

Technical data sheet

Power supply · Compact Universal, 480 W

Primary switched power supplies, PFC, 1/2/3-phase

Input: wide-range input AC 187–550 V, DC 250–725 V (UL: DC 300–500 V)

Output: DC 24 V, 20 A



Identification

Type CPSB-123-480-24
Part No. [722801](#)

Product version

Datasheet version 00

Input

Number of phases 3
Rated voltage U_N One-, two- and three-phase AC 200-500 V
Operation voltage range AC 187–550 V / DC 250–725 V (UL: DC 300–500 V)
Frequency range 47 Hz – 63 Hz
Rated current I_N 1-/2-phase: 2.9 A @ AC 200 V / 1.3 A @ AC 500 V, 3-phase: 1.8 A @ AC 200 V / 0.8 A @ AC 500 V
Inrush current ≤ 55 A / 2.16 A²s
External protection Mini-circuit breaker: C 6 A, or D 4 A (required)
Power factor correction P.F.C. > 0.9

Output

Output voltage/current DC 24 V/20 A
Rated voltage U_N DC 24 V
Rated current I_N 20 A
Max. output current 28 A, 5 s
Short-circuit current 50 A
Power Dissipation < 42 W
Setting range $U_{out\ min.}/U_{out\ max.}$ 23-28 V

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SYSTEMATIC TECHNOLOGY

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Load regulation	<1 %
Ripple and noise	<50 mV pp
Hold up time	>50 ms
Parallel / redundant mode	Yes/via external decoupling diode
Efficiency	>92 %
Overtemperature protection	Yes
Over voltage protection	≥DC 33 V
Short circuit	Hiccup Mode

Status indication

Status indication DC ON LED green	≥21.6 V
Status indication DC LOW LED red	$I_{out} > 1.1 I_N$

Monitoring

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

General

Insulation voltage input / output	DC 4.2 kV
Insulation voltage input / ground	DC 2.2 kV
Insulation voltage output / ground	DC 750 V
Derating	>45 °C: -10 W/°C
Cooling	Air convection, 50 mm distance top/bottom, 20 mm side
Housing material	Aluminum
Mounting	DIN rail mountable TS35 (EN 60715)
Installation position	Vertical
MTBF	>500000 h: SN29500 / >500000 h: MIL HDBK 217F
Degree of protection	IP20 (IEC 529 / EN 60529)
Protection class	I
Weight/unit	1 kg
Connection type	Screw terminal 0,20 mm ² – 2,5 mm ² AWG 24 – AWG 12 plug-in
Dimensions (w × h × d)	73.0 mm × 140.0 mm × 125.0 mm
PU (units)	1

General ambient conditions

Operation temperature range	-40 °C ... +70 °C (UL approved up to +45 °C)
Storage temperature range	-40 °C ... +80 °C
Over voltage category	III

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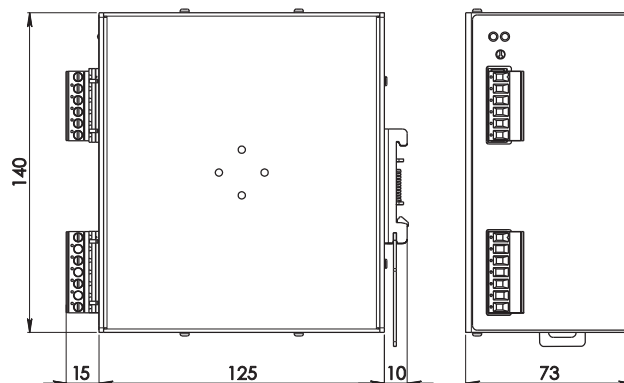
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Degree of pollution	2
Relative air humidity	5 – 95 % RH, non-condensing
Vibration resistance	5 – 17.8 Hz: ± 1.6 mm, 17.8 – 500 Hz: 2 g 2 hours/axes X,Y,Z, IEC 60068-2-6
Shock resistance	30 g 6 ms, 20 g 11 ms, 3 shocks/direction, 18 shocks in total, IEC60068-2-27

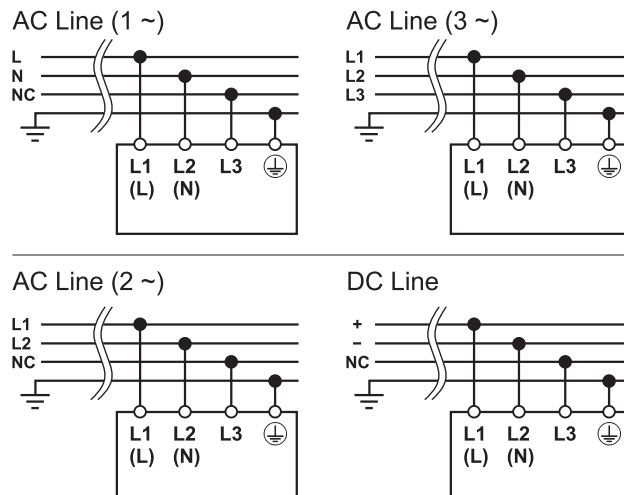
Certifications/Standards

Certifications	CE UKCA cULus (E249179)
Standards	UL 508 IEC/EN 61010-1 IEC/EN 61010-2-201 IEC/EN 60950 EN 55011 (CISPR11) Class A EN 61000-3-2 Class A EN 61000-4-2 Level 3 EN 61000-4-3 Level 3 EN 61000-4-4 Level 4 EN 61000-4-5 Level 3 EN 61000-4-11 Level 2 IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total 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)

Dimensions



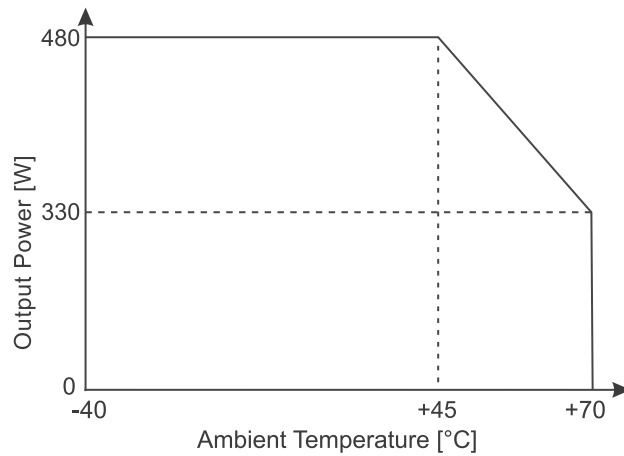
PIN assignment



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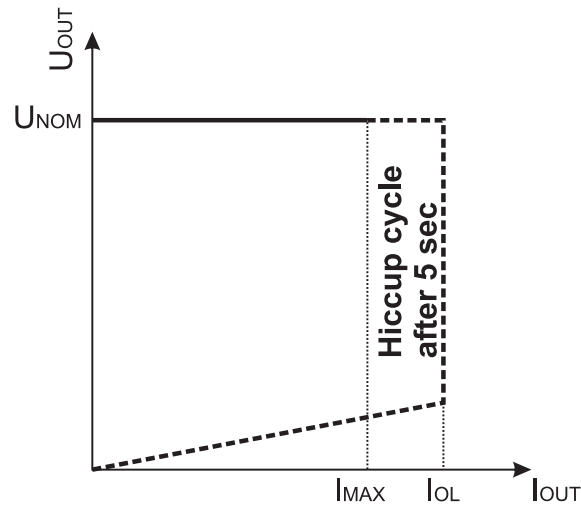
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Derating



Short circuit characteristics

Hiccup limitation output characteristic



Short circuit conditions

