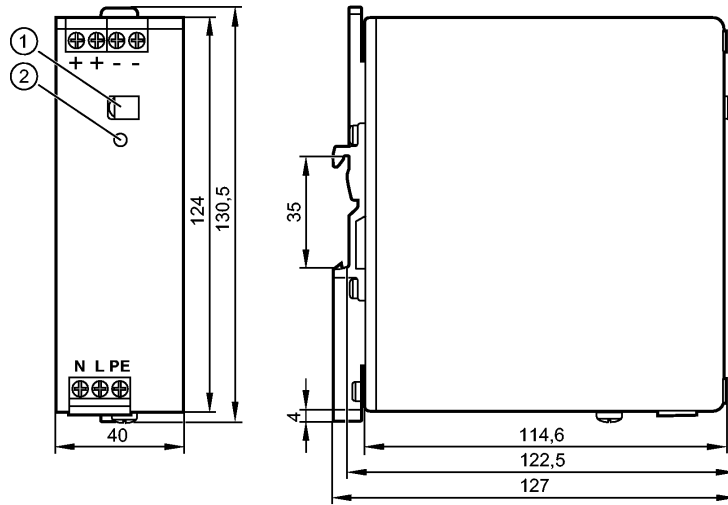


DN4012

PSU-1AC/24VDC-5A

Evaluation systems, power supplies



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



Product characteristics

Switched-mode power supply 24 V DC

120 W power output

Primary switched mode

Output current 5 A, regulated

Application

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

Electrical data

Input voltage range	[V]	100...120 AC; ± 10 % / 200...240 AC; ± 10 %; automatic range selection
Nominal voltage	[V]	115 / 230 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]	5 (24 V DC) / 4.3 (28 V DC)
Output current peak	[A]	6 (24 V DC) / 5.1 (28 V DC)
Output power	[W]	120
Output power peak	[W]	144; ≤ 45 °C permitted continuously; > 45 °C < 1 minute every 10 minutes
Power factor		0.56 (120 V AC; 60 Hz) / 0.47 (230 V AC; 50 Hz)
Power reserve	[%]	20
Residual ripple	[mVpp]	< 50
Switch-on peak current	[A]	3 (120 V AC; 60 Hz) / 3 (230 V AC; 50 Hz)
Inrush current limitation		yes
Efficiency	[%]	89.4 (120 V AC; 60 Hz) / 90.2 (230 V AC; 50 Hz)
Short-circuit proof		yes
Overload protection		yes
Overload performance		constant output current
Overvoltage protection	[V]	< 39 DC
Excess temperature protection		yes
External input protection		≤ B-10 A / ≤ C-6 A
Derating	[W/K]	3 (60...70 °C)



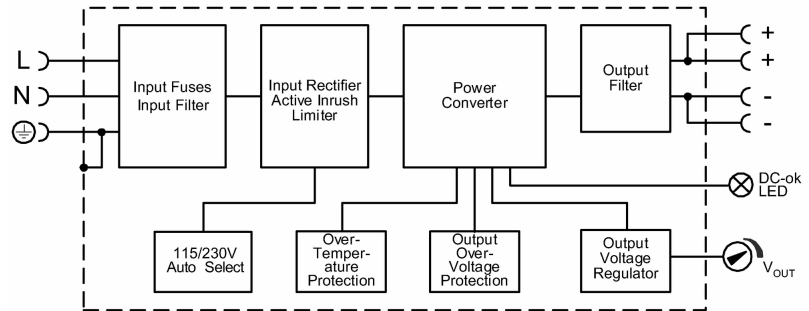
DN4012

PSU-1AC/24VDC-5A

Evaluation systems, power supplies

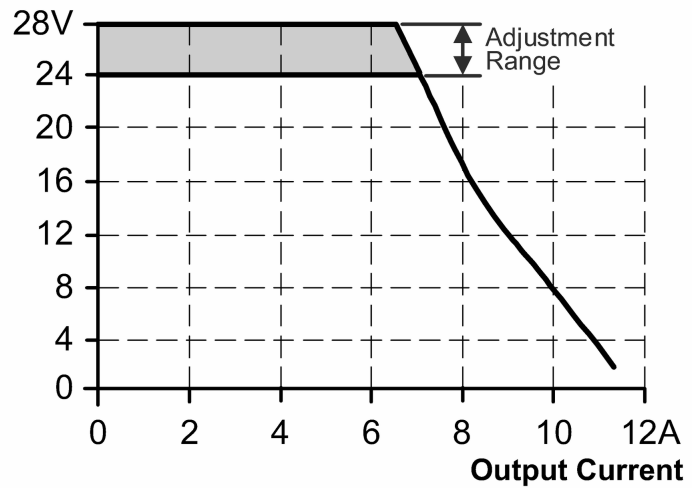
Mains buffering time [ms]	80 (120 V AC; 60 Hz) / 78 (230 V AC; 50 Hz)
Protection class	I (IEC 61140)
Input current [A]	2.05 (120 V AC; 60 Hz) / 1.23 (230 V AC; 50 Hz)
Power loss [W]	14.5 (120 V AC; 60 Hz) / 13.2 (230 V AC; 50 Hz)
Back feeding protection [V]	≤ 35 DC

