

Product datasheet

Specifications



Regulated Power Supply, modicon power supply, 100...240V AC, 24V, 10A, single phase, Panel Mount

ABLP1A24100

Main

| | |
|-----------------------------|-----------------------------|
| Range of product | Modicon Power Supply |
| product or component type | Power supply |
| Power supply type | Regulated switch mode |
| Variant option | Panel mount |
| Enclosure material | Aluminium |
| Nominal input voltage | 100...240 V AC single phase |
| Rated power in W | 240 W |
| Output voltage | 24 V DC |
| Power supply output current | 10 A |

Complementary

| | |
|---------------------------------|---|
| Input voltage limits | 85...264 V AC |
| Nominal network frequency | 50...60 Hz |
| Network system compatibility | TN TT IT |
| Maximum leakage current | 1 mA 240 V AC |
| Input protection type | Integrated fuse (not interchangeable) 6.3 A |
| Inrush current | 35 A at 115 V 60 A at 230 V |
| Power factor | 0.95 at 115 V AC 0.91 at 230 V AC |
| Efficiency | 87 % at 230 V AC |
| Output voltage adjustment | 21.6...26.4 V |
| Power dissipation in W | 36 W |
| Current consumption | < 3.6 A 115 V AC < 1.8 A 230 V AC |
| Turn-on time | < 1.2 s |
| Holding time | > 20 ms 115 V AC > 40 ms 230 V AC |
| Startup with capacitive loads | 8000 μ F |
| residual ripple | < 150 mV |
| Meantime between failure [MTBF] | 700000 h at 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: 0.75...2.5 mm ² , (AWG 18...AWG 14) without wire end ferrule Screw connection: 0.75...1.5 mm ² , (AWG 18...AWG 16) with wire end ferrule |
| Line and load regulation | < 0.5 % at 0 to 100 % load at 25 °C < 1 % at full voltage range in line at 25 °C |
| Status LED | 1 LED (green) output voltage |
| Depth | 190 mm |
| Height | 50 mm |
| Width | 93 mm |
| net weight | 0.85 kg |
| Output coupling | Parallel 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 IEC 60950-1 SELV conforming to IEC 60204-1 SELV conforming to 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 61010-1 EN 61010-2-201 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 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 IEC 60335-1 EN/IEC 62368-1 |
| Product certifications | CE CULus EAC RCM CB Scheme KC |
| Operating altitude | 5000 m |
| Shock resistance | 150 m/s ² for 11 ms |
| IP degree of protection | IP10 |
| Ambient air temperature for operation | -10...50 °C without derating mounting position A, B, C, D, F, G < 2000 m 50...70 °C with current derating of 2.5 % per °C mounting position A, B, C, D, F, G < 2000 m 50...70 °C with current derating of 2.5 % per °C < 2000 m |
| Electrical shock protection class | Class I |

| | |
|---------------------------------|---|
| Pollution degree | 2 |
| Vibration resistance | 3 mm (f= 2...9 Hz) conforming to IEC 60068-2-6 10 m/s ² (f= 9...200 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 | 6.000 cm |
| Package 1 Width | 14.000 cm |
| Package 1 Length | 24.500 cm |
| Package 1 Weight | 984.000 g |
| Unit Type of Package 2 | S03 |
| Number of Units in Package 2 | 9 |
| Package 2 Height | 30.000 cm |
| Package 2 Width | 30.000 cm |
| Package 2 Length | 40.000 cm |
| Package 2 Weight | 9.269 kg |
| Unit Type of Package 3 | P06 |
| Number of Units in Package 3 | 72 |
| Package 3 Height | 75.000 cm |
| Package 3 Width | 80.000 cm |
| Package 3 Length | 60.000 cm |
| Package 3 Weight | 82.152 kg |

Sustainability

Green Premium™ label is Schneider Electric's commitment to delivering products with best-in-class environmental performance. Green Premium promises compliance with the latest regulations, transparency on environmental impacts, as well as circular and low-CO₂ products.

Guide to assessing product sustainability is a white paper that clarifies global eco-label standards and how to interpret environmental declarations.

