

# **Manual**

## **DIN Rail Mount Power Supplies**



Release	1.4
Model	11082, 11084 11085, 11086 11087, 11077

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Subject to error and alteration:

Since it is possible that we make mistakes, you mustn't use any of our statements without verification. Please, inform us of any error or misunderstanding you come about, so we can identify and eliminate it as soon as possible.

Carry out your work on or with W&T products only to the extent that they are described here and after you have completely read and understood the manual or guide. We are not liable for unauthorized repairs or tampering. When in doubt, check first with us or with your dealer.

W&T Interfaces or Com-Servers are frequently used in large numbers at a central location. In such cases a common supply for the interfaces makes the application significantly clearer than would be the case when powering the devices with individual dedicated power supplies.

If there is no large power supply in the installation, this problem can be solved elegantly and cost-effectively using the W&T DIN rail power supplies, which are capable of powering multiple interfaces or Com-Servers.

The power supply can of course also be used where in addition to the supply for the W&T Interface you also need power for the rest of the installation. In this case you simply need to ensure that the power consumed does not exceed the rated power of the DIN rail power supply.

Thanks to the generous operating temperature range, the DIN rail mount power supply is also ideal for applications where the standard plug-in power supplies cannot be used due to the expected high ambient temperatures.

Current information can be found in the Internet at <http://www.wut.de> or in the e-mail updates provided to members of the W&T Interface Club. Subscriptions to the Interface Club can requested from the W&T homepage.

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## General characteristics and safety advisory

All power supply units described in this manual have a CE Mark and UL approval and meet industrial EMC requirements, so that the power supplies are also usable in worldwide industrial applications.

The power supplies can power various W&T DIN rail devices from a central power source and, with an ambient temperature rating of  $-20..+60\text{ }^{\circ}\text{C}$  resp.  $-20..+70\text{ }^{\circ}\text{C}$  cover a wide working temperature range.

### Safety Advisory: HAZARDOUS VOLTAGE

The following advisory must be read and understood before installing the power supplies. Non-observance of this advisory may have serious or fatal consequences.



The power supplies are to be installed and placed in operation only by an electrical specialist. Before beginning any work on the power supply, make sure the mains supply is completely disconnected.

When installing, make sure no loose wires extend into the housing of the power supplies through the ventilation holes.

Protection for operating personnel and the equipment is only ensured if the power supply is used as specified. Any use other than described in this Manual will compromise the safety and function of the power supply and any connected systems.

If faults cannot be remedied, take the power supply out of service and guard it against unintentional startup. Tampering with and modifying the power supplies is hazardous and is therefore not permitted. The operator is responsible for observing local safety regulations.

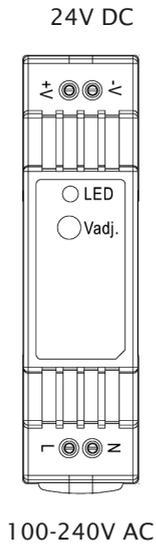


**Power supply for DIN rail mount, #11082**

The 11082 is a 24V/15W switching type universal power supply suitable for DIN rail mounting.

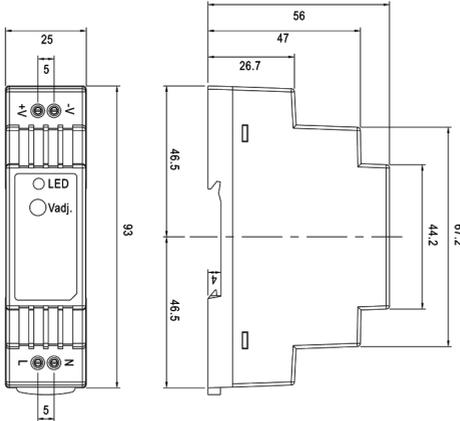
**Connection**

Input and output voltages will be connected to the power supply using screw terminals, which are assigned as follows:



### Housing and dimensions

The dimensions of the 11082 DIN rail power supply can be seen in the following drawing:

