

## TRIO-PS/1AC/24DC/20

Order No.: 2866381

<http://eshop.phoenixcontact.de/phoenix/treeViewClick.do?UID=2866381>

Primary switched-mode power supply unit, 1-phase, output: 24 V DC / 20 A

### Commercial data

EAN	4046356046664
Pack	1 Pcs.
Customs tariff	85044081
Weight/Piece	2.445 KG
Catalog page information	Page 499 (IF-2007)

### Product notes

WEEE/RoHS-compliant since:  
09/27/2006



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### Product description

TRIO POWER is the rail mountable 24 V power supply unit with basic functions. With an output voltage of 24 V DC and 1-phase 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 allows 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 terminal block for minus simplifies the grounding on the secondary side. All power supply units are idle proof and short circuit proof and provide a regulated and settable output voltage of 22.5 V DC to 29.5 V DC with output currents of 2.5 A, 5 A, 10 A, 20 A or 40 A.

## Technical data

### Input data

Nominal input voltage	100 V AC ... 240 V AC
AC input voltage range	85 V AC ... 264 V AC (derating < 90 V AC: 2.5% per Kelvin)
AC frequency range	45 Hz ... 65 Hz
Current consumption	4.6 A (120 V AC) 2.4 A (230 V AC)
Nominal power consumption	480 W
Inrush surge current	< 15 A
Power failure bypass	> 13 ms (120 V AC) > 13 ms (230 V AC)
Input fuse	10 A (slow-blow, internal)
Recommended backup fuse	16 A (characteristic B)
Power factor (cos phi)	0.99
Name 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
Output current	20 A (-25°C ... 55°C)
Connection in parallel	Yes, for redundancy and increased capacity
Connection in series	No
Max. capacitive load	Unlimited
Current limitation	Approx. 25 A (for short circuit)
Control deviation	< 1 % (change in load, static 10% ... 90%) < 2 % (change in load, dynamic 10% ... 90%) < 0.1 % (change in input voltage $\pm$ 10%)
Residual ripple	< 10 mVPP
Peak switching voltages nominal load	< 80 mVPP
Maximum power dissipation idling	4 W
Power loss nominal load max.	46 W

### General data

Width	115 mm
Height	130 mm

Depth	152.5 mm
Weight	2 kg
Operating voltage display	LED green
Efficiency	> 91 %
Insulation voltage input/output	4 kV AC (type test) 2 kV AC (routine test)
Degree of protection	IP20
Class of protection	I, with PE connection
MTBF	> 500 000 h in acc. with IEC 61709 (SN 29500)
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, no condensation)
Mounting position	Horizontal DIN rail NS 35, EN 60715
Assembly instructions	Can be aligned: Horizontal 0 cm, vertical 5 cm
Electromagnetic compatibility	Conformance with EMC directive 89/336/EEC
Immunity to interference	EN 61000-6-2
Standard – Electrical equipment of machines	EN 60204
Standard – Safety transformers for switched-mode power supply units	EN 61558-2-17
Standard - Electrical safety	EN 60950/VDE 0805 (SELV) EN 61558-2-17
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 (SELV) EN 60204 (PELV)
Standard - Safe isolation	DIN VDE 0100-410 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/C-UL Recognized UL 60950

Surge voltage category	III
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**Connection data, input**

Type of connection	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 stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	14
Stripping length	9 mm
Screw thread	M 2,5

**Connection data, output**

Type of connection	Screw connection
Conductor cross section solid min.	0.5 mm <sup>2</sup>
Conductor cross section solid max.	6 mm <sup>2</sup>
Conductor cross section stranded min.	0.5 mm <sup>2</sup>
Conductor cross section stranded max.	4 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	20
Conductor cross section AWG/kcmil max	10
Stripping length	14 mm

**Signaling**

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

**Certificates / Approvals**

Approval logo



**requested approbations**

Certification	CUL, CUL Listed, UL, UL Listed
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### Accessories

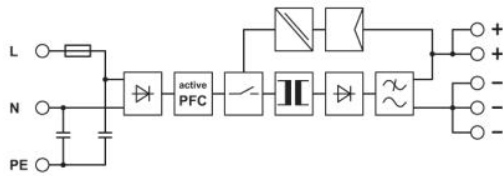
Item	Designation	Description
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### General

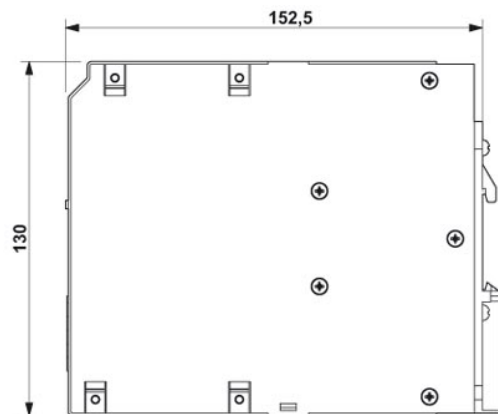
2938235	UWA 182/52	Universal wall adapter
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### Drawings

Block diagram



Dimensioned drawing



**Address**

PHOENIX CONTACT GmbH & Co. KG  
Flachmarktstr. 8  
32825 Blomberg, Germany  
Phone +49 5235 3 00  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.de>



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