

# **GAS-VOLUME CONVERSION DEVICE**

## **MacBAT 5**

User data structure  
(Ds7.15)

Single-channel gas conversion device  
Approved for installation in potentially explosive atmospheres

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Device uses standard transmission commands according to GAZ-MODEM, ModBUS RTU and ModBUS TCP protocols. Using these protocols there is possibility to send measured data, registered data, information about registered alarms and current time and to change parameters.

## 1 Table of available parameters – DP table

### Legend:

**1** – number of parameter (DP index);

**2** – name of parameter;

**3** – description of parameter;

**4** – exponent, correct value of parameter equal readout value multiply by 10<sup>e</sup>;

**5** – default unit;

**6** – additional information:

M: modifiable parameter;

R: parameter registered with registration period;

O: parameter, which is destined to readout;

D: parameter registered daily, hourly, monthly and according to billing shedule;  
^type of parameter;

**7** – modification of the parameter is significant change of configuration; value 1 – leaves trace in AlarmLOG and SetupLOG; value 2 – leaves trace in SetupLOG only;

**8** – calculation method of registered parameter and its status:

Av: average value from registration period;

C: momentary value in moment of registration;

Su: sum of increments from registration period;

LSu: logic sum from registration period

Min: minimum value from registration period;

**9** – minimum level of privileges for modifications;

2 – READER;

3 – CUSTOMER;

4 – ADMINISTRATOR;

7 – METROLOGIST;

9 – PRODUCER;

1	2	3	4	5	6	7	8	9
0	Vb	Volume counter at base conditions	0	m3	DRO ^double		C	
1	Vm	Volume counter at measurement conditions; Range: 0; 10000000	0	m3	DRMO ^double	1	C	4
2	Vm2	Additional volume counter at measurement conditions; Range: 0; 10000000	0	m3	DMO ^double	1	C	4
3	E	Energy counter. Appendix "***" means energy estimated on the basis of an inaccurate gas composition	0	kWh	DRO ^double		C	
4	M	Mass counter	0	kg	O ^double		C	
5	Vme	Emergency volume counter at measurement conditions; Range: 0; 10000000	0	m3	DMO ^double	1	C	4
6	Vbe	Emergency volume counter at base conditions; Range: 0; 1000000000	0	m3	DRMO ^double	1	C	7
7	Ee	Emergency energy counter. Appendix "***" means energy estimated on the basis of an inaccurate gas composition; Range: 0; 1000000000	0	kWh	DRMO ^double	1	C	7
8	Me	Emergency mass counter; Range: 0; 1000000000	0	kg	MO ^double	1	C	7
9	VbT	Total volume at base conditions counter (sum of Vb and Vbe)	0	m3	DO ^double		C	
10	ET	Total energy counter (sum of E and Ee). Appendix "***" means energy estimated on the basis of an inaccurate gas composition	0	kWh	DO ^double		C	
11	MT	Total mass counter (sum of M and Me)	0	kg	O ^double		C	
12	Vc	Counter of volume at measurement conditions after correction from error curve of the flowmeter; Range: 0; 10000000	0	m3	MO ^double		C	4

1	2	3	4	5	6	7	8	9
13	VmR	Reverse volume counter at measurement conditions; Range: 0; 10000000	0	m3	MO ^double	1	C	4
14	Vo	Flowmeter counter (encoder readout)	0	m3	O ^double			
15	Vb0	Less significant part of divided counter Vb	0	m3	O ^float		C	
16	Vb1	More significant part of divided counter Vb	4	m3	O ^float		C	
17	Vm0	Less significant part of divided counter Vm	0	m3	O ^float		C	
18	Vm1	More significant part of divided counter Vm	4	m3	O ^float		C	
19	E0	Less significant part of divided counter E	0	kWh	O ^float		C	
20	E1	More significant part of divided counter E	4	kWh	O ^float		C	
21	dVb	Increment of volume at base conditions for measurement period	0	m3	RO ^double		Su	
22	dVm	Increment of volume at measurement conditions	0	m3	RO ^double		Su	
23	dVm2	Increment of volume at measurement conditions using additional input	0	m3	O ^double		Su	
24	dE	Increment of energy for measurement period	0	kWh	RO ^double		Su	
25	dM	Increment of mass for measurement period	0	kg	O ^double		Su	
26	dVme	Increment of emergency volume counter at measurement conditions Vme	0	m3	O ^double		Su	
27	dVbe	Increment of emergency volume counter at base conditions Vbe	0	m3	O ^double		Su	
28	dEe	Increment of emergency energy counter Ee	0	kWh	O ^double		Su	
29	dMe	Increment of emergency mass counter Me	0	kg	O ^double		Su	
30	dVmR	Reverse increment of volume at measurement conditions	0	m3	O ^float			
31	dVbT	Increment of counter VbT for measurement period	0	m3	O ^double		Su	
32	dET	Increment of counter ET for measurement period	0	kWh	O ^double		Su	
33	dMT	Increment of counter MT for measurement period	0	kg	O ^double		Su	
34	ProgCntCap1	Capacity of the main counters (configuration); Range: 5; 11	0		MO ^uint16	1		4
35	ProgCntCap2	Capacity of the counters at measurement conditions (configuration); Range: 5; 11	0		MO ^uint16	1		4
36	CntCap1	Capacity of the main counters	0		O ^uint16			
37	CntCap2	Capacity of the counters at measurement conditions	0		O ^uint16			
38	dVbhL1	Limit of hourly increment of volume dVbh, 0 - off; Range: 0; 1000000	0	m3	MO ^float			3
39	dVbhL2	Limit of hourly increment of volume dVbh, 0 - off; Range: 0; 1000000	0	m3	MO ^float			3
40	dVbhL3	Limit of hourly increment of volume dVbh, 0 - off; Range: 0; 1000000	0	m3	MO ^float			3
41	L0dVbh1	Lower limit dVbhL1 expressed in % of parameter. Value 100% means that in period of TL1 value of limit will be constant and equal to dVbhL1. Value less than 100% means, that in period of TL1 value of limit will increase; Range: 0; 100	0	%	MO ^float			3
42	L0dVbh2	Lower limit dVbhL2 expressed in % of parameter. Value 100% means that in period of TL2 value of limit will be constant and equal to dVbhL2. Value less than 100% means, that in period of TL2 value of limit will increase; Range: 0; 100	0	%	MO ^float			3
43	CLdVbh1	Current value of dynamic limit dVbhL1	0	m3	O ^float			
44	CLdVbh2	Current value of dynamic limit dVbhL2	0	m3	O ^float			
45	dEhL1	Limit of hourly increment of energy dEh, 0 - off; Range: 0; 1000000	0	kWh	MO ^float			3
46	dEhL2	Limit of hourly increment of energy dEh, 0 - off; Range: 0; 1000000	0	kWh	MO ^float			3
47	dEhL3	Limit of hourly increment of energy dEh, 0 - off; Range: 0; 1000000	0	kWh	MO ^float			3
48	TL1	Period of time measured from beginning of hour, in which alarms of limits 1 dVbh or dEh can be generated; Range: 1; 60	0	min	MO ^uint16			3
49	TL2	Period of time measured from beginning of hour, in which alarms of limits 2 dVbh or dEh can be generated; Range: 1; 60	0	min	MO ^uint16			3
50	ephL1	Limit of dVb.eph for event 1, 0 - off; Range: 0; 50000	0	m3	MO ^float			3
51	ephL2	Limit of dVb.eph for event 2, 0 - off; Range: 0; 50000	0	m3	MO ^float			3
52	LVmVm2	Limit for comparison of the volume Vm and Vm2 increments; Range: 0; 50000	0	m3	MO ^float			4
53	TVmVm2	Permissible discrepancy of the volume Vm and Vm2 increments; Range: 1; 100	0	m3	MO ^float			4
54	SVm	Increment of main volume counter	0	m3	O ^float			

1	2	3	4	5	6	7	8	9
55	SVm2	Increment of additional volume counter	0	m3	O ^float			
56	Qb	Flow rate at base conditions	0	m3/h	RO ^float		Av	
57	Qm	Flow rate at measurement conditions	0	m3/h	CRO ^float		Av	
58	QE	Energy flow rate	0	kW	O ^float		Av	
59	QM	Mass flow rate	0	kg/h	O ^float		Av	
60	QmRMin	Flowmeter measuring range; Range: 0; 1000000	0	m3/h	MO ^float	1		4
61	QmRMax	Flowmeter measuring range; Range: 0; 1000000	0	m3/h	MO ^float	1		4
62	QbLMin	Lower limit of flow rate at base conditions; Range: 0; 1000000	0	m3/h	MO ^float			3
63	QbLMax	Upper limit of flow rate at base conditions; Range: 0; 1000000	0	m3/h	MO ^float			3
64	QmLMin	Lower limit of flow rate at measurement conditions; Range: 0; 1000000	0	m3/h	MO ^float			3
65	QmLMax	Upper limit of flow rate at measurement conditions; Range: 0; 1000000	0	m3/h	MO ^float			3
66	Qm1	Flow from main input	0	m3/h	O ^float		Av	
67	Qm2	Flow from additional input	0	m3/h	O ^float		Av	
68	QmLFtm	Time to reset flowrate at measurement conditions (LF input); Range: 5; 100	0	min	MO ^uint8			4
69	QmENTm	Time to reset flowrate at measurement conditions (EN/SCR inputs); Range: 1; 6	0	min	MO ^uint8			4
70	LF1	LF1 pulses counter	0	imp	O ^uint32		C	
71	LF2	LF2 pulses counter	0	imp	O ^uint32		C	
72	HF1	HF1 pulses counter	0	imp	O ^uint32		C	
73	HF2	HF2 pulses counter	0	imp	O ^uint32		C	
74	HF/LF	Current value of HF/LF ratio	0		O ^float		C	
75	LFHFCheck	Current discrepancy between LF and HF inputs	0	%	O ^float		C	
76	LF1Factor	LF1 pulse rate; Range: 0.0001; 1000	0	imp/m3	MO ^double	1		4
77	LF2Factor	LF2 pulse rate; Range: 0.0001; 1000	0	imp/m3	MO ^double	1		4
78	HF1Factor	HF1 pulse rate; Range: 0.0001; 1000000	0	imp/m3	MO ^double	1		4
79	HF2Factor	HF2 pulse rate; Range: 0.0001; 1000000	0	imp/m3	MO ^double	1		4
80	Conflmp	Configuration of counting inputs; Values: 0 - STOP; 30 - LF1; 34 - LF1/LF2; 36 - LF1/HF1; 38 - LF1/SCR; 39 - LF1/EN; 60 - HF1; 63 - HF1/LF1; 67 - HF1/HF2; 68 - HF1/SCR; 69 - HF1/EN; 80 - SCR; 83 - SCR/LF1; 86 - SCR/HF1; 90 - EN; 93 - EN/LF1; 96 - EN/HF1; 134 - D-LF1/LF2; 167 - D-HF1/HF2	0		MO ^uint8	1		4
81	WiegSupp	Wiegand transducer operating mode; Values: 0 - Disabled; 1 - With power; 2 - Without power	0		MO ^uint8			4
82	CalibMode	Calibration mode; Range: 0; 1	0		MO ^uint8			7
83	ConfADC	ADC pressure transmitter number p1; Values: 1; 2	0		MO ^uint8	1		7
84	ConfP1	Installation of pressure sensor p1; Values: 0 - Off; 1 - On	0		MO ^uint8	1		7
85	ConfP2	Installation of pressure sensor p2; Values: 0 - Off; 1 - On	0		MO ^uint8	1		4
86	ConfT	Installation of temperature sensor t; Values: 0 - Off; 2 - 2W; 4 - 4W	0		MO ^uint8	1		7
87	p1	Pressure p1	0	kPa	CRO ^float		Av	
88	p1Type	Type of pressure sensor p1; Values: 0 - gauge; 1 - abs	0		MO ^uint8			7
89	p1abs	Pressure p1 (absolute)	0	kPa	O ^float		Av	
90	p1g	Pressure p1 (overpressure); Values: 0 - Zeroing	0	kPa	MO ^float		Av	7
91	p1St	Status of the pressure p1 sensor	0		O ^uint8			
92	p1SN	Serial number of pressure p1 sensor; Range: 0; 4294967295	0		MO ^uint32			7
93	p1aCal	Calibration coefficient of input p1; Range: -500; 500	0		MO ^float	1		7
94	p1bCal	Calibration coefficient of input p1; Range: -20000; 20000	0	kPa	MO ^float	1		7
95	p1RMin	Measuring range of pressure input p1; Range: -50; 12000	0	kPa	MO ^float			7
96	p1RMax	Measuring range of pressure input p1; Range: -50; 12000	0	kPa	MO ^float			7

