

# Product data sheet

Specifications



## Regulated Power Supply, 100...240V AC, 48V, 10A, single phase, Optimized

ABLS1A48100

**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              | Optimized                                                                      |
| Enclosure Material          | Metal                                                                          |
| Nominal input voltage       | 100...240 V AC single phase<br>100...240 V AC phase to phase<br>140...375 V DC |
| Rated power in W            | 240 W                                                                          |
| Output voltage              | 48 V DC                                                                        |
| Power supply output current | 10 A                                                                           |

### Complementary

|                              |                                                                                                                                                                          |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Efficiency at full load      | 85...264 V AC<br>120...375 V DC                                                                                                                                          |
| Nominal network frequency    | 50...60 Hz                                                                                                                                                               |
| Network system compatibility | TN<br>TT<br>IT                                                                                                                                                           |
| Maximum leakage current      | 1 mA 240 V AC                                                                                                                                                            |
| Input protection type        | Integrated fuse (not interchangeable) 10 A<br>External protection (recommended) 20 A<br>External protection (recommended) 16 A<br>External protection (recommended) 13 A |
| Inrush current               | 45 A 115 V<br>90 A 230 V                                                                                                                                                 |
| Power factor                 | 0.95 at 115 V AC<br>0.95 at 230 V AC                                                                                                                                     |
| Efficiency                   | 85 % 115 V AC<br>88 % 230 V AC                                                                                                                                           |
| Output voltage adjustment    | 44...54 V                                                                                                                                                                |
| Power dissipation in W       | 45 W                                                                                                                                                                     |
| Current consumption          | < 5.4 A 115 V AC<br>< 2.7 A 230 V AC<br>< 5 A 140 V DC                                                                                                                   |
| Turn-on time                 | < 1 s                                                                                                                                                                    |
| Holding time                 | > 20 ms 115 V AC<br>> 20 ms 230 V AC                                                                                                                                     |

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

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

|                                 |                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Startup with capacitive loads   | 8000 µF                                                                                                                                                                                                                                                                                                                          |
| Residual ripple                 | 200 mV                                                                                                                                                                                                                                                                                                                           |
| Meantime between failure [MTBF] | at 77 °F (25 °C), full load conforming to SR 332                                                                                                                                                                                                                                                                                 |
| Output protection type          | Against overload and short-circuits, protection technology: automatic reset<br>Against over temperature, protection technology: manual reset<br>Against overvoltage, protection technology: manual reset                                                                                                                         |
| Connections - terminals         | Screw connection 0.5...4 mm², AWG 20...AWG 12) without wire end ferrule output<br>Screw connection 0.5...2.5 mm², AWG 20...AWG 14) with wire end ferrule output<br>Screw connection 0.75...4 mm², AWG 18...AWG 12) without wire end ferrule input<br>Screw connection 0.75...4 mm², AWG 18...AWG 12) with wire end ferrule input |
| Line and load regulation        | < 1.5 % network 0 to 100 % load at 77 °F (25 °C)<br>< 0.5 % network full voltage range in line at 77 °F (25 °C)                                                                                                                                                                                                                  |
| Status LED                      | 1 LED (Green) output voltage                                                                                                                                                                                                                                                                                                     |
| Depth                           | 5.06 in (128.5 mm)                                                                                                                                                                                                                                                                                                               |
| Height                          | 4.9 in (123.6 mm)                                                                                                                                                                                                                                                                                                                |
| Width                           | 3.4 in (85.5 mm)                                                                                                                                                                                                                                                                                                                 |
| Product Weight                  | 2.76 lb(US) (1.25 kg)                                                                                                                                                                                                                                                                                                            |
| Output coupling                 | Single/parallel by switch                                                                                                                                                                                                                                                                                                        |
| Marking                         | CE<br>UKCA                                                                                                                                                                                                                                                                                                                       |
| Mounting support                | Top hat type TH35-15 rail IEC 60715<br>Top hat type TH35-7.5 rail IEC 60715<br>Double-profile DIN rail                                                                                                                                                                                                                           |
| Supply                          | SELV IEC 60950-1<br>SELV IEC 60204-1<br>SELV IEC 60364-4-41                                                                                                                                                                                                                                                                      |
| Dielectric strength             | 3000 V AC with input to output<br>2000 V AC with input to ground<br>1500 V AC with output to ground                                                                                                                                                                                                                              |
| Service life                    | 10 year(s) 104 °F (40 °C) 50 % load                                                                                                                                                                                                                                                                                              |
| Overvoltage category            | II                                                                                                                                                                                                                                                                                                                               |

