

## Power supply unit - TRIO-PS/3AC/24DC/ 5 - 2866462

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Primary-switched TRIO POWER power supply for DIN rail mounting, input: 3-phase, output: 24 V DC/5 A

### Product Description

TRIO POWER power supplies with standard functionality

TRIO POWER is particularly suited to standard machine production, thanks to 1- and 3-phase versions up to 960 W. The wide-range input and the international approval package enable worldwide use.

The robust metal housing, the high electric strength, and the wide temperature range ensure a high level of power supply reliability.

### Why buy this product

- ✓ Use the third negative terminal block as a grounding terminal block and minimize installation costs
- ✓ Rugged design with metal housing and wide temperature range from -25 to +70°C
- ✓ Maximum operational reliability thanks to high MTBF (mean time between failures) of more than 500,000 hours and high dielectric strength of up to 300 V AC
- ✓ Compensation of voltage drops by means of output voltage that can be adjusted on the front



### Key Commercial Data

|                                      |                                                                                                         |
|--------------------------------------|---------------------------------------------------------------------------------------------------------|
| Packing unit                         | 1 STK                                                                                                   |
| GTIN                                 | <br>4 046356 128544 |
| GTIN                                 | 4046356128544                                                                                           |
| Weight per Piece (excluding packing) | 600.000 g                                                                                               |
| Custom tariff number                 | 85044030                                                                                                |
| Country of origin                    | China                                                                                                   |

### Technical data

#### Dimensions

|        |        |
|--------|--------|
| Width  | 40 mm  |
| Height | 130 mm |
| Depth  | 115 mm |

#### Ambient conditions

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## Technical data

### Ambient conditions

|                                                |                                              |
|------------------------------------------------|----------------------------------------------|
| Degree of protection                           | IP20                                         |
| Ambient temperature (operation)                | -25 °C ... 70 °C (> 55° 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                            |

### Input data

|                                     |                                                  |
|-------------------------------------|--------------------------------------------------|
| Nominal input voltage range         | 2x / 3x 400 V AC ... 500 V AC                    |
| Input voltage range                 | 3x 320 V AC ... 575 V AC (for 3-phase operation) |
|                                     | 2x 360 V AC ... 575 V AC (for 2-phase operation) |
| AC frequency range                  | 45 Hz ... 65 Hz                                  |
| Discharge current to PE             | < 3.5 mA                                         |
| Current consumption                 | 3x 0.3 A (400 V AC)                              |
|                                     | 3x 0.25 A (500 V AC)                             |
|                                     | 2x 0.65 A (400 V AC)                             |
|                                     | 2x 0.5 A (500 V AC)                              |
| Nominal power consumption           | > 24 V DC, constant capacity restricted          |
| Inrush surge current                | < 15 A                                           |
| Power failure bypass                | > 20 ms (3x 400 V AC)                            |
|                                     | > 30 ms (3x 480 V AC)                            |
| Choice of suitable circuit breakers | 6 A ... 16 A (Characteristics B, C, D, K)        |
| Type of protection                  | Transient surge protection                       |
| Protective circuit/component        | Varistor                                         |

### Output data

|                                                   |                                                                   |
|---------------------------------------------------|-------------------------------------------------------------------|
| Nominal output voltage                            | 24 V DC ±1 %                                                      |
| Setting range of the output voltage ( $U_{Set}$ ) | 22.5 V DC ... 29.5 V DC (> 24 V DC, constant capacity restricted) |
| Nominal output current ( $I_N$ )                  | 5 A ( $U_{OUT}$ = 24 V DC)                                        |
| Derating                                          | 55 °C ... 70 °C (2.5%/K)                                          |
| Connection in parallel                            | Yes, for redundancy and increased capacity                        |
| Connection in series                              | yes                                                               |
| Max. capacitive load                              | Unlimited                                                         |
| Active current limitation                         | Approx 6 A (in the event of a short-circuit)                      |
| Control deviation                                 | < 1 % (change in load, static 10 % ... 90 %)                      |
|                                                   | < 2 % (change in load, dynamic 10 % ... 90 %)                     |
|                                                   | < 0.1 % (change in input voltage ±10 %)                           |
| Residual ripple                                   | < 30 mV <sub>PP</sub>                                             |
| Output power                                      | 120 W                                                             |
| Typical response time                             | < 1 s                                                             |
| Peak switching voltages nominal load              | < 30 mV <sub>PP</sub>                                             |
| Maximum power dissipation in no-load condition    | 4 W                                                               |

