

**AFF-...
AFTF-...**

Room humidity and temperature sensor



Summary

The AFF-... and AFTF-... are room relative humidity and temperature sensors for universal use in the HVAC applications.

Application

- HVAC systems – room temperature and humidity measuring, industrial spaces, storage rooms and rooms with increased demands on mechanical sustainability of the sensors

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 and humidity sensor signals are converted into active signals 0...10 V or 4...20 mA. Relative humidity is measured by a capacitive sensor. The sensor is protected by a exchangeable diaphragm filter.

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.

The sensors are fixed to the wall or any flat surface by screws. Holes are reachable after removing the cover.

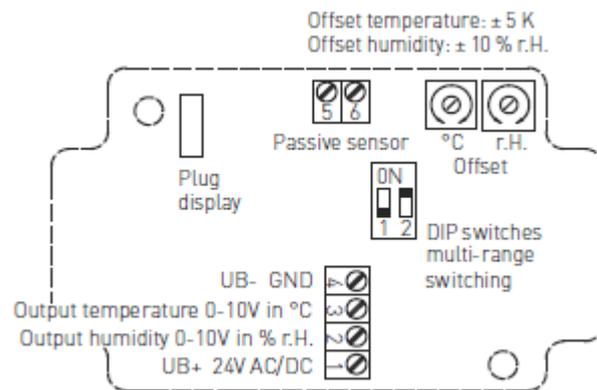
Technical data

Power	24 V AC ($\pm 20\%$) and 15...36 V DC ($\pm 10\%$) for -U (voltage output 0...10 V) 15...36 V DC ($\pm 10\%$) for -I (current output 4...20 mA)
Operating range:	
- temperature	-35 ...+80 °C
- humidity	0...95% rH
Measuring range:	
- temperature	-35 ...+35 °C; -35 ...+75 °C; 0 ...+50 °C; 0 ...+80 °C (see table below)
- humidity	0...100% rH

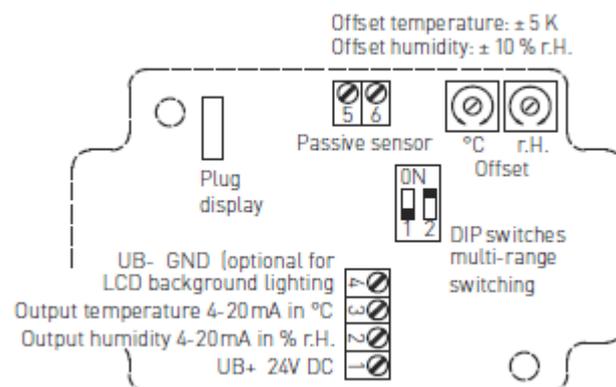
Deviation	$\pm 3\%$ rH (20...80 % at 20°C), otherwise $\pm 5\%$ ± 0.8 K at 20 °C (depending on installation conditions)
Long-term stability	$\pm 1\%$ per year
Storage and transport temperature	-25...+50 °C
Operating temperature	-5...+55 °C
Protecting tube	stainless steel, \varnothing 16 x 45 mm
Protection class	III (according to EN 60730)
Protection degree	IP 65 (according to EN 60529)
Terminals	screw terminals for wires 0,14 – 1,5 mm ²
Cover	polyamid reinforced with 30 % glass fiber, colour similar to RAL9010
Dimensions	see below

Terminals

AFTF-U



AFTF-I



AFF-U

- 1 +UB 24V AC/DC
- 2 Output humidity in % r.H. 0...10V
- 3 Free
- 4 -UB-GND

AFF-I

- 1 +UB 24 V DC
- 2 Output humidity in % r.H. 4...20 mA
- 3 Free
- 4 -UB-GND (optional for backlighting)

- AFTF-U**
- 1 +UB 24V AC/DC
 - 2 Output humidity in % r.H. 0...10V
 - 3 Output temperature in °C 0...10V
 - 4 -UB-GND

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

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

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

Temperature measuring ranges (adjustable)	DIP 1	DIP 2
-35 ... +75 °C	ON	ON
-35 ... +35 °C	OFF	OFF
0 ... +50 °C (default)	OFF	ON
0 ... +80 °C	ON	OFF

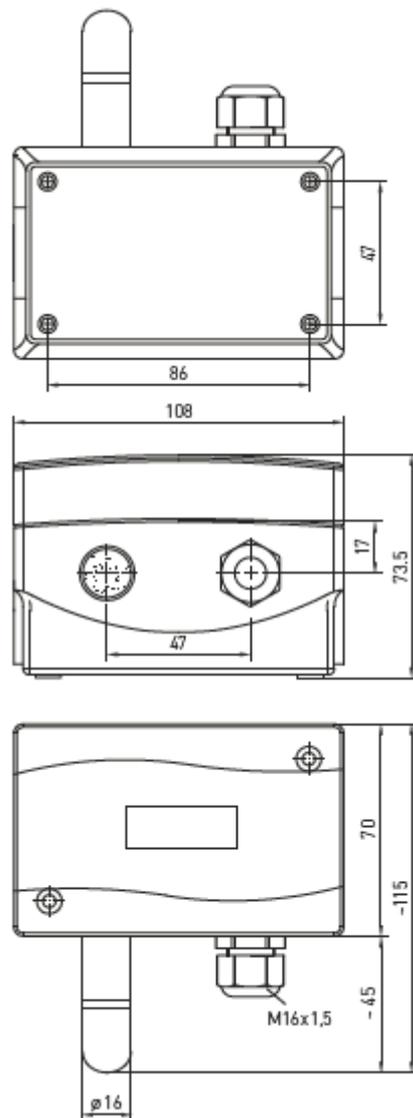
Type table

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

Optional with display.

Dimensions

All dimensions in mm.



8/2013 Subject to technical changes.