Modular Controllersystem
vario

Parameter-Table

9499 040 72911

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CD Automation srl
Via Picasso 34/36
20025 Legnano (MI)
Italy

Restriction of warranty:

No warranty is given for the complete correctness of this manual, since errors can never be avoided completely despite utmost care. Any hints are welcome and gratefully accepted.

Preface

All data used in the CD vario controller module are listed in this documentation, which is a supplement of **Functional description 9499 040 70511**.

The terms and abbreviations used in the table are explained in this preface.

The table itself was generated as a pdf file automatically from a database by a program, i.e. layout modification (at reasonable expenditure) was not possible.

All data descriptions are structured according to the following principle:

InP
ConF

Name	r/w	Adr.		real	Type	Value/off	Description
C.Fnc	r/w	base 1 dP	1155 17539	35078	Enum	Enum_CFnc ☐	
Step 0 To 29 By 512				1024			

With data type **Enum**, a table with a list of valid input possibilities and explanation is given in this position.

Name: This column contains the short name of the datum. (The reason for the peculiar form in which the datum is written (upper and lower case) is that it must be possible to indicate these names on a 7-segment display.) The signification of these names is equal with all CDA controllers.

r/w: **r**ead/**w**rite: datum can be read and written.
r: datum can only be read
w: datum can only be written

Adr.:

base: Modbus address (integer) of the datum without position behind the decimal point
1 dP: Modbus address (integer) of the datum with 1 digit behind the decimal point

real: Modbus address (integer) of the datum in float format

Typ: **Float**: (floating point format)

Int: (integer = integer number) 16-bit value

Long: (integer = integer number) 32-bit value

Enum: (enumeration) enumeration of default settings which cause a particular reaction in the controller, or which provide feedback of particular controller status. If this datum is of type **Enum**, all valid entries are listed in a special table.

The enumeration of an Enum datum need not be in complete succession without gaps. Input of invalid Enums is rejected with an error message (NAK).

Value/off: Adjustment range of the datum. An empty box at the top right means that this datum **cannot be de-activated**. A box with a "check mark" means that this datum cannot be **de-activated**.

Description: Short description of the datum

Step 0 To 29 By 512: The above datum is the 1st value. 29 further values with an address offset of 512 will follow on the addresses listed in "Adr." and "1dP". With addresses in "real", the offset is 1024.

Legend of abbreviations (in alphabetic order)

Cntr	**Contr**oller Data related to the controller (the control behaviour)
Conf	**ConF**iguration Data in ConF determine the configuration of the Vario station.
PArA	**PArA**meter The numeric values of data are determined.
Signal	**Signal** are data which determine, or provide feedback on the controller status. Signals are written and control the controller, or can only be read and are generated by the controller for status feedback.
HC	**H**eating **C**urrent data, which relate to heating current measurement and monitoring
Lim(x)	**Lim**it All values and statuses related to limit value processing are classified in this group.
Inp	**Inp**ut; Data related to the inputs
LOGI	**LOGI**k Data group for control of defined functions of the Vario station via the field bus, via digital inputs, or both.
othr	**Oth**e**r** Data, which cannot be classified in the groups listed so far, e.g. bus data.
ohnE **ohnE2** **ohnE3** **ohnE4**	**ohnE(...4)** (without display) other data structured for internal processing
Out1	**Out**put1 Data related to the actual controller outputs 1...30
Out2	**Out**put2 Data related to the actual controller outputs 31...60
PAr2	**PArA**meter set2 This data group includes all data related to the 2nd parameter set.
SamAlar	**Sam**mel **Alar**m Signal group not only containing alarm messages!
SEtP	**Set P**oint Group of data related to set-point processing
Visual	**Visual**ization, group of data required for visualization

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1 Cntr

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
Cycle 3	r/w	base 1dP	1154 17538	35076	Enum	*Enum_Zyklus*	Adjustable cycle time for the channel. Depending on user priority, either more loops or an individual loop can be calculated more quickly. Shorter cycle time for fast loops, e.g. flow. Longer cycle time for slow loops, e.g. room temperature.
Step 0 To 29 By			512	1024			

0	Not active
1	The channel is calculated every 100 ms, together with associated inputs and alarms. The outputs are calculated for every scan (100 ms), independent of the channel cycle time.
2	The channel is calculated every 200 ms, together with associated inputs and alarms. The outputs are calculated for every scan (100 ms), independent of the channel cycle time.
3	The channel is calculated every 400 ms, together with associated inputs and alarms. The outputs are calculated for every scan (100 ms), independent of the channel cycle time.
4	The channel is calculated every 800 ms, together with associated inputs and alarms. The outputs are calculated for every scan (100 ms), independent of the channel cycle time.
5	The channel is calculated every 1600 ms, together with associated inputs and alarms. The outputs are calculated for every scan (100 ms), independent of the channel cycle time.
6	The channel is calculated every 3200 ms, together with associated inputs and alarms. The outputs are calculated for every scan (100 ms), independent of the channel cycle time.

C.Fnc	r/w	base 1dP	1155 17539	35078	Enum	*Enum_CFnc*	Control behaviour (algorithm) referred to output value: e.g. 2- or 3-point controller, signaller, 3-point stepping control.
Step 0 To 29 By			512	1024			

0	on/off controller or signaller with one output. The on/off controller or signaller switches if the process value drifts from the setpoint more than the hysteresis.
1	PID control, e.g. heating, with one output: Switched as a digital output (2-point) or used as an analog output (continuous). PID controllers respond quickly to changes of the control deviation, and typically do not exhibit any permanent control offset.
2	D / Y / Off, or 2-point controller with partial/full load switch-over. 2 digital outputs: Y1 is the switching output and Y2 is the changeover contact for D/Y.
3	2 x PID control, e.g. heating/cooling. Two outputs: Switched as a digital output (3-point) or used as an analog output (continuous). PID controllers respond quickly to changes of the control deviation, and typically do not exhibit any permanent control offset.
4	3-point stepping controller, e.g. for motor actuators. Two digital outputs. No actuating pulses are generated when the process is lined out.

1 Cntr

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
C.diF	r/w	base	11693	5106	Enum	*Enum_Cdiff*	Effect of derivative time (td) with a PID controller. Derivative time only acts on the measured value or on the control deviation (including setpoint). Selection, whether a powerful response of the PID controller outpu will only occur with disturbances (changes of the process value) or also after setpoint changes.
		1dP	17553				
						0	The D action in the Pid - controller only effects on process value. The D action can be designed stronger for good disturbance reaction, as it has no effect in the reference reaction. (A controller with (too) strong D action in reference reaction overshoots at set-point changes.)
						1	The D action in the Pid - contoller effects on deviation error (Process value and set-point). Controller is designed for both good reference reaction and disturbance reaction.
C.Act	r/w	base	11573	5082	Enum	*Enum_CAct*	Operating sense of the controller. Inverse operation (e.g. heating) means increased heat input when the process value falls. Direct operation (e.g. cooling) means increased heat input when the process value increases.
		1dP	17541				
Step 0 To 29 By			512	1024		0	Inverse or opposed-sense response, e.g. heating. The controller output is increased with a falling process value, and decreased with a rising process value.
						1	Direct or same-sense response, e.g. cooling. The controller output is increased with a rising process value, and decreased with a falling process value.
FAIL	r/w	base	11583	5084	Enum	*Enum_FAIL*	With the sensor break response, the operator determines the instrument's reaction to a sensor break, thus ensuring a safe process condition.
		1dP	17542				
Step 0 To 29 By			512	1024		0	controller outputs switched off
						1	y = parameter Y2 (Caution: fixed parameter Y2, not controller output Y2!). Note for three-point stepping controller: With Y2 < 0.01 CLOSED is set (DY= -100%), with 0.01 =< Y2 =< 99.9 no output is set (DY=0%), with Y2 > 99.9 OPEN is set (DY= +100%). Note for signallers: With Y2 < 0.01 OFF is set, with 0.01 =< Y2 =< 99.9 status keeps unchanged, with Y2 > 99.9 ON is set.
						2	y = mean output. The maximum permissible output can be adjusted with parameter Ym.H. To prevent determination of inadmissible values, mean value formation is only if the control deviation is lower than parameter L.Ym.
SP.2C	r/w	base	11593	5086	Enum	*Enum_SP2C*	When switching over to the 2nd setpoint SP.2, control is performed without cooling.
		1dP	17543				
Step 0 To 29 By			512	1024		0	Standard (cooling permitted with all setpoints).
						1	No cooling with active SP.2.

1 Cntr

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
CYCL	r/w	base 1160 1dP 17544	35088	Enum	*Enum_CYCL*	Duty cycle for 2-point and 3-point controllers. Internally, the controller calculates a continuous output value, which is converted into switching pulses for digital outputs. The user can adapt the setting to calculate various duty cycles (on/off ratio).
Step 0 To 29 By 512			1024			
					0	Standard. 'Bathtub curve'. The adjusted duty cycles t1 and t2 are valid for ± 50% control output. With very small and very large control outputs, the effective duty cycle is increased sufficiently to prevent nonsensically short operating pulses. The shortest pulses are limited to ¼ of t1 and ¼ of t2.
					1	Linear water cooling (standard switching behaviour for heating). Cooling only starts above an adjustable temperature value (E.H20). Cooling 'On' with fixed pulse duration (t.on). Cooling 'Off' with minimum pulse duration (t.oFF), which varies according to controller output.
					2	Non-linear water cooling (standard switching behaviour for heating). The cooling characteristic ensures that controller action is relatively weak between 0 and approx. 70% of controller output. Above that, controller action increases rapidly up to the maximum cooling rate. The parameter 'F.H2O' can be used to alter the curve of the cooling characteristic.
					3	With constant pulses for heating and cooling. The adjusted duty cycles t1 and t2 are maintained over the entire output range. The parameter tp is used to adjust the minimum pulse duration. Shorter pulses are added internally until a pulse of length tp can be generated.
LP.AL	r/w	base 1163 1dP 17547	35094	Enum	*Enum_LPAL*	Monitoring of control loop interruption (not possible with 3-point stepping controller, not possible with signaller)
Step 0 To 29 By 512			1024			
					0	switched off / inactive
					1	LOOP alarm is generated, if with Y=100% there is no corresponding reaction of the process variable within the time of 2 x ti. Possible remedial action: Check heating or cooling circuit, check sensor and replace it, if necessary, check controller and switching device.
AdtG	r/w	base 1164 1dP 17548	35096	Enum	*Enum_AdaGroup*	Defines whether the controller is assigned to Group tuning.For Group tuning, a controller can be assigned one of four independently working Groups. Within each Group, the zones are only started together with the help of a tuning attempt for heating start-up, followed by a tuning attempt for cooling start-up. Zones with setpoint tuning, and disabled zones are not coordinated.
Step 0 To 29 By 512			1024			
					0	no group selftuning
					1	Take part in the self-tuning during start-up of Group 1. Individual tuning and pulse-response tuning at setpoint are possible, regardless of this setting.
					2	Take part in the self-tuning during start-up of Group 2. Individual tuning and pulse-response tuning at setpoint are possible, regardless of this setting.
					3	Take part in the self-tuning during start-up of Group 3. Individual tuning and pulse-response tuning at setpoint are possible, regardless of this setting.
					4	Take part in the self-tuning during start-up of Group 4. Individual tuning and pulse-response tuning at setpoint are possible, regardless of this setting.