1	2	3	4	5	6	7	8	9
97	p1RwMin	Indication range of pressure input p1; Range: -50; 12000	0	kPa	MO ^float			7
98	p1RwMax	Indication range of pressure input p1; Range: -50; 12000	0	kPa	MO ^float			7
99	p1LWMin	Lower limit of pressure p1 (warning level); Range: -50; 12000	0	kPa	MO ^float			3
100	p1LWMax	Upper limit of pressure p1 (warning level); Range: -50; 12000	0	kPa	MO ^float			3
101	p1LAMin	Lower limit of pressure p1 (alarm level); Range: -50; 12000	0	kPa	MO ^float			3
102	p1LAMax	Upper limit of pressure p1 (alarm level); Range: -50; 12000	0	kPa	MO ^float			3
103	p1LTm	Delay time of notification of exceeding the limit p1; Range: 0; 3600	0	s	MO ^uint16			3
104	p1Subst	Substitute pressure p1; Range: -50; 12000	0	kPa	MO ^float	1		4
105	AtmPress	Atmospheric pressure	0	kPa	O ^float			
106	AtmPressCal	Calibration coefficient of atmospheric pressure; Range: -10; 10	0	kPa	MO ^float	1		4
107	p2	Pressure p2	0	kPa	CRO ^float		Av	
108	p2Type	Type of pressure sensor p2; Values: 0 - gauge; 1 - abs	0		MO ^uint8			4
109	p2abs	Pressure p2 (absolute)	0	kPa	O ^float		Av	
110	p2g	Pressure p2 (overpressure); Values: 0 - Zeroing	0	kPa	MO ^float		Av	4
111	p2St	Status of the pressure p2 sensor	0		O ^uint8			
112	p2SN	Serial number of pressure p2 sensor; Range: 0; 4294967295	0		MO ^uint32			4
113	p2aCal	Calibration coefficient of input p2; Range: -500; 500	0		MO ^float	1		4
114	p2bCal	Calibration coefficient of input p2; Range: -20000; 20000	0	kPa	MO ^float	1		4
115	p2RMin	Measuring range of pressure input p2; Range: -50; 12000	0	kPa	MO ^float			4
116	p2RMax	Measuring range of pressure input p2; Range: -50; 12000	0	kPa	MO ^float			4
117	p2RwMin	Indication range of pressure input p2; Range: -50; 12000	0	kPa	MO ^float			4
118	p2RwMax	Indication range of pressure input p2; Range: -50; 12000	0	kPa	MO ^float			4
119	p2LWMin	Lower limit of pressure p2 (warning level); Range: -50; 12000	0	kPa	MO ^float			3
120	p2LWMax	Upper limit of pressure p2 (warning level); Range: -50; 12000	0	kPa	MO ^float			3
121	p2LAMin	Lower limit of pressure p2 (alarm level); Range: -50; 12000	0	kPa	MO ^float			3
122	p2LAMax	Upper limit of pressure p2 (alarm level); Range: -50; 12000	0	kPa	MO ^float			3
123	p2LTm	Delay time of notification of exceeding the limit p2; Range: 0; 3600	0	s	MO ^uint16			3
124	tamb	Ambient temperature tamb	0	'C	RO ^float		Av	
125	t	Temperature t	0	'C	CRO ^float		Av	
126	tSt	Status of the Pt1000 sensor	0		O ^uint8			
127	tSN	Serial number of temperature t sensor; Range: 0; 4294967295	0		MO ^uint32			7
128	taCal	Calibration coefficient of input t; Range: -50; 100	0		MO ^float	1		7
129	tbCal	Calibration coefficient of input t; Range: -50; 100	0	'C	MO ^float	1		7
130	tRMin	Measuring range of temperature t; Range: -30; 70	0	'C	MO ^float			7
131	tRMax	Measuring range of temperature t; Range: -30; 70	0	'C	MO ^float			7
132	tRwMin	Indication range of temperature input t; Range: -40; 80	0	'C	MO ^float			7
133	tRwMax	Indication range of temperature input t; Range: -40; 80	0	'C	MO ^float			7
134	tLMin	Lower limit of temperature t; Range: -50; 100	0	'C	MO ^float			3
135	tLMax	Upper limit of temperature t; Range: -50; 100	0	'C	MO ^float			3
136	Pt1000R0	Sensor Pt1000 calibration factor [R0]	0		MO ^double	1		7
137	Pt1000A	Sensor Pt1000 calibration factor [A]	0		MO ^double	1		7
138	Pt1000B	Sensor Pt1000 calibration factor [B]	0		MO ^double	1		7
139	Pt1000C	Sensor Pt1000 calibration factor [C]	0		MO ^double	1		7
140	tSubst	Substitute temperature t; Range: -50; 100	0	'C	MO ^float	1		4

1	2	3	4	5	6	7	8	9
141	VCDType	Volume conversion type	0		O ^string			
142	ConfAlgZ	Algorithm of Z factor; Values: 0 - AGA8-92DC; 1 - SGERG-88; 2 - AGA8-G1; 3 - AGA8-G2; 4 - AGA NX19-mod; 5 - K1=Const	0		MO ^uint8	1		4
143	AlgStatus	Algorithm status	0		O ^uint32		LSu	
144	Z	Compressibility factor at measurement conditions	0		O ^float		Av	
145	Zb	Compressibility factor at base conditions	0		O ^float		Av	
146	C	Conversion factor (calculations for base conditions)	0		RO ^float		Av	
147	CLMin	Lower limit of C factor; Range: 0; 400	0		MO ^float			3
148	CLMax	Upper limit of C factor; Range: 0; 400	0		MO ^float			3
149	Hi	Inferior calorific value	0	MJ/m3	O ^float		Av	
150	K1	Relative compressibility factor. K1 = Z/Zb; Range: 0.001; 2	0		MO ^float	1	Av	4
151	W	Wobbe index. W = Hs/sqrt(d)	0	MJ/m3	O ^float		Av	
152	rob	Density at base conditions	0	kg/m3	O ^float		Av	
153	rom	Density at measurement conditions	0	kg/m3	O ^float		Av	
154	VoS	The speed of sound in the medium	0	m/s	O ^float		Av	
155	ConfSGS	Switch of the origin of the components of the simplified gas composition. 0 - from a simplified composition, 1 - calculated from the full composition; Values: 0 – Simpl.; 1 – Full.comp.	0		MO ^bool	1		4
156	ProgXH2	Molar contribution of hydrogen in algorithms using simplified gas composition; Range: 0; 100	0	%	MO ^float	2	Av	4
157	ProgXCO2	Molar contribution of carbon dioxide in algorithms using simplified gas composition; Range: 0; 100	0	%	MO ^float	2	Av	4
158	ProgXN2	Molar contribution of nitrogen in algorithms using simplified gas composition; Range: 0; 100	0	%	MO ^float	2	Av	4
159	ProgHs	Superior calorific value in algorithms using simplified gas composition; Range: 0; 100	0	MJ/m3	MO ^float	2	Av	4
160	Progd	Relative density in algorithms using simplified gas composition; Range: 0; 100	0		MO ^float	2	Av	4
161	XH2	Molar contribution of hydrogen	0	%	O ^float		Av	
162	XCO2	Molar contribution of carbon dioxide	0	%	O ^float		Av	
163	XN2	Molar contribution of nitrogen	0	%	O ^float		Av	
164	Hs	Superior calorific value	0	MJ/m3	O ^float		Av	
165	d	Relative density	0		O ^float		Av	
166	GasProc	Current sum of programmed gas components	0	%	O ^float			
167	GasNorm	Permissible deviation of total sum of gas components from the 100%; Range: 0; 0.01	0	%	MO ^float			4
168	C1	Molar contribution of methane; Range: 0; 100	0	%	MO ^float	2	Av	4
169	C2	Molar contribution of ethane; Range: 0; 100	0	%	MO ^float	2	Av	4
170	C3	Molar contribution of propane; Range: 0; 100	0	%	MO ^float	2	Av	4
171	nC4	Molar contribution of n-butane; Range: 0; 100	0	%	MO ^float	2	Av	4
172	iC4	Molar contribution of i-butane; Range: 0; 100	0	%	MO ^float	2	Av	4
173	nC5	Molar contribution of n-pentane; Range: 0; 100	0	%	MO ^float	2	Av	4
174	iC5	Molar contribution of i-pentane; Range: 0; 100	0	%	MO ^float	2	Av	4
175	neoC5	Molar contribution of neopentane; Range: 0; 100	0	%	MO ^float	2	Av	4
176	C6+	Molar contribution of hexane and higher hydrocarbons; Range: 0; 100	0	%	MO ^float	2	Av	4
177	N2	Molar contribution of nitrogen; Range: 0; 100	0	%	MO ^float	2	Av	4
178	CO2	Molar contribution of carbon dioxide; Range: 0; 100	0	%	MO ^float	2	Av	4
179	C6H14	Molar contribution of n-hexane; Range: 0; 100	0	%	MO ^float	2	Av	4
180	C7H16	Molar contribution of n-heptane; Range: 0; 100	0	%	MO ^float	2	Av	4
181	C8H18	Molar contribution of n-octane; Range: 0; 100	0	%	MO ^float	2	Av	4
182	C9H20	Molar contribution of n-nonane; Range: 0; 100	0	%	MO ^float	2	Av	4

1	2	3	4	5	6	7	8	9
183	C10H22	Molar contribution of n-decane; Range: 0; 100	0	%	MO ^float	2	Av	4
184	H2	Molar contribution of hydrogen; Range: 0; 100	0	%	MO ^float	2	Av	4
185	H2O	Molar contribution of water; Range: 0; 100	0	%	MO ^float	2	Av	4
186	H2S	Molar contribution of hydrogen sulfide; Range: 0; 100	0	%	MO ^float	2	Av	4
187	CO	Molar contribution of carbon oxide; Range: 0; 100	0	%	MO ^float	2	Av	4
188	He	Molar contribution of helium; Range: 0; 100	0	%	MO ^float	2	Av	4
189	Ar	Molar contribution of argone; Range: 0; 100	0	%	MO ^float	2	Av	4
190	O2	Molar contribution of oxygen; Range: 0; 100	0	%	MO ^float	2	Av	4
191	AlarmGC	Switch for generating events on changing of gas composition; Values: 0 - Off; 1 - On	0		MO ^uint8	1		4
192	T1	Temperature used during calculation of calorific value Hs; Range: 270; 300.2	0	K	MO ^double	1		7
193	pb	Base pressure; Range: 0.95; 1.05	0	bar	MO ^double	1		7
194	Tb	Base temperature; Range: 270; 300.2	0	K	MO ^double	1		7
195	dVb.eph	Estimated hourly increment of dVbT	0	m3	O ^float			
196	dVbh	Hourly increment of dVbT	0	m3	O ^float			
197	dE.eph	Estimated hourly increment of dET	0	kWh	O ^float			
198	dEh	Hourly increment of dET	0	kWh	O ^float			
199	SetPer.hc	Configuration of period of data analysis; Values: 1 - Minute; 2 - Hourly; 5 - Periodic 2	0		MO ^uint8			7
200	Tm.hc	Time from the beginning of data analysis period (current hour)	0	s	O ^uint32			
201	FlowTm.hc	Time duration of flow (current hour)	0	s	DO ^uint32			
202	p1Avg.hc	Average value of pressure p1 (current hour)	0	kPa	DO ^float			
203	p1Min.hc	Minimum value of pressure p1 (current hour)	0	kPa	DRO ^float			
204	p1Max.hc	Maximum value of pressure p1 (current hour)	0	kPa	DRO ^float			
205	p2Avg.hc	Average value of pressure p2 (current hour)	0	kPa	DO ^float			
206	p2Min.hc	Minimum value of pressure p2 (current hour)	0	kPa	DRO ^float			
207	p2Max.hc	Maximum value of pressure p2 (current hour)	0	kPa	DRO ^float			
208	tAvg.hc	Average value of temperature t (current hour)	0	'C	DO ^float			
209	tMin.hc	Minimum value of temperature t (current hour)	0	'C	DO ^float			
210	tMax.hc	Maximum value of temperature t (current hour)	0	'C	DO ^float			
211	QmAvg.hc	Average value of flow Qm (current hour)	0	m3/h	DO ^float			
212	QmMin.hc	Minimum value of flow Qm (current hour)	0	m3/h	DO ^float			
213	QmMax.hc	Maximum value of flow Qm (current hour)	0	m3/h	DO ^float			
214	QbAvg.hc	Average value of flow Qb (current hour)	0	m3/h	DO ^float			
215	QbMin.hc	Minimum value of flow Qb (current hour)	0	m3/h	DO ^float			
216	QbMax.hc	Maximum value of flow Qmb (current hour)	0	m3/h	DO ^float			
217	tambAvg.hc	Average value of ambient temperature tamb (current hour)	0	'C	DO ^float			
218	tambMin.hc	Minimum value of ambient temperature tamb (current hour)	0	'C	O ^float			
219	tambMax.hc	Maximum value of ambient temperature tamb (current hour)	0	'C	O ^float			
220	CAvg.hc	Average value of coefficient C (current hour)	0		DO ^float			
221	CMin.hc	Minimum value of coefficient C (current hour)	0		O ^float			
222	CMax.hc	Maximum value of coefficient C (current hour)	0		O ^float			
223	K1Avg.hc	Average value of coefficient K1 (current hour)	0		DO ^float			
224	K1Min.hc	Minimum value of coefficient K1 (current hour)	0		O ^float			
225	K1Max.hc	Maximum value of coefficient K1 (current hour)	0		O ^float			
226	HsAvg.hc	Average value of Hs (current hour)	0	MJ/m3	DO ^float			

