Specifications



Regulated Power Supply, 100 to 240V AC, 24V, 5A, single phase, Optimized

ABLS1A24050

Product availability: Stock - Normally stocked in distribution facility

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	100240 V AC single phase 100240 V AC phase to phase 140340 V DC
Kw Rating	120 W
Output voltage	24 V DC
Power supply output current	5 A

Complementary

Efficiency at full load	85264 V AC without temperature derating
	120375 V DC without temperature derating
Nominal network frequency	5060 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	2228 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	<1s
Holding time	> 20 ms 115 V AC
	> 40 ms 230 V AC

Price is "List Price" and may be subject to a trade discount - check with your local distributor or retailer for actual price.

Startup with capacitive loads	8000 µF	
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, protection technology: automatic reset Against over temperature, protection technology: manual reset Against overvoltage, protection technology: manual reset	
Connections - terminals	Screw connection 0.54 mm ² , AWG 20AWG 12) without wire end ferrule output Screw connection 0.52.5 mm ² , AWG 20AWG 14) with wire end ferrule output Screw connection 0.754 mm ² , AWG 18AWG 12) without wire end ferrule input Screw connection 0.754 mm ² , AWG 18AWG 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	4.6 in (117.6 mm)	
Height	4.9 in (123.6 mm)	
Width	1.6 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)	
Overvoltage category	II	

Environment

Standards	IEC 62368-1 EN/IEC 61204-3 IEC 61000-6-1 IEC 61000-6-2 IEC 61000-6-3 IEC 61000-3-2 EN 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 CUL Listed CUL Recognized RCM CB Scheme EAC KC
Operating altitude	< 5000 m
Shock resistance	150 m/s² 11 ms
IP degree of protection	IP20

Ambient air temperature for operation	-414 °F (-2010 °C) with current derating of 2 % per °C mounting position A < 6561.68 ft (2000 m)		
	14104 °F (-1040 °C) without derating mounting position A 115 V AC < 6561.68 ft (2000 m)		
	14122 °F (-1050 °C) without derating mounting position A 230 V AC < 6561.68 ft (2000 m)		
	104158 °F (4070 °C) with current derating of 1.67 % per °C mounting position A 115 V AC < 6561.68 ft (2000 m)		
	122158 °F (5070 °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 (f= 29 Hz) conforming to IEC 60068-2-6		
	10 m/s² (f= 9200 Hz) conforming to 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 MHz2 GHz) conforming to IEC 61000-4-3		
	Immunity to conducted RF disturbances - test level: 5 V/m (22.7 GHz) conforming to IEC 61000-4-3		
	Immunity to conducted RF disturbances - test level: 5 V/m (2.76 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 (0.1580 MHz) conforming to IEC 61000-4-6		
	Immunity to magnetic fields - test level: 30 A/m (5060 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	US1CP1222525
Discount Schedule	CP12
GTIN	3606481500236
Returnability	Yes
Country of origin	тн

Packing Units

0	
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	24.550 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	20.873 lb(US) (9.468 kg)
Unit Type of Package 3	P12
Number of Units in Package 3	312
Package 3 Height	41.34 in (105.000 cm)
Package 3 Width	31.50 in (80.000 cm)
Package 3 Length	47.24 in (120.000 cm)
Package 3 Weight	555.565 lb(US) (252.000 kg)

Lenvironmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing "Use Better, Use Longer, Use Again" campaign to extend product lifetimes and recyclability.

Environmental Data explained >

How we assess product sustainability \geq

${\mathcal O}$ Environmental footprint	
Carbon footprint (kg CO2 eq, Total Life cycle)	1082
Environmental Disclosure	Product Environmental Profile

Use Better

$^{\otimes}$ Materials and Substances	
Packaging made with recycled cardboard	No
Packaging without single use plastic	No
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)
SCIP Number	698d9b2a-7a6a-4b8f-a149-489156f55645
REACh Regulation	REACh Declaration
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 www.P65Warnings.ca.gov

Use Again

$^{\circlearrowright}$ Repack and remanufacture	
Circularity Profile	End of Life Information
Take-back	No
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.

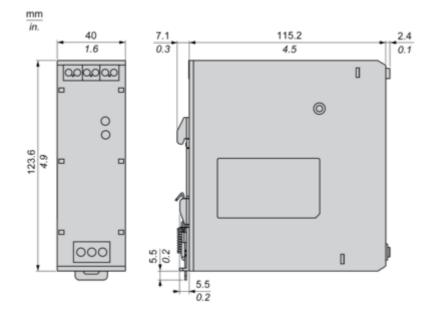
Dimensions Drawings

Electrical Safety

- 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.

