TABLE OF PARAMETERS AND FACTORY SETTINGS

Par.	Description	Default	Min	Max	U.M.	Supervision			R/W
						Type	CAREL	ModBus /RTU®	
St1	Set point 1	**35,0**	c21	c22	°C	A	4	4	**R/W**
St2	Set point 2	-	c23	c24	°C	A	5	5	R/W
c0	Operating mode	**1**	1	9	-	I	12	112	R/W
P1	Set point 1 differential	**10,0**	0,1	50	°C	A	6	6	**R/W**
P2	Set point 2 differential	-	0,1	50	°C	A	7	7	R/W
P3	Dead zone differential	**0**	0,1	50	°C	A	8	8	R/W
c4	External compensation authority	-	-2	2	-	A	9	9	R/W
c5	Type of control	**1**	0	1	-	D	25	25	R/W
c6	Delay between the activation of 2 different relay outputs	-	0	255	s	I	13	113	R/W
c7	Minimum time between activation of the same relay output	-	0	15	min	I	14	114	R/W
d1	Minimum time between deactivation of 2 different relay outputs	-	0	255	s	I	15	115	R/W
c8	Minimum relay output off time	-	0	15	min	I	16	116	R/W
c9	Minimum relay output on time	-	0	15	min	I	17	117	R/W
c10	Status of control outputs on circuit 1 in the event of probe 1 alarm	**1**	0	3	-	I	18	118	R/W
d10	Status of control outputs on circuit 2 in the event of probe 2 alarm	**1**	0	3	-	I	112	212	R/W
c11	Output rotation	-	0	8	-	I	19	119	R/W
c12	PWM cycle time	-	0,2	999	s	A	10	10	R/W
c13	Probe type	0	0	3	-	I	20	120	R/W
P14	Probe 1 calibration		-99	99,9	°C	A	11	11	R/W
P15	Probe 2 calibration		-99	99,9	°C	A	12	12	R/W
c15	Minimum value for probe 1 in current/ voltage signal	-	-199	c16		A	13	13	R/W
c16	Maximum value for probe 1 in current/ voltage signal	-	c15	800		A	14	14	R/W
d15	Minimum value for probe 2 in current/ voltage signal	-	-199	d16		A	29	29	R/W
d16	Maximum value for probe 2 in current/ voltage signal	-	d15	800		A	30	30	R/W
c17	Probe disturbance filter	4	1	15		I	21	121	R/W
c18	Temperature unit of measure 0= °C, 1= °F	0	0	1		D	26	26	R/W
c19	Function of probe 2	**8**	0	12		I	22	122	R/W
c21	Minimum value of set point 1	**20,0**	-50	c22	°C	A	15	15	R/W
c22	Maximum value of set point 1	**40,0**	c21	150	°C	A	16	16	R/W
c23	Minimum value of set point 2	-	-50	c24	°C	A	17	17	R/W
c24	Maximum value of set point 2	-	c23	150	°C	A	18	18	R/W
P25	Low temperature alarm threshold on probe 1	**12,0**	-50	P26	°C	A	19	19	**R/W**