## Environment

|                         |                                                                                                                                                                                                 |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards               | IEC 62368-1<br>EN/IEC 61204-3<br>IEC 61000-6-1<br>IEC 61000-6-2<br>IEC 61000-6-3<br>IEC 61000-6-4<br>IEC 61000-3-2<br>EN 61000-3-3<br>UL 62368-1<br>CSA C22.2 No 62368-1<br>CSA C22.2 No. 107.1 |
| Product certifications  | CE<br>CUL Listed<br>CUL Recognized<br>RCM<br>CB Scheme<br>EAC<br>KC<br>UKCA<br>CURus                                                                                                            |
| Operating altitude      | < 5000 m overvoltage category II                                                                                                                                                                |
| Shock resistance        | 150 m/s² 11 ms                                                                                                                                                                                  |
| IP degree of protection | IP20                                                                                                                                                                                            |

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ambient air temperature for operation | 104...158 °F (40...70 °C) with current derating of 1.67 % per °C mounting position A<br>115 V AC < 6561.68 ft (2000 m)<br>122...158 °F (50...70 °C) with current derating of 2.5 % per °C mounting position A<br>230 V AC < 6561.68 ft (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<br>10 m/s² (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<br>Immunity to electrostatic discharge - test level: 15 kV (air discharge) conforming to IEC 61000-4-2<br>Immunity to conducted RF disturbances - test level: 15 V/m (80 MHz...2 GHz) conforming to IEC 61000-4-3<br>Immunity to conducted RF disturbances - test level: 5 V/m (2...2.7 GHz) conforming to IEC 61000-4-3<br>Immunity to conducted RF disturbances - test level: 5 V/m (2.7...6 GHz) conforming to IEC 61000-4-3<br>Immunity to fast transients - test level: 4 kV (on input-output) conforming to IEC 61000-4-4<br>Surge immunity test - test level: 4 kV (between power supply and earth) conforming to IEC 61000-4-5<br>Surge immunity test - test level: 3 kV (between phases) conforming to IEC 61000-4-5<br>Immunity to conducted RF disturbances - test level: 15 V (0.15...80 MHz) conforming to IEC 61000-4-6<br>Immunity to magnetic fields - test level: 30 A/m (50...60 Hz) conforming to IEC 61000-4-8<br>Immunity to voltage dips conforming to IEC 61000-4-11<br>Disturbing field emission conforming to EN 55016-2-3<br>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<br>Radiated emissions IEC 61000-6-4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

## Ordering and shipping details

|                   |               |
|-------------------|---------------|
| Category          | US1CP1222525  |
| Discount Schedule | CP12          |
| GTIN              | 3606482185210 |
| Returnability     | Yes           |
| Country of origin | IN            |

## Packing Units

|                              |                           |
|------------------------------|---------------------------|
| Unit Type of Package 1       | PCE                       |
| Nbr. of units in pkg.        | 1                         |
| Package 1 Height             | 6.8 in (17.3 cm)          |
| Package 1 Width              | 3.8 in (9.7 cm)           |
| Package 1 Length             | 7.2 in (18.2 cm)          |
| Package weight(Lbs)          | 3.190 lb(US) (1.447 kg)   |
| Unit Type of Package 2       | S03                       |
| Number of Units in Package 2 | 7                         |
| Package 2 Height             | 11.8 in (30 cm)           |
| Package 2 Width              | 11.8 in (30 cm)           |
| Package 2 Length             | 15.7 in (40 cm)           |
| Package 2 Weight             | 23.636 lb(US) (10.721 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

|                                                        |                  |
|--------------------------------------------------------|------------------|
| Total lifecycle Carbon footprint                       | 2 252 kg CO2 eq. |
| Carbon footprint of the manufacturing phase [A1 to A3] | 12 kg CO2 eq.    |
| Carbon footprint of the distribution phase [A4]        | 0.5 kg CO2 eq.   |
| Carbon footprint of the installation phase [A5]        | 0 kg CO2 eq.     |
| Carbon footprint of the use phase [B2, B3, B4, B6]     | 2 237 kg CO2 eq. |
| Carbon footprint of the end-of-life phase [C1 to C4]   | 2 kg CO2 eq.     |