1 Cntr

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
Adt0	r/w	base 1dP	1165 17549	35098	Enum	*Enum_Adt0*	Optimization of the switching cycles t1 and t2 for the DED conversion can be disabled here. In order to fine-tune the positioning action, the switching periods are changed by the self-tuning function, if automatic tuning is configured.
Step 0 To 29 By			512	1024			
						0	The cycle duration is determinated by auto-tuning. Thereby the best controlling results are obtained.
						1	The cycle duration is not determinated by auto-tuning. An oversized cycle duration causes bad control behavior. An undersized cycle duration causes a more frequent switching, which can raise the wearout of mechanical actuators (relay, contactor).
Tune	r/w	base 1dP	1161 17545	35090	Enum	*Enum_tune*	Self-tuning procedure / sequence. Choice between:step response tuning during start-up and pulse response tuning at setpoint; or pulse response tuning during start-up and at setpoint; or only step response tuning during start-up, and no tuning at setpoint (no pulse).
Step 0 To 29 By			512	1024			
						0	At start-up with step function, impulse function at setpoint. The step function at start up requires a control deviation of more than 10% of the control range. At setpoint, with control deviation less than 10% of the control range, tuning is done with the impulse function.
						1	At start-up with impulse function. Setting for fast controlled systems (e.g. hot runner control). Always tuning with impulse function. At start up, with a control deviation of more than 10% of the control range, the control loop is optimized for a wide control range. At set-point the control deviation during self-tuning is small.
						2	At start up and at set-point always tune step function at start up. Tuning is done with step function at start up, regardless of the control deviation.
Strt	r/w	base 1dP	1162 17546	35092	Enum	*Enum_Strt*	Start of self-tuning. Self-tuning can always be started manually at the request of the operator. Here, it is possible to determine that self-tuning is started automatically under the following conditions: On power-up or when an oscillation of the process value is detected.
Step 0 To 29 By			512	1024			
						0	no automatic start (manual start via front interface)
						1	Manual or automatic start of auto-tuning at power on or when oscillating is detected (oscillating of process value by more than ± 0.5% of the control range, and simultaneously the output value by more than 20%.) Note: Though the process is unchanged, at power on always the (time-consuming) auto-tuning is started.
B.FAIL	r/w	base 1dP	1166 17550	35100	Enum	*Enum_BFail*	Activation of the evaluation of the bus fault signals.
Step 0 To 29 By			512	1024			
						0	Do not evaluate bus fault signal.
						1	Response to bus fault is the same as for sensor fault (FAIL).
						2	Disable controller in case of a bus fault.

1 Cntr

ConF

Name	r/w	Adr.		real	Typ	Value/off		Description
rnGL	r/w	base 1dP	1167 17551	35102	Float	-3000...3199	☐	Lower limit for the controller's operating range. The control range is independent of the measurement range. Reducing the control range will increase the sensitivity of the self-tuning process.
Step 0 To 29 By			512	1024				
rnGH	r/w	base 1dP	1168 17552	35104	Float	-2999...3200	☐	Upper limit for the controller's operating range. The control range is independent of the measurement range. Reducing the control range will increase the sensitivity of the self-tuning process.
Step 0 To 29 By			512	1024				

PArA

Name	r/w	Adr.		real	Typ	Value/off		Description
Pb1	r/w	base 1dP	1174 17558	35116	Float	0,1...3200	☐	Proportional band 1 (heating) in engineering unit, e.g. °C. Pb defines the relationship between controller output and control deviation. The smaller Pb is, the stronger is the control action for a given control deviation. If Pb is too large or too small, the control loop will oscillate (hunting).
Step 0 To 29 By			512	1024				
Pb2	r/w	base 1dP	1175 17559	35118	Float	0,1...3200	☐	Proportional band 2 (cooling) in engineering units, e.g. °C. Pb defines the relationship between controller output and control deviation. The smaller Pb is, the stronger is the control action for a given control deviation. If Pb is too large or too small, the control loop will oscillate (hunting).
Step 0 To 29 By			512	1024				
ti1	r/w	base 1dP	1176 17560	35120	Float	1...3200	☑	Integral action time 1 (heating) [s]. Ti is the time constar of the integral portion. The smaller Ti is, the faster is the response of the integral action. Ti too small: Control tends to oscillate. Ti too large: Control is sluggish and needs a long time to line out.
Step 0 To 29 By			512	1024				
ti2	r/w	base 1dP	1177 17561	35122	Float	1...3200	☑	Integral action time 2 (cooling) [s]. Ti is the time constan of the integral portion. The smaller Ti is, the faster is the response of the integral action. Ti too small: Control tends to oscillate. Ti too large: Control is sluggish and needs a long time to line out.
Step 0 To 29 By			512	1024				

1 Cntr

PArA

Name	r/w	Adr.		real	Typ	Value/off		Description
td1	r/w	base	1178	35124	Float	1...3200	☑	Derivative action time 1 (heating) [s], second parameter set. Td is the time constant of the derivative portion. The faster the process value changes, and the larger the value of Td is, the stronger will be the derivative action. Td too small: Very little derivative action. Td too large: Control tends to oscillate.
		1dP	17562					
Step 0 To 29 By 512 1024								
td2	r/w	base	1179	35126	Float	1...3200	☑	Derivative action time 2 (cooling) [s], second parameter set. Td is the time constant of the derivative portion. The faster the process value changes, and the larger the value of Td is, the stronger will be the derivative action. Td too small: Very little derivative action. Td too large: Control tends to oscillate.
		1dP	17563					
Step 0 To 29 By 512 1024								
t1	r/w	base	1180	35128	Float	0,2...3200	☐	Minimum duty cycle 1 (heating) [s]. With the standard duty cycle converter, the shortest pulse duration is 1/4 x t1. If the duty cycle is not to be optimized, this must be entered in the configuration. (Default: Optimization of the duty cycle during self-tuning, but also if the output value is less than 5%).
		1dP	17564					
Step 0 To 29 By 512 1024								
t2	r/w	base	1181	35130	Float	0,2...3200	☐	Minimum duty cycle 2 (cooling) [s]. With the standard duty cycle converter, the shortest pulse duration is 1/4 x t1. If the duty cycle is not to be optimized, this must be entered in the configuration. (Default: Optimization of the duty cycle during self-tuning, but also if the output value is less than 5%).
		1dP	17565					
Step 0 To 29 By 512 1024								
tP	r/w	base	1184	35136	Float	0,1...3200	☑	Minimum pulse duration [s]. Used for switching with constant periods. For positioning values that require a shorter pulse than adjusted for 'tp', the output is suppressed, but 'remembered'. The controller continues adding the internal short pulses until a value equal to 'tp' can be output.
		1dP	17568					
Step 0 To 29 By 512 1024								
t.on	r/w	base	1193	35154	Float	0,1...3200	☐	Impulse length for water cooling. Fixed for all values of controller output. The pause time is varied.
		1dP	17577					
Step 0 To 29 By 512 1024								
t.oFF	r/w	base	1194	35156	Float	1...3200	☐	Min. pause time for water cooling. The max. effective controller output results from t.on/(t.on+t.off)·100%
		1dP	17578					
Step 0 To 29 By 512 1024								

1 Cntr

PArA

Name	r/w	Adr.		real	Typ	Value/off		Description
F.H2O	r/w	base	1195	35158	Float	0,1...3200	☐	Adaptation of the (non-linear) water-cooling characteristic.If the cooling action is very strong, and causes an unfavourable transition between heating and cooling, a non-linear characteristic can reduce the cooling action considerably.Adjust FH20 = 1 for output values up to -70%; FH20 = 2 for values up to approx. -80%, and FH20 = 0.5 for up to approx. -60%.
		1dP	17579					
Step 0 To 29 By 512 1024								
E.H2O	r/w	base	1192	35152	Float	-3000...3200	☐	Min. temperature for water cooling. Below the set temperature no water cooling happens
		1dP	17576					
Step 0 To 29 By 512 1024								
SH	r/w	base	1182	35132	Float	0...3200	☐	Neutral zone, or switching difference of the signaller [engineering unit].Too small: unnecessarily high switching frequency.Too large: reduced controller sensitivity.With 3-point controllers this slows down the direct transition from heating to cooling. With 3-point stepping controllers, it reduces the switching operations of the actuator around setpoint.
		1dP	17566					
Step 0 To 29 By 512 1024								
HYS.H	r/w	base	1198	35164	Float	0...3200	☐	Switching hysteresis above the setpoint of the signaller [engineering unit].
		1dP	17582					
Step 0 To 29 By 512 1024								
HYS.L	r/w	base	1197	35162	Float	0...3200	☐	Switching hysteresis below the setpoint of the signaller [engineering unit].
		1dP	17581					
Step 0 To 29 By 512 1024								
tt	r/w	base	1185	35138	Float	3...3200	☐	Travel time of the actuator motor [s]. If no feedback signal is available, the controller calculates the actuator position by means of an integrator and the adjusted motor travel time. For this reason, a precise definition of the motor travel time between min and max (0% and 100%) is important.
		1dP	17569					
Step 0 To 29 By 512 1024								
d.SP	r/w	base	1183	35134	Float	-3000...3200	☐	Separation of the D / Y switch-over point from the setpoint [engineering unit]. With a significant control deviation heating start is in delta connection. When the control deviation increases, the instrument switches over to reduced power (Y connection) for line-out to the set-point.
		1dP	17567					
Step 0 To 29 By 512 1024								
Y2	r/w	base	1186	35140	Float	-105...105	☐	Second positioning value [%]. Activated Y2 = positioner control. Caution: The parameter 'positioning output Y2' must not be confused with the controller output Y2!
		1dP	17570					
Step 0 To 29 By 512 1024								

1 Cntr

PArA

Name	r/w	Adr.		real	Typ	Value/off	Description
Y.Lo	r/w	base	1187	35142	Float	-105...104 ☐	Lower output limit [%] The range is depedant of the type of controller: 2 point controller: 0...ymax+1 3 point controller: -105 ymax-1
		1dP	17571				
Step 0 To 29 By 512 1024							
Y.Hi	r/w	base	1188	35144	Float	-104...105 ☐	Upper output limit [%] The range is ymin+1 105
		1dP	17572				
Step 0 To 29 By 512 1024							
Y.0	r/w	base	1189	35146	Float	-105...105 ☐	Offset for die positioning value [%]. This is added to the controller output, and has the most effect with P and PD controllers. (With PID controllers, the effect is compensated by the integral action.) With a control deviation = 0, the P controller generates a control outpu Y0.
		1dP	17573				
Step 0 To 29 By 512 1024							
Ovl.H	r/w	base	1202	35172	Float	-100...100 ☐	Overlap / displacement in driver for output heat. Positive values designates a dead zone to negative actuator values. Neither heating nor cooling is active. Negative values designates a overlap to negative actuator values. Heating and cooling are simultaneously active
		1dP	17586				
Ovl.C	r/w	base	1203	35174	Float	-100...100 ☐	Overlap / displacement in driver for output cool. Negative values designates a dead zone to positive actuator values. Neither cooling nor heating is active. Positive values designates a overlap to positive actuator values. Cooling and heating are simultaneously active
		1dP	17587				
Ym.H	r/w	base	1190	35148	Float	-105...105 ☐	Limit for the mean control output value Ym in case of sensor break [%]. The mean control output value is configurable as the response to sensor break. The maximum mean output value = YmH.
		1dP	17574				
Step 0 To 29 By 512 1024							
L.Ym	r/w	base	1191	35150	Float	0,1...3200 ☐	Max. control deviation (xw), at the start of mean value calculation [engineering unit]. When calculating the mean value, data are only taken into account if the control deviation is small enough. 'Lym' is a preset value that determines how precisely the calculated output value is matched to the setpoint.
		1dP	17575				
Step 0 To 29 By 512 1024							

