



Electronic pressure-independent characterised control valve with energy monitoring

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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	1	22	EV..R+BAC

Interface Version Values and parameters marked with 1) are available on devices with production date 24-03-2014 or newer.
Reading undefined values on older devices cause an error 15 = "unknown ID".

Configuration Configuration data are password protected
The default password is '0000'

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 is 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 * °C = **-5.26 °C**

Data-Pool Values Overview

	ID	Name	R/W
Process	12	Error State	R
	20	Setpoint %	R/W
	21	Override Control	R/W
	22	Relative Position %	R
	23	Absolute Position °	R
	24	Setpoint Analog V ¹⁾	R
	30	Relative Flow %	R
	31	Absolute Flow l/min	R
	40	Temperature 1 (remote) in °C	R
	42	Temperature 2 (embedded) in °C	R
	44	Delta Temperature in K	R
	50	Power in kW	R
	52	Cooling Energy in kWh	R
	54	Heating Energy in kWh	R
	56	Relative Power in %	R
Configuration	60	DeltaT Status	R
	101	Maximum flow limit in %	R/W
	102	Nominal volume flow in l/min	R
	104	Control Mode	R/W
	105	DeltaT Limitation	R/W
	106	Setpoint DeltaT in °C	R/W
	108	Maximum power limit in %	R/W
	109	Nominal power in kW	R
	112	Setpoint Flow at DeltaT in l/min	R/W
	150	Glycol Concentration ¹⁾	R

¹⁾ Only available with Energy Valve V3.0.

Data-Pool Values

Process Data

Nr	Description	Unit	Scaling	Values	Size	Datatype	R/W
12	Error State (Malfunction & Service information)			Bit00(1)=Temp sensor T1 error Bit01(2)=Temp sensor T2 error Bit02(4)=Error flow sensor Bit03(8)=Actuator can't move Bit04(16)=Flow with closed valve Bit05(32)=Airbubbles Bit06(64)=Flow not reached Bit07(128)=Power not realized Bit08(256)=Gear disengaged Bit09(512)=Reverse flow ¹⁾ Bit10(1024)=Intern communication fault ¹⁾ Bit11(2048)=Freeze warning ¹⁾	2		R
20	Setpoint in %	%	0.01	0...100.00	2	uint16	R/W
21	Override Control			1=None 5=Vmax 2=Close 6=MotStop 3=Open 7=Pnom 4=Vnom 8=Pmax	1		R/W
22	Relative Position %	%	0.01	0...100.00	2	uint16	R
23	Absolute Position °	°	0.01	0...100.00	2	uint16	R
24	Setpoint Analog in V ¹⁾	V	0.01	0...10.00	2	int16	R
30	Relative Flow %	%	0.01	0...100.00	2	uint16	R
31	Absolute Flow l/min	l/min	0.001	0...2'147'483.647	4	int32	R
40	Temperature 1 (remote) in °C	°C	0.01	-327.67...327.67	2	int16	R
42	Temperature 2 (embedded) in °C	°C	0.01	-327.67...327.67	2	int16	R
44	Delta Temperature in K	K	0.01	0...327.67	2	int16	R
50	Power in kW	kW	0.001	0...2'147'483.647	4	int32	R
52	Cooling Energy in kWh	kWh	1	0...2'147'483'647	4	int32	R
54	Heating Energy in kWh	kWh	1	0...2'147'483'647	4	int32	R
56	Relative Power in %	%	0.01	0...100.00	2	uint16	R
60	DeltaT Status			0=not selected 1=standby 2=active 3=scaling-standby 4=scaling-active	1		R

Service Data

ID	Description	Unit	Scaling	Range / Enum	Size	Datatype	R/W
101	Maximum flow limit in %	%	0.01	0...100.00	2	uint16	R/W
102	Absolute Vnom in l/min	l/min	0.001	-2'147'483.647...2'147'483.647	4	int32	R
104	Control Mode			0=Position Control 1=Flow Control 2=Power Control	1		R/W
105	DeltaT Limitation			0=Disabled 1=dT-Manager 2=dT-Manager-Scaling	1		R/W
106	Setpoint DeltaT in K	K	0.01	1.00...33.00	2	int16	R/W
108	Maximum power limit in %	%	0.01	0...100.00	2	uint16	R/W
109	Nominal power in kW	kW	0.1	0...429'496'729.5	4	int32	R
112	Setpoint Flow at DeltaT in l/min	l/min	0.001	0...4'294'967.295	4	int32	R/W
150	Glycol Concentration in % ¹⁾	%	0.01	0...100.00	2	uint16	R

¹⁾ Only available with Energy Valve V3.0