

Technical data sheet

Power supply · Compact Ultra, 480 W

Primary switchmode power supply, PFC

Input: AC 90–264 V, DC 110–345 V

Output: DC 24 V, 20 A



Identification

Type	CPS2B1-480-24
Part No.	723700

Product version

Datasheet version	04
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Use/Application/Properties

Properties	• High efficiency and extremely compact dimensions • Only 56 mm wide aluminium housing • Active PFC (Power factor correction) • Overload 150 % • Constant current or hiccup mode, user definable • Wide output voltage range • Easy to connect in parallel to increase performance • Up to 60 °C operating temperature without derating
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Input

Number of phases	1
Rated voltage U_N	AC 120/240 V (UL certified)
Operation voltage range	AC 90 - 264 V / DC 110 - 345 V (UL not evaluated)
Frequency range	47 Hz – 63 Hz
Rated current I_N	4.8 A @ AC 120 V / 2.4 A @ AC 240 V
Inrush peak current	≤23 A / 0.56 A ² s
Internal fuse	8 AT (non-replaceable)
External protection	Mini-circuit breaker: C 10 A / Safety fuse: T 10 A
Power factor correction P.F.C.	>0,90, enabled

United Kingdom: LÜTZE Ltd.

Unit 3, Sandy Hill Park
Sandy Way, Amington • GB-Tamworth, Staffs B77 4DU
Tel. +44 (0)1827 31333-0
www.lutze.com • sales.gb@lutze.co.uk

Germany: Friedrich Lütze GmbH

Postfach 12 24 (PLZ 71366) • Bruckwiesenstraße 17-19 • D-71384 Weinstadt
Tel. +49 (0)7151 6053-0
www.luetze.de • info@luetze.de

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Output

Output voltage/current	DC 24 V/20 A
Rated voltage U_N	DC 24 V
Rated current I_N	20 A
Overload limit in constant current mode	21 A
Max. output current	30 A, max. 5 s @ Hiccup Mode 21 A @ CC Mode
Power Dissipation	<36.5 W
Setting range $U_{out\ min.}/U_{out\ max.}$	DC 22–29 V
Load regulation	<1.5 %
Ripple and noise	<150 mV pp
Hold up time	>25 ms @ AC 240 V
Parallel / redundant mode	Yes/via external decoupling diode e.g. Part-No. 722999 NOTE: Be sure to set the current limiting mode jumper when connecting multiple devices in parallel.
Efficiency	>93 % @ AC 240 V
Overtemperature protection	Yes
Over voltage protection	≥DC 33 V
Short circuit	Adjustable: Hiccup, C.C. Mode

Status indication

Status indication DC ON LED green	≥21.6 V
Status indication DC LOW LED red	≤21.6 V

Monitoring

DC ON Control (Rdy)	N/O contact
Switching voltage	AC/DC 300 V / DC 150 V
Switching current	AC/DC 1 A
Switching capacity	300 VA / 30 W
Isolation voltage	AC 500 V

General

Insulation voltage input / output	DC 4.2 kV, 1 min.
Insulation voltage input / ground	DC 2.2 kV, 1 min.
Insulation voltage output / ground	DC 750 V, 1 min.
Derating	>50 °C: -10 W/°C @ AC 100 V >50 °C: -7.6 W/°C @ AC 120 V >60 °C: -7.2 W/°C @ AC 240 V (UL not evaluated)
Cooling	Air convection, 100 mm distance top/bottom, 20 mm side
Housing material	Aluminum
Mounting	DIN rail mountable TS35 (EN 60715)
Installation position	Vertical
MTBF	MIL-HDBK-217F, >600000 h at 25 °C ambient full load

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Degree of protection	IP20 (IEC 529 / EN 60529)
Protection class	I
Weight/unit	1.1 kg
Connection type	Screw terminal 0,20 mm ² – 2,5 mm ² / AWG 24–14
Strip length	6.0 - 7.5 mm / 0.24 - 0.30 in
Screwdriver	3,0 × 0,5 mm
Tightening torque	0.5 – 0.6 Nm / 4.42 – 5.30 lbf in
Dimensions (w × h × d)	56.0 mm × 140.0 mm × 139.0 mm
PU (units)	1

General ambient conditions

Operation temperature range	-40 °C ... +70 °C UL certified up to +50 °C @ AC 100 V UL certified up to +50 °C @ AC 120 V UL certified up to +60 °C @ AC 240 V UL certified up to 2000 m
Storage temperature range	-40 °C ... +80 °C
Over voltage category	III (EN 50178)
Degree of pollution	2 (IEC 60664-1)
Relative air humidity	5 – 95 %, non-condensing

Interface

Life-cycle expectancy	167'953 h (19.1 years) at 25 °C ambient full load
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Certifications/Standards

