



**Main**

Range of Product	Modicon Power Supply
Product or Component Type	Power supply
Power supply type	Regulated switch mode
Variant option	Optimized
Enclosure Material	Aluminum
Nominal input voltage	100...240 V AC single phase 100...240 V AC phase to phase 140...340 V DC
Kw Rating	120 W
Output voltage	24 V DC
Power supply output current	5 A

**Complementary**

Efficiency at full load	85...264 V AC without temperature derating 120...375 V DC without temperature derating 85...120 V DC with temperature derating
Nominal network frequency	50...60 Hz
Network system compatibility	TN TT IT
Maximum leakage current	1 mA 240 V AC
Input protection type	Integrated fuse (not interchangeable) 4 A External protection (recommended) 20 A Curve C External protection (recommended) 13 A Curve C
Inrush current	30.0 A 115 V 60.0 A 230 V
Power factor	0.55 at 115 V AC 0.45 at 230 V AC
Efficiency	85 % 115 V AC 88 % 230 V AC
Output voltage adjustment	22...28 V
Power dissipation in W	25 W
Current consumption	< 2.5 A 115 V AC < 1.4 A 230 V AC < 1.3 A 140 V DC
Turn-on time	< 1 s
Holding time	> 20 ms 115 V AC > 40 ms 230 V AC
Startup with capacitive loads	8000 $\mu$ F
Residual ripple	< 120 mV
Meantime between failure [MTBF]	700000 h at 77 °F (25 °C), full load conforming to SR 332
Output protection type	Against overload and short-circuits automatic reset Against over temperature manual reset Against overvoltage manual reset
Connections - terminals	Screw connection 0.5...4 mm <sup>2</sup> , AWG 20...AWG 12) without wire end ferrule output Screw connection 0.5...2.5 mm <sup>2</sup> , AWG 20...AWG 14) with wire end ferrule output Screw connection 0.75...4 mm <sup>2</sup> , AWG 18...AWG 12) without wire end ferrule input Screw connection 0.75...4 mm <sup>2</sup> , AWG 18...AWG 12) with wire end ferrule input

Line and load regulation	< 0.5 % network 0 to 100 % load at 77 °F (25 °C) < 1 % network full voltage range in line at 77 °F (25 °C)
Status LED	1 LED (Green) output voltage
Depth	4.63 in (117.6 mm)
Height	4.87 in (123.6 mm)
Width	1.57 in (40 mm)
Net Weight	1.21 lb(US) (0.55 kg)
Output coupling	Parallel Serial
Mounting support	Top hat type TH35-15 rail IEC 60715 Top hat type TH35-7.5 rail IEC 60715 Double-profile DIN rail
Supply	SELV IEC 60950-1 SELV IEC 60204-1 SELV IEC 60364-4-41
Dielectric strength	3000 V AC with input to output
Service life	10 year(s)
Overshoot category	II

## Environment

Standards	IEC 62368-1 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 CSA C22.2 No 62368-1 UL 508 CSA C22.2 No. 107.1 EN/IEC 62368-1
Product certifications	CE[RETURN]CUL Listed[RETURN]CUL Recognized[RETURN]RCM[RETURN]CB Scheme[RETURN]EAC[RETURN]KC
Operating altitude	< 5000 m
Shock resistance	150 m/s <sup>2</sup> 11 ms
IP degree of protection	IP20
Ambient air temperature for operation	-4...14 °F (-20...-10 °C) with current derating of 2 % per °C mounting position A < 6561.68 ft (2000 m) 14...104 °F (-10...40 °C) without derating mounting position A 115 V AC < 6561.68 ft (2000 m) 14...122 °F (-10...50 °C) without derating mounting position A 230 V AC < 6561.68 ft (2000 m) 104...158 °F (40...70 °C) with current derating of 1.67 % per °C mounting position A 115 V AC < 6561.68 ft (2000 m) 122...158 °F (50...70 °C) with current derating of 2.5 % per °C mounting position A 230 V AC < 6561.68 ft (2000 m)
Electrical shock protection class	Class I
Pollution degree	2
Vibration resistance	3 mm 2...9 Hz)IEC 60068-2-6 10 m/s <sup>2</sup> 9...200 Hz)IEC 60068-2-6

