

Technical data sheet

Power supply · Compact, 3-phase, 240 W

Power supply unit, primary switched 3-phase

Input: wide range input AC 350–575 V

Output: DC 24 V, 10 A



Identification

Type	CPSB3-240-24
Part No.	722820

Product version

Datasheet version	03
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Description

Description	Parallel operation with active load balancing, Push-in technology, status output, remote input On/Off (Inhibit)
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Input

Number of phases	3
Rated voltage U_N	3 × AC 400–500 V
Operation voltage range	max. 3 × AC 350–575 V
Frequency range	47 Hz – 63 Hz
Rated current I_N	0.59 A @ AC 400 V / 0.50 A @ AC 500 V
Inrush current	36 A @ AC 400 V / 40 A @ AC 500 V
External protection	3 × B 6 A
Power factor correction P.F.C.	>0.6

Output

Output voltage/current	DC 24 V/10 A
Rated voltage U_N	DC 24 V
Rated current I_N	10 A

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Max. output current (limited current)	15 A
Max. output current (HICCUP, 2 sec)	12 A
Power Dissipation	<18 W, <2.0 W stand-by
Setting range $U_{out\ min.}/U_{out\ max.}$	DC 22.5–29 V
Load regulation	Max. 0.6 % AC 350 ... 550 V Max. 3.1 % AC 350 ... 550 V, parallel mode
Ripple and noise	<40 mV pp
Hold up time	>22 ms @ AC 400 V / 44 ms @ AC 500 V
Parallel / redundant mode	Max. 3 devices / via external decoupling diodes e.g. 722999
Efficiency	Max. 93.1 % @ AC 400 V / max. 93.2 % @ AC 500 V
Over voltage protection	<32 V
Rated over load protection	> 80°C, autoreset
Short circuit	Current limit Hiccup

Status indication

Status indication DC OK LED green	ON: $U_{out} > 95\ \% U_{set}$ OFF: $U_{out} < 90\ \% U_{set}$
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Monitoring

DC ON Control (DC OK)	N/O contact Open: $U_{out} < 90\ \% U_{set}$ Closed: $U_{out} > 95\ \% U_{set}$
Switching voltage	AC 300 V / DC 150 V
Switching current	AC/DC 1 A
Switching capacity	300 VA / 30 W
Isolation voltage	AC 1.39 kV
Remote input (inhibit) ON/OFF	ON threshold typ. 6 V, OFF threshold typ. 4 V, Restart delay max. 5 s

General

Insulation voltage input / output	AC 3.51 kV
Insulation voltage input / ground	AC 2.21 kV
Insulation voltage output / ground	AC 1.39 kV
Derating	2.4 W/°C
Cooling	Air convection, 15 mm distance right/left, 40 mm top, 30 mm bottom
Housing material	Aluminum
Mounting	DIN rail mountable TS35 (EN 60715)
Installation position	Vertical
MTBF	min. 5.7 Mio. h, Service lifetime: >184 000 h @ AC 400 V / >162 000 h @ AC 500 V
Degree of protection	IP20 (IEC 529 / EN 60529)
Protection class	I (IEC 61140)
Weight/unit	0.78 kg

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Connection type	Push-In
	0.20 mm ² – 6.0 mm ²
	Max. 0.62 Nm
	Input: 0,2 – 10 mm ²
	Output/Signalisation 0.2 – 2.5 mm ²
Dimensions (w × h × d)	55.0 mm × 129.0 mm × 133.0 mm

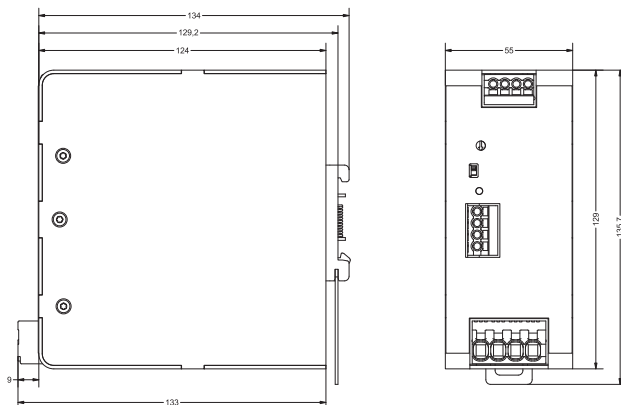
General ambient conditions

Operation temperature range	-25 °C ... +70 °C (Derating > 55 °C)
Storage temperature range	-40 °C ... +85 °C
Over voltage category	III (IEC 61010-1)
Degree of pollution	2 (IEC 60664-1, IEC 62477-1)
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)
Shock resistance	30 g / 11 ms ± 5 ms, 3 bumps/direction, 9 bumps total non-operating, mounted on DIN-Rail (IEC 60068-2-27)

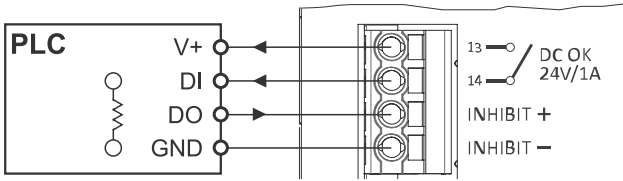
Certifications/Standards

Certifications	CE
	UKCA
Standards	cULus (E249179)
	IEC/EN 61010-1
	IEC/EN 61010-2-201
	IEC EN 62368-1 (Ed.2)
	IEC/EN 60950
	UL 61010-1
	UL 61010-2-201
	EN 55011 (CISPR11) Class A
	EN 61000-4-2 Level 3 (Air), Level 2 (Contact)
	EN 61000-4-3 Level 3 (80–1000 MHz), Level 2 (1.4 – 6 GHz)
	EN 61000-4-4 Level 3
	EN 61000-4-5 Level 3
	EN 61000-4-6 Level 3
	EN 61000-4-8 Level 4
	EN 61000-4-11 Level 2