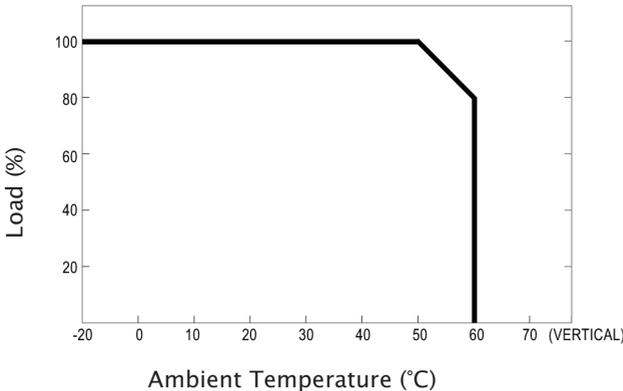


### Derating

As with all switching power supplies, the 11082 DIN rail power supply is subject to a reduction of the available power at elevated temperatures. Up to a temperature of 50°C a rated load of 15 watts is possible, and above this temperature the permissible power draw is reduced by 2% per degree Celsius.



Derating diagram (vertical installation of the power supply):



## Technical Specifications

Output power:	max. 15W
Efficiency (typ):	85%
No load power:	< 0,5W
Input voltage:	88 .. 264VAC
Frequency:	47 .. 63 Hz
Input current:	0.48A at 230V AC
Inrush current:	max. 65A at 230V AC
Output voltage:	24V DC (adjustable 21.6 .. 26.4V)
Tolerance:	±1%
Ripple:	max. 0.15V <sub>peak-to-peak</sub>
Rated current:	0.63A
Minimum load:	none
Overcurrent protection:	105% .. 160% I <sub>rated</sub>
Short circuit protected:	Yes
Overvoltage protection:	27.6 .. 32.4V (Shutdown at 115% .. 135% of rated voltage, Reset via „power on“)
Start time:	1000ms at rated load and 230V AC
Rise time:	50ms at rated load and 230V AC
Hold time:	70ms at rated load and 230V AC
Cooling:	Convection
Withstand voltage:	In-Out: 3KV AC
Leakage resistance:	In-Out: 100 MOhm @500VDC
Operating temperature:	-20 .. 60°C, power reduction between 50 .. 60°C: 2%/°C
Storage temperature:	-40 .. 85°C
Relative humidity:	Operating: 20 .. 90% r.F. Storage: 10 .. 95% r.F. (non-condensing)
Terminals:	2-pole input, 2-pole output with screw terminals
MTBF:	1.172.300 hours (per MIL-HDBK 217F at 25°C)

Weight: 85 g  
Dimensions: 25 x 93 x 56 mm  
Approvals: UL, c-UL, TÜV, CB, CE

Safety: Meets  
UL 60950-1 / EN60950-1

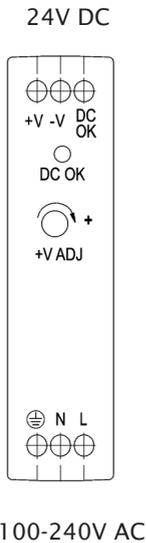
EMC: Meets  
EN 55022 B  
EN 61000-3-2, EN 61000-3-3  
EN 61000-4-2, EN 61000-4-3  
EN 61000-4-4, EN 61000-4-5  
EN 61000-4-6, EN 61000-4-8  
EN 61000-4-11, ENV 50204  
EN 61204-3, EN 61000-6-2

**Power supply for DIN rail mount, #11084**

The 11084 is a 24V/24W switching type universal power supply suitable for DIN rail mounting.

**Connection**

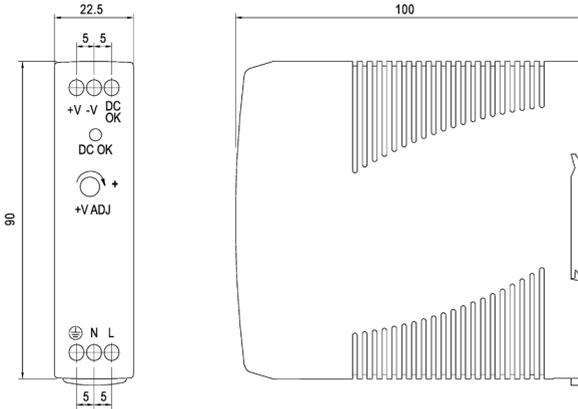
Input and output voltages will be connected to the power supply using screw terminals, which are assigned as follows:



When the output voltage is correct, „DC OK“ provides a level of 24V with a load capacity of 20mA

**Housing and dimensions**

The dimensions of the 11084 DIN rail power supply can be seen in the following drawing:

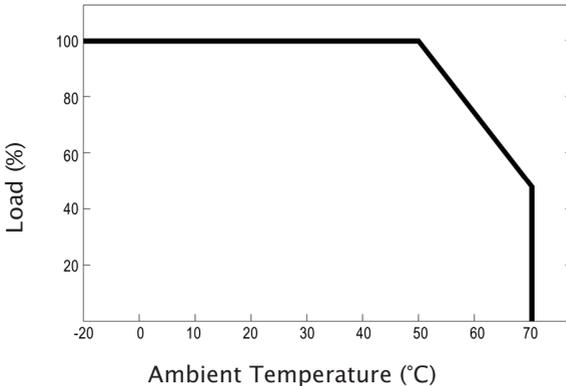


**Derating**

As with all switching power supplies, the 11084 DIN rail mount power supply is subject to a reduction of the available power at elevated temperatures. Up to a temperature of 50°C a rated load of 24 watts is possible, and above this temperature the permissible power draw is reduced by 2.5% per degree Celsius.



Derating diagram (vertical installation of the power supply):



## Technical Specifications

Output power:	max. 24W
Efficiency (typ):	84%
No load power:	< 0,75W
Input voltage:	88 .. 264VAC
Frequency:	47 .. 63 Hz
Input current:	0.35A at 230V AC
Inrush current:	max. 40A at 230V AC
Output voltage:	24V DC (adjustable 21.6 .. 26.4V)
Tolerance:	±1%
Ripple:	max. 0.15V <sub>peak-to-peak</sub>
Rated current:	1.0A
Minimum load:	none
Power Good indicator:	24V DC output, I <sub>max</sub> = 0.02A
Overcurrent protection:	105% .. 160% I <sub>rated</sub>
Short circuit protected:	Yes
Overvoltage protection:	27.6 .. 32.4V (Shutdown at 115% .. 135% of rated voltage, Reset via „power on“)
Start time:	500ms at rated load and 230V AC
Rise time:	30ms at rated load and 230V AC
Hold time:	50ms at rated load and 230V AC
Cooling:	Convection
Withstand voltage:	In-Out: 3KV AC
Leakage resistance:	In-Out: 100 MOhm @500VDC
Operating temperature:	-20 .. 70°C, power reduction between 50 .. 70°C: 2.5%/°C
Storage temperature:	-40 .. 85°C
Relative humidity:	Operating: 20 .. 90% r.F. Storage: 10 .. 95% r.F. (non-condensing)
Terminals:	3-pole input, 2-pole output with screw terminals
MTBF:	236.900 hours (per MIL-HDBK-217F at 25°C)

Weight: 190 g  
Dimensions: 22.5 x 90 x 100 mm  
Approvals: UL, c-UL, TÜV, CB, CE

Safety: Meets  
UL 60950-1 / EN60950-1

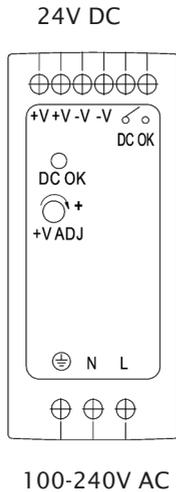
EMC: Meets  
EN 55022 B  
EN 61000-3-2, EN 61000-3-3  
EN 61000-4-2, EN 61000-4-3  
EN 61000-4-4, EN 61000-4-5  
EN 61000-4-6, EN 61000-4-8  
EN 61000-4-11, ENV 50204  
EN 61204-3, EN 61000-6-2

**Power supply for DIN rail mount, #11085**

The 11085 is a 24V/40W switching type universal power supply suitable for DIN rail mounting.

**Connection**

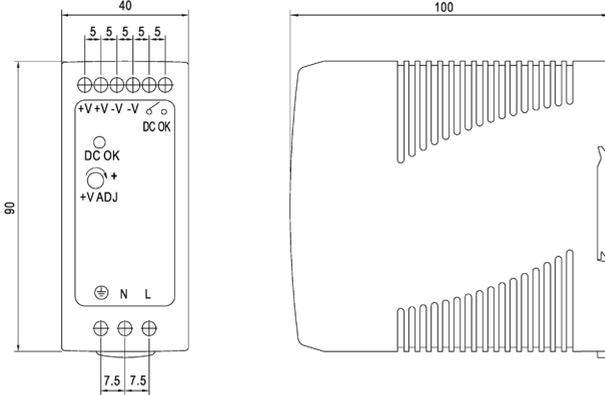
Input and output voltages will be connected to the power supply using screw terminals, which are assigned as follows:



„DC OK“ indicates a potential-free contact which is closed when the output voltage is correct.

