

MP-Bus Data-Pool Values



MP  **BUS**®

JR actuator **Rotary actuator for butterfly valves**

Edition 2024-06 / JR 1.6

BELIMO®

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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	10	23	JRCA...BAC..

Configuration

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

Timing of MP-Bus queries

Client implementations typically poll the servers 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

Signed integers are represented as two's complement.

Example:

Value of ID40 = 1111 1101 1111 0010₂ = -526₁₀

Actual value

= value * scaling factor * unit

= -526 * 0.01 * unit

= **-5.26 unit**

Data-Pool values overview

Process

ID	Name	Access
10	Relative Setpoint [%]	R / W
12	Relative Position [%]	R
13	Absolute Position [°]	R
14	Override Control	R / W
..	-	-
75	Sensor 1 Value	R
76	Sensor 1 Temperature [°C]**)	R
..	-	-
82	Sensor 2 Value	R
83	Sensor 2 Temperature [°C]**)	R

***) signed integer

Configuration

ID	Name	Access
117	Setpoint Source	R / W
119	Sensor 1 Type	R / W
120	Sensor 2 Type	R / W
121	Sensor 1 Passive Type	R / W
123	Sensor 2 Passive Type	R / W
..	-	-
150	Unit Selection Temperature Sensors	R / W
..	-	-
1001	Malfunction & Service Information	R
..	-	-
1052	Maximum Limit [%]	R / W
1057	Bus Watchdog Fail Action	R / W
1058	Timeout for Bus Watchdog [s]	R / W

Definition Access: R = Read, W = Write



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

Data-Pool values

Process data

No.	Description Comments	Unit	Scaling	Values	Size	Access
10	Relative setpoint The setpoint is related to the position , see also ID 13. Overridden = true, if forced control (bus ID 14, tool and analog forced control) is active	%	0.01	0...10'000 Default: 0	2	R / W
12	Relative position Overridden = true, if the gear train is disengaged	%	0.01	0...10'000	2	R
13	Absolute position	°	0.01	0...9'500	2	R
14	Override control Overrides setpoint with defined values.	–	1	0: None 1: Open 2: Close 3: – 4: Mid 5: Max 6: – 7: – 8: – 9: – 10: – 11: – 12: – 13: – Default: 0	1	R / W
..	–	–	–	–	–	–
75	Sensor 1 value Depending on the setting of Sensor 1 type (ID 119) and Sensor 1 passive type (ID 121).	mV 0/1 Ω	1	0...5'500'000	4	R
76	Sensor 1 temperature	°C	0.1	-27'315...17'685	2	R
..	–	–	–	–	–	–
82	Sensor 2 value Depending on the setting of Sensor 2 type (ID 120) and Sensor 2 passive type (ID 123).	mV 0/1 Ω	1	0...5'500'000	4	R
83	Sensor 2 temperature	°C	0.1	-27'315...17'685	2	R
..	–	–	–	–	–	–

Configuration data

No.	Description Comments	Unit	Scaling	Values	Size	Access
117	Setpoint Source If Analog (0) then actuator is controlled by analog signal 0...10 V on wire 3. If Bus (1) then setpoint is controlled via bus.	–	1	0: Analog 1: Bus Default: 0	1	R / W
..	–	–	–	–	–	–
119	Sensor 1 type	–	1	0: None 1: Active volt 2: – 3: Passive 4: Switch Default: 0	1	R / W

No.	Description Comments	Unit	Scaling	Values	Size	Access
120	Sensor 2 type	–	1	0: None 1: Active volt 2: –	3: Passive 4: Switch Default: 0	1 R / W
121	Sensor 1 passive type Value selection related to selected units as on ID 150. Only available if ID 119 Sensor 1 type is set to value 3 "Passive".	–	1	0: None 1: PT1000 2: Ni1000EU 3: – 4: –	5: – 6: – 7: NTC10k2 8: NTC10k3 Default: 0	1 R / W
..	–	–	–	–	–	–
123	Sensor 2 passive type Value selection related to selected units as on ID 150. Only available if ID 120 Sensor 2 type is set to value 3 "Passive".	–	1	0: None 1: PT1000 2: Ni1000EU 3: – 4: –	5: – 6: – 7: NTC10k2 8: NTC10k3 Default: 0	1 R / W
..	–	–	–	–	–	–
150	Unit selection temperature sensors	–	–	0: °C 1: K 2: °F Default: 0		1 R / W
..	–	–	–	–	–	–
1001	Malfunction & service information Value is bit-coded. More than one bit can be set to 1. Not all bits mentioned in the enumeration are used for this product range.	–	1	0: Power fail 1: – 2: – 3: Gear train disengaged / hand crank plugged 4: – 5: Actuator cannot move 6: –	7: – 8: – 9: Watchdog triggered 10: – 11: – 12: – 13: – 14: – 15: –	2 R
..	–	–	–	–	–	–
1052	Maximum limit Max has to be ≥ 30%	%	0.01	3'000...10'000 Default: 0	2	R / W
..	–	–	–	–	–	–
1057	Bus watchdog fail action The bus monitoring controls the MP-Bus communication. If neither the Setpoint (ID 10) nor the Override Control (ID 14) is renewed before the Timeout for Bus Watchdog (ID 1058), the actuator is controlled by the Bus Watchdog Fail Action. Triggered bus monitoring is indicated in the Malfunction and Service Information (ID 1001).	–	1	0: None 1: Open 2: Close 3: Max 4: – 5: Mid 6: – 7: –	8: – 9: – 10: – 11: – 12: – 13: – Default: 0	1 R / W
1058	Timeout for bus watchdog If no write request is received within the timeout, the device will execute the action defined in ID 1057 (bus watchdog fail action).	s	1	5...3'600 Default: 120	2	R / W

Definition Access: R = Read, W = Write

All inclusive.

Belimo as a global market leader develops innovative solutions for the controlling of heating, ventilation and air-conditioning systems. Damper actuators, control valves, sensors and meters represent our core business.

Always focusing on customer value, we deliver more than only products. We offer you the complete product range for the regulation and control of HVAC systems from a single source. At the same time, we rely on tested Swiss quality with a five-year warranty. Our worldwide representatives in over 80 countries guarantee short delivery times and comprehensive support through the entire product life. Belimo does indeed include everything.

The “small” Belimo devices have a big impact on comfort, energy efficiency, safety, installation and maintenance.

In short: Small devices, big impact.



5-year warranty



On site around the globe



Complete product range



Tested quality



Short delivery times



Comprehensive support



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