

## Power module - MINI-PS- 10- 42AC/15-60DC/3 - 2320199

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To supply MINI DC/DC converters, the AC voltage of a transformer is rectified and filtered.

### Product Description

The AC/DC converter converts the AC voltage from 10 V DC ... 42 V AC to a 15 V DC ... 60 V DC output voltage. With an overall width of just 22.5 mm, the housing is particularly narrow.

### Product Features

- Enables the operation of the MINI DC/DC converters in an AC network.
- AC voltage of a transformer is rectified and filtered



### Key Commercial Data

|                                      |                                                                                                         |
|--------------------------------------|---------------------------------------------------------------------------------------------------------|
| Packing unit                         | 1 pc                                                                                                    |
| GTIN                                 | <br>4 046356 577731 |
| Weight per Piece (excluding packing) | 160.0 g                                                                                                 |
| Custom tariff number                 | 85044030                                                                                                |
| Country of origin                    | China                                                                                                   |

### Technical data

#### Dimensions

|        |         |
|--------|---------|
| Width  | 22.5 mm |
| Height | 99 mm   |
| Depth  | 107 mm  |

#### Ambient conditions

|                                                |                                              |
|------------------------------------------------|----------------------------------------------|
| Degree of protection                           | IP20                                         |
| Ambient temperature (operation)                | -25 °C ... 70 °C (> 60 °C Derating: 2,5 %/K) |
| Ambient temperature (storage/transport)        | -40 °C ... 85 °C                             |
| Max. permissible relative humidity (operation) | ≤ 95 % (at 25 °C, non-condensing)            |
| Noise immunity                                 | EN 61000-6-2:2005                            |

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## Technical data

### Input data

|                                     |                         |
|-------------------------------------|-------------------------|
| Nominal input voltage               | 24 V AC                 |
| Nominal input voltage range         | 10 V AC ... 42 V AC     |
| Input voltage range                 | 10 V AC ... 42 V AC     |
| AC frequency range                  | 45 Hz ... 65 Hz         |
| Current consumption                 | 6.5 A                   |
| Inrush surge current                | < 45 A (typical)        |
| Choice of suitable circuit breakers | 16 A (Characteristic C) |

### Output data

|                                                |                          |
|------------------------------------------------|--------------------------|
| Nominal output voltage                         | 28 V DC $\pm 1\%$        |
|                                                | 60 V DC                  |
| Output voltage range                           | 15 V DC ... 60 V DC      |
| Nominal output current ( $I_N$ )               | 3 A (-25 °C ... 60 °C)   |
| Derating                                       | 60 °C ... 70 °C (2.5%/K) |
| Connection in series                           | No                       |
| Residual ripple                                | < 3.6 V <sub>PP</sub>    |
| Maximum power dissipation in no-load condition | < 0.04 W                 |
| Power loss nominal load max.                   | < 6.9 W                  |

### General

|                                 |                                                     |
|---------------------------------|-----------------------------------------------------|
| Net weight                      | 0.16 kg                                             |
| Efficiency                      | > 95.7 % (For 42 V AC and nominal values)           |
| Insulation voltage input/output | 1.5 kV (type test)                                  |
|                                 | 1 kV (routine test)                                 |
| Protection class                | III                                                 |
| MTBF (IEC 61709, SN 29500)      | > 18175000 h (40°C)                                 |
| Mounting position               | horizontal DIN rail NS 35, EN 60715                 |
| Assembly instructions           | Can be aligned: Horizontally 0 mm, vertically 50 mm |

### Connection data, input

|                                       |                            |
|---------------------------------------|----------------------------|
| Connection method                     | Pluggable screw connection |
| Conductor cross section solid min.    | 0.2 mm <sup>2</sup>        |
| Conductor cross section solid max.    | 2.5 mm <sup>2</sup>        |
| Conductor cross section flexible min. | 0.2 mm <sup>2</sup>        |
| Conductor cross section flexible max. | 2.5 mm <sup>2</sup>        |
| Conductor cross section AWG min.      | 24                         |
| Conductor cross section AWG max.      | 12                         |
| Stripping length                      | 7 mm                       |
| Screw thread                          | M3                         |

### Connection data, output

|                                    |                            |
|------------------------------------|----------------------------|
| Connection method                  | Pluggable screw connection |
| Conductor cross section solid min. | 0.2 mm <sup>2</sup>        |

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## Technical data

### Connection data, output

|                                       |                     |
|---------------------------------------|---------------------|
| Conductor cross section solid max.    | 2.5 mm <sup>2</sup> |
| Conductor cross section flexible min. | 0.2 mm <sup>2</sup> |
| Conductor cross section flexible max. | 2.5 mm <sup>2</sup> |
| Conductor cross section AWG min.      | 24                  |
| Conductor cross section AWG max.      | 12                  |
| Stripping length                      | 7 mm                |
| Screw thread                          | M3                  |

### Standards and Regulations

|                                                                                                                                  |                                                         |
|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| Electromagnetic compatibility                                                                                                    | Conformance with EMC Directive 2004/108/EC              |
| Shock                                                                                                                            | 30g in each direction, according to IEC 60068-2-27      |
| Noise emission                                                                                                                   | EN 55011 (EN 55022)                                     |
| Noise immunity                                                                                                                   | EN 61000-6-2:2005                                       |
| Connection in acc. with standard                                                                                                 | CUL                                                     |
| Standards/regulations                                                                                                            | EN 61000-4-3                                            |
|                                                                                                                                  | EN 61000-4-4                                            |
| Standard - Electrical safety                                                                                                     | EN 60950-1/VDE 0805 (SELV)                              |
| Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations | EN 50178/VDE 0160 (PELV)                                |
| UL approvals                                                                                                                     | UL/C-UL listed UL 508                                   |
|                                                                                                                                  | UL/C-UL Recognized UL 60950                             |
| Vibration (operation)                                                                                                            | < 15 Hz, amplitude ±2.5 mm (according to IEC 60068-2-6) |
| Low Voltage Directive                                                                                                            | Conformance with LV directive 2006/95/EC                |
| Rail applications                                                                                                                | EN 50121-4                                              |

## Classifications

### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27040702 |
| eCl@ss 4.1 | 27040702 |
| eCl@ss 5.0 | 27049002 |
| eCl@ss 5.1 | 27049002 |
| eCl@ss 6.0 | 27049002 |
| eCl@ss 7.0 | 27049002 |
| eCl@ss 8.0 | 27049002 |
| eCl@ss 9.0 | 27040701 |

### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC001039 |
| ETIM 4.0 | EC000599 |
| ETIM 5.0 | EC002046 |

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### Classifications

#### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30211502 |
| UNSPSC 7.0901 | 39121004 |
| UNSPSC 11     | 39121004 |
| UNSPSC 12.01  | 39121004 |
| UNSPSC 13.2   | 39121004 |

### Approvals

#### Approvals

##### Approvals

UL Recognized / UL Listed / cUL Recognized / cUL Listed / IECEx CB Scheme / EAC / EAC / cULus Recognized / cULus Listed

##### Ex Approvals

##### Approvals submitted

#### Approval details

UL Recognized 

UL Listed 

cUL Recognized 

cUL Listed 

IECEx CB Scheme 

## Power module - MINI-PS- 10- 42AC/15-60DC/3 - 2320199

### Approvals

EAC

EAC

cULus Recognized  US

cULus Listed  US

### Drawings

Block diagram