1 Cntr

PArA

Name	r/w	Adr.		real	Typ	Value/off	Description
Y.St	r/w	base	1196	35160	Float	-105...105 ☐	Reduced output value for start-up [%]. The start-up function is a protective function, e.g. with hot runner control. To prevent destruction of high-performance heating elements, they must be heated slowly to remove any humidity. With activated start-up function, the controller maintains the reduced starting temperature for a defined dwell period. Subsequently, the controller switches over to the main setpoint.
		1dP	17580				
Step 0 To 29 By			512	1024			
F.Yop	r/w	base	1199	35166	Float	-10...10 ☐	Only with impulse function at setpoint: Factor for the pulse height of the output value for a self-tuning attempt at setpoint. The pulse of the output value is weighted with the factor: Heating pulse = 20% * factor Cooling pulse = 15% * factor With negative values, the output value is reduced by the pulse. Values between -0.1 and +0.1 are not permissible (automatic correction to -1 or +1).
		1dP	17583				
Step 0 To 29 By			512	1024			
T.Pir	r/w	base	1200	35168	Int	1...1000 ☐	Only with impulse function at setpoint: Monitoring time (window width) for 'process lined out' monitor. Total time required for determining the 'process lined out' condition, and defining the gradient on the output value or the process value. Is determined by means of the function 'floating mean value'.Preset value in minutes.
		1dP	17584				
Step 0 To 29 By			512	1024			
O.Hk	r/w	base	1201	35170	Enum	*Enum_Ohk*	Only with impulse function at setpoint: manual selection of the self-tuning attempt: Heating or cooling. Independent of the working point or of the active process at the time the self-tuning attempt is started, the selected test mode will always be carried out. 0: Automatic / active process. 1: Always carry out a pulse test for heating. 2: Always carry out a pulse test for cooling.
		1dP	17585				
Step 0 To 29 By			512	1024			

0	Self-tuning using the pulse response at setpoint optimizes the active process. Depending on which side of the 3-point controller is switched on (active) at the start of self-tuning, the heating or cooling parameters are optimized.
1	Self-tuning using the pulse response at setpoint optimizes the heating parameters. The steady-state output (PIR) is 'frozen'. With active heating, the pulse is applied to the heating output (with the correct polarity), whilst with active cooling, the pulse is applied as an additional (simultaneous) heating output.
2	Self-tuning using the pulse response at setpoint optimizes the cooling parameters. The steady-state output (PIR) is 'frozen'. With active heating, the pulse is applied as an additional (simultaneous) cooling output, whilst with active cooling, the pulse is applied to the cooling output (positive Fyop means increased cooling action).

1 Cntr

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
Ada.St	r/w	base	1235	35238	Enum	*Enum_AdaStart*	Starting / stopping the self-tuning function.After the start signal, the controller waits until the process reaches a stable condition (PIR) before it starts the self-tuning process. Self-tuning can be aborted manually at any time. After a successful self-tuning attempt, the controller automatically resumes normal operation.
		1dP	17619				
Step 0 To 29 By			512	1024			

0	'Stop' will abort the self-tuning process, and the controller returns to normal operation with the previous parameter settings.
1	Start of the self-tuning process is possible during manual or automatic controller operation.

Name	r/w	Adr.		real	Typ	Value/off	Description
C.Search	r/w	base	1239	35246	Int	0...1 ☐	In union with the relay module 8/8 the initial position is looked for with a burner connection.
		1dP	17623				
Step 0 To 29 By			512	1024			

1 Cntr

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
C.Sta	r	base 1dP	1214 17598	35196	Int	-30000...32000 ☐	Status informations of the controller.f.e. switching signals, controller off or informations about selftuning. The controller sratus shows the actual adjustments of the controller.
Step 0 To 29 By			512	1024			

Bit 0: Switching signal heating: 0: off 1: on
Bit 1: Switching signal cooling: 0: off 1: on
Bit 2: Sensor error 0: ok 1: error
Bit 3: Controlsignal: Manual/automatic
0: automatic 1: manual
Bit 4: Controlsignal: Y2
0: Y2 not activ 1: Y2 activ
Bit 5: Controlsignal: Ext. setting of outputsignal
0: not activ 1: activ
Bit 6: Controlsignal: Controller off
0: contr. on 1: contr. off
Bit 7: Controlsignal:The activ parameter set
0: parameterset 1
1: parameterset 2
Bit 8: Loopalarm
0: no alarm
1: alarm
Bit 9: Soft start function
0: not activ
1: activ
Bit 10: Rate to setpoint
0: not activ
1: activ
Bit 11: Not used
Bit 12-15: Internal functional statuses (operating state)
0 0 0 0 Automatic
0 0 0 1 Selftuning is running
0 0 1 0 Selftuning faulty
(Waiting for operator signal)
0 0 1 1 Sensor error
0 1 0 0 Not used
0 1 0 1 Manual
0 1 1 1 Not used
1 0 0 0 Manual, with external presetting of the outputsignal
1 0 0 1 Outputs switched off (neutral)
1 0 1 0 Abortion of the selftuning (by control- or error-signal)

1 Cntr

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
C.Sta2	r	base 1dP	1238 17622	35244	Int	-30000...32000 ☐	Status informations of the controller.f.e. switching signals, controller off or informations about selftuning. The controller sratus shows the actual adjustments of the controller.
Step 0 To 29 By			512	1024			

Bit 0: Switching signal heating:
0: off
1: on
Bit 1: Switching signal cooling:
0: off
1: on
Bit 2: Sensor error
0: ok
1: error
Bit 3: Controlsignal: Manual/automatic
0: automatic
1: manual
Bit 4: Controlsignal: W2
0: not active
1: active
Bit 5: Controlsignal: Self-tuning:
0: not active
1: running
Bit 6: Controlsignal: Controller off
0: contr. on
1: contr. off
Bit 7: Controlsig.:The active parameter set
0: parameterset 1
1: parameterset 2
Bit 8: Loopalarm
0: no alarm
1: alarm
Bit 9: Soft start function
0: not active
1: active
Bit 10: Alarm 1
0: not active
1: active or latched
Bit 11: Alarm 2
0: not active
1: active or laced
Bit 12: Alarm 3
0: not active
1: active or latched
Bit 13: Heating current alarm
0: not active
1: active
Bit 14: Short circuit alarm
0: not active
1: active
Bit 15 Transmission error via Profibus
0: no error
1: transmitted data with error

1 Cntr

Signal

Name	r/w	Adr.		real	Typ	Value/off		Description
diFF	r	base	1218	35204	Float	-3000...3200	☐	Control deviation, is defined as process value minus setpoint. Positive Xw means that the process value is above the setpoint. A small control deviation indicates precise control.
		1dP	17602					
Step 0 To 29 By 512 1024								
DYman	r/w	base	1222	35212	Float	-210...210	☐	Differential preset output value, which is added to the actual output value during manual operation. Negative values reduce the output.
		1dP	17606					
Step 0 To 29 By 512 1024								
Hc.Me	r	base	1237	35242	Float	-3000...3200	☑	Heating current measurement value for the controller. If several heating current monitors are active for one controller, the sum of the heating current measurements is indicated.
		1dP	17621					
Step 0 To 29 By 512 1024								
Kp1	r	base	1229	35226	Float	-3000...3200	☐	Process gain for 'heating'. For control loops with self-regulation, process gain is the ratio determined by the change of the control output and the resulting permanent change of the process value. Kp is calculated by the self-tuning function, and is used for defining controller action.
		1dP	17613					
Step 0 To 29 By 512 1024								
Kp2	r	base	1233	35234	Float	-3000...3200	☐	Process gain for 'cooling'. For control loops with self-regulation, process gain is the ratio determined by the change of the control output and the resulting permanent change of the process value. Kp is calculated by the self-tuning function, and is used for defining controller action.
		1dP	17617					
Step 0 To 29 By 512 1024								

1 Cntr

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
Msg1	r	base 1dP	1230 17614	35228	Enum	*Enum_Msg*	The result of self-tuning for 'heating' indicates whether self-tuning was successful, and with what result.

Step 0 To 29 By 512 1024

0	No message / Tuning attempt still running
1	Self-tuning has been completed successfully. The new parameters are valid.
2	Self-tuning was successful, but with a warning. The new parameters are valid. Note: Self-tuning was aborted due to the risk of an exceeded setpoint, but useful parameters were determined. Possibly repeat the attempt with an increased setpoint reserve.
3	The process reacts in the wrong direction. Possible remedy: Reconfigure the controller (inverse <-> direct). Check the controller output sense (inverse <-> direct).
4	No response from the process. Perhaps the control loop is open. Possible remedy: Check sensor, connections, and process.
5	The process value turning point of the step response is too low. Possible remedy: Increase the permitted step output range, i.e. increase the parameter Y.Hi ('heating') or reduce the parameter Y.Lo ('cooling').
6	Self-tuning was aborted due to the risk of an exceeded setpoint. No useful parameters were determined. Possible remedy: Repeat the attempt with an increased setpoint reserve.
7	The step output change is not large enough (minimum change > 5 %). Possible remedy: Increase the permitted step output range, i.e. increase the parameter Y.Hi ('heating') or reduce the parameter Y.Lo ('cooling').
8	The controller is waiting. Setpoint reserve must be given before generating the step output change. Acknowledgment of this error message leads to switch-over to automatic mode. If self-tuning shall be continued, change set-point, change process value, or decrease set-point range.

1 Cntr

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
Msg2	r	base 1dP	1234 17618	35236	Enum	*Enum_Msg*	The result of self-tuning for 'cooling' indicates whether self-tuning was successful, and with what result.
Step 0 To 29 By			512	1024			

0	No message / Tuning attempt still running
1	Self-tuning has been completed successfully. The new parameters are valid.
2	Self-tuning was successful, but with a warning. The new parameters are valid. Note: Self-tuning was aborted due to the risk of an exceeded setpoint, but useful parameters were determined. Possibly repeat the attempt with an increased setpoint reserve.
3	The process reacts in the wrong direction. Possible remedy: Reconfigure the controller (inverse <-> direct). Check the controller output sense (inverse <-> direct).
4	No response from the process. Perhaps the control loop is open. Possible remedy: Check sensor, connections, and process.
5	The process value turning point of the step response is too low. Possible remedy: Increase the permitted step output range, i.e. increase the parameter Y.Hi ('heating') or reduce the parameter Y.Lo ('cooling').
6	Self-tuning was aborted due to the risk of an exceeded setpoint. No useful parameters were determined. Possible remedy: Repeat the attempt with an increased setpoint reserve.
7	The step output change is not large enough (minimum change > 5 %). Possible remedy: Increase the permitted step output range, i.e. increase the parameter Y.Hi ('heating') or reduce the parameter Y.Lo ('cooling').
8	The controller is waiting. Setpoint reserve must be given before generating the step output change. Acknowledgment of this error message leads to switch-over to automatic mode. If self-tuning shall be continued, change set-point, change process value, or decrease set-point range.

