


Advantages

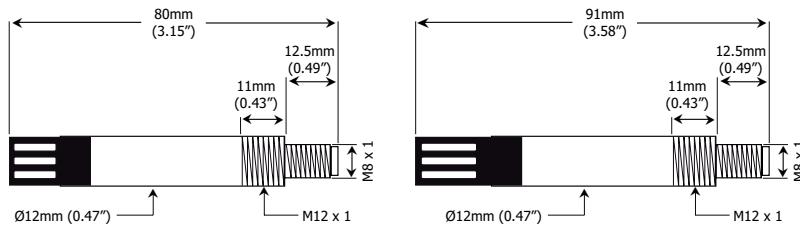
- Stand Alone Relative Humidity and Temperature Probes
- Using the HygroMer relative humidity sensor, accurate and stable relative humidity measurement
- Analog or digital outputs
- Polymer or stainless steel housing

Applications

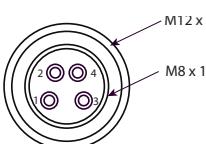
- HVAC & Building Automation, including Datacenters
- Industrial Process Control
- Environmental & Meteorological Monitoring
- Agriculture & Greenhouses
- Environmental Chambers

HC1-S(M)12

- Application range: 0 to 100 %rh, -20 to 80 °C
- Accuracy: ± 2 %rh (10 to 90 %rh), ± 0.2 K @ 23°C
- Stability: ± 1 %rh/year
- Materials: Moulded polymer or stainless steel


Electrical Connections
Digital Output

| Cable | Connector | |
|-------|-----------|--------------------|
| Brown | Pin 1 | Supply voltage V + |
| White | Pin 2 | Modbus |
| Blue | Pin 3 | V - |
| Black | Pin 4 | Modbus |


Voltage Output

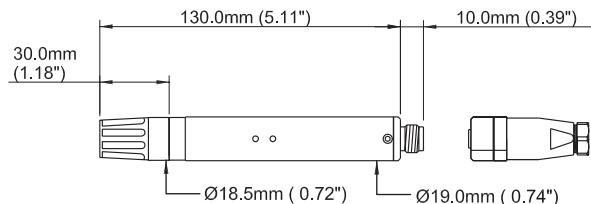
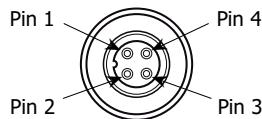
| Cable | Connector | |
|-------|-----------|----------------------|
| Brown | Pin 1 | Power supply V + |
| White | Pin 2 | Output rh + |
| Blue | Pin 3 | Output temperature + |
| Black | Pin 4 | Common ground |

Modbus Register

| Register | Content | Format |
|-----------|--|---------------------|
| 0 | T ambient | 235 = 23.5 °C |
| 1 | rh | 457 = 45.7 % |
| 2 | Model type | 64480 (fixed) |
| 3 | Trade mark | 5000 (fixed) |
| 4 | Software release | xx.xx |
| 5/6 | Future purposes (don't use) | - |
| 7 | Modbus Device Address | Default 1 |
| 8 | Baud rate | 2 = 9600, 3 = 19200 |
| 9 to 13 | Factory purposes | - |
| 14 | Flash protect | Default 0 |
| 15 to 254 | Factory purposes (calibration registers) | - |

HC1-S(M)19

- Application range: 0 to 100 %rh, -20 to 80 °C
- Accuracy: 1 Calibration Point:
±3 %rh (30 to 80 %rh) / ±0.3 K
- Accuracy: 2 Calibration Points:
±2 %rh (10 to 90 %rh) / ±0.2 K
- Stability: ±1 %rh/year
- Materials: Molded polymer or Stainless Steel



Electrical Connections

Voltage Output

| Cable | Connector | |
|-------|-----------|----------------------|
| Brown | Pin 1 | Power supply V + |
| White | Pin 2 | Output temperature + |
| Blue | Pin 3 | Common ground |
| Black | Pin 4 | Output rh + |

Current Output

| Cable | Connector | Pin |
|-------|-----------|----------------------|
| Brown | Pin 1 | Output rh + |
| White | Pin 2 | Output temperature - |
| Blue | Pin 3 | Output rh - |
| Black | Pin 4 | Output temperature + |

Digital Output

| Cable | Connector | RS232 | RS485 |
|-------|-----------|------------------|------------------|
| Brown | Pin 1 | Power supply V + | Power supply V + |
| White | Pin 2 | TX | TX/RX + |
| Blue | Pin 3 | RX | RX/TX - |
| Black | Pin 4 | Ground | Ground |

