

Technical data sheet

Power supply · 3-phase, regulated, 120 W

Power supply unit, primary switched 3-phase

Input: wide range input AC 350–575 V

Output: DC 24V, 5A, (22,5–29 V)



Identification

Type	CPSB3-120-24
Part No.	722818

Product version

Datasheet version	01
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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	0.35 A @ AC 400 V / 0.3 A @ AC 500 V
Inrush current	30 A @ AC 400 V / 39 A @ AC 500 V
External fuse	3 × B 6 A
Power factor correction P.F.C.	> 0.5

Output

Rated voltage U_N	DC 24 V
Rated current I_N	5 A

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SYSTEMATIC TECHNOLOGY

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Max. output current (limited current)	7,5 A
Max. output current (HICCUP, 2 sec)	6 A
Heat dissipation	<11.5 W, < 2.1 W stand-by
Setting range $U_{out\ min.}/U_{out\ max.}$	DC 22.5–29 V
Load regulation	max. 0.4 % AC 350 ... 550 V max. 2.9 % AC 350 ... 550 V, parallel mode
Ripple and noise	<30 mV pp
Hold up time	>23 ms @ AC 400 V / >43 ms @ AC 500 V
Parallel / redundant mode	Max. 3 devices / via external decoupling diodes e.g. 722999
Efficiency	max. 91.3 % @ AC 400 V / max. 91.2 % @ 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	0.8 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	0.66 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 Wiring table
Dimensions (w × h × d)	55.0 mm × 129.0 mm × 133.0 mm

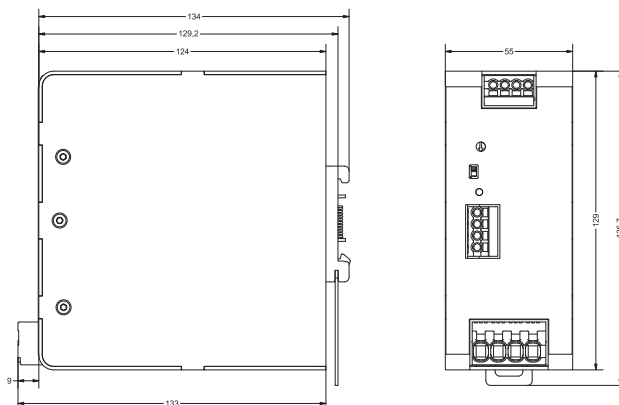
General ambient conditions

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	5 – 95 % RH, non-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 cULus (E249179)
Standards	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

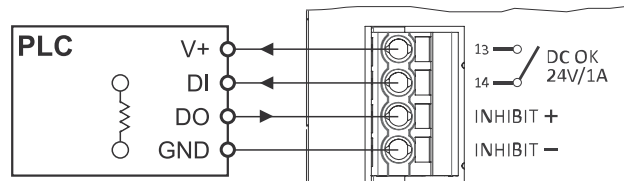
Dimensions



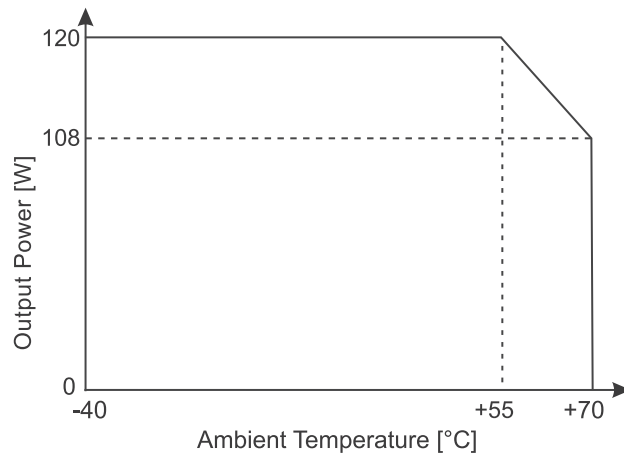
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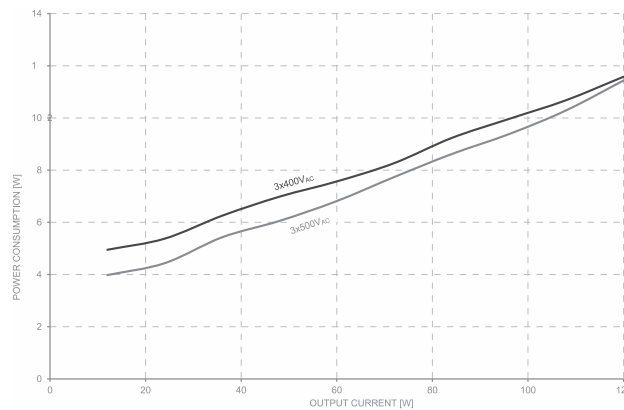
PIN assignment



Derating



Load limit curve



Power losses in dependence of the output power

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Signal connection

Signaling & Control 1/2

DC OK

Type	Relay contact	
Characteristic	N/O	
Closing	$U_{out} > 95\% U_{set}$	
Opening	$U_{out} < 90\% U_{set}$	
Resistive load	<i>max.</i> 1A	
Trigger hysteresis	<i>typ.</i> 1.2V	

duration min. 100ms
duration min. 100ms
24V_{DC}

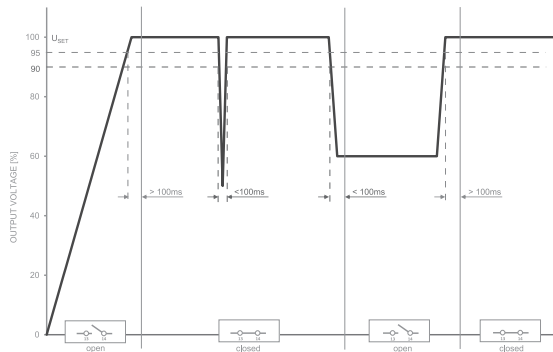


Fig.: DC-OK relay characteristic in dependence of output voltage changes

Signal connection

Signaling & Control 2/2

Remote ON/OFF

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

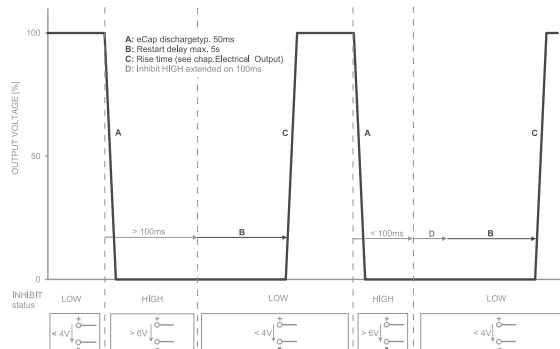


Fig.: Control of the output voltage in dependence of the inhibit relay status.