

# HF5A TRANSMITTER



HF5A wall version

## Benefits

- Measures relative humidity, temperature and dew point
- Interchangeable probes, compatible with Standard-, Industrial and RMS probes
- Freely programmable Outputs via NFC-Interface & supports NFC Powerless

## Applications

- HVAC Heating, ventilation, air conditioning
- Food industry
- Pharmaceutical industry
- Printing and paper industries



## New housing

- Robust, industrial-quality housing (IP65)
- Wall mount version (Duct version can be achieved together with an industrial cable probe)

## Outputs

- The 2 analog outputs are freely selectable and scalable
- 2-wire (HF5A-21), 3/4 wire analog (HF5A-31) and 3/4 wire digital RS485 on screw terminal (HF5A-D1)
- Combined digital and analog output signals allow simultaneous control and monitoring of a device by just one transmitter

## Power supply

- 18...36 VDC

## Flexible choice of probes

- Connection of a wide range of probes possible
- Connection of simulators facilitates process validation
- 3- /4-wire version compatible with RMS Probes



# Versions

## HF5A wall version

### HF5A-21/HF5A-31/HF5A-D1 serie

Use in  
technical rooms



Use in  
ventilation shafts



Use in  
air blade rooms



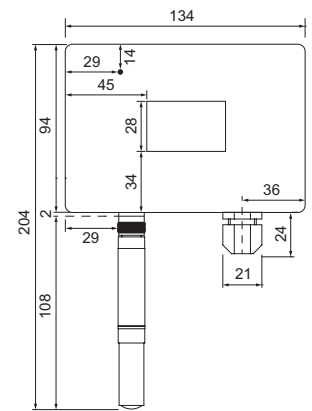
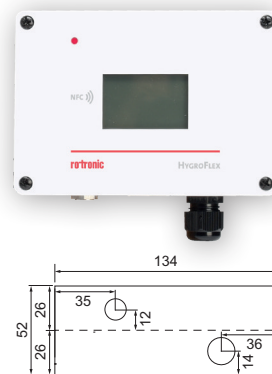
## Technical information

	HF5A-21 2-wire	HF5A-31/ HF5A-D1 ¾-wire
<b>Humidity Probe</b>	HygroClip2, HC2 Probes, various types	
<b>Accuracy at 23 ± 5 °C</b>	Probe dependent	
<b>Initialization time</b>	Typically, > 30 sec.	Typically, 3 sec.
<b>Measurement range</b>	Probe dependent	
<b>Range of applications</b>	-10...60 °C with display / -40...70 °C without display / humidity 0...100 %rH (non-condensing)	
<b>Trend indicator</b>	Yes	
<b>Display resolution</b>	Resolution up to 2 decimal places (0.01)	
<b>Output signals analog</b>	4...20 mA	Freely scalable 0...5, 0...10 V, 0...20 mA, <sup>1</sup> 4...20 mA
<b>Resolution Analog output</b>	≥ 15 bit	
<b>Output signals digital</b>	-	RS485 signals on screw terminal
<b>Cable connections</b>	1 x M16 x 1.5, screw terminals	
<b>Psychrometric calculations</b>	All	
<b>Power supply</b>	18...36 VDC (Vmin = 12 VDC + 6 VDC)	18...36 VDC
<b>Circuit Type</b>	2-wire	3-wire with mounted Jumper J1 (default) 4-wire galvanically separated with unmounted J1

<sup>1</sup> 4...20mA Default Setting

### HF5A-21, HF5A-31 and HF5A-D1

Wall version (W)




<b>Current consumption</b>	50 mA (when both outputs are connected)	< 100 mA (when both outputs are connected)
<b>Load per analog output</b>	Max. 500 Ω	Current: Max. 500 Ω Voltage : Min. 10 kΩ
<b>Interface</b>	NFC Interface and Rotronic Software	
<b>Software</b>	Accessoire NFC-USB-READER: NFC to USB Reader or with the HygroSoft software mobile App and a mobile phone with an integrated NFC-Reader.	
<b>Housing Material</b>	Top: PMMA, Bottom: ABS	
<b>Standards</b>	CE Conformity 2014/30/EU	
<b>GMP/ FDA Compliance</b>	Conforms to FDA 21 CFR Part 11 and GAMP5	
<b>Dimensions</b>	134 × 94 × 52 mm	
<b>Weight</b>	Display version 277g, Others 270g	
<b>IP-protection</b>	IP65	
<b>Fire protection class</b>	Corresponds to UL94-HB	
<b>Soldering material</b>	Lead free (RoHS-Directive 2011/65/ EU)	

