

Product data sheet

Specifications



Regulated Power Supply, 380...500V AC, 24V, 20A, 3 phases, Universal

ABLU3A24200

Main

Range of product	Modicon Power Supply
Product or component type	Power supply
Power supply type	Regulated switch mode
Variant option	Universal
Enclosure material	Metal
Nominal input voltage	380...500 V AC three phase
Rated power in W	480 W
Output voltage	24 V DC
Power supply output current	20 A
Permissible temporary current boost	1.5 x In (for 5 seconds)

Complementary

Input voltage limits	320...575 V AC 3 phases
Nominal network frequency	50...60 Hz
Network system compatibility	TN TT IT
Maximum leakage current	2 mA 500 V AC
Input protection type	Integrated fuse (not interchangeable) 3.15 A External protection (recommended)
Inrush current	35 A at 380 V 35 A at 500 V
Power factor	0.90 at 380 V AC 0.88 at 500 V AC
Efficiency	93 % at 380 V AC 93 % at 500 V AC
Output voltage adjustment	24...28 V
Power dissipation in W	33 W
Current consumption	< 0.85 A 380 V AC < 0.73 A 500 V AC
Turn-on time	< 1 s
Holding time	> 20 ms 380 V AC > 20 ms 500 V AC
Startup with capacitive loads	200000 µF
Residual ripple	< 150 mV

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

Meantime between failure [MTBF]	876500 h at 25 °C, full load conforming to SR 332 374800 h at 55 °C, 80 % load conforming to SR 332
Output protection type	Against overload and short-circuits, protection technology: manual or automatic reset by switch Against over temperature, protection technology: automatic reset Against overvoltage, protection technology: manual reset
Connections - terminals	Screw connection: 4...6 mm², (AWG 12...AWG 10) without wire end ferrule for output Screw connection: 4 mm², (AWG 12) with wire end ferrule for output Screw connection: 0.75...6 mm², (AWG 18...AWG 12) without wire end ferrule for input Screw connection: 0.75...4 mm², (AWG 18...AWG 12) with wire end ferrule for input Cage clamp: 0.2...1.5 mm², (AWG 22...AWG 16) without wire end ferrule for diagnostic relay Cage clamp: 0.2...0.75 mm², (AWG 22...AWG 18) with wire end ferrule for diagnostic relay Cage clamp: 0.2...0.75 mm², (AWG 22...AWG 18) with wire end ferrule for shut down input
Line and load regulation	< 0.17 % at 100 % load in line at 25 °C < 0.6 % +/- 0.5 % at 150 % load at 25 °C
Status LED	1 LED (green and red) product status
Depth	127.3 mm
Height	124 mm
Width	65 mm
Net weight	1.15 kg
Output coupling	Parallel
Marking	CE UKCA
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
Supply	SELV conforming to IEC 60950-1 SELV conforming to IEC 60204-1 SELV conforming to IEC 60364-4-41
Dielectric strength	4000 V AC with input to output 2000 V AC with input to ground 1500 V AC with output to ground 4000 V AC with input to diagnostic relay 500 V AC with output to diagnostic relay 1500 V AC with diagnostic relay to ground with shutdown input not isolated from output
Diagnostic relay	Electromechanical relay 1000.0 mA 30 V
Service life	10 year(s) 40 °C 80 % load
Overvoltage category	III 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 CSA C22.2 No 107.1
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Product certifications	CE CUL listed CUL recognized RCM CB Scheme EAC KC UKCA CURus
Operating altitude	< 5000 m overvoltage category III overvoltage category II
Shock resistance	150 m/s ² for 11 ms
IP degree of protection	IP20
Ambient air temperature for operation	-25...55 °C without current derating mounting position A < 2000 m 55...70 °C with current derating of 3.3 % per °C mounting position A < 2000 m
Electrical shock protection class	Class I
Pollution degree	2
Vibration resistance	3.5 mm (f= 3...11.9 Hz) conforming to IEC 60068-2-6 20 m/s ² (f= 11.9...150 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 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 conforming to IEC 61000-6-3 Radiated emissions conforming to IEC 61000-6-4

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	15.500 cm
Package 1 Width	21.000 cm
Package 1 Length	22.200 cm
Package 1 Weight	1.475 kg
Unit Type of Package 2	S03
Number of Units in Package 2	7
Package 2 Height	30.000 cm
Package 2 Width	30.000 cm
Package 2 Length	40.000 cm

Package 2 Weight	10.930 kg
Unit Type of Package 3	P12
Number of Units in Package 3	168
Package 3 Height	80.000 cm
Package 3 Width	90.000 cm
Package 3 Length	120.000 cm
Package 3 Weight	271.664 kg

Environmental 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 >](#)

