

ifm electronic



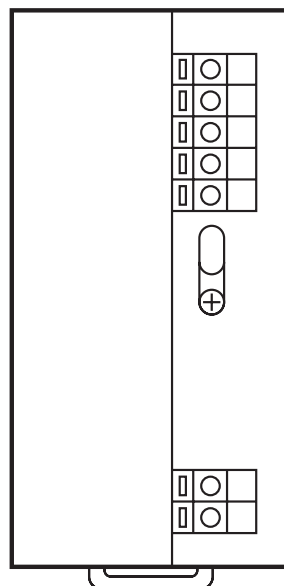
Installation instructions  
AC/DC power supplies  
single phase

UK

**ecomat200<sup>®</sup>**

**Power Supply  
DN1030  
DN1031**

7390798 / 00 08 / 2011



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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.: DN103x). 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 insert any objects into the device.
- ▶ Prevent metal foreign bodies from penetrating.

## 3 Functions and features

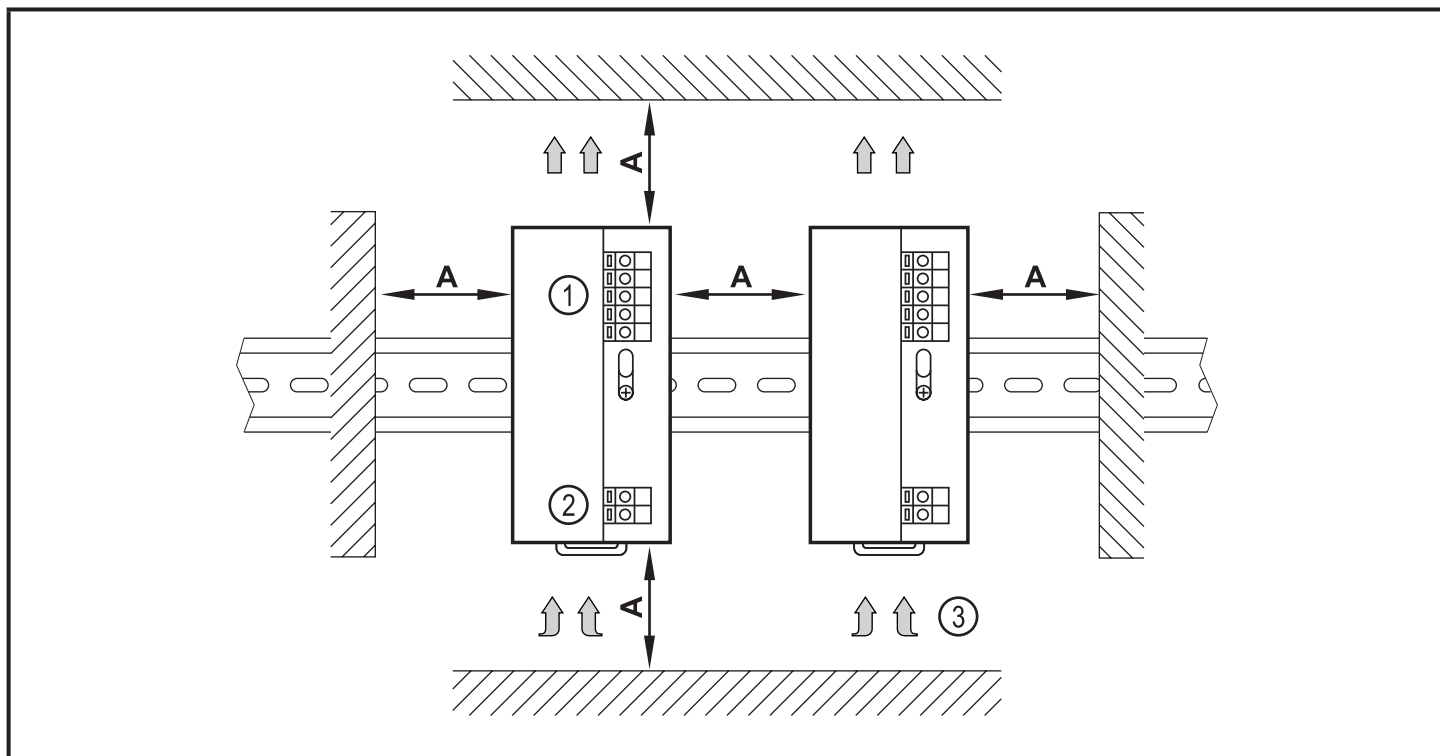
- The device is used for the regulated 24VDC voltage supply of industrial controllers, sensors, actuators or measuring systems.
- It is intended for installation in a dry, closed environment (e.g. control cabinet).
- ▶ Observe the connection values and the permissible environmental conditions → device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

