

W&T

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Manual

Installation, Startup and Application

DIN Rail Mount Power Supplies

valid for:

#11080: Power Supply 24V/15W LPS

#11081: Power Supply 24V/60W LPS

#11079: Power Supply 24V/92W LPS

Release 02/2018

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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 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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Legal Notices

Warning note concept

This manual contains notes which must be observed for your personal safety and to prevent equipment damage. The notes are called out with a warning triangle. Depending on the hazard level the warning notes are represented in decreasing order of hazard as follows:

DANGER

Indicates a hazard which will result in death or serious injury if no appropriate safety measures are taken.

WARNING

Indicates a hazard which can result in death or serious injury if no appropriate safety measures are taken.

CAUTION

Indicates a hazard which can result in slight injury if no appropriate safety measures are taken.

NOTE

Indicates a hazard which can result in equipment damage if no appropriate safety measures are taken.

When multiple hazard levels are present the warning note for the highest level is used. If the warning triangle for personal injury is used, then a warning for equipment damage may also be added in the same warning note.

Qualified personnel

The product described in this manual may be installed and placed in operation only by personnel who are qualified for the respective task.

In addition the documentation for the respective task must be followed, especially the safety and warning notes included in it.

Qualified personnel have received training and experience which enable them to recognize risks associated with handling the described products and to avoid possible hazards.

Disposal

Electronic devices may not be disposed of with household waste, but rather be brought to a proper electronics waste disposal facility.

A complete Declaration of Conformity for the described devices can be found on the respective datasheet pages on the W&T Homepage at <http://www.wut.de>.

Safety Instructions

General precautions

DANGER

This manual is intended for the installer of the described power supplies and must be read and understood before beginning any work. Not following the instructions may result in fatal or serious injuries. The power supplies are to be installed and placed in service only by an electrical specialist.

Intended use

DANGER

The intended use of the power supplies is the use in accordance with the information provided in the manual.

The power supplies may be operated only using the maximum permitted connection values according to the technical data. Any other use or modification is considered to be improper.

Installation

DANGER

Before beginning any work on the device the power must be completely disconnected by suitable means. Ensure that it can't be reconnected inadvertently!

Please do not install power supplies in places with high moisture or near water.

Please do not install power supplies in places with high ambient temperature or near heat sources. Please refer to the specification of the maximum ambient temperature.

The ventilation holes must be kept free from any obstructions. Also a 10-15 cm clearance must be kept when the adjacent device is a heat source.

Mounting orientations other than standard orientation or operation under high ambient temperature may increase the internal component temperature and will therefore require a derating in output current. Please refer to the specification sheets to get information about the derating curve.

Output current and output power must not exceed the rated values of the specifications.

Make sure that no loose wires extend into the housing of the power supplies through the ventilation holes.

Make sure that all strands of each stranded wire enter the terminal connection and the screw terminals are securely fixed to prevent poor contact.

Electrical Safety

DANGER

The described power supplies are open pieces of equipment which may only be placed in operation after permanent and enclosed installation in a housing or a control cabinet. Access to the housings or cabinets must be possible only with a key or tool and is permitted only by trained or approved personnel.

Protection of operating personnel and the equipment is only assured if the device is used according to its intended purpose. Any other use than described in the manuals may compromise the safety and function of the power supplies and the connected systems.

There are no user serviceable parts inside the enclosure. Opening and manipulating the device or making any changes is extremely dangerous and is therefore not permitted.

If a fault is unable to be eliminated, the device must be taken out of service and protected against accidental startup.

Make sure that an easily accessible disconnection means is provided near the device.

Make sure that there is enough space between the cables leading to the mains and SELV terminals to avoid any potential flashovers between the cables.

Responsibility for adhering to the local prevailing safety regulations lies with the operator.

EMC** NOTE**

The power supplies meet the industrial noise immunity limits and the stricter emission limits for household and small businesses. Therefore there are no EMC-related limitations with respect to the usability of the power supplies.

In EMC respects the power supply is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with the EMC directives.

Power supply for DIN rail mount, #11080

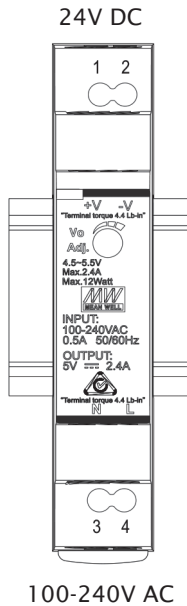
The power supply 11080 is a 24V/15W switching type universal power supply for DIN rail mounting.

