

## Technical data sheet

Power supply · LEPOS Power, 3-phase, regulated, 480 W

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**Primary switchmode power supply, three-phase**

**Input: wide-range input AC 340-550 V**

**Output: DC 24 V / 20 A, adjustable**



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### Identification

Type LEPOS-PWR-480-24  
Part No. [722726](#)

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### Product version

Datasheet version 02

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### Input

Number of phases 3  
Rated voltage  $U_N$  3 × AC 380–480 V  
Operation voltage range 3 x AC 340-550 V / 3 x DC 480-780 V  
Two-phase operation possible with connection L1, L3, FG or L2, L3, FG -  
Two-phase operation is permitted under certain output current restrictions.  
For details, please refer to the derating curves). / DC 480 - 780 V  
Frequency range 47 Hz – 63 Hz  
Rated current  $I_N$  typ. 0.85 A @ AC 400 V / 0.7 A @ AC 500 V  
Inrush current Cold start 50 A  
Leak current <3.5 mA / AC 530 V  
Internal fuse T4,0 A / AC 500 V  
External protection Mini-circuit breaker: C 16 A  
Power factor correction P.F.C. typ. PF ≥0.9 @ AC 400 V (at full load) / typ. PF ≥0.88 @ AC 500 V (at full load)

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### Output

Output voltage/current DC 24 V/20 A  
Rated voltage  $U_N$  DC 24 V

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Rated current $I_N$	20 A
Max. output current	26 A, 3s
Power Dissipation	<36 W @ AC 400 V
Setting range $U_{out\ min.}/U_{out\ max.}$	24-28 V
Accuracy	±1 %
Load regulation	±1 %
Line regulation	±0.5 %
Rise time	1200 ms (setup), 60 ms (switch-on time) @ AC 400 V (at full load) / 800 ms (setup), 60 ms (switch-on time) @ AC 500 V (at full load)
Temperature coefficient	±0.03 % / °C (0-50 °C)
Ripple and noise	<150 mV pp Ripple and noise are measured with 20 MHz bandwidth, the probe is terminated with a 0.1 µF MKP parallel capacitor.
Hold up time	>20 ms @ AC 400 V >20 ms @ AC 500 V (at full load)
Parallel / redundant mode	Yes/via external decoupling diode e.g. 722999
Efficiency	92.5 %
Overtemperature protection	105 °C +/- 5 °C, switch-off with auto reset
Over voltage protection	29–33 V, protection: hiccup mode, autoreset after fault rectification
Rated over load protection	105-130 % nominal output power, protection: constant current limitation, device switches to hiccup mode after 3 seconds
Short circuit	Constant current limitation, device switches to hiccup mode after 3 seconds

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#### Status indication

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Status indication DC ON LED green DC 22-28 V

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#### Monitoring

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DC ON Control (Rdy)	N/O contact
Switching voltage	AC/DC 30 V
Switching current	AC/DC 1 A
Switching capacity	30 VA / 30 W
Isolation voltage	AC 500 V

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#### General

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Insulation voltage input / output	AC 3.0 kV <sub>eff</sub>
Insulation voltage input / ground	AC 2.0 kV <sub>eff</sub>
Insulation voltage output / ground	AC 500 V / DC 500 V
Insulation resistance at DC 500 V	100 MΩ
Derating	>50 °C: -12 W/°C
Cooling	Air convection, 15 mm distance right/left, 40 mm top, 20 mm bottom
Housing material	Metal
Mounting	DIN rail mountable TS35 (EN 60715)
Max. altitude operation	2000 m
Installation position	Vertical

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MTBF	108.300 h - MIL-HDBK-217F (25 °C) / >1.174.000 h - Telcordia SR-332 (Bellcore)
Degree of protection	IP20
Protection class	I
Weight/unit	1.6 kg
Connection type	Screw terminal 0.20 mm <sup>2</sup> – 2.5 mm <sup>2</sup> AWG 24 – AWG 12
Dimensions (w × h × d)	85.5 mm × 125.0 mm × 129.0 mm
PU (units)	1

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#### General ambient conditions

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Operation temperature range	-30 °C ... +70 °C Derating >50°C See also the illustration: Derating curve.
Storage temperature range	-40 °C ... +85 °C
Over voltage category	III, in accordance with EN61558, EN50178, EN60664-1, EN62477-1, EN60204-1; altitude up to 2000 meters
Degree of pollution	2
Relative air humidity	20 – 95 % RH, not condensing
Vibration resistance	2 g / 10 - 500 Hz, 1 hour/direction X,Y,Z non-operating, mounted on DIN-Rail (IEC 60068-2-6)

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#### Certifications/Standards

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Conformity	CE
Certifications	cULus (E249179)
Standards	EN 55032:2015+A11:2020 EN 55035:2017+A11:2020 EN 61010-1:2010+A1:2019+AC:2019 UL 61010-1:2019 UL 61010-2-201:2018

