

HF5A TRANSMITTER



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 Kit version (HF5A wall mount with extension cable and mounting gland)

Outputs

- The 2 analog outputs are freely selectable and scalable (current output monitoring according to NAMUR NE43)
- 2-wire (HF5A-2), 3- /4-wire analog (HF5A-3) and 3- /4- wire digital RS485 on screw terminal (HF5A-D)
- 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-2/HF5A-3/HF5A-D serie

Use in
technical rooms



HF5A wall mount
HC2A-S / RMS-HCD-S

Use in
ventilation shafts



HF5A Duct Kit: HF5A wall
mount with AC5005 and
E2-F3A / HC2A

Use in
air blade rooms



HF5A wall mount
PCD-S-XX

Use in
pasta manufacturing



HF5A Wall mount
with tuchel
HC2A-S / RMS-HCD-S

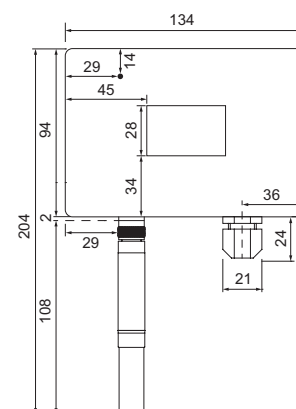
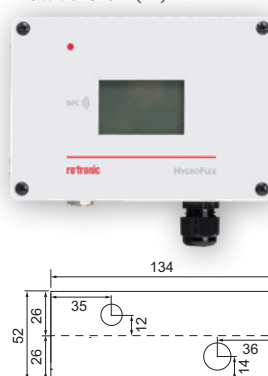
Technical information

	HF5A-2 2-wire	HF5A-3/ HF5A-D 3- /4-wire
Humidity Probe	HygroClip2, various types	
Accuracy at $23 \pm 5^\circ\text{C}$	Probe dependent	
Initialization time	Typically > 30 sec.	Typically 3 sec.
Measurement range	Probe dependent	
Range of applications	-10...60 °C with display / -40...70 °C without display / humidity 0...100 %rh (non-condensing)	
Trend indicator	Yes	
Display resolution	Resolution up to 2 decimal places	
Output signals analog	4...20 mA	Freely scalable 0...5, 0...10 V, 0...20 mA, 4...20 mA ¹
Resolution Analog output	≥ 15 bit	
Output signals digital	-	RS485 signals on screw terminal
Cable connections	1 x M16 x 1.5, screw terminals (2 x M16 for HF5A-D) Tuchel connector optional	
Psychrometric calculations	All	
Power supply	18...36 VDC (Vmin = 12 VDC + 6 VDC)	18...36 VDC
Circuit Type	2-wire	3-wire with mounted Jumper J1 (default) 4-wire galvanically separated with unmounted J1
Current consumption	50 mA (when both outputs are connected)	< 100 mA (when both outputs are connected)

¹ 4...20mA Default Setting

HF5A-2, HF5A-3 and HF5A-D

Wall version (W)



Load per analog output	Max. 500 Ω	Current: Max. 500 Ω Voltage: Min. 10 kΩ
Interface	NFC Interface	
Software	Accessoire NFC-USB-READER: NFC to USB Reader or with the HygroSoft software mobile App and a mobile phone with an integrated NFC-Reader.	
Housing Material	Top: PC, Bottom: ABS	
Standards	CE Conformity 2014/30/EU	
Dimensions	134 × 94 × 52 mm	
Weight	Display version 277g, Others 270g	
IP-protection	IP65	
Fire protection class	Corresponds to UL94-HB	
Soldering material	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

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	±1 % Full Scale	-500...500 Pa	Flow or Membrane	±0.1 %FSS per year

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

Accessories for Hygroflex Advanced Transmitters

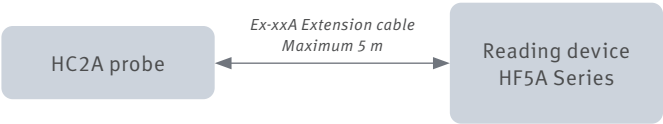
Order Code		
NFC-USB-READER		The Hygroflex Advanced HF5A devices are equipped with an NFC-interface ¹ through which the device can be configured. The NFC-interface can be accessed by means of a mobile phone or a computer equipped with an NFC reader. The NFC-USB-READER has an USB plug to connect the Reader with a Computer and requires no further configuration. The Hygroflex Advanced Transmitter is compatible with HygroSoft software only.
T7-0001		Tuchel connector with counter plug. (10cm cable / gland 4 – 8mm)

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

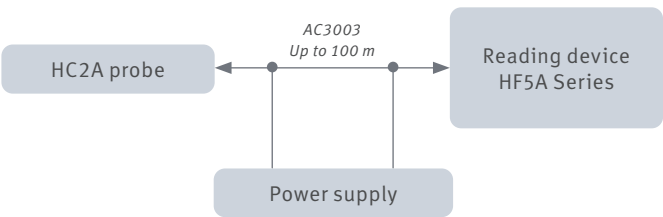
Possible Extension Cables

It is possible to extend the distance between the probe and its reading device with extension cable.

- Passive connection are possible up to 5m (see table below for possible options)
- An amplifier cable (AC3003) allows connections up to 100m



Order Code	Cable Length	Color
E2-01A	1 m	Black
E2-02A	2 m	
E2-05A	5 m	
E3-01A	1 m	White
E3-05A	5 m	



Order Code	Description	Cable Length
AC3003	Signal amplifier, probe and instrument side with luster terminal	Self assembly
AC3003/10	AC3003 with luster terminal and pre-assembled Cat. 5 cable	10 m
AC3003/20		20 m
AC3003/50		50 m