

# TECHNICAL BULLETIN - 0004

## FLOW-X FREE MEMORY REQUIREMENTS

The actual memory usage of a Flow-X flow computer depends on:

- The type of installation (X/S, X/R, X/P)
- The number of modules
- The application and -version that is running on the flow computer
- Features that have been enabled:
  - Reports
  - Archives
  - Communication lists
- Added custom functionality

In case of a multiple module X/P installation, especially memory usage of the panel will be higher, because the panel is performing extra coordination and communication tasks. The same applies to the first module of a multiple module X/R installation. More modules means more memory usage, especially of the panel (X/P) or first module (X/R).

The applications for liquids (Liquid\_Metric and Liquid\_USC) need more memory than the applications for gas (Gas\_Metric and Gas\_USC). The liquid applications feature more tags due to a multiple product setup, extended sampling functionality, batching etc.

### 1. REQUIRED FREE MEMORY AMOUNT

For a reliable and sustainable operation of the flow computer each module (panel included) must have at least **8.0 MB** (8000kB) of free memory. A minimum of **10.0 MB** (10000kB) of free memory is recommended.

### 2. HOW TO CHECK THE ACTUAL FREE MEMORY

This section describes procedures to check the actual free memory of a single module flow computer and any module of a multiple module flow computer.

#### Single module flow computer

Follow this procedure to check the free memory of a single module flow computer, such as a Flow-X/S or Flow-X/R1 installation.

1. On the flow computer display, or through a web browser, browse to display page: System -> Performance.
2. Note the Memory Available

#### Multiple module flow computer

Follow this procedure to check the free memory of each module of a multiple module flow computer (Flow-X/P or Flow-X/R with multiple modules).

#### DATE

21 March 2016

#### VERSION

1.0

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#### NUMBER OF PAGES

2

#### APPLIES TO

*Flow-X applications*

#### KEYWORDS

- ✓ *Flow-X*
- ✓ *Memory*
- ✓ *Applications*

1. On the flow computer display, or through a web browser, browse to display page: System -> Modules.
2. Browse to a panel or module display and select: Performance
3. Note the Memory Available
4. Repeat this procedure for every panel / module

### 3. MEASURES TO REDUCE MEMORY USAGE

Please note these recommendations:

- Don't enable **reports** that are not needed
- Don't enable **archives** that are not needed
- Try to use **short communication lists**. The standard Modbus list in the applications is quite long and is, therefore, quite memory consuming. In large, multiple module applications, it's recommended to use a minimized, custom Modbus list, containing only those tags that need to be communicated. In these cases it's better not to use the large standard Modbus list.
- Be carefull when **adding custom functionality**. Be aware that memory usage increases with every tag that is added. Adding hundredths of tags may very well cause memory issues.
- For flow computers with 3 of 4 modules, **abbreviated standard applications** can be provided, leaving out some unneeded functionality (such as reverse totalizers and averages, or extensive sampling functionality). Please contact Spirit IT if you think you need such a stripped-down application.

### CHANGE LOG

Date	Version	By	Description
21 March 2016	1.0	Louis Joosten	Initial release