

# TRIO3-PS/3AC/48DC/20 - Power supply



1362784

<https://www.phoenixcontact.com/in/products/1362784>

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Primary-switched power supply unit, TRIO POWER, Push-in connection, DIN rail mounting, input: 3-phase, output: 48 V DC / 20 A, adjustable from 40 V DC ... 56 V DC

## Product description

All TRIO POWER power supplies feature smart diagnostics with multicolor LEDs and a collective alarm contact. This is used to signal all relevant states such as DC OK, overload, and short circuit. Devices with integrated multi-channel device protection and an IO-Link interface for diagnostics and parameterization are optionally available. The compact devices reduce the installation work, space requirements in the control cabinet, and material costs. TRIO POWER power supplies therefore provide power reliability in one device.

## Your advantages

- Space-saving due to its low overall width and capability of being mounted side by side
- Robust and reliable due to dynamic boost with a powerful output characteristic curve
- Easy handling with Push-in connection technology
- Smart diagnostics with multicolor LEDs and collective relay contact for a clear status display, with optional IO-Link
- High system availability: power reliability in one device due to the integrated compact multi-channel circuit breaker

## Commercial data

Item number	1362784
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	CMPD34
GTIN	4063151706432
Weight per piece (including packing)	2,315 g
Weight per piece (excluding packing)	1,938 g
Country of origin	CN

## Technical data

### Input data

#### AC operation

Supply system configuration	Star network (TN, TT, IT (PE))
Nominal input voltage range	3x 400 V AC ... 500 V AC
Input voltage range	3x 400 V AC ... 500 V AC -20 % ... +10 % 2x 400 V AC ... 500 V AC $\pm 10$ %
Typical national grid voltage	3x 400 V AC 3x 480 V AC
Voltage type of supply voltage	AC
Inrush current	< 21 A (25 °C)
Inrush current integral ( $I^2t$ )	< 0.94 A <sup>2</sup> s
Frequency range ( $f_N$ )	50 Hz ... 60 Hz
Mains buffering time	typ. 34 ms (3x 400 V AC) typ. 34 ms (3x 480 V AC)
Current consumption	3x 1.5 A (3x 400 V AC) 3x 1.2 A (3x 500 V AC) 2x 2.6 A (2x 400 V AC) 2x 2.1 A (2x 500 V AC)
Protective circuit	Transient protection; Varistor
Power factor (cos phi)	0.94 (3x 480 V AC)
Device mains fuse	6.3 A internal (device protection)
Recommended breaker for input protection	3x 6 A ... 999 A (Characteristic B, D, K, or comparable)
Discharge current to PE	< 3.5 mA

### Output data

Efficiency	typ. 96.1 % (3x 400 V AC) typ. 96.3 % (3x 480 V AC)
Nominal output voltage	48 V DC
Setting range of the output voltage ( $U_{Set}$ )	40 V DC ... 56 V DC (> 48 V DC, constant capacity restricted)
Nominal output current ( $I_N$ )	20 A
Dynamic Boost ( $I_{Dyn.Boost}$ )	max. 30 A (5 s)
Short-circuit-proof	yes
No-load proof	yes
Derating	60 °C ... 70 °C
Crest factor	typ. 1.56 (3x 400 V AC) typ. 1.57 (3x 480 V AC)
Output power ( $P_N$ )	960 W
Output power ( $P_{Dyn. Boost}$ )	max. 1440 W (5 s)
Connection in parallel	yes, for increased efficiency and redundancy
Connection in series	yes, for increased output voltage (observe SELV limit)
Feedback voltage resistance	$\leq 60$ V DC

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Protection against overvoltage at the output (OVP)	≤ 60 V DC
Residual ripple	typ. 17 mV <sub>PP</sub> (with nominal values)
Control deviation	< 1 % (change in load, static 10 % ... 90 %)
	< 3 % (change in load, dynamic 10 % ... 90 %)
	< 0.1 % (change in input voltage ±10 %)
Rise time	≤ 1 s (U <sub>Out</sub> = 10 % ... 90 %)
Minimum no-load power dissipation	< 0.3 W (3x 400 V AC)
Maximum no-load power dissipation	< 0.26 W (3x 480 V AC)
Minimum nominal load power dissipation	< 43.21 W (3x 400 V AC)
Power loss nominal load max.	< 35.65 W (3x 480 V AC)
Integrated fuse protection	no

## Connection data

### Input

Position	1.x
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### Connection technology

Position marking	1.1 (L1), 1.2 (L2), 1.3 (L3), 1.4 (⊕ ⊖)
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### Conductor connection

Connection method	Push-in connection
rigid	0.2 mm² ... 4 mm²
	1.5 mm² (recommended)
flexible	0.2 mm² ... 2.5 mm²
	1.5 mm² (recommended)
flexible with ferrule without plastic sleeve	0.25 mm² ... 2.5 mm²
	1.5 mm² (recommended)
flexible with ferrule with plastic sleeve	0.25 mm² ... 2.5 mm²
	1.5 mm² (recommended)
AWG	24 ... 12 (Cu)
	16 (recommended)
Stripping length	10 mm (Rigid/flexible/ferrule)

### Output

Position	2.x
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### Connection technology

Position marking	2.1, 2.2 (+), 2.3, 2.4, 2.5 (-)
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### Conductor connection

Connection method	Push-in connection
rigid	0.2 mm² ... 10 mm²
	4 mm² (recommended)
flexible	0.2 mm² ... 6 mm²
	4 mm² (recommended)
flexible with ferrule without plastic sleeve	0.25 mm² ... 6 mm² (Cu)