

## Power supply unit - MINI-PS-100-240AC/24DC/2 - 2938730

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Primary-switched MINI POWER power supply for DIN rail mounting, input: 1-phase, output: 24 V DC/2 A

### Product Description

MINI POWER power supplies for MCR technology

In measurement and control technology (MCR), modular electronics housing has become the industry standard. MINI POWER is the power supply unit to go with it. The devices are flexible, thanks to special voltages and special versions.

### Your advantages

- ✓ Easy-maintenance connection technology thanks to keyed COMBICON connectors
- ✓ Remote monitoring of output voltage via switching output



### Key Commercial Data

|                                      |                                                                                                         |
|--------------------------------------|---------------------------------------------------------------------------------------------------------|
| Packing unit                         | 1 pc                                                                                                    |
| GTIN                                 | <br>4 017918 899554 |
| GTIN                                 | 4017918899554                                                                                           |
| Weight per Piece (excluding packing) | 325.300 g                                                                                               |
| Custom tariff number                 | 85044030                                                                                                |
| Country of origin                    | Poland                                                                                                  |

### Technical data

#### Dimensions

|                                  |             |
|----------------------------------|-------------|
| Width                            | 45 mm       |
| Height                           | 99 mm       |
| Depth                            | 107 mm      |
| Installation distance right/left | 0 mm / 0 mm |

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## Technical data

### Dimensions

|                                  |               |
|----------------------------------|---------------|
| Installation distance top/bottom | 50 mm / 50 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)            |
| Climatic class                                 | 3K3 (in acc. with EN 60721)                  |
| Degree of pollution                            | 2                                            |

### Input data

|                                          |                                           |
|------------------------------------------|-------------------------------------------|
| Nominal input voltage range              | 100 V AC ... 240 V AC                     |
| Input voltage range                      | 85 V AC ... 264 V AC                      |
|                                          | 90 V DC ... 350 V DC                      |
| AC frequency range                       | 45 Hz ... 65 Hz                           |
| Current consumption                      | 0.7 A (120 V AC)                          |
|                                          | 0.4 A (230 V AC)                          |
|                                          | 0.65 A (90 V DC)                          |
|                                          | 0.2 A (350 V DC)                          |
| Nominal power consumption                | 84 VA                                     |
| Inrush current                           | < 15 A (typical)                          |
| Mains buffering time                     | > 35 ms (120 V AC)                        |
|                                          | > 170 ms (230 V AC)                       |
| Input fuse                               | 2.5 A (slow-blow, internal)               |
| Recommended breaker for input protection | 6 A ... 16 A (Characteristics B, C, D, K) |

### Output data

|                                                         |                                                                   |
|---------------------------------------------------------|-------------------------------------------------------------------|
| Nominal output voltage                                  | 24 V DC ±1 %                                                      |
| Setting range of the output voltage (U <sub>Set</sub> ) | 22.5 V DC ... 28.5 V DC (> 24 V DC, constant capacity restricted) |
| Nominal output current (I <sub>N</sub> )                | 2 A (-25 °C ... 60 °C)                                            |
| POWER BOOST (I <sub>Boost</sub> )                       | 2.9 A (-25 °C ... 40 °C permanent )                               |
| Derating                                                | 60 °C ... 70 °C (2.5%/K)                                          |
| Connection in parallel                                  | Yes, for redundancy and increased capacity                        |
| Connection in series                                    | yes                                                               |
| Feedback voltage resistance                             | 35 V DC                                                           |
| Protection against overvoltage at the output (OVP)      | ≤ 35 V DC                                                         |
| Starting delay with capacitive load                     | unrestricted                                                      |
| Max. capacitive load                                    | unlimited                                                         |
| Control deviation                                       | < 1 % (change in load, static 10 % ... 90 %)                      |

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## Technical data

### Output data

|                                                |                                               |
|------------------------------------------------|-----------------------------------------------|
|                                                | < 3 % (change in load, dynamic 10 % ... 90 %) |
|                                                | < 0.1 % (change in input voltage $\pm 10$ %)  |
| Residual ripple                                | < 20 mV <sub>PP</sub> (20 MHz)                |
| Output power                                   | 48 W                                          |
| Typical response time                          | < 1 s                                         |
| Peak switching voltages nominal load           | < 100 mV <sub>PP</sub> (20 MHz)               |
| Maximum power dissipation in no-load condition | 2 W                                           |
| Power loss nominal load max.                   | 7 W                                           |

### General

|                                 |                                                |
|---------------------------------|------------------------------------------------|
| Net weight                      | 0.25 kg                                        |
| Operating voltage display       | Green LED                                      |
| Efficiency                      | > 88 % (for 230 V AC and nominal values)       |
| MTBF (IEC 61709, SN 29500)      | > 507000 h (40 °C)                             |
| Insulation voltage input/output | 4 kV (type test)                               |
|                                 | 3 kV (routine test)                            |
| Degree of protection            | IP20                                           |
| Protection class                | II (in closed control cabinet)                 |
| Mounting position               | horizontal DIN rail NS 35, EN 60715            |
| Assembly instructions           | alignable: 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>        |
| 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                         |

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## Technical data

### Connection data, output

|                                  |      |
|----------------------------------|------|
| Conductor cross section AWG max. | 12   |
| Stripping length                 | 7 mm |
| Screw thread                     | M3   |

### Connection data for signaling

|                                       |                     |
|---------------------------------------|---------------------|
| 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                  |
| Screw thread                          | M3                  |