Block diagram



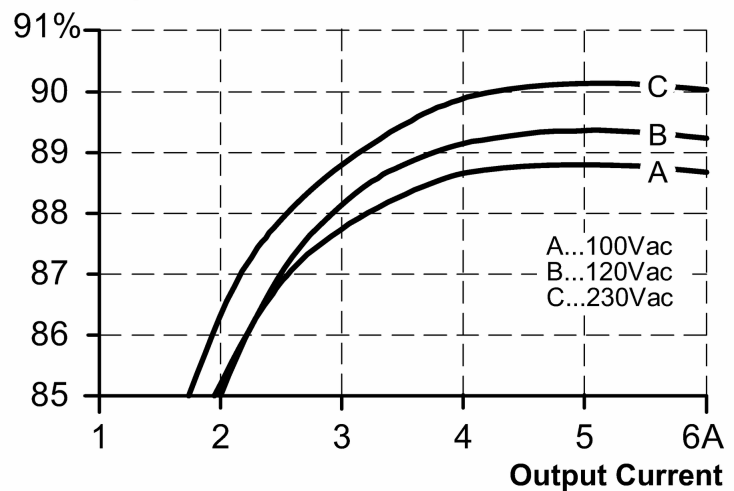
Output curve

Output Voltage



Characteristic curve for degree of efficiency / power loss

Efficiency



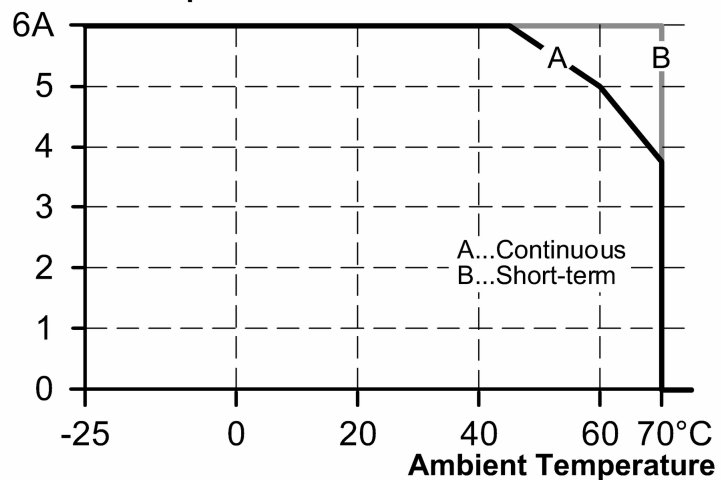
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PSU-1AC/24VDC-5A

Evaluation systems, power supplies

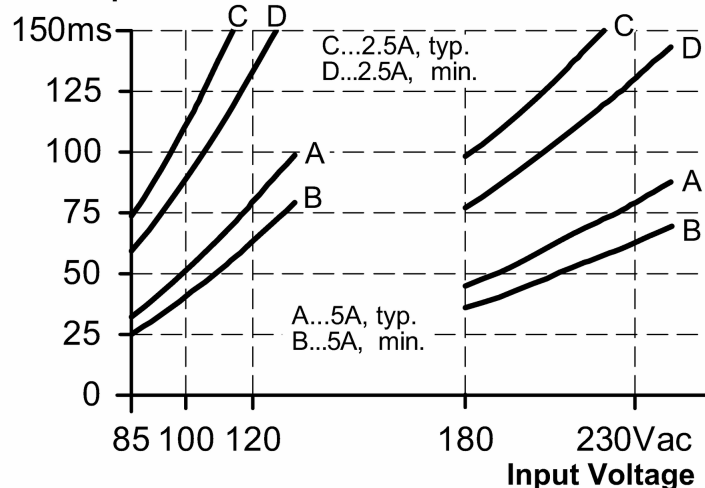
Characteristic curve for derating

Allowed Output Current at 24V



Characteristic curve for mains buffering time

Hold-up Time at 24V



Outputs

Parallel connection of outputs

no

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 61000-6-4

UL
UL 508 (Industrial Control Equipment)

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

Vibration resistance
IEC 60068-2-6 ±1.6 mm (2...25 Hz) / 2 g (17.8...500 Hz)

MTBF [h] 869000

Mechanical data

DN4012

PSU-1AC/24VDC-5A

Evaluation systems, power supplies

Housing materials	steel sheet
Installation	rail TH35 (to EN 60715)
Weight [kg]	0.595

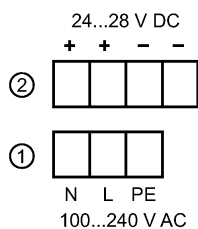
Displays / operating elements

Display	DCok 1 LED
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Electrical connection

Connection	screw terminals
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Wiring



- 1: primary
2: secondary

Remarks

Remarks	series connection of outputs only applies to identical units up to max. 150 V DC overall voltage 100 V AC mains power and permanent P > 120 W may result in thermal shutdown
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Pack quantity [piece]	1
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