800/1600/1800 MODBUS Memory Locations

Software Version V3.20

Addr.	Item	Description	R/W	Min	Max	Dp	Def.	Meas. Unit
0	P.V.	Process variable	R	Lo_S	Hi_S	dP_S	-	S.p.
1	_SP_	Active setpoint	R/W (*1)	Lo_L	Hi_L	dP_S	-	S.p.
2	-	Control output	R/W (*2)	-100.0	100.0	1		%
4	-	Deviation (S.P. - P.V.)	R			dP_S	-	
5	h_Pb	Heating proportional band	R/W (*3)	0.0	999.9	1	10.0	%
6	c_Pb	Cooling proportional band	R/W (*3)	0.0	999.9	1	10.0	%
7	h_It	Heating integral time	R/W (*3)	0.00	99.99	2	4.00	min
8	h_dt	Heating derivative time	R/W (*3)	0.00	99.99	2	1.00	min
9	_Ct.1	Cycle time if Out1 = logic or relay	R/W	0	200	-	10	sec
10	Lo_S	MAIN input scale minimum limit	R/W	-1999	9999	dP_S	0	S.p.
11	Hi_S	MAIN input scale maximum limit	R/W	-1999	9999	dP_S	1000	S.p.
12	-	Alarm point 1 (if relative)	R/W	Lo_L -999	Hi_L 999	dP_S	500	S.p.
13	-	Alarm point 2 (if relative)	R/W	Lo_L -999	Hi_L 999	dP_S	600	S.p.
14	-	Alarm point 3 (if relative)	R/W	Lo_L -999	Hi_L 999	dP_S	700	S.p.
16	-	Local setpoint	R/W	Lo_L	Hi_L	dP_S	400	S.p.
18	SP.tY	Remote setpoint selection	R/W	0	7	-	0	-
20	Lo_L	Lower limit for local setpoint and absolute alarms	R/W	Lo_S	Hi_S	dP_S	0	S.p.
21	Hi_L	Upper limit for local setpoint and absolute alarms	R/W	Lo_S	Hi_S	dP_S	1000	S.p.
22	Gr.SP	Set gradient	R/W	0.0	999.9	1	0.0	digit/min
23	oFSt	MAIN input offset correction	R/W	-999	999	dP_S	0	S.p.
24	FiLt	MAIN input digital filter	R/W	0.0	20.0	1	0.1	sec
25	Lo_L	AL1 low limit	R/W	Lo_S	Hi_S	dP_S	0	S.p.
26	Hi_L	AL1 high limit	R/W	Lo_S	Hi_S	dP_S	1000	S.p.
27	HYS.1	Hysteresis alarm 1	R/W	-999	999	dP_S	-1	S.p.
28	Lo_L	AL2 low limit	R/W	Lo_S	Hi_S	dP_S	0	S.p.
29	Hi_L	AL2 high limit	R/W	Lo_S	Hi_S	dP_S	1000	S.p.
30	HYS.2	Hysteresis alarm 2	R/W	-999	999	dP_S	-1	S.p.
31	S.tun	Enabling self-tuning, auto-tuning and soft-start code	R/W	0	13	-	0	
39	c.SP.o	Cooling setpoint	R/W	-25.0	25.0	1	0.0	%
42	h.P.Hi	Heating maximum power limit	R/W (*3)	0.0	100.0	1	100.0	%
43	c.P.Hi	Cooling maximum power limit	R/W (*3)	0.0	100.0	1	100.0	%
44	LbA.t	Waiting time for L.B.A. intervention time	R/W	0.0	500.0	1	30.0	min
45	bAud	Baud rate	R/W	0	4	-	0	-
46	CodE	Serial comm. identification code	R/W	0	247	-	1	-

