Weight</b>	186 kg

## Sustainability

**Green Premium™ label** is Schneider Electric's commitment to delivering products with best-in-class environmental performance. Green Premium promises compliance with the latest regulations, transparency on environmental impacts, as well as circular and low-CO<sub>2</sub> products.

**Guide to assessing product sustainability** is a white paper that clarifies global eco-label standards and how to interpret environmental declarations.

[Learn more about Green Premium >](#)

[Guide to assess a product's sustainability >](#)



Transparency RoHS/REACH

## Well-being performance

Mercury Free

RoHS Exemption Information Yes

## Certifications & Standards

Reach Regulation [REACH Declaration](#)

Eu RoHS Directive Pro-active compliance (Product out of EU RoHS legal scope)

China RoHS Regulation [China RoHS declaration](#)

Environmental Disclosure [Product Environmental Profile](#)

Weee The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

Circularity Profile [End of Life Information](#)

## Dimensions Drawings

### Electrical Safety

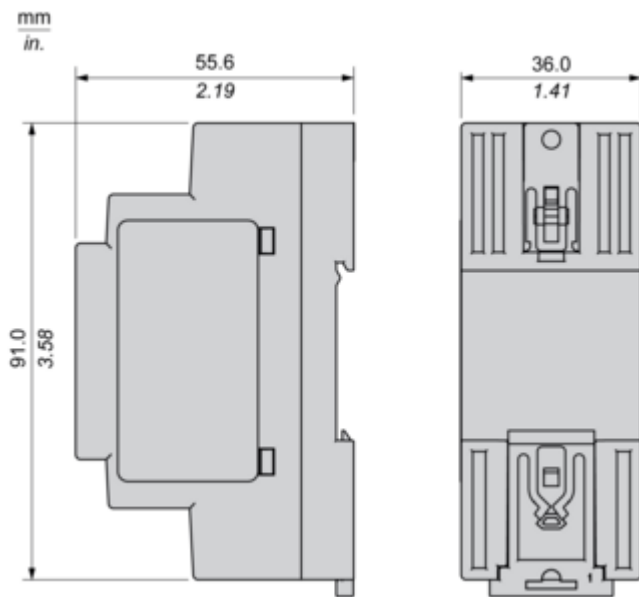
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- If the unit is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- For means of disconnection a switch or circuit breaker, located near the product, must be included in the installation. A marking as disconnecting device for the product is required.
- The device has an internal fuse. The unit is tested and approved with branch circuit protective device up to 20A. This circuit breaker can be used as disconnecting device.
- The power supply is only suitable for audio, video, information, communication, industrial and control equipment.

Dimensions

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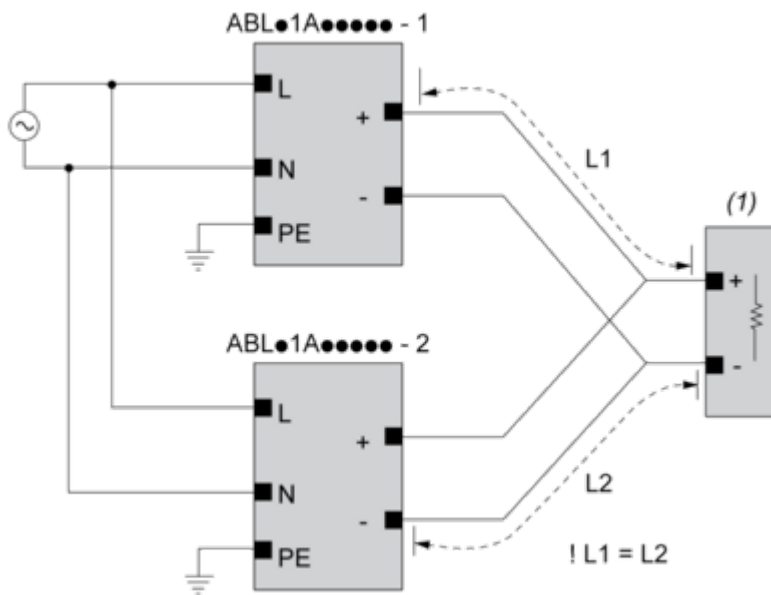
Side and Rear View