### Standards

|                                                                                                                                  |                            |
|----------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| EMC requirements for noise immunity                                                                                              | EN 61000-6-2               |
| 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)   |
| Standard – Safety extra-low voltage                                                                                              | EN 60950-1 (SELV)          |
|                                                                                                                                  | EN 60204 (PELV)            |
| Standard - Safe isolation                                                                                                        | DIN VDE 0100-410           |
| Standard – Limitation of mains harmonic currents                                                                                 | EN 61000-3-2               |
| Rail applications                                                                                                                | EN 50121-4                 |

### Conformance/approvals

|              |                                                                                  |
|--------------|----------------------------------------------------------------------------------|
| UL approvals | UL/C-UL listed UL 508                                                            |
|              | UL/C-UL Recognized UL 60950-1                                                    |
|              | UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location) |
|              | NEC Class 2 as per UL 1310                                                       |

### EMC data

|                               |                                                   |
|-------------------------------|---------------------------------------------------|
| Electromagnetic compatibility | Conformance with EMC Directive 2014/30/EU         |
| Low Voltage Directive         | Conformance with Low Voltage Directive 2014/35/EC |
| Electrostatic discharge       | EN 61000-4-2                                      |
| Electromagnetic HF field      | EN 61000-4-3                                      |
| Fast transients (burst)       | EN 61000-4-4                                      |
| Surge voltage load (surge)    | EN 61000-4-5                                      |
| Conducted interference        | EN 61000-4-6                                      |
| Voltage dips                  | EN 61000-4-11                                     |

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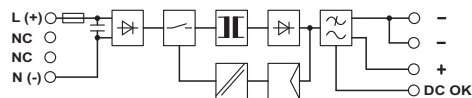
## Technical data

### Environmental Product Compliance

|            |                                                                                                     |
|------------|-----------------------------------------------------------------------------------------------------|
| REACH SVHC | Lead 7439-92-1                                                                                      |
| China RoHS | Environmentally Friendly Use Period = 25;                                                           |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

## Drawings

### Block diagram



## Classifications

### eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27040701 |
| eCl@ss 4.0    | 27040700 |
| eCl@ss 4.1    | 27040700 |
| eCl@ss 5.0    | 27242200 |
| eCl@ss 5.1    | 27242200 |
| eCl@ss 6.0    | 27049000 |
| eCl@ss 7.0    | 27049002 |
| eCl@ss 8.0    | 27049002 |
| eCl@ss 9.0    | 27040701 |

### ETIM

|          |          |
|----------|----------|
| ETIM 2.0 | EC001039 |
| ETIM 3.0 | EC001039 |
| ETIM 4.0 | EC000599 |
| ETIM 5.0 | EC002540 |
| ETIM 6.0 | EC002540 |
| ETIM 7.0 | EC002540 |

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30211502 |
| UNSPSC 7.0901 | 39121004 |

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### Classifications

#### UNSPSC

|              |          |
|--------------|----------|
| UNSPSC 11    | 39121004 |
| UNSPSC 12.01 | 39121004 |
| UNSPSC 13.2  | 39121004 |
| UNSPSC 18.0  | 39121004 |
| UNSPSC 19.0  | 39121004 |
| UNSPSC 20.0  | 39121004 |
| UNSPSC 21.0  | 39121004 |

### Approvals

#### Approvals

#### Approvals

UL Listed / UL Recognized / cUL Recognized / cUL Listed / EAC / EAC / cULus Recognized / cULus Listed

#### Ex Approvals

UL Listed / cUL Listed / cULus Listed

#### Approval details

|           |                                                                                     |                                                                                                                                                       |               |
|-----------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| UL Listed |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 123528 |
|-----------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|

|               |                                                                                     |                                                                                                                                                       |               |
|---------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| UL Recognized |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 214596 |
|---------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|

|                |                                                                                     |                                                                                                                                                       |               |
|----------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| cUL Recognized |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 214596 |
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|            |                                                                                     |                                                                                                                                                       |               |
|------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| cUL Listed |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 123528 |
|------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|

## Power supply unit - MINI-PS-100-240AC/24DC/2 - 2938730

### Approvals

|     |                                                                                   |               |
|-----|-----------------------------------------------------------------------------------|---------------|
| EAC |  | EAC-Zulassung |
|-----|-----------------------------------------------------------------------------------|---------------|

|     |                                                                                   |                     |
|-----|-----------------------------------------------------------------------------------|---------------------|
| EAC |  | RU*DE*08.B.01873/19 |
|-----|-----------------------------------------------------------------------------------|---------------------|

|                  |                                                                                   |  |
|------------------|-----------------------------------------------------------------------------------|--|
| cULus Recognized |  |  |
|------------------|-----------------------------------------------------------------------------------|--|

|              |                                                                                   |  |
|--------------|-----------------------------------------------------------------------------------|--|
| cULus Listed |  |  |
|--------------|-----------------------------------------------------------------------------------|--|

### Accessories

#### Accessories

#### Device protection

Type 3 surge protection device - PLT-SEC-T3-230-FM-UT - 2907919



Type 2/3 surge protection, consisting of protective plug and base element with screw connection. For single-phase power supply network with integrated status indicator and remote signaling. Nominal voltage 230 V AC/DC.

Type 3 surge protection device - TTC-6P-T3-24DC-PT-I - 1027586



Type 3 surge protection, consisting of protective plug and base element, with integrated status indicator for 24 V DC power supplies.