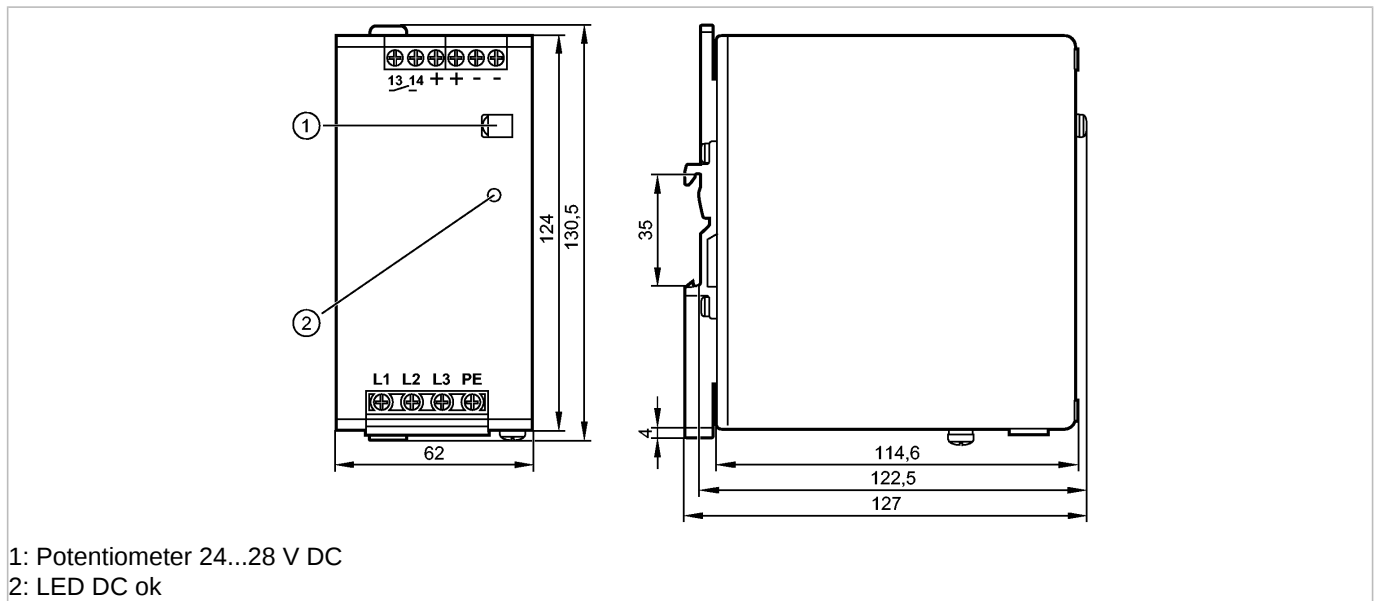


DN4033

PSU-3AC/24VDC-10A

Evaluation systems, power supplies



Product characteristics

Switched-mode power supply 24 V DC
240 W power output
Primary switched mode
Output current 10 A, regulated

Application

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

Input voltage range	[V]	3 x 380...480 AC; - 15 % / + 20 %
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]	10 (24 V DC) / 8.6 (28 V DC)
Output current peak	[A]	12 (24 V DC) / 10.3 (28 V DC)
Output power	[W]	240
Output power peak	[W]	288; ≤ 45 °C permitted continuously; > 45 °C < 1 minute every 10 minutes
Power factor		0.53 (400 V AC; 50 Hz) / 0.52 (480 V AC; 60 Hz); **
Power reserve	[%]	20
Residual ripple	[mVpp]	< 50
Switch-on peak current	[A]	4 (400 V AC; 50 Hz) / 4 (480 V AC; 60 Hz); **
Inrush current limitation		yes
Efficiency	[%]	92.8 (400 V AC; 50 Hz) / 92.9 (480 V AC; 60 Hz); **
Short-circuit proof		yes
Overload protection		yes
Overload performance		constant output current
Overvoltage protection	[V]	< 32 DC
Excess temperature protection		yes
External input protection		≤ B-6 A / ≤ C-3 A
Derating	[W/K]	6 (60...70 °C)