Connections and Schema

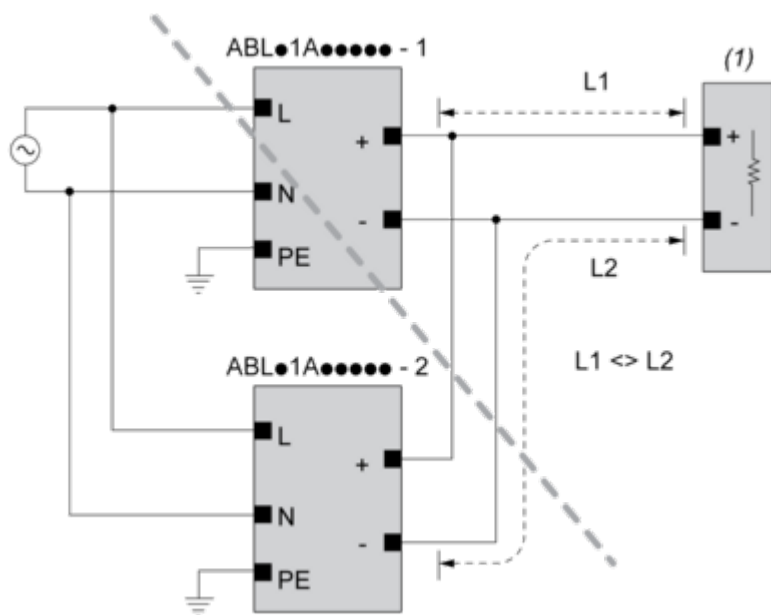
Connections and Schema

Correct Parallel Connection



(1) : Load

Incorrect Parallel Connection



(1) : Load

ABLx1Axxxxx-1 = ABLx1Axxxxx-2

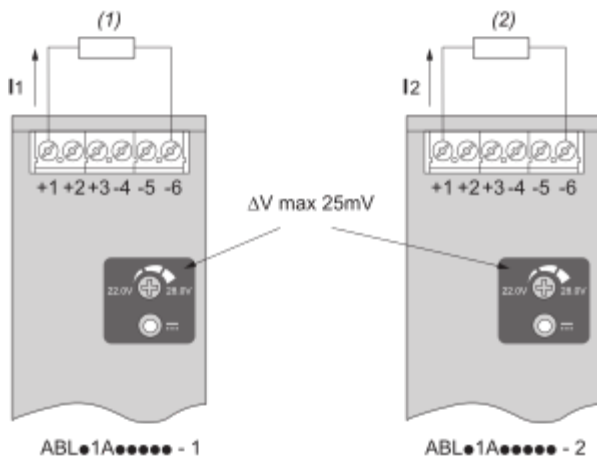
max 2 x ABLx1Axxxxx

L1 = L2

$\Delta V$  max 25 mV

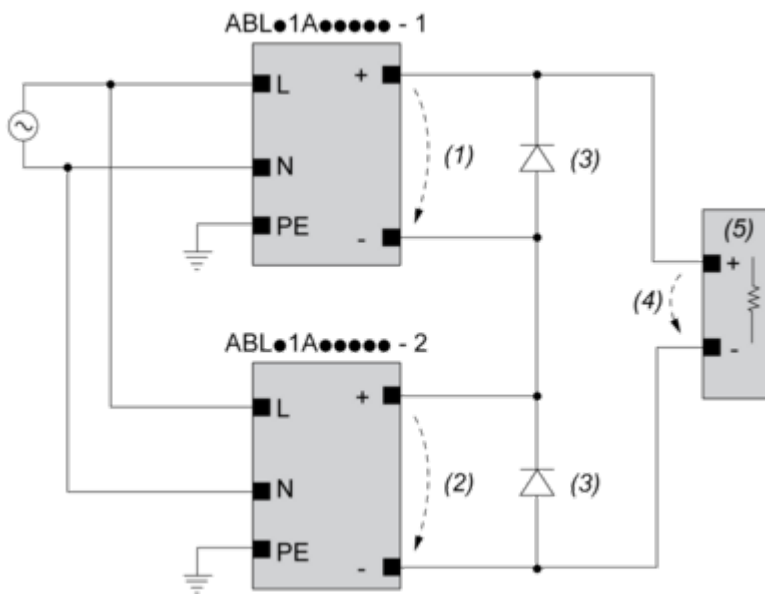
$I_{Load} < 90\% \cdot 2 \cdot I_{nom}$

Output Voltage Balancing



- (1) :  $R_{Load1}$
- (2) :  $R_{Load2}$
- $R_{Load1} = R_{Load2}$
- $I_1 = I_2 = \sim I_{nom}$

**Series Connection**



- (1) :  $V_{out1}$
- (2) :  $V_{out2}$
- (3) :  $2 \times \text{Diode}, V_{RRM} > 2 \times V_{out1/2}, I_F > 2 \times I_{nom1/2}$
- (4) :  $V_{Load} = 2 \times V_{out}$
- (5) : Load



