

# HYGROFLEX3



## THE FLEXIBLE TRANSMITTER.

INTRODUCING AIRCHIP DIGITAL TECHNOLOGY.

### INNOVATION IN HUMIDITY AND TEMPERATURE MEASUREMENT

- Relative humidity, temperature and dew point measurement
- Outstanding accuracy and repeatability
- Hygromer® IN-1 humidity sensor
- Auto-diagnostics and automatic correction
- Freely selectable and scalable analog outputs
- Also available as hygostat and thermostat



**rotronic**  
LEADING IN HUMIDITY MEASUREMENT

# HYGROFLEX3-SERIES

## SPECIFY THE BEST: HYGROFLEX3 ADVANTAGES AT A GLANCE.

The new HygroFlex3-series is the latest development in HVAC transmitters for relative humidity, temperature and dew point. Based on AirChip3000 technology, the instruments achieve a degree of accuracy not seen before.

In combination with advances in sensor technology and integration, the HygroFlex3-series provides superb precision and state-of-the-art functionality, taking humidity, temperature and dew point measurements to a whole new level of performance and reliability ( $< 2\% \text{ rh} / 0.3 \text{ K}$ ).

### High flexibility

- Two freely selectable and scalable analog outputs
- Analog outputs assignable to relative humidity, temperature or dew point
- 2-wire or 3/4-wire systems available
- Two integrated relay contacts available as options to convert the transmitters to thermostats/hygrostats



TECHNOLOGY

### AirChip3000

- Compensates humidity and temperature over 30,000 reference points
- 2,000 data point memory
- Dew/frost point calculation
- Sensor auto-diagnostics and automatic correction
- Active alarming and information
- ASIC (Application Specific Integrated Circuit), micro-controller and EEPROM on one chip

### Fast response and precision measurement

- By decoupling the Pt100 temperature sensor from the probe, thermal response is significantly improved
- Use of Pt100 1/3 Class B sensors for maximum accuracy



## APPLICATIONS.

The HygroFlex3-series is ideal for all applications where exact measurement of humidity and temperature is of decisive importance. The transmitters can be used in a variety of fields for heating, ventilation and air conditioning applications, greenhouses, museums, warehouses, libraries, railway stations and for climate control in office buildings.

Thanks to the high long-term stability of the sensors and auto-diagnostics, the transmitters are both service-friendly and reliable and will save you time and money.



**HF3 duct version**

For use in ventilation shafts



**HF3 wall version**

For use in technical equipment rooms



**HF3 space version**

For use in offices and rooms where good looks play a role

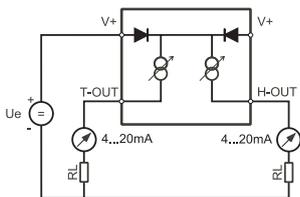
## OUTPUTS OF THE HYGROFLEX3-SERIES.

The high flexibility of the HygroFlex3-series allows the user to select the analog outputs freely.

All you need to do is enter the type of output signal (0...1V, 0...5V, 0...20V, 0...20 mA, 4...20mA) and the scale by software. For the option with relay outputs it is possible to set the switch actuation points for relative humidity and temperature easily using a potentiometer.

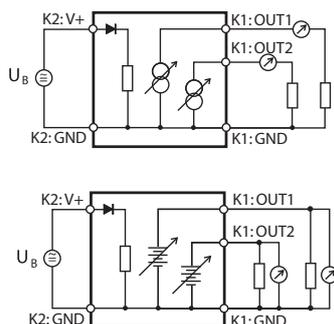
### HF32-series

2-wire technology



### HF33-series

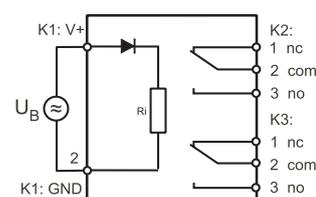
3/4-wire technology



### HF34-series

2 relay outputs

(not possible for the room version)



## TECHNICAL INFORMATION.

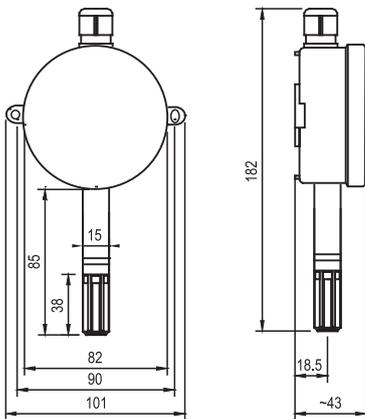
### Sensor Diagnostics.

