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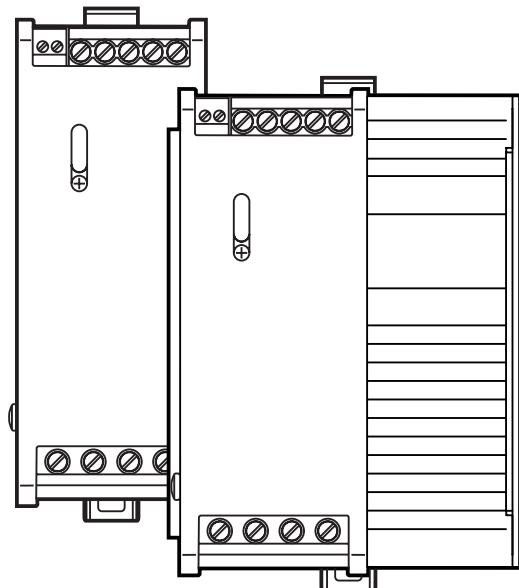
Installation instructions
AC/DC power supplies
single phase

UK

ecomat200[®]

**Power supply
DN301x**

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1 Preliminary note

1.1 Notes on this document



This document applies to devices of the type "power supply" (art. no.: DN301x). It is part of the device and contains information about the correct handling of the product.

This document is intended for qualified electricians. These specialists are people who are qualified by their training and their experience to see and to avoid possible hazards that may be caused during operation of the device.

- ▶ Read this document before using the device.
- ▶ Keep this document during the service life of the device.

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1.2 Symbols used

- ▶ Instructions
- > Reaction, result
- [...] Designation of pushbuttons, buttons or indications
- Cross-reference
-  Important note
Non-compliance can result in malfunction or interference.
-  Information
Supplementary note

1.3 Warning signs used

WARNING

Warning of serious personal injury.
Death or serious irreversible injuries may result.

CAUTION

Warning of personal injury.
Slight reversible injuries may result.

NOTE

Warning of damage to property.

2 Safety instructions

2.1 General

- ▶ Observe these operating instructions.
- ▶ Adhere to the warning notes on the product.

Non-observance of the instructions, operation which is not in accordance with use as prescribed below, wrong installation or incorrect handling can affect the safety of operators and machinery.

2.2 Installation and connection

The device must only be installed, connected and put into operation by a qualified electrician as the safe function of the device and machinery is only guaranteed when installation is correctly carried out.

The installation and connection must comply with the applicable national and international standards. Responsibility lies with the person installing the device.

2.3 Tampering with the device

Tampering with the device is not allowed and will lead to an exclusion of liability and warranty. Tampering with the device can affect the safety of operators and machinery.

- ▶ Do not open the device.
- ▶ Do not loosen or remove the screw connection on the housing.
- ▶ Do not insert any objects into the device.
- ▶ Prevent metal foreign bodies from penetrating.

3 Functions and features

- The device is used for the regulated 24VDC voltage supply of industrial controllers, sensors, actuators or measuring systems.
- It is intended for installation in a dry, closed environment (e.g. control cabinet).
- ▶ Observe the connection values and the permissible environmental conditions → device label or data sheet.

WARNING

Do not use the device in applications where a malfunction of the device presents a danger to people.

