

Technical data sheet · Power supply

Compact Ultra, regulated, 480 W



Identification	Type	CPS2B1-480-24E
	Part-No.	723700
Product version		
Datasheet version	01	
Description		
Properties	Primary switchmode power supply, PFC, Single-phase	
	Input: AC 90–264 V, DC 110–345 V	
	Output: 24 V, adjustable output voltage range (DC 22–29 V)	
	High efficiency and extremely compact dimensions	
	Only 56 mm wide aluminium housing	
	Active PFC (Power factor correction)	
	Overload 150 %	
	Constant current or hiccup mode limitation (in case of overload), 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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Part-No. 723700

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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
Line frequency	47 – 63 Hz
Rated current I_N	4.8 A @ AC 120 V / 2.4 A @ AC 240 V 4.9 A @ DC 110 V / 1.7 A @ AC 345 V
Inrush peak current	≤ 23 A / 0.56 A ² s
Touch current (leakage current)	≤ 0.9 mA
Internal fuse	8AT (not user replaceable)
External fuse	10AT or MCB 10A C-curve It is strongly recommended that external surge arresters (SPDs) be provided in accordance with local regulations.
Power factor correction P.F.C.	>0,90, enabled

Output

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
Heat 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 Ripple and noise are measured with 20 MHz bandwidth, the probe is terminated with a 0.1 μ F MKP parallel capacitor.
Hold up time	>25 ms @ AC 240 V
Status indication DC ON LED green	≥ 21.6 V
Status indication DC LOW LED red	≤ 21.6 V
Parallel / redundant mode	yes/via external decoupling diode e.g. Part-No. 722999 NOTE: Be sure to set the current limiting mode jumper to DC mode when connecting multiple devices in parallel.
Efficiency	>93 % @ AC 240 V
Overtemperature protection	yes
Over voltage protection	$\geq$ DC 33 V ($U_A=24$ V)
Short circuit	adjustable: Hiccup, current limiting, C.C. Modus

Monitoring

DC ON Control (Rdy)	N/O contact
Switching voltage	AC/DC 300 V / DC 150 V
Switching current	AC/DC 1 A

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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: -7.6 W/°C @ AC 120 V >60 °C: -7.2 W/°C @ AC 240 V
Operation temperature range	-40 °C ... +70 °C (UL certified up to +50 °C) @ AC 120 V or up to +60 °C @ AC 240 V UL certified up to 50 °C at AC 120 V or up to 60 °C at AC 240 V
Storage temperature range	-40 °C ... +80 °C
Relative air humidity	5 – 95 %, non-condensing
Cooling	Air convection, 100 mm distance top/bottom, 20 mm side
Housing material	Aluminum
Mounting	DIN rail mountable TS35 (EN 60715)
Installation position	vertical
Protection class	IP20 (IEC 529 / EN 60529)
Protection class	I
Over voltage category	III (EN 50178)
Degree of pollution	2 (IEC 60664-1)
Weight	1.100 kg/piece
Connection type	Screw terminal 0,20 mm ² – 2,5 mm ² / AWG 24 – 12
Strip length	6.0-7.5 mm / 0.24-0.30 in
Schraubendreher	3,0 × 0,5 mm
Tightening torque	0.5 – 0.6 Nm / 4.42 – 5.30 lbf in
Dimensions (w × h × d)	56.0 × 140.0 × 139.0 mm
Certifications	cULus (E249179)
Standards	EN 60950 (Safety Standard, reference) EN 50178 (Safety Standard, reference) EN 55011 (CISPR11) Class B (EMC Emission) EN 55022 (CISPR22) Class B (EMC Emission) EN 60529 (Protection degree, IP20) IEC 61000-4-2/3/4/5/11 (EMC Immunity) 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
Life-cycle expectancy	167'953 h (19.1 years) at 25 °C ambient full load
MTBF	MIL-HDBK-217F, > 600'000 h at 25 °C ambient full load
PU	1 piece