[Learn more about Green Premium >](#)

[Guide to assess a product's sustainability >](#)



Transparency RoHS/REACH

Well-being performance

Mercury Free

RoHS Exemption Information Yes

Certifications & Standards

Reach Regulation [REACH Declaration](#)

Eu RoHS Directive Pro-active compliance (Product out of EU RoHS legal scope)

China RoHS Regulation [China RoHS declaration](#)

Environmental Disclosure [Product Environmental Profile](#)

Weee The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

Circularity Profile [End of Life Information](#)

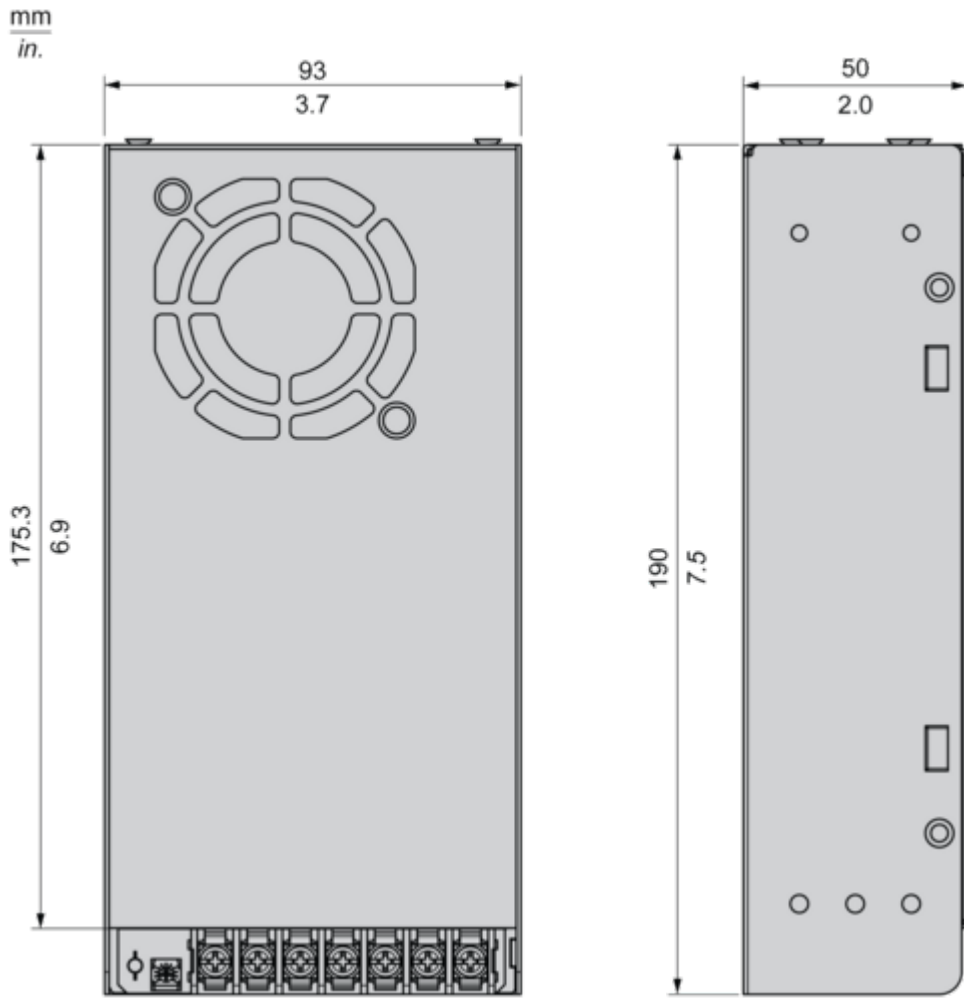