## Use Better



### Materials and Substances

|                                        |                                                                                        |
|----------------------------------------|----------------------------------------------------------------------------------------|
| Packaging made with recycled cardboard | No                                                                                     |
| Packaging without single use plastic   | Yes                                                                                    |
| SCIP Number                            | 698d9b2a-7a6a-4b8f-a149-489156f55645                                                   |
| EU RoHS Directive                      | <a href="#">Compliant By Exemption</a>                                                 |
| REACH Regulation                       | <a href="#">Reference contains Substances of Very High Concern above the threshold</a> |

## Use Longer



### Lifetime extension

|        |    |
|--------|----|
| Repair | No |
|--------|----|

## Use Again



### Repack and remanufacture

|                               |                                                                                                                                                                                                                  |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Recyclability potential, in % | 12                                                                                                                                                                                                               |
| Circularity Profile           | <a href="#">End of Life Information</a>                                                                                                                                                                          |
| 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

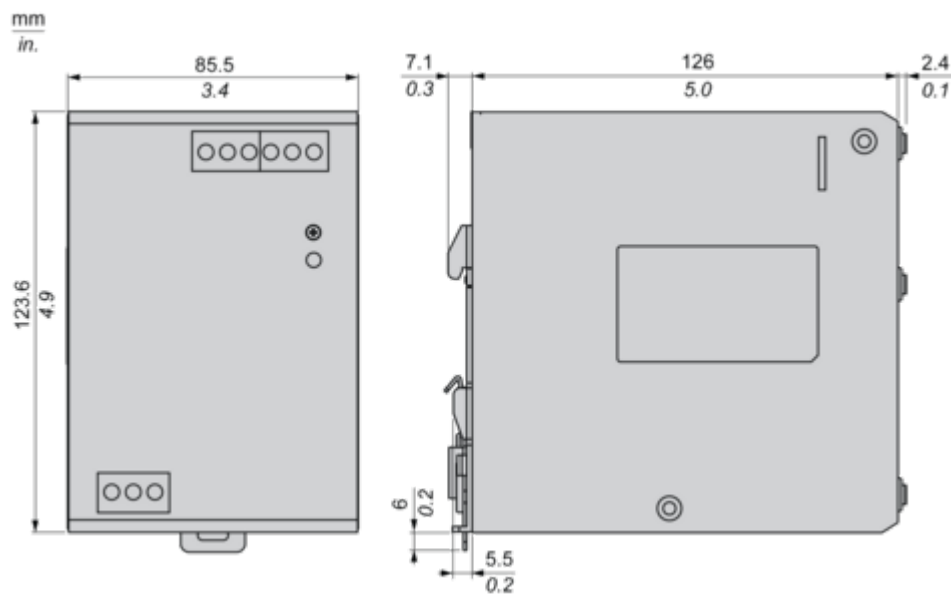
### Electrical Safety

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- 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