### Housing and dimensions

The dimensions of the 11085 DIN rail power supply can be seen in the following drawing:

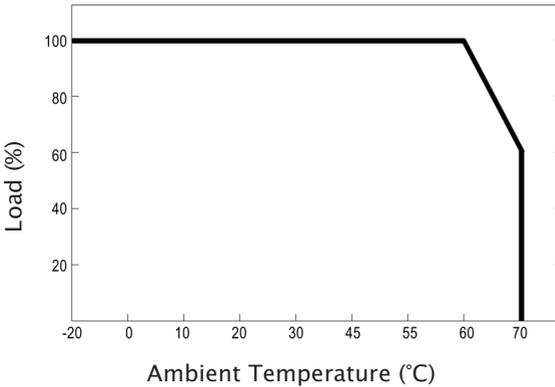


### Derating

As with all switching power supplies, the 11085 DIN rail power supply is subject to a reduction of the available power at elevated temperatures. Up to a temperature of 60°C a rated load of 40 watts is possible, and above this temperature the permissible power draw is reduced by 4% per degree Celsius.



Derating diagram (vertical installation of the power supply):



## Technical Specifications

Output power:	max. 40W
Efficiency (typ):	88%
No load power:	< 0,75W
Input voltage:	88 .. 264VAC
Frequency:	47 .. 63 Hz
Input current:	0.7A at 230V AC
Inrush current:	max. 60A at 230V AC
Output voltage:	24V DC (adjustable 24 .. 30V)
Tolerance:	±1%
Ripple:	max. 0.15V <sub>peak-to-peak</sub>
Rated current:	1.7A
Minimum load:	none
Power Good indicator:	potential-free switch
Overcurrent protection:	105% .. 150% I <sub>rated</sub>
Short circuit protected:	Yes
Overvoltage protection:	31.2 .. 36V (Shutdown at 130% .. 150% of rated voltage, Reset via „power on“)
Start time:	500ms at rated load and 230V AC
Rise time:	30ms at rated load and 230V AC
Hold time:	50ms at rated load and 230V AC
Cooling:	Convection
Withstand voltage:	In-Out: 3KV AC
Leakage resistance:	In-Out: 100 MOhm @500VDC
Operating temperature:	-20 .. 70°C, power reduction between 60 .. 70°C: 4%/°C
Storage temperature:	-40 .. 85°C
Relative humidity:	Operating: 20 .. 90% r.F. Storage: 10 .. 95% r.F. (non-condensing)
Terminals:	3-pole input, 4-pole output with screw terminals
MTBF:	301.700 hours (per MIL-HDBK-217F at 25°C)

Weight: 300 g  
Dimensions: 40 x 90 x 100 mm  
Approvals: UL, c-UL, TÜV, CB, CE

Safety: Meets  
UL 60950-1 / EN60950-1

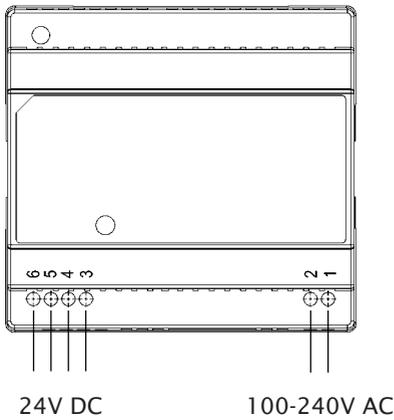
EMC: Meets  
EN 55022 B  
EN 61000-3-2, EN 61000-3-3  
EN 61000-4-2, EN 61000-4-3  
EN 61000-4-4, EN 61000-4-5  
EN 61000-4-6, EN 61000-4-8  
EN 61000-4-11, ENV 50204  
EN 61204-3, EN 61000-6-2

**Power supply for DIN rail mount, #11077**

The 11077 is a 24V/100W switching type universal power supply suitable for DIN rail mounting.