1	2	3	4	5	6	7	8	9
227	HsMin.hc	Minimum value of Hs (current hour)	0	MJ/m3	O ^float			
228	HsMax.hc	Maximum value of Hs (current hour)	0	MJ/m3	O ^float			
229	dAvg.hc	Average value of d (current hour)	0		DO ^float			
230	dMin.hc	Minimum value of d (current hour)	0		O ^float			
231	dMax.hc	Maximum value of d (current hour)	0		O ^float			
232	dVb.ph.hc	Maximum hourly peak of Vb (current hour)	0	m3	DO ^float			
233	dVb.phTm.hc	Time when maximum hourly peak of Vb has appeared (current hour)	0		DO ^uint32			
234	dVb.hc	Increment of Vb (current hour)	0	m3	DO ^double			
235	dVbe.hc	Increment of Vbe (current hour)	0	m3	DO ^double			
236	dVbT.hc	Increment of VbT (current hour)	0	m3	DO ^double			
237	dVm.hc	Increment of Vm (current hour)	0	m3	DO ^double			
238	dVme.hc	Increment of Vme (current hour)	0	m3	O ^double			
239	p1Avg.hp	Average value of pressure p1 (previous hour)	0	kPa	O ^float			
240	p1Min.hp	Minimum value of pressure p1 (previous hour)	0	kPa	O ^float			
241	p1Max.hp	Maximum value of pressure p1 (previous hour)	0	kPa	O ^float			
242	p2Avg.hp	Average value of pressure p2 (previous hour)	0	kPa	O ^float			
243	p2Min.hp	Minimum value of pressure p2 (previous hour)	0	kPa	O ^float			
244	p2Max.hp	Maximum value of pressure p2 (previous hour)	0	kPa	O ^float			
245	tAvg.hp	Average value of temperature t (previous hour)	0	'C	O ^float			
246	tMin.hp	Minimum value of temperature t (previous hour)	0	'C	O ^float			
247	tMax.hp	Maximum value of temperature t (previous hour)	0	'C	O ^float			
248	dVb.ph.hp	Maximum hourly peak of Vb (previous hour)	0	m3	O ^float			
249	dVb.phTm.hp	Time when maximum hourly peak of Vb has appeared (previous hour)	0		O ^uint32			
250	dVb.hp	Increment of Vb (previous hour)	0	m3	O ^double			
251	dVbe.hp	Increment of Vbe (previous hour)	0	m3	O ^double			
252	dVbT.hp	Increment of VbT (previous hour)	0	m3	O ^double			
253	dVm.hp	Increment of Vm (previous hour)	0	m3	O ^double			
254	dVme.hp	Increment of Vme (previous hour)	0	m3	O ^double			
255	dE.ph.hc	Maximum hourly peak of E (current hour)	0	kWh	DO ^float			
256	dE.phTm.hc	Time when maximum hourly peak E has appeared (current hour)	0		DO ^uint32			
257	dE.hc	Increment of E (current hour)	0	kWh	DO ^double			
258	dEe.hc	Increment of Ee (current hour)	0	kWh	DO ^double			
259	dET.hc	Increment of ET (current hour)	0	kWh	DO ^double			
260	dE.ph.hp	Maximum hourly peak of E (previous hour)	0	kWh	O ^float			
261	dE.phTm.hp	Time when maximum hourly peak of E has appeared (previous hour)	0		O ^uint32			
262	dE.hp	Increment of E (previous hour)	0	kWh	O ^double			
263	dEe.hp	Increment of Ee (previous hour)	0	kWh	O ^double			
264	dET.hp	Increment of ET (previous hour)	0	kWh	O ^double			
265	SysStatus.hc	System status (current hour)	0		O ^uint32			
266	Alarm1.hc	Binary state of alarms with codes 0..63 (current hour)	0		DO ^uint64			
267	Alarm2.hc	Binary state of alarms with codes 64..127 (current hour)	0		O ^uint64			
268	Alarm3.hc	Binary state of alarms with codes 128..191 (current hour)	0		O ^uint64			
269	SysStatus.hp	System status (previous hour)	0		O ^uint32			
270	Alarm1.hp	Binary state of alarms with codes 0..63 (previous hour)	0		O ^uint64			



1	2	3	4	5	6	7	8	9
271	Alarm2.hp	Binary state of alarms with codes 64..127 (previous hour)	0		O ^uint64			
272	Alarm3.hp	Binary state of alarms with codes 128..191 (previous hour)	0		O ^uint64			
273	SetPer.dc	Period of data analysis - day	0		O ^uint8			
274	Tm.dc	Time from the beginning of daily period of data analysis	0	s	O ^uint32			
275	FlowTm.dc	Time duration of flow (current day)	0	s	O ^uint32			
276	p1Avg.dc	Average value of pressure p1 (current day)	0	kPa	O ^float			
277	p1Min.dc	Minimum value of pressure p1 (current day)	0	kPa	O ^float			
278	p1Max.dc	Maximum value of pressure p1 (current day)	0	kPa	O ^float			
279	p2Avg.dc	Average value of pressure p2 (current day)	0	kPa	O ^float			
280	p2Min.dc	Minimum value of pressure p2 (current day)	0	kPa	O ^float			
281	p2Max.dc	Maximum value of pressure p2 (current day)	0	kPa	O ^float			
282	tAvg.dc	Average value of temperature t (current day)	0	'C	O ^float			
283	tMin.dc	Minimum value of temperature t (current day)	0	'C	O ^float			
284	tMax.dc	Maximum value of temperature t (current day)	0	'C	O ^float			
285	QmAvg.dc	Average value of flow Qm (current day)	0	m3/h	O ^float			
286	QmMin.dc	Minimum value of flow Qm (current day)	0	m3/h	O ^float			
287	QmMax.dc	Maximum value of flow Qm (current day)	0	m3/h	O ^float			
288	QbAvg.dc	Average value of flow Qb (current day)	0	m3/h	O ^float			
289	QbMin.dc	Minimum value of flow Qbn (current day)	0	m3/h	O ^float			
290	QbMax.dc	Maximum value of flow Qb (current day)	0	m3/h	O ^float			
291	tambAvg.dc	Average value of ambient temperature tamb (current day)	0	'C	O ^float			
292	tambMin.dc	Minimum value of ambient temperature tamb (current day)	0	'C	O ^float			
293	tambMax.dc	Maximum value of ambient temperature tamb (current day)	0	'C	O ^float			
294	CAvg.dc	Average value of coefficient C (current day)	0		O ^float			
295	CMin.dc	Minimum value of coefficient C (current day)	0		O ^float			
296	CMax.dc	Maximum value of coefficient C (current day)	0		O ^float			
297	K1Avg.dc	Average value of coefficient K1 (current day)	0		O ^float			
298	K1Min.dc	Minimum value of coefficient K1 (current day)	0		O ^float			
299	K1Max.dc	Maximum value of coefficient K1 (current day)	0		O ^float			
300	HsAvg.dc	Average value of Hs (current day)	0	MJ/m3	O ^float			
301	HsMin.dc	Minimum value of Hs (current day)	0	MJ/m3	O ^float			
302	HsMax.dc	Maximum value of Hs (current day)	0	MJ/m3	O ^float			
303	dAvg.dc	Average value of d (current day)	0		O ^float			
304	dMin.dc	Minimum value of d (current day)	0		O ^float			
305	dMax.dc	Maximum value of d (current day)	0		O ^float			
306	dVb.ph.dc	Maximum hourly peak of Vb (current day)	0	m3	O ^float			
307	dVb.phTm.dc	Time when maximum hourly peak of Vb has appeared (current day)	0		O ^uint32			
308	dVb.dc	Increment of Vb (current day)	0	m3	O ^double			
309	dVbe.dc	Increment of Vbe (current day)	0	m3	O ^double			
310	dVbT.dc	Increment of VbT (current day)	0	m3	O ^double			
311	dVm.dc	Increment of Vm (current day)	0	m3	O ^double			
312	dVme.dc	Increment of Vme (current day)	0	m3	O ^double			
313	p1Avg.dp	Average value of pressure p1 (previous day)	0	kPa	O ^float			
314	p1Min.dp	Minimum value of pressure p1 (previous day)	0	kPa	O ^float			

