

# Power supply unit - TRIO-PS/ 3AC/24DC/40 - 2866404

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DIN rail power supply unit, primary-switched mode, 3-phase, output: 24 V DC / 40 A

## Product Description

TRIO POWER is the DIN-rail-mountable power supply unit with basic functions. With an output voltage of 5 V DC, 12 V DC, 24 V DC, and 48 V DC and 1- and 3-phase versions with 60 W or 960 W, it is particularly suited for use in series production in mechanical engineering. The wide-range input and international certification package allow worldwide implementation. The high MTBF of 500,000 h stands for high supply reliability. The devices can be connected in parallel to increase the capacity and redundancy. The clear LED signaling and the device connection with double terminal block for plus and minus for fast potential distribution are further advantages of this device series. A third minus terminal block simplifies the grounding on the secondary side. All power supply units are idle-proof and short-circuit-proof and provide a regulated and adjustable output voltage.

## Product Features

- 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

package_quantity	1
GTIN	4046356046688

## Technical data

### Dimensions

Width	139 mm
Height	130 mm
Depth	190 mm

### Ambient conditions

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

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## Technical data

### Input data

Input voltage range	3x 320 V AC ... 575 V AC
Input voltage range	2x 360 V AC ... 575 V AC (for 2-phase operation)
AC frequency range	45 Hz ... 65 Hz
Current consumption	3x 2 A (400 V AC)
Current consumption	3x 1.6 A (480 V AC)
Inrush surge current	< 20 A
Power failure bypass	> 16 ms (400 V AC)
Power failure bypass	> 20 ms (480 V AC)
Choice of suitable fuses	6 A ... 16 A (Characteristics B, C, D, K)
Power factor (cos phi)	0.76
Type of protection	Transient surge protection
Protective circuit/component	Varistor

### Output data

Nominal output voltage	24 V DC $\pm$ 1%
Setting range of the output voltage	22.5 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	40 A (-25°C ... 55°C)
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
Current limitation	Approx. 48 A
Control deviation	< 1 % (change in load, static 10 % ... 90 %)
Control deviation	< 2 % (change in load, dynamic 10 % ... 90 %)
Control deviation	< 0.1 % (change in input voltage $\pm$ 10 %)
Residual ripple	< 20 mV <sub>PP</sub>
Peak switching voltages nominal load	< 40 mV <sub>PP</sub>
Maximum power dissipation NO-Load	16 W
Power loss nominal load max.	91 W

### General

Net weight	2.9 kg
Operating voltage display	Green LED
Efficiency	> 91.5 % (at 400 V AC and nominal values)
Insulation voltage input/output	4 kV AC (type test)
Insulation voltage input/output	2 kV AC (routine test)
Protection class	I (with PE connection)
MTBF (IEC 61709, SN 29500)	> 930000 h (According to EN 29500)
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	Can be aligned: Horizontally 0 mm, vertically 50 mm
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Low Voltage Directive	Conformance with LV directive 2006/95/EC

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## Technical data

### General

Standard – Electrical equipment of machines	EN 60204
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)
Standard – Safety extra-low voltage	EN 60204 (PELV)
Standard - Safe isolation	DIN VDE 0100-410
Standard - Safe isolation	DIN VDE 0106-1010
Standard – Protection against electric shock	DIN 57100-410
Standard – Protection against shock currents, basic requirements for protective separation in electrical equipment	DIN VDE 0106-101
Standard – Limitation of mains harmonic currents	EN 61000-3-2
UL approvals	UL/C-UL listed UL 508
UL approvals	UL/C-UL Recognized UL 60950
Surge voltage category	III

### Connection data, input

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	6 mm <sup>2</sup>
Conductor cross section stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	4 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	22
Conductor cross section AWG/kcmil max	10
Stripping length	8 mm
Screw thread	M3

### Connection data, output

Connection method	Screw connection
Conductor cross section solid min.	0.5 mm <sup>2</sup>
Conductor cross section solid max.	16 mm <sup>2</sup>
Conductor cross section stranded min.	0.5 mm <sup>2</sup>
Conductor cross section stranded max.	10 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	8
Conductor cross section AWG/kcmil max	6
Stripping length	10 mm

### Signaling

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

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## 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

