Product data sheet

Specifications

Regulated Power Supply, 380...500V AC, 24V, 5A, 3 phases, Universal

ABLU3A24050

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	120 W
Output voltage	24 V DC
Power supply output current	5 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	25 A 380 V 25 A 500 V
Power factor	0.40 at 380 V AC 0.40 at 500 V AC
Efficiency	86.5 % 380 V AC 86.5 % 500 V AC
Output voltage adjustment	24...28 V
Power dissipation in W	18.5 W
Current consumption	< 0.5 A 380 V AC < 0.4 A 500 V AC
Turn-on time	< 1 s
Holding time	> 20 ms 380 V AC > 40 ms 500 V AC
Startup with capacitive loads	200000 µF
Residual ripple	< 100 mV

Meantime between failure [MTBF]	2168900 h at 77 °F (25 °C), full load conforming to SR 332 816200 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 0.75…6 mm², AWG 18...AWG 10) without wire end ferrule output Screw connection 0.75...4 mm², AWG 18...AWG 12) 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 1 LED (green) input voltage
Depth	4.9 in (125.3 mm)
Height	4.9 in (124 mm)
Width	1.5 in (38 mm)
Net weight	1.32 lb(US) (0.60 kg)
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 input to output 2000 V AC input to ground 1500 V AC output to ground 4000 V AC input to diagnostic relay 500 V AC output to diagnostic relay 1500 V AC diagnostic relay to ground 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 < 2000 m 131…158 °F (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/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

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	2.756 in (7.000 cm)
Package 1 Width	7.087 in (18.000 cm)
Package 1 Length	7.480 in (19.000 cm)
Package 1 Weight	31.958 oz (906.000 g)
Unit Type of Package 2	S03
Number of Units in Package 2	10
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	21.081 lb(US) (9.562 kg)
Unit Type of Package 3	P06
Number of Units in Package 3	80
Package 3 Height	29.528 in (75.000 cm)
Package 3 Width	23.622 in (60.000 cm)
Package 3 Length	31.496 in (80.000 cm)
Package 3 Weight	185.180 lb(US) (83.996 kg)