Addr.	Item	Description	R/W	Min	Max	Dp	Def.	Meas. Unit
47	_PAr	Parity selection	R/W	0	2	-	0	-
-								
49	Prot	Software protection code	R/W	0	127	-	1	
52	_AL.3	Alarm point 3 (if relative)	R/W	Lo_S -999	Hi_S 999	dP_S	700	S.p.
53	HYS.3	Hysteresis alarm 3	R/W	-999	999	dP_S	-1	S.p.
54	AL.3.t	Alarm 3 type	R/W	0	31	-	0	
55	AL.Hb	HB alarm	R/W	Lo.S2	Hi.S2	1	10.0	S.p.
56	Hb_t	Waiting time for HB alarm intervention	R/W	0	999	-	30	sec
57	Hb_F	HB alarm function	R/W	0	30	-	0	
-								
76	c_It	Cooling integral time	R/W (*3)	0.00	99.99	2	4.00	min
77	c_dt	Cooling derivative time	R/W (*3)	0.00	99.99	2	1.00	min
78	_rSt	Manual reset	R/W	-999	999	dP_S	0	S.p.
79	A.rSt	Antireset	R/W	0	9999	dP_S	0	S.p.
80	_FFd	Feedforward	R/W	-100.0	100.0	1	0.0	%
85	Er.nr	P.V. self-diagnostic error code	R	0	4	-		
86	St.00	Custom scale point 0	R/W	Lo_S	Hi_S	dP_S	0	S.p.
87	St.01	Custom scale point 1	R/W	Lo_S	Hi_S	dP_S	31	S.p.
88	St.02	Custom scale point 2	R/W	Lo_S	Hi_S	dP_S	62	S.p.
89	St.03	Custom scale point 3	R/W	Lo_S	Hi_S	dP_S	94	S.p.
90	St.04	Custom scale point 4	R/W	Lo_S	Hi_S	dP_S	125	S.p.
91	St.05	Custom scale point 5	R/W	Lo_S	Hi_S	dP_S	156	S.p.
92	St.06	Custom scale point 6	R/W	Lo_S	Hi_S	dP_S	188	S.p.
93	St.07	Custom scale point 7	R/W	Lo_S	Hi_S	dP_S	219	S.p.
94	St.08	Custom scale point 8	R/W	Lo_S	Hi_S	dP_S	250	S.p.
95	St.09	Custom scale point 9	R/W	Lo_S	Hi_S	dP_S	281	S.p.
96	St.10	Custom scale point 10	R/W	Lo_S	Hi_S	dP_S	313	S.p.
97	St.11	Custom scale point 11	R/W	Lo_S	Hi_S	dP_S	344	S.p.
98	St.12	Custom scale point 12	R/W	Lo_S	Hi_S	dP_S	375	S.p.
99	St.13	Custom scale point 13	R/W	Lo_S	Hi_S	dP_S	406	S.p.
100	St.14	Custom scale point 14	R/W	Lo_S	Hi_S	dP_S	438	S.p.
101	St.15	Custom scale point 15	R/W	Lo_S	Hi_S	dP_S	469	S.p.
102	St.16	Custom scale point 16	R/W	Lo_S	Hi_S	dP_S	500	S.p.
103	St.17	Custom scale point 17	R/W	Lo_S	Hi_S	dP_S	531	S.p.
104	St.18	Custom scale point 18	R/W	Lo_S	Hi_S	dP_S	563	S.p.
105	St.19	Custom scale point 19	R/W	Lo_S	Hi_S	dP_S	594	S.p.
106	St.20	Custom scale point 20	R/W	Lo_S	Hi_S	dP_S	625	S.p.
107	St.21	Custom scale point 21	R/W	Lo_S	Hi_S	dP_S	656	S.p.
108	St.22	Custom scale point 22	R/W	Lo_S	Hi_S	dP_S	688	S.p.
109	St.23	Custom scale point 23	R/W	Lo_S	Hi_S	dP_S	719	S.p.
110	St.24	Custom scale point 24	R/W	Lo_S	Hi_S	dP_S	750	S.p.
111	St.25	Custom scale point 25	R/W	Lo_S	Hi_S	dP_S	781	S.p.
112	St.26	Custom scale point 26	R/W	Lo_S	Hi_S	dP_S	813	S.p.
113	St.27	Custom scale point 27	R/W	Lo_S	Hi_S	dP_S	844	S.p.
114	St.28	Custom scale point 28	R/W	Lo_S	Hi_S	dP_S	875	S.p.
115	St.29	Custom scale point 29	R/W	Lo_S	Hi_S	dP_S	906	S.p.
116	St.30	Custom scale point 30	R/W	Lo_S	Hi_S	dP_S	938	S.p.