Certifications	CE UKCA cULus (E249179)
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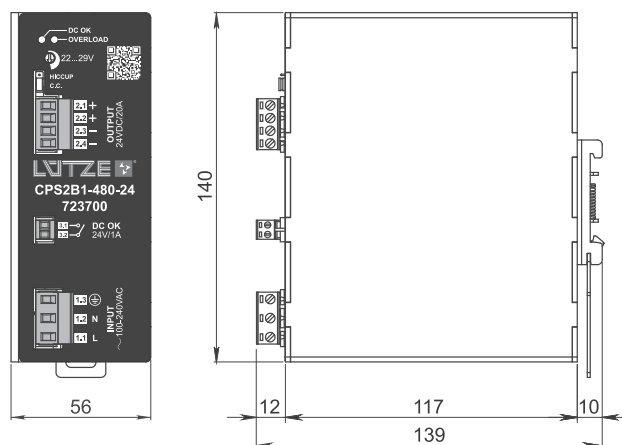
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Standards

UL 508 (Certified - IND. CONT. EQ. 4WX9 file no. E356563)
2014/30/EU (EMC directive)
2014/35/EU (Low Voltage Directive)
EN61010-1 (Safety Standard)
EN61010-2-201 (Safety Standard)
UL 61010-1 (Certified - IND. CONT. EQ. 4WX9 file no. E356563)
UL 61010-2-201 (Certified - IND. CONT. EQ. 4WX9 file no. E356563)
EN61000-6-2 (Generic immunity standard for industrial environments)
- EN61000-4-2 (Electrostatic discharge immunity test)
- EN61000-4-3 (Radiated, radio-frequency, electromagnetic field immunity test)
- EN61000-4-4 (Electrical fast transient/burst immunity test)
- EN61000-4-5 (Surge immunity test)
- EN61000-4-6 (Immunity to conducted disturbances, induced by radio-frequency fields test)
- EN61000-4-8 (Power frequency magnetic field immunity test)
- EN61000-4-11 (Voltage dips, short interruptions and voltage immunity test)
EN61000-6-3 (Generic emission standard for residential environments)
- EN55011 (CISPR11 - EMC)
- EN61000-3-2 (Limits for harmonics current emissions)
- EN61000-3-3 (Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current $\leq 16A$)
IEC/EN 61010-1
IEC/EN 61010-2-201
IEC/EN 60950
EN 55011 (CISPR11) Class B (EMC Emission)
EN 61000-3-2 Class A
IEC 60068-2-6 (Vibration sinusoidal), 5-17.8 Hz: ± 1.6 mm, 17.8-500 Hz: 2 g
2 hours / axis (X,Y,Z)
IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction,
18 bumps total

Dimensions

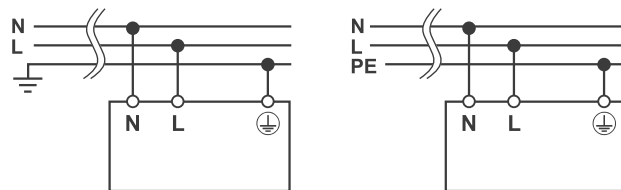


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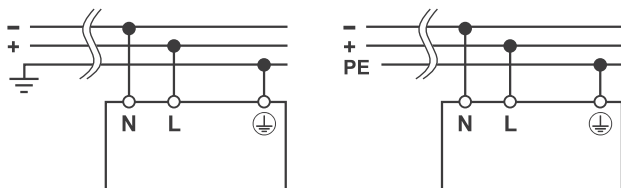
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PIN assignment

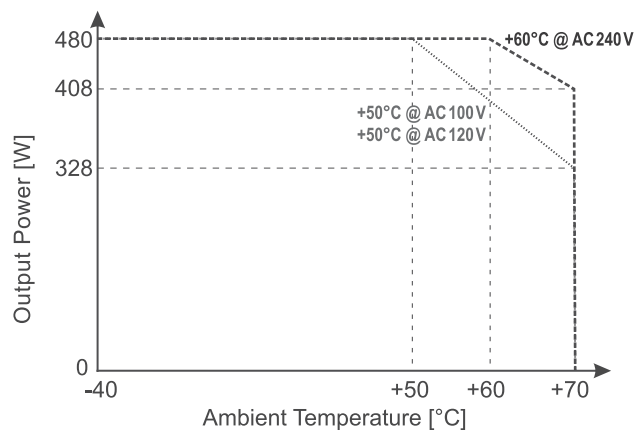
AC Line



DC Line (UL not evaluated)

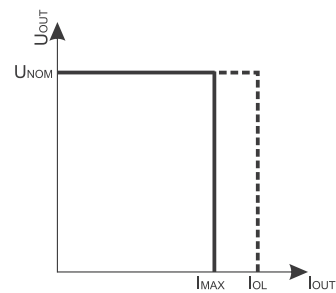


Derating



Short circuit characteristics

C.C.



Hiccup

