HygroFlex4

AIR CHIP TECHNOLOGY



THE UNIVERSAL TRANSMITTER.

INTRODUCING AIRCHIP DIGITAL TECHNOLOGY.

INNOVATION IN HUMIDITY AND TEMPERATURE MEASUREMENT

- Relative humidity, temperature measurement and dew point calculation
- Outstanding accuracy and repeatability
- Hygromer® IN-1 humidity sensor
- Auto-diagnostics and automatic correction
- Selectable and scalable analog outputs
- Various digital outputs available



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MEASUREMENT SOLUTIONS

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 measurement to a whole new level of performance and reliability (< 1 %rh / 0.2 K).

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

Tried-and-tested housing
- Robust industrial housing
- Wall or duct mount versions

Output signals
- Two freely selectable and scalable analog outputs
- 2-wire and 3/4-wire systems available
- Optional digital outputs allow integration on a network via RS485 or Ethernet - wire or wireless

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



AIR CHIP 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

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 exceptional long-term stability of the sensors and auto-diagnostics, the transmitters are both service-friendly and reliable, thereby saving 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 freely select the output parameters and the scale of each output. On the 3/4 wire models the type of output signal can also be selected. Models with a digital output can be integrated in a network via RS485 or Ethernet wired or wireless connection. This enables easy integration in any building management application.

Interested in further information (special applications, order codes)? A complete and up-to-date overview of the HygroFlex4-series is available on our web site **www.rotronic.com.**

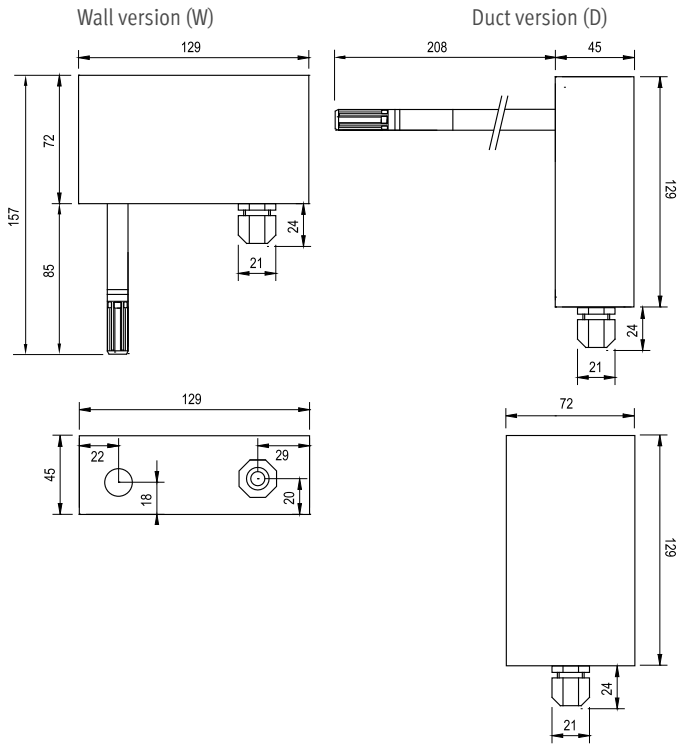
TECHNICAL INFORMATION.

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 HygroFlex4 transmitter; the user is able to configure the measurement interval, scale the output signal and download data using optional ROTRONIC HW4 software. HygroFlex4 transmitter can be programmed with set limits to generate an alarm which is available when the transmitter is communicating with a PC or compatible ROTRONIC device. Thus, the HygroFlex4 transmitter can be integrated in any application. The output signals of the HygroFlex4 can be programmed to take a fixed value in the event of a major sensor failure.



	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		
Start-up 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)	Backlit graphic LCD Parameters freely configurable (HF42: no backlight)		
Alarm functions (programmable)	Open or shorted sensor		
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		
Power supply	HF42: 20...28 VDC: 10 V+(0.02 x load) HF43/HF45: 18...40 VDC/13...28 VAC		
Power consumption	HF42: max 40 mA HF43 <100mA, HF45 <300mA		
Circuit type	HF42: 2 x 2 wire, HF43: 3/4 wires		
Min. / Max. load	V-signal: ≥1 kΩ/V / mA-signal: ≤ 500 Ω		
Firmware update	Via service connector, requires HW4 software		
Sensor diagnostics	Programmable. Default: off		
Sensor protection	Polyethylene filter		
Maximum air velocity	20 m/s at probe		
Adjustments	From Keypad: 1 point, with ROTRONIC accessories: Humidity Multi point, Temperature 2 points		
Data logging function	Internal, 2000 data point memory		
Dew point /Frost point calculation	Yes		
PC interface (service connector)	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		
Standards	CE- compliant, 2014/30/EU		
Audit trail, Electronic Records	FDA CFR21 Part 11 and GAMP compliant		
IP protection rating & fire protection class	IP65 / Corresponds to UL94-HB		

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