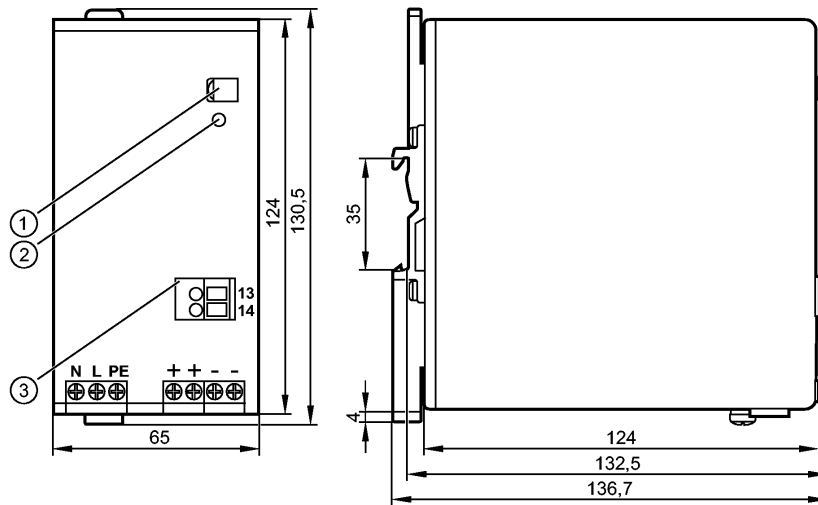


**DN4014**

PSU-1AC/24VDC-20A

Evaluation systems, power supplies



- 1: Potentiometer 24...28 V DC
- 2: LED DC ok
- 3: Terminals DC OK signal



**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]	100...240 AC; - 15 % / + 10 %
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]	20 (24 V DC) / 17.1 (28 V DC)
Output current peak	[A]	24 (24 V DC) / 20.6 (28 V DC)
Output power	[W]	480
Output power peak	[W]	576; ≤ 45 °C permitted continuously; > 45 °C < 1 minute every 10 minutes
Power factor		0.99 (120 V AC; 60 Hz) / 0.95 (230 V AC; 50 Hz)
Power reserve	[%]	20
Residual ripple	[mVpp]	< 50
Switch-on peak current	[A]	9 (120 V AC; 60 Hz) / 7 (230 V AC; 50 Hz)
Inrush current limitation		yes
Efficiency	[%]	92.7 (120 V AC; 60 Hz) / 94 (230 V AC; 50 Hz)
Short-circuit proof		yes
Overload protection		yes
Overload performance		Hiccup Modus **)
Overvoltage protection	[V]	< 32 DC
Excess temperature protection		yes
External input protection		≤ B-10 A / ≤ C-10 A

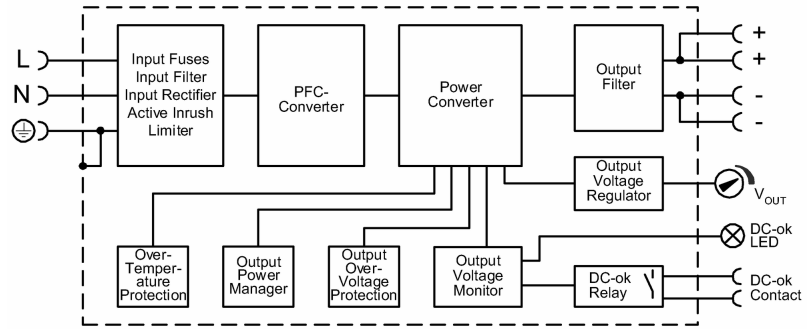
**DN4014**

PSU-1AC/24VDC-20A

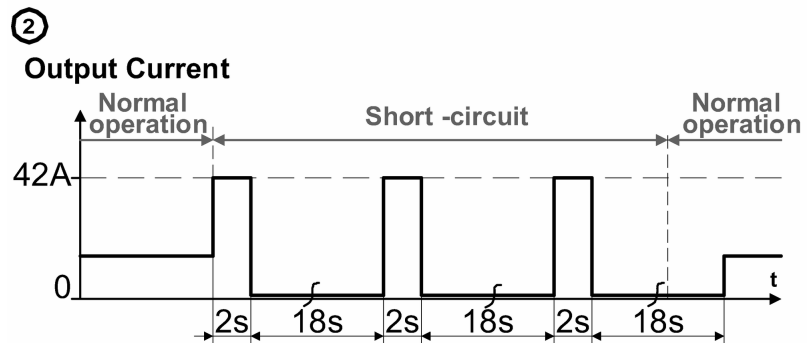
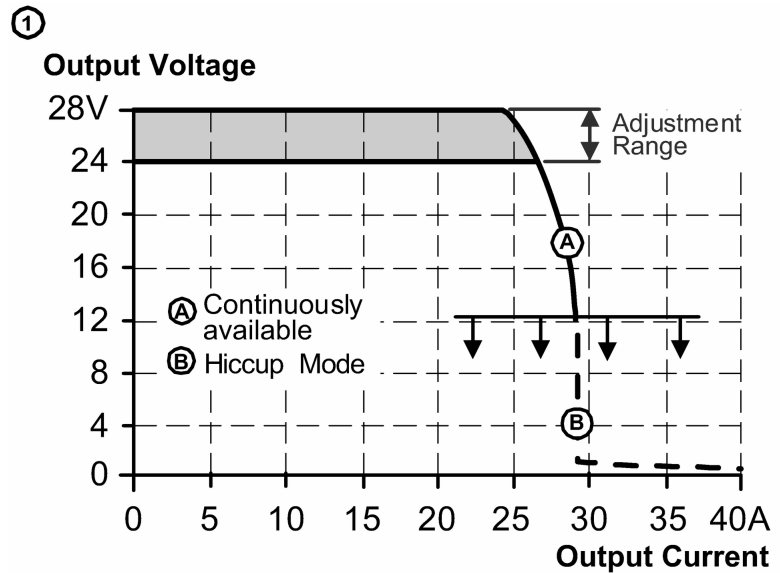
Evaluation systems, power supplies