**Connection**

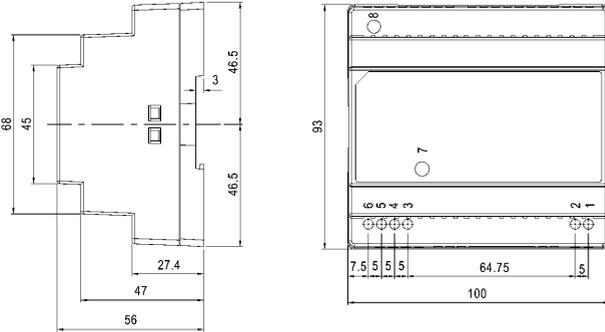
Input and output voltages will be connected to the power supply using screw terminals, which are assigned as follows:



- 1 - AC (L)
- 2 - AC (N)
- 3,4 - +24 V
- 5, 6 - GND

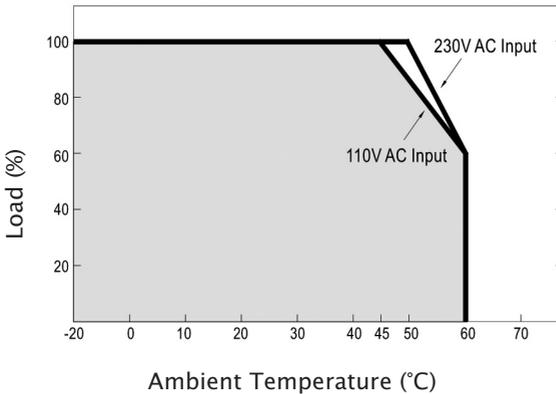
### Housing and dimensions

The dimensions of the 11077 DIN rail power supply can be seen in the following drawing:



### Derating

As with all switching power supplies, the 11077 DIN rail power supply is subject to a reduction of the available power at elevated temperatures. Up to a temperature of 45°C a rated load of 100 watts is possible, and above this temperature the permissible power draw is reduced by 2.6% per degree Celsius.



## Technical Specifications

Output power:	max. 100W
Efficiency (typ):	89%
No load power:	< 1W
Input voltage:	88 .. 264VAC
Frequency:	47 .. 63 Hz
Input current:	1.6A at 230V AC
Inrush current:	max. 45A at 230V AC
Output voltage:	24V DC (adjustable 24 .. 29V)
Tolerance:	±1%
Ripple:	max. 0.15V <sub>peak-to-peak</sub>
Rated current:	4.2A
Minimum load:	none
Overcurrent protection:	105% .. 135% I <sub>rated</sub>
Short circuit protected:	Yes
Overvoltage protection:	30 .. 35V (Shutdown at 125% .. 145% of rated voltage, Reset via „power on“)
Start time:	2700ms at rated load and 230V AC
Rise time:	80ms at rated load and 230V AC
Hold time:	50ms at rated load and 230V AC
Cooling:	Convection
Withstand voltage:	In-Out: 3KV AC
Leakage resistance:	In-Out: 100 MOhm @500VDC
Operating temperature:	-20 .. 60°C, power reduction between 45 .. 60°C: 2.6%/°C
Storage temperature:	-40 .. 85°C
Relative humidity:	Operating: 20 .. 90% r.F. Storage: 10 .. 95% r.F. (non-condensing)
Terminals:	2-pole input, 4-pole output with screw terminals
MTBF:	486.000 hours (per MIL-HDBK-217F at 25°C)
Weight:	300 g

Dimensions: 100 x 93 x 56 mm  
Approvals: UL, c-UL, TÜV, CB, CE

Safety: Meets  
UL 60950-1 / EN60950-1

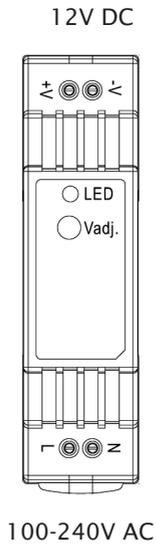
EMC: Meets  
EN 55022 B  
EN 61000-3-2, EN 61000-3-3  
EN 61000-4-2, EN 61000-4-3  
EN 61000-4-4, EN 61000-4-5  
EN 61000-4-6, EN 61000-4-8  
EN 61000-4-11, ENV 50204  
EN 61204-3, EN 61000-6-2

**Power supply for DIN rail mount, #11087**

The 11087 is a 12V/15W switching type universal power supply suitable for DIN rail mounting.