Contractual warranty

Warranty (in months)	18

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	Yes

Use Longer

Lifetime extension

Repair	No

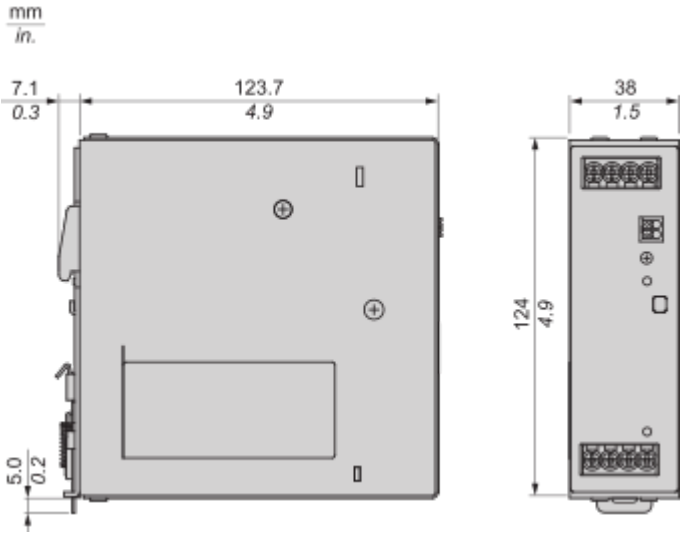
Use Again

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

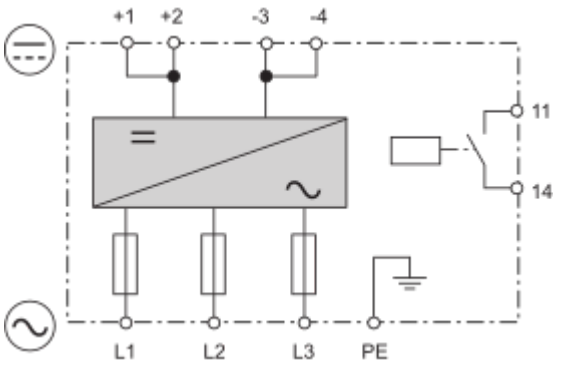
Dimensions Drawings

Dimensions

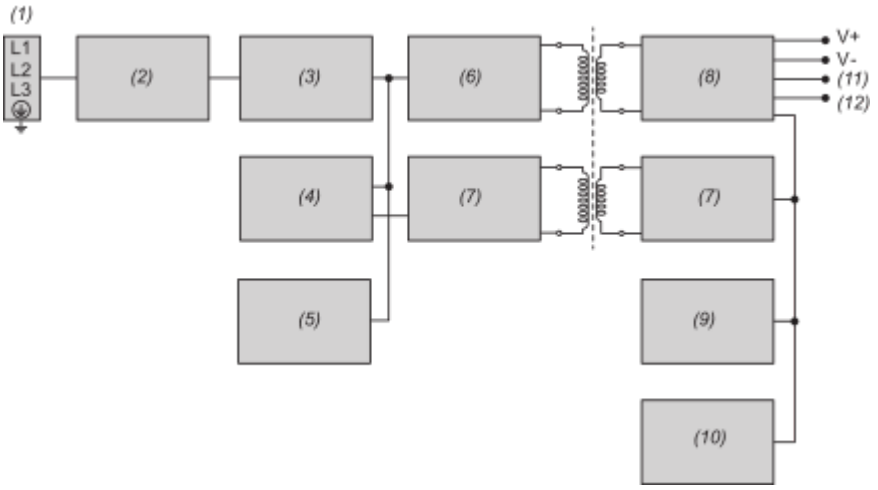


Connections and Schema

Wiring



Block Diagram

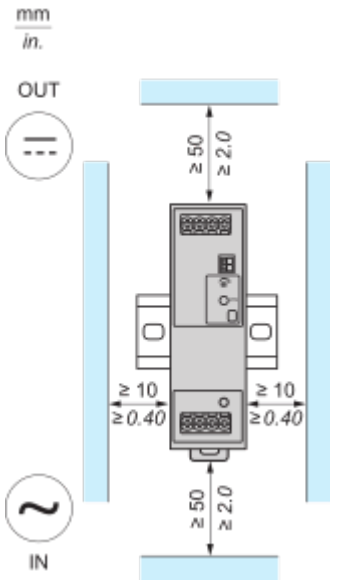


(1) : Input
(2) : EMI filter, inrush current limit
(3) : AC/DC converter
(4) : Start-up circuit
(5) : PWM controller
(6) : Flyback converter
(7) : Auxillary bias circuit
(8) : Output rectifier
(9) : Opto coupler & feedback controller
(10) : OVP & OTP circuit
(11) : DC OK LED
(12) : DC OK relay contact