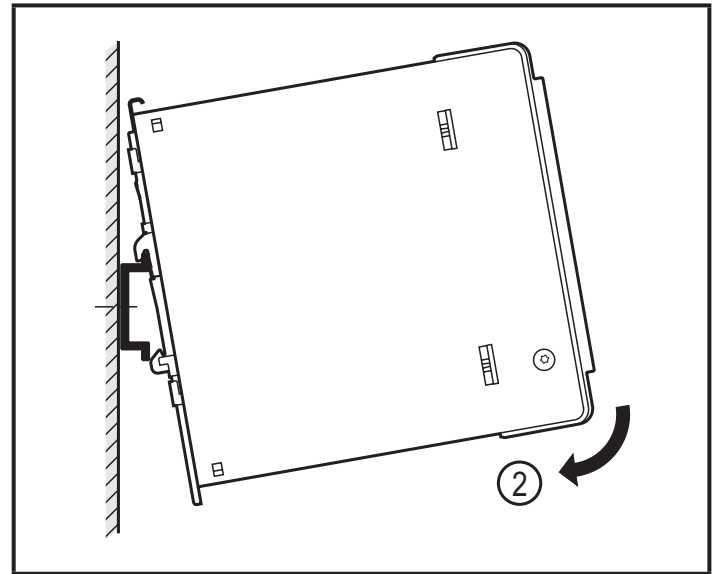
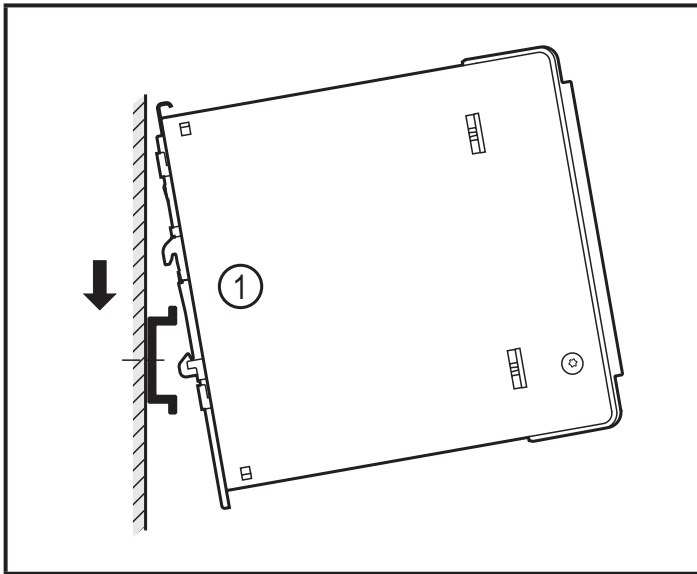
4.1 Installation position of the device

2: AC input voltage bottom

A: Free space for convection cooling

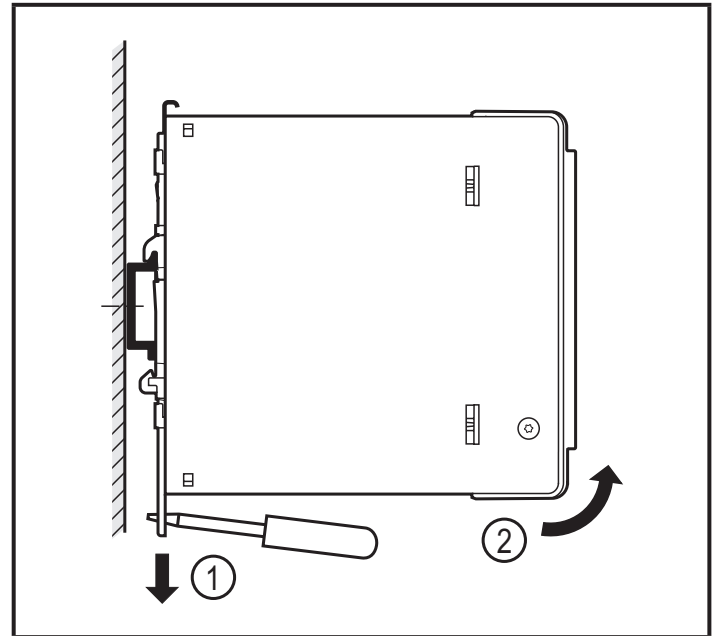
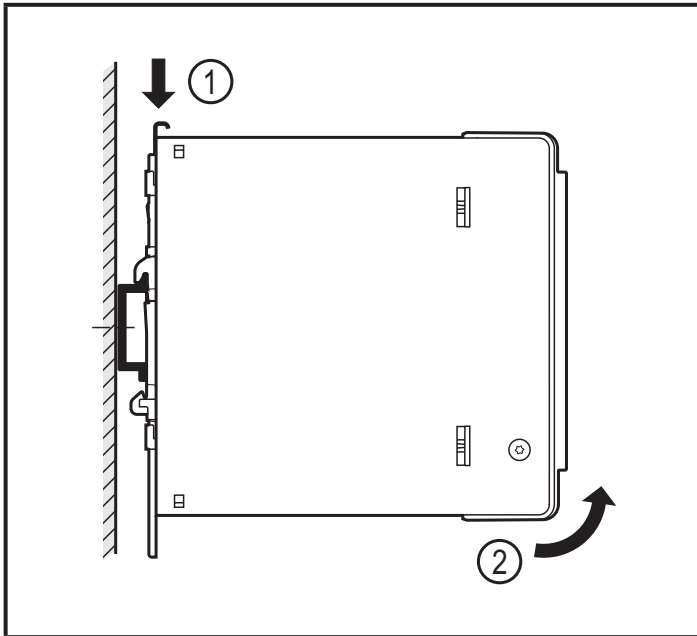
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4.2 Place device onto the DIN rail




