

Standard and high precision probes

HC2A-S / HC2A-S-HH / HC2A-S3 and HC2A-SH/HC2A-S3H

The HC2A-S / HC2A-S-HH / HC2A-S3 is the most versatile probe from Rotronic and forms the basis of the product portfolio. It measures humidity and temperature and calculates the dew/frost point. The HC2A-SH/HC2A-S3H fulfills the highest demands for measuring accuracy.

APPLICATIONS

HVAC, food industry, building services equipment, paper, textile and pharmaceutical industries.

FEATURES

- Accuracy: standard probe (HC2A-S / HC2A-S-HH): ±0.8 %RH, ±0.1 K, at 10...30 °C
- Accuracy: high precision probe (HC2A-SH): ±0.5 %RH, ±0.1 K, at 10...30 °C
- Range of application: -50...100 °C / 0...100 %RH
- Digital interface (UART) and scalable analog outputs, 0...1 V or Default analog scaling/ outputStandard: adjusted at 23 °C and 10, 35, 80 %RH
- High precision: adjusted at 23 °C and 10, 20, 30, 40, 50, 60, 70, 80, 90 %RH, then calibrated at 20, 50, 80 %RH
- Standard analog output scaling: 0...1 V = -40...60 °C / 0...100 %RH

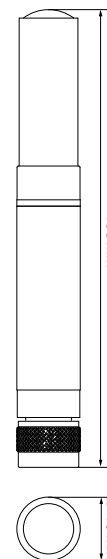
Order code	HC2A-S / HC2A-S-HH / HC2A-S3	HC2A-SH / HC2A-S3H
Probe type	S: black, S3: white	SH: black, S3H: white
Dimensions	Ø 15 x 108 mm	
Range of application	-50...100 °C, 0...100 %RH	
Accuracy	±0.8 %RH, ±0.1 K at 10...30 °C	±0.5 %RH, ±0.1 K at 10...30 °C (10...90 %RH)
Power supply	3.3...5 VDC, adjusted at 3.3 VDC	
Current consumption	~4.5 mA	
Long-term stability	<1 %RH / year	
Sensor type	ROTRONIC HYGROMER® HT-1 (HC2A-S-HH: HH-1), PT100 1/3 Class B	
Filter type	S: polyethylene white, 40 µm S3: polyethylene white, 40 µm	SH: polyethylene white, 40 µm S3H: polyethylene white, 40 µm
Response time	<15 s, without filter	
Max. wind velocity	3 m/s, without filter 20 m/s with polyethylene filter	
Housing material	Polycarbonate	
Weight / IP protection	10 g / IP65	

The HC2A-S-HH is especially suitable for environments with hydrogen peroxide (H₂O₂) using the HH-1 sensor.



HC2A-S
HC2A-SH
HC2A-HH

HC2A-S3
HC2A-S3H



Compatible

- Handheld instruments HP32, HP23-A
- Data loggers HL-NT3-D
- Transmitters HF5, HF8, PF4, PF5
- Meteorology transmitters MP102H, MP402H

Delivery package

- Factory adjustment certificate
- Short instruction manual
- Polyethylene filter

Recommended accessories

- Mounting flange AC5005
- Filters
- Extension cable 2 m, black E2-02A
- Adapter cable, open ends, 2 m E2-02XX-ACT/01
- Calibration device ER-15
- Humidity standard for calibration 10 %RH EA10-SCS
- Humidity standard for calibration 35 %RH EA35-SCS
- Humidity standard for calibration 80 %RH EA80-SCS

Industrial cable probes, steel

The metal industrial probe is especially suitable for high temperatures, demanding industrial environments and applications where hygiene plays an important role. The probe measures humidity and temperature and calculates the dew/frost point.

APPLICATIONS

Food and pharmaceutical production, drying processes, industrial manufacturing.