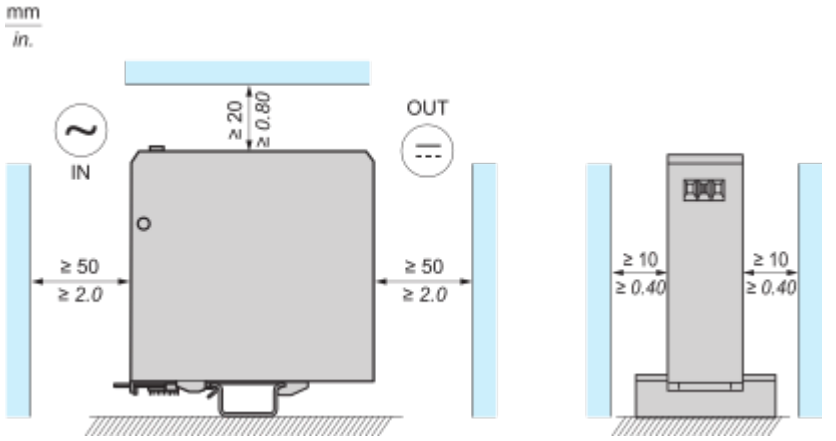
Mounting and Clearance

Mounting

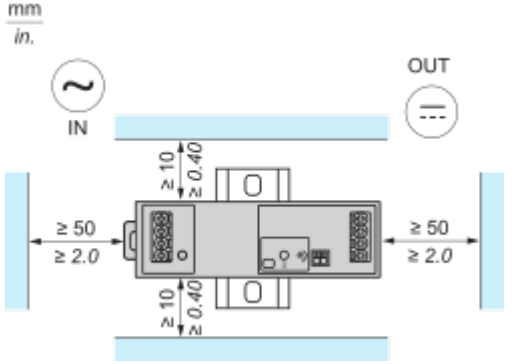
Mounting Position A



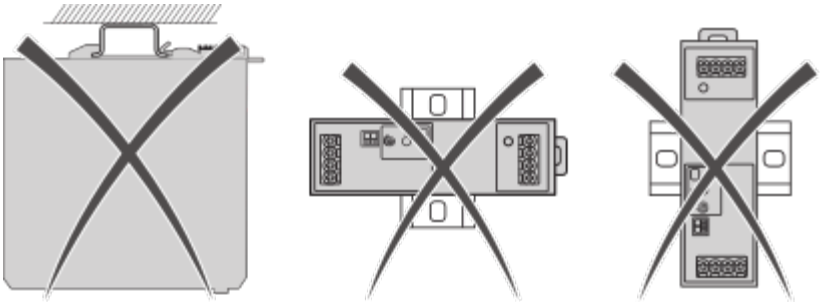
Mounting Position B



Mounting Position C



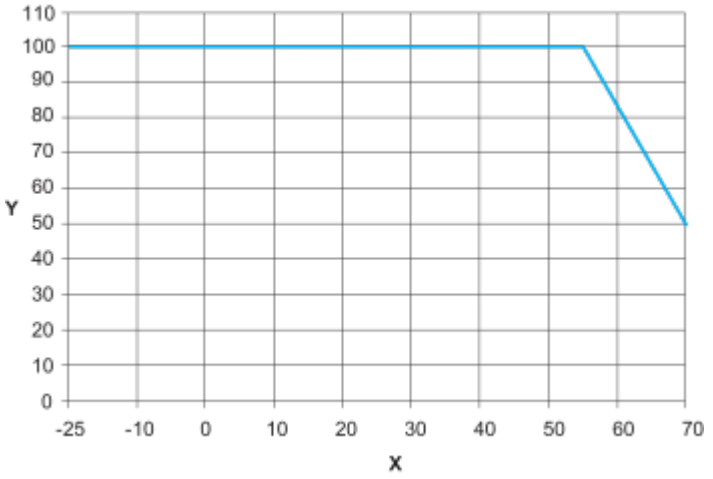
Incorrect Mounting



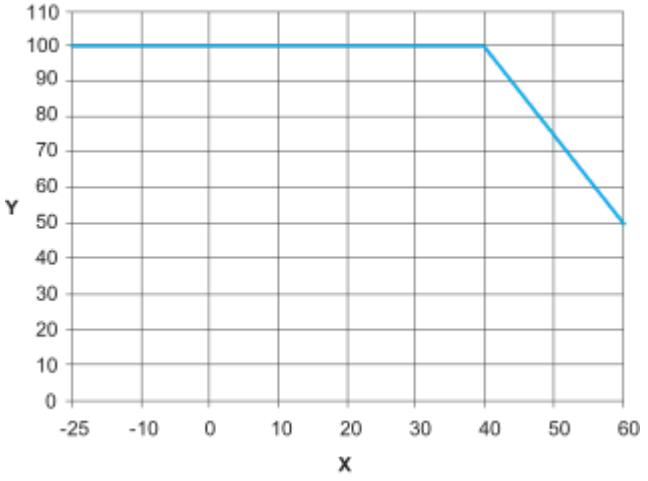
Performance Curves

Performance Curve

Mounting Position A

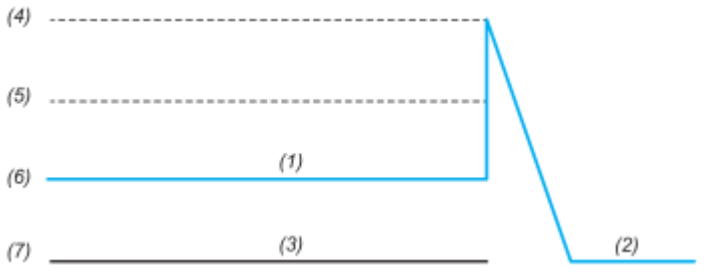


Mounting Position B and C



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

Overvoltage Protection Behavior

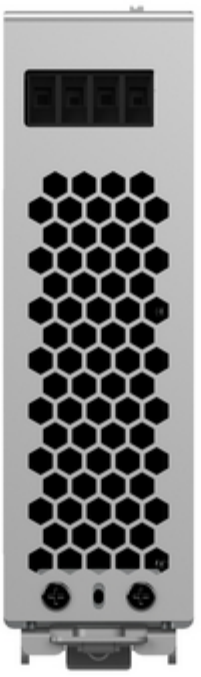


Overvoltage range : 26...36 VDC, Latch Mode
(1) : Variable output voltage range
(2) : Latch
(3) : Typical overvoltage condition as seen at the output
(4) : Maximum overvoltage protection level

(5) : Overvoltage protection
(6) : Norminal output voltage
(7) : Zero output

Image of product / Alternate images

Alternative

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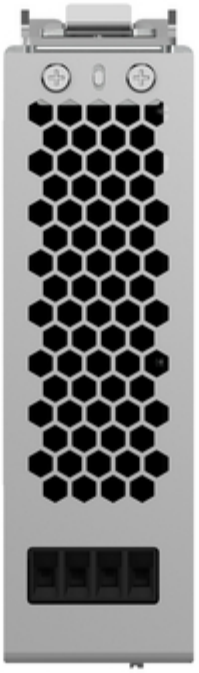
Schneider Electric




24V ⎓ 5A
OK
11
14
24V
28V
Manual
Auto
OUTPUT
Schneider Electric
ABLU3A24050
INPUT
3x380-500V ~
L1 L2 L3