Industrial probe

HC2A-IC/IM/IE

HC2A-ICxxx

HC2A-IMxxx-M

HC2A-IExxx

Advantages

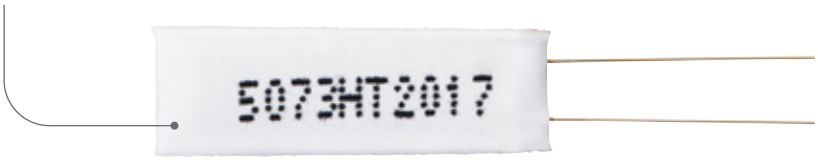
- Measures relative humidity and temperature
- Outstanding accuracy, repeatability and long-term stability
- Advanced probe housing and construction
- Available with interchangeable sensor
- Hot swappable

Applications

- Production environment
- Industrial Manufacturing
- Drying processes
- Climate chambers

Sensor HYGROMER HT-1

- High accuracy and repeatability
- Excellent Long-term stability (‹ 1% RH per year)



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
- Can be up to 5m away from the sensor element.
- Hot-swappable

Flexibility and Compatibility

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

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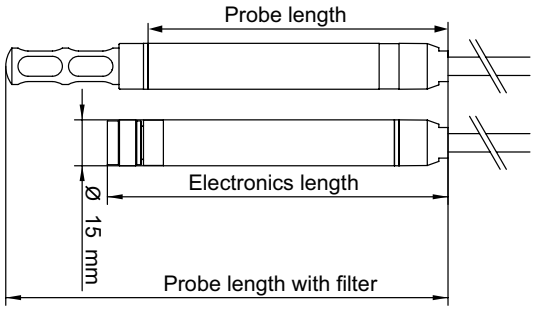
Industrial Cable Probe

- Application Range 0...100 %RH, -100...200 °C[4]
- Accuracy ±0.8 %RH, ±0.1 K @ 23°C
- Factory-adjustment @ 23°C and 10, 35, 80 %RH
- Materials PPS, stainless steel 1.4301
- Humidity Sensor HYGROMER HT-1

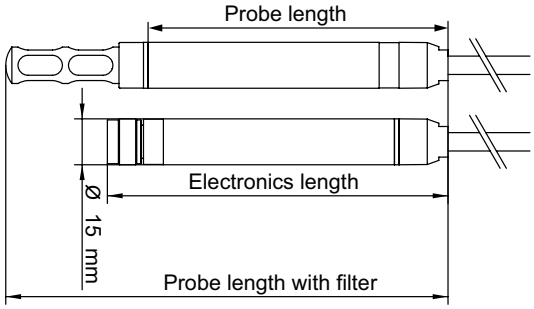


Order Code	Probe diameter	Probe length	Probe length with filter	Electronic length	Cable length
HC2A-IC102	15 mm	100 mm	144 mm	111 mm	2 m
HC2A-IC105					5 m
HC2A-IC302		250 mm	294 mm		2 m

Tolerance cable length 2m ±4%; 5m ±3%

Steel Industrial Cable Probe

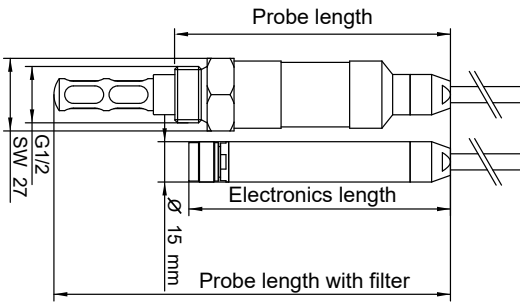
- Application Range 0...100 %RH, -100...200 °C4
- Accuracy ±0.8 %RH, ±0.1 K @ 23°C
- Factory-adjustment @ 23°C and 10, 35, 80 %RH
- Materials stainless steel 1.4301
- Humidity Sensor HYGROMER HT-1



Order Code	Probe diameter	Probe length	Probe length with filter	Electronic length	Cable length
HC2A-IM102-M	15 mm	86 mm	130 mm	97 mm	2 m
HC2A-IM302-M		236 mm	280 mm		2 m
HC2A-IM305-M					5 m

Screw-in Probe Coming soon

- Application Range 0...100 %RH, -100...200 °C4
- Accuracy ±0.8 %RH, ±0.1 K @ 23°C
- Factory-adjustment @ 23°C and 10, 35, 80 %RH
- Materials stainless steel 1.4301
- Humidity Sensor HYGROMER HT-1
- Pressure resistant to 100 bar / 1450 PSI



Order Code	Threat	Probe length	Probe length with filter	Electronic length	Cable length
HC2A-IE02-G	1/2" G	104 mm	148 mm	97 mm	2 m
HC2A-IE02-NPT	1/2" NPT				

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Filters for HC2A-IC / IM / IE

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-ICXXX + SPA-SS without filter

Connectivity

HF5, HF8, HP32, HP23

HC2A-IC102 in combination with the HF5 transmitter (most popular application).

