domat
control system

RFTF Room temperature and humidity sensor

Summary

The RFTF is a room temperature and relative humidity sensor for universal use in the HVAC sector.

Application

- **HVAC systems – room temperature and humidity measuring**

Function

The sensor measures temperature and relative humidity of air and other non-aggressive gases. It is used in refrigeration, air conditioning and clean room technology as well as in residential and public buildings. The temperature sensor has a range of 0 to +50 °C.

The sensors are intended for operating in a normal and chemically non-aggressive environment. They do not need any servicing or maintenance and can be mounted in any position. For humidity, capacitive sensing element is used.

The sensors are mounted with 2 or 4 screws on a flush-mounted junction box with 55 mm in diameter.

Technical data

Power supply	24 V AC +/- 20%, 15…36 V DC +/- 10% for U
	15…36 V DC +/- 10% for I
Output	0…10 V or 4…20 mA
Operating range:	
temperature	0 …+50 °C
humidity	0…95% rH
Protection type	IP30 (according to EN 60529)
Protection class	III (according to EN 60730)
Deviation	$\pm$3% rH (20…80% at 20°C), otherwise $\pm$5%
	$\pm$0,8 K at 20°C
Terminals	screw terminals for wires 0,14 – 1,5 mm^2
Cover	ABS, RAL9010, optional stainless steel

Long-term stability	±1% per year
Dimensions	see below

Sensor types

Type	Output rH	Output t
RFTF-I	4...20 mA	4...20 mA
RFTF-U	0...10 V	0...10 V
RFTF-U, Pt100	0...10 V	0...10 V + Pt100
RFTF-U, Pt1000	0...10 V	0...10 V + Pt1000
RFTF-U, Ni1000-6150	0...10 V	0...10 V + Ni1000-6150
RFTF-U, Ni1000-5000	0...10 V	0...10 V + Ni1000-5000
RFTF-U, NTC 1,8k	0...10 V	0...10 V + NTC 1.8k Ohm

Terminals

RFTF-U
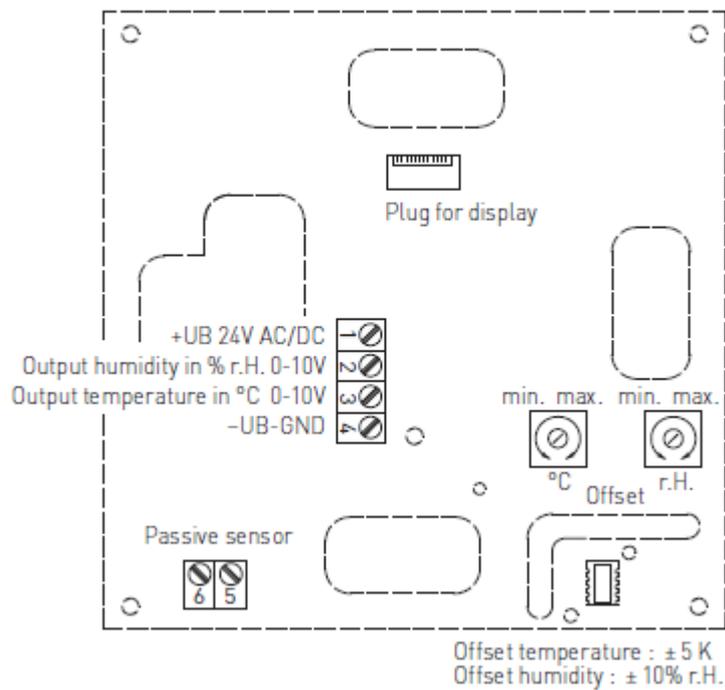
	RFTF-U		**RFTF-I**
1	+UB 24V AC/DC	**1**	+UB 24 V DC
2	Output humidity in % r.H. 0...10V	**2**	Output humidity in % r.H. 4...20 mA
3	Output temperature in °C 0...10V	**3**	Output temperature in °C 4...20 mA
4	-UB-GND	**4**	-UB-GND (optional for backlighting)

05/2016 Subject to technical changes.   domat RFTF

	RFTF-U **(passive temperature sensor)**		**RFTF-I** **(passive temperature sensor)**
1	+UB 24V AC/DC	**1**	+UB 24 V DC
2	Output humidity in % r.H. 0…10V	**2**	Output humidity in % r.H. 4…20 mA
3	Output temperature in °C 0…10V	**3**	Output temperature in °C 4…20 mA
4	-UB-GND	**4**	-UB-GND (optional for backlighting)
5	Passive element	**5**	Passive element
6	e.g. Pt1000, Ni1000 …	**6**	e.g. Pt1000, Ni1000 …

Dimensions
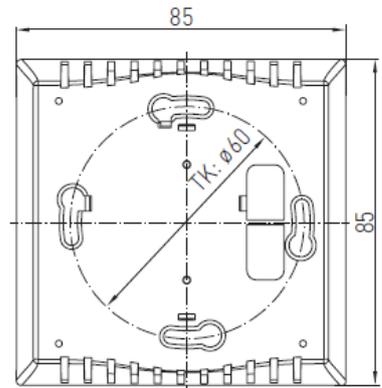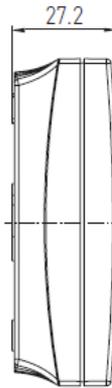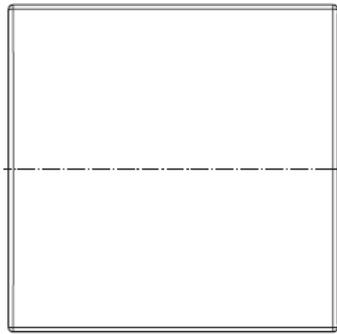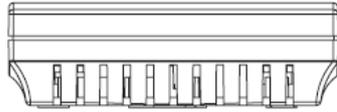
Dimensions are in *mm*.

Changes in versions

05/2016 — New housing design version.