

Power supply unit - EM-CPS-PS/3AC/24DC/5



1064922

<https://www.phoenixcontact.com/in/products/1064922>

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Primary-switched power supply unit, TRIO POWER, Snap-on connection, Cross Power System - installation, input: 3-phase, output: 24 V DC / 5 A

Product Description

The TRIO CROSS POWER power supply for the CrossPowerSystem power distribution board is perfectly adapted for use in machine building. All of the functions and space-saving design are tailored to the high requirements in this area. The push-in connection enables quick and easy connection of a 24 V DC control voltage.

Your advantages

- Push-in connections for easy 24 V DC control voltage connection
- Fast startup: Tool-free mounting and automatic contacting in just one step (CrossPowerSystem)
- Reliable startup of high loads, thanks to the dynamic boost
- Electrically robust, thanks to high electric strength
- Maximum flexibility, thanks to the temperature range of -25°C... +70°C and device startup at -40°C

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Commercial Data

Item number	1064922
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	CMP
Product Key	CMPO33
Catalog Page	Page 262 (C-4-2019)
GTIN	4055626725222
Weight per Piece (including packing)	781.6 g
Weight per Piece (excluding packing)	707 g
Customs tariff number	85044030
Country of origin	CN

Technical Data

Input data

AC operation

Network type	Star network
Nominal input voltage range	3x 400 V AC ... 500 V AC
	2x 400 V AC ... 500 V AC
Input voltage range	3x 400 V AC ... 500 V AC -20 % ... +15 %
	2x 400 V AC ... 500 V AC -10 % ... +15 %
Input voltage range AC	3x 320 V AC ... 575 V AC
Typical national grid voltage	3x 400 V AC
	3x 480 V AC
Voltage type of supply voltage	AC
Inrush current integral (I^2t)	$\leq 0.25 \text{ A}^2\text{s}$
Inrush current limitation	$\leq 22 \text{ A}$
AC frequency range	50 Hz ... 60 Hz
Mains buffering time	typ. 20 ms (400 V AC)
	typ. 20 ms (500 V AC)
Current consumption	3x 0.4 A (400 V AC)
	3x 0.3 A (500 V AC)
	2x 0.6 A (400 V AC)
	2x 0.5 A (500 V AC)
Nominal power consumption	243.6 VA
Protective circuit	Transient surge protection; Varistor
Power factor (cos phi)	0.55
Typical response time	< 1 s
Input fuse	3.15 A (internal (device protection), slow-blow)
Discharge current to PE	< 0.25 mA
	< (550 V AC, 60 Hz)

Output data

Efficiency	typ. 91 % (400 V AC)
Nominal output voltage	24 V DC $\pm 1 \%$
Setting range of the output voltage (U_{Set})	24 V DC ... 28 V DC (> 24 V DC, constant capacity restricted)
Nominal output current (I_N)	5 A
Dynamic Boost ($I_{\text{Dyn.Boost}}$)	7.5 A (5 s)
Derating	> 60 °C ... 70 °C (2.5%/K)
Protection against overvoltage at the output (OVP)	$\leq 30 \text{ V DC}$
Control deviation	< 1 % (change in load, static 10 % ... 90 %)
	< 3 % (Dynamic load change 10 % ... 90 %, 10 Hz)
	< 0.1 % (change in input voltage $\pm 10 \%$)
Residual ripple	$\leq 20 \text{ mV}_{\text{PP}}$
Short-circuit-proof	yes

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No-load proof	yes
Output power	120 W
	180 W
Maximum no-load power dissipation	< 1 W (400 V AC)
Power loss nominal load max.	< 12 W (480 V AC)
Rise time	≤ 120 ms (U_{OUT} (10 % ... 90 %))
Connection in parallel	yes, for redundancy and increased capacity
Connection in series	yes

Signal: DC OK

Continuous load current	100 mA
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Signal relay 13/14