Derating	[W/K]	12 (60...70 °C)
Mains buffering time	[ms]	26 (120 V AC; 60 Hz) / 26 (230 V AC; 50 Hz)
Protection class		I (IEC 61140)
Input current	[A]	4.36 (120 V AC; 60 Hz) / 2.33 (230 V AC; 50 Hz)
Power loss	[W]	37.8 (120 V AC; 60 Hz) / 30.6 (230 V AC; 50 Hz)
Back feeding protection	[V]	≤ 35 DC

Block diagram



Output curve



1: output characteristics; 2: Hiccup mode

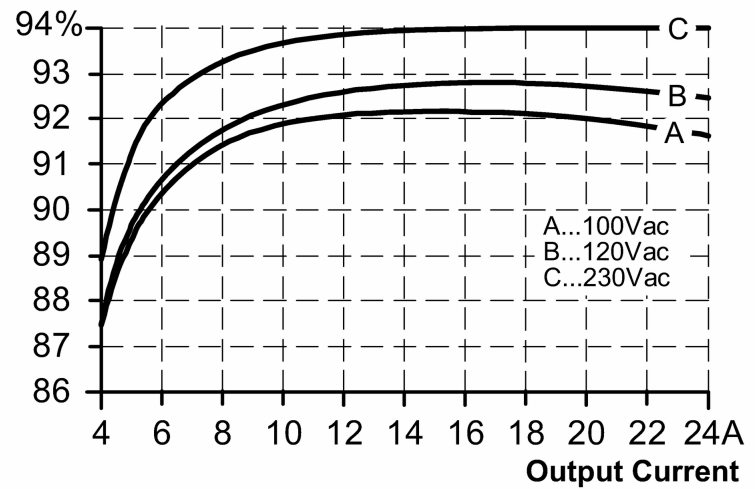
**DN4014**

PSU-1AC/24VDC-20A

Evaluation systems, power supplies

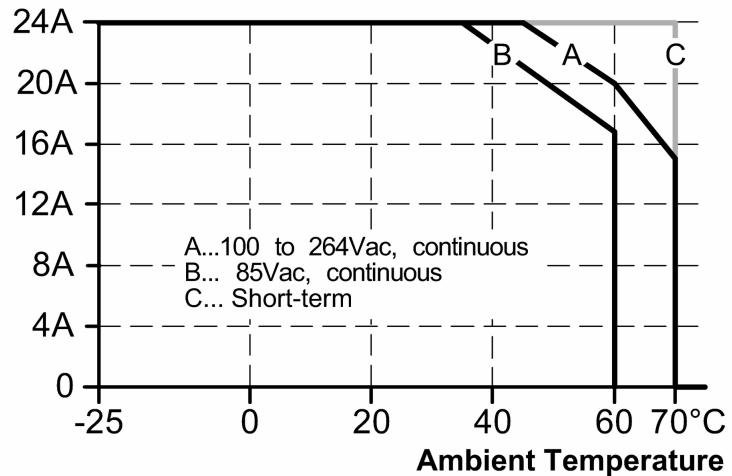
Characteristic curve for degree of efficiency / power loss

**Efficiency**



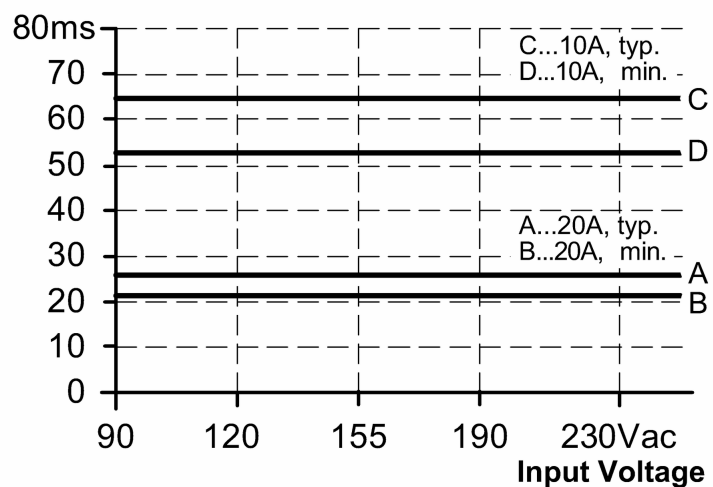
Characteristic curve for derating

**Allowed Output Current at 24V**



Characteristic curve for mains buffering time

**Hold-up Time at 24V**



**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**



## DN4014

PSU-1AC/24VDC-20A

Evaluation systems, power supplies

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)
Vibration resistance	IEC 60068-2-6	±1.6 mm (2...25 Hz) / 2 g (17.8...500 Hz)
MTBF [h]	537000	

### Mechanical data

Housing materials	steel sheet	
Installation	rail TH35 (to EN 60715)	
Weight	[kg]	1.122

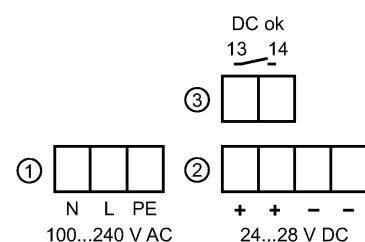
### Displays / operating elements

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; &gt; 45 °C thermal shutdown of devices possible</p> <p>**) in the event of overload / short circuit, the output alternately supplies continuous power for 2 s and then switches off for 18 s 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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