FEATURES

- Accuracy: $\pm 0.8\% \text{RH}$, $\pm 0.1 \text{ K}$, at 10...30 °C
- Range of application: -100...200 °C¹, (screw-in probe; -100...200 °C¹) / 0...100 %RH
- Digital interface (UART) and scalable analog outputs, 0...1 V
- Standard output scaling: 0...1 V = -40...60 °C / 0...100 %RH
- Adjusted at 23 °C and 10, 35, 80 %RH

Steel industrial probes

Ø 15/25 mm

Order code	HC2A-IM1xx*	HC2A-IM3xx*
Dimensions	Ø 15 x 130 mm	Ø 15 x 280 mm
Accuracy	$\pm 0.8\% \text{RH}$, $\pm 0.1 \text{ K}$, at 10...30 °C	
Power supply	3.3...5 VDC, adjusted at 3.3 VDC, current: ~4.5 mA	
Sensor type	ROTRONIC HYGROMER® HT-1, PT100 1/3 Class B	
Response time	<15 s, without filter	
Housing material	Stainless steel, DIN 1.4301	
Weight	260 g	400 g

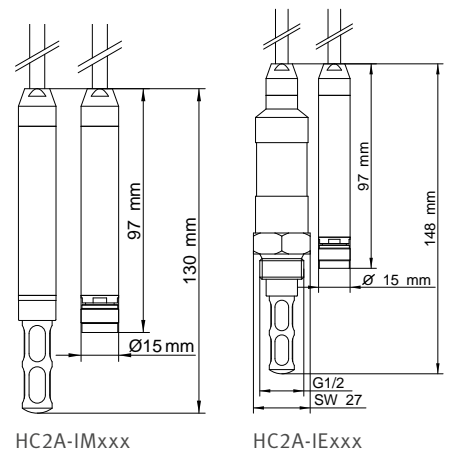
* xx = cable length in meters (02, 05), 80 g per meter cable

Screw-in probes

Ø 15 mm

Order code	HC2A-IE1xx*	HC2A-IE3xx*
Probe type	1/2" G with Rotronic connector	1/2" NPT with Rotronic connector
Accuracy	$\pm 0.8\% \text{RH}$, $\pm 0.1 \text{ K}$, at 10...30 °C	
Power supply	3.3...5 VDC, adjusted at 3.3 VDC, current: ~4.5 mA	
Sensor type	ROTRONIC HYGROMER® HT-1, PT100 1/3 Class B	
Pressure	Pressure resistant to 100 bar / 1450 PSI	
Response time	<15 s, without filter	
Housing material	Stainless steel, DIN 1.4301	
Weight	290 g	

* xx = cable length in meters (02, 05), 80 g per meter cable



Compatible

- Handheld instruments HP32, HP23-A
- Data loggers HL-NT3-D
- Transmitters HF5, HF8, PF4, PF5

Delivery package

- Factory adjustment certificate

Recommended accessories

- Filters
 - Calibration device (HC2A-IM) ER-15
 - Humidity standard for calibration 10 %RH EA10-SCS
 - Humidity standard for calibration 35 %RH EA35-SCS
 - Humidity standard for calibration 80 %RH EA80-SCS
- ¹ Peak load: 100 h
Permissible continuous load: 190 °C

HF1 wall and duct versions

APPLICATIONS

Measures relative humidity and temperature in HVAC applications.

2 or 2x2-wire

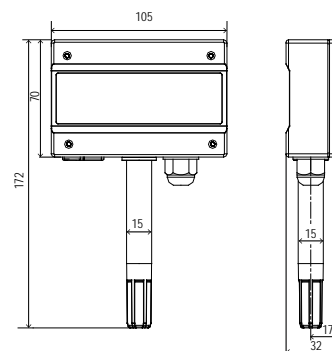
Order code	HF120
Output signal	4...20 mA
Supply voltage	10...28 VDC
Display	Optional (without backlight)
Temperature range	Scalable
Probes	Not interchangeable Standard, duct probe 100 mm (optional, duct probe 300 mm)
Filter type	Polyethylene

3-wire

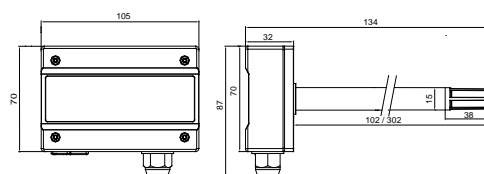
Order code	HF13x
Output signal	0...10 V 4...20 mA Only voltage output can be changed
Supply voltage	15...40 VDC / 12...28 VAC
Display	Optional (without backlight)
Temperature range	Scalable
Probes	Not interchangeable Standard, duct probe 100 mm (optional, duct probe 300 mm)
Filter type	Polyethylene



Wall version



Duct version



Compatible

- SW21 PC software

Delivery package

- Factory adjustment certificate
- Short instruction manual

Recommended accessories

- USB service cable AC0003
- Calibration device ER-15
- Mounting flange AC5005

HygroPalm31

The HygroPalm HP31 is a handheld instrument with a fix Rotronic probe, it is able to perform spot measurements and logging of relative humidity, temperature and psychrometric parameters.