### **WARNING**

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

## 4 Installation

### 4.1 Installation position of the device



1: DC output voltage top

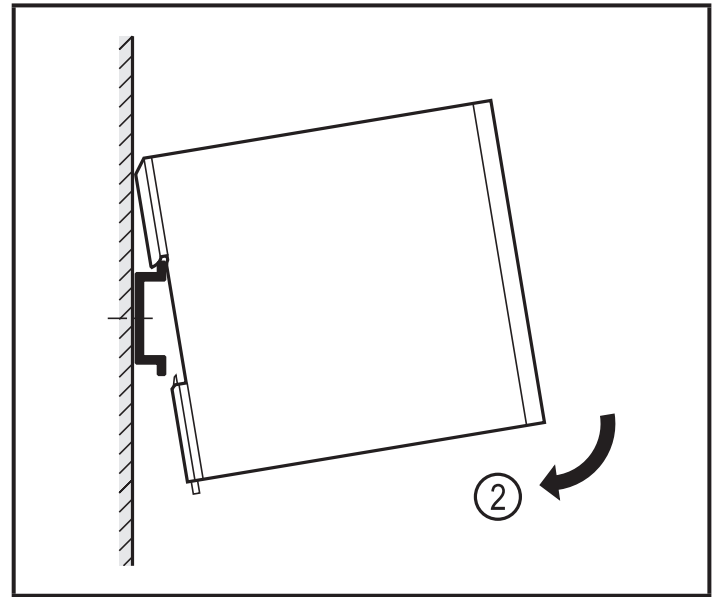
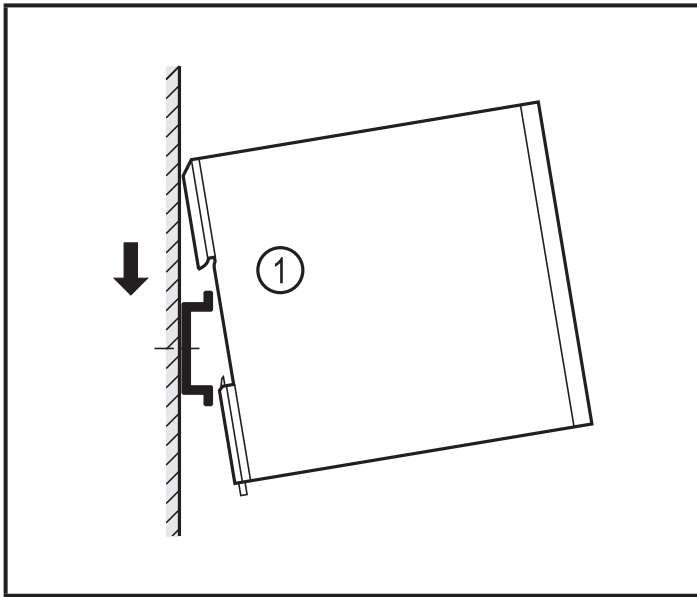
2: AC input voltage bottom

