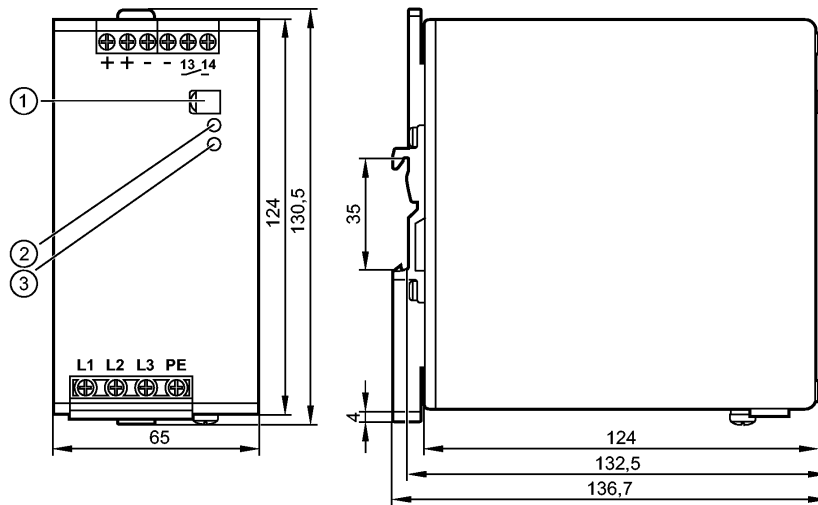


DN4034

PSU-3AC/24VDC-20A

Evaluation systems, power supplies



- 1: Potentiometer 24...28 V DC
- 2: LED DC ok
- 3: LED Overload



Product characteristics

Switched-mode power supply 24 V DC

480 W power output

Primary switched mode

Output current 20 A, regulated

Application

Application regulated power supply for sensors, actuators, evaluation electronics and plcs

Electrical data

Input voltage range	[V]	3 x 380...480 AC; ± 15 %
Nominal voltage	[V]	3 x 400 AC
Frequency range	[Hz]	47...64
Nominal frequency	[Hz]	50 / 60
Output voltage	[V]	24...28 DC; adjustable; output voltage to SELV, PELV
Output current	[A]	20 (24 V DC) / 17.5 (28 V DC)
Output current peak	[A]	30 (24 V DC) / 26 (28 V DC)
Output power	[W]	480
Output power peak	[W]	720; if consumption > 4 s the power is automatically reduced to the output power
Power factor		0.94 (400 V AC; 50 Hz) / 0.95 (480 V AC; 60 Hz); *)
Power reserve	[%]	50
Residual ripple	[mVpp]	< 100
Switch-on peak current	[A]	3 (400 V AC; 50 Hz) / 3 (480 V AC; 60 Hz); *)
Inrush current limitation		yes
Efficiency	[%]	95 (400 V AC; 50 Hz) / 94.8 (480 V AC; 60 Hz); *)
Short-circuit proof		yes
Overload protection		yes
Overload performance		constant output current
Overvoltage protection	[V]	< 35 DC
Excess temperature protection		yes
External input protection		≤ B-6 A / ≤ C-3 A



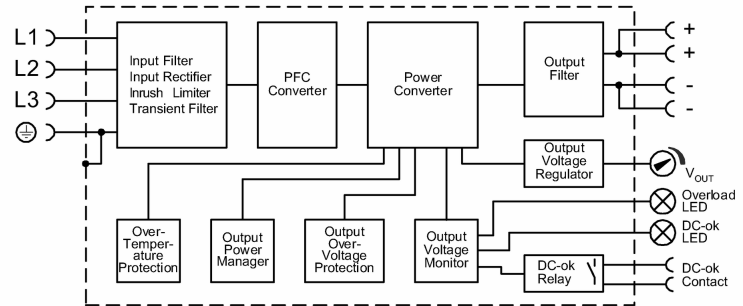
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Evaluation systems, power supplies

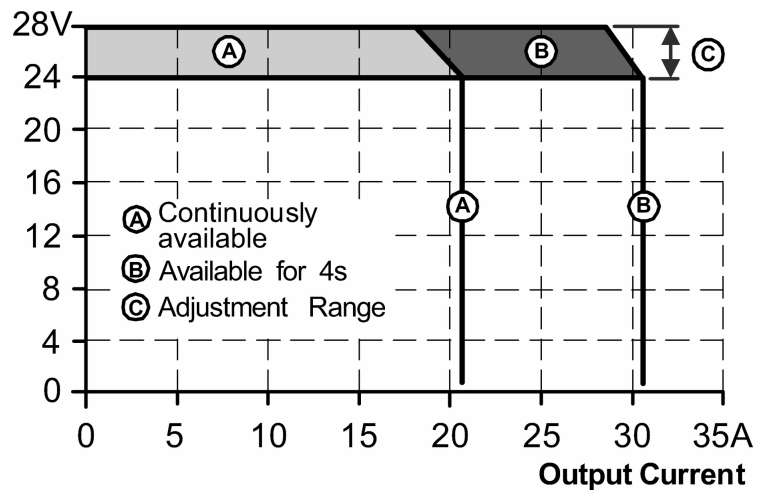
Derating	[W/K]	12 (60...70 °C)
Mains buffering time	[ms]	22 (400 V AC; 50 Hz) / 22 (480 V AC; 60 Hz); *)
Protection class		I (IEC 61140)
Input current	[A]	0.78 (400 V AC; 50 Hz) / 0.64 (480 V AC; 60 Hz); *)
Power loss	[W]	25.3 (400 V AC; 50 Hz) / 26.6 (480 V AC; 60 Hz); *)
Back feeding protection	[V]	≤ 34 DC