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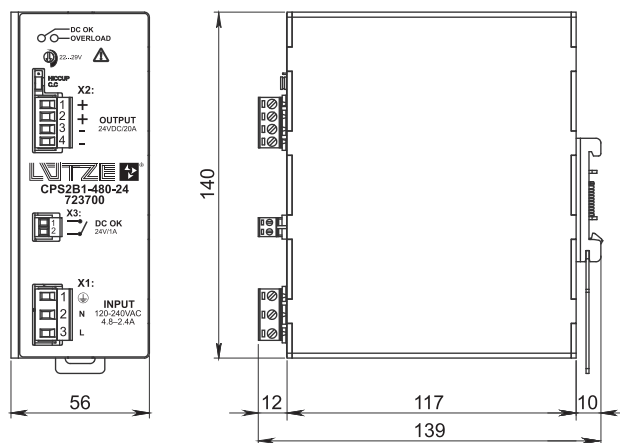
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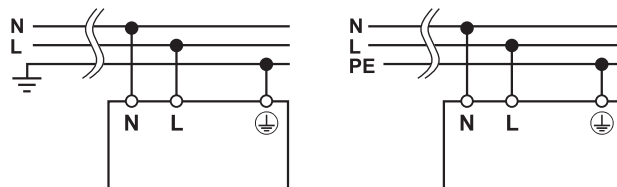
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Dimensions

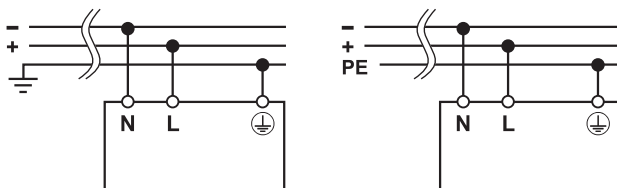


PIN assignment

AC



DC



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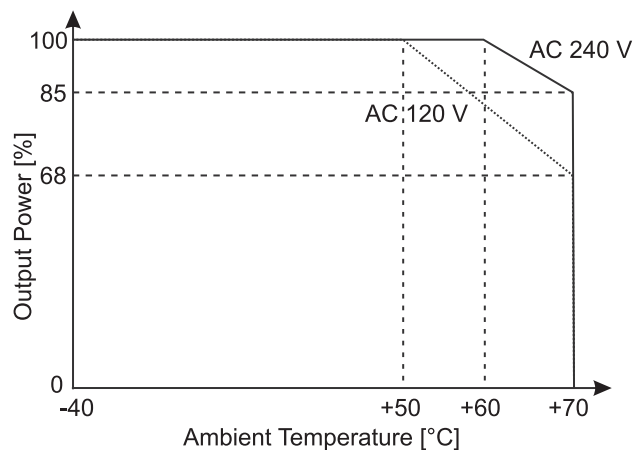
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Derating



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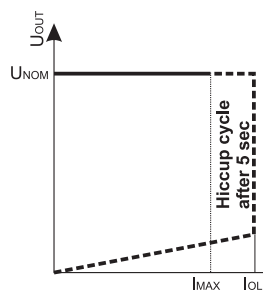
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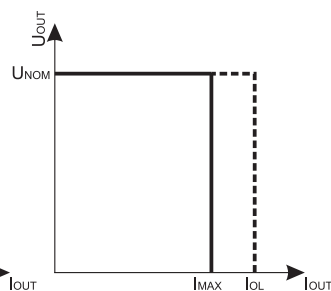
Short circuit characteristics

Limitation output characteristic

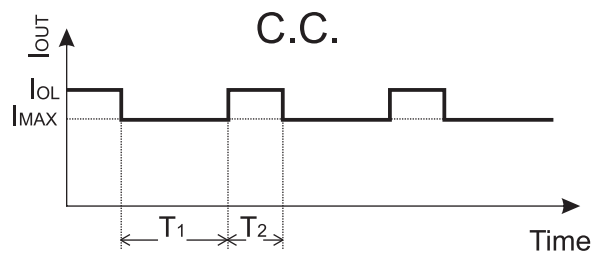
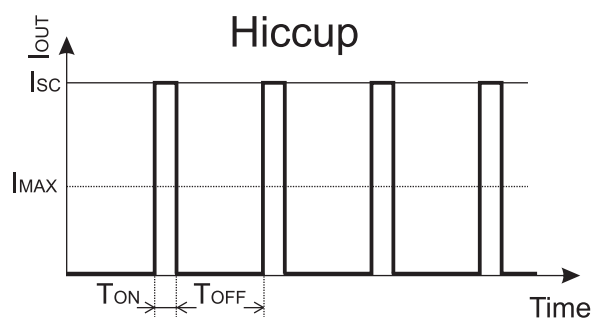
Hiccup



C.C.



Short circuit conditions



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