1	2	3	4	5	6	7	8	9
315	p1Max.dp	Maximum value of pressure p1 (previous day)	0	kPa	O ^float			
316	p2Avg.dp	Average value of pressure p2 (previous day)	0	kPa	O ^float			
317	p2Min.dp	Minimum value of pressure p2 (previous day)	0	kPa	O ^float			
318	p2Max.dp	Maximum value of pressure p2 (previous day)	0	kPa	O ^float			
319	tAvg.dp	Average value of temperature t (previous day)	0	'C	O ^float			
320	tMin.dp	Minimum value of temperature t (previous day)	0	'C	O ^float			
321	tMax.dp	Maximum value of temperature t (previous day)	0	'C	O ^float			
322	dVb.ph.dp	Maximum hourly peak of Vb (previous day)	0	m3	O ^float			
323	dVb.phTm.dp	Time when maximum hourly peak of Vb has appeared (previous day)	0		O ^uint32			
324	dVb.dp	Increment of Vb (previous day)	0	m3	O ^double			
325	dVbe.dp	Increment of Vbe (previous day)	0	m3	O ^double			
326	dVbT.dp	Increment of VbT (previous day)	0	m3	O ^double			
327	dVm.dp	Increment of Vm (previous day)	0	m3	O ^double			
328	dVme.dp	Increment of Vme (previous day)	0	m3	O ^double			
329	dE.ph.dc	Maximum hourly peak of E (current day)	0	kWh	O ^float			
330	dE.phTm.dc	Time when maximum hourly peak E has appeared (current day)	0		O ^uint32			
331	dE.dc	Increment of E (current day)	0	kWh	O ^double			
332	dEe.dc	Increment of Ee (current day)	0	kWh	O ^double			
333	dET.dc	Increment of ET (current day)	0	kWh	O ^double			
334	dE.ph.dp	Maximum hourly peak of E (previous day)	0	kWh	O ^float			
335	dE.phTm.dp	Time when maximum hourly peak of E has appeared (previous day)	0		O ^uint32			
336	dE.dp	Increment of E (previous day)	0	kWh	O ^double			
337	dEe.dp	Increment of Ee (previous day)	0	kWh	O ^double			
338	dET.dp	Increment of ET (previous day)	0	kWh	O ^double			
339	SysStatus.dc	System status (current day)	0		O ^uint32			
340	Alarm1.dc	Binary state of alarms with codes 0..63 (current day)	0		O ^uint64			
341	Alarm2.dc	Binary state of alarms with codes 64..127 (current day)	0		O ^uint64			
342	Alarm3.dc	Binary state of activity alarms with codes 128..191 (current day)	0		O ^uint64			
343	SysStatus.dp	System status (previous day)	0		O ^uint32			
344	Alarm1.dp	Binary state of alarms with codes 0..63 (previous day)	0		O ^uint64			
345	Alarm2.dp	Binary state of alarms with codes 64..127 (previous day)	0		O ^uint64			
346	Alarm3.dp	Binary state of alarms with codes 128..191 (previous day)	0		O ^uint64			
347	SetPer.mc	Period of data analysis - month	0		O ^uint8			
348	Tm.mc	Time from the beginning of monthly period of data analysis	0	s	O ^uint32			
349	FlowTm.mc	Time duration of flow (current month)	0	s	O ^uint32			
350	p1Avg.mc	Average value of pressure p1 (current month)	0	kPa	O ^float			
351	p1Min.mc	Minimum value of pressure p1 (current month)	0	kPa	O ^float			
352	p1Max.mc	Maximum value of pressure p1 (current month)	0	kPa	O ^float			
353	p2Avg.mc	Average value of pressure p2 (current month)	0	kPa	O ^float			
354	p2Min.mc	Minimum value of pressure p2 (current month)	0	kPa	O ^float			
355	p2Max.mc	Maximum value of pressure p2 (current month)	0	kPa	O ^float			
356	tAvg.mc	Average value of temperature t (current month)	0	'C	O ^float			
357	tMin.mc	Minimum value of temperature t (current month)	0	'C	O ^float			
358	tMax.mc	Maximum value of temperature t (current month)	0	'C	O ^float			

1	2	3	4	5	6	7	8	9
359	QmAvg.mc	Average value of flow Qm (current month)	0	m3/h	O ^float			
360	QmMin.mc	Minimum value of flow Qm (current month)	0	m3/h	O ^float			
361	QmMax.mc	Maximum value of flow Qm (current month)	0	m3/h	O ^float			
362	QbAvg.mc	Average value of flow Qb (current month)	0	m3/h	O ^float			
363	QbMin.mc	Minimum value of flow Qb (current month)	0	m3/h	O ^float			
364	QbMax.mc	Maximum value of flow Qb (current month)	0	m3/h	O ^float			
365	tambAvg.mc	Average value of ambient temperature tamb (current month)	0	'C	O ^float			
366	tambMin.mc	Minimum value of ambient temperature tamb (current month)	0	'C	O ^float			
367	tambMax.mc	Maximum value of ambient temperature tamb (current month)	0	'C	O ^float			
368	CAvg.mc	Average value of coefficient C (current month)	0		O ^float			
369	CMin.mc	Minimum value of coefficient C (current month)	0		O ^float			
370	CMax.mc	Maximum value of coefficient C (current month)	0		O ^float			
371	K1Avg.mc	Average value of coefficient K1 (current month)	0		O ^float			
372	K1Min.mc	Minimum value of coefficient K1 (current month)	0		O ^float			
373	K1Max.mc	Maximum value of coefficient K1 (current month)	0		O ^float			
374	HsAvg.mc	Average value of Hs (current month)	0	MJ/m3	O ^float			
375	HsMin.mc	Minimum value of Hs (current month)	0	MJ/m3	O ^float			
376	HsMax.mc	Maximum value of Hs (current month)	0	MJ/m3	O ^float			
377	dAvg.mc	Average value of d (current month)	0		O ^float			
378	dMin.mc	Minimum value of d (current month)	0		O ^float			
379	dMax.mc	Maximum value of d (current month)	0		O ^float			
380	dVb.ph.mc	Maximum hourly peak of Vb (current month)	0	m3	O ^float			
381	dVb.phTm.mc	Time when maximum hourly peak of Vb has appeared (current month)	0		O ^uint32			
382	dVb.mc	Increment of Vb (current month)	0	m3	O ^double			
383	dVbe.mc	Increment of Vbe (current month)	0	m3	O ^double			
384	dVbT.mc	Increment of VbT (current month)	0	m3	O ^double			
385	dVm.mc	Increment of Vm (current month)	0	m3	O ^double			
386	dVme.mc	Increment of Vme (current month)	0	m3	O ^double			
387	p1Avg.mp	Average value of pressure p1 (previous month)	0	kPa	O ^float			
388	p1Min.mp	Minimum value of pressure p1 (previous month)	0	kPa	O ^float			
389	p1Max.mp	Maximum value of pressure p1 (previous month)	0	kPa	O ^float			
390	p2Avg.mp	Average value of pressure p2 (previous month)	0	kPa	O ^float			
391	p2Min.mp	Minimum value of pressure p2 (previous month)	0	kPa	O ^float			
392	p2Max.mp	Maximum value of pressure p2 (previous month)	0	kPa	O ^float			
393	tAvg.mp	Average value of temperature t (previous month)	0	'C	O ^float			
394	tMin.mp	Minimum value of temperature t (previous month)	0	'C	O ^float			
395	tMax.mp	Maximum value of temperature t (previous month)	0	'C	O ^float			
396	dVb.ph.mp	Maximum hourly peak of Vb (previous month)	0	m3	O ^float			
397	dVb.phTm.mp	Time when maximum hourly peak of Vb has appeared (previous month)	0		O ^uint32			
398	dVb.mp	Increment of Vb (previous month)	0	m3	O ^double			
399	dVbe.mp	Increment of Vbe (previous month)	0	m3	O ^double			
400	dVbT.mp	Increment of VbT (previous month)	0	m3	O ^double			
401	dVm.mp	Increment of Vm (previous month)	0	m3	O ^double			
402	dVme.mp	Increment of Vme (previous month)	0	m3	O ^double			

1	2	3	4	5	6	7	8	9
403	dE.ph.mc	Maximum hourly peak of E (current month)	0	kWh	O ^float			
404	dE.phTm.mc	Time when maximum hourly peak E has appeared (current month)	0		O ^uint32			
405	dE.mc	Increment of E (current month)	0	kWh	O ^double			
406	dEe.mc	Increment of Ee (current month)	0	kWh	O ^double			
407	dET.mc	Increment of ET (current month)	0	kWh	O ^double			
408	dE.ph.mp	Maximum hourly peak of E (previous month)	0	kWh	O ^float			
409	dE.phTm.mp	Time when maximum hourly peak of E has appeared (previous month)	0		O ^uint32			
410	dE.mp	Increment of E (previous month)	0	kWh	O ^double			
411	dEe.mp	Increment of Ee (previous month)	0	kWh	O ^double			
412	dET.mp	Increment of ET (previous month)	0	kWh	O ^double			
413	SysStatus.mc	System status (current month)	0		O ^uint32			
414	Alarm1.mc	Binary state of alarms with codes 0..63 (current month)	0		O ^uint64			
415	Alarm2.mc	Binary state of alarms with codes 64..127 (current month)	0		O ^uint64			
416	Alarm3.mc	Binary state of activity alarms with codes 128..191 (current month)	0		O ^uint64			
417	SysStatus.mp	System status (previous month)	0		O ^uint32			
418	Alarm1.mp	Binary state of alarms with codes 0..63 (previous month)	0		O ^uint64			
419	Alarm2.mp	Binary state of alarms with codes 64..127 (previous month)	0		O ^uint64			
420	Alarm3.mp	Binary state of alarms with codes 128..191 (previous month)	0		O ^uint64			
421	CurveCorr	Switch of correction according to error curve of flowmeter; Values: 0 - Off; 1 - On	0		MO ^uint8	1		4
422	FP1	Flowmeter error at point 1; Range: -5; 5	0	%	MO ^float	1		4
423	FP2	Flowmeter error at point 2; Range: -5; 5	0	%	MO ^float	1		4
424	FP3	Flowmeter error at point 3; Range: -5; 5	0	%	MO ^float	1		4
425	FP4	Flowmeter error at point 4; Range: -5; 5	0	%	MO ^float	1		4
426	FP5	Flowmeter error at point 5; Range: -5; 5	0	%	MO ^float	1		4
427	FP6	Flowmeter error at point 6; Range: -5; 5	0	%	MO ^float	1		4
428	FP7	Flowmeter error at point 7; Range: -5; 5	0	%	MO ^float	1		4
429	FP8	Flowmeter error at point 8; Range: -5; 5	0	%	MO ^float	1		4
430	FP9	Flowmeter error at point 9; Range: -5; 5	0	%	MO ^float	1		4
431	FP10	Flowmeter error at point 10; Range: -5; 5	0	%	MO ^float	1		4
432	QP1	Value of flow in point 1 of flowmeter correction function; Range: 0; 100000	0	m3/h	MO ^float	1		4
433	QP2	Value of flow in point 2 of flowmeter correction function; Range: 0; 100000	0	m3/h	MO ^float	1		4
434	QP3	Value of flow in point 3 of flowmeter correction function; Range: 0; 100000	0	m3/h	MO ^float	1		4
435	QP4	Value of flow in point 4 of flowmeter correction function; Range: 0; 100000	0	m3/h	MO ^float	1		4
436	QP5	Value of flow in point 5 of flowmeter correction function; Range: 0; 100000	0	m3/h	MO ^float	1		4
437	QP6	Value of flow in point 6 of flowmeter correction function; Range: 0; 100000	0	m3/h	MO ^float	1		4
438	QP7	Value of flow in point 7 of flowmeter correction function; Range: 0; 100000	0	m3/h	MO ^float	1		4
439	QP8	Value of flow in point 8 of flowmeter correction function; Range: 0; 100000	0	m3/h	MO ^float	1		4
440	QP9	Value of flow in point 9 of flowmeter correction function; Range: 0; 100000	0	m3/h	MO ^float	1		4
441	QP10	Value of flow in point 10 of flowmeter correction function; Range: 0; 100000	0	m3/h	MO ^float	1		4
442	FQ	Flowmeter correction function	0		O ^float		C	
443	Dtau	Registration period; Values: 1; 2; 3; 4; 5; 6; 10; 12; 15; 20; 30; 60	0	min	MO ^uint16	1		4
444	RegTWeek	Periodic registration 2 (days of the week); Range: 0; 255	0		MO ^uint8			4
445	RegTMonth	Periodic registration 2 (months); Range: 0; 65535	0		MO ^uint16			4
446	RegTDay	Periodic registration 2 (days); Range: 0; 4294967295	0		MO ^uint32			4

