

Schnittstellenparameter Standardprotokoll
Parametercodes Standard Protocol



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Parameter (Deutsch)	Parameter (English)	Parameter-Code	Group-Code	Attribut	R 1140	R 1300	R 2000	R 2100	R 2200	R 2400 2500	R (S) 2200 2400 2500	R 4000
Systemparameter												
Reserviert für Protokollerweiterung	Reserved for further use	0x00										
Gerätetyp	Device Type	0x01		RO	●	●	●	●	●	●	●	●
Istwerte:												
akt. Temperaturistwert	Act. temperature value	0x10	0x01	RO	●	●	●	●	●	●	●	●
Stromistwert	Act. heater current value	0x11	0x01	RO			●	●	●	●	●	●
Reststromistwert	Act. leakage current value	0x12	0x01	RO			●	●	●	●	●	●
Istwertoffset	Temperature offset value	0x18	0x01	RW	●	●	●	●	●	●	●	●
Fühlerkonfiguration	Sensor configuration	0x1a	0x01	RW	●	●	●	●	●	●	●	●
Sollwerte:												
akt. Sollwert	Actual setpoint	0x20	0x02	RO	●	●	●	●	●	●	●	●
Sollwert1	Setpoint 1	0x21	0x02	RW	●	●	●	●	●	●	●	●
Sollwert2	Setpoint 2	0x22	0x02	RW	●	●	●	●	●	●	●	●
Skalierung analoger Sollwertausgang Anfang	higher indication range limitation	0x28	0x02	RW		●						
Skalierung analoger Sollwertausgang Ende	lower indication range limitation	0x29	0x02	RW		●						
analoger Sollwert	analog setpoint	0x2a	0x02	RO		●						
untere Sollwertbegrenzung	Setpoint limitation, low range	0x2b	0x02	RW	●	●	●	●	●	●	●	●
obere Sollwertbegrenzung	Setpoint limitation, high range	0x2c	0x02	RW	●	●	●	●	●	●	●	●
Sollwertrampe fallend	Setpoint range, falling	0x2d	0x02	RW	●	●	●	●	●	●	●	●
Sollwertrampe steigend	Setpoint ramp, rising	0x2f	0x02	RW	●	●	●	●	●	●	●	●
Alarmer:												
Stromzykluszeit	Heater current, detect. interval	0x31	0x03	RW			●	●	●	●	●	●
Reststrom-Grenzwert	Min. leakage current value	0x32	0x03	RW			●	●	●	●	●	●
Alarm 1 (3) Konfiguration	Alarm 1(3), Configuration	0x34	0x03	RW	●	●	●	●	●	●	●	
Alarm 1 <Absolut/Relativ>	Alarm 1 <absolute/relativ>	0x34	0x03	RW								●
Alarm 2 Konfiguration	Alarm 2, Configuration	0x35	0x03	RW	●	●	●	●	●	●	●	
Alarm 2 <Absolut/Relativ>	Alarm 2 <absolute/relativ>	0x35	0x03	RW								●
Alarmwert 1 <min>	Alarm value 1(3) <min>	0x38	0x03	RW								●
Alarmwert 2 <min>	Alarm value 2 >min>	0x39	0x03	RW								●
Alarmwert 1 (3) <max>	Alarm value 1(3) <max>	0x38	0x03	RW	●	●	●	●	●	●	●	●
Alarmwert 2 <max>	Alarm value 2 >max>	0x39	0x03	RW	●	●	●	●	●	●	●	●
Übertragungsverh. Stromwandler	Transfer ratio, current transformer	0x3b	0x03	RW								●
Schaltverhalten A1 (A3)	Switching behaviour A1(3)	0x3c	0x03	RW	●		●	●	●	●	●	●
Schaltverhalten A2	Switching behaviour A2	0x3d	0x03	RW	●		●	●	●	●	●	●
(Strom)Alarmdelay A1	(Current alarm)Delay time A1	0x3e	0x03	RW			●	●	●	●	●	●
Alarmdelay A2	Delay time A2	0x3f	0x03	RW			●	●	●	●	●	●