P.Cha	r/w	base 1dP	1225 17609	35218	Int	0...1 ☐	This signal is set by the self-tuning function after calculating new parameters. This enables changes of the controller's parameter set to be signalled to the E-Tool.
Step 0 To 29 By			512	1024			
POS	r	base 1dP	1219 17603	35206	Float	-3000...3200 ☐	The position feedback Yp shows the actuator position with 3-point stepping controllers. If Yp is outside the limits Ymin and Ymax, the output of positioning pulses is suppressed.
Step 0 To 29 By			512	1024			
SP.EF	r	base 1dP	1217 17601	35202	Float	-3000...3200 ☐	Effective setpoint. The value reached at the end of setpoint processing, after taking W2, external setpoint, gradient, boost function, programmer settings, start-up function, and limit functions into account. Comparison with the effective process value leads to the control deviation, from which the necessary controller response is derived.
Step 0 To 29 By			512	1024			

1 Cntr

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
T.Sta	r	base 1dP	12263 17610	35220	Int	-30000...32000 ☐	Status information during self-tuning, e.g. the actual condition, and possible results, warnings, and error messages.
Step 0 To 29 By			512	1024			

Bit 0 Process lined out; 0 = No; 1 = Yes
Bit 1 Operating mode 'Self-tuning controller; 0 = Off; 1 = On
Bit 2 Result of controller self-tuning; 0 = OK; 1 = Fault
Bit 3 - 7 Not used
Bit 8 - 11 Result of the 'heating' attempt
0 0 0 0 No message / Attempt still running
0 0 0 1 Successful
0 0 1 0 Successful, with risk of exceeded setpoint
0 0 1 1 Error: Wrong operating sense
0 1 0 0 Error: No response from process
0 1 0 1 Error: Turning point too low
0 1 1 0 Error: Risk of exceeded setpoint
0 1 1 1 Error: Step output too small
1 0 0 0 Error: Setpoint reserve too small
Bit 12 - 15 Result of 'cooling' attempt (same as heating attempt)

Tu1	r	base 1dP	12273 17611	35222	Float	-3000...3200 ☐	'Heating' delay time of the loop. Tu is calculated by the self-tuning function: It is the time delay before the process reacts significantly. In effect, Tu is a dead time that is determined by the reaction of the process to a change of the control output. It is used for defining controller action.
Step 0 To 29 By			512	1024			
Tu2	r	base 1dP	12313 17615	35230	Float	-3000...3200 ☐	'Cooling' delay time of the loop. Tu is calculated by the self-tuning function: It is the time delay before the process reacts significantly. In effect, Tu is a dead time that is determined by the reaction of the process to a change of the control output. It is used for defining controller action.
Step 0 To 29 By			512	1024			
Vmax1	r	base 1dP	12283 17612	35224	Float	-3000...3200 ☐	Max. rate of change for 'heating', i.e. the fastest process value increase during self-tuning. Vmax is calculated by the self-tuning function, and is determined by the reaction of the process to a change of the control output It is used for defining controller action.
Step 0 To 29 By			512	1024			
Vmax2	r	base 1dP	12323 17616	35232	Float	-3000...3200 ☐	Max. rate of change for 'cooling', i.e. the fastest process value increase during self-tuning. Vmax is calculated by the self-tuning function, and is determined by the reaction of the process to a change of the control output It is used for defining controller action.
Step 0 To 29 By			512	1024			
X.Eff	r	base 1dP	12163 17600	35200	Float	-3000...3200 ☐	Effective process value. The value resulting from input scaling and measurement value processing, i.e. after input signal processing. Comparison of the effective process value with the effective setpoint results in the value for control deviation, and the corresponding controller response.
Step 0 To 29 By			512	1024			

1 Cntr

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
YDec	r/w	base	1224	35216	Enum	*Enum_YDec*	Decreasing the output value. There are two speeds: 40 s or 10 s for the change from 0 % to 100 %. Note: The 3-point stepping controller translates the increments as DOWN.
		1dP	17608				
Step 0 To 29 By			512	1024			

0	Not active
1	decrement output

YGrw	r/w	base	1236	35240	Enum	*Enum_YGrwLs*	Gradient of Y-variation 'slow' or 'fast'. Changes the positioning output speed. There are two speeds for output variation: from 0% to 100% in 40s or in 10s.
		1dP	17620				
Step 0 To 29 By			512	1024			

0	Slow change of Y, from 0% to 100% in 40 seconds.
1	Fast change of Y, from 0% to 100% in 10 seconds.

YInc	r/w	base	1223	35214	Enum	*Enum_YInc*	Increasing the output value. There are two speeds: 40 s or 10 s for the change from 0 % to 100 %. Note: The 3-point stepping controller translates the increments as UP.
		1dP	17607				
Step 0 To 29 By			512	1024			

0	Not active
1	increment output

Yman	r/w	base	1221	35210	Float	-110...110 ☐	Absolute preset output value, which is used as output value during manual operation. Caution: With 3-point stepping controllers, Yman (evaluated the same as Dyman) is added to the actual output value as a relative shift.
		1dP	17605				
Step 0 To 29 By			512	1024			

Ypid	r	base	1215	35198	Float	-3000...3200 ☐	Output value Ypid is the output signal determined by the controller, and from which the switching pulses for the digital and analog control outputs are calculated. Ypid is also available as an analog signal. e.g. for visualization.
		1dP	17599				
Step 0 To 29 By			512	1024			

2 HC

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
Hc.Cy	r/w	base	1245	35258	Int	1...3000 ☐	Cycle time of the heating circuit monitor (in seconds). Starting from the selected number of seconds, and within the measurement cycle, a monitoring operation is carried out. This means that an individual channel is monitored at intervals determined by channel no. + 1 (for overall measurement) multiplied by the cycle time.
		1dP	17629				
Step 0 To 5 By			512	1024			

Hc.Ti	r/w	base	1246	35260	Int	2...255 ☐	Duration of switch-on cycle that is required for the heating circuit monitor (signal settling time).
		1dP	17630				
Step 0 To 5 By			512	1024			

3 InP

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
InpMod	r/w	base 1dP	10741 17458	34916	Enum	*Enum_Modul*	Module that supplies the input signal.
Step 0 To 29 By 512 1024						0 Not active 1 device 2 module 1 3 module 2 4 module 3 5 module 4 6 module 5 7 module 6 8 module 7 9 module 8 10 module 9 11 module 10 12 module 11 13 module 12 14 module 13 15 module 14 16 module 15 17 module 16 18 module 17 19 module 18 20 module 19 21 module 20	
InpInd	r/w	base 1dP	10751 17459	34918	Enum	*Enum_Input_Index*	Selection of an input of the device or an internal bus module.
Step 0 To 29 By 512 1024						0 not active 1 input 1 2 input 2 3 input 3 4 input 4 5 input 5 6 input 6 7 input 7 8 input 8 9 input 9 10 input 10 11 input 11 12 input 12 13 input 13 14 input 14 15 input 15 16 input 16	

3 InP

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
S.tYP	r/w	base 1dP	1076 17460	34920	Enum	*Enum_StYP_I*	Selection of the connected sensor type or input signal, e.g. thermocouple Type J. The input signals can be scaled.
Step 0 To 29 By			512	1024			

0	thermocouple type L (-100...900°C, -148...1652°F), Fe-CuNi DIN
1	thermocouple type J (-100...1200°C, -148...2192°F), Fe-CuNi
2	thermocouple type K(-100...1350°C,-148...2462°F), NiCr-Ni
3	thermocouple type N (-100...1300°C, -148...2372°F), Nicrosil-Nisil
4	thermocouple type S (0...1760°C, 32...3200°F), PtRh-Pt10%
5	thermocouple type R (0...1760°C, 32...3200°F), PtRh-Pt13%
6	thermocouple type T (-200...400°C, -328...752°F), Cu-CuNi
7	thermocouple type C (0...2315°C, 32...4199°F), W5%Re-W26%Re
8	thermocouple type D (0...2315°C, 32...4199°F), W3%Re-W25%Re
9	thermocouple type E (-100...1000°C, -148...1832°F), NiCr-CuNi
10	thermocouple type B0/100...1820°C, 32/212...3308°F), PtRh-Pt6%
11	thermocouple type W (0...2315°C, 32...4199°F)
20	Pt100 (-200 ... 850°C, -140...1562°F)
21	Pt 1000 (-200...850°C, -328...1562°F)
22	Ni 100 (-60...180°C, -76...356°F)
23	Ni 1000 (-60...180°C, -76...356°F)
24	KTY81-110 (-55...150°C, -67...302°F)
25	KTY84 (-40...300°C, -104...572°F)
26	Resistance : 0...400 Ohms
27	Resistance : 0...450 Ohms
28	Resistance : 0...4000 Ohms
30	current : 0...20 mA
31	current : -20...20 mA
32	current : 4...20 mA
33	current : 0...40 mA
34	current : -40...40 mA
40	voltage : 0...5 V
41	voltage : -5...5 V
42	voltage : 0...10 V
43	voltage : -10...10 V
44	voltage : 0...25 V
45	voltage : -25...25 V
46	voltage : 0...50 V
47	Voltage : 0...70 mV
48	Voltage: -15...+85 mV

Forcing	r/w	base 1dP	1077 17461	34922	Enum	*Enum_Forcing*	Forcing of the input. Forcing involves the external operation of an input, i.e. the instrument accepts the value at this input. (Used for the operation of free inputs e.g. by a supervisory PLC, for example for functional testing.)
Step 0 To 29 By			512	1024			

0	No forcing. The value is read by the digital input.
1	Forcing is active, the value is written via serial interface.

3 InP

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
Ext.TC	r/w	base 1dP	10781 17462	34924	Enum	*Enum_ExtTk*	Selection of internal or external temperature compensation with thermocouple input.
Step 0 To 29 By			512	1024			

0	The internal (built-in) temperature compensation is active. Additional adjustments not necessary.
1	External temp. compensation, either via KS Vario with cold junction measurement, or via a thermostat. Cold junction measurement: The VARIO station measures the temperature in the terminal compartment using an own sensor. Thermostat measurement: Terminal compartment is kept at a defined constant temperature.

Name	r/w	Adr.		real	Typ	Value/off	Description
X.korr	r/w	base 1dP	10791 17463	34926	Enum	*Enum_Xkorr*	Measurement value correction / Scaling. An adaptation of the input values to the display values is possible in the parameter Level. With an activated scaling function, the associated parameters are transferred into the device together with the Engineering, as opposed to a device-dependent correction.
Step 0 To 29 By			512	1024			

0	Without scaling
1	The 2-point correction is entered into the unit by means of the Engineering Tool operating page. Enter the raw measurement value for the lower and upper scaling points, then adjust the corresponding 'corrected values' and confirm the entry. A measurement value correction in an Engineering is only transferred to the controller on demand.
2	Scaling the input value to the display range, e.g. with transmitters for weighting the voltage input. The input (voltage) value and the display range (weighting) for the lower (InL, OuL) and the upper scaling points (InH, OuH) are adjusted in the Parameter Level (Parameter/Channel data/InP).

PArA

Name	r/w	Adr.		real	Typ	Value/off	Description
InL	r/w	base 1dP	10813 17465	34930	Float	-3000...3200 ☐	Input value of the lower scaling point. Depending on sensor type, the input value can be scaled to the required display value in the Parameter Level. The display of the input value of the lower scaling point (e.g 4 mA) is done using the corresponding electrical value.
Step 0 To 29 By			512	1024			
OuL	r/w	base 1dP	10823 17466	34932	Float	-3000...3200 ☐	Display value of the lower scaling point. Depending on sensor type, the input value can be scaled to the required display value in the Parameter Level. The operator can change the display value of the lower scaling point, e.g. 4 mA is displayed as 2 [pH].
Step 0 To 29 By			512	1024			
InH	r/w	base 1dP	10833 17467	34934	Float	-3000...3200 ☐	Input value of the upper scaling point. Depending on sensor type, the input value can be scaled to the required display value in the Parameter Level. The display of the input value of the upper scaling point (e.g. 20 mA) is done using the corresponding electrical value.
Step 0 To 29 By			512	1024			

3 InP

PArA

Name	r/w	Adr.		real	Typ	Value/off	Description
OuH	r/w	base 1dP	1084 17468	34936	Float	-3000...3200 ☐	Display value of the upper scaling point. Depending on sensor type, the input value can be scaled to the required display value in the Parameter Level. The operator can change the display value of the upper scaling point, e.g. 20 mA is displayed as 12 [pH].
Step 0 To 29 By			512	1024			
t.F	r/w	base 1dP	1085 17469	34938	Float	0...100 ☐	Filter time constant [s]. Every input is fitted with a digital (software) low-pass filter for suppressing process-related disturbances on the input leads. Higher filter settings improve the suppression, but increase the delay of the input signals.
Step 0 To 29 By			512	1024			
OffTk	r/w	base 1dP	1086 17470	34940	Float	-3000...3200 ☐	An additional offset can be entered manually for the temperature compensation.
Step 0 To 29 By			512	1024			

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
F.Inp	r/w	base 1dP	1092 17476	34952	Float	-3000...3200 ☐	Forcing the value for an analog input INP. Forcing involves the external operation of an input. The instrument takes over the value at this input like a measurement value (preset value for inputs from a superordinate system, e.g. for a function test.)
Step 0 To 29 By			512	1024			
Fail	r	base 1dP	1091 17475	34950	Enum	*Enum_Input*	Input circuit fault: faulty or incorrectly connected sensor.
Step 0 To 29 By			512	1024			

0	no error
1	Break of the input circuit. Possible remedy: Check connections, replace sensor.
2	Incorrect polarity of the input circuit. Possible remedy: Reverse the input connections.
3	Undefined state.
4	Input short circuit. Possible remedy: Check connections, replace sensor.