1	2	3	4	5	6	7	8	9
447	RegTHour	Periodic registration 2 (hours); Range: 0; 16777215	0		MO ^uint32			4
448	RegTNext	Nearest time for periodic registration 2	0		O ^string			
449	SingleReg	Single registration request; Range: 0; 4294967295	0		MO ^uint32			4
450	BillingHour	Billing hour; Range: 0; 23	0	h	MO ^uint8	1		4
451	BillingDay	Billing day; Range: 1; 31	0	day	MO ^uint8	1		4
452	AddRegR1	Parameter 1 in periodic registration; Range: -1;837	0		MO ^int16			4
453	AddRegR2	Parameter 2 in periodic registration; Range: -1;837	0		MO ^int16			4
454	AddRegR3	Parameter 3 in periodic registration; Range: -1;837	0		MO ^int16			4
455	AddRegR4	Parameter 4 in periodic registration; Range: -1;837	0		MO ^int16			4
456	AddRegR5	Parameter 5 in periodic registration; Range: -1;837	0		MO ^int16			4
457	AddRegR6	Parameter 6 in periodic registration; Range: -1;837	0		MO ^int16			4
458	AddRegR7	Parameter 7 in periodic registration; Range: -1;837	0		MO ^int16			4
459	AddRegR8	Parameter 8 in periodic registration; Range: -1;837	0		MO ^int16			4
460	AddRegR9	Parameter 9 in periodic registration; Range: -1;837	0		MO ^int16			4
461	AddRegR10	Parameter 10 in periodic registration; Range: -1;837	0		MO ^int16			4
462	AddRegD1	Parameter 1 in daily registration; Range: -1;837	0		MO ^int16			4
463	AddRegD2	Parameter 2 in daily registration; Range: -1;837	0		MO ^int16			4
464	AddRegD3	Parameter 3 in daily registration; Range: -1;837	0		MO ^int16			4
465	AddRegD4	Parameter 4 in daily registration; Range: -1;837	0		MO ^int16			4
466	AddRegD5	Parameter 5 in daily registration; Range: -1;837	0		MO ^int16			4
467	AddRegD6	Parameter 6 in daily registration; Range: -1;837	0		MO ^int16			4
468	AddRegD7	Parameter 7 in daily registration; Range: -1;837	0		MO ^int16			4
469	AddRegD8	Parameter 8 in daily registration; Range: -1;837	0		MO ^int16			4
470	AddRegD9	Parameter 9 in daily registration; Range: -1;837	0		MO ^int16			4
471	AddRegD10	Parameter 10 in daily registration; Range: -1;837	0		MO ^int16			4
472	AddRegC1	Parameter 1 in momentary registration; Range: -1;837	0		MO ^int16			4
473	AddRegC2	Parameter 2 in momentary registration; Range: -1;837	0		MO ^int16			4
474	AddRegC3	Parameter 3 in momentary registration; Range: -1;837	0		MO ^int16			4
475	AddRegC4	Parameter 4 in momentary registration; Range: -1;837	0		MO ^int16			4
476	AddRegC5	Parameter 5 in momentary registration; Range: -1;837	0		MO ^int16			4
477	AddRegC6	Parameter 6 in momentary registration; Range: -1;837	0		MO ^int16			4
478	AddRegC7	Parameter 7 in momentary registration; Range: -1;837	0		MO ^int16			4
479	AddRegC8	Parameter 8 in momentary registration; Range: -1;837	0		MO ^int16			4
480	AddRegC9	Parameter 9 in momentary registration; Range: -1;837	0		MO ^int16			4
481	AddRegC10	Parameter 10 in momentary registration; Range: -1;837	0		MO ^int16			4
482	dRegC1	Criterium for step change of parameter 1 in momentary registration; Range: 0; 100000	0		MO ^float			4
483	dRegC2	Criterium for step change of parameter 2 in momentary registration; Range: 0; 100000	0		MO ^float			4
484	dRegC3	Criterium for step change of parameter 3 in momentary registration; Range: 0; 100000	0		MO ^float			4
485	dRegC4	Criterium for step change of parameter 4 in momentary registration; Range: 0; 100000	0		MO ^float			4
486	dRegC5	Criterium for step change of parameter 5 in momentary registration; Range: 0; 100000	0		MO ^float			4
487	dRegC6	Criterium for step change of parameter 6 in momentary registration; Range: 0; 100000	0		MO ^float			4
488	dRegC7	Criterium for step change of parameter 7 in momentary registration; Range: 0; 100000	0		MO ^float			4

1	2	3	4	5	6	7	8	9
489	dRegC8	Criterium for step change of parameter 8 in momentary registration; Range: 0; 100000	0		MO ^float			4
490	dRegC9	Criterium for step change of parameter 9 in momentary registration; Range: 0; 100000	0		MO ^float			4
491	dRegC10	Criterium for step change of parameter 10 in momentary registration; Range: 0; 100000	0		MO ^float			4
492	RegC1LMin	Lower limit of step change control of parameter 1 in momentary registration; Range: 0; 100000	0		MO ^float			4
493	RegC1LMax	Upper limit of step change control of parameter 1 in momentary registration; Range: 0; 100000	0		MO ^float			4
494	RegC2LMin	Lower limit of step change control of parameter 2 in momentary registration; Range: 0; 100000	0		MO ^float			4
495	RegC2LMax	Upper limit of step change control of parameter 2 in momentary registration; Range: 0; 100000	0		MO ^float			4
496	RegC3LMin	Lower limit of step change control of parameter 3 in momentary registration; Range: 0; 100000	0		MO ^float			4
497	RegC3LMax	Upper limit of step change control of parameter 3 in momentary registration; Range: 0; 100000	0		MO ^float			4
498	MainScr1	Main screen, parameter line 1; Range: -5;837	0		MO ^int16			4
499	MainScr2	Main screen, parameter line 2; Range: -5;837	0		MO ^int16			4
500	MainScr3	Main screen, parameter line 3; Range: -5;837	0		MO ^int16			4
501	MainScr4	Main screen, parameter line 4; Range: -5;837	0		MO ^int16			4
502	MainScr5	Main screen, parameter line 5; Range: -5;837	0		MO ^int16			4
503	MainScr6	Main screen, parameter line 6; Range: -5;837	0		MO ^int16			4
504	UParam1	User menu parameter 1; Range: -5;837	0		MO ^int16			4
505	UParam2	User menu parameter 2; Range: -5;837	0		MO ^int16			4
506	UParam3	User menu parameter 3; Range: -5;837	0		MO ^int16			4
507	UParam4	User menu parameter 4; Range: -5;837	0		MO ^int16			4
508	UParam5	User menu parameter 5; Range: -5;837	0		MO ^int16			4
509	UParam6	User menu parameter 6; Range: -5;837	0		MO ^int16			4
510	UParam7	User menu parameter 7; Range: -5;837	0		MO ^int16			4
511	UParam8	User menu parameter 8; Range: -5;837	0		MO ^int16			4
512	UParam9	User menu parameter 9; Range: -5;837	0		MO ^int16			4
513	UParam10	User menu parameter 10; Range: -5;837	0		MO ^int16			4
514	UParam11	User menu parameter 11; Range: -5;837	0		MO ^int16			4
515	UParam12	User menu parameter 12; Range: -5;837	0		MO ^int16			4
516	UParam13	User menu parameter 13; Range: -5;837	0		MO ^int16			4
517	UParam14	User menu parameter 14; Range: -5;837	0		MO ^int16			4
518	UParam15	User menu parameter 15; Range: -5;837	0		MO ^int16			4
519	UParam16	User menu parameter 16; Range: -5;837	0		MO ^int16			4
520	UParam17	User menu parameter 17; Range: -5;837	0		MO ^int16			4
521	UParam18	User menu parameter 18; Range: -5;837	0		MO ^int16			4
522	UParam19	User menu parameter 19; Range: -5;837	0		MO ^int16			4
523	UParam20	User menu parameter 20; Range: -5;837	0		MO ^int16			4
524	Widget2Type	Widget 2 data type; Values: 1 - Minute; 2 - Hourly; 3 - Daily; 4 - Monthly; 5 - Periodic 2	0		MO ^uint8			4
525	Widget2Rec	Number of widget 2 samples; Range: 5; 30	0		MO ^uint8			4
526	Widget2Par1	Parameter 1 for presentation on widget 2; Range: -1;837	0		MO ^int16			4
527	Widget2Par2	Parameter 2 for presentation on widget 2; Range: -1;837	0		MO ^int16			4
528	Widget2Mode	Data presentation type on the widget 2. Options: 1 - reference to the value 0, 2 - automatic scaling; Range: 1; 2	0		MO ^uint8			4
529	Widget2Title	Widget 2 title; Character string, length: 0; 10	0		MO ^string			4

1	2	3	4	5	6	7	8	9
530	Widget3Type	Widget 3 data type; Values: 1 - Minute; 2 - Hourly; 3 - Daily; 4 - Monthly; 5 - Periodic 2	0		MO ^uint8			4
531	Widget3Rec	Number of widget 3 samples; Range: 5; 30	0		MO ^uint8			4
532	Widget3Par1	Parameter 1 for presentation on widget 3; Range: -1;837	0		MO ^int16			4
533	Widget3Par2	Parameter 2 for presentation on widget 3; Range: -1;837	0		MO ^int16			4
534	Widget3Mode	Data presentation type on the widget 3. Options: 1 - reference to the value 0, 2 - automatic scaling; Range: 1; 2	0		MO ^uint8			4
535	Widget3Title	Widget 3 title; Character string, length: 0; 10	0		MO ^string			4
536	Widget4Type	Widget 4 data type; Values: 1 - Minute; 2 - Hourly; 3 - Daily; 4 - Monthly; 5 - Periodic 2	0		MO ^uint8			4
537	Widget4Rec	Number of widget 4 samples; Range: 5; 30	0		MO ^uint8			4
538	Widget4Par1	Parameter 1 for presentation on widget 4; Range: -1;837	0		MO ^int16			4
539	Widget4Par2	Parameter 2 for presentation on widget 4; Range: -1;837	0		MO ^int16			4
540	Widget4Mode	Data presentation type on the widget 4. Options: 1 - reference to the value 0, 2 - automatic scaling; Range: 1; 2	0		MO ^uint8			4
541	Widget4Title	Widget 4 title; Character string, length: 0; 10	0		MO ^string			4
542	SetupLOG	Level of SetupLOG's memory filling. At level 100%, configuration of important parameters and software updating are stopped	0	%	O ^float			
543	AlarmLOG	Level of alarms' memory filling. At level 100%, configuration of important parameters and software updating are stopped. Setting to 0 clears alarms; Values: 0.000000	0	%	MO ^float	1		4
544	IndexA	Amount of all alarms, which appeared in the device	0		O ^uint32			
545	IndexAM	Amount of all changes on alarms list	0		O ^uint32			
546	IndexTL	Index of TimeLOG record	0		O ^uint32			
547	IndexGL	Index of GasLOG record	0		O ^uint32			
548	SYS1	System parameter	0		O ^uint32			
549	SYS2	System parameter	0		O ^uint32			
550	SYS3	System parameter	0		O ^uint32			
551	SysStatus	System status	0		O ^uint32		LSu	
552	Alarm1	Binary state of alarms with codes 0..63	0		CRO ^uint64		LSu	
553	Alarm2	Binary state of alarms with codes 64..127	0		O ^uint64		LSu	
554	Alarm3	Binary state of alarms with codes 128..191	0		O ^uint64		LSu	
555	LastACode	Code of the last recorded alarm or event	0		O ^uint8			
556	LastADate	Date and time of the last recorded alarm or event	0		O ^uint32			
557	GA1	Vector of alarms, which activates Collective alarm A, alarms 0..63; Range: 0; 18446744073709551615	0		MO ^uint64			4
558	GA2	Vector of alarms, which activates Collective alarm A, alarms 64..127; Range: 0; 18446744073709551615	0		MO ^uint64			4
559	GA3	Vector of alarms, which activates Collective alarm A, alarms 128..191; Range: 0; 18446744073709551615	0		MO ^uint64			4
560	GATm	Time of duration Collective alarm A. Value 0 turns off time control - alarm will be active as long as any of controlling alarm is active; Range: 0; 60	0	s	MO ^uint16			4
561	GB1	Vector of alarms, which activates Collective alarm B, alarms 0..63; Range: 0; 18446744073709551615	0		MO ^uint64			4
562	GB2	Vector of alarms, which activates Collective alarm B, alarms 64..127; Range: 0; 18446744073709551615	0		MO ^uint64			4
563	GB3	Vector of alarms, which activates Collective alarm B, alarms 128..191; Range: 0; 18446744073709551615	0		MO ^uint64			4
564	GBTm	Time of duration Collective alarm B. Value 0 turns off time control - alarm will be active as long as any of controlling alarm is active; Range: 0; 60	0	s	MO ^uint16			4
565	EPwrSMode	Operating mode on external power supply; Values: 0 - BATT; 1 - FULL	0		MO ^uint8	1		4
566	EPwrSActive	Active operating mode; Values: 0 - BATT; 1 - FULL	0		O ^uint8			
567	EPwrSCheck	External power indicator: 0 - disconnected, 3 - connected	0		O ^uint8			
568	EPwrSSuppReq	Required period of external power supply support from the main battery; Range: 0; 180	0	month	MO ^uint8			4

