Flow Meter (FM)

Contents

Data-Pool General Notes

General information

- The device supports the MP Data-Pool functional profile. All available data points are managed in a data pool and accessible with MP read/write commands.
- This document describes all public data pool values of the device. It's divided into process values and configuration values.
- The MP Data-Pool functional profile is specified in the MP Cooperation Documentation. The document is provided to Belimo MP-Partners.
- See the technical datasheet for technical information about the device itself.

Identification

The connected type can be identified by its series number:

Prefix	Profile Type	Profile Category	Type
2	1	36	22PF-…

Configuration

Configuration data are not password protected. No Login is required.

Timing of MP-Bus queries

Master implementations typically poll the slaves in cycles (MP1, MP2, MP3, …). Reading all data pool values of this node in one cycle are not recommended, because it would reduce the overall MP-Bus performance

Recommendation:

- Split up the queries into several cycles (e.g. 3 queries per cycle).
- Adjust repetition rates (reading values) according to the rate of change of the value
- Prevent from reading unused data pool values

Signed integer

Example

Signed integers are represented as two's complement.
Value of ID40 = $1111'1101'1111'0010_2$ = -526_{10}
Actual Value = Value * Scaling factor * Unit = -526 * 0.01 * °C = **-5.26 °C**

All writeable datapoints with ID >100 (configuration data) are persistent and are not supposed to be written on a regular base.

Data-Pool Values Overview

	ID	Name	R/W
Process	15	Sensor 1 Value [mV] [-]	R
	19	Relative Volumetric Flow [%]	R
	20	Absolute Volumetric Flow [l/s]	R
	26	Glycol Concentration [%]	R
	29	Temperature [°C]	R
	51	Total Volume [m^3]	R
Configuration	110	Malfunction & Service information	R
	120	**Sensor 1 Type**	R/W
	133	Vnom [l/s]	R
	200	Meter Serial Number (Part 1)	R
	201	Meter Serial Number (Part 2)	R

Data-Pool Values

Process Data

Nr	Description	Unit	Scaling	Values	Size	R/W
15	Sensor 1 Value Current value of sensor 1, depending on setting of "Sensor 1 Type" (ID 120)	mV -	1	0…65'535	2	R
19	Relative Volumetric Flow Related to "Nominal Volumetric Flow" (ID 133)	%	0.01	0…15'000	2	R
20	Absolute Volumetric Flow	l/s	0.01	0…10'000	2	R
26	Glycol Concentration	%	0.01	0…10'000	2	R
29	Temperature	°C	0.01	-2'000…12'000	2	R
51	Total Volume	m^3	0.01	0…21'474'836	4	R

Configuration Data

Nr	Description	Unit	Scaling	Values	Size	R/W
110	Malfunction & Service information	-	-	Bit 0: - Bit 1: - Bit 2: - Bit 3: Reverse flow Bit 4: - Bit 5: - Bit 6: Actual flow > Vnom Bit 7: Flow measurement error Bit 8: - Bit 9: Integrated temperature error Bit 10: - Bit 11: Freeze warning Bit 12: Glycol detected Bit 13: -	2	R
120	**Sensor 1 Type** Additional sensor input	-	-	0: None 1: Active 2: - 3: - 4: Switch	1	R/W
133	Vnom Nominal volumetric flow	l/s	0.01	0…10'000	2	R
200	Meter Serial Number (Part 1)	-	-	0…2'147'483'647	4	R
201	Meter Serial Number (Part 2)	-	-	0…2'147'483'647	4	R