Par.	Description	Default	Min	Max	U.M.	Supervision			R/W
						Type	CAREL	ModBus /RTU®	
P26	High temperature alarm threshold on probe 1	**40,0**	P25	150	°C	A	20	20	**R/W**
P27	Alarm differential on probe 1	**2,0**	0	50	°C	A	21	21	**R/W**
P28	Alarm delay time on probe 1	**5**	0	250	min	I	23	123	R/W
P29	Type of alarm threshold on probe 1	**1**	0	1	-	D	27	27	R/W
P30	Low temperature alarm threshold on probe 2	**12,0**	-50	P31	°C	A	31	31	**R/W**
P31	High temperature alarm threshold on probe 2	**40,0**	P30	150	°C	A	32	32	**R/W**
P32	Alarm differential on probe 2	**2,0**	0	50	°C	A	33	33	**R/W**
P33	Alarm delay time on probe 2	**5**	0	250	min	I	113	213	R/W
P34	Type of alarm threshold on probe 2	1	0	1	-	D	37	37	R/W
c29	Digital input 1	0	0	15	-	I	24	124	R/W
c30	Digital input 2	0	0	15	-	I	25	125	R/W
c31	Status of control outputs in circuit 1 in the event on an alarm from DT	0	0	3	-	I	26	126	R/W
d31	Status of control outputs in circuit 2 in the event on an alarm from DT	0	0	3	-	I	114	214	R/W
c32	Serial connection address	1	0	207	-	I	27	127	R/W
c33	Special operation	**1**	0	1	-	D	28	28	R/W
c34	Output 1 dependence	**0**	0	29	-	I	28	128	R/W
c35	Type of output 1	-	0	1	-	D	29	29	R/W
c36	Output 1 activation	-	-100	100	%	I	29	129	R/W
c37	Output 1 differential/ logic	-	-100	100	%	I	30	130	R/W
d34	Output 1 activation restriction	-	0	4	-	I	31	131	R/W
d35	Output 1 deactivation restriction	-	0	4	-	I	32	132	R/W
d36	Minimum value for modulating output 1	-	0	100	%	I	33	133	**R/W**
d37	Maximum value for modulating output 1	-	0	100	%	I	34	134	**R/W**
F34	Output 1 cut-off	-	0	1	-	D	38	38	R/W
F35	Output 1 speed up duration	-	0	120	s	I	115	215	R/W
F36	Type of override for output 1	-	0	5	-	I	116	216	R/W
c38	Output 2 dependence	**1**	0	29	-	I	35	135	R/W
c39	Type of output 2	**1**	0	1	-	D	30	30	R/W
c40	Output 2 activation	**80**	-100	100	%	I	36	136	R/W
c41	Output 2 differential/ logic	**-100**	-100	100	%	I	37	137	R/W
d38	Output 2 activation restriction	**0**	0	4	-	I	38	138	R/W
d39	Output 2 deactivation restriction	**0**	0	4	-	I	39	139	R/W
d40	Minimum value for modulating output 2	**20**	0	100	%	I	40	140	R/W
d41	Maximum value for modulating output 2	**70**	0	100	%	I	41	141	R/W
F38	Output 2 cut-off	**0**	0	1		D	39	39	R/W
F39	Output 2 speed up duration	**0**	0	120	s	I	117	217	R/W
F40	Type of override for output 2	**0**	0	5	-	I	118	218	R/W