Dimensions Drawings

Electrical Safety

- If the unit is used 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

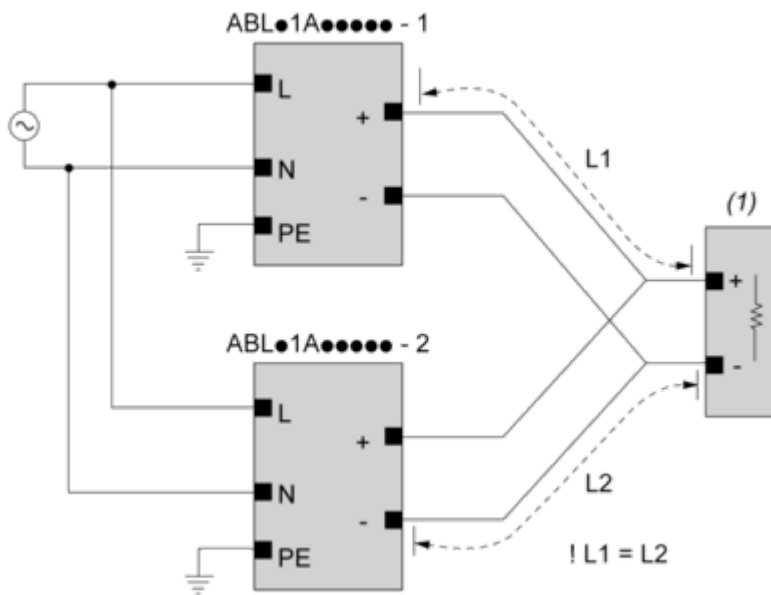
Front and Side Views



Connections and Schema

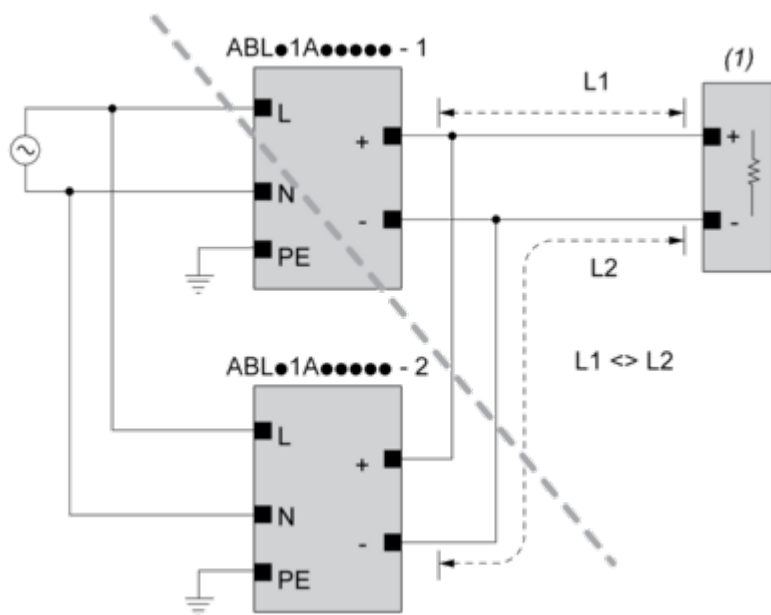
Connections and Schema

Correct Parallel Connection



(1) : Load

Incorrect Parallel Connection



(1) : Load

ABLx1Axxxxx-1 = ABLx1Axxxxx-2

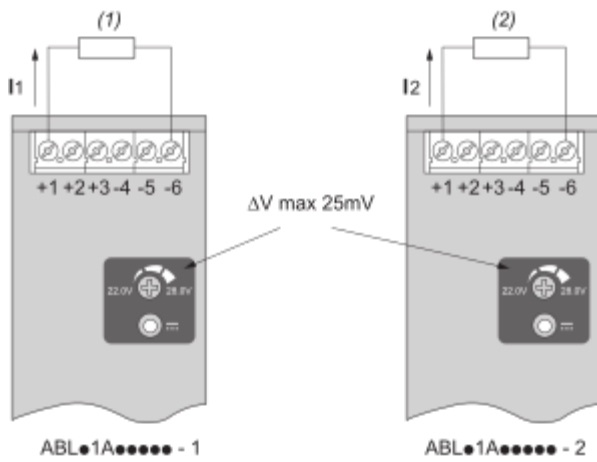
max 2 x ABLx1Axxxxx

L1 = L2

ΔV max 25 mV

$I_{Load} < 90\% \cdot 2 \times I_{nom}$

Output Voltage Balancing



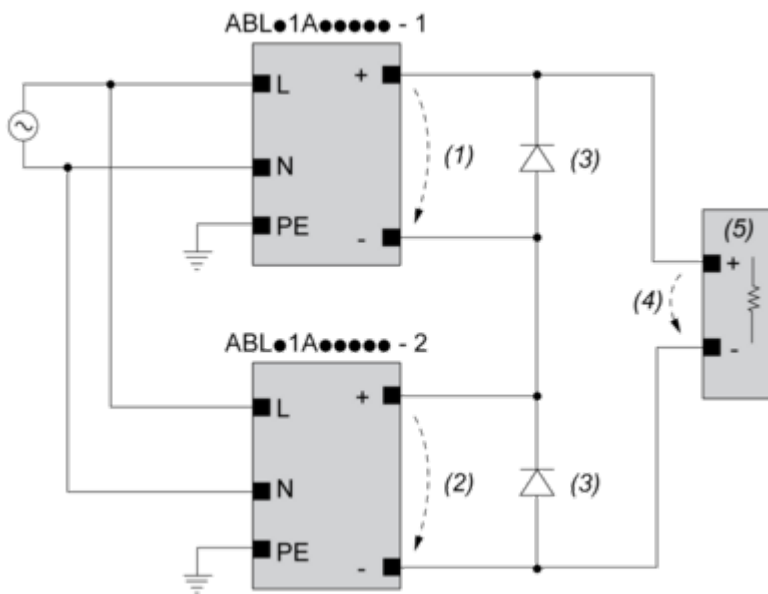