Addr.	Item	Description	R/W	Min	Max	Dp	Def.	Meas. Unit
117	St.31	Custom scale point 31	R/W	Lo_S	Hi_S	dP_S	969	S.p.
118	St.32	Custom scale point 32	R/W	Lo_S	Hi_S	dP_S	1000	S.p.
119	LbA.P	Power limit for L.B.A. alarm condition	R/W	-100.0	100.0	1	25.0	%
120		Manufact trade mark (Gefran)	R	-	-	-	5000	-
121		Device ID (800)	R	-	-	-	800	-
122	UPdt	Software Version	R	-	-	-		-
124	SP.Pr	Programmer function	R/W	1	255	-	5	-
125	-At-	Actuator travel time	R/W	0.0	2000	-	60	sec
126	t_Lo	Impulse minimum time/actuator travel time	R/W	0.0	25.0	1	2.0	% At
127	-db-	Valve dead zone	R/W	0.0	25.0	1	0	% FS
-								
132	-	Control output	R/W (*2)	-100.0	100.0	1	-	%
133	butt	M/A key function	R/W	0	27	-	1	-
-								
136	SP.tY	Remote setpoint selection	R/W	0	3	-	0	-
137	-	Active setpoint	R					S.p.
138	-	Local setpoint	R/W	Lo_L	Hi_L	dP_S	400	S.p.
139	-	Auxiliary input (remote setpoint)	R	Lo.S2	Hi.S2	dP_S	-	S.p.
140	d.i.F.1	Digital input 1 (IN1) function	R/W	0	50	-	0	-
141	d.i.F.2	Digital input 2 (IN2) function	R/W	0	50	-	0	-
142	Lo_L	Lower limit for local setpoint and absolute alarms	R/W	Lo_S	Hi_S	dP_S	0	S.p.
143	Hi_L	Upper limit for local setpoint and absolute alarms	R/W	Lo_S	Hi_S	dP_S	1000	S.p.
-								
146	h.P.Hi	Heating maximum power limit	R/W (*3)	0.0	100.0	1	100.0	%
147	SoFt	Soft-Start time	R/W	0.0	500.0	1	0.0	min
148	h_Pb	Heating proportional band	R/W (*3)	0.0	999.9	1	10.0	%
149	h_b	Heating hysteresis (ON/OFF)	R/W (*3)	0.0	999.9	1	10.0	%
150	h_It	Heating integral time	R/W (*3)	0.00	99.99	2	4.00	min
151	h_dt	Heating derivative time	R/W	0.00	99.99	2	1.00	min
152	_Ct.1	Cycle time if Out1 = logic or relay	R/W	0	200		10	sec
159	_Ct.2	Cycle time if Out2 = logic or relay	R/W	0	200	-	10	sec
160	rL.o.1	Out1 Allocation of reference signal	R/W	0	65	-	0	-
163	rL.o.2	Out2 Allocation of reference signal	R/W	0	61	-	1	-
166	rL.o.3	Out3 Allocation of reference signal	R/W	0	61	-	2	-
169	_Ct.3	Cycle time if Out3 = logic or relay	R/W	0	200	-	10	sec
170	rL.o.4	Out4 Allocation of reference signal	R/W	0	61	-	3	-
173	_Ct.4	Cycle time if Out4 = logic or relay	R/W	0	200	-	10	sec

