HC2A



HC2A-S
HC2A-SH



HC2A-S3
HC2A-S3H



HC2A-SM

Advantages

- Measures relative humidity and temperature
- Outstanding accuracy, repeatability and long-term stability
- Advanced probe housing and construction
- Available with interchangeable sensor
- Hot swappable

Applications

- Pharmaceutical industry
- Meteorology
- Food industry
- Building services equipment
- Paper and textile

Sensor HYGROMER HT-1

- High accuracy and repeatability (Up to ±0.5 %rh)
- Excellent Long-term stability (<1 %rh per year with clean air)

Smart Electronic

- Based on the Rotronic's AirChip3000
- Calculates the dew / frost point
- Alarm generation
- Saves adjustment data so that probes can be interchanged without re-adjusting
- Hot-swappable

Flexibility and Compatibility

- User scalable analog analog ouput signals (2x 0...1V)[1]
- Digital interface via UART[2]
- Rapidly interfaced with HygroClip2 devices from Rotronic or in OEM[3] applications



HC2A-S
HC2A-SH

[1] *HW5 software and service cable AC3001 are required*
[2] *Universal Asynchronous Receiver Transmitter*
[3] *Original Equipment manufacturer*

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High Precision

High Precision probes are factory-adjusted at 23°C and 10, 20, 30, 40, 50, 60, 70, 80, 90 %rh, then calibrated at 20, 50, 80 %rh.

Order Code	Type	Accuracy @ 23 °C	Application Range	Sensor Element	Long-term stability
HC2A-SH	High Precision	±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 [4] High Precision				

Standard Precision

Standards Precision probes are factory-adjusted at 23°C and 10, 35, 80 %RH.

Order Code	Type	Accuracy @ 23 °C	Application Range	Sensor Element	Long-term stability
HC2A-S	Standard	±0.8 %rh ±0.1 K	-50..100 °C 0...100 %rh	HYGROMER HT-1	‹1 %rh per year with clean air
HC2A-S3	Meteo4 Standard				
HC2A-SM	Steel Probe				
HC2A-S-HH	Standard Probe for Rough environment [5]	±1.0 %rh ±0.1 K		Hygromer HH-1	

Computer Connection

The cable AC3001 allows direct connection to a computer via USB and, with use of the HW5 software to adjust the HC2A probe's parameters such as

- Scale of Analog outputs
- Calculated parameter on analog outputs

Possible Filters

Order Code	Filter carrier	Filter Element	Pore size	Application Range
SPA-PCB-PE	Polycarbonate, black	Polyethylene, white	40-50 µm	-50...100 °C
SPA-PCB-PTFE		PTFE, white	10 µm	
SPA-PCB-WM		Wire mesh 1.4401		
SPA-PCW-PE	Polycarbonate, white	Polyethylene, white	40-50 µm	
SPA-PCW-PTFE		PTFE, white	10 µm	
SPA-PCW-WM		Wire mesh 1.4401		
SPA-PE	No filter carrier, only filter	Polyethylene	40-50 µm	
SPA-PTFE		PTFE, white	10 µm	-100...200 °C
SPA-WM		Wire mesh 1.4401		
SPA-SS-WM	1,4301			
SPA-SSS	Sintered steel, 1.4404 (Carrier and filter)		25 µm	
SPA-SS-PFTE	Stainless steel, 1.4301	Teflon	10 µm	
SPA-SS		No filter	-	

Standard: HC2A-S + SPA-PCB-PE with filter (Polyethylene, white)

[4] *The housing is full white to avoid any heating from sun radiation.*
[5] *Especially suitable for environments with hydrogen peroxide (H_2O_2). Please refer the HYGROMER HH-1 datasheet for more information.*

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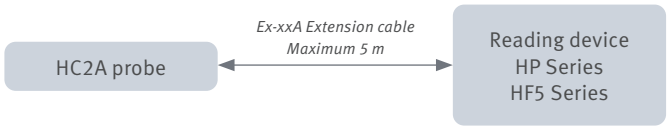
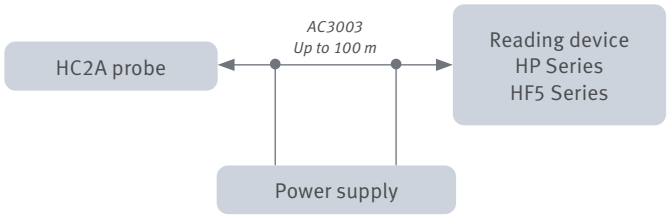
Possible Extension Cables

