

## Technical data sheet

Power supply · 60 W

Switchmode power supply, Single-phase, NEC Class 2 compliant

Input: wide-range input AC 85–264 V, DC 90–375 V

Output: DC 24 V, 2.5 A



### Identification

Type	DRAN60-24
Part No.	<a href="#">728754</a>

### Product version

Datasheet version	00
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### Input

Number of phases	1
Rated voltage $U_N$	AC 100–240 V
Operation voltage range	AC 85–264 V / DC 90–375 V
Frequency range	47 Hz – 63 Hz
Rated current $I_N$	1.06 A @ AC 115 V / 590 mA @ AC 230 V
Inrush current	30 A @ AC 115 V / 60 A @ AC 230 V
Internal fuse	T2A / AC 250 V
External protection	Mini-circuit breaker: B 6 A

### Output

Output voltage/current	DC 24 V/2.5 A
Rated voltage $U_N$	DC 24 V
Rated current $I_N$	2.5 A
Power Dissipation	8.8 W @ AC 230 V
Setting range $U_{out\ min.}/U_{out\ max.}$	24-28 V
Accuracy	±1 %
Load regulation	±0.5 %
Line regulation	±0.5 %
Rise time	2 s
Temperature coefficient	±0.03 % / °C
Ripple and noise	50 mV
Hold up time	20 ms @ 115 V / 30 ms @ 230 V

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SYSTEMATIC TECHNOLOGY

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Parallel / redundant mode	Max. 2 devices / via external decoupling diodes
Efficiency	89 %
Over voltage protection	125–138 %
Rated over load protection	110–150 %
Short circuit	Fold Forward

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#### Status indication

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Status indication DC ON LED green >18 V

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#### Monitoring

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DC ON Control (Rdy)	Normally open
Switching voltage	DC 24 V
Switching current	≤35 mA
Isolation voltage	None

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#### General

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Switching frequency	55 – 135 kHz
Insulation voltage input / output	DC 4.2 kV
Insulation voltage input / ground	DC 2.1 kV
Insulation voltage output / ground	DC 710 V
Insulation resistance at DC 500 V	100 MΩ
Derating	2.5 %/°C starting 61 °C
Cooling	Air convection, 25 mm clearance all-round
Housing material	Plastic
Mounting	DIN rail mountable TS35 (EN 60715)
Max. altitude operation	5000 m (EN 62368-1)
Installation position	Vertical
MTBF	520000 h
Degree of protection	IP20
Protection class	I (SELV, PELV)
Weight/unit	0.41 kg
Connection type	Spring terminal 0.20 mm <sup>2</sup> – 2.0 mm <sup>2</sup> AWG 24 – AWG 14
Dimensions (w × h × d)	40.5 mm × 90.0 mm × 115.0 mm
PU (units)	1

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#### General ambient conditions

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Operation temperature range	-40 °C ... +70 °C (Derating)
Storage temperature range	-40 °C ... +85 °C
Over voltage category	II
Degree of pollution	2
Relative air humidity	20 – 90 % RH, not condensing

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## Approvals/Standards

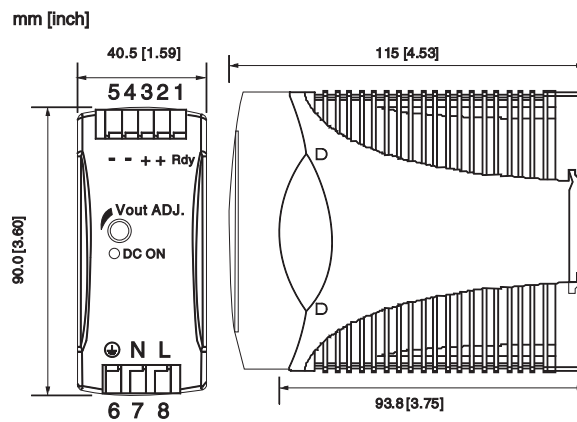
### Approvals

UL 508 Listed (E249179)  
UL 1310 Class 2 (E320708), (Class 1, Division 2, Groups A, B, C and D)  
(E350538)  
UL 60950-1  
CE  
UKCA