Addr.	Item	Description	R/W	Min	Max	Dp	Def.	Meas. Unit
177	-	Alarm point 1 (if relative)	R/W	Lo_L -999	Hi_L 999	dP_S	500	S.p.
178	-	Alarm point 2 (if relative)	R/W	Lo_L -999	Hi_L 999	dP_S	600	S.p.
179	FiLd	Digital filter on display process variable	R/W	0.0	9.9	1	0.5	S.p.
180	CtrL	Control type	R/W	0	78	-	8	-
-								
187	HYS.1	Hysteresis alarm 1	R/W	-999	999	dP_S	-1	S.p.
188	HYS.2	Hysteresis alarm 2	R/W	-999	999	dP_S	-1	S.p.
189	HYS.3	Hysteresis alarm 3	R/W	-999	999	dP_S	-1	S.p.
-								
191	hrd.1	Hardware configuration 1: Auxiliary inputs Logic inputs Serial interface	R/W	0	95	-		-
192	hrd.2	Hardware configuration 2: Out1,..., Out4 outputs W1, W2 analogue outputs	R/W	0	127	-		-
193	SEnS	Probe type for MAIN input selection	R/W	0	15	-		-
194	SnS.2	Probe type for auxiliary input selection	R/W	0	7	-		-
195	AL.nr	Select number of enabled alarms	R/W	0	31	-		-
196	diSP	Defining SV display function	R/W	0	3	-		-
197	LEd.1	LED 1 function (MAN)	R/W	0	31	-		-
198	LEd.2	LED 2 function (AUX)	R/W	0	31	-		-
199	LEd.3	LED 3 function (REM)	R/W	0	31	-		-
200	HEAd	Set number of parameters in custom menù	R/W	0	14	-	0	-
201	PA.01	Identification code for parameter 1	R/W	0	241	-	15	-
202	PA.02	Identification code for parameter 2	R/W	0	241	-	16	-
203	PA.03	Identification code for parameter 3	R/W	0	241	-	17	-
204	PA.04	Identification code for parameter 4	R/W	0	241	-	18	-
205	PA.05	Identification code for parameter 5	R/W	0	241	-	19	-
206	PA.06	Identification code for parameter 6	R/W	0	241	-	20	-
207	PA.07	Identification code for parameter 7	R/W	0	241	-	21	-
208	PA.08	Identification code for parameter 8	R/W	0	241	-	22	-
209	PA.09	Identification code for parameter 9	R/W	0	241	-	23	-
210	PA.10	Identification code for parameter 10	R/W	0	241	-	24	-
211	PA.11	Identification code for parameter 11	R/W	0	241	-	25	-
212	PA.12	Identification code for parameter 12	R/W	0	241	-	26	-
213	PA.13	Identification code for parameter 13	R/W	0	241	-	27	-
214	PA.14	Identification code for parameter 14	R/W	0	241	-	28	-
215	AL.1.r	Reference signal for alarm 1	R/W	0	5	-	0	-
216	AL.2.r	Reference signal for alarm 2	R/W	0	5	-	0	-
217	AL.3.r	Reference signal for alarm 3	R/W	0	5	-	0	-
218	tYP.2	Auxiliary analogue input function	R/W	0	13	-		-
219	FLt.2	Digital filter on auxiliary input	R/W	0.0	20.0	1	0.1	sec
220	oF.S2	Auxiliary input offset correction	R/W	-999	999	dP_S		S.p.
221	L.An.1	W1 analogue signal output 1 minimum limit	R/W	-1999	9999	dP_S		S.p.