1	2	3	4	5	6	7	8	9
569	EPwrSSupTm	Estimated period of external power supply support from the main battery	0	month	O ^uint8			
570	EPwrSTm1	Maintaining the operating mode after the failure of external power supply; Range: 0; 1440	0	min	MO ^uint32	1		4
571	EPwrSTm2	Maintenance of the operating mode with inefficient external power supply; Range: 1; 1440	0	min	MO ^uint32	1		4
572	---	-	0		O ^uint8			
573	BCT	Period of measuring cycle in BATT mode; Values: 6; 10; 12; 15; 20; 30; 60	0	s	MO ^uint8	1		4
574	ETL	Estimated device's running time on battery mode	0	month	O ^float		C	
575	BattLvl	Current level of the device's batteries; Range: 0; 100	0	%	DRMO ^float	1	C	4
576	MBattLvl	Current level of the modem's batteries; Range: 0; 100	0	%	MO ^float	1	C	4
577	BattIdx	Amount of the device's batteries; Range: 1; 3	0		MO ^uint8	1		4
578	MBattIdx	Amount of the modem's batteries; Range: 1; 2	0		MO ^uint8	1		4
579	BattCap	Capacity of 1pcs battery; Range: 10; 25	0	Ah	MO ^uint16	1		4
580	BBattLvl	Current backup battery level; Range: 0; 100	0	%	MO ^float	1	C	4
581	COM1Bps	Baud rate of transmission (COM1); Values: 2400; 4800; 9600; 19200; 38400; 57600; 115200; 230400; 256000	0	bps	MO ^uint32			4
582	COM1Adr	Transmission address (COM1); Range: 1; 65534	0		MO ^uint16			4
583	COM1Link	Activity of transmission (COM1)	0		O ^uint8			
584	COM2Bps	Baud rate of transmission (COM2); Values: 2400; 4800; 9600; 19200; 38400; 57600; 115200; 230400; 256000	0	bps	MO ^uint32			3
585	COM2Adr	Transmission address (COM2); Range: 1; 65534	0		MO ^uint16			3
586	COM2Link	Activity of transmission (COM2)	0		O ^uint8			
587	COM3Bps	Baud rate of transmission (COM3-OPTO); Values: 2400; 4800; 9600; 19200; 38400	0	bps	MO ^uint32			3
588	COM3Adr	Transmission address (COM3-OPTO); Range: 1; 65534	0		MO ^uint16			3
589	COM3St	State of Optical interface. Active bits - b0 - head adhibited, b1 - channel active	0		O ^uint8			
590	ComDelay	Answer delay of transmission ports COM; Range: 5; 50	0	ms	MO ^uint8			3
591	MBOrdIntC1	Order of bytes in the ModBUS (integer) (COM1); Range: 12345678; 87654321	0		MO ^uint32			4
592	MBOrdFpC1	Order of bytes in the ModBUS (floating point) (COM1); Range: 12345678; 87654321	0		MO ^uint32			4
593	MBOrdIntC2	Order of bytes in the ModBUS (integer) (COM2); Range: 12345678; 87654321	0		MO ^uint32			4
594	MBOrdFpC2	Order of bytes in the ModBUS (floating point) (COM2); Range: 12345678; 87654321	0		MO ^uint32			4
595	MBOrdIntC3	Order of bytes in the ModBUS (integer) (COM3); Range: 12345678; 87654321	0		MO ^uint32			4
596	MBOrdFpC3	Order of bytes in the ModBUS (floating point) (COM3); Range: 12345678; 87654321	0		MO ^uint32			4
597	MBOrdIntC4	Order of bytes in the ModBUS (integer) (COM4); Range: 12345678; 87654321	0		MO ^uint32			4
598	MBOrdFpC4	Order of bytes in the ModBUS (floating point) (COM4); Range: 12345678; 87654321	0		MO ^uint32			4
599	Met701Pwd	Password of user 701, level 7 (Metrologist); Digit sequence, length: 4; 10	0		MO ^string			7
600	Met702Pwd	Password of user 702, level 7 (Metrologist); Digit sequence, length: 0; 10	0		MO ^string			7
601	Met703Pwd	Password of user 703, level 7 (Metrologist); Digit sequence, length: 0; 10	0		MO ^string			7
602	Met704Pwd	Password of user 704, level 7 (Metrologist); Digit sequence, length: 0; 10	0		MO ^string			7
603	Met705Pwd	Password of user 705, level 7 (Metrologist); Digit sequence, length: 0; 10	0		MO ^string			7
604	Adm401Pwd	Password of user 401, level 4 (Administrator); Digit sequence, length: 4; 10	0		MO ^string			4
605	Adm402Pwd	Password of user 402, level 4 (Administrator); Digit sequence, length: 0; 10	0		MO ^string			4
606	Adm403Pwd	Password of user 403, level 4 (Administrator); Digit sequence, length: 0; 10	0		MO ^string			4
607	Adm404Pwd	Password of user 404, level 4 (Administrator); Digit sequence, length: 0; 10	0		MO ^string			4
608	Adm405Pwd	Password of user 405, level 4 (Administrator); Digit sequence, length: 0; 10	0		MO ^string			4
609	Cust301Pwd	Password of user 301, level 3 (Customer); Digit sequence, length: 0; 10	0		MO ^string			3
610	Cust302Pwd	Password of user 302, level 3 (Customer); Digit sequence, length: 0; 10	0		MO ^string			3



1	2	3	4	5	6	7	8	9
611	Cust303Pwd	Password of user 303, level 3 (Customer); Digit sequence, length: 0; 10	0		MO ^string			3
612	Cust304Pwd	Password of user 304, level 3 (Customer); Digit sequence, length: 0; 10	0		MO ^string			3
613	Cust305Pwd	Password of user 305, level 3 (Customer); Digit sequence, length: 0; 10	0		MO ^string			3
614	Rdr201Pwd	Password of user 201, level 2 (Reader); Digit sequence, length: 0; 10	0		MO ^string			2
615	Rdr202Pwd	Password of user 202, level 2 (Reader); Digit sequence, length: 0; 10	0		MO ^string			2
616	Rdr203Pwd	Password of user 203, level 2 (Reader); Digit sequence, length: 0; 10	0		MO ^string			2
617	Rdr204Pwd	Password of user 204, level 2 (Reader); Digit sequence, length: 0; 10	0		MO ^string			2
618	Rdr205Pwd	Password of user 205, level 2 (Reader); Digit sequence, length: 0; 10	0		MO ^string			2
619	Account	User's account number; Range: 100; 9999999	0		MO ^uint32			2
620	Password	Password; Range: 0; 9999999999	0		MO ^uint64			2
621	ConfTrig	Configuration protection switch; Range: 1000000000; 4000000000	0		MO ^uint32			4
622	SecurLvlMet	Security level (Metrologist); Values: 3; 4	0		MO ^uint8	1		7
623	SecurLvlAdm	Security level (Administrator); Values: 1; 2; 3; 4	0		MO ^uint8	1		4
624	CustAccess	Access to level 3 parameters with active hardware locks; Values: 0 - Off; 1 - On	0		MO ^uint8	1		4
625	LoginLvl	Privileges level of logged-in user	0		O ^uint8			
626	Erasing	Data erasing (main); Values: 1 - Factory reset; 2 - Archives reset; 3 - Default settings; 4 - SetupLOG reset	0		MO ^uint8	2		7
627	ErasingBase	Data erasing (basic); Values: 1 - Factory reset; 2 - Archives reset; 3 - Default settings	0		MO ^uint8	2		4
628	ModelDev	Device hardware configuration; Range: 1000000000; 4000000000	0		MO ^uint32	1		7
629	LogoutTm	Time to automatically log out; Range: 0; 1440	0	min	MO ^uint16			4
630	LockRead	Restriction of remote access; Range: 0; 1	0		MO ^bool			4
631	LockLcd	Block access to the menu. 0 - off, 1 - blocked entry to menu, 2 - blocked main screen; Range: 0; 2	0		MO ^uint8			4
632	LockCFG	State of hardware lock "CFG". Value 0 - lock is off, 1 - on	0		O ^bool			
633	LockMET	State of hardware lock "MET". Value 0 - lock is off, 1 - on	0		O ^bool			
634	LockFW1	Software update lock (main); Values: 0 - Off; 1 - On	0		MO ^uint8	1		7
635	LockFW2	Block program update in forced mode (auxiliary); Values: 0 - Off; 1 - On	0		MO ^uint8	1		4
636	LockFW3	Block program update in automatic mode (auxiliary, port: Modem); Values: 0 - Off; 1 - On	0		MO ^uint8	1		4
637	LockFW3Acc	Confirmation of automatic program updates (port: Modem)	0		O ^uint32			
638	SVer	Program or resource revision for archive data	0		O ^uint16			
639	UpType	Update type	0		O ^uint8			
640	UpCode	Device's starting code	0		O ^uint32			
641	LastIdx	Number of last modified parameter	0		O ^uint16			
642	LastVal1	Value of parameter before modification	0		O ^double			
643	LastVal2	Value of parameter after modification	0		O ^double			
644	OTS	Previous time stamp	0		O ^uint32			
645	DTStamp	Timestamp for registration (local time)	0		DRO ^uint32			
646	UTCStamp	Timestamp for registration (universal time)	0		DRO ^uint32			
647	AutoDST	Automatic change to summer/winter time; Values: 0 - Off; 1 - On	0		MO ^bool			4
648	DT	Current date and time	0		O ^string			3
649	UTC	Current date and time (UTC)	0		O ^string			3
650	DTUx	Current date and time (UNIX); Range: 0; 4294967295	0		MO ^uint32			3
651	UTCUx	Current date and time (UNIX UTC); Range: 0; 4294967295	0		MO ^uint32			3
652	TmZOffset	Time zone (UTC offset); Range: -720; 840	0	min	MO ^int16			4
653	DSTmOffset	Offset for DST change; Range: 0; 180	0	min	MO ^int16			4