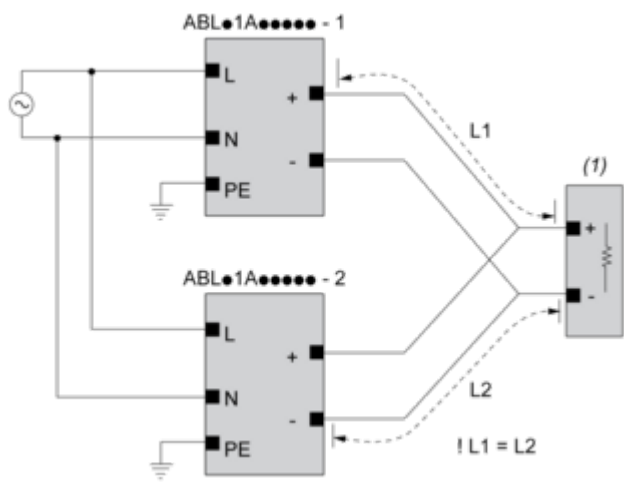
Front and Side Views



Connections and Schema

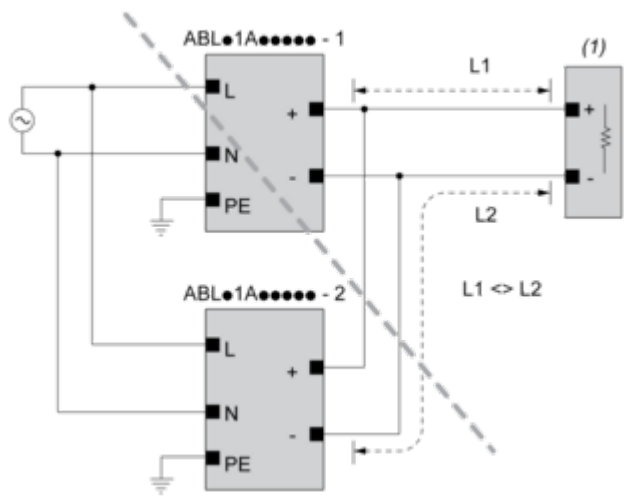
Connections and Schema

Correct Parallel Connection



(1) : Load

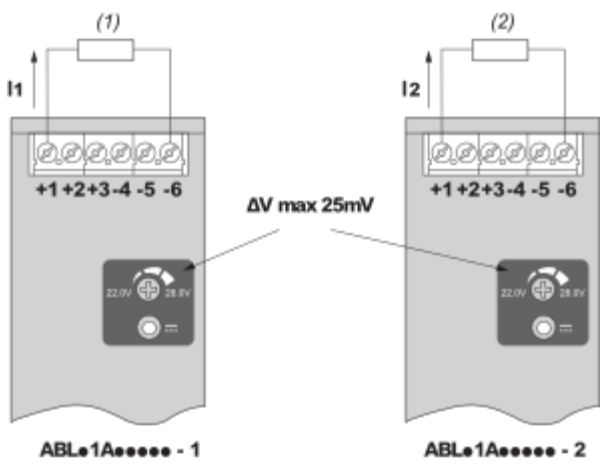
Incorrect Parallel Connection



(1) : Load

ABLx1Axxxx-1 = ABLx1Axxxx-2  
max 2 x ABLx1Axxxx  
L1 = L2  
 $\Delta V$  max 25 mV  
 $I_{Load} < 90\% \times I_{nom}$

Output Voltage Balancing



(1) :  $R_{Load1}$

(2) :  $R_{Load2}$

$R_{Load1} = R_{Load2}$

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

Connections and Schema

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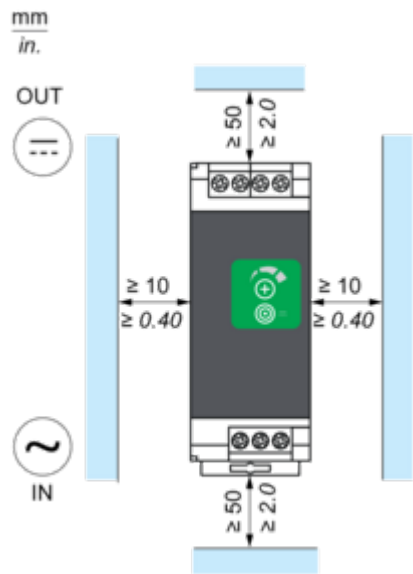
|             | (1)   |       |       |
|-------------|-------|-------|-------|
|             | <40°C | <50°C | <70°C |
| ABLS1A24021 | 50°C  | 60°C  | 75°C  |
| ABLS1A24038 | 50°C  | 60°C  | 75°C  |
| ABLS1A12062 | 50°C  | 60°C  | 80°C  |
| ABLS1A24031 | 50°C  | 60°C  | 80°C  |
| ABLS1A12100 | 60°C  | 70°C  | 90°C  |
| ABLS1A24050 | 60°C  | 70°C  | 90°C  |
| ABLS1A48025 | 60°C  | 70°C  | 90°C  |
| ABLS1A24100 | 60°C  | 70°C  | 90°C  |
| ABLS1A24200 | 95°C  | 95°C  | 90°C  |