The power supply has a CE Mark and UL approval and meets industrial EMC requirements, so that the power supply is also usable in worldwide industrial applications.

The power supply can power various W&T DIN rail devices from a central power source and covers a wide working temperature range of of -30..+70 °C.

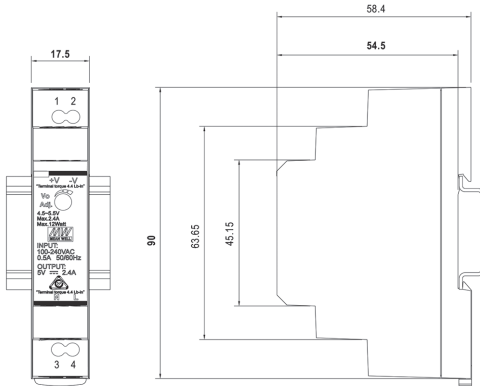
Connection

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 power supply 11080 can be seen in the following drawing:

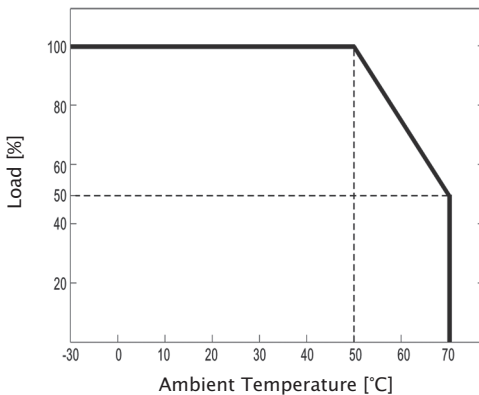


Derating

As with all switching power supplies, the power supply 11080 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 2.5% per degree Celsius.



Derating diagram (vertical installation of the power supply):



Technical Specifications

Manufacturer: MEAN WELL Enterprises Co., Ltd.
 Model: HDR-15-24

Output power: max. 15,2W
 Efficiency (typ): 86%
 No load power: < 0,3W
 LPS property: Yes

Input voltage: 85 .. 264VAC
 Frequency: 47 .. 63 Hz
 Input current: 0.25A at 230V AC
 Inrush current: max. 45A at 230V AC

Output voltage: 24V DC (adjustable 21.6 .. 29V)
 Tolerance: $\pm 1\%$
 Ripple: max. 0.15V peak-to-peak
 Rated current: 0.63A
 Minimum load: none

Overcurrent protection: 110% .. 145% Irated
 Short circuit protected: Yes
 Overvoltage protection: Shutdown at 30 .. 36V,
 Reset via „power on“

Start time: 2s at rated load and 230V AC
 Rise time: 80ms at rated load and 230V AC
 Hold time: 30ms at rated load and 230V AC

Over voltage category: III
 Operating Altitude: 2000m

Cooling: Convection
 Withstand voltage: In-Out: 4KV AC
 Leakage resistance: In-Out: 100 MOhm @500VDC

Operating temperature:	-30 .. 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:	2-pole input, 2-pole output with screw terminals
MTBF:	1.166.000 hours (per MIL-HDBK 217F at 25°C)
Weight:	78 g
Dimensions:	17,5 x 90 x 54,5 mm
Approvals:	UL, c-UL, TÜV, CB, CE
Safety:	Meets UL 60950-1 / EN60950-1
EMC:	Meets EN 55032 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 EN 55024, EN 55035 EN 61204-3, EN 61000-6-2

Power supply for DIN rail mount, #11081

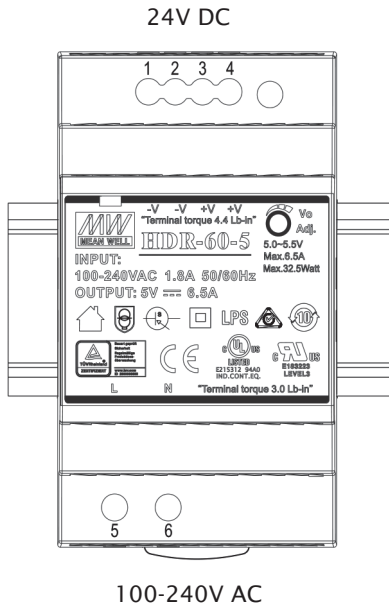
The power supply 11081 is a 24V/60W switching type universal power supply for DIN rail mounting.