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



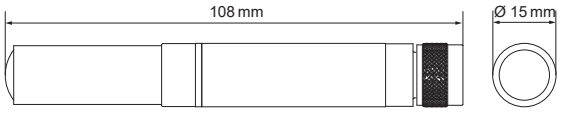
Order Code	Cable Length	Color
E2-01A	1 m	Black
E2-02A	2 m	
E2-05A	5 m	
E3-01A	1 m	White
E3-05A	5 m	



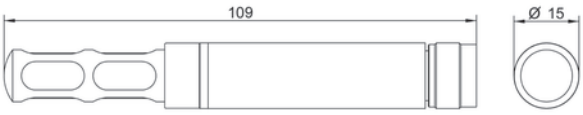
Order Code	Description	Cable Length
AC3003	Signal amplifier, probe and instrument side with luster terminal	Self assembly
AC3003/10	AC3003 with luster terminal and pre-assembled Cat. 5 cable	10 m
AC3003/20		20 m
AC3003/50		50 m

TECHNICAL INFORMATION

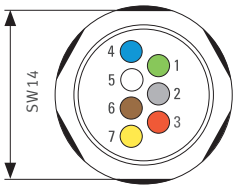
HC2A-S, HC2A-S3, HC2A-SH, HC2A-S3H, HC2A-S-HH



HC2A-SM



Connector pin-out



1 V+
2 GND (digital and supply)
3 RXD (UART)
4 TXD (UART)
5 Analog signal humidity (0...100 %rh = 0...1 V)
6 Analogsignal °C (-40...60 °C = 0...1 V)
7 AGND (analog ground)

Technical Data

Supply voltage	3,3...5 VDC
Current consumption	Approx. 5 mA (Adjusted at 3.3 VDC)
Load	› 10 kΩ
Protection rating	IP65 (except the sensor area)
Digital Interface	UART (19200 baud fixed)
Protocols	• RoASCII (Default) • MODBUS (setting with HW4)
Analog outputs	2x 0...1 V
Analog outputs Parameters	• Humidity (default) • Temperature (default) • Dew point (setting with HW4) • Frost point (setting with HW4)
Analog output scaling	• Humidity (0...100 %rh = 0...1V) • Temperature (-40...60 = 0...1V) • Freely settable with HW4
Timing	1st measurement after 1.5 s Measurement interval of 1 s

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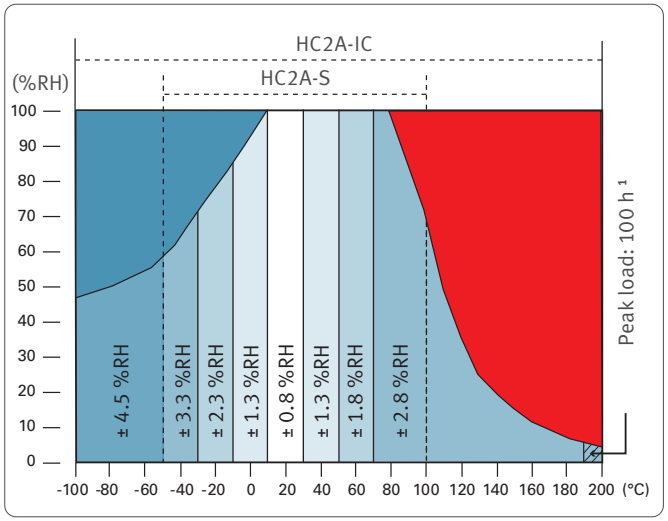
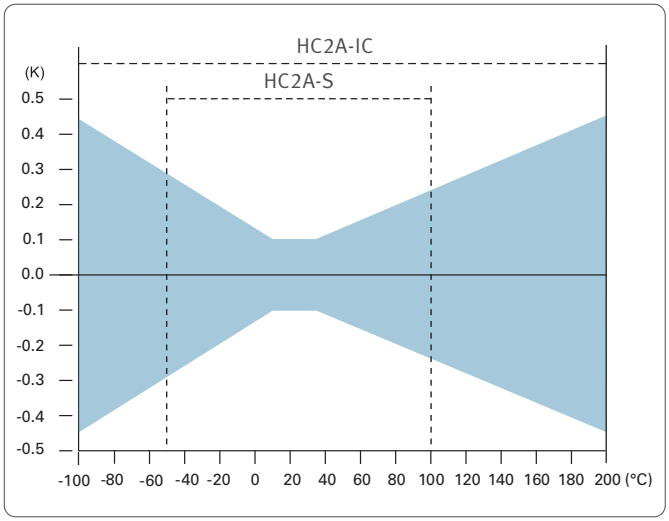
Humidity Window



Temperature Window



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