(1) : R_{Load1}

(2) : R_{Load2}

$R_{Load1} = R_{Load2}$

$I_1 = I_2 = \sim I_{nom}$

Series Connection



(1) : V_{out1}

(2) : V_{out2}

(3) : $2 \times \text{Diode}, V_{RRM} > 2 \times V_{out1/2}, I_F > 2 \times I_{nom1/2}$

(4) : $V_{Load} = 2 \times V_{out}$

(5) : Load

Connections and Schema

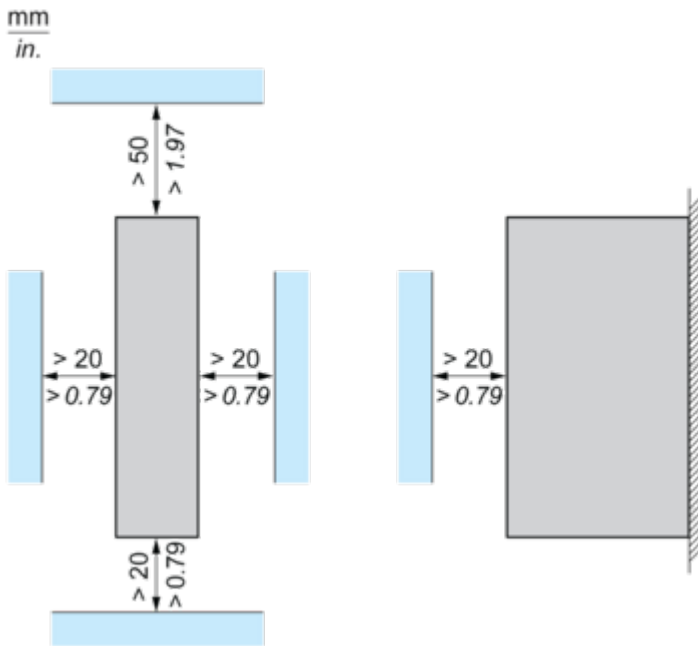
| | (1) | | |
|-------------|-------|-------|-------|
| | <40°C | <50°C | <70°C |
| ABLP1A12085 | 60°C | 70°C | 90°C |
| ABLP1A24045 | 60°C | 70°C | 90°C |
| ABLP1A24062 | 60°C | 70°C | 90°C |
| ABLP1A24100 | 60°C | 70°C | 90°C |

