Product data sheet

Specifications

Regulated Power Supply, 380...500V AC, 24V, 40A, 3 phases, Universal

ABLU3A24400

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	Universal
Enclosure Material	Metal
Nominal input voltage	380...500 V AC three phase
Kw Rating	960 W
Output voltage	24 V DC
Power supply output current	40 A
Permissible temporary current boost	1.5 x In for 5 seconds)

Complementary

Efficiency at full load	320...575 V AC 3 phase
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 380 V 35 A 500 V
Power factor	0.90 at 380 V AC 0.90 at 500 V AC
Efficiency	95 % 380 V AC 95 % 500 V AC
Output voltage adjustment	24...28 V
Power dissipation in W	49 W
Current consumption	< 1.9 A 380 V AC < 1.7 A 500 V AC
Turn-on time	< 2 s
Holding time	> 20 ms 380 V AC > 20 ms 500 V AC
Startup with capacitive loads	200000 µF
Residual ripple	< 200 mV

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

Meantime between failure [MTBF]	595400 h at 77 °F (25 °C), full load conforming to SR 332 308300 h at 131 °F (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 6...16 mm², AWG 10...AWG 6) without wire end ferrule output Screw connection 6...10 mm², AWG 10...AWG 8) with wire end ferrule output Screw connection 0.75…6 mm², AWG 18...AWG 10) without wire end ferrule input Screw connection 0.75...4 mm², AWG 18...AWG 12) with wire end ferrule input Cage clamp 0.2...1.5 mm², AWG 22...AWG 16) without wire end ferrule diagnostic relay Cage clamp 0.2...0.75 mm², AWG 22...AWG 18) with wire end ferrule diagnostic relay Cage clamp 0.2...0.75 mm², AWG 22...AWG 18) with wire end ferrule shut down input
Line and load regulation	< 0.17 % network 100 % load in line at 77 °F (25 °C) < 0.6 % +/- 0.5 % network 150 % load at 77 °F (25 °C)
Status LED	1 LED (green and red) product status
Depth	5.07 in (128.7 mm)
Height	4.9 in (124 mm)
Width	4.3 in (110 mm)
Net Weight	5.05 lb(US) (2.29 kg)
Output coupling	Parallel
Marking	CE UKCA
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	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) 104 °F (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

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/s² 11 ms
IP degree of protection	IP20
Ambient air temperature for operation	-13…131 °F (-25…55 °C) without current derating mounting position A < 6561.68 ft (2000 m) 131…158 °F (55…70 °C) with current derating of 3.3 % per °C mounting position A < 6561.68 ft (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/s² (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 IEC 61000-6-3 Radiated emissions IEC 61000-6-4

Ordering and shipping details

Category	US1CP1222524
Discount Schedule	CP12
GTIN	3606482185272
Returnability	Yes
Country of origin	TH

Packing Units

Unit Type of Package 1	PCE
Nbr. of units in pkg.	1
Package 1 Height	6.102 in (15.500 cm)

Package 1 Width	8.465 in (21.500 cm)
Package 1 Length	8.661 in (22.000 cm)
Package weight(Lbs)	6.332 lb(US) (2.872 kg)
Unit Type of Package 2	S03
Number of Units in Package 2	2
Package 2 Height	11.811 in (30.000 cm)
Package 2 Width	11.811 in (30.000 cm)
Package 2 Length	15.748 in (40.000 cm)
Package 2 Weight	13.986 lb(US) (6.344 kg)
Unit Type of Package 3	P12
Number of Units in Package 3	48
Package 3 Height	41.339 in (105.000 cm)
Package 3 Width	31.496 in (80.000 cm)
Package 3 Length	47.244 in (120.000 cm)
Package 3 Weight	353.291 lb(US) (160.250 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