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#### Notes and Comments

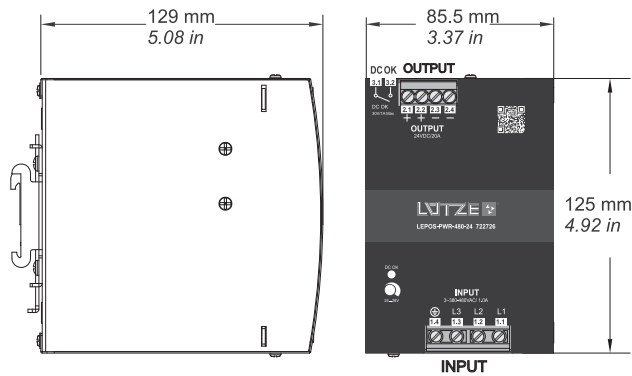
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Note	All parameters are NOT specifically mentioned for AC 400 V input, rated load and 25 °C ambient temperature. The power supply unit is regarded as a component that is installed in a terminal device. The end device must be reconfirmed that it still complies with the EMC directives. Instructions for carrying out these EMC tests can be found under "EMI testing of power supply components".
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## Dimensions



### Output / Ausgang / Sortie

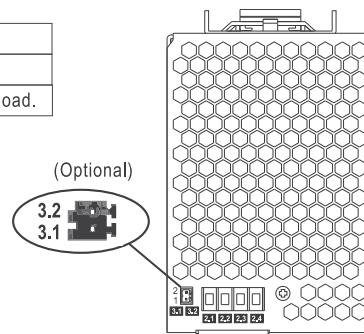
Connection Anschluss Connexion	Description Beschreibung Description
3.1, 3.2	DC OK Relay Contact
2.1, 2.2	DC OUTPUT+
2.3, 2.4	DC OUTPUT-

### Input / Eingang / Entrée

Connection Anschluss Connexion	Description Beschreibung Description
1.1	AC/L1
1.2	AC/L2
1.3	AC/L3
1.4	⊕

## Use

Contact Close	PSU turns on / DC OK.
Contact Open	PSU turns off / DC Fail.
Contact Ratings (max.)	60VDC/0.3A, 30VDC/1A, 30VAC/0.5A resistive load.



### Control pin (Optional):

DINKLE ECH250R-02P or equivalent (CN25)

3.1, 3.2	DC OK Relay Contact
<b>Mating housing</b> DINKLE ESC250V-02P <i>Plug, Push in design or equivalent (Including in the package)</i>	
<b>Wire diameter</b> 0.081 - 0.517 [mm <sup>2</sup> ] 20 - 28 [AWG]	

### Kontrollstecker (optional):

DINKLE ECH250R-02P oder vergleichbar (CN25)

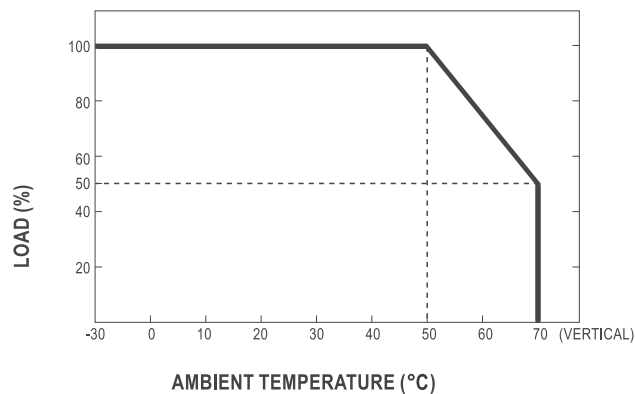
3.1, 3.2	DC OK Relay Contact
<b>Passendes Gehäuse</b> DINKLE ESC250V-02P <i>Stecker, Push-in-Design oder gleichwertig (in der Lieferung enthalten)</i>	
<b>Drahtdurchmesser</b> 0.081 - 0.517 [mm <sup>2</sup> ] 20 - 28 [AWG]	

### Broche de contrôle (en option) :

DINKLE ECH250R-02P ou équivalent (CN25)

3.1, 3.2	DC OK Relay Contact
<b>Boîtier d'accouplement</b> DINKLE ESC250V-02P <i>Bouchon, conception Push in ou équivalent (inclus dans l'emballage)</i>	
<b>Diamètre du fil</b> 0.081 - 0.517 [mm <sup>2</sup> ] 20 - 28 [AWG]	

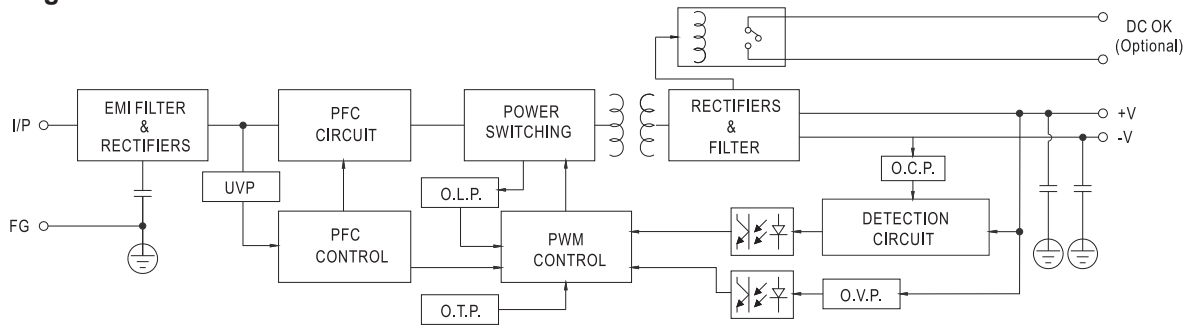
## Derating



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### Circuit diagram



### Characteristic