PV	r	base 1dP	1089 17473	34946	Float	-3000...3200 ☐	Measurement value after the measurement value correction (e.g. with offset or 2-point correction, and scaling).
Step 0 To 29 By			512	1024			
Xphys	r	base 1dP	1090 17474	34948	Float	-3000...3200 ☐	Measurement value before the measurement value correction (unprocessed).
Step 0 To 29 By			512	1024			

4 Lim1

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
Fcn.3	r/w	base	1284	35336	Enum	*Enum_Fcn*	Activation and adjustment of the limit value alarm (e.g. for input circuit monitoring), e.g. with/without storage.
		1dP	17668				
Step 0 To 29 By			512	1024			

0	No limit value monitoring.
1	measured value monitoring. The alarm signal is generated, if the limit is exceeded. If the measured value is within the limits (including hysteresis) again, this alarm signal is resetted.
2	Measured value monitoring + alarm status latch. An alarm signal is generated, if the limit is exceeded. A latched alarm signal remains latched until it is manually resetted.

Name	r/w	Adr.		real	Typ	Value/off	Description
Src.3	r/w	base	1285	35338	Enum	*Enum_Src_I*	Source for limit value. Selection of which value is to be monitored.
		1dP	17669				
Step 0 To 29 By			512	1024			

0	Process value = absolute alarm
1	control deviation xw (process value - set-point)
2	Control deviation Xw (= relative alarm) with suppression during start-up and setpoint changes.
4	effective set-point Weff
5	correcting variable y (controller output)
6	control variable deviation xw (process variable - setpoint internal) = relative alarm to SP internal, e. g. ramp or start-up circuit. Note: The SP internal is monitored, which is the target set-point of a ramp, not the changing effective SP.
7	Control deviation Xw (= relative alarm) with suppression during start-up and setpoint changes. Limit value monitoring is continued as soon as the control deviation comes within the alarm limits again, at the latest after 10 * Tn.

PArA

Name	r/w	Adr.		real	Typ	Value/off	Description
L.3	r/w	base	1289	35346	Float	-3000...3200 ☑	Lower limit value. The alarm is triggered if the value falls below the limit, and is reset with lower limit value plus hysteresis.
		1dP	17673				
Step 0 To 29 By			512	1024			
H.3	r/w	base	1290	35348	Float	-3000...3200 ☑	Upper limit value. The alarm is triggered if the value rises above the limit, and is reset with upper lower limit value plus hysteresis.
		1dP	17674				
Step 0 To 29 By			512	1024			
HYS.3	r/w	base	1291	35350	Float	0...3200 ☐	Hysteresis of the limit value. Switching difference for upper and lower limit value. The limit value must change by this amount (rise above upper limit or fall below lower limit) before the limit value alarm is reset.
		1dP	17675				
Step 0 To 29 By			512	1024			

4 Lim1

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
Lim 3	r	base 1dP	1293 17677	35354	Enum	*Enum_LimStatus*	Limit value status: No alarm present or stored.
Step 0 To 29 By			512	1024			

0	no alarm
1	latched alarm
2	A limit value has been exceeded.

5 Lim2

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
Fcn.3	r/w	base 1dP	1294 17678	35356	Enum	*Enum_Fcn*	Activation and adjustment of the limit value alarm (e.g. for input circuit monitoring), e.g. with/without storage.
Step 0 To 29 By			512	1024			

0	No limit value monitoring.
1	measured value monitoring. The alarm signal is generated, if the limit is exceeded. If the measured value is within the limits (including hysteresis) again, this alarm signal is resetted.
2	Measured value monitoring + alarm status latch. An alarm signal is generated, if the limit is exceeded. A latched alarm signal remains latched until it is manually resetted.

Src.3	r/w	base 1dP	1295 17679	35358	Enum	*Enum_Src_I*	Source for limit value. Selection of which value is to be monitored.
Step 0 To 29 By			512	1024			

0	Process value = absolute alarm
1	control deviation xw (process value - set-point)
2	Control deviation Xw (= relative alarm) with suppression during start-up and setpoint changes.
4	effective set-point Weff
5	correcting variable y (controller output)
6	control variable deviation xw (process variable - setpoint internal) = relative alarm to SP internal, e. g. ramp or start-up circuit. Note: The SP internal is monitored, which is the target set-point of a ramp, not the changing effective SP.
7	Control deviation Xw (= relative alarm) with suppression during start-up and setpoint changes. Limit value monitoring is continued as soon as the control deviation comes within the alarm limits again, at the latest after 10 * Tn.

PArA

Name	r/w	Adr.		real	Typ	Value/off	Description
L.3	r/w	base 1dP	1299 17683	35366	Float	-3000...3200 ☑	Lower limit value. The alarm is triggered if the value falls below the limit, and is reset with lower limit value plus hysteresis.
Step 0 To 29 By			512	1024			

5 Lim2

PArA

Name	r/w	Adr.		real	Typ	Value/off	Description
H.3	r/w	base 1dP	1300 17684	35368	Float	-3000...3200 ☑	Upper limit value. The alarm is triggered if the value rises above the limit, and is reset with upper lower limit value plus hysteresis.
Step 0 To 29 By			512	1024			
HYS.3	r/w	base 1dP	1301 17685	35370	Float	0...3200 ☐	Hysteresis of the limit value. Switching difference for upper and lower limit value. The limit value must change by this amount (rise above upper limit or fall below lower limit) before the limit value alarm is reset.
Step 0 To 29 By			512	1024			

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
Lim 3	r	base 1dP	1303 17687	35374	Enum	*Enum_LimStatus*	Limit value status: No alarm present or stored.
Step 0 To 29 By			512	1024			

0	no alarm
1	latched alarm
2	A limit value has been exceeded.

6 Lim3

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
Fcn.3	r/w	base 1dP	1304 17688	35376	Enum	*Enum_Fcn*	Activation and adjustment of the limit value alarm (e.g. for input circuit monitoring), e.g. with/without storage.
Step 0 To 29 By			512	1024			

0	No limit value monitoring.
1	measured value monitoring. The alarm signal is generated, if the limit is exceeded. If the measured value is within the limits (including hysteresis) again, this alarm signal is resetted.
2	Measured value monitoring + alarm status latch. An alarm signal is generated, if the limit is exceeded. A latched alarm signal remains latched until it is manually resetted.

6 Lim3

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
Src.3	r/w	base 1dP	1305 17689	35378	Enum	*Enum_Src_I*	Source for limit value. Selection of which value is to be monitored.
Step 0 To 29 By			512	1024			

0	Process value = absolute alarm
1	control deviation xw (process value - set-point)
2	Control deviation Xw (= relative alarm) with suppression during start-up and setpoint changes.
4	effective set-point Weff
5	correcting variable y (controller output)
6	control variable deviation xw (process variable - setpoint internal) = relative alarm to SP internal, e. g. ramp or start-up circuit. Note: The SP internal is monitored, which is the target set-point of a ramp, not the changing effective SP.
7	Control deviation Xw (= relative alarm) with suppression during start-up and setpoint changes. Limit value monitoring is continued as soon as the control deviation comes within the alarm limits again, at the latest after 10 * Tn.

PArA

Name	r/w	Adr.		real	Typ	Value/off		Description
L.3	r/w	base 1dP	1309 17693	35386	Float	-3000...3200	☑	Lower limit value. The alarm is triggered if the value falls below the limit, and is reset with lower limit value plus hysteresis.
Step 0 To 29 By			512	1024				
H.3	r/w	base 1dP	1310 17694	35388	Float	-3000...3200	☑	Upper limit value. The alarm is triggered if the value rises above the limit, and is reset with upper lower limit value plus hysteresis.
Step 0 To 29 By			512	1024				
HYS.3	r/w	base 1dP	1311 17695	35390	Float	0...3200	☐	Hysteresis of the limit value. Switching difference for upper and lower limit value. The limit value must change by this amount (rise above upper limit or fall below lower limit) before the limit value alarm is reset.
Step 0 To 29 By			512	1024				

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
Lim 3	r	base 1dP	1313 17697	35394	Enum	*Enum_LimStatus*	Limit value status: No alarm present or stored.
Step 0 To 29 By			512	1024			

0	no alarm
1	latched alarm
2	A limit value has been exceeded.

7 LOGI

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
SP.2	r/w	base 1dP	14843 17868	35736	Enum	*Enum_dInP_Var*	Source of the control signal for activating the second (safety) setpoint (SP.2=) W2. Note: W2 is not restricted by the setpoint limits.
Step 0 To 29 By			512	1024		0 no function (switch-over via interface is possible) 1 Switchover via the defined digital input.	
mAn	r/w	base 1dP	14863 17870	35740	Enum	*Enum_dInP_Var*	Source of the control signal for auto/manual switchover. In the automatic mode, the controller is in charge. In the manual mode, the outputs can be varied independently of the process.
Step 0 To 29 By			512	1024		0 no function (switch-over via interface is possible) 1 Switchover via the defined digital input.	
C.oFF	r/w	base 1dP	14873 17871	35742	Enum	*Enum_dInP_Var*	Source of the control signal for disabling all the controller outputs.Note: Forcing has priority, and remains active; alarm processing also remains active.
Step 0 To 29 By			512	1024		0 no function (switch-over via interface is possible) 1 Switchover via the defined digital input.	
booS	r/w	base 1dP	14893 17873	35746	Enum	*Enum_dInP_Var*	Source of the control signal for activating the boost function: The setpoint is increased by the value SP.bo for the duration t.bo. The boost function causes a brief setpoint increase, which is used to clear blocked channels from 'frozen' material in a hot runner system.
Step 0 To 29 By			512	1024		0 no function (switch-over via interface is possible) 1 Switchover via the defined digital input.	
Pid.2	r/w	base 1dP	14903 17874	35748	Enum	*Enum_dInP_Var*	Source of the control signal for switchover between the two parameter sets. The second parameter set is complete, and comprises Pb (= proportional band), ti (= integral action time), and td (= derivative action time) for heating and for cooling. All other control parameters, e.g. the switching duty cycles, are valid for both parameter sets.
Step 0 To 29 By			512	1024		0 no function (switch-over via interface is possible) 1 Switchover via the defined digital input.	
Err.r	r/w	base 1dP	14883 17872	35744	Enum	*Enum_dInP4*	Source of the control signal for resetting all stored entries in the error list (the list contains all error messages and alarms). If an alarm is still present, i.e. the source of trouble has not been remedied, stored alarms cannot be acknowledged (reset).
Step 0 To 29 By			512	1024		0 no function (switch-over via interface is possible)	
Y2	r/w	base 1dP	14853 17869	35738	Enum	*Enum_dInP4*	Source of the control signal for activating the second positioning output Y2. Activated Y2 = positioner control. Caution: The parameter 'positioning output Y2' must not be confused with the controller output Y2!
Step 0 To 29 By			512	1024		0 no function (switch-over via interface is possible)	

