Product data sheet
Characteristics

ABLM1A24004
Regulated Power Supply, 100-240V AC, 24V 0.4 A, single phase, Modular

Main

Range of product	Modicon Power Supply
Product or component type	Power supply
Power supply type	Regulated switch mode
Variant option	Modular
Enclosure material	Plastic
Nominal input voltage	100...240 V AC single phase 100...240 V AC 2 phases
Input voltage limits	90...264 V AC
Rated power in W	10 W
Output voltage	24 V DC
Power supply output current	0.42 A

Complementary

Nominal network frequency	50…60 Hz
Network system compatibility	TN TT IT
Maximum leakage current	0.25 mA 240 V AC
Input protection type	Integrated fuse (not interchangeable) 1 A External protection (recommended) 20 A Curve B External protection (recommended) 20 A Curve C External protection (recommended) 2 A Curve B External protection (recommended) 2 A Curve C
Inrush current	15 A at 115 V 30 A at 230 V
Power factor	0.52 at 115 V AC 0.40 at 230 V AC
Efficiency	80 % at 115 V AC 80 % at 230 V AC
Power dissipation in W	2.5 W
Current consumption	< 0.3 A 115 V AC < 0.2 A 230 V AC
Turn-on time	< 2 s
Holding time	> 10 ms 115 V AC > 60 ms 230 V AC
Startup with capacitive loads	3000 µF
Residual ripple	< 100 mV
Expected capacitor life time	10 year(s)
Meantime between failure [MTBF]	5000000 H at 25 °C, full load 1000000 h at 55 °C, 80 % load
Output protection type	Against overload and short-circuits, protection technology: automatic reset Against over temperature, protection technology: manual or automatic reset Against overvoltage, protection technology: manual or automatic reset
Connections - terminals	Screw connection: 0.5...1.5 mm², (AWG 20...AWG 16) without wire end ferrule for input/output Screw connection: 0.5...1 mm², (AWG 20...AWG 18) with wire end ferrule for input/output
Line and load regulation	< 0.5 %line < 1 %load
Status LED	1 LED (green)output voltage
Depth	55.6 mm

Height	91 mm
Width	18 mm
Net weight	0.099 kg
Output coupling	Serial
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 Panel mounting
Supply	SELV conforming to EN/IEC 60950-1 SELV conforming to EN/IEC 60204-1 SELV conforming to IEC 60364-4-41

Environment

Standards	EN 62368-1 EN/IEC 61010-1 EN 61010-2-201 EN/IEC 61204-3 EN 61000-6-1 EN 61000-6-2 EN 61000-6-3 EN 61000-6-4 EN 61000-3-2 EN 61000-3-3 UL 62368-1 UL 61010-1 UL 61010-2-201 CSA C22.2 No 62368-1 CSA C22.2 No 61010-1 CSA C22.2 No 61010-2-201 EN/IEC 62368-1
Product certifications	CE CUL listed CUL recognized RCM CB Scheme EAC KC NEC: class 2
Operating altitude	< 2000 m overvoltage category III 2000 m...5000 m overvoltage category II
Shock resistance	100 m/s² for 11 ms
IP degree of protection	IP20
Ambient air temperature for operation	-25…55 °C (without current derating) 55…70 °C (with current derating of 2.67 % per °C)
Ambient air temperature for storage	-40…85 °C
Relative humidity	0…95 % without condensation
Overvoltage category	II
Electrical energy source class conforming to IEC 62368-1	ES1
Electrical shock protection class	Class II without PE connection
Pollution degree	2
Vibration resistance	3 mm (f= 2…9 Hz) conforming to IEC 60721-3-3 10 m/s² (f= 9…200 Hz) conforming to IEC 60721-3-3

Electromagnetic immunity	Immunity to electrostatic discharge - test level: 6 kV (contact discharge) conforming to EN/IEC 61000-4-2 Immunity to electrostatic discharge - test level: 9 kV (air discharge) conforming to EN/IEC 61000-4-2 Electromagnetic field immunity test - test level: 10 V/m (80 MHz...2 GHz) conforming to EN/IEC 61000-4-3 Electromagnetic field immunity test - test level: 5 V/m (2...2.7 GHz) conforming to EN/IEC 61000-4-3 Electromagnetic field immunity test - test level: 3 V/m (2.7...6 GHz) conforming to EN/IEC 61000-4-3 Immunity to fast transients - test level: 4 kV (on input-output) conforming to EN/IEC 61000-4-4 Surge immunity test - test level: 3 kV (between power supply and earth) conforming to EN/IEC 61000-4-5 Surge immunity test - test level: 1.5 kV (between phases) conforming to EN/IEC 61000-4-5 Immunity to conducted disturbances - test level: 10 Vrms (0.15...80 MHz) conforming to EN/IEC 61000-4-6 Immunity to magnetic fields - test level: 30 A/m (50...60 Hz) conforming to EN/IEC 61000-4-8 Immunity to voltage dips - test level: 100 % (1 cycle) conforming to EN/IEC 61000-4-11 Immunity to voltage dips - test level: 60 % (10 cycles) conforming to EN/IEC 61000-4-11 Immunity to voltage dips - test level: 30 % (25 cycles) conforming to EN/IEC 61000-4-11 Disturbing field emission conforming to EN 55016-2-3 Limits for harmonic current emissions conforming to EN 61000-3-2 Conducted disturbance emission conforming to EN 55016-1-2 Conducted disturbance emission conforming to EN 55016-2-1
Electromagnetic emission	Conducted emissions conforming to EN 61000-6-3 Radiated emissions conforming to EN 61000-6-4
Dielectric strength	3000 V AC input/output