### ETIM

ETIM 2.0	EC001039
ETIM 3.0	EC001039
ETIM 4.0	EC000599
ETIM 5.0	EC002540

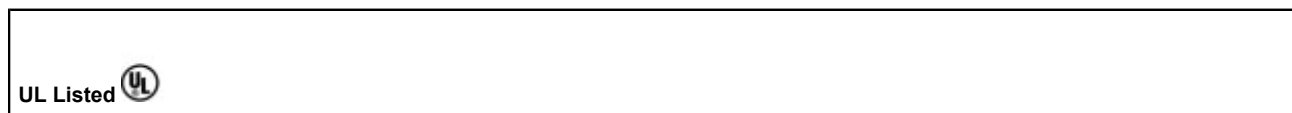
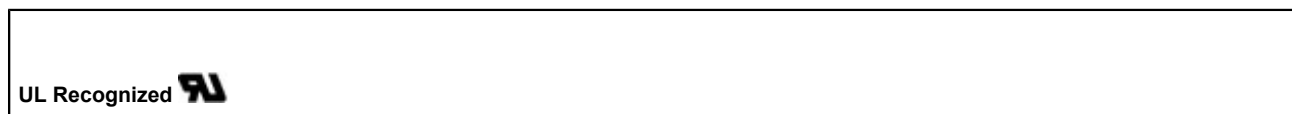
### UNSPSC

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

## approvals

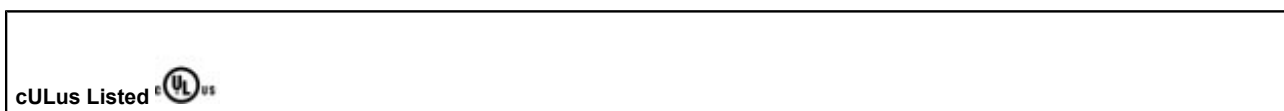
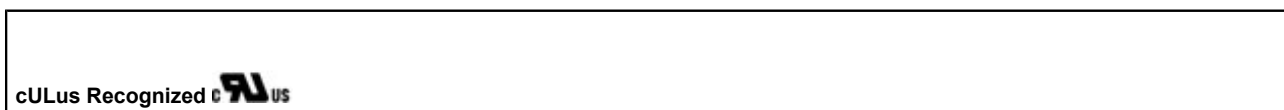
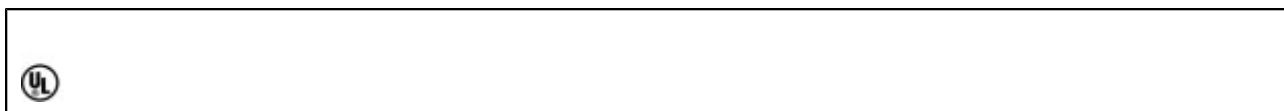
UL Recognized / UL Listed / cUL Recognized / cUL Listed / UL Recognized / UL Listed / cUL Recognized / cUL Listed / cULus Recognized / cULus Listed /

### Approval details



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approvals



accessories

## Assembly adapter

UWA 182/52 - 2938235



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## Mounting rail adapter

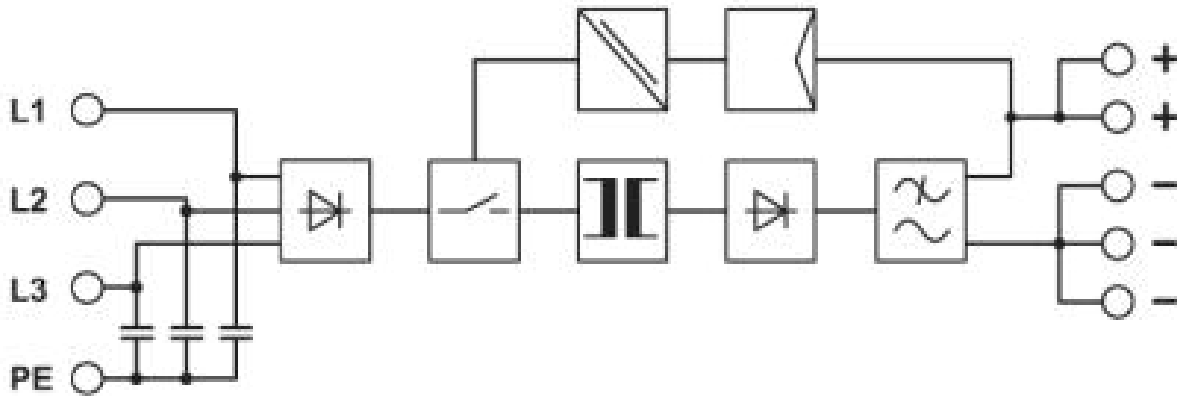
UTA 107 - 2853983



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## Drawings

### Block diagram



### Dimensioned drawing