7 LOGI

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
A.Man	r/w	base	1496	35760	Int	0...1 ☐	Signal for activating manual operation. In the manual mode, the controller provides output signals independent of the process.
		1dP	17880				
Step 0 To 29 By			512	1024			
A.Res	r/w	base	1498	35764	Int	0...1 ☐	Signal for resetting the entire error list. The error list contains all errors that are reported, e.g. device faults and limit values. It also contains queued as well as stored errors after their correction. The reset acknowledges all errors, whereby queued errors will reappear after the next error detection (measurement).
		1dP	17882				
Step 0 To 29 By			512	1024			
A.Sig	r/w	base	1502	35772	Int	0...255 ☐	Summary of all control signals.
		1dP	17886				
Step 0 To 29 By			512	1024			

Bit 0 W/W2 0 = W; 1 = W2
Bit 1 Par1/2 0 = Param.1; 1 = Param.2
Bit 2 Coff 0 = On; 1 = Off
Bit 3 Boost 0 = Normal; 1 = Boost
Bit 4 A/M 0 = Automatic; 1 = Manual
Bit 5 Y/Y2 0 = Y; 1 = Y2
Bit 6 AlarmReset 0 = Normal; 1 = Reset

Boost	r/w	base	1500	35768	Int	0...1 ☐	Signal for activating the boost function. The boost function causes a brief setpoint increase, which is used e.g. to clear blocked channels ('frozen' material) in a hot-runner system.
		1dP	17884				
Step 0 To 29 By			512	1024			
C.Off	r/w	base	1497	35762	Int	0...1 ☐	Signal for disabling all the controller outputs. Note: Forcing has priority; alarm processing remains active.
		1dP	17881				
Step 0 To 29 By			512	1024			
C.Steuer	r/w	base	1503	35774	Int	0...65535 ☐	The control word contains the controller settings required by the user to determine the sequence of their activation, e.g. switchover after manual operation or start of the self-tuning function.
		1dP	17887				
Step 0 To 29 By			512	1024			

Bit 0 W/W2 0 = W; 1 = W2
Bit 1 Par1/2 0 = Param.1; 1 = Param.2
Bit 2 Coff 0 = On; 1 = Off
Bit 3 Boost 0 = Normal; 1 = Boost
Bit 4 A/M 0 = Automatic; 1 = Manual
Bit 5 Y/Y2 0 = Y; 1 = Y2
Bit 6 AlarmReset 0 = Normal; 1 = Reset
Bits 7 - 13 Not used
Bit 14 Start of self-tuning0 = Stop; 1 = Start
Bit 15 The controller's parameters have been changed by the self-tuning function.
0 = Not changed; 1 = Changed

7 LOGI

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
P.1_2	r/w	base	1501	35770	Int	0...1 ☐	Switch-over of parameter set. The 2nd parameter set contains one complete set each of Pb (= proportional band), ti (= integral action time), and td (= derivative action time) for heating and for cooling. All other control parameters, such as switching duty cycles, are valid for both parameter sets.
		1dP	17885				
Step 0 To 29 By			512	1024			
SP.SP2	r/w	base	1494	35756	Int	0...1 ☐	Signal for activating the second (safety) setpoint (SP.2= W2. Note: Setpoint W2 is not restricted by the setpoint limits!
		1dP	17878				
Step 0 To 29 By			512	1024			
Y.Y2	r/w	base	1495	35758	Int	0...1 ☐	Signal for activating the 2nd output value Y2. With selected Y2, the output is operated as a positioner.Caution: Do not confuse the parameter 'fixed output Y2' with the controller output Y2!
		1dP	17879				
Step 0 To 29 By			512	1024			

8 ohnE

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
FrEq	r/w	base	50	32868	Enum	*Enum_FrEq*	Switchover of the applied mains frequency 50 / 60 Hz, thereby better adaptation of the input filter for hum suppression.
		1dP	16434				
						0	Mains frequency is 50 Hz.
						1	Mains frequency is 60 Hz.

8 ohnE

• ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
M.SP2	r/w	base 5132870 1dP 16435		Enum	*Enum_Modul*	No. of the module that is used for switchover to the second (safety) setpoint SP2 (= W2). Note: W2 is not subjected to the adjusted setpoint limits

0	Not active
1	device
2	module 1
3	module 2
4	module 3
5	module 4
6	module 5
7	module 6
8	module 7
9	module 8
10	module 9
11	module 10
12	module 11
13	module 12
14	module 13
15	module 14
16	module 15
17	module 16
18	module 17
19	module 18
20	module 19
21	module 20

Name	r/w	Adr.	real	Typ	Value/off	Description
I.SP2	r/w	base 5232872 1dP 16436		Enum	*Enum_Input_Index*	Input of the selected module that is used for switchover to the second (safety) setpoint SP2 (= W2). Note: W2 is not subjected to the adjusted setpoint limits

0	not active
1	input 1
2	input 2
3	input 3
4	input 4
5	input 5
6	input 6
7	input 7
8	input 8
9	input 9
10	input 10
11	input 11
12	input 12
13	input 13
14	input 14
15	input 15
16	input 16

8 ohnE

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
Fn.SP2	r/w	base 53 1dP 16437	32874	Enum	*Enum_diFn*	Switching behaviour of the digital input for switchover of W/W2 (positive or negative edge / pulse). Switchover to the second (safety) setpoint W2.Note: W2 is not subjected to the adjusted setpoint limits.
					0	Basic setting 'Off': A permanent positive signal switches this function 'On', which is connected to the digital input. Removal of the signal switches the function 'Off' again.
					1	Basic setting 'On': A permanent positive signal switches this function 'Off', which is connected to the digital input. Removal of the signal switches the function 'On' again.
					2	Push-button function. Basic setting 'Off'. Only positive signals are effective. The first positive signal switches 'On'. Removal of the signal is necessary before the next positive signal can switch 'Off'.
f.SP2	r/w	base 54 1dP 16438	32876	Enum	*ENUM_ForingEnable*	Forcing of input for switchover to the second (safety) setpoint SP2 (= W2). Forcing involves the external operation of a controller input. The controller takes over this input value (preset value for controller inputs from a superordinate system, e.g. for a function test.) Note: W2 is not subjected to the adjusted setpoint limits
					0	No forcing. The value is read by the digital input.
					1	Forcing is active. The value for this input is provided by the external PLC.
M.Pid2	r/w	base 55 1dP 16439	32878	Enum	*Enum_Modul*	No. of the module that is used for parameter switchover The second parameter set contains all the necessary values for heating and cooling: Pb (= proportional band), ti (= integral action time) and td (= derivative action time). All other control parameters, such as switching duty cycles, are valid for both parameter sets.
					0	Not active
					1	device
					2	module 1
					3	module 2
					4	module 3
					5	module 4
					6	module 5
					7	module 6
					8	module 7
					9	module 8
					10	module 9
					11	module 10
					12	module 11
					13	module 12
					14	module 13
					15	module 14
					16	module 15
					17	module 16
					18	module 17
					19	module 18
					20	module 19
					21	module 20

8 ohnE

• ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
I.Pid2	r/w	base 1dP	56 16440	32880	Enum	*Enum_Input_Index*	Input of the selected module that is used for parameter switchover. The second parameter set contains all the necessary values for heating and cooling: Pb (= proportional band), ti (= integral action time) and td (= derivative action time). All other control parameters, such as switching duty cycles, are valid for both parameter sets.
						0 not active	
						1 input 1	
						2 input 2	
						3 input 3	
						4 input 4	
						5 input 5	
						6 input 6	
						7 input 7	
						8 input 8	
						9 input 9	
						10 input 10	
						11 input 11	
						12 input 12	
						13 input 13	
						14 input 14	
						15 input 15	
						16 input 16	
Fn.Pid2	r/w	base 1dP	57 16441	32882	Enum	*Enum_diFn*	Switching behaviour of the digital input for changing the parameter set (positive or negative edge / pulse). The second parameter set contains all the necessary values both for heating and cooling:Pb (= proportional band), ti (= integral action time) and td (= derivative action time). All other control parameters, such as switching duty cycles, are valid for both parameter sets.
						0 Basic setting 'Off': A permanent positive signal switches this function 'On', which is connected to the digital input. Removal of the signal switches the function 'Off' again.	
						1 Basic setting 'On': A permanent positive signal switches this function 'Off', which is connected to the digital input. Removal of the signal switches the function 'On' again.	
						2 Push-button function. Basic setting 'Off'. Only positive signals are effective. The first positive signal switches 'On'. Removal of the signal is necessary before the next positive signal can switch 'Off'.	
f.Pid2	r/w	base 1dP	58 16442	32884	Enum	*ENUM_ForingEnable*	Forcing of input for parameter switchover. The second parameter set contains all the necessary values for heating and cooling: Pb (= proportional band), ti (= integral action time) and td (= derivative action time). All other control parameters, such as switching duty cycles, are valid for both parameter sets. Forcing involves the external operation of a controller input. The controller takes over this input value (preset value for controller inputs from a superordinate system, e.g. for a function test.)
						0 No forcing. The value is read by the digital input.	
						1 Forcing is active. The value for this input is provided by the external PLC.	

8 ohnE

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
M.CoFF	r/w	base 1dP	59 16443	32886	Enum	*Enum_Modul*	Input of the selected module that is used to switch off th controller outputs. During start-up, all outputs are switched off.Note: Forcing has priority and remains active, alarm processing also remains active.

0	Not active
1	device
2	module 1
3	module 2
4	module 3
5	module 4
6	module 5
7	module 6
8	module 7
9	module 8
10	module 9
11	module 10
12	module 11
13	module 12
14	module 13
15	module 14
16	module 15
17	module 16
18	module 17
19	module 18
20	module 19
21	module 20

I.CoFF	r/w	base 1dP	60 16444	32888	Enum	*Enum_Input_Index*	Input of the selected module that is used to switch off th controller outputs. During start-up, all outputs are switched off.Note: Forcing has priority and remains active, alarm processing also remains active.

0	not active
1	input 1
2	input 2
3	input 3
4	input 4
5	input 5
6	input 6
7	input 7
8	input 8
9	input 9
10	input 10
11	input 11
12	input 12
13	input 13
14	input 14
15	input 15
16	input 16

8 ohnE

• ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
Fn.CoFF	r/w	base 1dP	61 16445	32890	Enum	*Enum_diFn*	Switching behaviour of the digital input for controller switch-off (positive or negative edge / pulse). If activated, all the outputs are switched off.Note: Forcing has priority and remains active, alarm processing also remains active.

0	Basic setting 'Off': A permanent positive signal switches this function 'On', which is connected to the digital input. Removal of the signal switches the function 'Off' again.
1	Basic setting 'On': A permanent positive signal switches this function 'Off', which is connected to the digital input. Removal of the signal switches the function 'On' again.
2	Push-button function. Basic setting 'Off'. Only positive signals are effective. The first positive signal switches 'On'. Removal of the signal is necessary before the next positive signal can switch 'Off'.

f.CoFF	r/w	base 1dP	62 16446	32892	Enum	*ENUM_ForingEnable*	Forcing of controller 'off' input. If activated, all controller outputs are switched off.Note: Forcing has priority and remains active; alarm processing also remains active. Forcing involves the external operation of a controller input. The controller takes over this input value (preset value for controller inputs from a superordinate system, e.g. for a function test.)

