

General information

The general terms and conditions of delivery for products and services of the electrical industry (ZVEI conditions) plus the supplementary clause "extended retention of title" apply exclusively. The following points must also be observed:

- Before installation and commissioning, these instructions must be read and all instructions given in them must be observed!
- The devices may only be connected to safety extra-low voltage. In order to prevent damage and errors on the device (e.g. due to voltage induction), shielded cables must be used, parallel laying to live cables must be avoided and the EMC guidelines must be observed.
- This device is only to be used for the specified purpose; the relevant safety regulations of the VDE, the countries, their supervisory bodies, the TÜV and the local EVU must be observed. The buyer must ensure compliance with the building and security regulations and avoid all kinds of hazards.
- No guarantees or liability are accepted for defects or damage caused by improper use of this device.
- Consequential damage caused by faults in this device is excluded from the guarantee and liability.
- The devices may only be installed by qualified personnel.
- Only the technical data and connection conditions of the assembly and operating instructions supplied with the device apply; deviations from the catalog presentation are not listed additionally and are possible in terms of technical progress and continuous improvement of our products.
- If the device is changed by the user, all warranty claims are void.
- This device must not be used in the vicinity of heat sources (e.g. radiators) or their heat flow, direct sunlight or heat radiation from similar sources (strong lights, halogen spotlights) must be avoided.
- Operation in the vicinity of devices that do not comply with the EMC guidelines can affect the functionality.
- This device must not be used for monitoring purposes, which serve exclusively to protect people against danger or injury, and must not be used as an emergency stop switch on systems and machines or comparable safety-related tasks.
- The housing and housing accessory dimensions may have small tolerances compared to the information in these instructions.
- Changes to these documents are not permitted.
- Complaints will only be accepted in their original packaging.

Notes on the products

- This device may only be used in pollutant-free, non-condensing air without overpressure or under pressure on the sensor element.
- If the sintered filter is contaminated, it can be unscrewed and cleaned. If the sensor element is contaminated, we recommend cleaning and recalibrating it at the factory.
- Applying an overvoltage or operating voltage to the output destroys the device.
- The relative humidity of 0 ... 100% is represented by the output signal 4 ... 20mA. The working range of the device comprises 10 ... 95% relative humidity, outside this range there are incorrect measurements or higher deviations.
- The installation position of the device must be observed, this ensures the flow through.
- The device must not be installed with the sensors (filter cap) facing up.
- If the device is operated outside the specification range, all guarantee claims are void.
- *1 plug connector system 12-04BFFA m/f including
- *1 electronics encapsulation

User Manual

Humidity Transducer

With Current Output (real 2-wire transmitter)

RAF-BL-I-PK101

Humidity and Temperature Transducer

With Current Output (real 2-wire transmitter)

RAFT/A-I-PK101

Application:

This device is used to measure the relative humidity (RAF-BL-I) or to measure the relative humidity and the temperature of the ambient air (RAFT/A-I) and converts these measurement signals into standard signals 4 ... 20mA. The device is designed for measurements in pollutant-free, non-condensing air.

Areas of application are for example:

- Medical Technology
- Refrigeration
- Control Technology
- Air conditioning and clean room technology

The humidity sensor is characterized by high accuracy, long-term stability, moisture resistance and small hysteresis. Before installation and commissioning, these instructions must be read and all instructions given in them must be observed!



RAF-BL-I-PK101 + RAFT/A-I-PK101



*1

RAF-BL-I-ALU-PK101 + RAFT/A-I-ALU-PK101



*1

Technical Data:

Supply Voltage: 15...36V DC ($U_{b_{min}} = 15 \text{ V } R_{load} \cdot 0.02A$)
Output rel. Humidity: 4...20mA according to 0...100%
Output Temperature: 4...20mA according to -20...80°C
Current Consumption: max. 22mA (RAF), max. 44mA (RAFT)

Sensor, Measuring Range,


Sensor Element Temperature: integrated Temperature Sensor
Measuring Range Temperature: -20°C...80°C
Sensor Element Humidity: Capacitive Sensor
Measuring Range rel. Humidity: 0% ...100%
Long Term Stability: +/- 1.0% / Year

Connecting Conditions

Ambient Temperature: Working -20°C ... 80°C
Range, r.H.: 10% ... 95% r.H.
Storage Temperature: Running -20°C ... +50°C
in Time: < 10 Minutes
 t_{90} : < 30 Seconds

Miscellaneous

Sensor Protection: Sintered Filter
Housing RAF[...]PK101: Polyamide Housing white, similar RAL 9010
Housing RAF[...]ALU-PK101: die-cast aluminium Housing silver grey, similar RAL 9007
Protection Class: IP 65 (only Housing), Sensor IP30
In Scope of Delivery: User Manual, Device, plug connector

Device Type	RAF-BL-I-PK101	RAFT/A-I-PK101	*1
Measuring Range rel. Humidity	0...100%	0...100%	
Deviation relative Humidity	+/-3% r.H. (*1)	+/-3% r.H. (*1)	
Output relative Humidity	4...20mA	4...20mA	
Measuring Range Temperature	-	-20...80°C	
Deviation Temperature	-	+/- 0,5K (*2)	
Output Temperature	-	4...20mA	
Sintered Filter	Stainless Steel P	Stainless Steel P	
Electrical Connection:	No connector	IP68 Connector 12-04BFFA, incl. plug connector *1)	

*1) in Range of 30%...70% r.H. and +20°C, otherwise +/-5% at 20°C *2) at +20°C

Memo:

