



### 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 2 phases
Input voltage limits	90...264 V AC
Kw Rating	50 W
Output voltage	12 V DC
Power supply output current	4.17 A

### Complementary

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) 10 A Curve B External protection (recommended) 6 A Curve C
Inrush current	30 A 115 V 60 A 230 V
Power factor	0.50 at 115 V AC 0.39 at 230 V AC
Efficiency	88 % 115 V AC 88 % at 230 V AC
Output voltage adjustment	12...15 V
Power dissipation in W	5.5 W
Current consumption	< 1.5 A 115 V AC < 1 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 µF
Residual ripple	< 100 mV
Expected capacitor life time	10 year(s)
Meantime between failure [MTBF]	1500000 H at 77 °F (25 °C), full load 1000000 h at 131 °F (55 °C), 80 % load
Output protection type	Against overload and short-circuits, protection technology: automatic reset Against over temperature, protection technology: manual reset Against overvoltage, protection technology: manual reset
Connections - terminals	Screw connection 0.5...2.5 mm <sup>2</sup> , AWG 20...AWG 14) without wire end ferrule output Screw connection 0.5...1.5 mm <sup>2</sup> , AWG 20...AWG 16) with wire end ferrule output Screw connection 0.5...1.5 mm <sup>2</sup> , AWG 20...AWG 16) input
Line and load regulation	< 0.5 %line < 1 %load
Status LED	Output voltage 1 LED Green)

Depth	2.19 in (55.6 mm)
Height	3.58 in (91 mm)
Maximum Width	2.09 in (53 mm)
Net Weight	0.49 lb(US) (0.221 kg)
Output coupling	Serial Parallel
Mounting support	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

## Environment

Standards	EN 62368-1 EN/IEC 61010-1 EN 61010-2-201 EN/IEC 61204-3 EN 61000-6-1 EN 61000-6-2 EN 61000-6-3 EN 61000-6-4 EN 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
Product certifications	CE CUL listed CUL recognized RCM CB Scheme EAC KC NEC class 2
Operating altitude	< 6561.68 ft (2000 m) overvoltage category III 2000 m...5000 m overvoltage category II
Shock resistance	100 m/s <sup>2</sup> for 11 ms
IP degree of protection	IP20
Ambient air temperature for operation	-13...131 °F (-25...55 °C) without current derating) 131...158 °F (55...70 °C) with current derating of 2.67 % per °C)
Ambient air temperature for storage	-40...185 °F (-40...85 °C)
Relative humidity	0...95 % without condensation
Overvoltage category	II
Electrical shock protection class	Class II without PE connection
Pollution degree	2
Vibration resistance	3 mm 2...9 Hz)IEC 60721-3-3 10 m/s <sup>2</sup> 9...200 Hz)IEC 60721-3-3

Electromagnetic immunity	<p>Immunity to electrostatic discharge - test level: 6 kV (contact discharge) conforming to EN/IEC 61000-4-2</p> <p>Immunity to electrostatic discharge - test level: 9 kV (air discharge) conforming to EN/IEC 61000-4-2</p> <p>Electromagnetic field immunity test 10 V/m 80 MHz...2 GHz) EN/IEC 61000-4-3</p> <p>Electromagnetic field immunity test 5 V/m 2...2.7 GHz) EN/IEC 61000-4-3</p> <p>Electromagnetic field immunity test 3 V/m 2.7...6 GHz) EN/IEC 61000-4-3</p> <p>Immunity to fast transients - test level: 4 kV (on input-output) conforming to EN/IEC 61000-4-4</p> <p>Surge immunity test - test level: 3 kV (between power supply and earth) conforming to EN/IEC 61000-4-5</p> <p>Surge immunity test - test level: 1.5 kV (between phases) conforming to EN/IEC 61000-4-5</p> <p>Immunity to conducted disturbances 10 Vrms 0.15...80 MHz) EN/IEC 61000-4-6</p> <p>Immunity to magnetic fields - test level: 30 A/m (50...60 Hz) conforming to EN/IEC 61000-4-8</p> <p>Immunity to voltage dips 100 % 1 cycle) EN/IEC 61000-4-11</p> <p>Immunity to voltage dips 60 % 10 cycles) EN/IEC 61000-4-11</p> <p>Immunity to voltage dips 30 % 25 cycles) EN/IEC 61000-4-11</p> <p>Disturbing field emission conforming to EN 55016-2-3</p> <p>Limits for harmonic current emissions conforming to EN 61000-3-2</p> <p>Conducted disturbance emission conforming to EN 55016-1-2</p> <p>Conducted disturbance emission conforming to EN 55016-2-1</p>
Electromagnetic emission	<p>Conducted emissions conforming to EN 61000-6-3</p> <p>Radiated emissions conforming to EN 61000-6-4</p>
Dielectric strength	3000 V AC input/output

