

# HYGROFLEX4



TECHNOLOGY



## THE UNIVERSAL 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
- Network compatibility with digital outputs



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## SPECIFY THE BEST: HYGROFLEX4 ADVANTAGES AT A GLANCE.

The new HygroFlex4-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 HygroFlex HF42-, HF43- and HF45-transmitters provide superb precision and state-of-the-art functionality, taking humidity, temperature and dew point measurements to a whole new level of performance and reliability ( $\leq 1\%rh / 0.2\text{ K}$ ).

### Practical display

- Display of the measured values on a clear, backlit graphic display with trend indicators
- Configuration by keypad possible

industrial housing

- Wall or duct mount versions

### Tried-and-tested housing

- Robust

freely selectable and scalable analog outputs

- 2-wire and 3/4-wire systems available
- Optional digital outputs allow integration
- Two on a network via RS485, Ethernet and even wireless connection

### Fast response and precision measurement

- Integrated probe
- By decoupling the Pt100 temperature sensor from the probe, thermal response is significantly improved
- Heat from the electronic components is not transmitted to the sensors, thereby improving the accuracy of the system



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### 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



## APPLICATIONS.

The HygroFlex4-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.

### HF4 wall version



### HF4 duct version



## OUTPUTS OF THE HYGROFLEX4-SERIES.

The high flexibility of the HF4-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...10V, 0...20mA, 4...20mA) and the scale by software.

Thanks to digital signal processing, the transmitters in the HygroFlex4-series can be integrated in a network as purely digital instruments via RS485, Ethernet or wireless connection. This enables easy integration in any building management application.

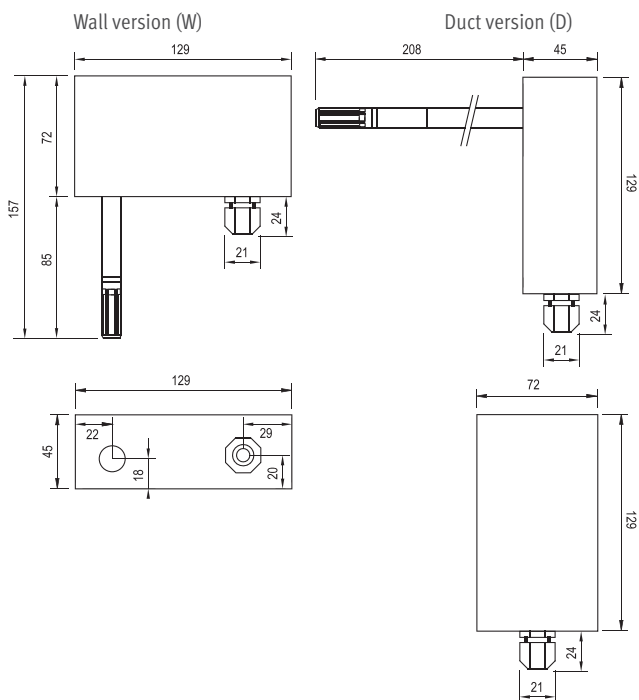
## TECHNICAL INFORMATION.

### 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.



	HF42 2-wire	HF43 3/4-wire	HF45 Digital
Integrated sensors	Yes		
Humidity sensor	ROTRONIC Hygromer® IN-1		
Temperature sensor	Pt100 1/3 Class B		
Accuracy at 23 ± 5 °C	±1.0 %rh / 0.2 K		
Resolution AirChip3000	<0.02 %rh / 0.01 K		
Long-term stability humidity sensor	<1 %rh / year		
Response time τ 63	<10 s		
Initialisation time	Typical 3 seconds		
Measurement range	-50...100 °C / 0...100 %rh		
Electronics operating range	-40...60 °C / 0...100 %rh (-10...60 °C with LCD)		
Display (optional) (HF42: not illuminated)	Backlit 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		
Digital outputs (optional)	Ethernet (LAN, WLAN), USB, RS485		
Change in signal type U/I	HF43 only		
Power supply	HF42: 20...28 VDC (10 V+(0.02 x load)) HF43/HF45: 15...40 VDC/12...28 VAC		
Power consumption	HF42: max 40 mA, other models < 100 mA LAN option <300 mA		
Circuit type	HF42: 2 x 2 wires, HF43: 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	By Keypad: 1 point, by ROTRONIC accessories: Humidity Multi point, Temperature 2 points		
Data logging function	internal, 2000 data point memory		
Dewpoint /frostpoint calculation	Yes		
PC interface	With ROTRONIC interface cable HW4 compatible		
Data processing by HW4	Graphs, statistics, analyses, qualification etc.		
Housing material / weight	ABS / Approx. 220g		
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 HygroFlex4-series is available on our web site [www.rotronic-humidity.com](http://www.rotronic-humidity.com).