



MANUAL

RAIN DETECTOR

ID 00.15152.200002

Safety Instructions

- Before operating with or at the device/product, read through the operating instructions. This manual contains instructions which should be followed on mounting, start-up, and operation. A non-observance might cause:
 - failure of important functions
 - endangerment of persons by electrical or mechanical effect
 - damage to objects.
- Mounting, electrical connection and wiring of the device/product must be carried out only by a qualified technician who is familiar with and observes the engineering regulations, provisions, and standards applicable in each case.
- Repairs and maintenance may only be carried out by trained staff or by the manufacturer. Only components and spare parts supplied and/or recommended by the manufacturer should be used for repairs.
- Electrical devices/products must be mounted and wired only in a voltage-free state.
- The manufacturer guarantees proper functioning of the device/products provided that no modifications have been made to the mechanics, electronics, or software, and that the following points are observed:
- All information, warnings and instructions for use included in these operating instructions must be considered and observed as this is essential to ensure trouble-free operation and a safe condition of the measuring system / device / product.
- The device / product is designed for a specific application as described in these operating instructions.
- The device / product should be operated with the accessories and consumables supplied and/or recommended by the manufacturer.
- Recommendation: As it is possible that each measuring system / device / product may, under certain conditions, and in rare cases, may also output erroneous measuring values, it is recommended using redundant systems with plausibility checks for **security-relevant applications**.

Environment

- As a longstanding manufacturer of sensors LAMBRECHT meteo GmbH is committed to the objectives of environmental protection and is therefore willing to take back all supplied products governed by the provisions of "*ElektroG*" (German Electrical and Electronic Equipment Act) and to perform environmentally compatible disposal and recycling. We are prepared to take back all LAMBRECHT meteo products concerned free of charge if returned to Lambrecht meteo by our customers carriage paid.
- Make sure you retain packaging for storage or transport of products. Should packaging however no longer be required, please arrange for recycling as the packaging materials are designed to be recycled.



Documentation

- Although these operating instructions have been drawn up with due care, **LAMBRECHT meteo GmbH** can accept no liability whatsoever for any technical and typographical errors or omissions in this document that might remain.
- We can accept no liability whatsoever for any losses arising from the information contained in this document.
- Subject to modification in terms of content.
- The device / product should not be passed on without the/these operating instructions.

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1 Scope of Supply

- Rain detector
- Fixing kit
- Manual

2 Application

The rain detector is designed to act as a sensor detecting the start and end of precipitation. It is used as a status indicator or sensor for controlling downstream safety devices (control units) protecting windows, ventilation flaps, sunblinds, awnings, etc. The sensor area takes the form of a capacitor on glass-coated ceramic. Glass passivation ensures that the rain detector is extremely environment-resistant as well as robust while offering good long-term stability and resistance to aggressive media.

3 Setup and Mode of Operation

Whenever precipitation strikes the rain detector and wets the sensor surface, this changes the capacitance of the surface, so triggering a switching signal, i.e. wetting of the sensor surface signals the precipitation status "yes".

To protect the sensor surface from bedewing and icing-up, it is heated to an overtemperature of approx. 2K.

When the sensor surface is wetted, it is adjusted to approx. 10K above the ambient temperature, so ensuring fast faster drying. Once it has dried, the device switches to the precipitation status "no".

Definition for precipitation status / output:

Precipitation "yes"	= contact 3-4 open
Precipitation "no"	= contact 3-4 closed
Power failure (sensor "off")	= contact 3-4 open

- In case of interrupted or missing operating voltage (sensor "off") precipitation "yes" is signaled; thus, even in this state the object to be protected is safeguarded.

4 Installation

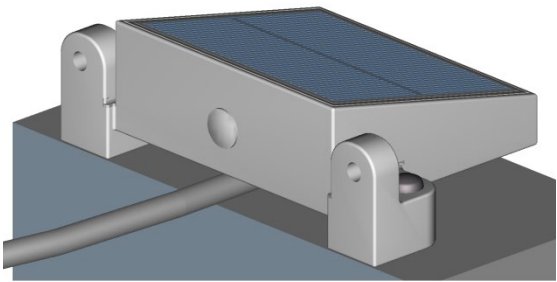
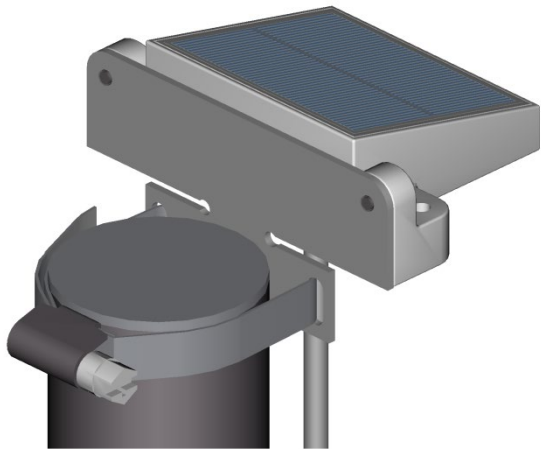
Please Note:

The electrical connection is to be carried out by experts only.

4.1 Mechanical Mounting

The device should be installed at a location that will result in representative readings and protected from the wind as far as possible. During installation make sure that precipitation can strike the sensor surface unimpeded.

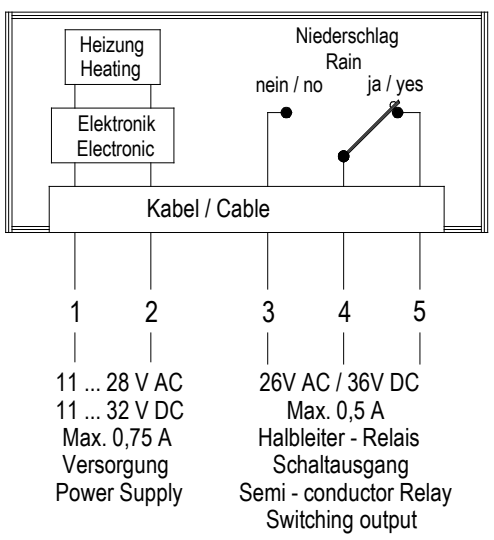
For dimensions, see section 8.

<p>Instrument without fixing kit</p> <p>Mounting is possible at an even vertical or horizontal surface.</p>	
<p>Instrument with fixing kit</p> <p>Mounting can be carried out at the end of a mast tube (Ø 35-50mm).</p>	

4.2 Electrical Mounting

Either AC or DC can be used as the power supply, with protection from polarity reversal. The output is an isolated electronic relay. A non-detachable cable is used for connection: see connecting diagram, **section 4.2.1**.

4.2.1 Pin Assignment and Precipitation Status

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	Supply	Output	Output
	1-2	Contact 3-4	Contact 4-5
Sensor surface wet	on	open	closed
Sensor surface dry	on	closed	open
Sensor surface wet or dry	off	open	closed
Figure state: - instrument power-off or - sensor surface wet			
			

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PIN ID	Core Color	Signal
1	White	+ 24 V AC/DC Supply
2	Brown	+ 24 V AC/DC Supply
3	Green	
4	Yellow	
5	Grey	

5 Taking into Operation

The operating voltage can be switched on once the electrical connection has been made.

6 Maintenance

The device is maintenance free.

Cleaning:

Depending on the installation location and the associated type/degree of soiling occurring there, we recommend checking the sensor surface of the device at suitable intervals and cleaning it as required. For cleaning a damp cloth without chemical cleaning agents should be used.

7 Specifications

Measuring value	Precipitation (yes / no)
Signal output	Semiconductor relay, Potential-free / electrically isolated / metallically separated
Relay switch voltage	Max. 26 VAC / 36 VDC; max. 0.5 A (cos φ > 0.9); 0.2 A (cos φ = 0.4)
Switch-on delay	< 0.5 s Signal output 15 s Heating
Operating voltage	11...28 VAC or 11...32 VDC (max. 0.75A) Protected against polarity reversal
Current consumption	Heating off: < 12 mA
	Heating on: Max. 0.35 A (@ 11...12 VAC operating voltage). Max. 0.75 A (@ 12...27 VAC operating voltage). Max. 0.3 A (@ 27...32 VAC operating voltage).
Sensor area	18 cm ²
Sensitivity	Approx. 0.2 mm/h
Ambient temperature	-30...+60 °C
Protection	IP 66 acc. to DIN 40050
Dimension	See dimensional drawing
Weight	160 g with fixing kit 100 g without fixing kit
Material	Housing: Polycarbonate (PC), UV-stabilised, white (RAL 9010) Sensor: Ceramic (aluminum oxide AL ₂ O ₃), glass-coated Fixing kit: Stainless steel 1.4301.
Connection	Cable, non-detachable, type: LiYY 5 x 0.14mm ² , length 3 m