Parameter	Parameter Englisch	Parameter-Code	Gruppen-Code	Attribut	R 1140	R 1300	R 2000	R 2100	R 2200	R 2400 2500	R (S) 2200 2400 2500	R 4000
Regelparameter Heizen:												
PID parameters „heating“:												
Proportionalbereich	Proportional range (P)	0x40	0x04	RW	●	●	●	●	●	●	●	●
Vorhaltezeit (D-Anteil)	Rate time (D)	0x41	0x04	RW	●	●	●	●	●	●	●	●
Nachhaltezeit (I-Anteil)	Reset time (I)	0x42	0x04	RW	●	●	●	●	●	●	●	●
Schaltzykluszeit	Cycle time	0x43	0x04	RW	●	●	●	●	●	●	●	●
Schaltzeitpunkt (Totband)	Dead band / switch-point difference	0x46	0x04	RW	●	●	●	●	●	●	●	●
Schaltdifferenz	Control sensitivity	0x47	0x04	RW	●	●	●	●	●	●	●	●
Regelparameter 3-Punkt-Schritt:												
PID parameters „3-point-step“:												
Proportionalbereich	Proportional range (P)	0x40	0x04	RW		●						
Motorstellzeit	Rate time (D)	0x41	0x04	RW		●						
Nachhaltezeit (I-Anteil)	Reset time (I)	0x42	0x04	RW		●						
Schaltpunkt (Totband)	Dead band / switch-point difference	0x46	0x04	RW		●						
Schaltdifferenz	Control sensitivity	0x47	0x04	RW		●						
Regelparameter Kühlen:												
PID parameters „cooling“:												
Proportionalbereich	Proportional range (P)	0x50	0x05	RW	●	●	●	●	●	●	●	●
Vorhaltezeit (D-Anteil)	Rate time (D)	0x51	0x05	RW	●	●	●	●	●	●	●	●
Nachhaltezeit (I-Anteil)	Reset time (I)	0x52	0x05	RW	●	●	●	●	●	●	●	●
Schaltzykluszeit	Cycle time	0x53	0x05	RW	●	●	●	●	●	●	●	●
Schaltdifferenz	Control sensitivity	0x57	0x05	RW	●	●	●	●	●	●	●	●
Stellgrad:												
Output ratio:												
akt. Stellgrad	Actual output ratio	0x60	0x06	RO	●	●	●	●	●	●	●	●
Handstellgrad	Manual output ratio	0x62	0x06	RW	●	●	●	●	●	●	●	●
Stellgradbegrenzung (Heizen) max	Output ratio limit (heating)	0x64	0x06	RW	●	●	●	●	●	●	●	●
Stellgradbegrenzung (Kühlen) max	Output ratio limit (cooling)	0x69	0x06	RW	●	●	●	●	●	●	●	●
Anfahrstellgrad	Soft start output ratio	0x6a	0x06	RW	●	●	●	●	●	●	●	●
Anfahrswert	Soft start setpoint	0x6b	0x06	RW	●	●	●	●	●	●	●	●
Anfahrzeit	Soft start duration time	0x6c	0x06	RW	●	●	●	●	●	●	●	●
Anfahrumschaltung aus/ein	Soft start function on/off	0x6d	0x06	RW	●	●	●	●	●	●	●	●
Statuswörter:												
Statuswort 1	Status word 1	0x70	0x07	RO	●	●	●	●	●	●	●	●
Statuswort 2	Status word 2	0x78	0x07	RW	●	●	●	●	●	●	●	●