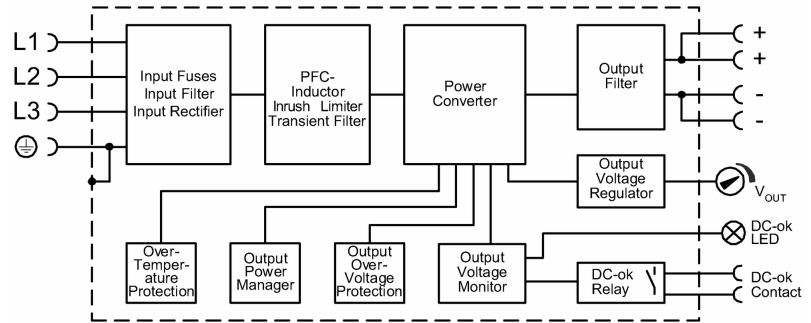
DN4033

PSU-3AC/24VDC-10A

Evaluation systems, power supplies

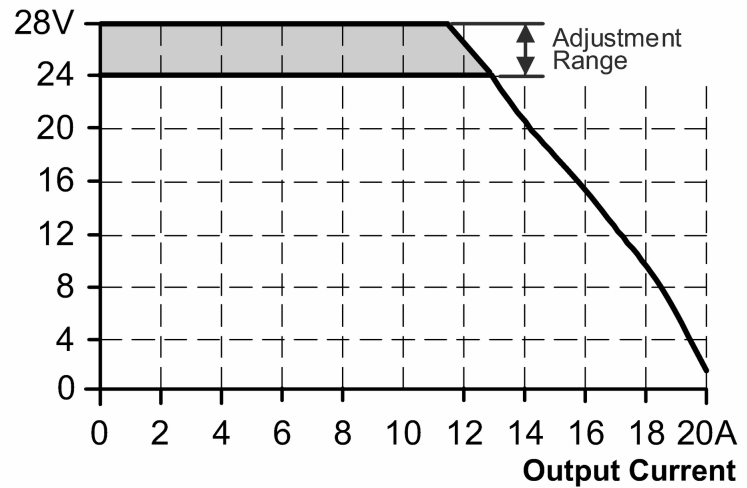
Mains buffering time [ms]	34 (400 V AC; 50 Hz) / 54 (480 V AC; 60 Hz); **
Protection class	I (IEC 61140)
Input current [A]	0.7 (400 V AC; 50 Hz) / 0.6 (480 V AC; 60 Hz); **
Power loss [W]	18.6 (400 V AC; 50 Hz) / 18.3 (480 V AC; 60 Hz); **
Back feeding protection [V]	≤ 35 DC

