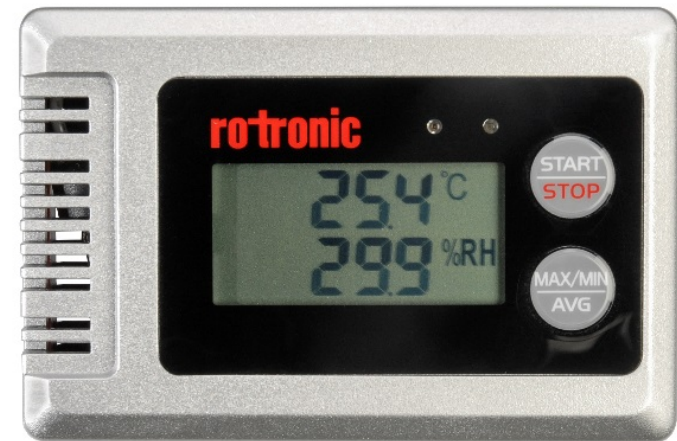


Rotronic Low Cost Data Loggers



Webinar Presenters



Bruce McDuffee

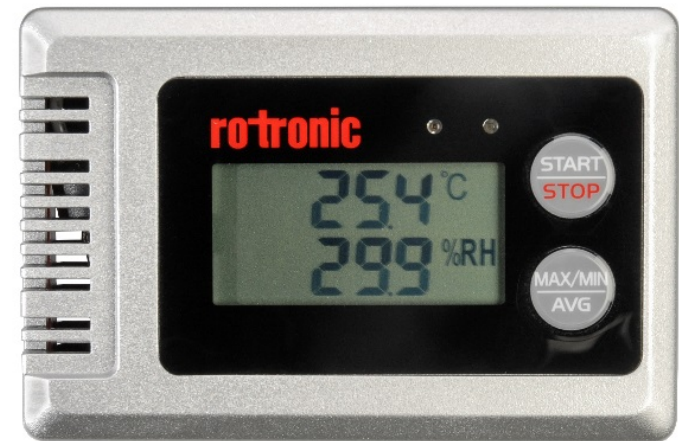


Harry Trainor

Rotronic Instrument Corporation

- Founded 1965
- World Leader in RH & T Measurement Instruments
- Sales/Product Offices in 9 Countries
- ISO 9001
- ISO-17025 Calibration
- Wide Range of Probes, Handhelds, Transmitters, Loggers, Wireless Devices
- RH, T, Diff Pres, CO2

Rotronic Low Cost Data Loggers



LEADING IN HUMIDITY MEASUREMENT

HL-20/21



ro'tronic
LEADING IN HUMIDITY MEASUREMENT

HL-20 / HL-21 Basic

HL-20



• Temperature

• Relative humidity

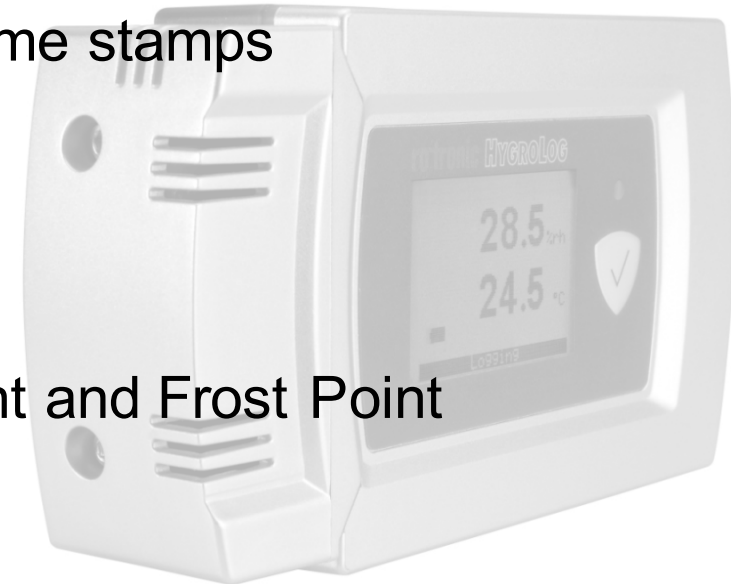
HL-21



• Temperature only

HL-20/21 at a glance

- Instrument operating range 0...100 %rh / -10...60 °C (w/o display)
- 20000 data point memory with date & time stamps
- Programmable Alarm limits
- Programmable recording intervals
- Psychrometric Calculations of Dew Point and Frost Point
- USB interface
- Long Battery Life