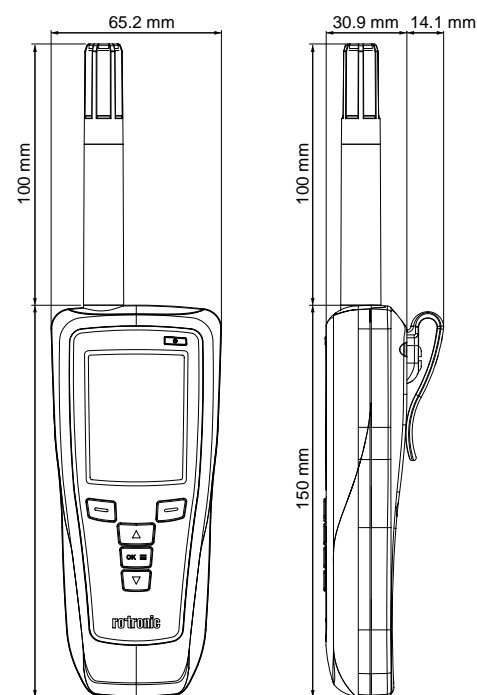
APPLICATIONS

Field inspection and spot checks in HVAC, pharmaceutical industry, agriculture and food industry and building management systems.

FEATURES

- Measures relative humidity and temperature and perform psychrometric calculations
- Visual and audible alarms
- Graphic display for saved data
- 64'000 data points memory with programmable logging interval
- Long-life rechargeable battery (up to 48 hours at a logging interval of 30 seconds)

General specifications	
Order code	HP31
Device type	Handheld device (%RH / °C)
Application range	-10...60 °C 0...100 %RH (non-cond.)
Storage range	-10...45 °C 10...90 %RH
Probe application range	-10...60 °C 0...100 %RH (non-cond.)
Functions	Spot measurements Programmable logging interval MIN / MAX / AVG
Accuracy @ 23°C	±2 %rH / ±0.3 °C
Logging interval	1 s...24 h
Memory capacity	8 x 8000 data points
Psychrometric calculations	Dew / Frost point (Dp / Fp) Wet bulb temperature (Tw) Enthalpy (H) Vapor concentration (Dv) Specific humidity (Q) Mixing ratio by weight (R) Vapor pressure (E) Saturation vapor pressure (Ew) Saturation vapor density (SVD)
Calculation method	WMO Standard
Display refresh rate	1 s (typical)
Integrated battery	Lithium polymer, 3.7 V, 1000 mAh 48 h – Logging every 30 s, screen off 10 h – Screen always on
PC interface	Micro-USB port, HW4 compatible > V3.9
Housing / Mechanics	
Enclosure material	ABS, TPR
IP protection class	IP65
Dimensions	160 x 63 x 30 mm
Weight	185 g



Compatible

- HW4 software > V3.9

Delivery package

- HygroPalm HP31
- Soft case
- Micro-USB service cable AC0006
- HW4 LITE (max. 3 instruments connected)

Recommended accessories

- Humidity standard for calibration 10 %RH EA10-SCS
- Humidity standard for calibration 35 %RH EA35-SCS
- Humidity standard for calibration 80 %RH EA80-SCS

HygroPalm32

The HygroPalm32 can be combined without adjustment with all all HC2 and HC2A probes (except HC2-LDP). It measures relative humidity and temperature, can perform all psychrometric calculations and has trend indicators as well as a hold function to freeze measured values.

APPLICATIONS

Field inspection and spot checks in HVAC, pharmaceutical industry, agriculture and food industry and building management systems.