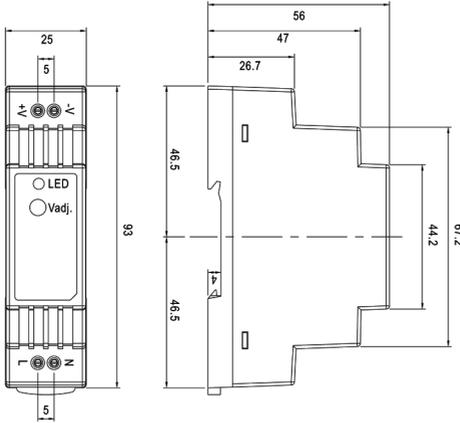
**Connection**

Input and output voltages will be connected to the power supply using screw terminals, which are assigned as follows:



### Housing and dimensions

The dimensions of the 11087 DIN rail power supply can be seen in the following drawing:

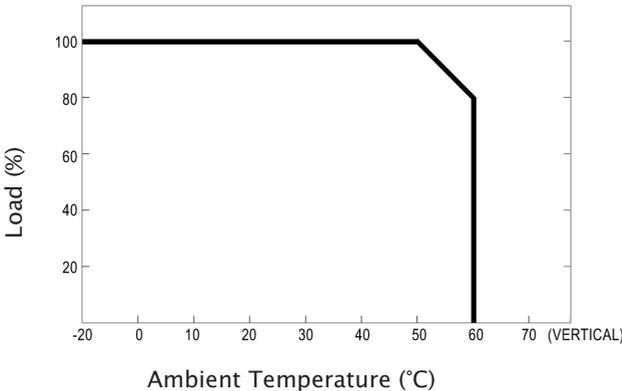


### Derating

As with all switching power supplies, the 11087 DIN rail power supply is subject to a reduction of the available power at elevated temperatures. Up to a temperature of 50°C a rated load of 15 watts is possible, and above this temperature the permissible power draw is reduced by 2% per degree Celsius.



Derating diagram (vertical installation of the power supply):



## Technical Specifications

Output power:	max. 15W
Efficiency (typ):	84%
No load power:	< 0,5W
Input voltage:	88 .. 264VAC
Frequency:	47 .. 63 Hz
Input current:	0.48A at 230V AC
Inrush current:	max. 65A at 230V AC
Output voltage:	12V DC (adjustable 10.8 .. 13.2V)
Tolerance:	±1%
Ripple:	max. 0.12V <sub>peak-to-peak</sub>
Rated current:	1.25A
Minimum load:	none
Overcurrent protection:	105% .. 160% I <sub>rated</sub>
Short circuit protected:	Yes
Overvoltage protection:	Shutdown at 13.8 .. 16.2V Reset via „power on“
Start time:	1000ms at rated load and 230V AC
Rise time:	50ms at rated load and 230V AC
Hold time:	70ms at rated load and 230V AC
Cooling:	Convection
Withstand voltage:	In-Out: 3KV AC
Leakage resistance:	In-Out: 100 MOhm @500VDC
Operating temperature:	-20 .. 60°C, power reduction between 50 .. 60°C: 2%/°C
Storage temperature:	-40 .. 85°C
Relative humidity:	Operating: 20 .. 90% r.F. Storage: 10 .. 95% r.F. (non-condensing)
Terminals:	2-pole input, 2-pole output with screw terminals
MTBF:	1.172.300 hours (per MIL-HDBK 217F at 25°C)

Weight: 85 g  
Dimensions: 25 x 93 x 56 mm  
Approvals: UL, c-UL, TÜV, CB, CE

Safety: Meets  
UL 60950-1 / EN60950-1

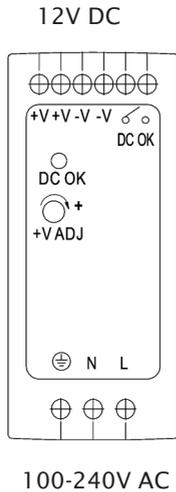
EMC: Meets  
EN 55022 B  
EN 61000-3-2, EN 61000-3-3  
EN 61000-4-2, EN 61000-4-3  
EN 61000-4-4, EN 61000-4-5  
EN 61000-4-6, EN 61000-4-8  
EN 61000-4-11, ENV 50204  
EN 61204-3, EN 61000-6-2

**Power supply for DIN rail mount, #11086**

The 11086 is a 12V/60W switching type universal power supply suitable for DIN rail mounting.