 Environmental footprint	
Environmental Disclosure	Product Environmental Profile

Use Better

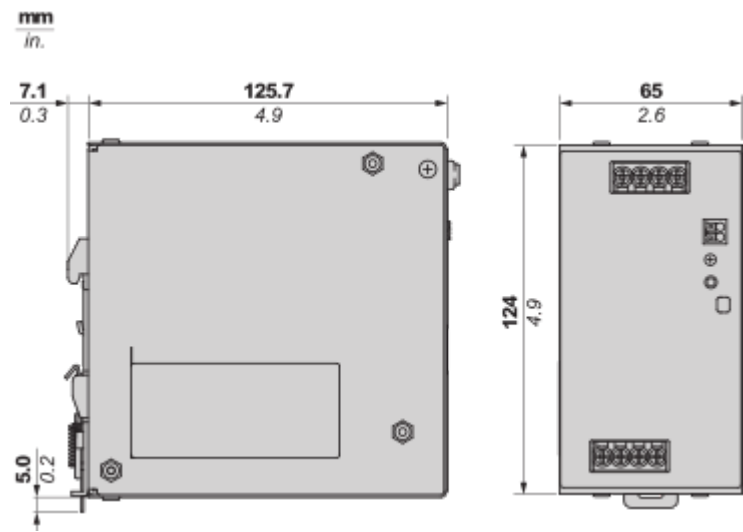
 Materials and Substances	
Packaging made with recycled cardboard	No
Packaging without single use plastic	No
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)
REACH Regulation	REACH Declaration

Use Again

 Repack and remanufacture	
End of life manual availability	End of Life Information
Take-back	No
WEEE Label	 The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