Parameter	Parameter Englisch	Parameter-Code	Gruppen-Code	Attribut	R 1140	R 1300	R 2000	R 2100	R 2200	R 2400 2500	R (S) 2200 2400 2500	R 4000
Reglerkonfiguration:												
Reglerbetriebsart	Controller configuration	0x80	0x08	RW	●	●	●	●	●	●	●	●
Konfiguration Out 1	Configuration Out1	0x81	0x08	RW		●						
Konfiguration Logik-Out	Configuration logic out	0x81	0x08	RW								●
Konfiguration Out 2	Configuration Out2	0x82	0x08	RW		●						
Konfiguration Relais-Out	Configuration relay out	0x82	0x08	RW								●
Konfiguration Out 4	Configuration Out4	0x83	0x08	RW	●	●						
Konfiguration Out 5	Configuration Out5	0x84	0x08	RW		●						
Bediensperre	Adjustment lock	0x85	0x08	RW	●	●	●	●	●	●	●	●
Taste F1 - Konfiguration	Configuration of key "F1"	0x86	0x08	RW			●	●				
Sollwertumschaltung - Konfiguration	Setpoint selection	0x87	0x08	RW		●						
Regleroptimierung	Self tuning / auto tune	0x88	0x08	RW	●	●	●	●	●	●	●	●
Zonenoffset	Zone offset	0x89	0x08	RW			●	●	●	●	●	●
Verhalten bei Fühlerbruch (DPS)	Sensor break configuration (DPS)	0x8a	0x08	RW		●						
Handstellgradkonfiguration (PID)	Manual mode: Configuration	0x8b	0x08	RW	●	●	●	●	●	●	●	●
Einheiten eine Messzone	Unit of measuring zone	0x8d	0x08	RW			●	●	●			
Sensor-Einheit °C/°F	Sensor unit °C/°F	0x8d	0x08	RW								●
Fühlerkonfiguration	Sensor configuration	0x8e	0x08	RW			●	●	●	●	●	
Zone EIN/AUS	Zone ob/off	0x8f	0x08	RW							●	●
Sonderfunktionen:												
Special functions:												
Samplezeit für Schreiberfunktion	Recorder function: Sample time	0x90	keine	RW						●	●	●
Sprache	Language	0x9b	0x09	RW						●	●	●
Sollwertumschaltung	Swtpoint switch	0x9c	0x09	RW							●	●
Löschen der Fehlerbits	Reset of error flags	0x9d	-	WO							●	●
Wiedereinschaltsperr	Restart Lock-out	0xB0	-	RW								●
Alarm 1 Bereitschaftsverhalten	Alarm 1 Start Suppression	0xB3	-	RW								●
Alarm 2 Bereitschaftsverhalten	Alarm 2 Start Suppression	0xB4	-	RW								●
Alarm 1 Farbe	Alarm 1 Color	0xB5	-	RW								●
Alarm 2 Farbe	Alarm 2 Color	0xB6	-	RW								●
Alarm 1 Selbsthaltung	Alarm 1 Self retaining	0xB7	-	RW								●
Alarm 2 Selbsthaltung	Alarm 2 Self retaining	0xB8	-	RW								●
Alarm1 Verzögerung	Alarm 1 Delay	0xB9	-	RW								●
Alarm2 Verzögerung	Alarm 2 Delay	0xBA	-	RW								●
Prozessdaten:												
Process data:												
akt. Istwert	Act. temperature value	0x10	0x0a	RO	●	●	●	●	●	●	●	●
akt. Stromistwert	Act. heater current value	0x11	0x0a	RO			●	●	●	●	●	●
akt. Sollwert	Actual setpoint	0x20	0x0a	RO	●	●	●	●	●	●	●	●
akt. Stellgrad	Actual output ratio	0x60	0x0a	RO	●	●	●	●	●	●	●	●
Statuswort 1	Status word 1	0x70	0x0a	RO	●	●	●	●	●	●	●	●

Referenzen der Text-Parameter / References of the parameters displayed as text:

Angabe der Zahlenwerte zu den entsprechenden Texten / Numerical values corresponding to the text displays

Nicht erwähnte Text-Parameter entsprechend Bedienungsanleitung zuordnen: Erster Wert = 0, zweiter Wert = 1 ...

Not mentioned text parameters are coded according the operational manual: First value = 0, second value = 1 ...