Computer Connection

The cable AC3001 allows direct connection to a computer via USB and, with use of the HW4 software to adjust the HC2A probe's parameters such as

- Scale of analog outputs
- Calculated parameter on analog outputs

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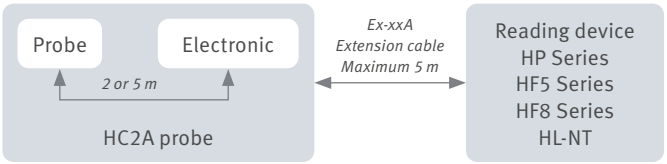
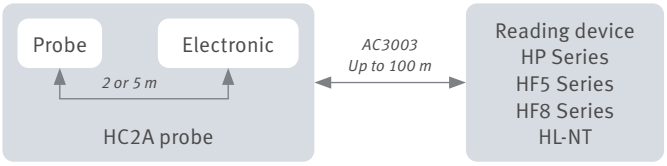
Possible Extension Cables

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
E3-02A	2 m	
E3-05A	5 m	



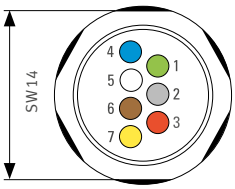
Order Code	Description	Cable Length
AC3003	Signal amplifier, probe and instrument side with luster terminal	Self assembly
AC3003/10	AC3003 with luster terminal and pre-assembled Cat. 5 cable	10 m
AC3003/100		100 m

Technical Information

Technical Data for HC2A-IC / IM / IE

Humidity sensor	HYGROMER HT-1
Temperature sensor	PT100 1/3 class B
Response time sensor	τ63: <15 s without filter, (temperature and humidity)
Max. air velocity (m/s)	3.5 without filter
Operating humidity	0...100 %RH
Operating temperature	-50...+100 °C Electronics -100...200 °C[4] Measuring head
Accuracy @ 23 °C	±0,8 %RH ±0,1 K
Long-term stability	< 1 %RH / year
Supply voltage	3.3...5 VDC
Current consumption	Approx. 5 mA (adjusted at 3.3 VDC)
Protection rating	IP65 (except the sensor area)
Digital communication	UART (19200 baud fixed)
Protocols	RoAscii (default) MODBUS (setting with HW4)
Analogue outputs	2x 0...1 VDC
Analogue outputs parameters	• Humidity (default) • Temperature (default) • Dew point (setting with HW4) • Frost point (setting with HW4)
Analog output scaling	• Humidity (0...100 %RH = 0...1 V) • Temperature (-40...60 °C = 0...1 V) • Freely settable with HW4
Timing	1st measurement after 1.5 s Measurement interval 1 s
Compatible devices	HF5, HF8, HP32, HP23, HL-NT
Delivery package	• Probe • Certificate • Filter holder, filter itself is not included

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 Analog signal temperature (-40...60 °C = 0...1 V)
7 AGND (analog ground)

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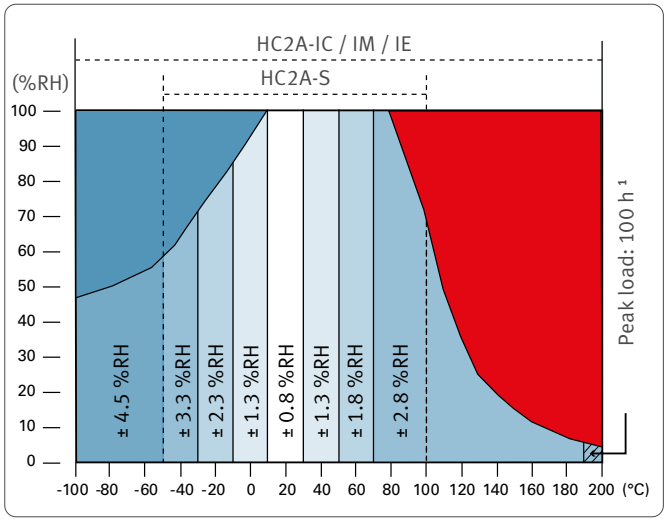
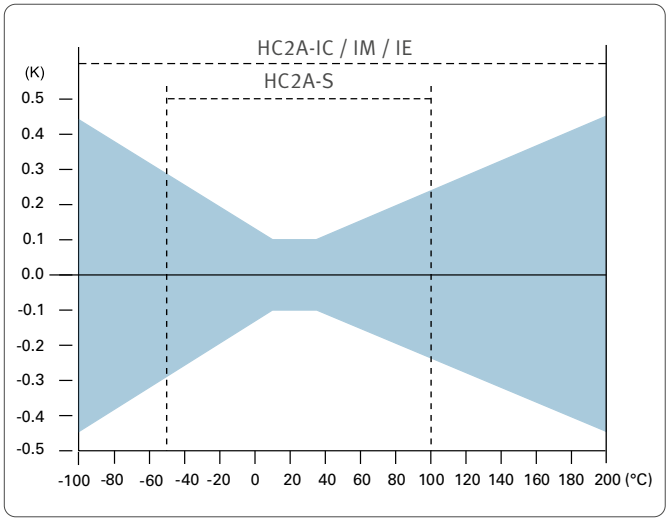
Humidity Window



Temperature Window



[1] *HW4 software and service cable AC3001 are required*
[2] *Universal Asynchronous Receiver Transmitter*
[3] *Original Equipment manufacturer*
[4] *Peak load: 100h. Maximal permissible continuous load: 190°C.*

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