8 Dimensional Drawing

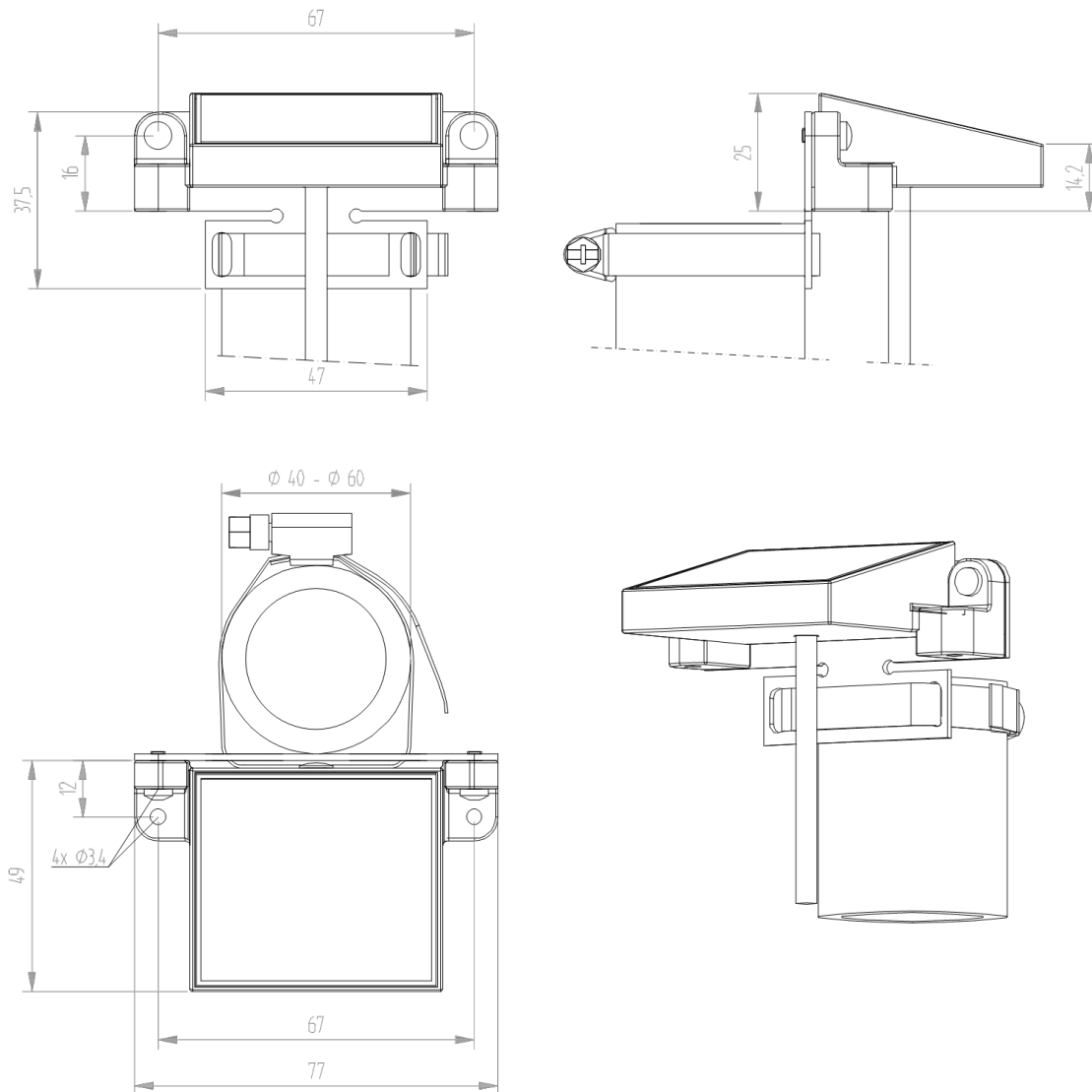


Figure 1: Rain detector with fixing kit

Subject to change without notice.

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LAMBRECHT meteo GmbH
Friedländer Weg 65-67
37085 Goettingen
Germany

Tel +49-(0)551-4958-0
Fax +49-(0)551-4958-312
E-Mail info@lambrecht.net
Internet www.lambrecht.net