Connections and Schema

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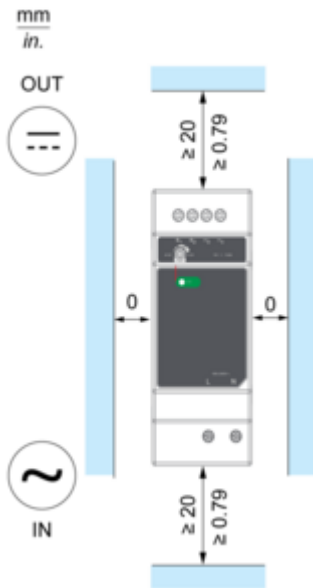
		(1)		
		<40°C	<50°C	<70°C
ABLM1A24004		60°C	75°C	75°C
ABLM1A12010		60°C	75°C	90°C
ABLM1A24006		60°C	75°C	90°C
ABLM1A05036	Input	60°C	75°C	90°C
	Output	75°C	90°C	90°C
ABLM1A12021		60°C	75°C	90°C
ABLM1A24012		60°C	75°C	90°C
ABLM1A12042		60°C	75°C	90°C
ABLM1A24025		60°C	75°C	90°C

(1) : Ambient

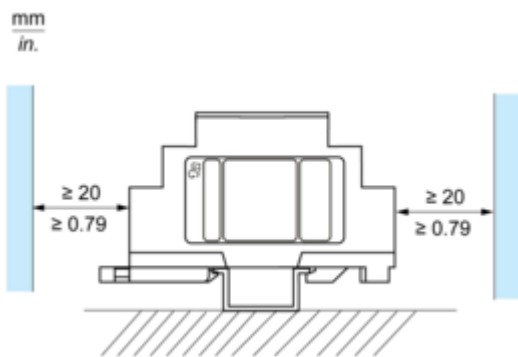
Mounting and Clearance

Mounting

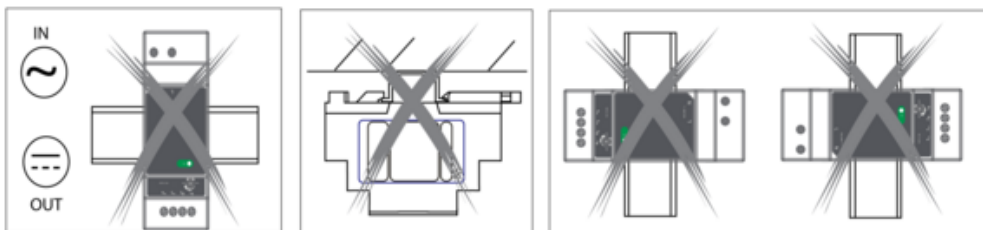
Mounting Position A



Mounting Position B



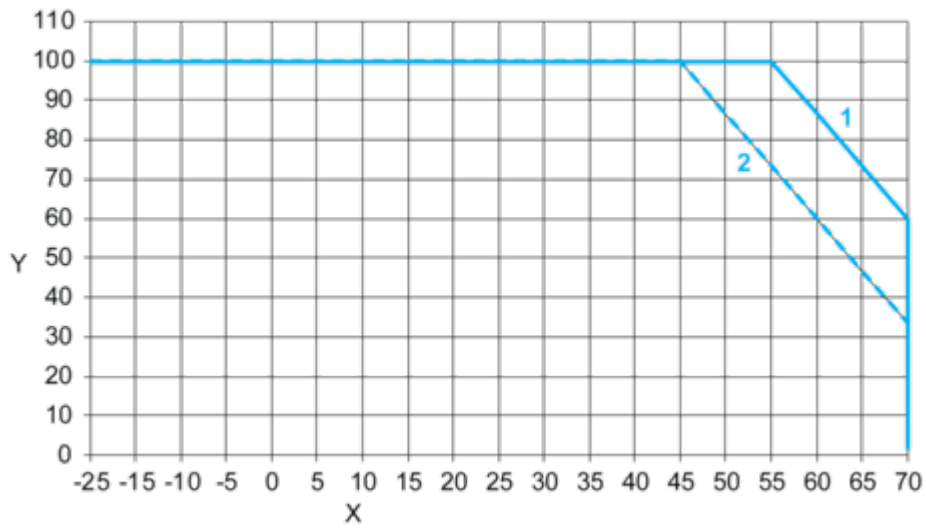
Incorrect Mounting



Performance Curves

Performance Curve

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- X : Ambient Temperature (°C)
- Y : Percentage of Max Load (%)
- 1 : Mounting A & B, altitude 2000M
- 2 : Mounting A & B, altitude 5000M