Offer Sustainability

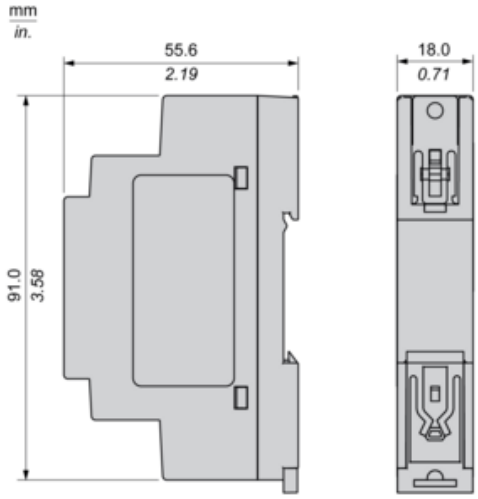
Sustainable offer status	Green Premium product
REACh Regulation	REACh Declaration
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration
Mercury free	Yes
RoHS exemption information	Yes
China RoHS Regulation	China RoHS Declaration
Environmental Disclosure	Product Environmental Profile
Circularity Profile	End Of Life Information
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 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.

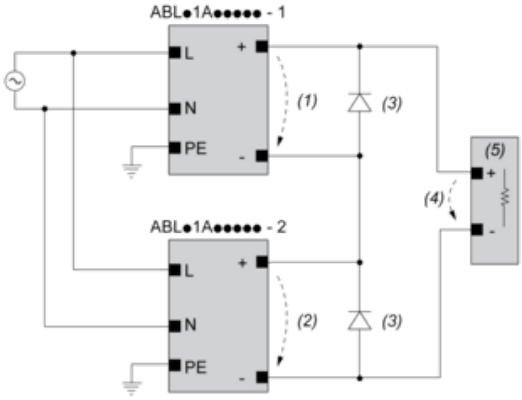
Dimensions

Side and Rear View



Connections and Schema

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 x V_{out}

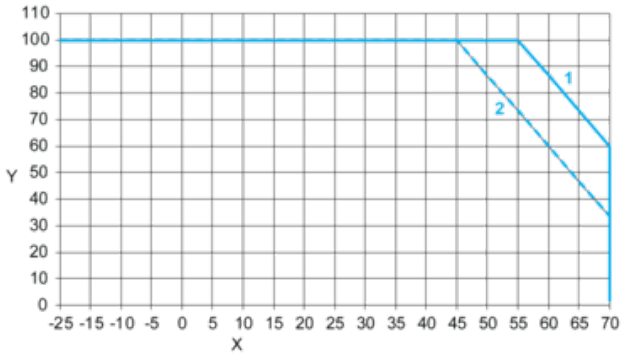
(5) : Load

Connections and Schema

		(1)		
		<40°C	<50°C	<70°C
ABLM1A24004		60°C	75°C	75°C
ABLM1A12010		60°C	75°C	90°C
ABLM1A24006		60°C	75°C	90°C
ABLM1A05036	Input	60°C	75°C	90°C
	Output	75°C	90°C	90°C
ABLM1A12021		60°C	75°C	90°C
ABLM1A24012		60°C	75°C	90°C
ABLM1A12042		60°C	75°C	90°C
ABLM1A24025		60°C	75°C	90°C

(1) : Ambient

Performance Curve



X : Ambient Temperature (ºC)

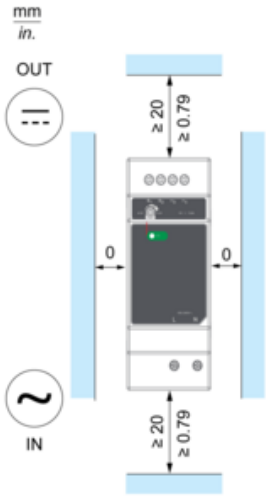
Y : Percentage of Max Load (%)

1 : Mounting A & B, altitude 2000M

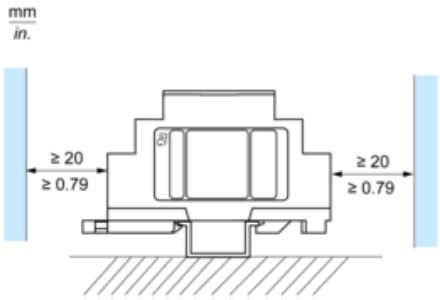
2 : Mounting A & B, altitude 5000M

Mounting

Mounting Position A



Mounting Position B



Incorrect Mounting