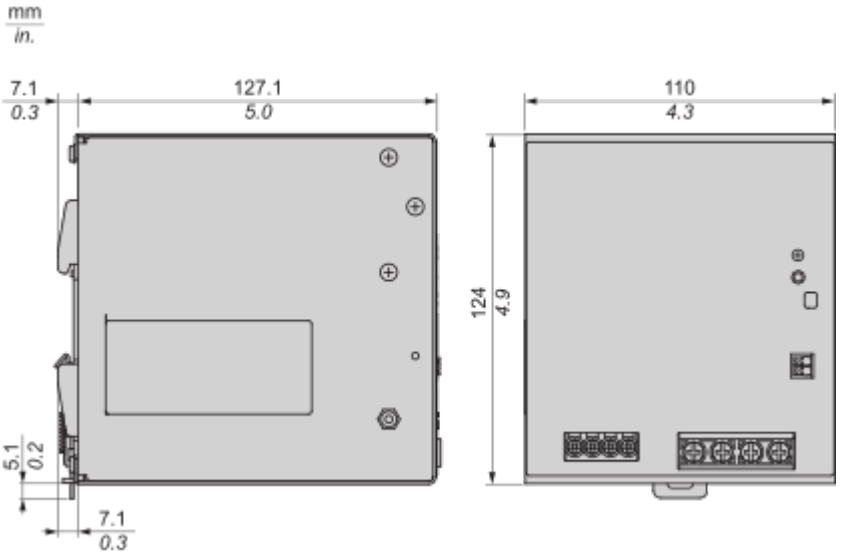
Use Again

Repack and remanufacture

Circularity Profile	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.