Electromagnetic immunity	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 Immunity to conducted RF disturbances - test level: 15 V/m (80 MHz...2 GHz) conforming to IEC 61000-4-3 Immunity to conducted RF disturbances - test level: 5 V/m (2...2.7 GHz) conforming to IEC 61000-4-3 Immunity to conducted RF disturbances - 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 RF 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 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
Electromagnetic emission	Conducted emissions IEC 61000-6-3 Radiated emissions IEC 61000-6-4

### Ordering and shipping details

Category	22525-ABL8 AND ABL7 POWER SUPPLIE
Discount Schedule	CP12
GTIN	3606481500236
Returnability	Yes
Country of origin	TH

### Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	1.97 in (5.000 cm)
Package 1 Width	6.89 in (17.500 cm)
Package 1 Length	7.09 in (18.000 cm)
Package 1 Weight	24.55 oz (696.000 g)
Unit Type of Package 2	S03
Number of Units in Package 2	13
Package 2 Height	11.81 in (30.000 cm)
Package 2 Width	11.81 in (30.000 cm)
Package 2 Length	15.75 in (40.000 cm)
Package 2 Weight	20.87 lb(US) (9.468 kg)
Unit Type of Package 3	P12
Number of Units in Package 3	312
Package 3 Height	35.43 in (90.000 cm)
Package 3 Width	31.50 in (80.000 cm)
Package 3 Length	47.24 in (120.000 cm)
Package 3 Weight	527.42 lb(US) (239.232 kg)

## Offer Sustainability

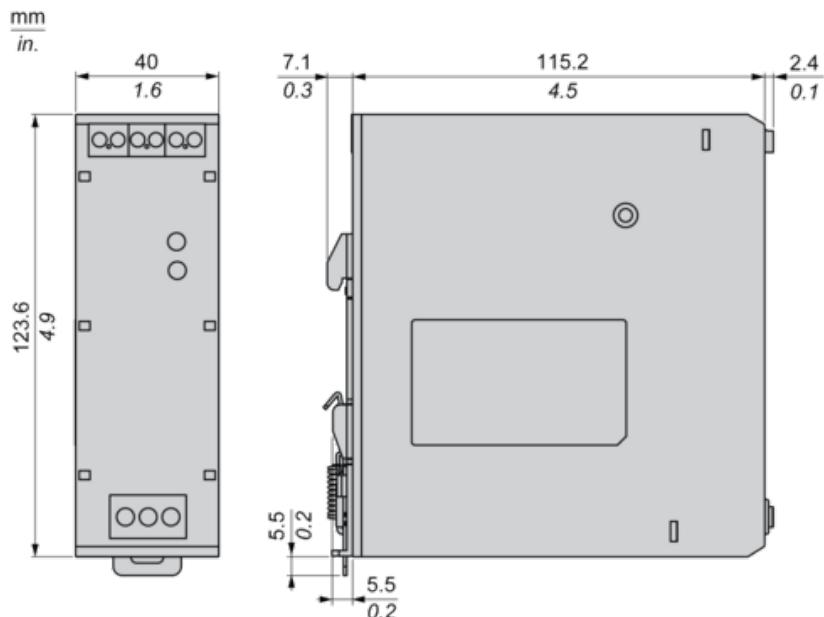
Sustainable offer status	Green Premium product
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>
REACH Regulation	 <a href="#">REACH Declaration</a>
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)
Mercury free	Yes
China RoHS Regulation	 <a href="#">China RoHS Declaration</a>
RoHS exemption information	 Yes
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.

## Electrical Safety

- 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.