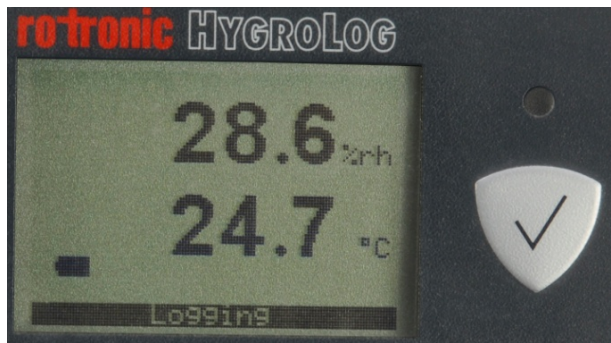
Specification

HL-20D and HL-21D Dataloggers

- Operating range: -10...60 °C / 0...100 %rh
- Accuracy: +/- 0.8%RH, 0.3°C (10-60 %RH)
+/- 1.3 %RH, 0.3°C (0-10 %RH and 60-100 %RH)
- IN-1 humidity sensor
- Battery lifetime: 3 years (5 min log interval)
- Software: HW4-lite (free version) Limit 3 Loggers
- Software: HW4-E, HW4-P, HW4-val (FDA/GMP conform)

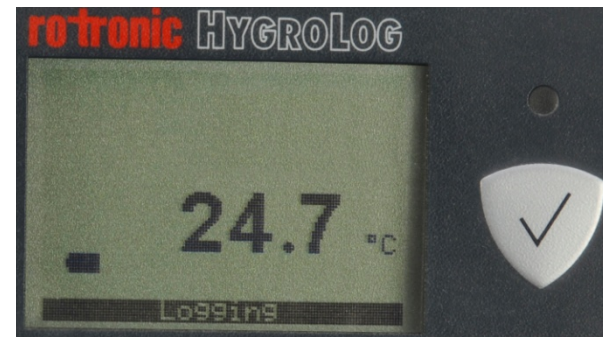
Display

HL-20



- Relative humidity or calculated parameter
- Temperature
- Battery charge indicator
- Message bar
- Status indicator (LED)
- Function key

HL-21



- Temperature
- Battery charge indicator
- Message bar
- Status indicator (LED)
- Function key

Display

- **Display with backlight**
- **Alarm** ➤ Red LED flashes when value of any parameter is out-of-limit
- **Data logging is active** ➤



Data logging



HL-20

Logs up to **20'000** value pairs
➤ relative humidity and temperature

HL-21

Logs up to **20'000** data values
➤ temperature

Data logging

- **Start-Stop:** the recording stops when the memory is full
- **Loop:** when the memory is full the oldest record is dumped to make room for the new record
- Each record is **date** and **time stamped** (real-time clock)
- Log interval: 5 sec...1 h



Alarm function

Visible alarm can be programmed when the HL20 or HL21 detects the following:

- Out-of-limits value (defined with the HW4)
- Communication loss with the probe
- Sensor failure and sensor drift



Customer Benefits

- The most stable sensor in the industry to practically eliminate any maintenance downtime
- Traceable spot check without paper records
- Data logger for long term checking
- Free firmware update for future features
- Best Price / Performance ratio
- Long Battery Life
- FDA 21 CFR Part 11 / GAMP 4 compliant



