

# HC2A-C

## Humidity Probes



### Advantages

- Measures relative humidity and temperature
- Accuracy, repeatability and long-term stability
- Advanced probe housing and construction

### Applications

- Museums, archives, and storage facilities
- Building services equipment
- Paper and textile



### Sensor HYGROMER HT-1

- Accuracy and repeatability (up to  $\pm 1.0$  %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
- Hot-swappable

### Flexibility and Compatibility

- User scalable analog output signals (2 x 0 to 1 V)<sup>1</sup>
- Digital interface via UART<sup>2</sup>
- Rapidly interfaced with HygroClip2 devices from Rotronic or in OEM<sup>3</sup> applications



<sup>1</sup> HygroSoft software and service cable AC3001 are required

<sup>2</sup> Universal Asynchronous Receiver Transmitter

<sup>3</sup> Original Equipment manufacturer

## Conventional and Basic Precision

Conventional and basic precision probes are factory-adjusted at 23 °C and 10, 70 %rh.

Order Code	Type	Accuracy at 10 to 30 °C	Application Range	Sensor Element	Long-term Stability
HC2A-C	Conventional Probe	±1.0 %rh ±0.1 °C ±1.5%rh ±0.2°C	-40 to 80 °C 0 to 100 %rh	HYGROMER HT-1	<1 %rh per year with clean air
HC2A-B	Basic Probe				
HC2A-BM	Basic Steel Probe				

## Computer Connection

The cable AC3001 allows direct connection to a computer via USB and, with use of the HygroSoft 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 to 50 µm	-50 to 100 °C
SPA-PCB-PTFE		PTFE, white	10 µm	
SPA-PCB-WM		Wire mesh 1.4401		
SPA-PCW-PE	Polycarbonate, white	Polyethylene, white	40 to 50 µm	
SPA-PCW-PTFE		PTFE, white	10 µm	
SPA-PCW-WM		Wire mesh 1.4401		
SPA-PE	No filter carrier, only filter	Polyethylene, white	40 to 50 µm	-100 to 200 °C
SPA-PTFE		PTFE, white	10 µm	
SPA-WM/ SPA-WM -SM <sup>5</sup>		Wire mesh 1.4401		
SPA-SS-WM/ SPA-SS-WM-SM <sup>5</sup>	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)

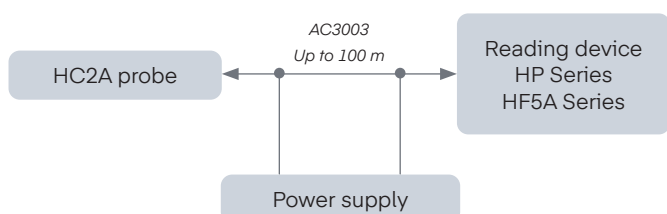
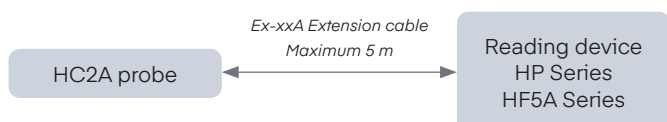
<sup>4</sup> The housing is full white to avoid any heating from sun radiation.

<sup>5</sup> SPA-(SS)-WM-SM is only compatible with HC2A-SM.

## Possible Extension Cables

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

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

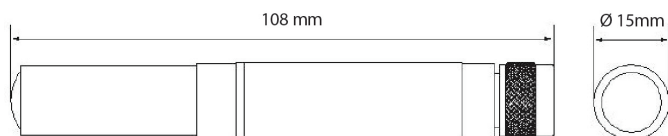


Order Code	Cable Length	Color
E2-01A	1 m	Black
E2-02A	2 m	
E2-05A	5 m	
E3-01A	1 m	White
E3-05A	5 m	

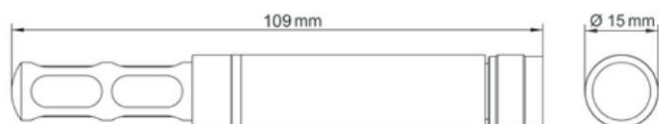
Order Code	Description	Cable Length
AC3003	Signal amplifier, probe and instrument side with luster terminal	Self-assembly
AC3003/10	AC3003 with luster terminal and pre-assembled Cat. 5 cable	10 m
AC3003/20		20 m
AC3003/50		50 m

## Technical information

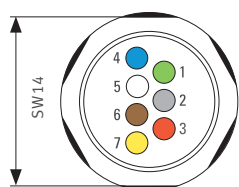
HC2A-C, HC2A-B



HC2A-BM

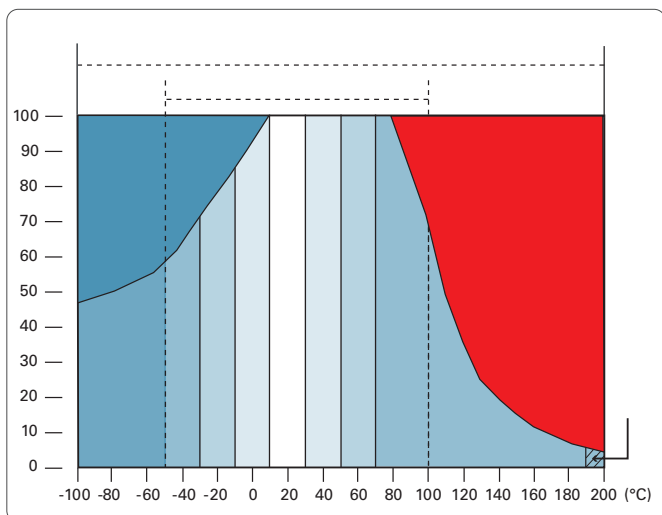


### Connector pin-out



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

### Humidity Window



### Technical Data

<b>Supply Voltage</b>	Humidity and Temperature fix mounted
<b>Current Consumption</b>	±1.0%rh, ± 0.1 °C
<b>Load</b>	Typically 5 seconds.
<b>Protection Rating</b>	1 s
<b>Digital Interface</b>	0 %rh to 100 %rh Wall: -40 °C to 85 °C/-10 °C to 60 °C Duct <sup>2</sup> /Cable: -50 °C to 100 °C
<b>Protocols</b>	0 %rh to 100 %rh (non-condensing) -10 °C to 60 °C with display -40 °C to 85 °C without display
<b>Analog Output Parameters</b>	Humidity (default) Temperature (default) Dew point (setting with HygroSoft) Frost point (setting with HygroSoft)
<b>Analog Output Scaling</b>	Humidity (0 to 100 %rh = 0 to 1 V) Temperature (-40 to 60 = 0 to 1 V) Freely settable with HygroSoft
<b>Timing</b>	1st measurement after 1.5 s Measurement interval of 1 s

### Temperature Window