**Connection**

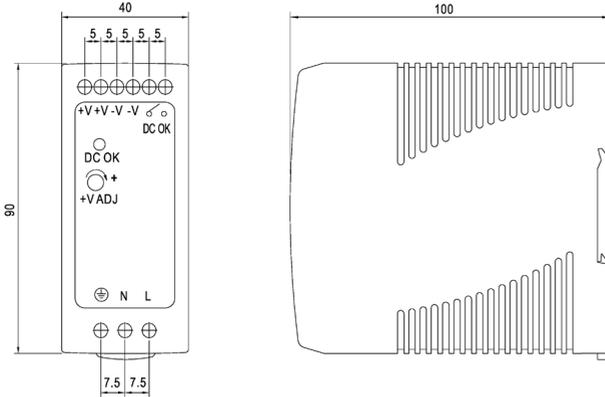
Input and output voltages will be connected to the power supply using screw terminals, which are assigned as follows:



„DC OK“ indicates a potential-free contact which is closed when the output voltage is correct.

### Housing and dimensions

The dimensions of the 11086 DIN rail power supply can be seen in the following drawing:

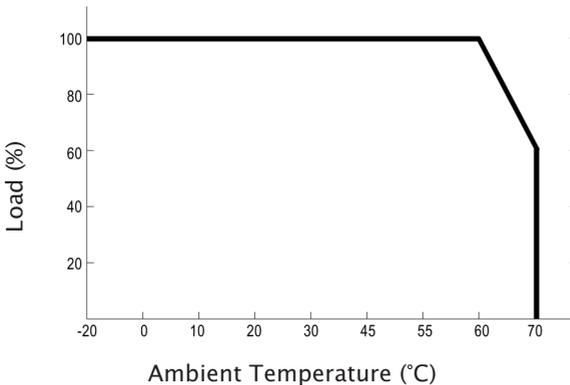


### Derating

As with all switching power supplies, the 11086 DIN rail mount power supply is subject to a reduction of the available power at elevated temperatures. Up to a temperature of 60°C a rated load of 60 watts is possible, and above this temperature the permissible power draw is reduced by 4% per degree Celsius.



Derating diagram (vertical installation of the power supply):



## Technical Specifications

Output power:	max. 60W
Efficiency (typ):	86%
No load power:	< 0,75W
Input voltage:	88 .. 264VAC
Frequency:	47 .. 63 Hz
Input current:	1A at 230V AC
Inrush current:	max. 60A at 230V AC
Output voltage:	12V DC (adjustable 12 .. 15V)
Tolerance:	±1%
Ripple:	max. 0.12V <sub>peak-to-peak</sub>
Rated current:	5A
Minimum load:	none
Power Good indicator:	potential-free switch
Overcurrent protection:	105% .. 150% I <sub>rated</sub>
Short circuit protected:	Yes
Overvoltage protection:	Shutdown at 15,6 .. 18V Reset via „power on“
Start time:	500ms at rated load and 230V AC
Rise time:	30ms at rated load and 230V AC
Hold time:	50ms at rated load and 230V AC
Cooling:	Convection
Withstand voltage:	In-Out: 3KV AC
Leakage resistance:	In-Out: 100 MOhm @500VDC
Operating temperature:	-20 .. 70°C, power reduction between 60 .. 70°C: 4%/°C
Storage temperature:	-40 .. 85°C
Relative humidity:	Operating: 20 .. 90% r.F. Storage: 10 .. 95% r.F. (non-condensing)
Terminals:	3-pole input, 4-pole output with screw terminals
MTBF:	299.200 hours (per MIL-HDBK-217F at 25°C)

Weight: 300 g  
Dimensions: 40 x 90 x 100 mm  
Approvals: UL, c-UL, TÜV, CB, CE

Safety: Meets  
UL 60950-1 / EN60950-1

EMC: Meets  
EN 55022 B  
EN 61000-3-2, EN 61000-3-3  
EN 61000-4-2, EN 61000-4-3  
EN 61000-4-4, EN 61000-4-5  
EN 61000-4-6, EN 61000-4-8  
EN 61000-4-11, ENV 50204  
EN 61204-3, EN 61000-6-2