Block diagram



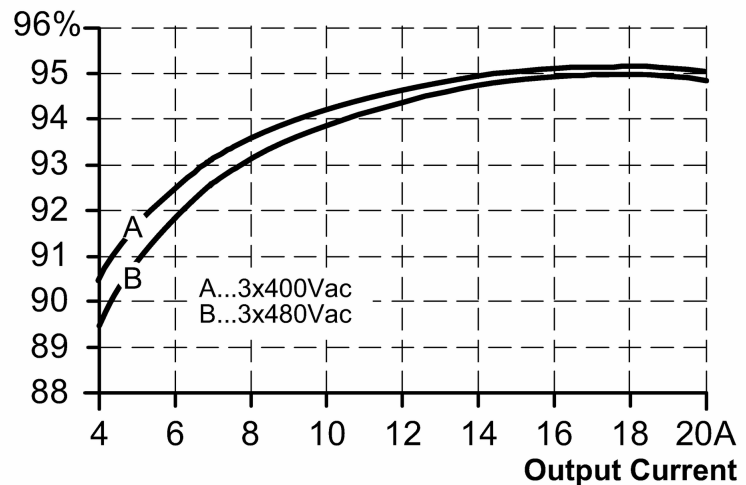
Output curve

Output Voltage



Characteristic curve for degree of efficiency / power loss

Efficiency



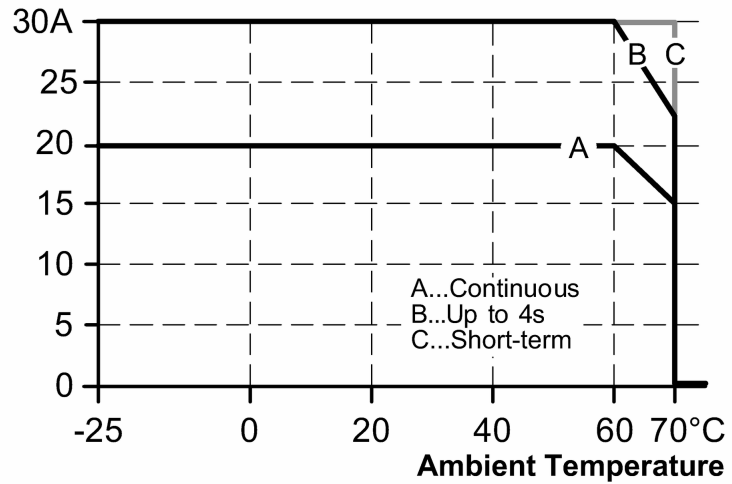
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PSU-3AC/24VDC-20A

Evaluation systems, power supplies

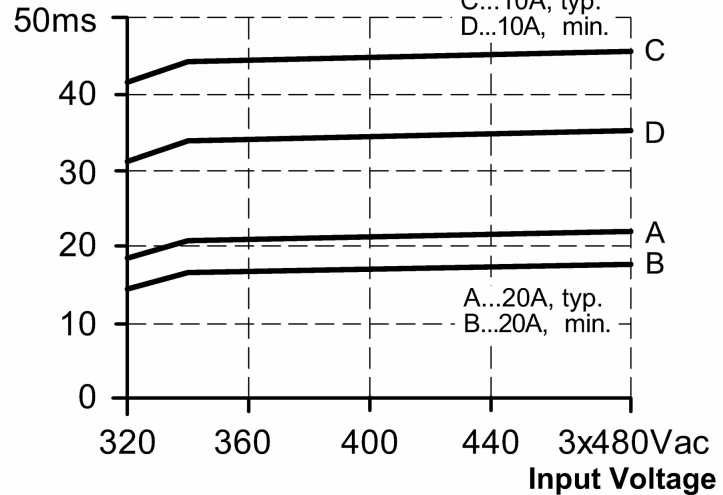
Characteristic curve for derating

Allowed Output Current at 24V



Characteristic curve for mains buffering time

Hold-up Time



Outputs

DC OK signal Relay output (60 V DC; 0.3 A / 30 V DC; 1 A / 30 V AC; 0.5 A)

Parallel connection of outputs yes

Series connection of outputs yes

Environment

Ambient temperature [°C] -25...70, observe the free space for convection (see operating instructions)

Storage temperature [°C] -40...85

Max. relative air humidity [%] 95, (IEC 60068-2-30)

Protection IP 20; to EN 60529

Degree of soiling 2; (IEC 62103) conductive soiling not permitted

Tests / approvals

EMC EN 61000-6-1
EN 61000-6-2
EN 61000-6-3
EN 61000-6-4
EN 61000-3-2 class A

UL UL 508 (Industrial Control Equipment)

Power Factor Correction (PFC) met

Shock resistance IEC 60068-2-27 30 g (6 ms) / 20 g (11 ms)



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PSU-3AC/24VDC-20A

Evaluation systems, power supplies

Vibration resistance	IEC 60068-2-6	±1.6 mm (2...25 Hz) / 2 g (17.8...500 Hz)
MTBF [h]	501000	

Mechanical data

Housing materials	steel sheet	
Installation	rail TH35 (to EN 60715)	
Weight [kg]	1.01	

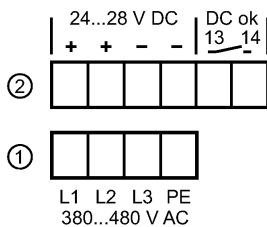
Displays / operating elements

Display	DCok 1 LED overload 1 LED	
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Electrical connection

Connection	screw terminals	
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Wiring



- 1: primary
2: secondary

Remarks

Remarks	*) with symmetrical phase voltage series connection of outputs only applies to identical units up to max. 150 V DC overall voltage	
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Pack quantity [piece]	1	
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