Addr.	Item	Description	R/W	Min	Max	Dp	Def.	Meas. Unit
222	H.An.1	W1 analogue signal output 1 maximum limit	R/W	-1999	9999	dP_S		S.p.
223	An.o.1	W1 assignment of signal or reference value	R/W	0	63	-		-
224	L.An.2	W2 analogue signal output 2 minimum limit	R/W	-1999	9999	dP_S		S.p.
225	H.An.2	W2 analogue signal output 2 maximum limit	R/W	-1999	9999	dP_S		S.p.
226	An.o.2	W2 assignment of signal or reference value	R/W	0	63	-		-
227	InP.2	Amperometric input value or remote setpoint	R	Lo.S2	Hi.S2	dP_S		S.p.
228	FAC.P	Power in fault action	R/W	-100.0	100.0	1	0.0	%
229	_rEL.	Fault action (sets state in case of probe fault)	R/W	0	7	-	0	-
230	_SP.1	Setpoint 1	R/W	Lo_L	Hi_L	dP_S	100	S.p.
231	_SP.2	Setpoint 2	R/W	Lo_L	Hi_L	dP_S	200	S.p.
232	_SP.3	Setpoint 3	R/W	Lo_L	Hi_L	dP_S	300	S.p.
233	_SP.4	Setpoint 4	R/W	Lo_L	Hi_L	dP_S	400	S.p.
234	Gr.SP	Set gradient	R/W	0.0	999.9	1	0.0	digit/min
235	_ _tS	Limit value of timer	R/W	0	9999	0	10	sec
236	_S.S.t.	Start/Stop timer	R/W	0	63	-		-
237	_ _r.t.	Reset timer	R/W	0	31	-		-
238	-At-	Actuator travel time	R/W	0.0	2000	-	60	sec
239	t_Lo	Impulse minimum time/actuator travel time	R/W	0.0	25.0	1	2.0	% At
240	t_Hi	Pulse alarm point	R/W	0.0	100.0	1	0.0	% FS
241	-db-	Valve dead zone	R/W	0.0	25.0	1	0.0	%
242	At.tY	Valves control type	R/W	0	11	-		-
243	SP.Pr	Programmer function	R/W	1	127	-	5	-
244	-	Active program number	R					-
245	-	Active step number	R					-
246	-	Active segment	R					-
247	-	Actual time program	R					
248	-	Program actual setpoint (stop)	R					S.p.
249	SP.tY	Remote setpoint selection	R/W	0	7	-	0	-
250	-	Remote setpoint from serial	R/W	Lo_L	Hi_L			S.p.
251	-	Out W from serial (*4)	R/W	0	65535			
252	-	Manual control output	R/W	-100.0	100.0	1		%
253	SP.Pt	Programmer installation and resource selection	R/W	0	3	-	0	-
254	h.P.Lo	Heating minimum power limit	R/W (*3)	0.0	100.0	1	0.0	%
255	c.P.Lo	Cooling minimum power limit	R/W (*3)	0.0	100.0	1	0.0	%
256	hrd.3	“ * ” key and bargraph installation	R/W	0	3	-	0	-
257	but.2	“ * ” key function	R/W	0	11	-	0	-
258	BarG	Bargraph function	R/W	0	8	-	0	-
-								
400	tYPE	Probe type, signal, enable custom linearization, main input scale	R/W	0	21	-	0	
401	Lo_S	MAIN input scale minimum limit	R/W	-1999	9999	dP_S	0	S.p.

Addr.	Item	Description	R/W	Min	Max	Dp	Def.	Meas. Unit
402	Hi_S	MAIN input scale maximum limit	R/W	-1999	9999	dP_S	1000	S.p.
403	dP_S	Decimal point position	R/W	0	3	-	0	
404	Lo.S2	Auxiliary input minimum range	R/W	-1999	9999	dP_S	0	S.p.
405	Hi.S2	Auxiliary input maximum range	R/W	-1999	9999	dP_S	1000	S.p.
406	AL.1.t	Alarm 1 type	R/W	0	31	-	0	
407	AL.2.t	Alarm 2 type	R/W	0	31	-	0	
408	AL.3.t	Alarm 3 type	R/W	0	31	-	0	
513	C.MEd	Cooling medium	R/W	0	2	-	0	-
-								
516	P.rSt	Reset power	R/W	-100.0	100.0	1	0.0	%
519	oFSt	MAIN input offset correction	R/W	-999	999	dP_S	0	S.p.

Remarks:

(*1) They can be written in local (controller) and STOP (programmer) mode only
(*2) They can be written in manual mode only
(*3) Read only for programmer with control parameter (SP.Pt = 2)
(*4) 32.768 (8000 H) value is not allowed