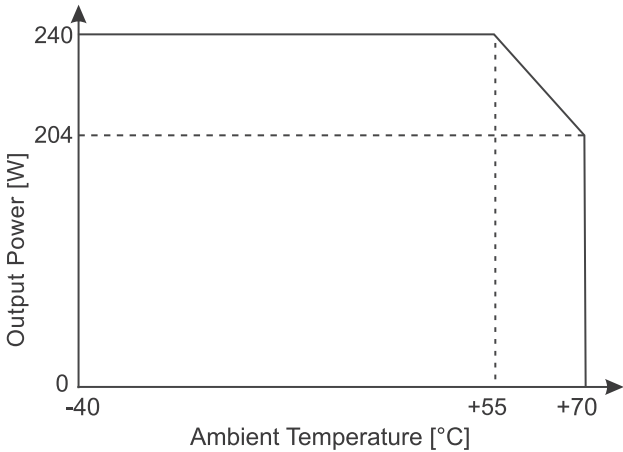
Dimensions



PIN assignment



Derating



Load limit curve



Power losses in dependence of the output power

Mounting diagram

Input	Output	Signaling
Push-in	Push-in	Push-in
SL 0.6x3.5mm (SL 1/32 x 9/64in)	SL 0.5x3.0mm (SL 1/64 x 1/8in)	SL 0.5x3.0mm (SL 1/64 x 1/8in)
15mm (19/32in)	9-10mm (23/64 - 25/64in)	9-10mm (23/64 - 25/64in)
0.2-10.0mm ² (24-8AWG)	0.2-2.5mm ² (24-14AWG)	0.2-2.5mm ² (24-14AWG)
0.2-6.0mm ² (24-10AWG)	0.2-2.5mm ² (24-14AWG)	0.2-2.5mm ² (24-14AWG)
0.25-4.0mm ² (24-12AWG)	0.2-1.5mm ² (24-16AWG)	0.2-1.5mm ² (24-16AWG)
0.25-6.0mm ² (24-10AWG)	0.2-2.5mm ² (24-14AWG)	0.2-2.5mm ² (24-14AWG)

 In compliance to IEC/EN/UL 62368-1 (Ed.2) ferrules are required if flexible wires are used. In compliance with IEC/EN/UL 61010-1, 61010-2-201 appropriate copper wires must be used that withstand operating temperatures of at least 75°C (167°F) in ambients NOT exceeding 40°C (104°F), and 90°C (194°F) in ambients exceeding 40°C (104°F).

Signal connection

Signaling & Control 1/2

DC OK		
Type	Relay contact	
Characteristic	N/O	
Closing	$U_{out} > 95\% U_{set}$	duration min. 100ms
Opening	$U_{out} < 90\% U_{set}$	duration min. 100ms
Resistive load	max. 1A	24V _{DC}
Trigger hysteresis	typ. 1.2V	

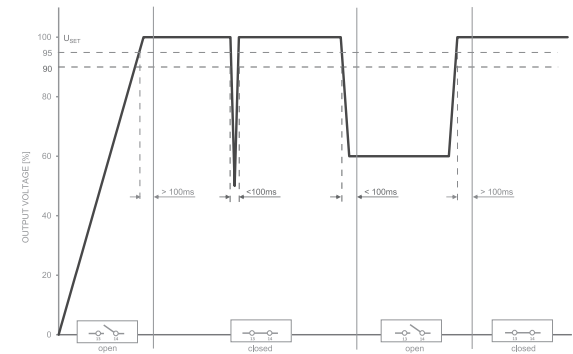


Fig.: DC-OK relay characteristic in dependence of output voltage changes

Signal connection

Signaling & Control 2/2

Remote ON/OFF		
Type	Electrical contact	
Characteristic	Inhibit	
ON threshold	typ. 6V	
OFF threshold	typ. 4V	
Restart delay	max. 5s	
Open circuit voltage	max. 30V	OFF mode
Current	max. 10mA	ON mode
Reference potential	DC-	
Parallel connection	yes	
Active discharging	no	OFF mode

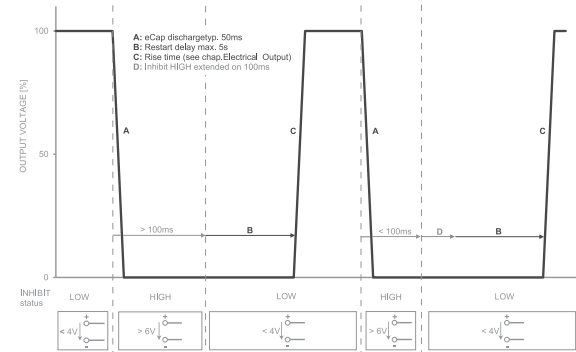


Fig.: Control of the output voltage in dependence of the inhibit relay status.