(1) : Ambient

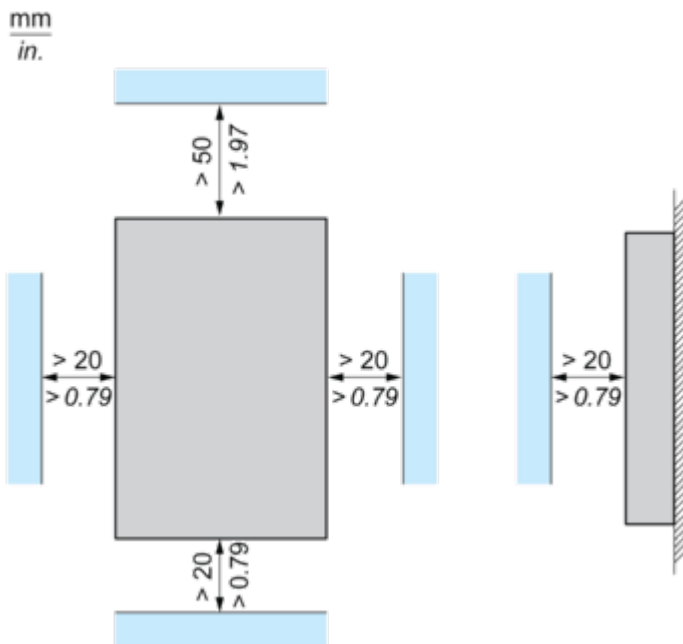
Mounting and Clearance

Mounting

Mounting Position A

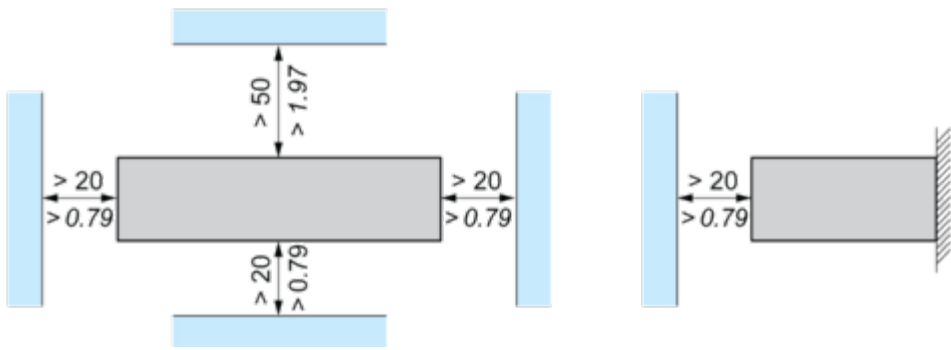


Mounting Position B



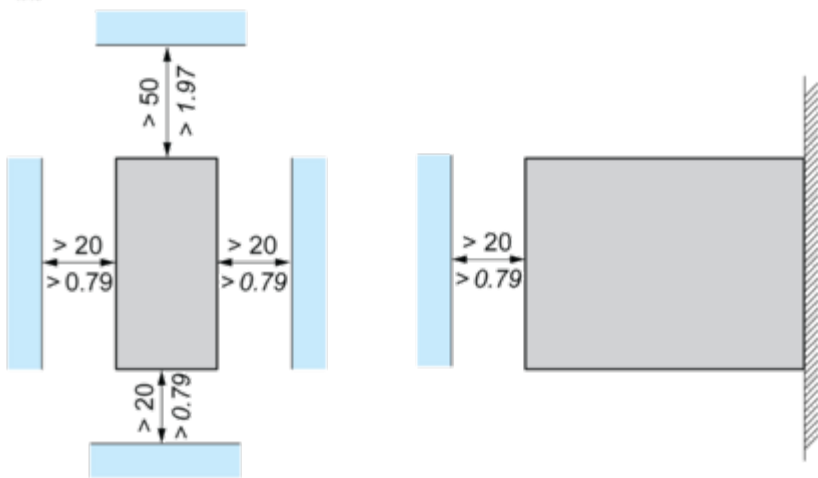
Mounting Position C

mm
in.



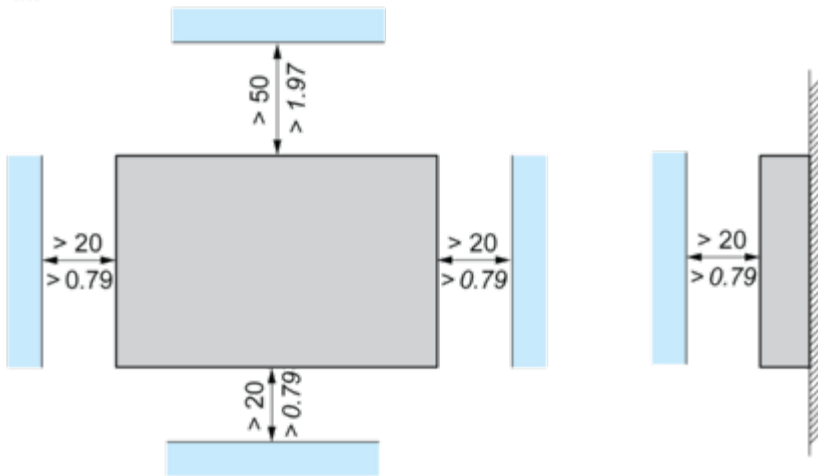
Mounting Position D1

mm
in.