1. Angle the device and hook it onto the upper edge of the DIN rail.
2. Push the device downwards and press to lock.
 - > The device audibly clips into place.

4.3 Remove the device



1. Press the locking clip downwards or alternatively use a screwdriver to pull it downwards.
2. Lift the device and remove it from the DIN rail.

5 Electrical connection

**WARNING**

Dangerous contact voltages. Electric shock possible in the case of contact.

- ▶ Disconnect the system from power before working with it.
- ▶ Protect the system against unintentional switch-on.
- ▶ Select the correct connection cables for the load and the environmental conditions.
- ▶ Use wire end ferrules for flexible connection wires.
- ▶ Connect the protective wire to the earth terminal.

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- ▶ Connect the device according to the wiring arrangement.
Do not connect cables to the terminals without marking.

Tightening torque: 0.5...0.6 Nm (for all terminals)

Wiring → device label or data sheet

5.1 Core cross sections

Terminals	Type of wire	Core cross-section	AWG
DC OK	massive	0.14...1.5 mm ²	26...16
	flexible	0.25...1.5 mm ² (with wire end ferrule)	–
AC	massive	0.2...6 mm ²	24...10
	flexible	0.25...4 mm ² (with wire end ferrule)	–
DC	massive	0.2...6 mm ²	24...10
	flexible	0.25...4 mm ² (with wire end ferrule)	–

5.2 DC OK output

The DC OK output is a volt-free relay output (normally open). It is used for switching signalling and control devices.

Connection values DC OK output → data sheet

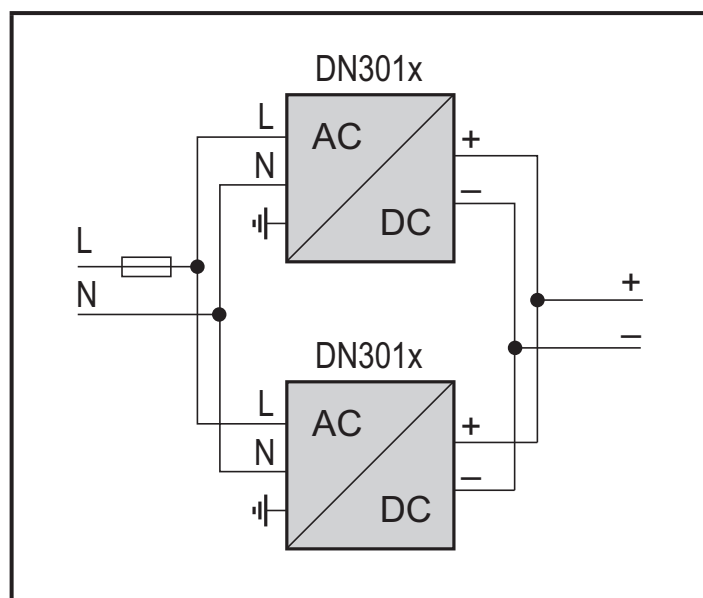
5.2.1 Switching characteristics

DC OK output	Operating mode	DC output voltage
Relay energised (NO closed)	normal operation	24...28 V
Relay de-energised (NC open)	overload	< 20 V
	short circuit	< 3 V
	overvoltage (external)	> 32 V
	AC input voltage missing	0 V
	internal device error	

5.3 External fuse

- Protect the AC input voltage by means of circuit-breakers (fuse rate → device label or data sheet).
- Observe the national regulations.

5.4 Parallel connection



Block diagram

! Connect maximum 2 units with the same article no. in parallel (e.g. 2 x DN3011 or 2 x DN3012).

! The DC output voltages of the devices have to be identical.

