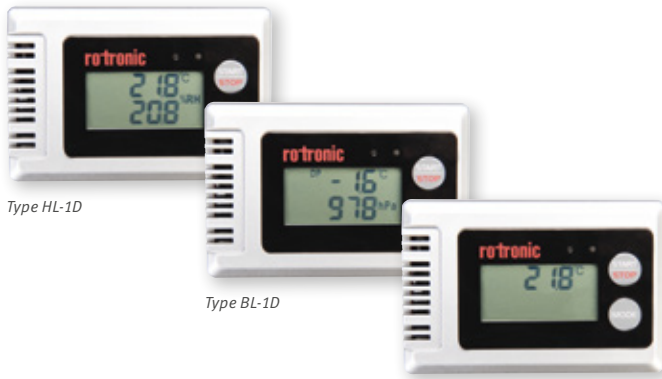


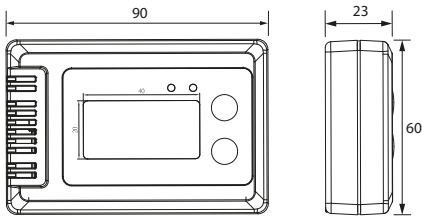
# HL-1D / BL-1D / TL-1D



Type HL-1D

Type BL-1D

Type TL-1D



## BENEFITS

- 3 types available:
  - HL-1D:** Humidity and temperature
  - BL-1D:** Process pressure, dew point, humidity and temperature
  - TL-1D:** Temperature, high storage capacity: 64,000 lines
- Free evaluation and configuration software HW4-lite
- FDA 21 CFR Part 11 / GAMP 5-compliant HW4 software
- Certified to EN 12830

## APPLICATIONS

- Logistics
- Pharmaceuticals
- Pharmacies



## TECHNICAL INFORMATION

Humidity measurement	
Measurement method	ROTRONIC HYGROMER® IN-1
Accuracy 23 °C ±5 °C	±3.0 %RH
Resolution	0.1 %RH
Measurement range	0...100 %RH (non-condensing)
Temperature	
Measurement method	NTC
Accuracy 23 °C ±5 °C	±0.3 °C
Resolution	0.1 °C
Measurement range	-30...70 °C
Pressure	
Measurement method	Bosch BMP280
Accuracy 23 °C ±5 °C	±3 hPa
Resolution	1 hPa
Measurement range	300...1100 hPa
Dew point	
Measurement method	Calculation (from %RH and °C)
Calculation method	WMO Standard
Logging 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
Delivery package	
<ul style="list-style-type: none"> <li>• Battery, CR2</li> <li>• Short instruction manual</li> <li>• Function and calibration certificate</li> </ul>	

General specifications	
Logging interval	30 s..24 h
Storage capacity	64,000 lines
Function	MIN / MAX / AVG
Display	LCD, 2 lines
Display refresh rate	5 sec. (standard) (in logging mode same as the logging interval)
LED indicators	2 LEDs Right LED flashes green when logging data, left LED flashes red when limits reached or low battery
Communication	USB-Mini port
Software	HW4 V3.4.1 or later (BL-1D: V3.9 or later) included
Application range	-30...70 °C 0...100 %RH (non-condensing)
Battery	1 x CR2
Battery life	1 year (1 h logging interval, room temperature)
IP protection class	IP67
Weight	85 g
Dimensions	90 x 60 x 23 mm
FDA/GMP compatibility	FDA 21 CFR Part 11 / GAMP 5-compliant HW4 software
Standards	EN 12830
Accessories	Mini USB cable AC0003 (contained in xL-1D-SET)