Default	closed
Digital	30 V AC 30 V DC 100 mA

Connection data

Input

Connection method	Snap-on connection
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Output

Connection method	Push-in connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	4 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Single conductor/terminal point, stranded, with ferrule, min.	0.2 mm ²
Single conductor/terminal point, stranded, with ferrule, max.	2.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Stripping length	10 mm

Signal

Connection method	Push-in connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	1.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	1.5 mm ²
Single conductor/terminal point, stranded, with ferrule, min.	0.2 mm ²
Single conductor/terminal point, stranded, with ferrule, max.	1.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	16
Stripping length	8 mm

LED signaling

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Types of signaling	LED
	Floating signal contact

Signal output: LED status indicator

Signalization designation	DC OK
Status display	LED
Color	green

Electrical properties

Number of phases	3.00
Insulation voltage input/output	3 kV AC (type test)
	1.5 kV AC (routine test)

Product properties

Product type	Power supply
MTBF (IEC 61709, SN 29500)	> 2300000 h (25 °C)
	> 1300000 h (40 °C)
	> 620000 h (60 °C)

Insulation characteristics

Protection class	II (in closed control cabinet)
Degree of pollution	2

Dimensions

Width	36 mm
Height	160 mm
Depth	159 mm

Installation dimensions

Installation distance right/left	0 mm / 0 mm
Installation distance right/left (active)	14 mm / 14 mm
Installation distance top/bottom	50 mm / 50 mm
Installation distance top/bottom (active)	50 mm / 50 mm

Mounting

Mounting type	Cross Power System - installation
Assembly instructions	Cross Power System

Material specifications

Inflammability class in acc. with UL 94 (housing / terminal blocks)	V0
Type of housing	Polycarbonate
Hood version	Polycarbonate

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
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Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C Derating: 2,5 %/K)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Maximum altitude	≤ 4000 m (> 2000 m, Derating: 10 %/1000 m)
Climatic class	3K3 (in acc. with EN 60721)
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Shock	18 ms, 30g, in each space direction (according to IEC 60068-2-27)
Vibration (operation)	10 ... 150 Hz, amplitude ±0.35 mm, 5g, 90 min. (in accordance with IEC 60068-2-6) 2 Hz ... 15 Hz, amplitude ±1 mm, > 15 Hz, 0.7g (in accordance with DNV GL Class A)

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	IEC 61010-1 (SELV)
Standard – Safety extra-low voltage	IEC 61010 (SELV) / (PELV)
Standard - Safe isolation	DIN VDE 0100-410
Standard - Safety of transformers	EN 61558-2-16 (air clearances and creepage distances only)

Overvoltage category

EN 61010-1	II
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Approval data

UL approvals	UL Listed UL 61010-2-201
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Conformity/Approvals

SIL in accordance with IEC 61508	0
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EMC data

Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
EMC requirements for noise immunity	EN 61000-6-2
Conducted noise emission	EN 55016 EN 61000-6-4 (Class A)
Interference emission	Noise emission according to EN 61000-6-2 (industrial)
Noise emission	EN 55011 (EN 55022)
Noise emission	EN 55016 EN 61000-6-4 (Class A)
Noise immunity	Immunity according to EN 61000-6-2 (industrial)

Harmonic currents

Frequency range	Class A, B
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Flicker

Frequency range	0 kHz ... 2 kHz
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Electrostatic discharge

Standards/regulations	EN 61000-4-2
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Electrostatic discharge

Contact discharge	6 kV (Test Level 4)
Discharge in air	8 kV (Test Level 4)
Comments	Criterion A

Electromagnetic HF field

Standards/regulations	EN 61000-4-3
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Electromagnetic HF field

Frequency range	80 MHz ... 6 GHz
Test field strength	10 V/m (Test Level 3)
Comments	Criterion A

Fast transients (burst)

Standards/regulations	EN 61000-4-4
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Fast transients (burst)

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

Surge voltage load (surge)

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

Conducted interference

Standards/regulations	EN 61000-6-2
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Voltage dips

Standards/regulations	EN 61000-4-11
Voltage	230 V AC
Frequency	50 Hz
Voltage dip	70 %
Number of periods	25 periods
Additional text	Test Level 2
Comments	Criterion A
Voltage dip	40 %
Number of periods	10 periods
Additional text	Test Level 2

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Comments	Criterion A
Voltage dip	0 %
Number of periods	1 period
Additional text	Test Level 2
Comments	Criterion A
Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.