Dimensions

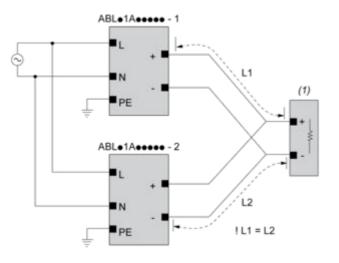
Front and Side Views



Connections and Schema

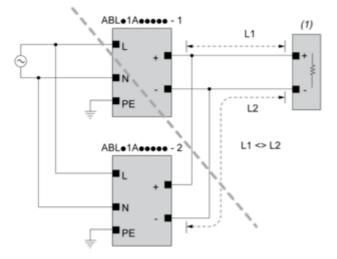
Connections and Schema

Correct Parallel Connection



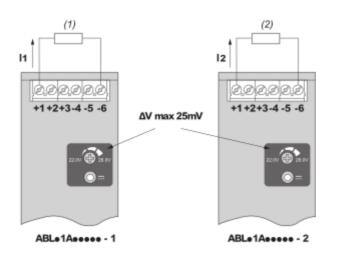


Incorrect Parallel Connection



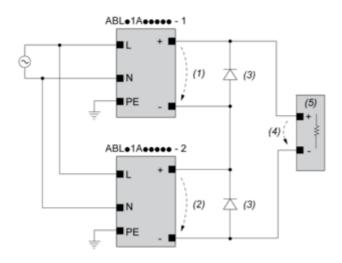
(1) : Load ABLx1Axxxxx-1 = ABLx1Axxxxx-2 max 2 x ABLx1Axxxxx L1 = L2 ∆V max 25 mV I_{Load} < 90% 2 x I_{nom}

Output Voltage Balancing



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

Series Connection



- (1) : V_{out1}
- (2) : V_{out2}
- (3) : 2 x Diode, $V_{RRM} > 2 x V_{out1/2}$, $I_F > 2 x I_{nom1/2}$
- (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

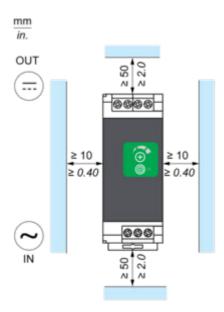
(1) : Ambient

Product data sheet

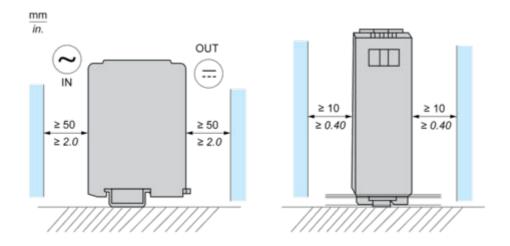
Mounting and Clearance

Mounting

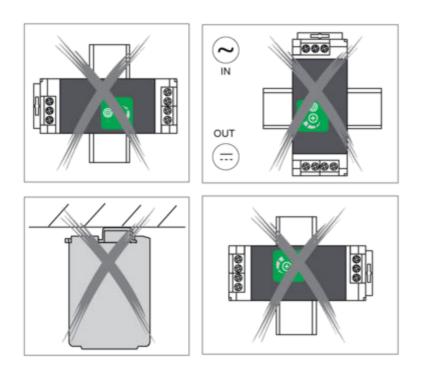
Mounting Position A



Mounting Position B



Incorrect Mounting

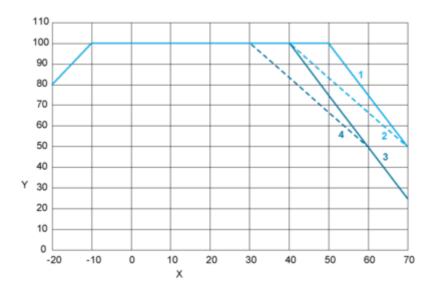


Product data sheet

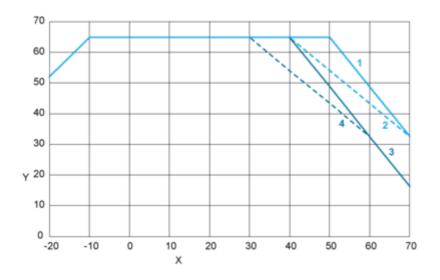
Performance Curves

Performance Curve

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 ≤ 2000 m (6561 ft), 115 VAC / 162 VDC
- 3 : Altitude \leq 5000 m (16404 ft), Input voltage = 230 VAC / 325 VDC
- **4** : Altitude ≤ 5000 m (16404 ft), 115 VAC / 162 VDC

Product data sheet

Image of product / Alternate images

Alternative









Product data sheet ABLS1A24050



