Product: HL-1D/ TL-1D/ BL-1D

Hard-and Firmware changes

Typ HL-1D

Typ BL-1D

Typ TL-1D
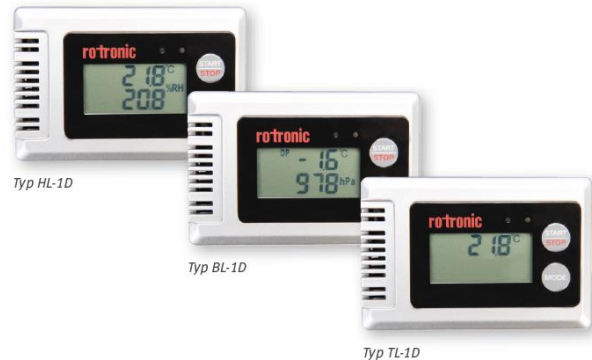
Version 4.1 (Valid from October 2020)

This hard- and software update 4.1 extends all functions and features of the last generation of HL-1D/ TL-1D & BL-1D (Version 4.0 and previous versions) with the following modifications and additions:

Enhancements/Improvements:

- Change of low battery threshold
  - The low battery appear threshold from 2.6V to now **2.7V**
  - Impact: Once the Logger detected the voltage is below 2.7V, the low battery icon and red LED appears, unless the battery is changed
- Change of logging function
  - When the battery power is drop to 2.65V, the logging will be stop
- Measuring & recording
  - Adjusted the voltage detection frequency to be identical to measuring

Bugs fixed:

• None

Known bugs:

• None

Notes:

• None

Version 4.0 (Valid from Sep 2019)

This hard- and software update 4.0 extends all functions and features of the last generation of HL-1D/ TL-1D & BL-1D (Version 3.1 and previous versions) with the following modifications and additions:

Enhancements/Improvements:

- Change of low battery threshold
  - The low battery appear threshold from 2.55V to now **2.6V**
  - Impact: Battery life time change up to one year
- Battery Icon
  - The low battery sign can also appear if the average power consumption multiplied with the number of records is higher than 760mAh, even the battery voltage is still higher than 2.6V.

Bugs fixed:

• None

Known bugs:

• None

Notes:

• None

Version 3.1 (Valid from Nov 2018)

This hard- and software update 3.1 extends all functions and features of the last generation of HL-1D/ TL-1D & BL-1D (Version 3.0 and previous versions) with the following modifications and additions:

Enhancements/Improvements:

• None

Bugs fixed:

• Reading jump suddenly while logger is linked with PC continuously

Known bugs:

• None

Notes:

• None

Firmware-Version 3.0 (Valid from Jul 2017)

This hard- and software update 3.0 extends all functions and features of the last generation of HL-1D/ TL-1D & BL-1D (Version 2.0 and previous versions) with the following modifications and additions:

Enhancements/Improvements:

- Change of temperature measuring range
  o from -20°C change to -30°C

Bugs fixed:

• None

Known bugs:

• None

Notes:

• None

Firmware-Version 2.0 (Valid from Aug 2015)

This hard- and software update 3.0 extends all functions and features of the last generation of HL-1D/ TL-1D & BL-1D (Version 2.0 and previous versions) with the following modifications and additions:

Enhancements/Improvements:

- Memory Storage change
  o From 32000 change to 64000

Bugs fixed:

• None

Known bugs:

• None

Notes:

• The power consumption and battery life time depend on the log-interval of the device. The higher the log-interval the less the power is used. The most power is used when the device is turned on but not logging (real-time display) what leads to a battery life time of around 300 days. To increase the battery life time the user should turn off the device when not logging or choose a bigger logging interval.