LEADING IN HUMIDITY MEASUREMENT

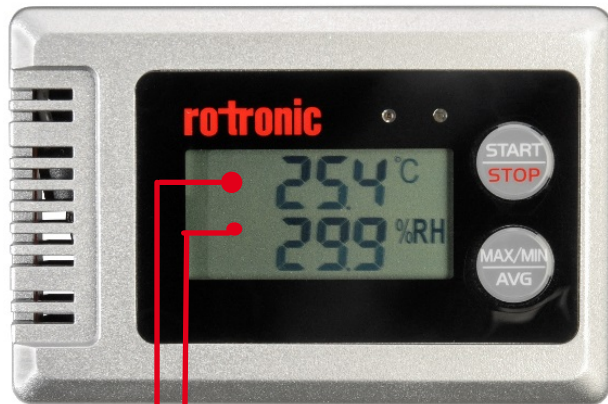
ROTRONIC HL-1D and TL-1D Datalogger



Overview

HL-1D and TL-1D Datalogger

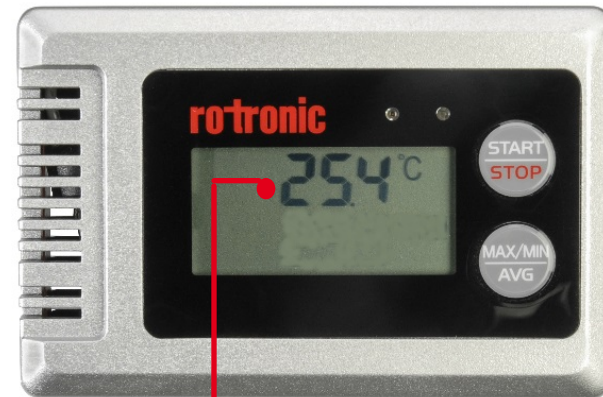
HL-1D
Humidity/Temperature



Temperature

Relative humidity

TL-1D
Temperature



Temperature only

Specification

HL-1D and TL-1D Datalogger

- Operating range: -20...70 °C / 0...100 %rh
- Accuracy: +/- 3%RH, 0.3°C
- IN-1 humidity sensor
- Memory points: 32'000
- Battery lifetime: 3 years (5 min log interval)
- Software: HW4-lite (free version) Limit 3 Loggers
- Software: HW4-E, HW4-P, HW4-val (FDA/GMP conform)

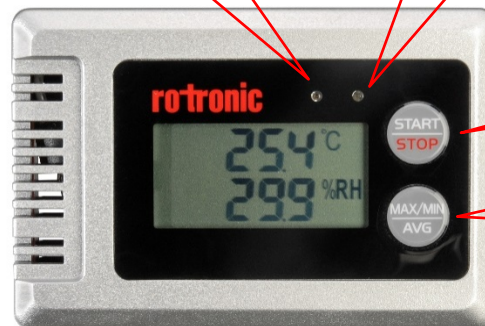
Functions HL-1D and TL-1D Datalogger

Red light: flashes when
exceeding humi/temp
limits and low battery

Green light: flashes during
logging is active

Press long: Start/Stop logging
Press short: turn on/off device

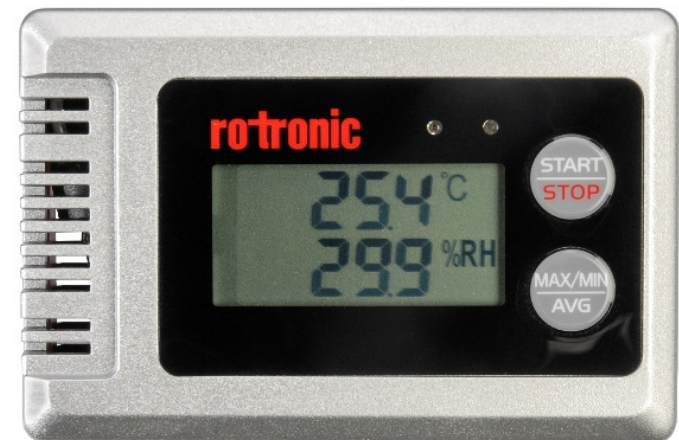
MAX/MIN/AVG function
(only during logging is active)



Applications

- Pharmaceutical clean rooms
- Storage facilities
- Manufacturing floors
- Test applications
- Museums
- and many more...

Thank you for your attention...



Comments & Questions



If we don't get to your question today, we'll respond via email after the webinar.

More Resources

Rotronic Humidity Academy

www.rotronic-usa.com/humidity-academy

Check out the eNewsletters: Fun Facts,
Mapping Matters and T³

content.rotronic-usa.com/subscription-center

Helping you make a better humidity measurement – and more.

Transmitters, portable meters and loggers for:

- Humidity
- Carbon Dioxide
- Low Dew Point
- Water Activity
- Differential Pressure
- Monitoring systems for cGMP
- ISO 17025 calibrations (humidity and temperature)



Thank you!

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