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Limited write operations to leak detectors via Data interfaces

Due to the increasing degree of automation on the customer side, data interfaces are becoming increasingly important. Almost all leak detector parameters can be read or written by a higher-level control system via the RS-232 interface or the BM1000 bus modules.

The reading of parameters from the leak detector can be performed by a higher-level control system **without** restriction.

The writing of parameters from a higher-level control system to the leak detector is **limited**. Each parameter sent to the leak detector by a higher-level control system is stored directly in the EEPROM (Memory) of the leak detector's MSB, even if the parameter value has not been changed.

The EEPROM manufacturer guarantees 1.000.000 write cycles per memory address at room temperature.

If more write operations per memory address have been performed, there's no guarantee that the EEPROM continues to store the parameters correctly.

This may cause the leak detector to become unusable for your application.

If memory locations in the EEPROM are defective, the leak detector reports this via a warning message immediately after power on.

To protect the EEPROM of the leak detector's MSB, unnecessary write operations from a higher-level control system to the leak detector should be avoided (under any circumstances).

Please find below some rules that must be observed when transferring parameters from a higher-level controller to the leak detector:

- Do not send a list of parameters where not all parameter values may have been changed. Only send parameters that have actually been changed.
- Do not send parameters that have not been changed
- Only send parameters that really need to be changed.
- Set the time interval between each transmission as long as possible. A good rule of thumb is not to write parameters more often than every 6 minutes.

These rules should always be observed, regardless of the data interface used:

- RS-232 Interface (ASCII, Binary or LD-Protocol)
- IO1000 using RS-232 Interface (ASCII, Binary or LD-Protocol)
- BM1000 Bus Module (PROFIBUS, PROFINET-IO, Ethernet/IP or DeviceNet) using **acyclic data transfer**. Cyclic data transfer is not affected.

This application note is valid for **all** INFICON leak detectors regardless of the data interface used.