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### Output data

|                              |      |
|------------------------------|------|
| Power loss nominal load max. | 15 W |
|------------------------------|------|

### General

|                                 |                                                     |
|---------------------------------|-----------------------------------------------------|
| Net weight                      | 0.6 kg                                              |
| Operating voltage display       | Green LED                                           |
| Efficiency                      | 89 % (at 400 V AC and nominal values)               |
| Insulation voltage input/output | 4 kV AC (type test)<br>2 kV AC (routine test)       |
| Protection class                | I (with PE connection)                              |
| MTBF (IEC 61709, SN 29500)      | > 1474000 h                                         |
| 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                     | 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.      | 14                  |
| Stripping length                      | 9 mm                |
| Screw thread                          | M2,5                |

### Connection data, output

|                                       |                     |
|---------------------------------------|---------------------|
| Connection method                     | 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.      | 16                  |
| Conductor cross section AWG max.      | 12                  |
| Stripping length                      | 9 mm                |
| Screw thread                          | M2,5                |

### Signaling

|                        |                                          |
|------------------------|------------------------------------------|
| Status display         | "DC OK" LED green                        |
| Note on status display | U <sub>OUT</sub> > 21.5 V: LED lights up |

### Standards and Regulations

|                               |                                                   |
|-------------------------------|---------------------------------------------------|
| Electromagnetic compatibility | Conformance with EMC Directive 2014/30/EU         |
| Shock                         | 15g in all directions in acc. with IEC 60068-2-27 |
| Noise immunity                | EN 61000-6-2:2005                                 |

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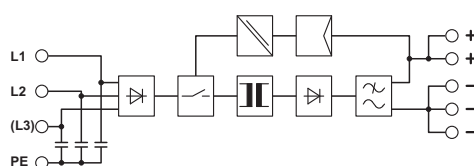
## Technical data

### Standards and Regulations

|                                                                                                                                  |                                                              |
|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| Connection in acc. with standard                                                                                                 | CUL                                                          |
| Standards/regulations                                                                                                            | EN 61000-4-2                                                 |
|                                                                                                                                  | EN 61000-4-3                                                 |
|                                                                                                                                  | EN 61000-4-4                                                 |
|                                                                                                                                  | EN 61000-4-5                                                 |
|                                                                                                                                  | EN 61000-4-6                                                 |
|                                                                                                                                  | EN 61000-4-11                                                |
| 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 – Protection against shock currents, basic requirements for protective separation in electrical equipment               | EN 50178                                                     |
| Standard – Limitation of mains harmonic currents                                                                                 | EN 61000-3-2                                                 |
| UL approvals                                                                                                                     | UL/C-UL listed UL 508                                        |
|                                                                                                                                  | UL/C-UL Recognized UL 60950                                  |
| Vibration (operation)                                                                                                            | < 15 Hz, amplitude $\pm 2.5$ mm (according to IEC 60068-2-6) |
|                                                                                                                                  | 15 Hz ... 150 Hz, 2.3g, 90 min.                              |
| Low Voltage Directive                                                                                                            | Conformance with LV directive 2006/95/EC                     |

## Drawings

Block diagram



## 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 |

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### Classifications

#### eCl@ss

|            |          |
|------------|----------|
| 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 |

#### UNSPSC

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

### Approvals

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

#### Ex Approvals

#### Approval details

|               |                                                                                     |                                                                                                                                                       |               |
|---------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| 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 211944 |
|---------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|

|           |                                                                                     |                                                                                                                                                       |               |
|-----------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| 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 |
|-----------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|

|                |                                                                                     |                                                                                                                                                       |               |
|----------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| 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 211944 |
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### Approvals

cUL Listed



<http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm>

FILE E 123528

EAC



EAC-Zulassung

EAC



RU C-  
DE.A\*30.B.01082

cULus Recognized



<http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm>

cULus Listed