3: Convection cooling

A: Free space for convection cooling

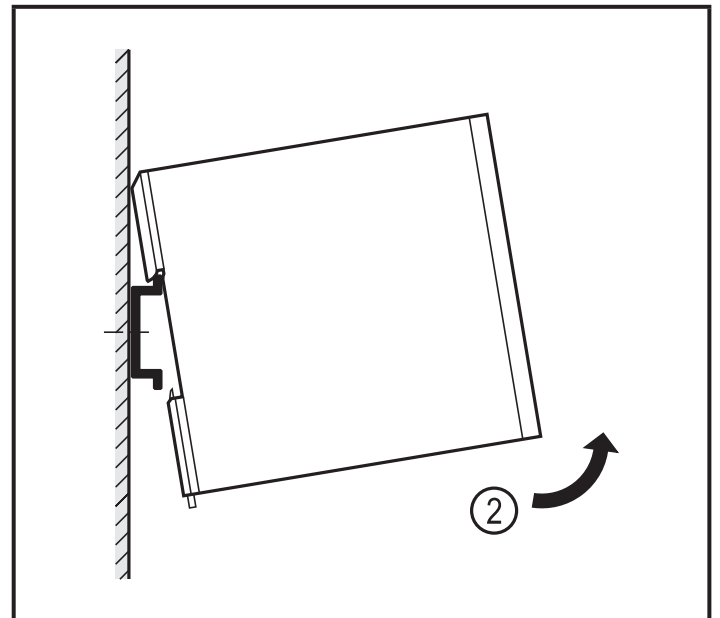
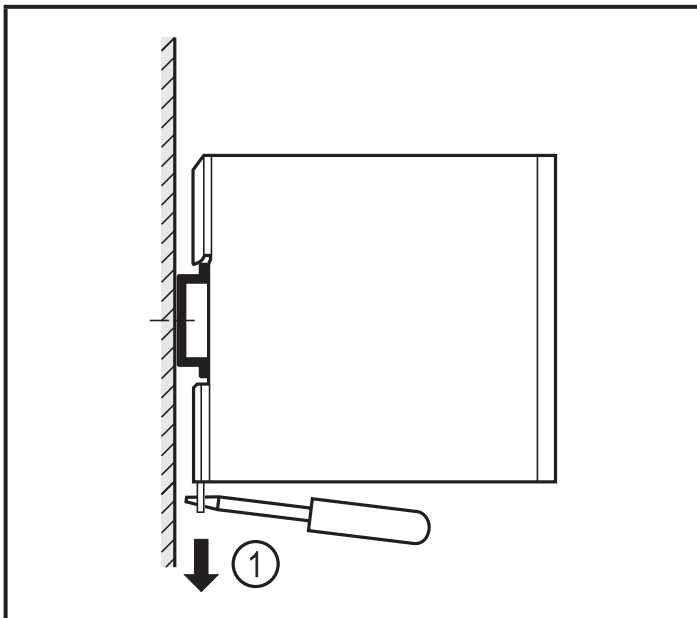
- Install the DIN rail for receiving the device horizontally.
- Keep to the clear space for convection cooling (→ data sheet).

## 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. Pull the locking clip downwards using a screwdriver.
2. Lift the device and remove it from the DIN rail.

## 5 Electrical connection

### **⚠ WARNING**

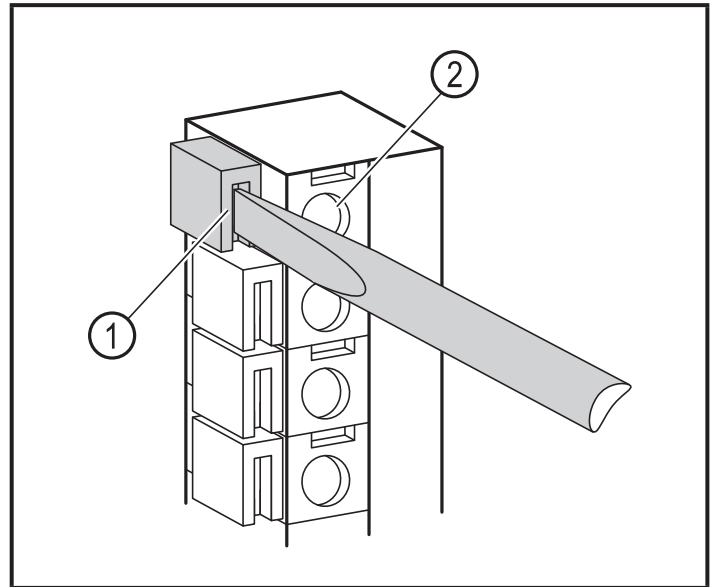
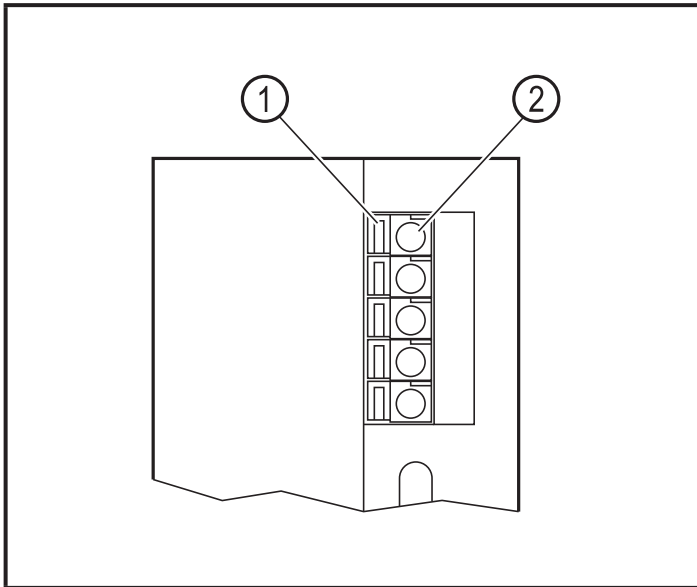
Dangerous contact voltages. Electric shock possible in the case of contact.

