TRIO-PS/3AC/24DC/ 5 - Power supply

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.

Your advantages

- 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

ELEKTROGERÄTE RÜCKNAHME

Commercial data

Item number	2866462
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CM11
Product key	CMPT33
GTIN	4046356128544
Weight per piece (including packing)	743.7 g

Weight per piece (excluding packing)	600 g
Customs tariff number	85044095
Country of origin	CN

Technical data

Input data

AC operation

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)
Input voltage range AC	3x 320 V AC ... 575 V AC (for 3-phase operation)
	2x 360 V AC ... 575 V AC (for 2-phase operation)
Voltage type of supply voltage	AC
Inrush current	< 15 A
Inrush current integral (I^2t)	0.2 A^2s
AC frequency range	45 Hz ... 65 Hz
Mains buffering time	> 20 ms (3x 400 V AC)
	> 30 ms (3x 480 V AC)
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	211 VA
Protective circuit	Transient surge protection; Varistor
Power factor	0.64
Typical response time	< 1 s
Permissible backup fuse	B6 B10 B16
Recommended breaker for input protection	6 A ... 16 A (Characteristics B, C, D, K)
Discharge current to PE	< 3.5 mA

Output data

Efficiency	89 % (at 400 V AC and nominal values)
Output characteristic	U/I
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)
Feedback voltage resistance	35 V DC
Protection against overvoltage at the output (OVP)	< 35 V DC
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_{PP}
Output power	120 W

Peak switching voltages nominal load	< 30 mV_{PP}
Maximum no-load power dissipation	4 W
Power loss nominal load max.	15 W
Rise time	< 2 ms (U_{OUT} (10 % ... 90 %))
Connection in parallel	yes, for redundancy and increased capacity
Connection in series	yes

Connection data

Input

Connection method	Screw connection
Conductor cross-section, rigid min.	0.2 mm²
Conductor cross-section, rigid max.	2.5 mm²
Conductor cross-section flexible min.	0.2 mm²
Conductor cross-section flexible max.	2.5 mm²
Conductor cross-section AWG min.	24
Conductor cross-section AWG max.	14
Stripping length	9 mm
Screw thread	M2,5
Tightening torque, min	0.4 Nm
Tightening torque max	0.5 Nm

Output

Connection method	Screw connection
Conductor cross-section, rigid min.	0.2 mm²
Conductor cross-section, rigid max.	2.5 mm²
Conductor cross-section flexible min.	0.2 mm²
Conductor cross-section flexible max.	2.5 mm²
Conductor cross-section AWG min.	24
Conductor cross-section AWG max.	14
Stripping length	9 mm
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Tightening torque max	0.5 Nm

Signaling

Types of signaling	LED
Operating voltage display	Green LED

Signal output

Status display	"DC OK" LED green
Note on status display	U_{OUT} > 21.5 V: LED lights up

Electrical properties

Insulation voltage input/output	4 kV AC (type test)
	2 kV AC (routine test)

Insulation voltage output / PE	500 V DC (routine test)
Insulation voltage input / PE	2 kV AC (type test)
	2 kV AC (routine test)

Product properties

Product type	Power supply
Product family	TRIO POWER
MTBF (IEC 61709, SN 29500)	> 1474000 h

Insulation characteristics

Protection class	I (with PE connection)
Overvoltage category	III
Degree of pollution	2

Dimensions

Width	40 mm
Height	130 mm
Depth	115 mm

Installation dimensions

Installation distance right/left	0 mm / 0 mm
Installation distance top/bottom	50 mm / 50 mm

Mounting

Assembly note	alignable: horizontally 0 mm, vertically 50 mm
Mounting position	horizontal DIN rail NS 35, EN 60715
With protective coating	no

Material specifications

Housing material	Metal
Type of housing	Steel sheet, zinc-plated
Side element version	Aluminum

Environmental and real-life conditions

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
Climatic class	3K3 (in acc. with EN 60721)
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Shock	15g in all directions in acc. with IEC 60068-2-27
Vibration (operation)	< 15 Hz, amplitude ±2.5 mm (according to IEC 60068-2-6)
	15 Hz ... 150 Hz, 2.3g, 90 min.