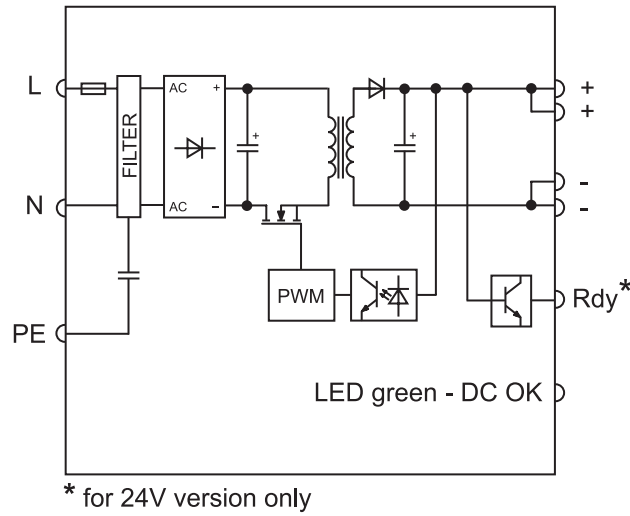
### Standards

IEC/EN 62368-1  
EN 61558-1  
EN 61558-2-16  
EN 61000-6-3  
EN 55032 Class B  
EN 61000-3-2 Class D  
EN 61000-3-3  
EN 61000-6-2  
EN 55024  
EN 61000-4-2 Level 4  
EN 61000-4-3 Level 3  
EN 61000-4-4 Level 4  
EN 61000-4-5 L-N Level 3  
L/N-FG Level 4  
EN 61000-4-6 Level 3  
EN 61000-4-8 Level 4  
EN 61000-4-11 ENV 50204 Level 2  
EN 61204-3

## Dimensions



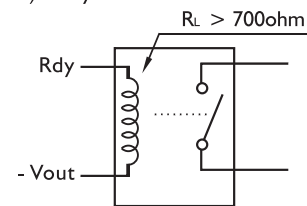
**PIN assignment**



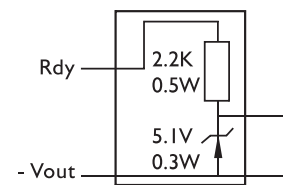
**Use**

**Rdy connection**

a) Relay

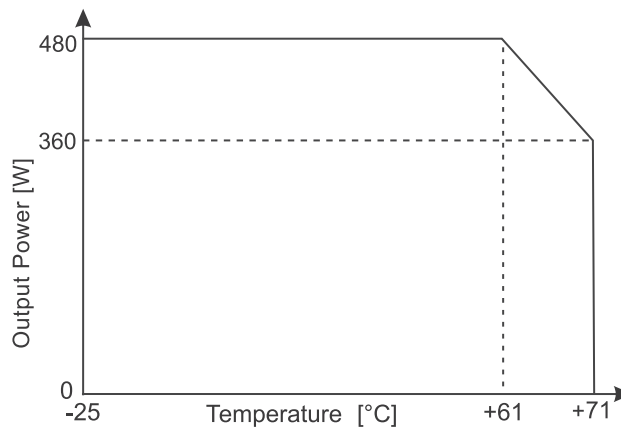


b) 5V signal

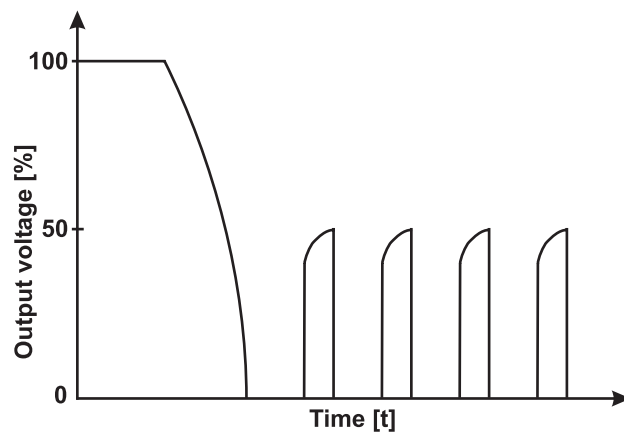


Note: for 24V Model only

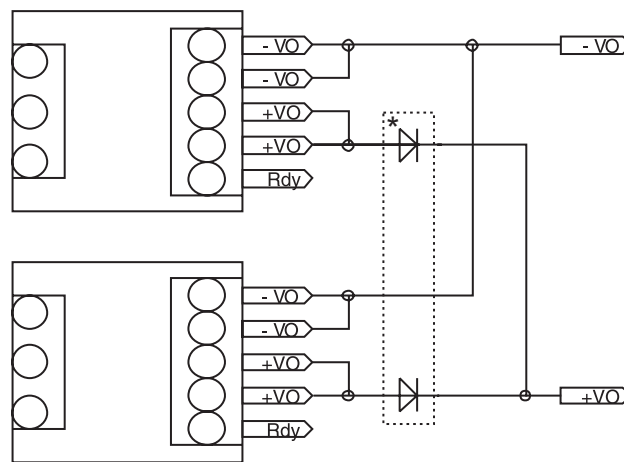
**Derating**



Short circuit characteristics



Redundant operation



\* Redundant Module 722987  
Only use together with 24 V version!