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

- ▶ Connect the device according to the wiring arrangement.

Wiring → device label or data sheet.

### 5.1 Using the spring terminals



1: Rectangular recess for locating the screwdriver

Blade width: max. 3 mm

2: Terminal opening

- ▶ Push the screwdriver gently into the rectangular recess (1).
  - > The spring terminal is opened by the pressure.
- ▶ Insert the wire into the round terminal opening (2).
- ▶ Remove the screwdriver.
  - > The spring terminal is closed. The wire is tightly clamped.

## 5.2 Core cross sections

Type of wire	Max. core cross-section	AWG
massive	1.5 mm <sup>2</sup>	16
flexible	1.5 mm <sup>2</sup> (with wire end ferrule)	–

## 5.3 DC OK output

The DC OK output is a semiconductor output. It is used for switching signalling and control devices.

Connection values DC OK output → data sheet

### 5.3.1 Switching characteristics

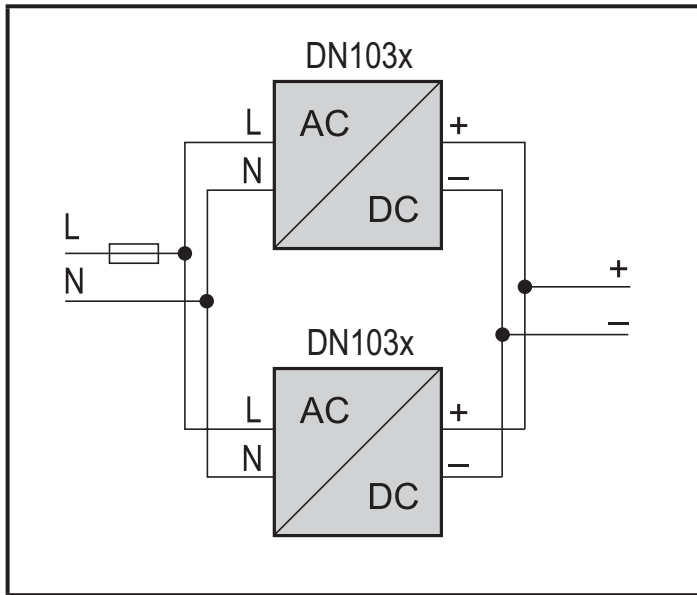
DC OK output	Operating mode	DC output voltage
switched (conducting)	normal operation	> 20 V
open (not conducting)	overload	< 20 V
	short circuit	
	overvoltage (external)	
	AC input voltage missing	
	internal device error	





## 5.4 External fuse

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

## 5.5 Parallel connection



Block diagram

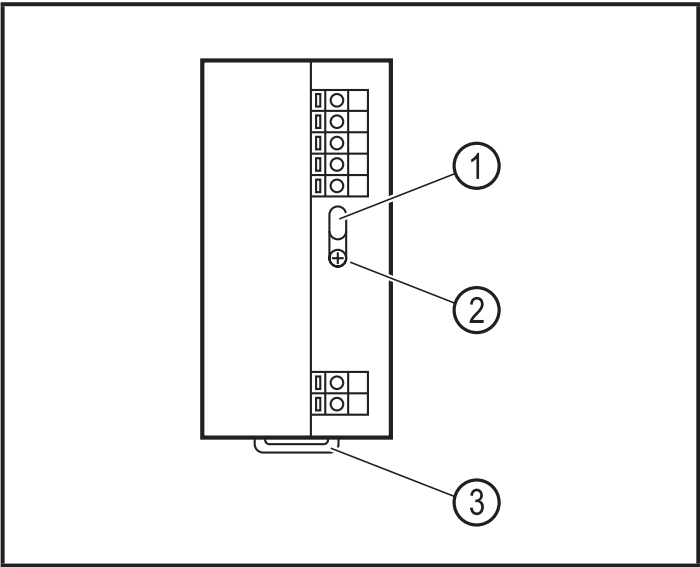
-  Connect maximum 2 units with the same article no. in parallel (e.g. 2 x DN1030 or 2 x DN1031).
-  The DC output voltages of the devices have to be identical.
- ▶ Check the DC output voltage of the devices using a voltmeter and adapt it by means of the potentiometer (→ 6 Operating and display elements).

### 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




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

## 6.1 LED states

DC OK (green)	Operating mode	DC output voltage
On	normal operation	> 20 V
Off	overload	< 20 V
	short circuit	
	overvoltage (external)	
	AC input voltage missing	
	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](http://www.ifm.com) → Data search direct: → DN103x

## 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](http://www.ifm.com) → Data sheet direct: → DN103x → Approvals