The power supply has a CE Mark and UL approval and meets industrial EMC requirements, so that the power supply is also usable in worldwide industrial applications.

The power supply can power various W&T DIN rail devices from a central power source and covers a wide working temperature range of of -30..+70 °C.

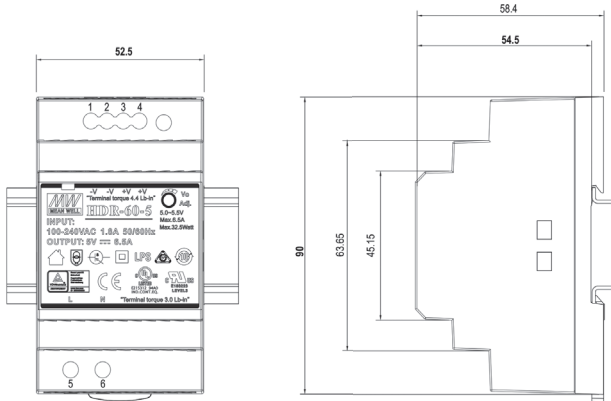
Connection

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 power supply 11081 can be seen in the following drawing:

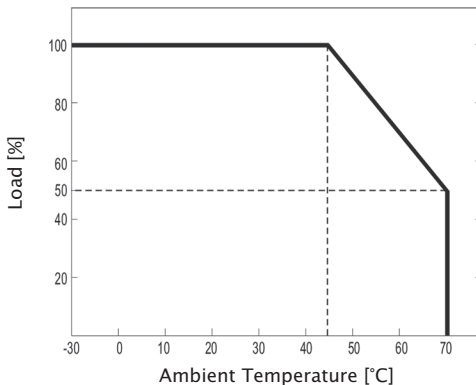


Derating

As with all switching power supplies, the power supply 11081 is subject to a reduction of the available power at elevated temperatures. Up to a temperature of 45°C a rated load of 60 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

Manufacturer:	MEAN WELL Enterprises Co., Ltd.
Model:	HDR-60-24
Output power:	max. 60W
Efficiency (typ):	90%
No load power:	< 0,3W
LPS property:	Yes
Input voltage:	85 .. 264VAC
Frequency:	47 .. 63 Hz
Input current:	0.8A at 230V AC
Inrush current:	max. 60A at 230V AC
Output voltage:	24V DC (adjustable 21.6 .. 29V)
Tolerance:	±1%
Ripple:	max. 0.15V peak-to-peak
Rated current:	2.5A
Minimum load:	none
Overcurrent protection:	105% .. 160% Irated
Short circuit protected:	Yes
Overvoltage protection:	Shutdown at 30 .. 36V, Reset via „power on“
Start time:	500ms at rated load and 230V AC
Rise time:	50ms at rated load and 230V AC
Hold time:	30ms at rated load and 230V AC
Over voltage category:	III
Operating Altitude:	2000m
Cooling:	Convection
Withstand voltage:	In-Out: 4KV AC
Leakage resistance:	In-Out: 100 MOhm @500VDC

Operating temperature:	-30 .. 70°C, power reduction between 45 .. 70°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, 4-pole output with screw terminals
MTBF:	927.600 hours (per MIL-HDBK 217F at 25°C)
Weight:	190 g
Dimensions:	52,5 x 90 x 54,5 mm
Approvals:	UL, c-UL, TÜV, CB, CE
Safety:	Meets UL 60950-1 / EN60950-1
EMC:	Meets EN 55032 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 EN 55024, EN 55035 EN 61204-3, EN 61000-6-2