(1) : Ambient

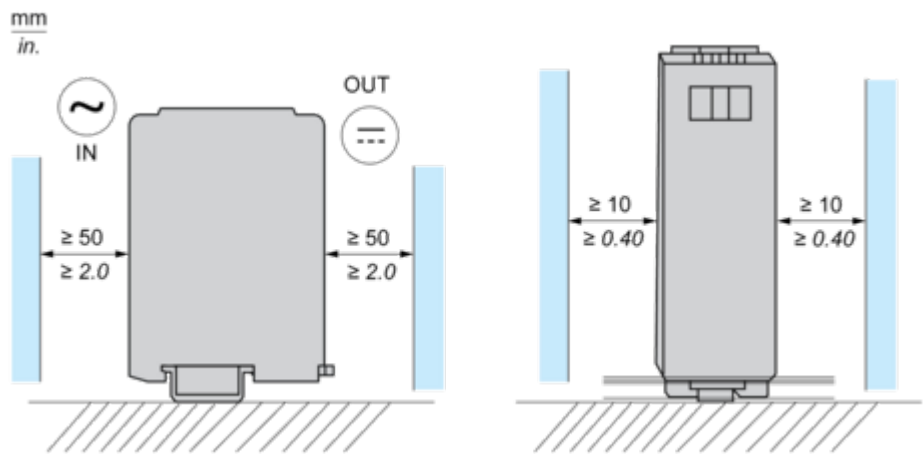
Mounting and Clearance

Mounting

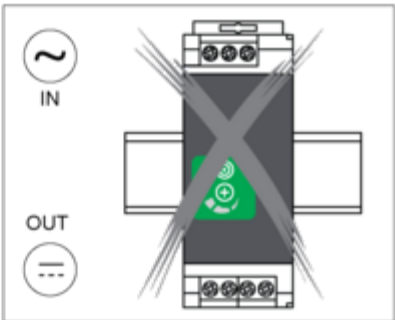
Mounting Position A



Mounting Position B



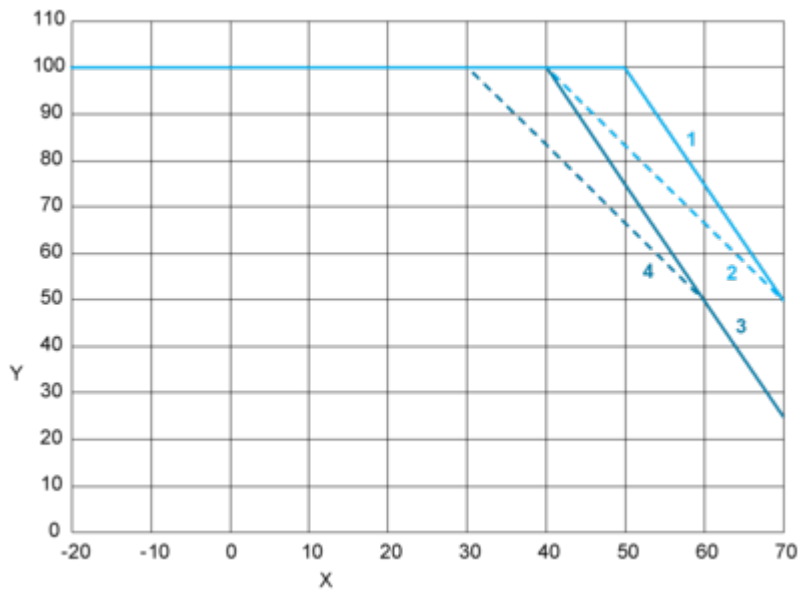
Incorrect Mounting



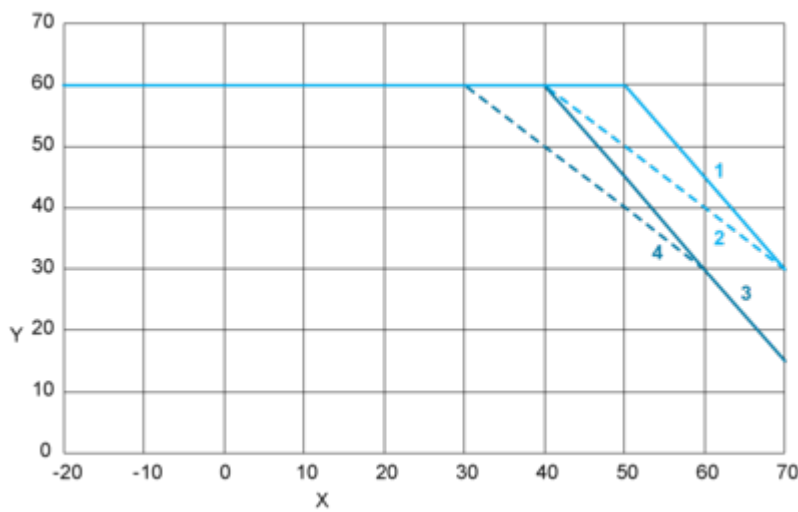
Performance Curves

Performance Curve

Mounting Position A



Mounting Position B



- X : Surrounding Air Temperature (°C)  
Y : Percentage of Maximum Load (%)  
1 : Altitude ≤ 2000 m (6561 ft), Input voltage = 230 VAC / 325 VDC  
2 : Altitude ≤ 2000 m (6561 ft), 115 VAC / 162 VDC  
3 : Altitude ≤ 5000 m (16404 ft), Input voltage = 230 VAC / 325 VDC  
4 : Altitude ≤ 5000 m (16404 ft), 115 VAC / 162 VDC

Image of product / Alternate images

Alternative