Par.	Description	Default	Min	Max	U.M.	Supervision			R/W
						Type	CAREL	ModBus /RTU®	
c42	Output 3 dependence	**0**	0	29	-	I	42	142	R/W
c43	Type of output 3	-	0	1	-	D	31	31	R/W
c44	Output 3 activation	-	-100	100	%	I	43	143	R/W
c45	Output 3 differential/ logic	-	-100	100	%	I	44	144	R/W
d42	Output 3 activation restriction	-	0	4	-	I	45	145	R/W
d43	Output 3 deactivation restriction	-	0	4	-	I	46	146	R/W
d44	Minimum value for modulating output 3	-	0	100	%	I	47	147	R/W
d45	Maximum value for modulating output 3	-	0	100	%	I	48	148	R/W
F42	Output 3 cut-off	-	0	1		D	40	40	R/W
F43	Output 3 speed up duration	-	0	120	s	I	119	219	R/W
F44	Type of override for output 3	-	0	5		I	120	220	R/W
c46	Output 4 dependence	**0**	0	29	-	I	49	149	R/W
c47	Type of output 4	-	0	1	-	D	32	32	R/W
c48	Output 4 activation	-	-100	100	%	I	50	150	R/W
c49	Output 4 differential/ logic	-	-100	100	%	I	51	151	R/W
d46	Output 4 activation restriction	-	0	4	-	I	52	152	R/W
d47	Output 4 deactivation restriction	-	0	4	-	I	53	153	R/W
d48	Minimum value for modulating output 4	-	0	100	%	I	54	154	R/W
d49	Maximum value for modulating output 4	-	0	100	%	I	55	155	R/W
F46	Output 4 cut-off	-	0	1		D	41	41	R/W
F47	Output 4 speed up duration	-	0	120	s	I	121	221	R/W
F48	Type of override for output 4	-	0	5		I	122	222	R/W
c50	Lock key pad and remote control		0	2	-	I	56	156	R/W
c51	Remote control enabling code	1	0	255	-	I	57	157	R/W
c52	Display	0	0	10	-	I	58	158	R/W
c53	Buzzer	0	0	1	-	D	33	33	**R/W**
c56	Delay on power-up	0	0	255	s	I	59	159	R/W
c57	Soft start circuit 1	0	0	99	min/°C	I	60	160	R/W
d57	Soft start circuit 2	0	0	99	min/°C	I	123	223	R/W
c62	Ti_PID 1	**180**	0	999	s	I	61	161	**R/W**
c63	Td_PID 1	0	0	999	s	I	62	162	**R/W**
d63	Td_PID 2	-	0	999	s	I	125	225	R/W
c64	Auto-Tuning	0	0	1	-	D	34	34	R/W
c65	Logical enabling hysteresis	-	0	99,9	°C	A	34	34	R/W
c66	Start enabling interval	-	50	150	°C	A	22	22	R/W
c67	End enabling interval	-	-50	150	°C	A	23	23	R/W
P70	Enable working cycle	0	0	3	-	I	70	170	R/W

Par.	Description	Default	Min	Max	U.M.	Supervision			R/W
						Tipo	CAREL	ModBus /RTU®	
P71	Working cycle: step 1 duration	-	0	200	min	I	71	171	R/W
P72	Working cycle: step 1 temperature set point	-	-50	150	°C	A	24	24	R/W
P73	Working cycle: step 2 duration	-	0	200	min	I	72	172	R/W
P74	Working cycle: step 2 temperature set point	-	-50	150	°C	A	25	25	R/W
P75	Working cycle: step 3 duration	-	0	200	min	I	73	173	R/W
P76	Working cycle: step 3 temperature set point	-	-50	150	°C	A	26	26	R/W
P77	Working cycle: step 4 duration	-	0	200	min	I	74	174	R/W
P78	Working cycle: step 4 temperature set point	-	-50	150	°C	A	27	27	R/W
P79	Working cycle: step 5 duration	-	0	200	min	I	75	175	R/W
P80	Working cycle: step 5 temperature set point	-	-50	150	°C	A	28	28	R/W
Pon	Control ON/OFF command	-	0	1	-	D	36	36	R/W

Note: “R/W” column: the most frequently used parameters are in bold.

VARIABLES ONLY ACCESSIBLE VIA SERIAL CONNECTION

Description	Default	Min	Max	U.M.	Supervision			R/W
					Type	CAREL	ModBus /RTU®	
Probe 1 reading	-	0	0	°C	A	2	2	**R**
Probe 2 reading	-	0	0	°C	A	3	3	**R**
Output 1 percentage	-	0	100	%	I	127	227	**R**
Output 2 percentage	-	0	100	%	I	128	228	R
Output 3 percentage	-	0	100	%	I	129	229	R
Output 4 percentage	-	0	100	%	I	130	230	R
Password	77	0	200	-	I	11	111	R/W
Output 1 status	-	0	1	-	D	1	1	R
Output 2 status	-	0	1	-	D	2	2	R
Output 3 status	-	0	1	-	D	3	3	R
Output 4 status	-	0	1	-	D	4	4	R
Digital input 1 status	-	0	1	-	D	6	6	R
Digital input 2 status	-	0	1	-	D	7	7	R
Probe 1 fault alarm	-	0	1	-	D	9	9	**R**
Probe 2 fault alarm	-	0	1	-	D	10	10	**R**
Immediate external alarm (circuit 1)	-	0	1	-	D	11	11	R
High temperature alarm, probe 1	-	0	1	-	D	12	12	**R**
Low temperature alarm, probe 1	-	0	1	-	D	13	13	**R**
Delayed external alarm (circuit 1)	-	0	1	-	D	14	14	R
Immediate external alarm with manual reset (circ.1)	-	0	1	-	D	15	15	R
RTC fault alarm	-	0	1	-	D	16	16	R