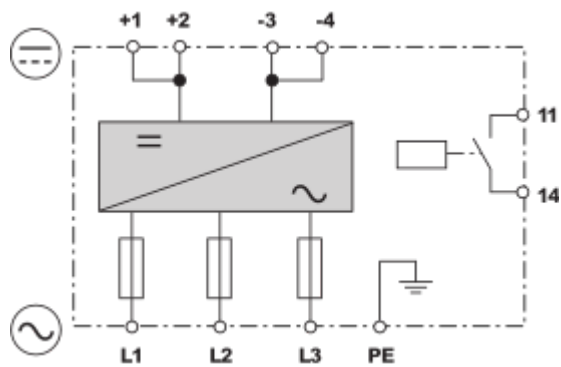
Dimensions Drawings

Dimensions

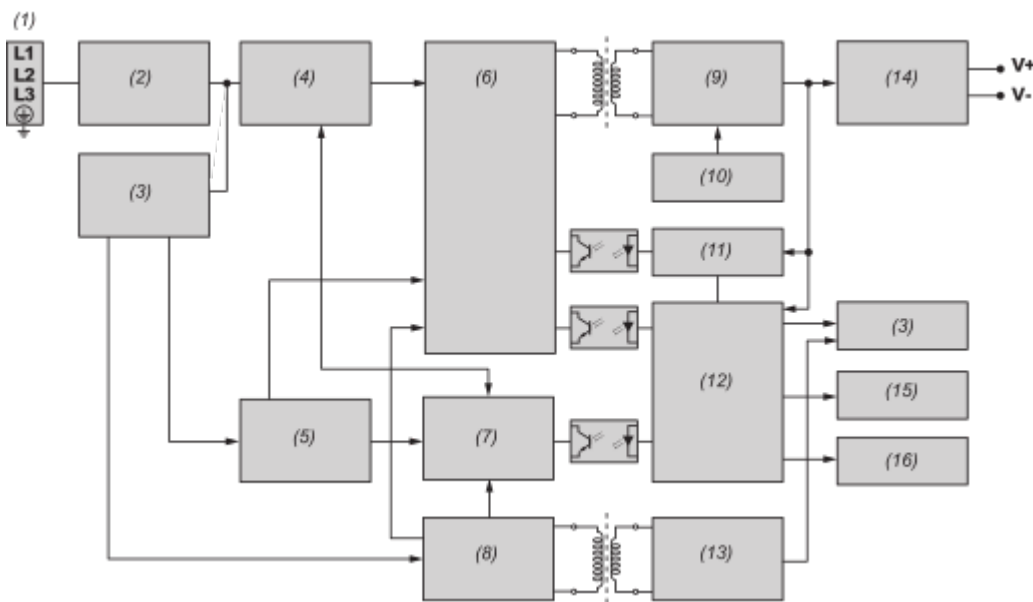


Connections and Schema

Wiring



Block Diagram

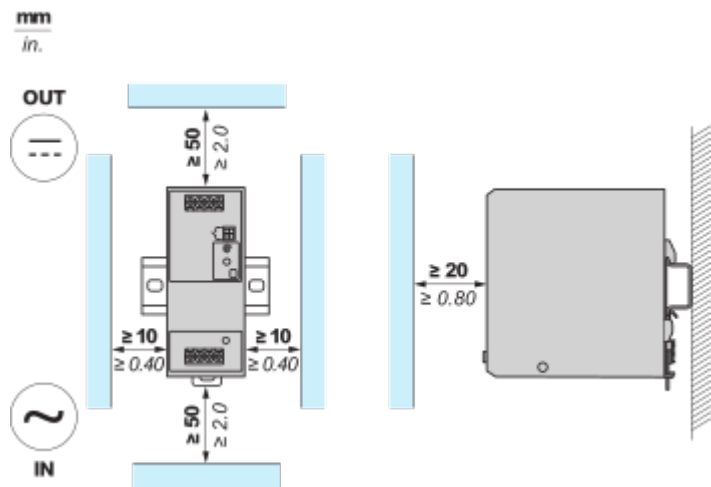


- (1) : Input
- (2) : EMI filter
- (3) : Relay control
- (4) : Interleave PFC converter
- (5) : Primary control
- (6) : Main LLC converter
- (7) : PFC controller
- (8) : Primary AUX
- (9) : Synchronous rectifier
- (10) : SR controller
- (11) : CV & CC feedback
- (12) : Secondary MCU
- (13) : Secondary AUX
- (14) : Output filter
- (15) : Automanual switch
- (16) : LED control

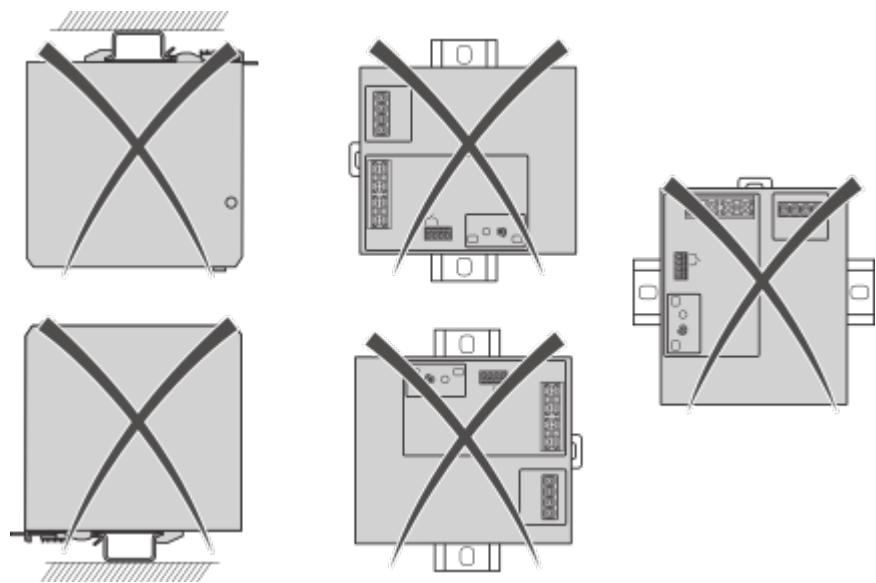
Mounting and Clearance

Mounting

Mounting Position

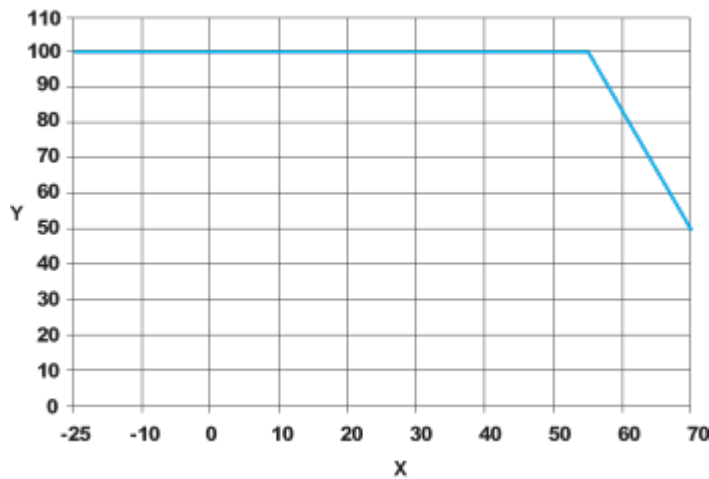


Incorrect Mounting



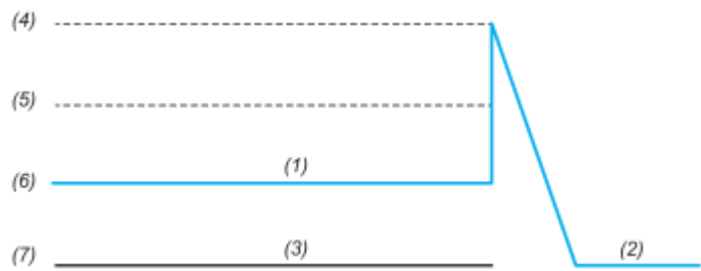
Performance Curves

Performance Curve



X : Surrounding Air Temperature (°C)
Y : Percentage of Maximum Load (%)

Overvoltage Protection Behavior



Overvoltage range : 26...36 VDC, Latch Mode

- (1) : Variable output voltage range
- (2) : Latch
- (3) : Typical overvoltage condition as seen at the output
- (4) : Maximum overvoltage protection level
- (5) : Overvoltage protection
- (6) : Nominal output voltage
- (7) : Zero output