FEATURES

- Measures relative humidity and temperature and perform psychrometric calculations
- Visual and audible alarms
- Graphic display for saved data
- 64'000 data points memory with programmable logging interval
- Long-life rechargeable battery (up to 48 hours at a logging interval of 30 seconds)

General specifications	
Order code	HP32
Device type	Handheld device (%RH / °C)
Application range	-10...60 °C 0...100 %RH (non-cond.)
Storage range	-10...45 °C 10...90 %RH
Probe application range	Depends on probe
Functions	Spot measurements Programmable logging interval MIN / MAX / AVG
Accuracy @ 23°C	Depends on probe
Logging interval	1 s...24 h
Memory capacity	8 x 8000 data points
Psychrometric calculations	Dew / Frost point (Dp / Fp) Wet bulb temperature (Tw) Enthalpy (H) Vapor concentration (Dv) Specific humidity (Q) Mixing ratio by weight (R) Vapor pressure (E) Saturation vapor pressure (Ew) Saturation vapor density (SVD)
Calculation method	WMO Standard
Display refresh rate	1 s (typical)
Integrated battery	Lithium polymer, 3.7 V, 1000 mAh 48 h – Logging every 30 s, screen off 10 h – Screen always on
PC interface	Micro-USB port, HW4 compatible > V3.9
Housing / Mechanics	
Enclosure material	ABS, TPR
IP protection class	IP65
Dimensions	160 x 63 x 30 mm
Weight	185 g



Compatible

- All HC2 and HC2A probes (except HC2-LDP)

Delivery package

- HygroPalm HP32
- Short instruction manual
- Soft case
- USB-Micro service cable AC0006

Recommended accessories

- Humidity standard for calibration 10 %RH EA10-SCS
- Humidity standard for calibration 35 %RH EA35-SCS
- Humidity standard for calibration 80 %RH EA80-SCS

HygroGen2 / HygroGen2-XL accessories

Consumables

HG2-DES-3	Desiccant for molecular sieve (3 kg)
HG2-DC	Additional desiccant cell; pre-filled with molecular sieve
HG2-FILL	Fill tube and syringe

Chamber doors, plugs and probe sleeves

HG2-D-888888	HG2-S door, 6 x 30 mm ports with 6 bungs; order specific B8 sleeves to suit smaller probe diameters
HG2-DP-00000	HG2-S clear acrylic door (no ports) for instruments with displays
HG2-B8	30 mm bung for HG2-D-888888
HG2-B8-xx	B8 probe sleeves for HG2-D-888888 (external: 30 mm; internal: probe diameter see xx diameter codes)
HG2-D-xxxxx	HG2-S custom door for > 30 mm ports, please ask your Rotronic dealer for the doors available
HG2-Bxx	Custom bung
HG2-Bxx-xx	Custom probe adaptor sleeves

Accessories

HG2-TB	HG2-S transit bag, lightweight
HG2-TC	HG2-S heavy-duty transit case
HG2-AC3001-L/050	HygroClip2 calibration cable, 50 cm, USB connector
HG2-HW4-V3	Software for HygroGen2
HG2-CAM	Probe sleeve with high definition USB cam



HG2-D-888888 door with plugs and probe sleeves



Door cross section



HygroGen bag



HygroGen case

CL11 benchtop display unit

Benchtop display unit for monitoring indoor air quality. Measures and records CO₂, relative humidity and temperature.

APPLICATIONS

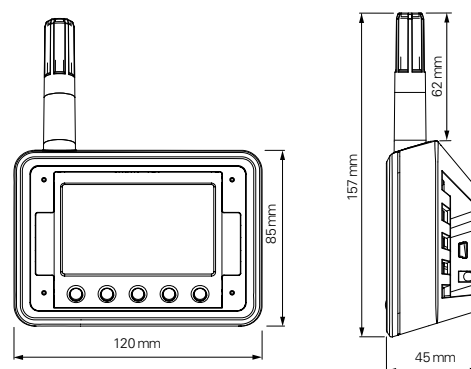
Indoor air quality (IAQ) measurements in offices, conference rooms, schools, etc.

FEATURES

- Benchtop or wall mounting
- Measures and records CO₂, relative humidity and temperature
- Accuracy: ± 30 ppm, ± 3 %RH, ± 0.3 K
- ROTRONIC HYGROMER® IN-1 humidity sensor
- 40,000 data point memory for CO₂, humidity and temperature values
- Maximum, minimum and average value display
- Adjustable audible and visual CO₂ alarm
- Real-time clock
- Includes free logging and configuration software SW21



Order code	CL11
Probe type	CO ₂ : infrared (NDIR) with automatic calibration (ABC) Humidity: ROTRONIC HYGROMER® IN-1 Temperature: NTC
CO ₂ measurement range	0...5000 ppm
Range of application	0...50 °C / 0...95 %RH, non-condensing
Material	ABS
Power supply	Only with AC adapter
IP protection	IP30



Delivery package

- Short instruction manual
- AC adapter AC1214
- Rotronic software SW21
- USB cable
- Factory adjustment certificate

Recommended accessories

- Humidity calibration device ER-15
- Humidity standard for calibration 35 %RH EA35-SCS
- Humidity standard for calibration 80%RH EA80-SCS
- External temperature probe AC1215

CO₂ DISPLAY

Room / Wall panel for monitoring indoor air quality. Measures and records CO₂, relative humidity and temperature.