800/1600/1800 MODBUS Programmer Memory Locations
Software Version V3.20

Addr.	Item	Description	R/W	Min	Max	Dp	Def.	Meas. Unit
Program Selection								
2731 + 4*N 0≤N≤3	LEn	Number of program steps	R/W	1	8	-		
2732 + 4*N	P.tY	Program type and restart mode	R/W	0	127	-		
Steps Selection								
1530 + 12*m 0≤m≤11 (§)	SP.S m	" m " step setpoint	R/W	Lo_L	Hi_L	dP_S		S.p.
1532 + 12*m	rP.t m	" m " step ramp time	R/W	00.00	99.59	2	0	hh.mm o mm.sec
1534 + 12*m	So.t m	" m " step hold time	R/W	00.00	99.59	2	0	hh.mm o mm.sec
1535 + 12*m	Hbb m	" m " hold back band value	R/W	0	999	dP_S	0	S.p.
1536 + 12*m	St.Y m	Defines " m " step type	R/W	0	15	-		
1537 + 12*m	SL.S m	Setpoint slaved for second external channel	R/W	0.0	100.0	-	0	%
1538 + 12*m	EU.r m	" m " step 4 ramp events	R/W	0	15	-	0	
1539 + 12*m	EU.S m	" m " step 4 hold events	R/W	0	15	-	0	
1540 + 12*m	IPt m	2 enabling inputs	R/W	0	3	-	0	
1541 + 12*m	GrP. m	PID control parameter group selection	R/W	0	31	-	0	-

Remarks:

(§) m step number: 0≤m≤15 setting SP.Pt = 3

CONTROL PARAMETERS GROUP (only for SP.Pt = 2 mode)

GROUPES (g = 0, 1, 2, 3)

2930 + 12*g	h_Pb	Heating proportional band group g	R/W	0.0	999.9	1	0	%
2931 + 12*g	h_It	Heating integral time group g	R/W	0.00	99.99	2	0	min
2932 + 12*g	h_dt	Heating derivative time group g	R/W	0.00	99.99	2	0	min
2933 + 12*g	h.P.Hi	Heating max. power limit group g	R/W	0.0	100.0	1	100.0	%
2934 + 12*g	h.P.Lo	Heating min. power limit group g	R/W	0.0	100.0	1	100.0	%
2935 + 12*g	c_Pb	Cooling proportional band group g	R/W	0.0	999.9	1	0	%
2936 + 12*g	c_It	Cooling integral time group g	R/W	0.00	99.99	2	0	min
2937 + 12*g	c_dt	Cooling derivative time group g	R/W	0.00	99.99	2	0	min
2938 + 12*g	c.P.Hi	Cooling max. power limit group g	R/W	0.0	100.0	1	100.0	%
2939 + 12*g	c.P.Lo	Cooling min. power limit group g	R/W	0.0	100.0	1	100.0	%

800/1600/1800 MODBUS BIT
Software Version V3.20

Addr.	Description	R/W
0	Active self-tuning	R
1	Auto/Man	R/W
-		
4	AL1 status	R
5	AL2 status	R
8	AL_LBA status	R
9	Sbr faulty sensor	R
10	Local/Remote SP	R/W
11	ON (=0)/OFF (=1) software	R/W
12	Out1 status	R
13	Out2 status	R
14	Out3 status	R
15	Out4 status	R
16	(Run) active programmer	R
17	Running programmer	R
18	Start (=1)/Stop (=0) programmer or timer	R
19	Reset (=0)/Go (=1) programmer or timer	R
20	Program end (=1)	R
21	Program in ramp (=1)	R
22	Program in hold (=1)	R
23	Waiting enabling	R
24	Start/Stop program for serial line	R/W
25	Reset program from serial line	R/W
26	AL.HB alarm status	R
27	HBB active	R
28	Auto-Tuning active	R
-		
46	AL1 direct/inverse	R/W
47	AL1 absolute/relativ	R/W
48	AL1 normal/symmetric	R/W
49	AL1 disabled when switching ON	R/W
50	AL1 with memory	R/W
-		
54	AL2 direct/inverse	R/W
55	AL2 absolute/relativ	R/W
56	AL2 normal/symmetric	R/W
57	AL2 disabled when switching ON	R/W
58	AL2 with memory	R/W
-		
62	AL3 status	R
63	Running soft-start	R
64	Hold input active	R
65	Timer at zero	R
66	Auto (=0)/Man (=1) programmer	R
67	Ramp type: up (=0)/down (=1)	R
68	Digital input 1 status	R
69	Digital input 2 status	R
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