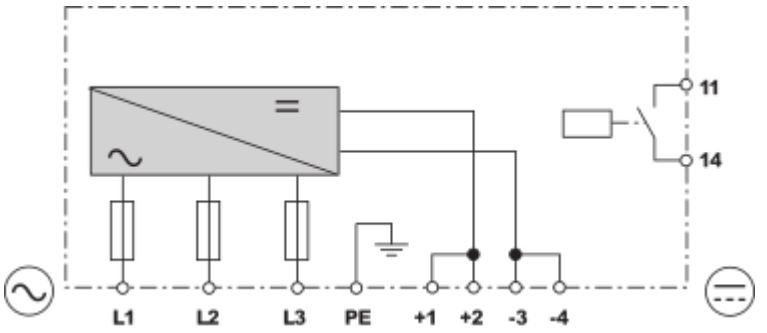
Dimensions Drawings

Dimensions

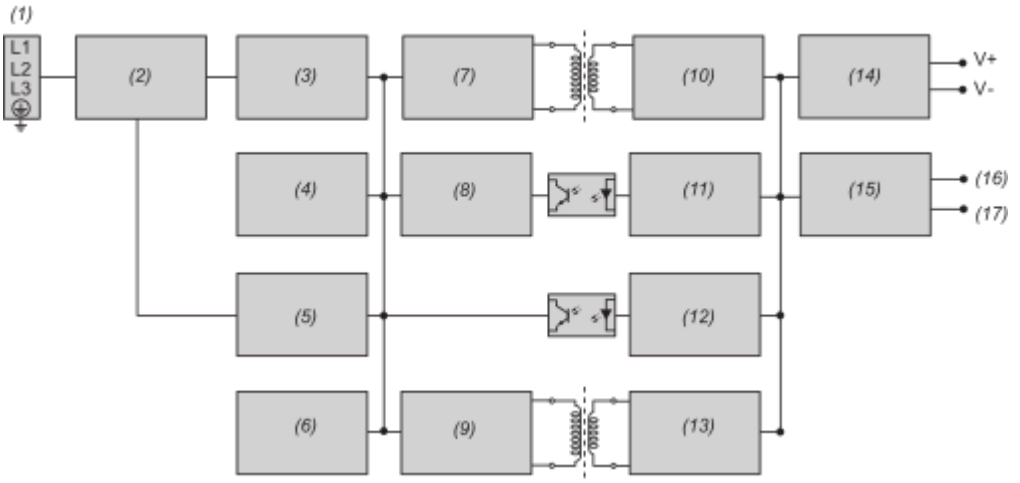


Connections and Schema

Wiring



Block Diagram

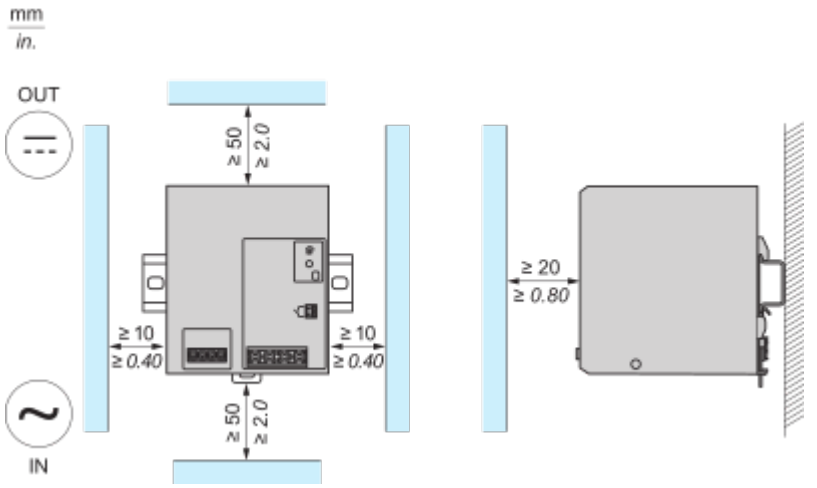


(1) : Input
(2) : EMI filter
(3) : PI filter, inrush current circuit, PFC circuit
(4) : PFC controller
(5) : Input monitoring
(6) : Housekeeper control
(7) : Primary power stage
(8) : LLC controller
(9) : Housekeeper primary circuit
(10) : Secondary power stage
(11) : Secondary controller, voltage & current controller, SR controller, OCP & OCP
(12) : Secondary MCU
(13) : Housekeeper secondary circuit
(14) : Output filter
(15) : LED & relay controller
(16) : DC OK LED
(17) : DC OK relay contact

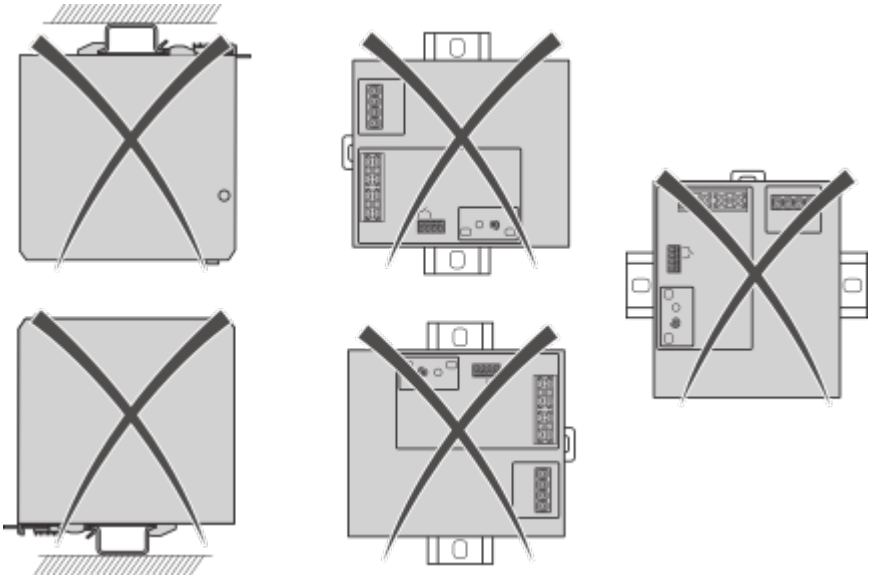
Mounting and Clearance

Mounting

Mounting Position

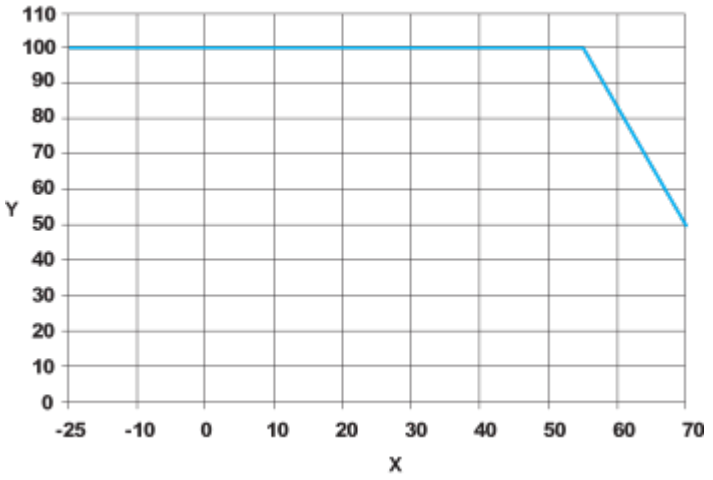


Incorrect Mounting



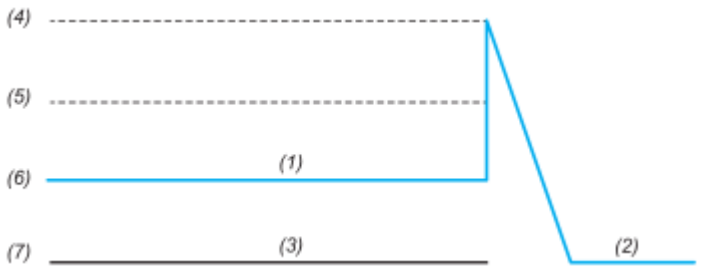
Performance Curves

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) : Norminal output voltage
(7) : Zero output