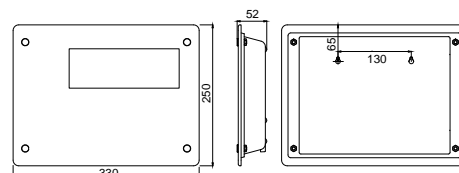
APPLICATIONS

Indoor air quality (IAQ) measurements in offices, conference rooms, schools, etc.

FEATURES

- Benchtop or wall mounting
- Measures and records CO₂, relative humidity and temperature
- Accuracy: ±30 ppm, ±2.5 %RH, ±0.3 K
- ROTRONIC HYGROMER® IN-1 humidity sensor
- 18,000 data point memory for CO₂, humidity and temperature values
- Adjustable, visual CO₂ alert indicator
- Data download via USB flash drive
- Display of date and time

Order code	CO ₂ Display
Probe type	CO ₂ : infrared (NDIR) with automatic calibration (ABC) Humidity: ROTRONIC HYGROMER® IN-1 Temperature: NTC
CO ₂ measurement range	0...5000 ppm
Range of application	0...50 °C / 0...95 %RH, non-condensing
Material	ABS
Power supply	AC adapter, 12 V
Dimensions	330 x 250 x 50 mm



Delivery package

- Short instruction manual
- Mounting hardware
- Factory adjustment certificate

Recommended accessories

- Humidity calibration device ER-15
- Humidity standard for calibration 80%RH EA80-SCS
- Humidity standard for calibration 35 %RH EA35-SCS

Laboratory analyzer AwTherm

With AwTherm, Rotronic offers a professional, high-end laboratory unit for temperature-stabilized measurement of water activity. The wide control range permits measurements to be integrated directly in the tempered manufacturing or storage process.

APPLICATIONS

Food industry, pharmaceutical industry, cosmetics industry

FEATURES

- Highest precision through exact stabilization of temperature
- Wide temperature-control range
- Outstanding repeatability
- Excellent long-term stability
- Reference probe exchangeable for calibration or cleaning

General specifications	
Order code	AwTherm
Operating conditions	1...40 °C (34...107 °F)
Measurement range	0.005...1.000 aw
Accuracy	±0.005 aw (10...30 °C) / ±0.1 °C (±0.18 °F)
Power supply	110...230 V / 50...60 Hz
Display	8-line LCD with touch operation
Sample sizes	Variable (14 mm / 40 mm)
Current consumption	≤2 A
Temperature control range	0...60 °C (32...140 °F)
Temperature stability	±0.01 °C/min (±0.018 °F/min)
Chamber-temperature gradient	<0.1 °C (<0.18 °F)
Probe	
Sensor	HYGROMER® IN-1
Maintenance / Calibration	Annual calibration (recommended)
Long-term stability	<0.01 aw/year
Temperature sensor	PT100, DIN 1/3 Class B
Functions	
HW4-compatible	Yes (v 3.6.0 and higher)
aw-Quick function	Yes
Interface	Micro USB
Calibration / Adjustment	Aw & temperature: HG2-S (probe removed with AwT-CAL) Aw: Rotronic humidity standards (via HW4)
Trend indicator	Yes
Approval / Conformity	
Standards	ISO 18787
CE / EMC	EMC 2004/108/EC / IEC EN 61010-1:2010
IP protection	IP21
Housing / Mechanics	
Enclosure material	PC / ABS
Housing dimensions	400 x 180 x 180 mm
Sample container dimensions	AwT-PS14: Ø46 x 14 mm / AwT-PS40: Ø46 x 40 mm
Weight	4200 g



Delivery package

- AwTherm incl. AwT-MHS
- AwT-PS14 or AwT-PS40
- AC adapter
- USB cable
- Instruction manual
- HW4-P-Q-V3-Code

Recommended accessories

- AwTherm measurement probe AwT-MHS
- AwTherm sample holders AwT-PS14 / AwT-PS40
- Disposable sample containers PS-14 / PS-40