

HUMIDITY AND TEMPERATURE DATA LOGGERS



COMPACT, DEPENDABLE AND INEXPENSIVE.

- Measurement accuracy of $\pm 3.0\%RH$ and $\pm 0.3\text{ }^{\circ}C$
- Compact design with a high IP protection
- Large storage capacity: 32,000 data point memory
- Programmable start and stop time with the HW4 software
- MIN/MAX/AVG statistical function
- Includes HW4-lite programming and analysis software
- Clear LCD with visual alerts
- Appropriately long battery life (up to 3 years)
- FDA 21 CFR Part 11 / GAMP 5 conform software HW4



Z.I. Le Trési 6 D - 1028 Préverenges
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rotronic
MEASUREMENT SOLUTIONS

TECHNICAL INFORMATION

Dimensions / Ports

Type HL-1D

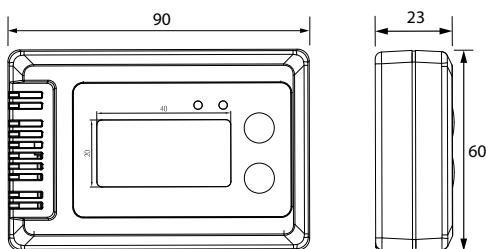


Type TL-1D



USB-Mini port
(settings and data download)

Battery compartment



Data Logging



The values stored in the HL-1D or the TL-1D are available for download with the HW4 software. After downloading the saved data, a graphical display of the values is possible. Via the HW4

software, the logging interval, logging mode, alarms and other such functions can be setup or enabled.

| Log-Interval | Storage capacity reached after |
|--------------|--------------------------------|
| 30 sec | 11 days 2 hours |
| 5 min | 111 days |
| 30 min | 1 year 301 days |
| 45 min | 2 years 270 days |
| 60 min | >3 years |

General Specifications (only for V2.0)

| | |
|--------------------------|---|
| Parameters | HL-1D: Humidity and temperature TL-1D: Temperature |
| Temperature sensor | NTC |
| Humidity sensor | HL-1D: ROTRONIC HYGROMER® IN-1 TL-1D: -- |
| Accuracy at 23 °C ±5 °C | HL-1D: ±3.0 %RH / ±0.3 °C TL-1D: ±0.3 °C |
| Range of application | -20...70 °C / 0...100 %RH |
| IP rating | IP67 |
| Weight | 85 g |
| Dimensions | 90 x 60 x 23 mm |
| Logging interval | 30 s...24 h |
| Battery | 1 x CR2 |
| Battery life | 3 years (at a logging interval of 1 h) |
| Battery charge indicator | Yes (HW4 software, display and LED indicator) |
| Storage capacity | HL-1D: 32,000 data point memory (RH & T) TL-1D: 32,000 data point memory (T) |
| Function | MIN/MAX/AVG statistical data |
| Display | LCD, 2 lines, 1 decimal resolution |
| Display refresh rate | 5 sec. (Standard) (when logging same refresh rate as log interval) |
| LED indicator | 2 LEDs Right LED flashes green during data logging Left LED flashes red when alarm limits breached or low battery |
| Communication | USB-Mini port |
| Adjustment | Humidity 1-point |
| FDA/GMP compatibility | FDA 21 CFR Part 11 / GAMP 5 conform software HW4 |
| Software | HW4 V3.4.1 or later |
| Accessory | |
| USB-Mini cable | AC0003 |

| | |
|-----------------|---|
| Included | <ul style="list-style-type: none"> - CR2 Battery - Short instruction manual - Function and calibration certificate - HW4-lite software key code (software to be downloaded from |
|-----------------|---|

If you require any further information about these data loggers, please don't hesitate to contact us or visit our website www.rotronic.com, where you can find a complete, up to date overview of our data loggers and other products.



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