1	2	3	4	5	6	7	8	9
654	STmSet	Moment of transition to winter (standard) time; Range: 0; 4294967295	0		MO ^uint32			4
655	DTmSet	Moment of transition to summer (daylight saving) time; Range: 0; 4294967295	0		MO ^uint32			4
656	RTCMode	RTC working mode; Range: 1; 3	0		MO ^int8	1		4
657	ConfLang	Currently chosen language	0		MO ^uint8			3
658	Languages	Available languages	0		O ^string			
659	UC1	Unit of pressure; Values: 0 - kPa; 1 - Pa; 2 - MPa; 3 - bar; 4 - mbar; 5 - PSI; 6 - at; 7 - atm; 8 - Torr; 9 - kgf/cm2	0		MO ^uint8	1		7
660	UC2	Unit of base pressure; Values: 0 - bar; 1 - Pa; 2 - kPa; 3 - MPa; 4 - mbar; 5 - PSI; 6 - at; 7 - atm; 8 - Torr; 9 - kgf/cm2	0		MO ^uint8	1		7
661	UC3	Unit of temperature; Values: 0 - °C; 1 - K; 2 - °R; 3 - °F	0		MO ^uint8	1		7
662	UC4	Unit of base temperature; Values: 0 - K; 1 - °C; 2 - °R; 3 - °F	0		MO ^uint8	1		7
663	UC5	Unit of volume; Values: 0 - m3, m3/h, imp/m3; 1 - ft3, ft3/h, imp/ft3	0		MO ^uint8	1		7
664	UC6	Unit of energy; Values: 0 - kWh, kW; 1 - MJ, MJ/h; 2 - Btu, Btu/h; 3 - kcal, kcal/h; 4 - Mcal, Mcal/h; 5 - Gcal, Gcal/h	0		MO ^uint8	1		7
665	UC7	Unit of calorific value; Values: 0 - MJ/m3; 1 - kWh/m3; 2 - Btu/ft3; 3 - kcal/m3; 4 - Mcal/m3; 5 - Gcal/m3	0		MO ^uint8	1		7
666	UC8	Unit of density; Values: 0 - kg/m3	0		MO ^uint8	1		4
667	UC9	Unit of mass; Values: 0 - kg, kg/h; 1 - lb, lb/h	0		MO ^uint8	1		4
668	UC10	Unit of time; Values: 0 - months; 1 - days	0		MO ^uint8	1		4
669	ConfDI	Binary state of presence digital inputs 1-8. Bit=1 - specific input is available; Range: 0; 255	0		MO ^uint8			3
670	DIOn	Available digital inputs in current configuration; Range: 0; 255	0		O ^uint8			
671	DI	Binary state of activity on digital inputs 1-8. Bit=1 - specific input is active; Range: 0; 255	0		O ^uint8			
672	DIPol	Binary polarization of digital inputs 1-8. Bit=1 - active - short, Bit=0 - active - open; Range: 0; 255	0		MO ^uint8			3
673	DI1Desc	Description of digital input DI1; Character string, length: 0; 14	0		MO ^string			3
674	DI2Desc	Description of digital input DI2; Character string, length: 0; 14	0		MO ^string			3
675	DI3Desc	Description of digital input DI3; Character string, length: 0; 14	0		MO ^string			3
676	DI4Desc	Description of digital input DI4; Character string, length: 0; 14	0		MO ^string			3
677	DI5Desc	Description of digital input DI5; Character string, length: 0; 14	0		MO ^string			3
678	DI6Desc	Description of digital input DI6; Character string, length: 0; 14	0		MO ^string			3
679	DI7Desc	Description of digital input DI7; Character string, length: 0; 14	0		MO ^string			3
680	DI8Desc	Description of digital input DI8; Character string, length: 0; 14	0		MO ^string			3
681	DIErr	Service parameter	0		O ^uint8		LSu	
682	DO1Mode	Mode for output DO1. Output state: S - short, O - open; Values: 0 - Off (O); 1 - Counter (S); 2 - Status (S); 4 - On (S); 5 - Counter (O); 6 - Status (O); 9 - Event (S); 10 - Event (O)	0		MO ^uint8			3
683	DO1Idx	Counter controlling binary output DO1; Values: 0 - Vb; 1 - Vm; 2 - Vm2; 3 - E; 5 - Vme; 6 - Vbe; 7 - Ee; 9 - VbT; 10 - ET	0		MO ^uint16			3
684	DO1Evt	Event controlling binary output DO1; Range: 0; 63	0		MO ^uint16			3
685	---	-	0		O ^uint8			
686	DO1PulseLen	Pulse length on output DO1; Range: 25; 255	0	ms	MO ^uint8			3
687	DO1PulsePer	Period duration on output DO1; Range: 50; 255	0	ms	MO ^uint8			3
688	DO1Factor	DO1 pulse rate; Range: 0; 1000	0	u/imp	MO ^float			3
689	DO2Mode	Mode for output DO2. Output state: S - short, O - open; Values: 0 - Off (O); 1 - Counter (S); 2 - Status (S); 4 - On (S); 5 - Counter (O); 6 - Status (O); 8 - Freq. output; 9 - Event (S); 10 - Event (O)	0		MO ^uint8			3
690	DO2Idx	Counter controlling binary output DO2; Values: 0 - Vb; 1 - Vm; 2 - Vm2; 3 - E; 5 - Vme; 6 - Vbe; 7 - Ee; 9 - VbT; 10 - ET	0		MO ^uint16			3
691	DO2Evt	Event controlling binary output DO2; Range: 0; 63	0		MO ^uint16			3
692	---	-	0		O ^uint8			
693	DO2PulseLen	Pulse length on output DO2; Range: 25; 255	0	ms	MO ^uint8			3

1	2	3	4	5	6	7	8	9
694	DO2PulsePer	Period duration on output DO2; Range: 50; 255	0	ms	MO ^uint8			3
695	DO2Factor	DO2 pulse rate; Range: 0; 1000	0	u/imp	MO ^float			3
696	DO2Fldx	Parameter controlling output DO2 in frequency output mode; Values: 56 - Qb; 57 - Qm; 58 - QE; 59 - QM; 87 - p1; 107 - p2; 125 - t; 90 - p1g; 105 - AtmPress; 124 - tamb	0		MO ^uint16			3
697	DO2FMin	Scaling of the frequency output control parameter - minimum; Range: -1000; 5000000	0		MO ^float			3
698	DO2FMax	Scaling of the frequency output control parameter - maximum; Range: -1000; 5000000	0		MO ^float			3
699	FOMin	Frequency of output corresponding DOFmin; Range: 1; 5000	0	Hz	MO ^uint32			3
700	FOMax	Frequency of output corresponding DOFmax; Range: 1; 5000	0	Hz	MO ^uint32			3
701	FOut	Current value of frequency on DO2 output	0	Hz	O ^float		C	
702	DO3Mode	Mode for output DO3. Output state: S - short, O - open; Values: 0 - Off (O); 1 - Counter (S); 2 - Status (S); 4 - On (S); 5 - Counter (O); 6 - Status (O); 9 - Event (S); 10 - Event (O)	0		MO ^uint8			4
703	DO3Idx	Counter controlling binary output DO3; Values: 0 - Vb; 1 - Vm; 2 - Vm2; 3 - E; 5 - Vme; 6 - Vbe; 7 - Ee; 9 - VbT; 10 - ET	0		MO ^uint16			4
704	DO3Evt	Event controlling binary output DO3; Range: 0; 63	0		MO ^uint16			4
705	---	-	0		O ^uint8			
706	DO3PulseLen	Pulse length on output DO3; Range: 25; 255	0	ms	MO ^uint8			4
707	DO3PulsePer	Period duration on output DO3; Range: 50; 255	0	ms	MO ^uint8			4
708	DO3Factor	DO3 pulse rate; Range: 0; 1000	0	u/imp	MO ^float			4
709	DO4Mode	Mode for output DO4. Output state: S - short, O - open; Values: 0 - Off (O); 1 - Counter (S); 2 - Status (S); 4 - On (S); 5 - Counter (O); 6 - Status (O); 9 - Event (S); 10 - Event (O)	0		MO ^uint8			4
710	DO4Idx	Counter controlling binary output DO4; Values: 0 - Vb; 1 - Vm; 2 - Vm2; 3 - E; 5 - Vme; 6 - Vbe; 7 - Ee; 9 - VbT; 10 - ET	0		MO ^uint16			4
711	DO4Evt	Event controlling binary output DO4; Range: 0; 63	0		MO ^uint16			4
712	---	-	0		O ^uint8			
713	DO4PulseLen	Pulse length on output DO4; Range: 25; 255	0	ms	MO ^uint8			4
714	DO4PulsePer	Period duration on output DO4; Range: 50; 255	0	ms	MO ^uint8			4
715	DO4Factor	DO4 pulse rate; Range: 0; 1000	0	u/imp	MO ^float			4
716	DOEvtTm	Timeout for switching output state in event output mode; Range: 100; 5000	0	ms	MO ^uint16			4
717	AccelX	Accelerometer data - X axis	0		O ^float		Av	
718	AccelY	Accelerometer data - Y axis	0		O ^float		Av	
719	AccelZ	Accelerometer data - Z axis	0		O ^float		Av	
720	LcdTm	Automatic display off; Range: 10; 28800	0	s	MO ^uint16			4
721	LcdBLightTm	Display backlight timeout; Range: 10; 28800	0	s	MO ^uint16			3
722	LcdBLightLvl	Display backlight brightness; Range: 0; 30	0		MO ^uint8			3
723	DevName	Name of the device	0		O ^string			
724	MFR	Manufacturer of the device	0		O ^string			
725	DevSN	Serial number of the device; Range: 1000000000; 4000000000	0		MO ^uint32			7
726	MeterSN	Serial number of the flowmeter; Character string, length: 0; 14	0		MO ^string	1		4
727	GasMarket	The gas market configuration; Range: 0; 1	0		MO ^uint8			7
728	ConfEnergy	Configuration of energy parameter names (exact or estimated energy); Range: 0; 1	0		MO ^uint8			7
729	MID	Device - indicator of potential compliance with MID	0		O ^uint8			
730	SV	Software identitator	0		O ^string			
731	HV	Hardware version	0		O ^string			
732	DPV	Number of DP table	0		O ^string			
733	ZDV	Number of ZD table	0		O ^string			

1	2	3	4	5	6	7	8	9
734	Desc1	Auxiliary descriptive parameter 1; Character string, length: 0; 14	0		MO ^string			4
735	Desc2	Auxiliary descriptive parameter 2; Character string, length: 0; 14	0		MO ^string			4
736	Desc3	Auxiliary descriptive parameter 3; Character string, length: 0; 14	0		MO ^string			4
737	Desc4	Auxiliary descriptive parameter 4; Character string, length: 0; 14	0		MO ^string			4
738	Comp	Service parameter	0		O ^string			
739	CrcTest	CrcMain test; Values: 0.000000	0		MO ^uint8			3
740	CrcMain	Main checksum	0		O ^uint32			
741	CrcBoot	CRC_BOOT	0		O ^uint32			
742	VerDs4	Version of the resources	0		O ^uint32			
743	VerDs5	Version of the menu map	0		O ^uint32			
744	VerDs6	Version of the ModBUS map	0		O ^uint32			
745	VerDs7	Version of the user data structure	0		O ^uint32			
746	VerDs11	Version of the modem configuration	0		O ^uint32			
747	ENId	Frame B of the encoder	0		O ^string			
748	ENSt	Encoder status	0		O ^uint16			
749	ENBatPer	The period of reading the encoder in BATT mode; Range: 1; 10	0	min	MO ^uint8			4
750	UpProgress	Software upgrade progress; Range: 0; 0	0	%	MO ^float			4
751	NewSW	Software update available	0		O ^string			
752	MModel	Modem type	0		O ^string			
753	MPin	SIM PIN number; Digit sequence, length: 4; 8	0		MO ^string			4
754	MPinCount	Number of remaining attempts to enter SIM card PIN number	0		O ^uint8			
755	MMode	Mode of modem operation; 0-Inactive, 1- Online (Full mode) + Schedules, 2- Schedules, 3- Online (Full mode); Range: 0; 3	0		MO ^uint8			4
756	MOBattTm	Maintaining the Online mode after the failure of external power supply; Range: 0; 1440	0	min	MO ^uint16			4
757	MOApn	APN name for Online mode; Character string, length: 0; 20	0		MO ^string			4
758	MOApnUser	APN user for Online mode; Character string, length: 0; 20	0		MO ^string			4
759	MOApnPwd	APN password for Online mode; Character string, length: 0; 20	0		MO ^string			4
760	MOPort	Port number in Online mode; Range: 0; 65535	0		MO ^uint16			4
761	MFtpDefLog	Default login to the FTP server; Character string, length: 0; 24	0		MO ^string			4
762	MFtpDefPwd	Default password to the FTP server; Character string, length: 0; 24	0		MO ^string			4
763	MFtpProdSF	Service FTP support folder; Character string, length: 0; 24	0		MO ^string			7
764	MIpFlt1	Filter of permissible IP address; Character string, length: 0; 15	0		MO ^string			4
765	MIpFlt2	Filter of permissible IP address; Character string, length: 0; 15	0		MO ^string			4
766	MIpFlt3	Filter of permissible IP address; Character string, length: 0; 15	0		MO ^string			4
767	MCmd	Force modem session; Range: 0; 11	0		MO ^uint8			4
768	MAAction	Current modem session (1..9 - schedule), 10 - basic test, 11 - extended test, 255 - Online mode, 0 - modem disabled	0		O ^uint8			
769	MSessSt	Action status from current/last session	0		O ^uint32			
770	MSessErr	Error status from current/last session	0		O ^uint32			
771	MAutSessSt	Action status from current/last autotest	0		O ^uint32			
772	MAutSessErr	Error status from current/last autotest	0		O ^uint32			
773	MCsq	Network signal level from current/last session	0		O ^uint8			
774	MIpAdr	IP address from current/last session	0		O ^string			
775	MIccid	SIM card identification number	0		O ^string			
776	MIimei	IMEI	0		O ^string			