## Probes for Hygroflex Advanced Transmitters

### Conventional probes

Order Code	Type	Accuracy @ 23 °C	Application Range	Sensor Element	Long-Term Stability
Standard Precision probes are factory-adjusted at 23 °C and 10, 35 and 80 %RH					
HC2A-S	Standard, black	±0.8 %RH / ±0.1 K	-50...100 °C / 0...100 %RH	HYGROMER HT-1	< 1 %RH per year with clean air
HC2A-S3	Meteo, white				
HC2A-SM	Standard, steel				
HC2A-S(M)-HH	Standard, for rough environment, black	±1.0 %RH / ±0.1 K	0...60 °C / 0...100 %RH	HYGROMER-HH1-SK	-
High Precision probes are factory-adjusted at 23 °C and 10, 20, 30, 40, 50, 60, 70, 80 and 90 %RH, then calibrated at 20, 50 and 80 %RH					
HC2A-SH	High precision, black	±0.5 %RH / ±0.1 K	-50...100 °C / 0...100 %RH	HYGROMER HT-1	< 1 %RH per year with clean air
HC2A-S3H	Meteo High precision, white				
Industrial probes are factory-adjusted at 23 °C and 10, 35 and 80 %RH					
HC2A-ICXXX	Industrial, black	±0.8 %RH / ±0.1 K	-100...200 °C / 0...100 %RH	HYGROMER HT-1	< 1 %RH per year with clean air
HC2A-IMXXX-M	Industrial, steel				
HC2A-ICXXX-A	Industrial, black				
HC2A-IE02-XXX	Industrial, steel				

Compatibility: HF5A all versions

Order Code	Accessories for Hygroflex Advanced Transmitters				
NFC-USB-READER		The Hygroflex Advanced HF5A devices are equipped with an NFC-interface <sup>1</sup> through which the device can be configured. The NFC-interface can be accessed by means of a mobile phone or a computer equipped with an NFC reader. The NFC-USB-READER has a USB plug to connect the Reader with a Computer and requires no further configuration. The Hygroflex Advanced Transmitter is compatible with HygroSoft software only.			

<sup>1</sup> Rotronic Switzerland AG only support the NFC-USB-READER, which can be purchased through Rotronic. Devices from third party suppliers cannot be considered.

### RMS probes

Order Code	Type	Accuracy @ 23 °C	Application Range	Sensor Element	Long-Term Stability
Digital Standard Precision probes are factory-adjusted at 23 °C and 10, 35 and 80 %RH					
RMS-HCD-S	Digital Standard, black	±0.8 %RH / ±0.1 K	-40...85 °C / 0...100 %RH	HYGROMER HT-1	< 1 %RH per year with clean air
RMS-HCD-S3	Digital Standard, white				
Digital Industrial probes are factory-adjusted at 23 °C and 10, 35 and 80 %RH					
RMS-HCD-IC102	Digital Industrial, black	±0.8 %RH / ±0.1 K	-100...200 °C / 0...100 %RH	HYGROMER HT-1	< 1 %RH per year with clean air
Digital Temperature probe					
RMS-TCD-S-001	Digital Temperature, steel	±0.25 °C (-50...85 °C)	-190...200 °C	PT100	±0.5 °C per year with clean air

Compatibility: HF5A all versions

Order Code	Type	Accuracy @ 23 °C	Application Range	Sensor Element	Long-Term Stability
Digital Differential Pressure probe, 5-point calibration					
PCD-S-XX	Digital Differential Pressure, black	±0.1 %FS	-500...500 Pa	Flow or Membrane	±0.1 %FSS per year

Compatibility: Only HF5A-31 & HF5A-D1 versions (3/4 wire Transmitter)