### Ordering and shipping details

Category	22525 - ABL8 AND ABL7 POWER SUPPLIE
Discount Schedule	CP12
GTIN	00785901703259
Nbr. of units in pkg.	1
Package weight(Lbs)	1 lb(US) (0.45 kg)
Returnability	Yes

### Offer Sustainability

Sustainable offer status	Green Premium product
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 <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>
REACH Regulation	<a href="#">REACH Declaration</a>
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
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>
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.

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## Electrical Safety

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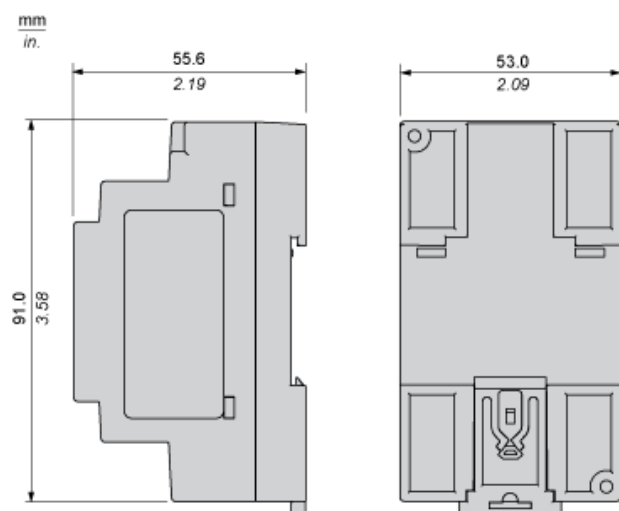
- If the unit is use in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- For means of disconnection a switch or circuit breaker, located near the product, must be included in the installation. A marking as disconnecting device for the product is 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.

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## Dimensions

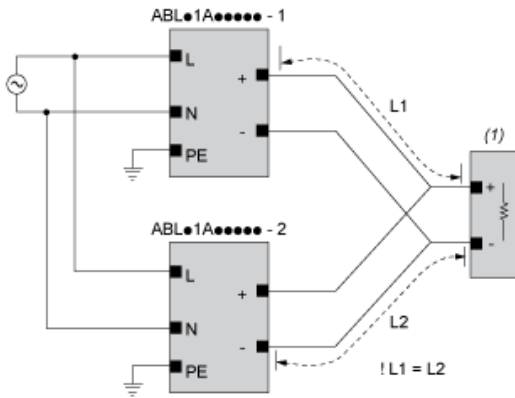
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### Side and Rear View