Description	Default	Min	Max	U.M.	Supervision			R/W
					Type	CAREL	ModBus /RTU®	
Eeprom unit parameters alarm	-	0	1	-	D	17	17	R
Eeprom operating parameters alarm	-	0	1	-	D	18	18	R
Maximum time in calculation of PID parameters	-	0	1	-	D	19	19	R
PID gain null	-	0	1	-	D	20	20	R
PID gain negative	-	0	1	-	D	21	21	R
Integral & derivative time negative	-	0	1	-	D	22	22	R
Maximum time in calculation of continuous gain	-	0	1	-	D	23	23	R
Starting situation not suitable	-	0	1	-	D	24	24	**R**
Immediate alarm from digital 1 (circuit 1)	-	0	1	-	D	42	42	R
Immediate alarm from digital 1 with manual reset (circ.1)	-	0	1	-	D	43	43	R
Delayed alarm from digital 1 (circuit 1)	-	0	1	-	D	44	44	R
Immediate alarm from digital 2 (circuit 1)	-	0	1	-	D	45	45	R
Immediate alarm from digital 2 with manual reset (circ.1)	-	0	1	-	D	46	46	R
Delayed alarm from digital 2 (circuit 1)	-	0	1	-	D	47	47	R
High temperature alarm, probe 2	-	0	1	-	D	49	49	**R**
Low temperature alarm, probe 2	-	0	1	-	D	50	50	**R**
Delayed signal only alarm	-	0	1	-	D	51	51	R
Immediate signal only alarm	-	0	1	-	D	52	52	R
Immediate external alarm (circuit 2)	-	0	1	-	D	53	53	R
Delayed external alarm (circuit 2)	-	0	1	-	D	54	54	R
Immediate external alarm with manual reset (circ. 2)	-	0	1	-	D	55	55	R
Probe reading alarm	-	0	1	-	D	56	56	**R**
Reset alarm	-	0	1	-	D	57	57	**R/W**

Note: “R/W” column: the most frequently used parameters are in bold.

SUPERVISION VARIABLES

Type of variable: A =analogue, D=digital, I=integer
SPV= variable address with CAREL protocol on 485 serial card, registers and coils with ModBus® protocol on 485 serial card.
The selection between CAREL and ModBus® protocol is automatic. For both of them, the speed is fixed to 19200 bit/s.
The devices connected to the same network must have the following serial parameter setting: 8 data bits; 1 start bit; 2 stop bits; parity disabled; baud rate 19200.
For CAREL and Modbus®, the analogue variables are expressed in tenths (e.g.: 20.3 °C= 203).

CABLE FOR LAN AND SUPERVISION CONNECTION

For connection to both LAN and supervision networks, it is advisable to use a cable which has the following specifications: Multi-coupled cables with internal flexible conductors made from tin plated copper (AWG 22/7), insulated with polypropylene, singularly coupled, screened with aluminium/polyester tape + continuity wire in tin plated copper (AWG 24/7) connected on a common axis to reduce the diameter and protected by an external sheath in PVC.

Technical features

Article	Ø external om.	Conduct. resist. max.	Impedence	Capacity (pF/m)		Operating voltage	Operating temp.
	(mm)	(ohm/km)	(ohm)	C1	C2	(V)	(°C)
Y08723 2x2xAWG22/7	4,50	54,8	50	108	198	300	-10/+60