# HUMIDITY AND TEMPERATURE DATA LOGGERS




## COMPACT, DEPENDABLE AND INEXPENSIVE.

- Measurement accuracy of ±3.0 %RH and ±0.3 °C
- Compact design with a high IP protection
- Large storage capacity: 32,000 data point memory
- MIN/MAX/AVG statistical function
- Includes HW4-lite programming and analysis software
- Clear LCD with visual alerts
- Appropriately long battery life (3 years at logging interval of 5 min.)
- Conforms to FDA 21 CFR Part 11 / GAMP 5




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# TECHNICAL INFORMATION

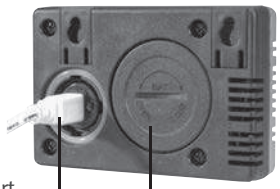
**Dimensions / Ports**

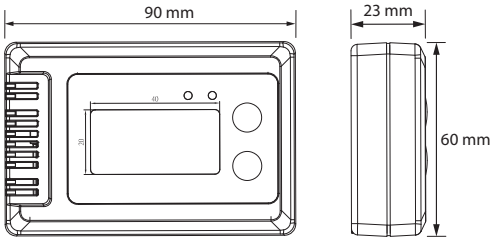
**Type HL-1D**



**Type TL-1D**






**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.

| **General Specifications** | |
|---|---|
| Parameters | HL-1D: Humidity and temperature<br>TL-1D: Temperature |
| Temperature sensor | NTC |
| Humidity sensor | HL-1D: ROTRONIC HygroMer IN-1<br>TL-1D: -- |
| Accuracy at 23 °C ±5 °C | HL-1D: ±3.0 %RH / ±0.3 °C<br>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 5 minutes |
| Battery charge indicator | Yes (HW4 software, display and LED indicator) |
| Storage capacity | HL-1D: 16,000 data point memory (RH & T)<br>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)<br>Same as Logging interval |
| LED indicator | 2 LEDs<br>Right LED flashes green during data logging<br>Left LED flashes red when alarm limits breached or low battery |
| Communication | USB-Mini port |
| Adjustment | Humidity 1-point |
| FDA/GMP compatibility | Conforms to 21 CFR Part 11 and GAMP5 |
| Software | HW4 V3.4.1 or later |
| **Accessory** | |
| USB-Mini cable | AC0003 |

| **Included** | |
|---|---|
| | - CR2 Battery<br>- Short instruction manual<br>- Function and calibration certificate<br>- HW4-lite software key code (software to be downloaded from www.rotronic.com) |

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If you require any futher 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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