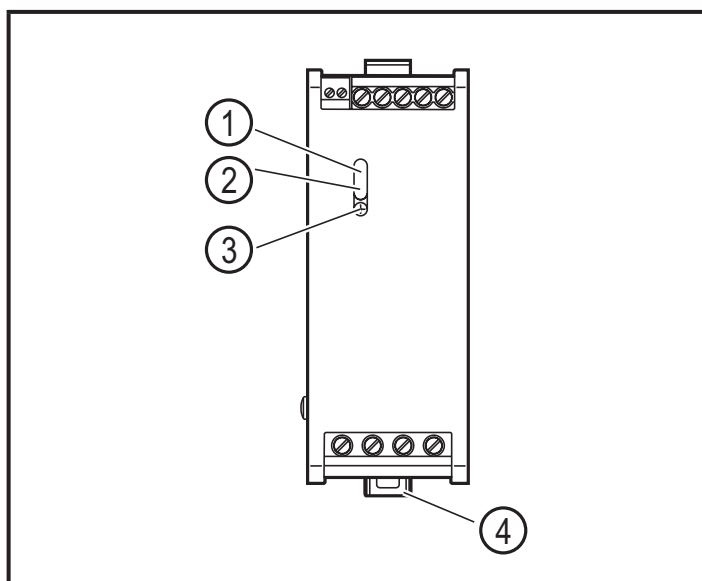
- Check the DC output voltage of the devices using a voltmeter and adapt it by means of the potentiometer (→ 6 Operating and display elements).

⚠ WARNING

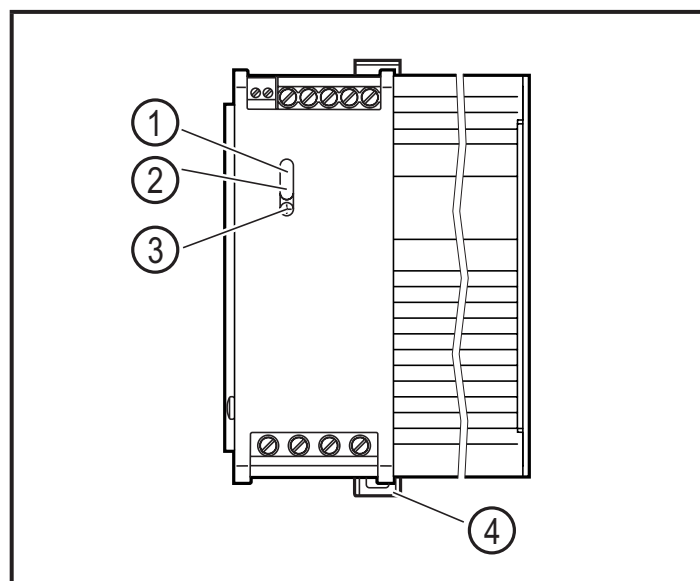
Caution during operation when switched on. Due to protection rating IP 20 contact with dangerous contact voltages is possible.

► The device must only be operated by a qualified electrician.

6 Operating and display elements



Device width 50 mm



Device width > 50 mm

- 1: LED DC OK (green)
- 2: LED DC ovl (red)
- 3: Potentiometer 24...28 V DC output voltage
- 4: Locking clip

6.1 LED state

DC OK (green)	DC ovl (red)	Operating mode	DC output voltage
On	off	normal operation	24...28 V
Off	on	overload	< 20 V
	off	short circuit	< 3 V
		overvoltage (external)	> 32 V
		AC input voltage missing	0 V
		internal device error	

7 Operation

CAUTION

Due to the internal heating there may be perceptible hot temperatures on the device surface. Can cause burns.

- ▶ Do not touch the device during operation or immediately after it has been switched off.

8 Technical data

8.1 Data sheets



Data sheets can be found at:

www.ifm.com → Data search direct: → DN301x

9 Maintenance, repair and disposal

The device is maintenance-free and does not contain any components that need to be maintained by the user.

WARNING

Tampering with the device can affect the safety of operators and machinery. The device must only be repaired by the manufacturer.

- ▶ Do not open the housing.
- ▶ In case of malfunction of the device or uncertainties contact the manufacturer.

- ▶ Dispose of the device in accordance with the national environmental regulations.

10 Approvals/standards

Test standards and provisions → data sheet.



The EC declaration of conformity and approvals can be found at:

www.ifm.com → Data sheet direct: → DN301x → Approvals