Block diagram



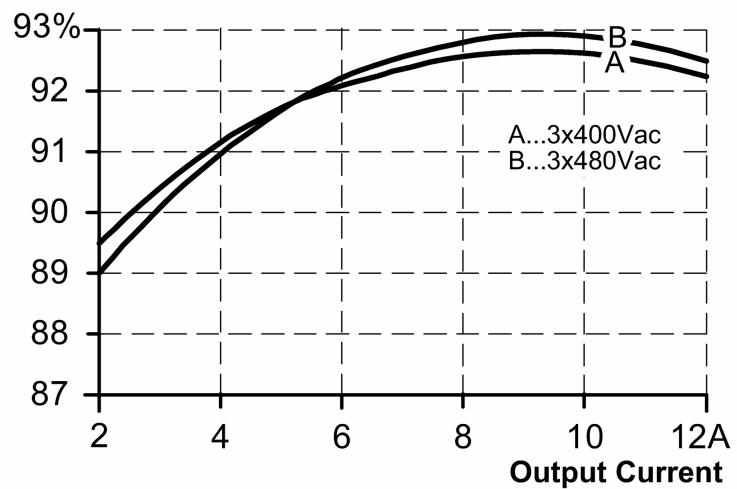
Output curve

Output Voltage



Characteristic curve for degree of efficiency / power loss

Efficiency





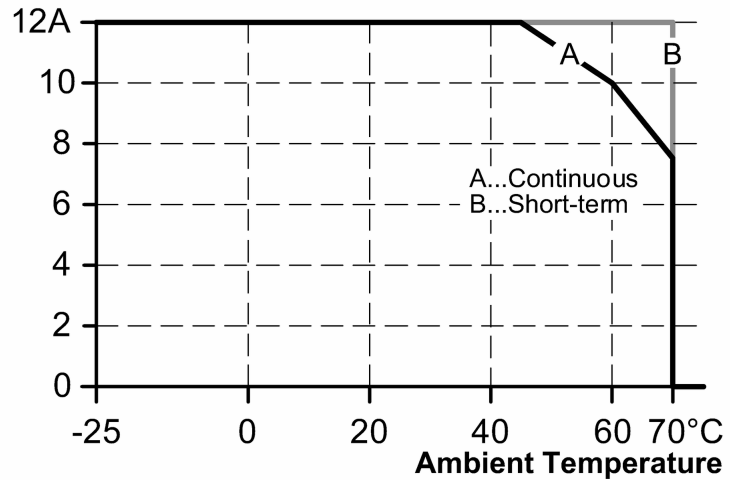
DN4033

PSU-3AC/24VDC-10A

Evaluation systems, power supplies

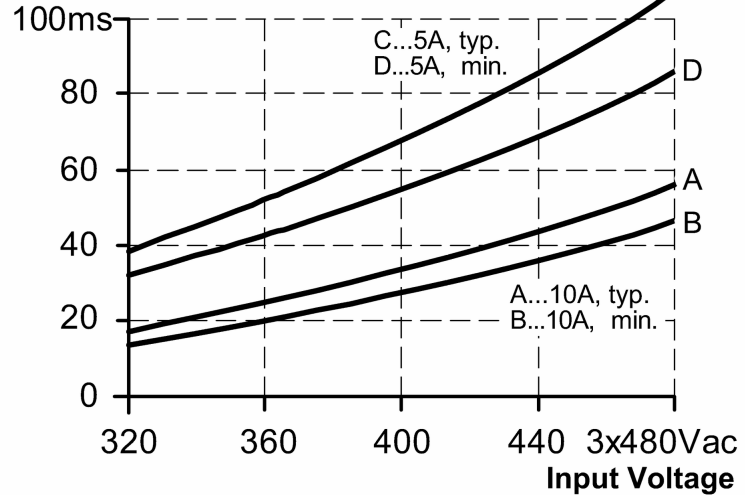
Characteristic curve for derating

Allowed Output Current at 24V



Characteristic curve for mains buffering time

Hold-up Time at 24Vdc



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)



DN4033

PSU-3AC/24VDC-10A

Evaluation systems, power supplies

Vibration resistance	IEC 60068-2-6	±1.6 mm (2...25 Hz) / 2 g (17.8...500 Hz)
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MTBF [h]	975000	
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Mechanical data

Housing materials	steel sheet	
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Installation	rail TH35 (to EN 60715)	
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Weight [kg]	0.865	
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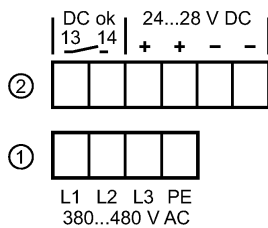
Displays / operating elements

Display	DCok 1 LED	
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Electrical connection

Connection	screw terminals	
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Wiring



- 1: primary
- 2: secondary

Remarks

Remarks	<p>*) Parallel connection of outputs: no distribution of current; with continuous operation risk of overload; MTTF decreases; > 45 °C thermal shutdown of devices possible</p> <p>**) with symmetrical phase voltage series connection of outputs only applies to identical units up to max. 150 V DC overall voltage</p>
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Pack quantity [piece]	1	
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