Standards and regulations

Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations	EN 50178/VDE 0160 (PELV)
Standard – Limitation of mains harmonic currents	EN 61000-3-2
Standard - Electrical safety	EN 60950-1/VDE 0805 (SELV)
Standard – Protection against shock currents, basic requirements for protective separation in electrical equipment	EN 50178
Standard – Safety extra-low voltage	EN 60950-1 (SELV)
	EN 60204 (PELV)
Standard - Safe isolation	DIN VDE 0100-410

Approvals

UL approvals	UL/C-UL listed UL 508
	UL/C-UL Recognized UL 60950-1

Conformity/Approvals

SIL in accordance with IEC 61508	0

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
EMC requirements for noise emission	EN 61000-6-3
	EN 61000-6-4
EMC requirements for noise immunity	EN 61000-6-1
	EN 61000-6-2

Electrostatic discharge

Standards/regulations	EN 61000-4-2

Electrostatic discharge

Contact discharge	8 kV (Test Level 4)
Discharge in air	8 kV (Test Level 3)
Comments	Criterion A

Electromagnetic HF field

Standards/regulations	EN 61000-4-3

Electromagnetic HF field

Frequency range	80 MHz ... 1 GHz
Test field strength	10 V/m
Frequency range	1 GHz ... 2 GHz
Test field strength	10 V/m
Frequency range	2 GHz ... 3 GHz
Test field strength	10 V/m
Comments	Criterion A

Fast transients (burst)

Standards/regulations	EN 61000-4-4

Fast transients (burst)

Input	4 kV (Test Level 4 - asymmetrical)
Output	4 kV (Test Level 4 - asymmetrical)
Signal	2 kV (Test Level 3 - asymmetrical)
Comments	Criterion A

Surge voltage load (surge)

Standards/regulations	EN 61000-4-5

Surge voltage load (surge)

Input	2 kV (Test Level 3 - symmetrical)
	4 kV (Test Level 4 - asymmetrical)
Output	1 kV (Test Level 2 - symmetrical)
	2 kV (Test Level 3 - asymmetrical)
Comments	Criterion A

Conducted interference

Standards/regulations	EN 61000-4-6

Conducted interference

Frequency range	0.15 MHz ... 80 MHz
Comments	Criterion A
Voltage	10 V (Test Level 3)

Conducted interference

Frequency range	0.15 MHz ... 80 MHz
Comments	Criterion A
Voltage	10 V (Test Level 3)

Voltage dips

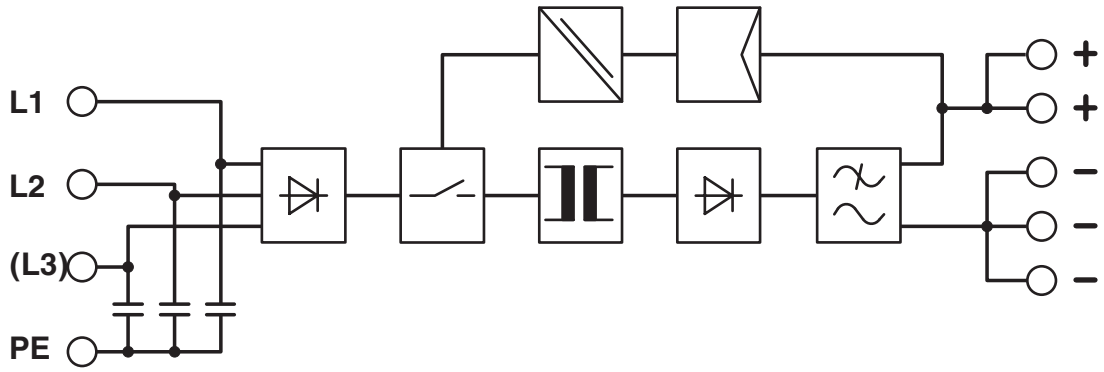
Standards/regulations	EN 61000-4-11

Emitted interference

Standards/regulations	EN 61000-6-3
Radio interference voltage in acc. with EN 55011	EN 55011 (EN 55022) Class B, area of application: Industry and residential
Emitted radio interference in acc. with EN 55011	EN 55011 (EN 55022) Class B, area of application: Industry and residential

Drawings

Block diagram



Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2866462

cUL Recognized
Approval ID: FILE E 211944

UL Recognized
Approval ID: E211944

EAC
Approval ID: RU S-DE.BL08.W.00764

EAC
Approval ID: RU S-DE.BL08.W.00764

UL Listed
Approval ID: E123528

cUL Listed
Approval ID: E123528

CoC / Compliance Statement
Approval ID: 17-146-00

EAC
Approval ID: KZ7500651 0101 12535

Classifications

ECLASS

ECLASS-13.0	27040701
ECLASS-15.0	27040701

ETIM

ETIM 10.0	EC002540

UNSPSC

UNSPSC 21.0	39121000

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-25
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	2d7fb970-4e3c-4c5f-88fd-f74ad9c17889

EF3.1 Climate Change

CO2e kg	18.374 kg CO2e

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