Parameter	Messbereich / Measuring range																				
Sen	(R1140)	Display	Start	End	Value																
		P1°C	-50.0	100.0	0																
		P1°F	-58.0	212.0	1																
		P2°C	-100	200	2																
		P2°F	-148	392	3																
		P4°C	0	400	4																
		P4°F	32	752	5																
		P8°C	0	800	6																
		P8°F	32	1472	7																
		L4°C	0	400	8																
		L4°F	32	752	9																
		L8°C	0	800	10																
		L8°F	32	1472	11																
		J8°C	0	800	12																
		J8°F	32	1472	13																
		n1°C	0	1200	14																
		n1°F	32	2192	15																
		S1°C	0	1600	16																
		S1°F	32	2912	17																
		0-20	variabel	variabel	18																
		4-20	variabel	variabel	19																
Parameter	Messbereich / Measuring range																				
Sen	(R1300)	Display	Start	End	Value																
		P1°C	-50.0	100.0	0																
		P1°F	-58	212	1																
		P2°C	-90.0	205.0	2																
		P2°F	-130	401	3																
		P4°C	0	400	4																
		P4°F	32	752	5																
		P8°C	0	800	6																
		P8°F	32	1472	7																
		L4°C	0	400	8																
		L4°F	32	752	9																
		L8°C	0	800	10																
		L8°F	32	1472	11																
		J8°C	0	800	12																
		J8°F	32	1472	13																
		n1°C	0	1200	14																
		n1°F	32	2192	15																
		S1°C	0	1600	16																
		S1°F	32	2912	17																
		0-20	variabel	variabel	18																
		4-20	variabel	variabel	19																
		10dc	variabel	variabel	20																
Parameter	Messbereich / Measuring range																				
Sen	(R2000/2400/2400S)	Display	Start	Ende	Value																
	Pt100 -50,0...100,0°C	P1°C	-50.0	100.0	0																
	Pt100 -58...212°F	P1°F	-58	212	1																
	PT100 -90,0...205,0°C	P2°C	-90.0	205.0	2																
	Pt100 -130...401°F	P2°F	-130	401	3																
	Pt100 0...400°C	P4°C	0	400	4																
	Pt100 32...752°F	P4°F	32	752	5																
	Pt100 0...800°C	P8°C	0	800	6																
	Pt100 32...1472°F	P8°F	32	1472	7																
	Ni120 0...250°C				8																only 2400S
	Ni120 32...482°F				9																only 2400S
	Fe-CuNi(L) 0...400°C	L4°C	0	400	0																
	Fe-CuNi(L) 32...752°F	L4°F	32	752	1																
	Fe-CuNi(L) 0...800°C	L8°C	0	800	2																
	Fe-CuNi(L) 32...1472°F	L8°F	32	1472	3																
	Fe-CuNi(J) 0...800°C	J8°C	0	800	4																
	Fe-CuNi(J) 32...1472°F	J8°F	32	1472	5																
	NiCr-Ni(K) 0...1200°C	n1°C	0	1200	6																
	NiCr-Ni(K) 32...2192°F	n1°F	32	2192	7																
	PtRh-Pt(S) 0...1600°C	S1°C	0	1600	8																
	PtRh-Pt(S) 32...2912°F	S1°F	32	2912	9																
	TE NiCrSi-NiSi (TC)Typ N 0...1200°C				10																only 2400S
	TE NiCrSi-NiSi (TC)Typ N 32...2192°F				11																only 2400S

Parameter	Messbereich / Measuring range		Start	End	Value																
Sen (R2100/2200/2500)	Display																				
		P1°C	0.0	99.9	0																
		P1°F	32	212	1																
		P2°C	-100	200	2																
		P2°F	-148	392	3																
		P4°C	0	400	4																
		P4°F	32	752	5																
		P8°C	0	800	6																
		Ni°C	0	250	7															only 2500S	
		Ni°F	32	482	8															only 2500S	
		L4°C	0	400	0																
		L4°F	32	752	1																
		L8°C	0	800	2																
		J8°C	0	800	3																
		n1°C (R2500S: K1°C)	0	999	4																
		N1°C	0	999	5															only 2500S	
Opt	Display		Value																		
		OFF	0																		
		on	1																		
		Auto	2																		
re.A 1/2 (R1140/2000/2100/2200/2400/2500/4000)	Display		Value																		
		dir	0																		
		inv	1																		
ZonE (R1140/2000/2100/2200/2400/2500/4000)	Display		Value																		
		OFF	0																		
		on	1																		
ConF	R1140	R1300	R2000 / R2100 / R2200 / R2400 / R2500																		
			2-P	3-P	Value																
		2P h	2P h	2P h	2P h	0															
		2P c	2P c	2P c	2P c	1															
		2Pnc	2Pnc	2Pnc	2Pnc	2															
		3P	3P	diSP	3P	3															
		3Pnc	3Pnc		3Pnc	4															
			3Pst		diSP	5															
P/tc(R2000/2100/2200/2400/2500)	Display																				
		16-Channel	8-Channel	6-Ch.	4-Ch.	Value															
		- 16	- 8	- 6	- 4	0															
		2 14	2 6	2 4	2 2	1															
		4 12	4 4	4 2	4 -	2															
		6 10	6 2	6 -		3															
		8 8	8 -			4															
		10 6				5															
		12 4				6															
		14 2				7															
		16 -				8															
Unit (R2000 / R2100 / R2200)	Display		Value	Display	Value																
		OFF	0	MA	8																
		°C	1	Volt	9																
		°F	2	OHM	10																
		bAr	3	%	11																
		rot	4	%	12																
		rPM	5	SEC	13																
		AMP	6	HZ	14																
		A	7	----	15																
Unit (R4000)	Display		Value																		
		°C	0																		
		°F	1																		
Hand	Display		Value																		
		OFF	0																		
		Auto	1																		
		Man	2																		
Co.F1 (R2000 / R2100)	R2000	R2100/R2200			Value																
	Display	Display																			
		OFF	OFF		0																
		SCAn	Opt		1																
		Opt	Y		2																
		Y	Led.t		3																
		Led.t			4																