The intelligence of AirChip3000 technology enables advanced sensor diagnostics. Should the sensors deviate from factory defined parameters, measurement values can be compensated automatically and a digital alarm triggered.

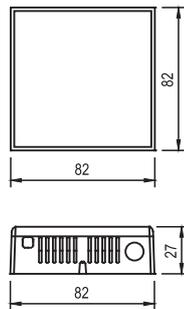
### Data Logging and Alarm Generation.

Up to 2,000 measurement values can be stored in the HygroClip2 probe; the user is able to configure the measurement interval, set alarm limits, scale the output signal and download data using optional ROTRONIC HW4 software. The HygroClip2 probe can be programmed with set limits to generate an alarm which is available when the probe is communicating with a PC or compatible ROTRONIC device. Thus, the HygroClip2 can be integrated in any application.

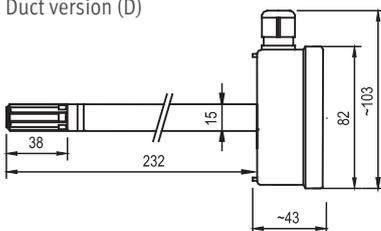
Wall version (W)



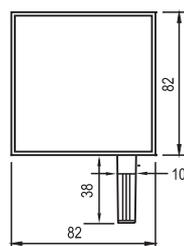
Space version (S)



Duct version (D)



Space version (R)



	HF32 2-wires	HF33 3/4-wires	HF34 Hygro-/Thermostat
Integrated sensors	Yes		
Humidity sensor	ROTRONIC Hygromer® IN-1		
Temperature sensor	Pt100 1/3 Class B		
Accuracy at 23 ±5 °C	±2.0 %rh / 0.3 K (±1.0 %rh / 0.2 K Type R)		
Resolution AirChip3000	<0.02 %rh / 0.01 K		
Long-term stability humidity sensor	<1 %rh / year		
Response time τ 63	<10 s		
Measurement range	-40...60 °C / 0...100 %rh		
Electronics operating range	-40...60 °C / 0...100 %rh (-10...60 °C with LCD)		
Display (option room version) (HF32S: not illuminated)	Graphic LCD Parameters freely configurable		
Alarm functions (programmable)	Sensor interruption or short circuit		
Output signals	Freely scalable by user 0...1 V, 0...5 V, 0...10 V, 0(4)...20 mA		
Change in signal type	HF33 only		
Power supply	HF32: 10...28 VDC: 10 V + (0.02 x load) HF33: 15...40 VDC/12...28 VAC HF34: 8...40 VDC / 6...28 VAC		
Power consumption	HF32: max 40 mA, other models < 100 mA		
Circuit type	HF32: 2 x 2 wires, HF33: 3/4 wires		
Min. / Max. load	V-signal: ≥1 kΩ/V / mA signal: ≤ 500 Ω		
Firmware update	Possible by HW4 software		
Sensor diagnostics (Drift, state)	Programmable. Default: off		
Sensor protection	Polyethylene filter		
Max. wind speed	20 m/s at probe		
Adjustments	Via ROTRONIC accessories Humidity: multi point; temperature: 2 points		
Hygro- /Thermostat	2 Relays, HF34 only		
Data logging	Internal, 2000 data point memory		
Dewpoint /frostpoint calculation	Yes		
PC interface	With ROTRONIC interface cable, HW4 compatible		
Housing material / weight	ABS / approx. 120g		
Cable connections	1 x M16x1.5, on terminals		
Norms	CE- compliant, 2007/108/EG		
Audit trail, Electronic Records	FDA CFR21 Part 11 and GAMP compliant		
IP protection rating & fire protection class	IP65 / Corresponds to UL94-HB		

Interested in further information (special applications, order codes, etc.)? A complete and up-to-date overview of our HygroFlex3-series is available on our web site [www.rotronic-humidity.com](http://www.rotronic-humidity.com).

Change over now to the HygroClip2 with its integrated AirChip3000 for your temperature and moisture measurements. You can find detailed information about our probes at [www.rotronic-humidity.com](http://www.rotronic-humidity.com). We would also be happy to advise you in person either on the phone or at our showroom.

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