Technical Information

| | HC1-X12 | HC1-X19 |
|-------------------------|--|---|
| Probe type | | Analog or Digital relative humidity and temperature |
| Probe Diameter | 12mm | 19mm |
| Measuring range | | -20 to 80 °C / 0 to 100 %rh |
| Accuracy at 23 °C | ±2 %rh (10 to 90 %rh) / ±0.2 K | 1 Calibration Point: ±3 %rh (30 to 80 %rh) / ±0.3 K 2 Calibration Points: ±2 %rh (10 to 90 %rh) / ±0.2 K |
| Long-term stability | | <1 %rh / year |
| Probe housing | | Molded polymer or stainless steel |
| IP Protection rating | | IP65 |
| Power supply | 14 to 30 VDC (0 to 5 V/ 0 to 10 V output) | 5 to 30 VDC (0 to 1 V & mA output) |
| Output signal | 0 to 1V, 0 to 5V, 0 to 10 V RS485 | 4 to 20 mA 0 to 1V, 0 to 5V, 0 to 10 V RS232, RS485 |
| Response time rh sensor | | <10 sec typical (for 90% of the step change) |
| Electrical connections | 4 pin M8 connector, 4 pin M12 connector | M12 |

HC1-Series Accessories and Spare Parts

| Order Code | Product / Description |
|--|--|
| Protection cap | |
| A000002 | 19mm (0.75") Slotted protection cap black |
| A000003 | 12mm (0.47") Slotted protection cap black |
| A000046 | 13mm HDPE Protection cap |
| A000120 | ø90mm (3.54") WM weather protection cap (for ø19mm (0.75") probes) |
| A000125 | ø120mm (4.72") WM weather protection cap (for ø19mm (0.75") probes) |
| Filter | |
| A000014 | 19mm (0.75") PVDF filter |
| A000015 | 19mm (0.75") PVDF filter w/ protection cap black |
| A000017 | 12mm (0.47") PVDF filter |
| A000018 | 12mm (0.47") PVDF filter w/ protection cap black |
| A000021 | 19mm (0.75") Mesh filter w/ protection cap black |
| A000022 | 12mm (0.47") Mesh filter w/ protection cap black |
| A000023 | 12mm (0.47") Flat SS sintered dust filter |
| A000025 | 19mm (0.75") Arrow 5µm SS sintered filter |
| A000027 | 19mm (0.75") connector, no cable, w/screw terminal |
| A000028 | 12mm (0.47") Arrow 20µm SS sintered filter |
| A000040 | 19mm (0.75") Foil filter 2µm w/protection cap black |
| A000042 | 19mm (0.75") Oleophobic foil filter 0.7µm (w/protection cap black) |
| K9 | 12mm (0.47") Mesh filter with protection cap, light brown, extra long (30mm) |
| K10 | 12mm (0.47") PTFE filter with peek protection cap |
| K11 | 12mm (0.47") Slotted protection cap, light brown, extra long (30mm) |
| Cable | |
| A000030-xx xx = total length i.e. A000030-20 | 19mm (0.75") Connector - Connector - Cable (price per meter) |
| A000031 | 19mm (0.75") connector with 2m (6.5') cable |
| A000032 | 19mm (0.75") connector with 5m (16') cable |
| A000033 | 12mm (0.47") connector with 2m (6.5') cable |
| A000036 | 12mm (0.47") connector with 5m (16') cable |
| A000037 | 12mm (0.47") connector with 10m (32.8') cable |
| A000321 | 12mm (0.47") connector without cable (with solder terminal) |
| A000321-xx xx = total length i.e. A000321-20 | 12mm (0.47") connector - Connector - Cable (price per meter) |
| A000322 | 12mm (0.47") Connector with 20m (25.6') cable |
| Mounting | |
| A000100 | 3/4" NPT SS adj. fitting for SS probes |
| A000101 | 1/2" NPT SS adj. fitting for SS probes |
| A000110 | Al mounting flange for ø19mm (0.75"), SS probes (outside ø80mm (3.15") |
| A000111 | Al mounting flange for ø12mm (0.47"), SS probes (outside ø40mm (1.57") |
| A000150 | Mini flange for ø19mm (0.75") polymer probe |

Compatibility

- HC1 Series are standalone probes which are not compatible with Rotronic transmitters and Rotronic handhelds.
- The only compatible accessories and spare parts like filters, protection caps, mounting clips etc. are listed here.
- In case of insecurity, please contact your local Rotronic partner.



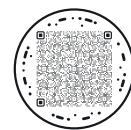
HC2A-S



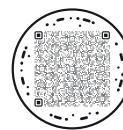
HCA-SM



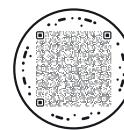
HC2A-S



North America



APAC



EMEA