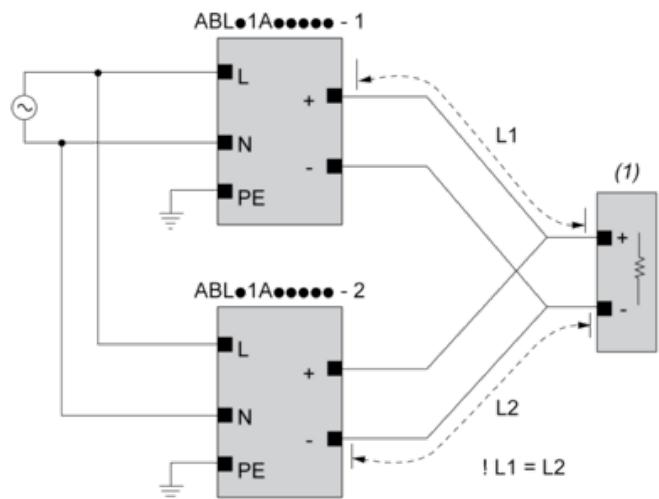
## Dimensions

### Front and Side Views



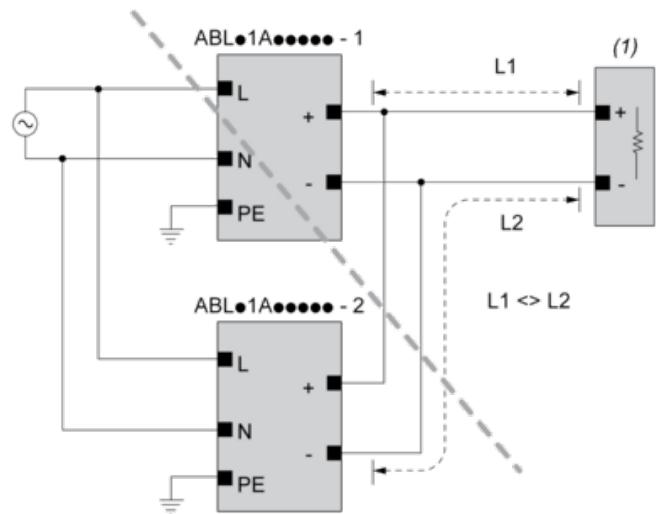
Connections and Schema

Correct Parallel Connection



(1) : Load

Incorrect Parallel Connection



(1) : Load

ABLx1Axxxxx-1 = ABLx1Axxxxx-2

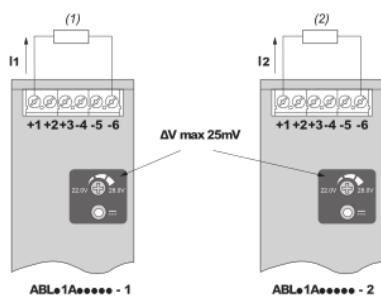
max 2 x ABLx1Axxxxx

L1 = L2

$\Delta V$  max 25 mV

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

## Output Voltage Balancing



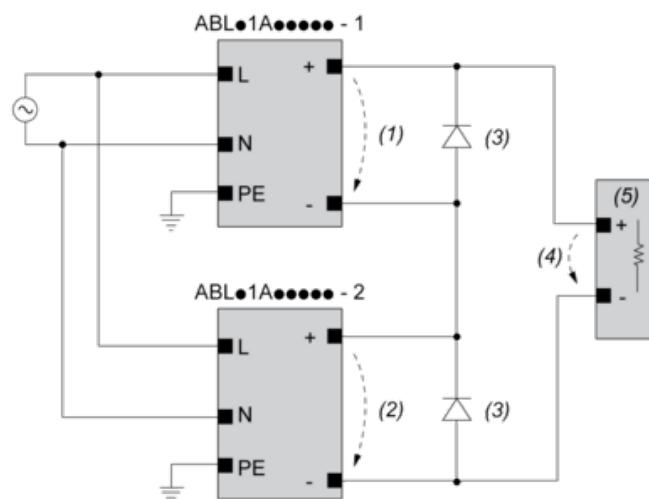
(1) :  $R_{Load1}$

(2) :  $R_{Load2}$

$R_{Load1} = R_{Load2}$

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

## Series Connection



(1) :  $V_{out1}$

(2) :  $V_{out2}$

(3) : 2 x 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
ABLS1A24021	50°C	60°C	75°C
ABLS1A24038	50°C	60°C	75°C
ABLS1A12062	50°C	60°C	80°C
ABLS1A24031	50°C	60°C	80°C
ABLS1A12100	60°C	70°C	90°C
ABLS1A24050	60°C	70°C	90°C
ABLS1A48025	60°C	70°C	90°C
ABLS1A24100	60°C	70°C	90°C
ABLS1A24200	95°C	95°C	90°C