0	No forcing. The value is read by the digital input.
1	Forcing is active. The value for this input is provided by the external PLC.

M.booS	r/w	base 1dP	63 16447	32894	Enum	*Enum_Modul*	No. of the module that is used to activate the boost function. The boost function causes a brief setpoint increase, which is used e.g. to clear blocked channels ('frozen' material) in a hot-runner system.

0	Not active
1	device
2	module 1
3	module 2
4	module 3
5	module 4
6	module 5
7	module 6
8	module 7
9	module 8
10	module 9
11	module 10
12	module 11
13	module 12
14	module 13
15	module 14
16	module 15
17	module 16
18	module 17
19	module 18
20	module 19
21	module 20

8 ohnE

• ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
I.booS	r/w	base 1dP	64 16448	32896	Enum	*Enum_Input_Index*	Input of the selected module that is used to activate the boost function. The boost function causes a brief setpoint increase, which is used e.g. to clear blocked channels ('frozen' material) in a hot-runner system.

0	not active
1	input 1
2	input 2
3	input 3
4	input 4
5	input 5
6	input 6
7	input 7
8	input 8
9	input 9
10	input 10
11	input 11
12	input 12
13	input 13
14	input 14
15	input 15
16	input 16

Fn.booS	r/w	base 1dP	65 16449	32898	Enum	*Enum_diFn*	Switching behaviour of the digital input for activating the boost function (positive or negative edge / pulse). The boost function causes a brief setpoint increase, which is used e.g. to clear blocked channels ('frozen' material) in a hot-runner system.

0	Basic setting 'Off': A permanent positive signal switches this function 'On', which is connected to the digital input. Removal of the signal switches the function 'Off' again.
1	Basic setting 'On': A permanent positive signal switches this function 'Off', which is connected to the digital input. Removal of the signal switches the function 'On' again.
2	Push-button function. Basic setting 'Off'. Only positive signals are effective. The first positive signal switches 'On'. Removal of the signal is necessary before the next positive signal can switch 'Off'.

f.booS	r/w	base 1dP	66 16450	32900	Enum	*ENUM_ForingEnable*	Forcing of the boost function input. Forcing involves the external operation of a controller input. The controller takes over this input value (preset value for controller inputs from a superordinate system, e.g. for a function test.). The boost function causes a brief setpoint increase, which is used e.g. to clear blocked channels ('frozen' material) in a hot-runner system.

0	No forcing. The value is read by the digital input.
1	Forcing is active. The value for this input is provided by the external PLC.

8 ohnE

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
M.mAn	r/w	base 1dP	67 16451	32902	Enum	*Enum_Modul*	No. of the module that is used for switchover between manual and automatic modes. During automatic operation, the controller is in charge; with manual operation, the outputs are changed independently of the process value.

0	Not active
1	device
2	module 1
3	module 2
4	module 3
5	module 4
6	module 5
7	module 6
8	module 7
9	module 8
10	module 9
11	module 10
12	module 11
13	module 12
14	module 13
15	module 14
16	module 15
17	module 16
18	module 17
19	module 18
20	module 19
21	module 20

Name	r/w	Adr.		real	Typ	Value/off	Description
I.mAn	r/w	base 1dP	68 16452	32904	Enum	*Enum_Input_Index*	Input of the selected module that is used for switchover between manual and automatic modes. During automatic operation, the controller is in charge; with manual operation, the outputs are changed independently of the process value.

0	not active
1	input 1
2	input 2
3	input 3
4	input 4
5	input 5
6	input 6
7	input 7
8	input 8
9	input 9
10	input 10
11	input 11
12	input 12
13	input 13
14	input 14
15	input 15
16	input 16

8 ohnE

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
Fn.mAn	r/w	base 1dP	69 16453	32906	Enum	*Enum_diFn*	Switching behaviour of the digital input for auto/manual switchover (positive or negative edge / pulse). During automatic operation, the controller is in charge; with manual operation, the outputs are changed independently of the process value.
						0	Basic setting 'Off': A permanent positive signal switches this function 'On', which is connected to the digital input. Removal of the signal switches the function 'Off' again.
						1	Basic setting 'On': A permanent positive signal switches this function 'Off', which is connected to the digital input. Removal of the signal switches the function 'On' again.
						2	Push-button function. Basic setting 'Off'. Only positive signals are effective. The first positive signal switches 'On'. Removal of the signal is necessary before the next positive signal can switch 'Off'.
f.mAn	r/w	base 1dP	70 16454	32908	Enum	*ENUM_ForingEnable*	Forcing the input for auto/manual switchover. In the automatic mode, the controller is in charge, whilst in the manual mode the outputs are operated independently of the process. Forcing involves the external operation of a controller input. The controller takes over this input value (preset value for controller inputs from a superordinate system, e.g. for a function test.)
						0	No forcing. The value is read by the digital input.
						1	Forcing is active. The value for this input is provided by the external PLC.
InpModTk	r/w	base 1dP	260 16644	33288	Enum	*Enum_Modul*	Module that supplies the input signal for determining the CJC.
						0	Not active
						1	device
						2	module 1
						3	module 2
						4	module 3
						5	module 4
						6	module 5
						7	module 6
						8	module 7
						9	module 8
						10	module 9
						11	module 10
						12	module 11
						13	module 12
						14	module 13
						15	module 14
						16	module 15
						17	module 16
						18	module 17
						19	module 18
						20	module 19
						21	module 20

8 ohnE

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
InpIndTk	r/w	base 1dP	261 16645	33290	Enum	*Enum_Input_Index*	Selection of an input for the CJC in the device or module of the internal bus.

0	not active
1	input 1
2	input 2
3	input 3
4	input 4
5	input 5
6	input 6
7	input 7
8	input 8
9	input 9
10	input 10
11	input 11
12	input 12
13	input 13
14	input 14
15	input 15
16	input 16

8 ohnE

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
S.tYPTk	r/w	base 1dP	262 16646	33292	Enum	*Enum_StYP_I*	Selection of the connected sensor type or input signal, e.g. thermocouple type J. The input signals can be scaled.

0	thermocouple type L (-100...900°C, -148...1652°F), Fe-CuNi DIN
1	thermocouple type J (-100...1200°C, -148...2192°F), Fe-CuNi
2	thermocouple type K(-100...1350°C,-148...2462°F), NiCr-Ni
3	thermocouple type N (-100...1300°C, -148...2372°F), Nicrosil-Nisil
4	thermocouple type S (0...1760°C, 32...3200°F), PtRh-Pt10%
5	thermocouple type R (0...1760°C, 32...3200°F), PtRh-Pt13%
6	thermocouple type T (-200...400°C, -328...752°F), Cu-CuNi
7	thermocouple type C (0...2315°C, 32...4199°F), W5%Re-W26%Re
8	thermocouple type D (0...2315°C, 32...4199°F), W3%Re-W25%Re
9	thermocouple type E (-100...1000°C, -148...1832°F), NiCr-CuNi
10	thermocouple type B0/100...1820°C, 32/212...3308°F), PtRh-Pt6%
11	thermocouple type W (0...2315°C, 32...4199°F)
20	Pt100 (-200 ... 850°C, -140...1562°F)
21	Pt 1000 (-200...850°C, -328...1562°F)
22	Ni 100 (-60...180°C, -76...356°F)
23	Ni 1000 (-60...180°C, -76...356°F)
24	KTY81-110 (-55...150°C, -67...302°F)
25	KTY84 (-40...300°C, -104...572°F)
26	Resistance : 0...400 Ohms
27	Resistance : 0...450 Ohms
28	Resistance : 0...4000 Ohms
30	current : 0...20 mA
31	current : -20...20 mA
32	current : 4...20 mA
33	current : 0...40 mA
34	current : -40...40 mA
40	voltage : 0...5 V
41	voltage : -5...5 V
42	voltage : 0...10 V
43	voltage : -10...10 V
44	voltage : 0...25 V
45	voltage : -25...25 V
46	voltage : 0...50 V
47	Voltage : 0...70 mV
48	Voltage: -15...+85 mV

Name	r/w	Adr.		real	Typ	Value/off	Description
ForcingTk	r/w	base 1dP	263 16647	33294	Enum	*Enum_Forcing*	Activates forcing of the input. Forcing involves the external operation of an input. The instrument takes over this input value (preset value for inputs from a superordinate system, e.g. for a function test.)

0	No forcing. The value is read by the digital input.
1	Forcing is active, the value is written via serial interface.

8 ohnE

PArA

Name	r/w	Adr.		real	Typ	Value/off		Description
InLTk	r/w	base 1dP	267 16651	33302	Float	-3000...3200	☐	Input value of the lower scaling point for the external temperature compensation. Depending on sensor type, scaling of the display can be applied to the output value by means of the Parameter Level. Definition of the input value for the lower scaling point is done using the corresponding electrical value, e.g. 4 mA.
OuLTk	r/w	base 1dP	268 16652	33304	Float	-3000...3200	☑	Display value of the lower scaling point. Depending on sensor type, the input value can be scaled to the required display value in the Parameter Level. The operator can change the display value of the lower scaling point, e.g. 4 mA is displayed as 2 [pH].
InHTk	r/w	base 1dP	269 16653	33306	Float	-3000...3200	☐	Input value of the upper scaling point. Depending on sensor type, the input value can be scaled to the required display value in the Parameter Level. The display of the input value of the upper scaling point (e.g. 20 mA) is done using the corresponding electrical value.
OuHTk	r/w	base 1dP	270 16654	33308	Float	-3000...3200	☐	Display value of the upper scaling point. Depending on sensor type, the input value can be scaled to the required display value in the Parameter Level. The operator can change the display value of the upper scaling point, e.g. 20 mA is displayed as 12 [pH].
Conf	r/w	base 1dP	1 16385	32770	Int	0...2	☐	Start/Stop and abortion of the configuration mode 0 = End of configuration 1 = Start of configuration 2 = Abort configuration

Signal

Name	r/w	Adr.		real	Typ	Value/off		Description
CAH	r	base 1dP	390 16774	33548	Long	0...0	☐	Total operating hours. Count starts with the first switch-on. Internal test routine. Is stored and displayed not more than once per hour.
Diag	r	base 1dP	382 16766	33532	Int	0...0	☐	Result of diagnosis. Any faults detected during the self-test for data, RAM, processor, and EEPROM, as well as an exceeded count for the operating hours (maintenance period) and no. of switching cycles (maintenance period) are stored. Can be reset by acknowledgement.
DigEin	r	base 1dP	72 16456	32912	Int	0...31	☐	Bit-wise coded status of the digital inputs
								Bit 0 Status of W/W2 switchover Bit 1 Status of parameter switchover Bit 2 Status of controller disabling (Coff) Bit 3 Status of boost activation Bit 4 Status of auto/manual switchover
EE.Ver	r	base 1dP	381 16765	33530	Int	0...0	☐	EEPROM version

8 ohnE

Signal

Name	r/w	Adr.	real	Typ	Value/off	Description
ErrInterbu	r	base 1dP 387 16771	33542	Long	0...0 ☐	Fault counter of the InterBus.
ErrInternal	r	base 1dP 388 16772	33544	Long	0...0 ☐	Fault counter of the internal bus.
F.DigEin	r/w	base 1dP 71 16455	32910	Int	0...31 ☐	Forcing of digital inputs. Forcing involves the external operation of at least one input. The instrument takes over this input value (preset value for inputs from a superordinate system, e.g. for a function test.)