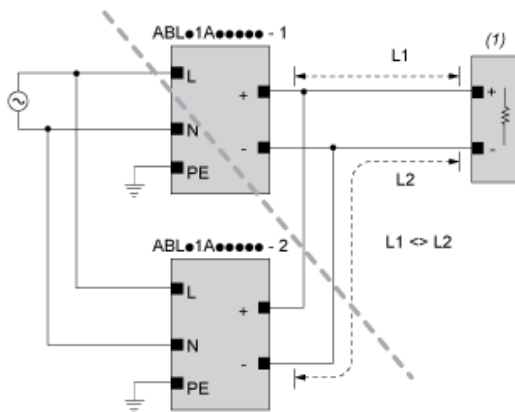
Connections and Schema

Correct Parallel Connection



(1): Load

Incorrect Parallel Connection



(1): Load

$ABLx1Axxxxx-1 = ABLx1Axxxxx-2$

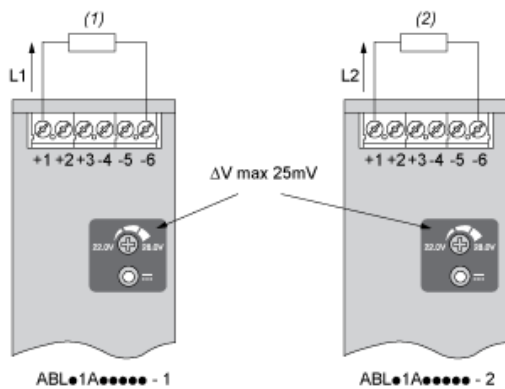
max 2 x ABLx1Axxxxx

$L1 = L2$

$\Delta V$  max 25 mV

$L_{Load} < 90\% \times L_{nom}$

Output Voltage Balancing



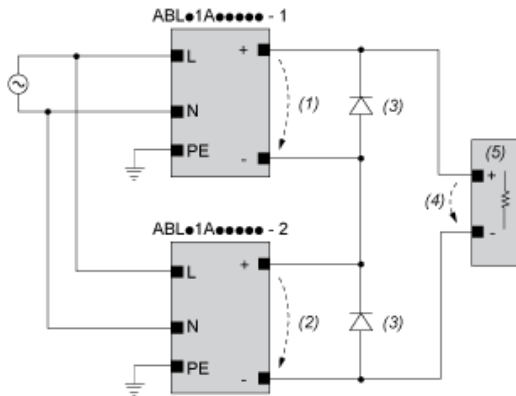
(1):  $R_{Load1}$

(2):  $R_{Load2}$

$$R_{Load1} = R_{Load2}$$

$$I_1 = I_2 = \sim I_{nom}$$

## Series Connection



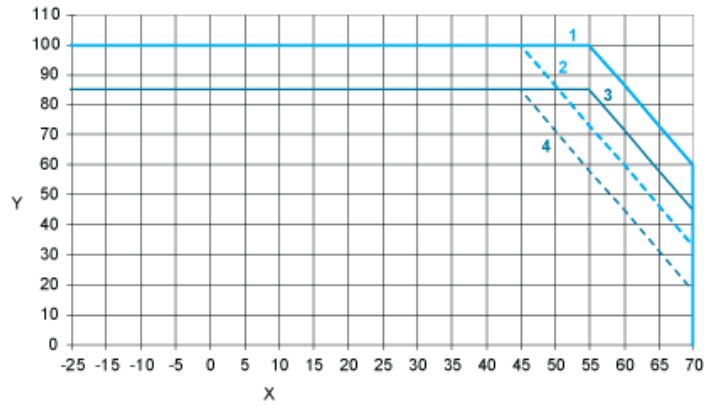
- (1):  $V_{out1}$
- (2):  $V_{out2}$
- (3):  $2 \times$  Diode,  $V_{RRM} > 2 \times V_{out1/2}$ ,  $I_F > 2 \times I_{nom1/2}$
- (4):  $V_{Load} = 2 \times V_{out}$
- (5): Load

## Connections and Schema

		(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

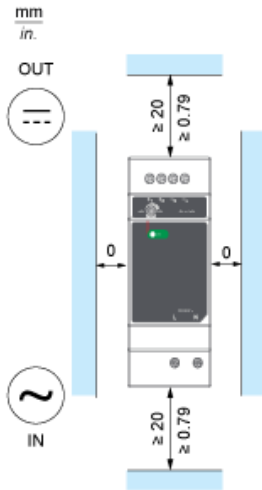
Performance Curve



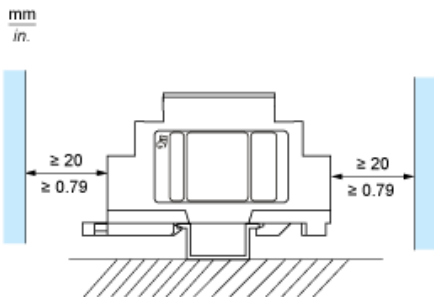
- X : Ambient Temperature (°C)
- Y : Percentage of Max Load (%)
- 1 : Altitude @2000M with Mounting A
- 2 : Altitude @5000M with Mounting A
- 3 : Altitude @2000M with Mounting B
- 4 : Altitude @5000M with Mounting B

Mounting

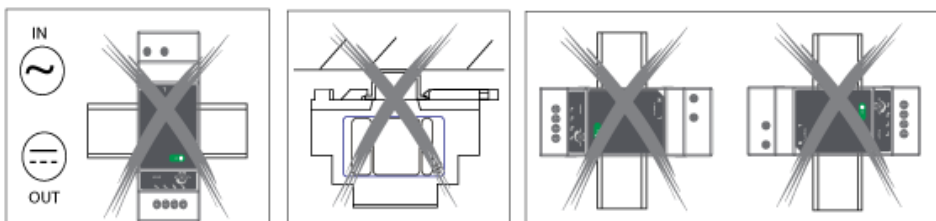
Mounting Position A



Mounting Position B



Incorrect Mounting





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