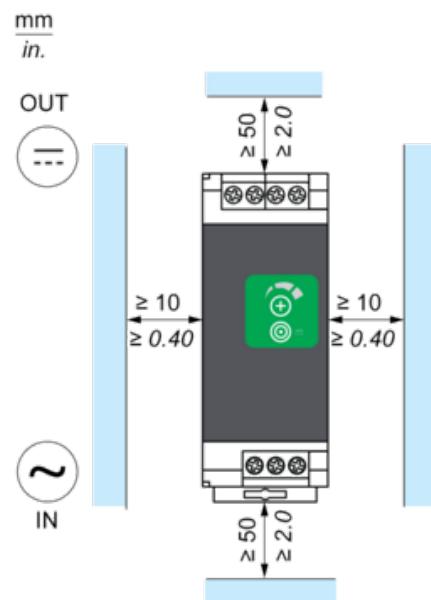
(1) : Ambient

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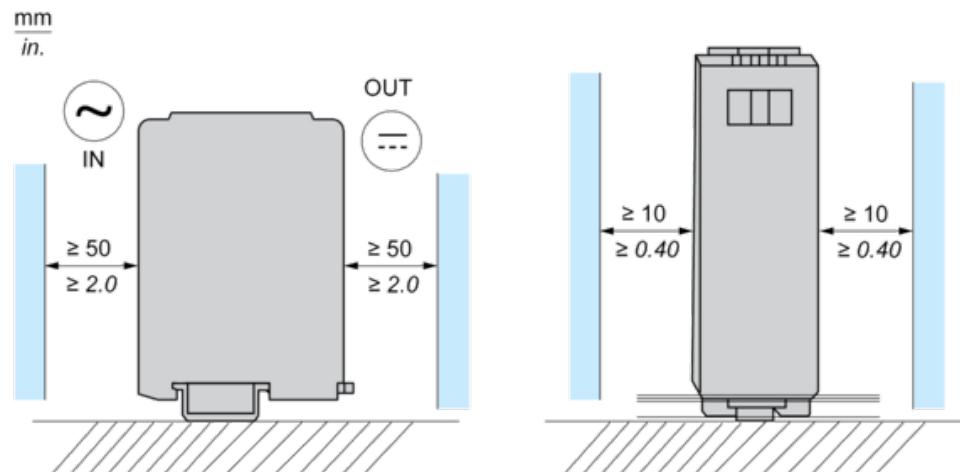
## Mounting

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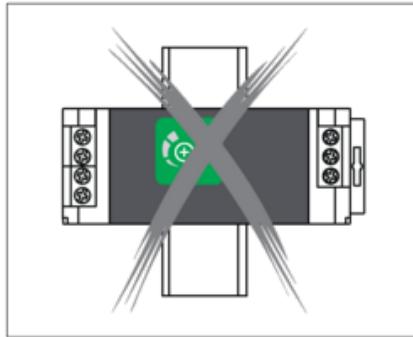
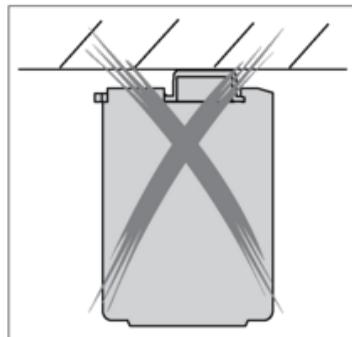
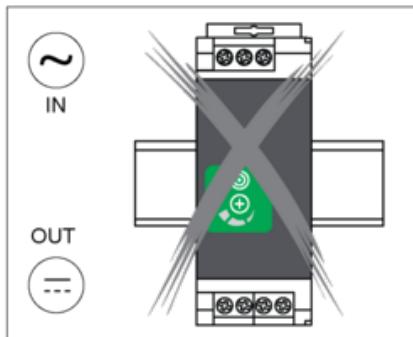
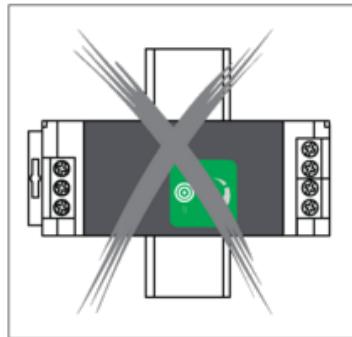
### Mounting Position A