1	2	3	4	5	6	7	8	9
777	MCgi	CGI	0		O ^string			
778	MOperator	Mobile network operator	0		O ^string			
779	MBts	BTS base station number	0		O ^uint16			
780	MTcpRec	Data counter received in TCP mode	0	B	O ^uint64			
781	MTcpSnd	Data counter sent in TCP mode	0	B	O ^uint64			
782	MFtpData	Sum of uploaded and received bytes from FTP server	0	B	O ^uint64			
783	MLink	Transmission activity of modem	0		O ^uint8			
784	MShEn	Permission to perform individual schedules. Bit = 1 - schedule enabled, Bit = 0 - schedule disabled; Range: 0; 511	0		MO ^uint16			4
785	MSh1	Description of schedule 1	0		O ^string			
786	MSh2	Description of schedule 2	0		O ^string			
787	MSh3	Description of schedule 3	0		O ^string			
788	MSh4	Description of schedule 4	0		O ^string			
789	MSh5	Description of schedule 5	0		O ^string			
790	MSh6	Description of schedule 6	0		O ^string			
791	MSh7	Description of schedule 7	0		O ^string			
792	MSh8	Description of schedule 8	0		O ^string			
793	MSh9	Description of schedule 9	0		O ^string			
794	MSh1Desc	Name of schedule 1	0		O ^string			
795	MSh2Desc	Name of schedule 2	0		O ^string			
796	MSh3Desc	Name of schedule 3	0		O ^string			
797	MSh4Desc	Name of schedule 4	0		O ^string			
798	MSh5Desc	Name of schedule 5	0		O ^string			
799	MSh6Desc	Name of schedule 6	0		O ^string			
800	MSh7Desc	Name of schedule 7	0		O ^string			
801	MSh8Desc	Name of schedule 8	0		O ^string			
802	MSh9Desc	Name of schedule 9	0		O ^string			
803	Param1LIdx	Parameter 1 index; Range: 0;837	0		MO ^uint16			3
804	Param1LMin	Lower limit of Parameter 1; Range: -9000000000; 9000000000	0		MO ^double			3
805	Param1LMax	Upper limit of Parameter 1; Range: -9000000000; 9000000000	0		MO ^double			3
806	Param1LTm	Delay time of notification of exceeding the limit of Parameter 1; Range: 0; 3600	0	s	MO ^uint16			3
807	Param2LIdx	Parameter 2 index; Range: 0;837	0		MO ^uint16			3
808	Param2LMin	Lower limit of Parameter 2; Range: -9000000000; 9000000000	0		MO ^double			3
809	Param2LMax	Upper limit of Parameter 2; Range: -9000000000; 9000000000	0		MO ^double			3
810	Param2LTm	Delay time of notification of exceeding the limit of Parameter 2; Range: 0; 3600	0	s	MO ^uint16			3
811	Param3LIdx	Parameter 3 index; Range: 0;837	0		MO ^uint16			3
812	Param3LMin	Lower limit of Parameter 3; Range: -9000000000; 9000000000	0		MO ^double			3
813	Param3LMax	Upper limit of Parameter 3; Range: -9000000000; 9000000000	0		MO ^double			3
814	Param3LTm	Delay time of notification of exceeding the limit of Parameter 3; Range: 0; 3600	0	s	MO ^uint16			3
815	Param4LIdx	Parameter 4 index; Range: 0;837	0		MO ^uint16			3
816	Param4LMin	Lower limit of Parameter 4; Range: -9000000000; 9000000000	0		MO ^double			3
817	Param4LMax	Upper limit of Parameter 4; Range: -9000000000; 9000000000	0		MO ^double			3
818	Param4LTm	Delay time of notification of exceeding the limit of Parameter 4; Range: 0; 3600	0	s	MO ^uint16			3
819	GasMetLoad1	Range 1 of flowmeter load	0	%	O ^float			
820	GasMetLoad2	Range 2 of flowmeter load	0	%	O ^float			

1	2	3	4	5	6	7	8	9
821	GasMetLoad3	Range 3 of flowmeter load	0	%	O ^float			
822	GasMetLoad4	Range 4 of flowmeter load	0	%	O ^float			
823	QmRMinDly	Bottom delay in opening the event of exceeding the range of the flowmeter; Range: 0; 100	0	%	MO ^float			4
824	QmRMaxDly	Upper delay in opening the event of exceeding the range of the flowmeter; Range: 0; 100	0	%	MO ^float			4
825	ephTm	Averaging time of flow rates for stabilization of value dVb.eph and dE.eph; Range: 1; 1800	0	s	MO ^uint16			3
826	ConfSrc	Interference source (interface). 2-COM1, 3-COM2, 4-COM3, 5-modem, 6-keyboard, 7-NFC	0		O ^uint8			
827	DI8Mode	Service parameter; Values: 0 - IN; 1 - SCR	0		MO ^uint8	1		7
828	LcdBoard	Service parameter; Values: 0; 1; 2; 3	0		MO ^uint8	1		7
829	MIDOn	Service parameter; Range: 0; 1	0		MO ^uint8	1		7
830	VInfo1	Power supply voltage	0	V	O ^float			
831	VInfo2	Main battery voltage	0	V	O ^float			
832	VInfo3	Modem power supply voltage	0	V	O ^float			
833	AtmPressMode	AtmPress pressure source; Values: 0 - Meas.; 1 - Const; 2 - SeaLvl	0		MO ^uint8	1		4
834	AtmPressConst	AtmPress constant; Range: 70; 120	0	kPa	MO ^float			4
835	AtmSeaLvlAlt	Altitude for calculating AtmPress; Range: -500; 9000	0		MO ^float			4
836	RS232On	Service parameter; Values: 0 - Off; 1 - On	0		MO ^uint8	1		7
837	AlgTest	Service parameter; Values: 0; 1	0		MO ^bool	1		7

## 2 List of alarms – ZD table

Table which present structure of alarms in the device.

[code] – code of event of alarm used for example to configuration of binary outputs

[name] – name of alarm or event

[amount] – amount of parameters saved with alarm or event

[p1.. p8] – indexes of parameters from DP table saved with alarm or event

	System alarm (main counters of device are stopped!)
	Temporary event
	Permanent event

code	name	amount	p1	p2	p3	p4	p5	p6	Description
0	Device Startup	5	640	0	548	549	550		Start of the device
1	System error	1	548						System error detected
2	Calculation error	5	87	125	0	6	6*		Calculation error was detected
3	algZ range	6	87	125	143	0	6	6*	Values of input parameters used for calculations of Z and Zb exceeded ranges specified for chosen algorithm
4	p1 range	5	87	91	0	6	6*		Value of p1 pressure is out of range p1RMin..p1RMax
5	p2 range	5	107	111	0	6	6*		Value of p2 pressure is out of range p2RMin..p2RMax
6	t range	5	125	126	0	6	6*		Value of temperature t is out of range tRMin..tRMax
7	Qm range	4	57	0	6	6*			Value of flow rate Qm is out of range QmRMin..QmRMax
8	tamb error	2	0	0*					Ambient temperature sensor is faulty
9	tamb range	4	124	0	6	6*			Value of ambient temperature is out of range tambMin..tambMax
10	Battery low	2	0	0*					Battery charge is lower than 10%
11	Ext. supply off	2	0	0*					External power supply disconnected (modes FULL and ECO)
12	Ext. supply low	2	0	0*					Fluctuation of voltage of external power supply (modes FULL and ECO)
13	Keyboard error	1	0						Keyboard fault
14	Software update	5	619	826	638	638*	640	0	Device's software was updated
15	Data update	5	619	826	639	642	643	640	Performed data update of the device
16	Data erased	3	619	826	626	0			Performed erase of device's data
17	AlarmLOG full	3	0	6	6*				Level of fulfillment of alarms memory has reached 100%. Alarms clearing with parameter AlarmLOG is required
18	Case open	2	0	0*					Case open detected
19	Intrusion attempt	2	619	826	0				There were 5 unsuccessful login attempts. Blockade of device programming for 15 minutes.
20	Log in	2	619	826	0				User login into device using keyboard
21	Configuration changed	5	619	826	641	642	643	0	Change of one of the configuration parameters (marked in column 9 of DP table)
22	Value changed	5	619	826	641	642	643	0	Change of value of parameter from DP table (number type)
23	Text changed	2	619	826	641				Change of value of parameter from DP table (text type)
24	Time changed	3	619	826	546	0			Time was changed
25	Counter overrun	4	641	642	643	0			Counter exceeded permissible maximum value (overrun)
26	Gas composition	3	619	826	547	0			Change of parameters connected with gas composition
27	C limit	3	146	0	0*				Value of conversion factor C is out of limit
28	p1 limit W Min	3	87	0	0*				Value of pressure p1 is below p1LWMin
29	p1 limit W Max	3	87	0	0*				Value of pressure p1 is above p1LWMax
30	p1 limit A Min	3	87	0	0*				Value of pressure p1 is below p1LAMin
31	p1 limit A Max	3	87	0	0*				Value of pressure p1 is above p1LAMax

code	name	amount	p1	p2	p3	p4	p5	p6	Description
32	p2 limit W Min	3	107	0	0*				Value of pressure p2 is below p2LWMin
33	p2 limit W Max	3	107	0	0*				Value of pressure p2 is above p2LWMax
34	p2 limit A Min	3	107	0	0*				Value of pressure p2 is below p2LAMin
35	p2 limit A Max	3	107	0	0*				Value of pressure p2 is above p2LAMax
36	t limit	3	125	0	0*				Value of temperature t is below tLMin or above tLMax
37	Qb limit	3	56	0	0*				Value of flow rate Qb is below QbLMin or above QbLMax
38	Qm limit	3	57	0	0*				Value of flow rate Qm is below QmLMin or above QmLMax
39	dVbh 1 limit	3	38	0	0*				Current value of dVbh exceeded dVbhL1
40	dVbh 2 limit	3	39	0	0*				Current value of dVbh exceeded dVbhL2
41	dVbh 3 limit	3	40	0	0*				Current value of dVbh exceeded dVbhL3
42	Vm-V2 limit	4	54	55	0	0*			Difference between counters Vm and V2 exceeded tolerance TVmV2 in horizon LVmV2
43	dEh 1 limit	3	45	0	0*				Current value of dEh exceeded dEhL1
44	dEh 2 limit	3	46	0	0*				Current value of dEh exceeded dEhL2
45	dEh 3 limit	3	47	0	0*				Current value of dEh exceeded dEhL3
46	dVb.eph 1 limit	3	50	0	0*				Current value of dVb.eph exceeded ephL1. Alarm will be active to the end of current hour
47	dVb.eph 2 limit	3	51	0	0*				Current value of dVb.eph exceeded ephL2. Alarm will be active to the end of current hour
48	Param1 limit	3	803	0	0*				Value of Param1 is below Param1LMin or above Param1LMax
49	Param2 limit	3	807	0	0*				Value of Param2 is below Param2LMin or above Param2LMax
50	Param3 limit	3	811	0	0*				Value of Param3 is below Param3LMin or above Param3LMax
51	Param4 limit	3	815	0	0*				Value of Param4 is below Param4LMin or above Param4LMax
52	Collective alarm A	3	552	553	554				Detected change of state in group of collective alarm A
53	Collective alarm B	3	552	553	554				Detected change of state in group of collective alarm B
54	Calibration mode	3	619	826	6	6*			Calibration mode is active
55	S1: DI1	2	0	0*					Detected change of status at digital input DI1
56	S2: DI2	2	0	0*					Detected change of status at digital input DI2
57	S3: DI3	2	0	0*					Detected change of status at digital input DI3
58	S4: DI4	2	0	0*					Detected change of status at digital input DI4
59	S5: Tamper switch	2	0	0*					Detected change of status at digital input DI5
60	S6: DI6	2	0	0*					Detected change of status at digital input DI6
61	S7: DI7	2	0	0*					Detected change of status at digital input DI7
62	S8: DI8	2	0	0*					Detected change of status at digital input DI8
63	Reverse flow	6	13	13*	14	1	0	6	Detected flow in reverse direction

\* - value is stored on event close



### 3 Table of main events (SetupLOG)

code	name	num	p1	p2	p3	p4	p5	p6
1000	Software update	4	Vb	Account	ConfSrc	SVer	UpCode	
1001	Data erased	3	Vb	Account	ConfSrc	Erasing		
1002	Config. changed	5	Vb	Account	ConfSrc	LastIdx	LastVal1	LastVal2
1003	reserved	0						
1004	reserved	0						
1005	Intrusion attempt	2	Vb	Account	ConfSrc			
1006	reserved	0						
1007	reserved	0						
1008	SetupLog erased	2	Vb	Account	ConfSrc			
1009	reserved	0						
1010	Data update	4	Vb	Account	ConfSrc	SVer	UpType	