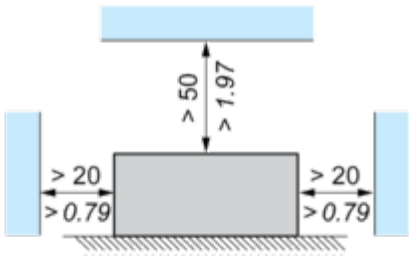
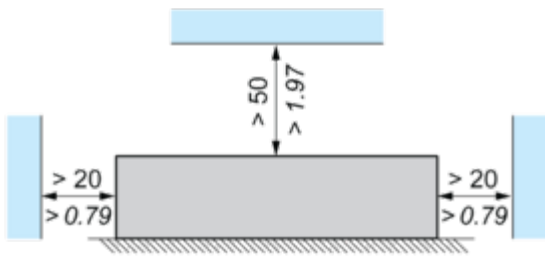
Mounting Position D2 and F

mm
in.



Mounting Position G

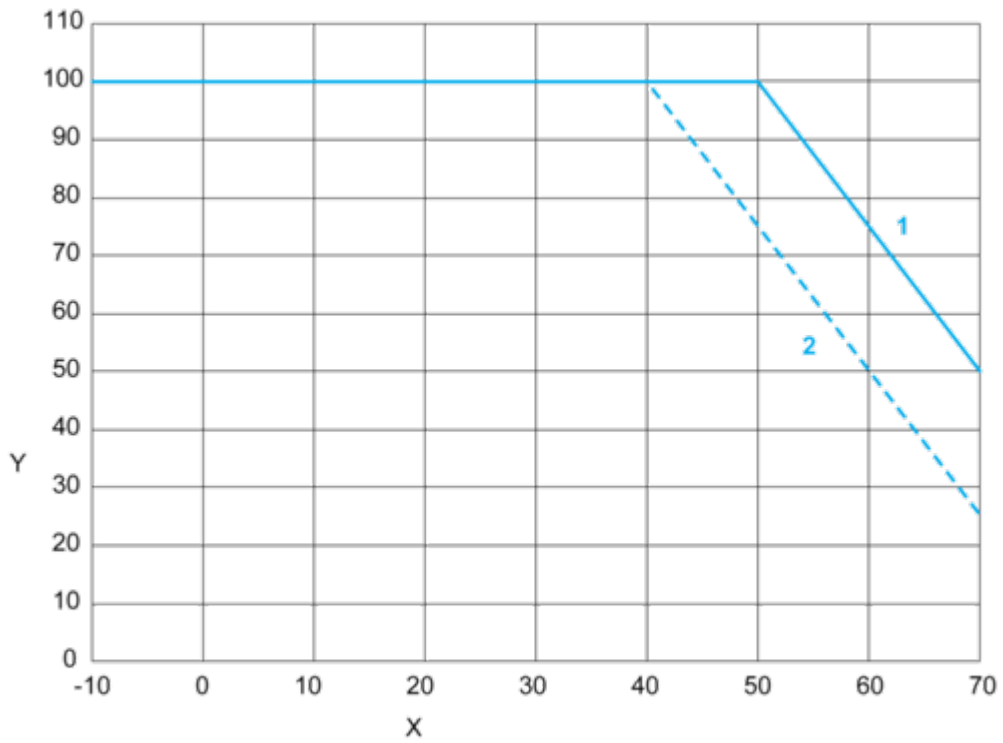
mm
in.



Performance Curves

Performance Curves

Mounting Positions A, B, C, D, F and G



X : Surrounding Air Temperature (°C)

Y : Percentage of Max Load (%)

1 : Altitude 2000 m

2 : Altitude 5000 m

Note : < 100 VAC additional derating by 1.33% / VAC