Power supply for DIN rail mount, #11079

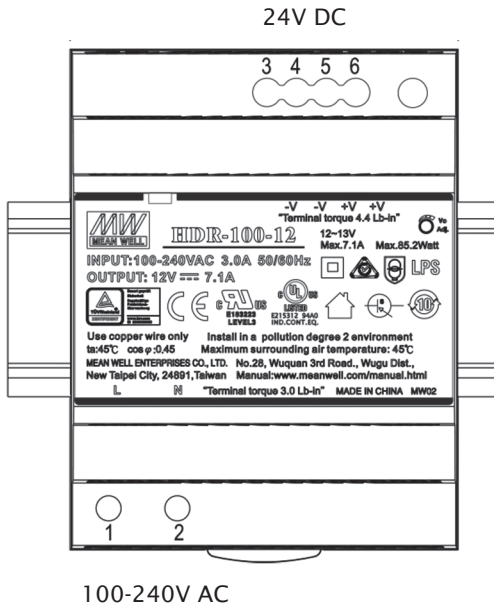
The power supply 11079 is a 24V/92W switching type universal power supply for DIN rail mounting.

The power supply has a CE Mark and UL approval and meets industrial EMC requirements, so that the power supply is also usable in worldwide industrial applications.

The power supply can power various W&T DIN rail devices from a central power source and covers a wide working temperature range of of -30..+70 °C.

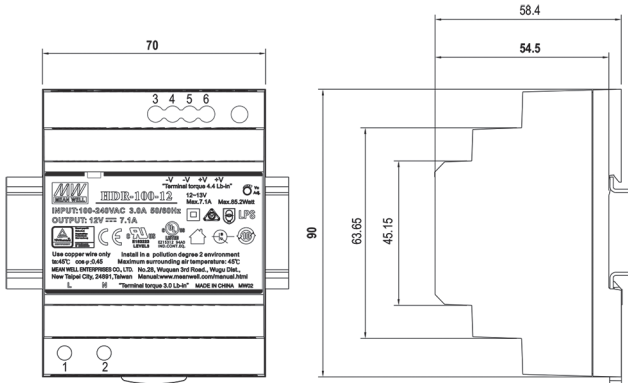
Connection

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 power supply 11079 can be seen in the following drawing:

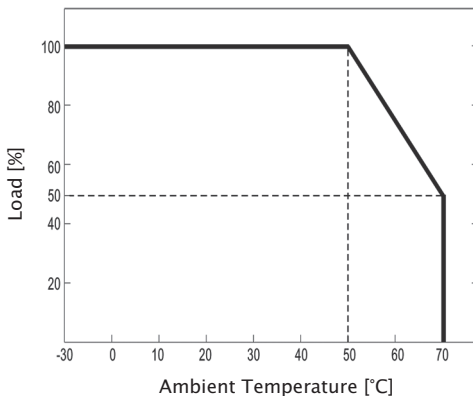


Derating

As with all switching power supplies, the power supply 11079 is subject to a reduction of the available power at elevated temperatures. Up to a temperature of 50°C a rated load of 92 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

Manufacturer:	MEAN WELL Enterprises Co., Ltd.
Model:	HDR-60-100
Output power:	max. 92W
Efficiency (typ):	90%
No load power:	< 0,3W
LPS property:	Yes
Input voltage:	85 .. 264VAC
Frequency:	47 .. 63 Hz
Input current:	1.6A at 230V AC
Inrush current:	max. 70A at 230V AC
Output voltage:	24V DC (adjustable 24 .. 25,5V)
Tolerance:	±1%
Ripple:	max. 0.15V peak-to-peak
Rated current:	3.83A
Minimum load:	none
Overcurrent protection:	102% .. 110% Irated
Short circuit protected:	Yes
Overvoltage protection:	Shutdown at 30 .. 36V, Reset via „power on“
Start time:	500ms at rated load and 230V AC
Rise time:	60ms at rated load and 230V AC
Hold time:	30ms at rated load and 230V AC
Over voltage category:	III
Operating Altitude:	2000m
Cooling:	Convection
Withstand voltage:	In-Out: 4KV AC
Leakage resistance:	In-Out: 100 MOhm @500VDC

Operating temperature:	-30 .. 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:	2-pole input, 4-pole output with screw terminals
MTBF:	856,500 hours (per MIL-HDBK 217F at 25°C)
Weight:	270 g
Dimensions:	70 x 90 x 54,5 mm
Approvals:	UL, c-UL, TÜV, CB, CE
Safety:	Meets UL 60950-1 / EN60950-1
EMC:	Meets EN 55032 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 EN 55024 EN 61204-3, EN 61000-6-2

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