### Mounting Position B



## Incorrect Mounting

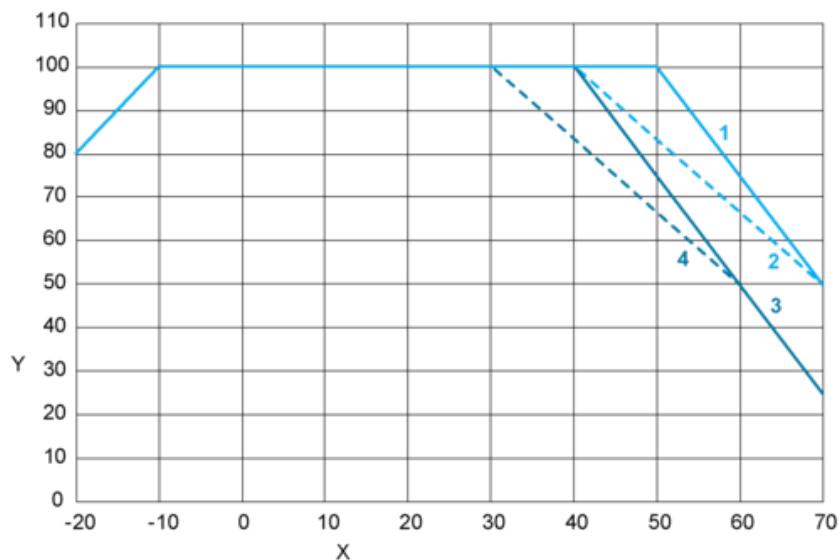


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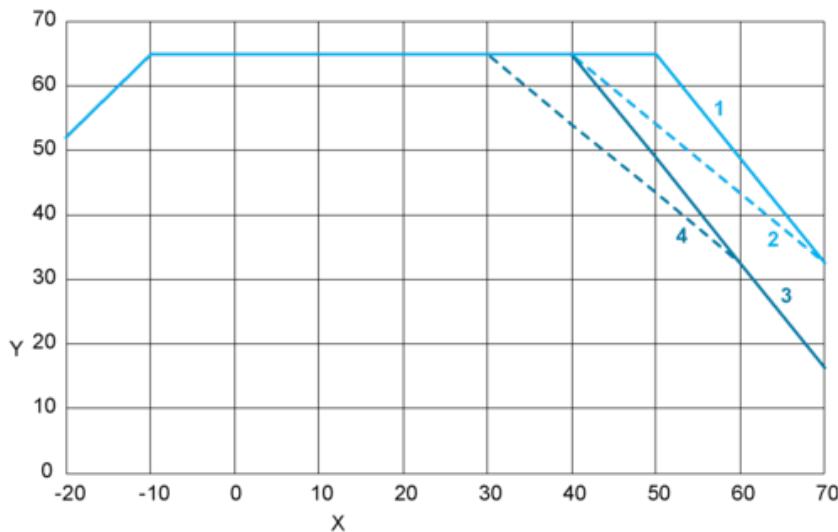
### Performance Curve

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#### Mounting Position A



#### Mounting Position B



X : Surrounding Air Temperature (°C)

Y : Percentage of Maximum Load (%)

1 : Altitude  $\leq$  2000 m (6561 ft), Input voltage = 230 VAC / 325 VDC

2 : Altitude  $\leq$  2000 m (6561 ft), 115 VAC / 162 VDC

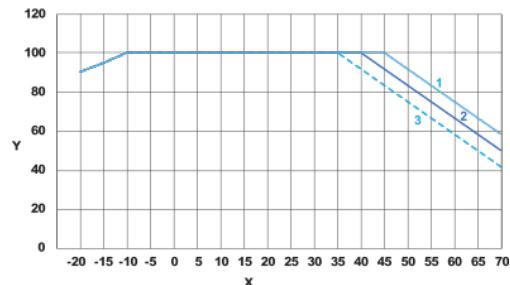
3 : Altitude  $\leq$  5000 m (16404 ft), Input voltage = 230 VAC / 325 VDC

4 : Altitude  $\leq$  5000 m (16404 ft), 115 VAC / 162 VDC

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### DC input voltage

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X : Surrounding Air Temperature (°C)

Y : Percentage of Maximum Load (%)

1 : 110 VDC

2 : 90 VDC

3 : 85 VDC