HygroClip2 advanced

AIR CHIP TECHNOLOGY

HC2A - ENHANCED PROBE PERFORMANCE

WITH PROVEN AIRCHIP TECHNOLOGY

ONGOING TECHNICAL INNOVATION IN HUMIDITY AND TEMPERATURE MEASUREMENT

- State-of-the-art HYGROMER® HT-1 sensor measures relative humidity and temperature, calculates dew point
- Outstanding accuracy and repeatability
- Excellent long-term stability <1 %RH / year
- Highest-possible measurement accuracy
- Advanced probe housing and construction
- Available with interchangeable sensor

rotronic
MEASUREMENT SOLUTIONS

TAKE A CLOSE LOOK:
THE MAIN ADVANTAGES AT A GLANCE

The HygroClip2 ADVANCED is a further development of the tried-and-tested HC2 probe series. It builds on the properties of HC2 such as calibration, adjustment and interchangeability and extends them with a new housing and the latest sensor development: the HYGROMER® HT-1.
The HygroClip2 ADVANCED offers you maximum repeatability and an accuracy of ±0.8 %RH and ±0.1 K.

New Sensor HYGROMER® HT-1

- The new sensor measures up to 200 °C over a period of 100 hours (HC2A industrial probe only) It can be used at a dew point of up to 93 °C dew point

AIR CHIP TECHNOLOGY

AirChip3000

- Calculates the dew point / frost point
- Active information and alarm generation
- The AirChip3000 consists of an ASIC (Application Specific Integrated Circuit), a microcontroller and a read-only memory (EEPROM)

Flexibility and Compatibility

- The analog, user scalable[1] signals (2x 0...1 V) and digital UART[2] outputs available from HygroClip2 probes are rapidly interfaced with Rotronic HygroClip2 devices as well as in OEM and customer solutions.
- The probes can be interchanged without adjustment.

[1] HW4 software and Rotronic service cable AC3001 required

[2] Universal Asynchronous Receiver Transmitter

COMPATIBLE WITH THE COMPLETE HC2 FAMILY

The HC2A probe series is fully compatible with the complete HygroClip2 product family: handheld instruments, data loggers and transmitters. HygroClip2 probes can be interchanged within seconds when necessary without you having to recalibrate your system. Let us advise you on suitable Rotronic HygroClip2 products so that you can achieve high accuracy with your humidity and temperature measurements.

Handhelds

Transmitters

Data loggers

Wireless data loggers

Meteorology probes

PROBE VARIANTS

The HC2A comes in various variants

- Black: standard probe
- White: meteorology probes
- Chromium steel: industrial probes
- Further options: with interchangeable HT-1 sensor or HH-1 sensor for H_2O_2 applications

Product		Description
HC2A-S HC2A-S3		Sensor: HYGROMER® HT-1 Material: Polycarbonate Response time: 15 s with filter Filter: Polyethylene, 40 µm
HC2A-S-I HC2A-S3-I		Sensor: HYGROMER® HT-1 (interchangeable) Material: Polycarbonate Response time: 15 s with filter Filter: Polyethylene, 40 µm
HC2A-SM		Sensor: HYGROMER® HT-1 Material: Chromium steel 1.4301 Response time: 12 s without filter Filter: wire-mesh, 10 µm
HC2A-S-HH HC2A-SM-HH		Sensor: HYGROMER® HH-1 Response time: 15 s with filter (HC2A-S-HH) 12 s without filter (HC2A-SM-HH) Filter: none

TECHNICAL INFORMATION

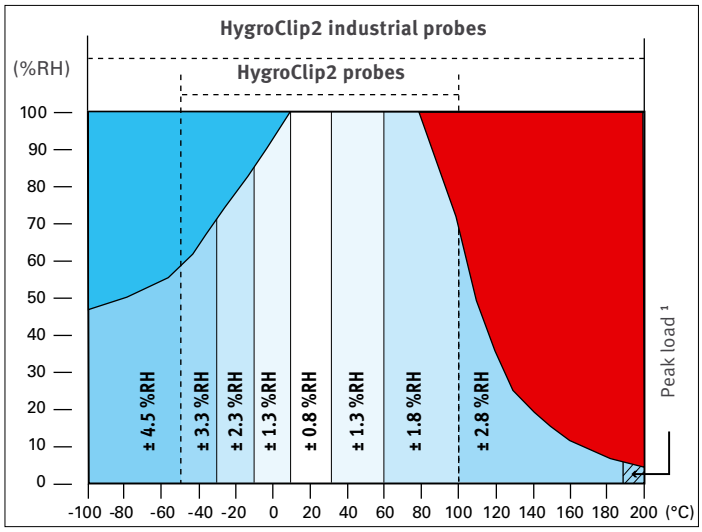
Adjustment

There are two adjustment profiles available for the HygroClip2 probe series measurement accuracy of the application. The data is stored on the AirChip3000 and can be used, for example, for audits.

Output Signal

The analog output signal is freely scalable using HW4 software and Rotronic AC3001 cable. This means you can assign limits to the signal when necessary. It also allows you to configure the dew point temperature as an analog output, thereby turning your HygroClip2 probe into a dew point sensor.

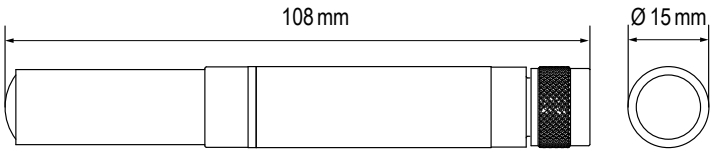
Accuracy Overview

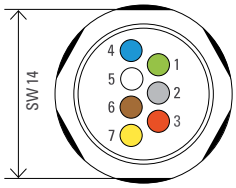


Humidity sensor	ROTRONIC HYGROMER® HT-1
Temperature sensor	Pt100 1/3 Class B
Accuracy with «Standard» adjustment profile	±0.8 %RH, ±0.1 K, at 10..30 °C Adjusted at 23 °C and 10, 35, 80 %RH
Accuracy with «High Precision» adjustment profile	±0.5 %RH, ±0.1 K, at 10..30 °C Adjusted at 23 °C and 10, 20, 30, 40, 50, 60, 70, 80, 90 %RH
Long-term stability humidity sensor	<1 %RH / year
Measurement range/Range of application	-50..100 °C / 0..100 %RH
Analog output signal Freely scalable / Factory defaults	0...1 V = 0...100 %RH 0...1 V = -40...60 °C
Interface	UART
Accuracy analog output	±1 mV
Alarm functions	Yes, programmable
Audit trail / Electronic records	Conforms to FDA CFR21 Part 11/GAMP
Power supply	3.3...5 VDC
Current consumption	4.5 mA @ 3.3 VDC

¹ The peak load at 200 °C is for a period of 100 hours; 190 °C constant load. See the sensor data sheet for detailed information on the chemical pollution loads for the sensor.

Visit the Rotronic website www.rotronic.com for the latest HC2A high temperature industrial probe range.





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

59055E/2016-09