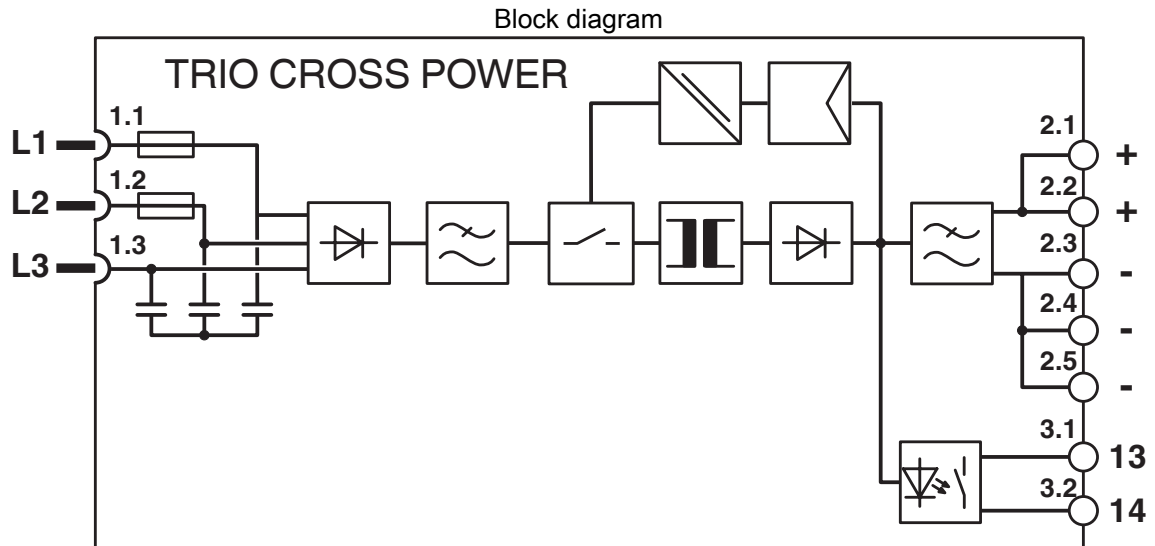
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Drawings



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Approvals



UL Listed

Approval ID: FILE E 123528



cUL Listed

Approval ID: FILE E 123528



EAC

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

cULus Listed

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Classifications

ECLASS

ECLASS-9.0	27040701
ECLASS-10.0.1	27040701
ECLASS-11.0	27040701

ETIM

ETIM 8.0	EC002540
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UNSPSC

UNSPSC 21.0	
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25; For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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Accessories

Connection module

Connection module - EM-CPS-TB3/63A - 1002633

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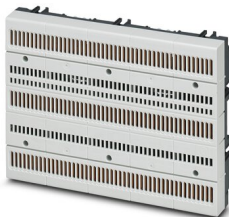


Connection module with integrated spring-loaded terminals for cables from 1.5 to 16 mm², 3-pos., maximum 63 A

Power distribution board

Power distribution board - EM-CPS-225 - 1002634

<https://www.phoenixcontact.com/in/products/1002634>



Modular power distribution board with CrossLink[®] interface, 125 A, 3-pos., touch-proof and protection against polarity reversal, width: 225 mm

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Power distribution board

Power distribution board - EM-CPS-405 - 1002635

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Modular power distribution board with CrossLink[®] interface, 125 A, 3-pos., touch-proof and protection against polarity reversal, width: 405 mm



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