Bit 0 Forcing of W/W2 switchover
Bit 1 Forcing of parameter switchover
Bit 2 Forcing of controller disabling (Coff)
Bit 3 Forcing of boost activation
Bit 4 Forcing of auto/manual switchover

F.InpTk	r/w	base 1dP 278 16662	33324	Float	-3000...3200 ☐	Forcing of CJC input. Forcing involves the external operation of an input. The instrument takes over this input value (preset value for inputs from a superordinate system, e.g. for a function test.)
FailTk	r	base 1dP 277 16661	33322	Enum	*Enum_Input*	Nature of the fault at the CJC input.

0	no error
1	Break of the input circuit. Possible remedy: Check connections, replace sensor.
2	Incorrect polarity of the input circuit. Possible remedy: Reverse the input connections.
3	Undefined state.
4	Input short circuit. Possible remedy: Check connections, replace sensor.

GAda.S1	r/w	base 1dP 160 16544	33088	Enum	*Enum_GrpAdaStart*	For the purpose of Group self-tuning, a controller can be assigned to one of the four independently operating Groups. Within the Group, the zones with self-tuning during heating are all started together, followed by the zones with self-tuning during cooling. Zones with self-tuning at setpoint, and disabled zones are not coordinated.

0	'Stop' of the Group self-tuning causes the attempt to be aborted, and the controller returns to normal operation with the previous parameter settings.
1	All channels assigned to self-tuning during start-up are coordinated, i.e. they are delayed until every channel has reached a steady state (PIR = process at rest). There is not more than 1 cycle period between the first and the last start (max. 3200 s). With 3-point controllers there is an automatic second coordination for 'cooling'.

8 ohnE

• Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
GAda.S2	r/w	base 1dP	16133090 16545		Enum	*Enum_GrpAdaStart*	For the purpose of Group self-tuning, a controller can be assigned to one of the four independently operating Groups. Within the Group, the zones with self-tuning during heating are all started together, followed by the zones with self-tuning during cooling. Zones with self-tuning at setpoint, and disabled zones are not coordinated.
						0	'Stop' of the Group self-tuning causes the attempt to be aborted, and the controller returns to normal operation with the previous parameter settings.
						1	All channels assigned to self-tuning during start-up are coordinated, i.e. they are delayed until every channel has reached a steady state (PIR = process at rest). There is not more than 1 cycle period between the first and the last start (max. 3200 s). With 3-point controllers there is an automatic second coordination for 'cooling'.
GAda.S3	r/w	base 1dP	16233092 16546		Enum	*Enum_GrpAdaStart*	For the purpose of Group self-tuning, a controller can be assigned to one of the four independently operating Groups. Within the Group, the zones with self-tuning during heating are all started together, followed by the zones with self-tuning during cooling. Zones with self-tuning at setpoint, and disabled zones are not coordinated.
						0	'Stop' of the Group self-tuning causes the attempt to be aborted, and the controller returns to normal operation with the previous parameter settings.
						1	All channels assigned to self-tuning during start-up are coordinated, i.e. they are delayed until every channel has reached a steady state (PIR = process at rest). There is not more than 1 cycle period between the first and the last start (max. 3200 s). With 3-point controllers there is an automatic second coordination for 'cooling'.
GAda.S4	r/w	base 1dP	16333094 16547		Enum	*Enum_GrpAdaStart*	For the purpose of Group self-tuning, a controller can be assigned to one of the four independently operating Groups. Within the Group, the zones with self-tuning during heating are all started together, followed by the zones with self-tuning during cooling. Zones with self-tuning at setpoint, and disabled zones are not coordinated.
						0	'Stop' of the Group self-tuning causes the attempt to be aborted, and the controller returns to normal operation with the previous parameter settings.
						1	All channels assigned to self-tuning during start-up are coordinated, i.e. they are delayed until every channel has reached a steady state (PIR = process at rest). There is not more than 1 cycle period between the first and the last start (max. 3200 s). With 3-point controllers there is an automatic second coordination for 'cooling'.

8 ohnE

• Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
Hw.Op	r	base 1dP	200 16584	33168	Enum	*Enum_InpV*	Device hardware option 0000 0000 0000 0YXX X X = 2: Thermocouple input X X = 3: Resistive input Y = 0: 8 or 6-channel device Y = 1: 4-channel device
						2	VARIO T8/UTH: Basic unit with max. 30 control loops, 8 inputs for thermocouples, 8 outputs.
						3	VARIO T6/RTD: Basic unit with max. 30 control loops, 6 inputs for thermocouples, 6 outputs.
						6	VARIO T4/UTH: Basic unit with max. 4 control loops, 8 inputs for thermocouples, 8 outputs.
						7	VARIO T4/RTD: Basic unit with max. 4 control loops, 4 inputs for Pt 100, 6 outputs.
Id.NrH	r	base 1dP	370 16754	33508	Int	0...0 ☐	More significant part of the device Ident number.
Id.NrL	r	base 1dP	371 16755	33510	Int	0...0 ☐	Less significant part of the device Ident number.
Id.NrZ	r	base 1dP	372 16756	33512	Int	0...0 ☐	Sequential Ident number of the device.
Int.Tmp	r	base 1dP	380 16764	33528	Int	0...0 ☐	Max. measured operating temperature. Internal test routine.
O.Ver	r	base 1dP	202 16586	33172	Int	0...255 ☐	Operating version (numeric value). For the correct interaction of E-Tool and device, the software version and operating version must match.
Oem.NrH	r	base 1dP	373 16757	33514	Int	0...0 ☐	More significant part of the device OEM no.
Oem.NrL	r	base 1dP	374 16758	33516	Int	0...0 ☐	Less significant part of the device OEM no.
PVTk	r	base 1dP	275 16659	33318	Float	-3000...3200 ☐	Measurement value of CJC input, after measurement value correction, e.g. with offset or 2-point correction, and scaled.
S.Ver	r	base 1dP	201 16585	33170	Int	0...255 ☐	Software version XY Major and Minor Release (e.g. 21 = Version 2.1). The software version specifies the firmware in the unit. For the correct interaction of E-Tool and device, it must match the operating version (OpVersion) in the E-Tool.
Sub.Ver	r	base 1dP	204 16588	33176	Int	0...255 ☐	Software sub-version

8 ohnE

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
Sw.Nr	r	base 1dP	375 16759	33518	Int	0...0 ☐	Digits 7 to 12 of the software order number.
T.CodeNr	r	base 1dP	360 16744	33488	Text	0...2 ☐	15-digit order number of the device.
XphysTk	r	base 1dP	276 16660	33320	Float	-3000...3200 ☐	Measurement value (uncorrected) of CJC input, before measurement value correction, read directly from the input.

9 ohnE2

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
InpModP1	r/w	base 1dP	280 16664	33328	Enum	*Enum_Modul*	Module that supplies the input signal for outer conducto 1.

0	Not active
1	device
2	module 1
3	module 2
4	module 3
5	module 4
6	module 5
7	module 6
8	module 7
9	module 8
10	module 9
11	module 10
12	module 11
13	module 12
14	module 13
15	module 14
16	module 15
17	module 16
18	module 17
19	module 18
20	module 19
21	module 20

9 ohnE2

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
InpIndP1	r/w	base 1dP	281 16665	33330	Enum	*Enum_Input_Index*	Selection of an input for outer conductor 1 in the device or module of the internal bus.

0	not active
1	input 1
2	input 2
3	input 3
4	input 4
5	input 5
6	input 6
7	input 7
8	input 8
9	input 9
10	input 10
11	input 11
12	input 12
13	input 13
14	input 14
15	input 15
16	input 16

9 ohnE2

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
S.tYPP1	r/w	base 282 1dP 16666	33332	Enum	*Enum_StYP_I*	Selection of the connected sensor type or input signal, e.g. thermocouple type J. The input signals can be scaled.

0	thermocouple type L (-100...900°C, -148...1652°F), Fe-CuNi DIN
1	thermocouple type J (-100...1200°C, -148...2192°F), Fe-CuNi
2	thermocouple type K(-100...1350°C,-148...2462°F), NiCr-Ni
3	thermocouple type N (-100...1300°C, -148...2372°F), Nicrosil-Nisil
4	thermocouple type S (0...1760°C, 32...3200°F), PtRh-Pt10%
5	thermocouple type R (0...1760°C, 32...3200°F), PtRh-Pt13%
6	thermocouple type T (-200...400°C, -328...752°F), Cu-CuNi
7	thermocouple type C (0...2315°C, 32...4199°F), W5%Re-W26%Re
8	thermocouple type D (0...2315°C, 32...4199°F), W3%Re-W25%Re
9	thermocouple type E (-100...1000°C, -148...1832°F), NiCr-CuNi
10	thermocouple type B0/100...1820°C, 32/212...3308°F), PtRh-Pt6%
11	thermocouple type W (0...2315°C, 32...4199°F)
20	Pt100 (-200 ... 850°C, -140...1562°F)
21	Pt 1000 (-200...850°C, -328...1562°F)
22	Ni 100 (-60...180°C, -76...356°F)
23	Ni 1000 (-60...180°C, -76...356°F)
24	KTY81-110 (-55...150°C, -67...302°F)
25	KTY84 (-40...300°C, -104...572°F)
26	Resistance : 0...400 Ohms
27	Resistance : 0...450 Ohms
28	Resistance : 0...4000 Ohms
30	current : 0...20 mA
31	current : -20...20 mA
32	current : 4...20 mA
33	current : 0...40 mA
34	current : -40...40 mA
40	voltage : 0...5 V
41	voltage : -5...5 V
42	voltage : 0...10 V
43	voltage : -10...10 V
44	voltage : 0...25 V
45	voltage : -25...25 V
46	voltage : 0...50 V
47	Voltage : 0...70 mV
48	Voltage: -15...+85 mV

ForcingP1	r/w	base 283 1dP 16667	33334	Enum	*Enum_Forcing*	Activates forcing of the input. Forcing involves the external operation of an input. The instrument takes over this input value (preset value for inputs from a superordinate system, e.g. for a function test.)

0	No forcing. The value is read by the digital input.
1	Forcing is active, the value is written via serial interface.

9 ohnE2

PArA

Name	r/w	Adr.		real	Typ	Value/off		Description
InLP1	r/w	base 1dP	287 16671	33342	Float	-3000...3200	☐	Input value of the lower scaling point. Depending on sensor type, the input value can be scaled to the required display value in the Parameter Level. The display of the input value of the lower scaling point (e.g 4 mA) is done using the corresponding electrical value.
OuLP1	r/w	base 1dP	288 16672	33344	Float	-3000...3200	☑	Display value of the lower scaling point. Depending on sensor type, the input value can be scaled to the required display value in the Parameter Level. The operator can change the display value of the lower scaling point, e.g. 4 mA is displayed as 2 [pH].
InHP1	r/w	base 1dP	289 16673	33346	Float	-3000...3200	☐	Input value of the upper scaling point. Depending on sensor type, the input value can be scaled to the required display value in the Parameter Level. The display of the input value of the upper scaling point (e.g. 20 mA) is done using the corresponding electrical value.
OuHP1	r/w	base 1dP	290 16674	33348	Float	-3000...3200	☐	Display value of the upper scaling point. Depending on sensor type, the input value can be scaled to the required display value in the Parameter Level. The operator can change the display value of the upper scaling point, e.g. 20 mA is displayed as 12 [pH].

Signal

Name	r/w	Adr.		real	Typ	Value/off		Description
F.InpP1	r/w	base 1dP	298 16682	33364	Float	-3000...3200	☐	Forcing of Input P1. Forcing involves the external operation of an input. The instrument takes over this input value (preset value for inputs from a superordinate system, e.g. for a function test.)
FailP1	r	base 1dP	297 16681	33362	Enum	*Enum_Input*		Nature of the fault at input P1.

0	no error
1	Break of the input circuit. Possible remedy: Check connections, replace sensor.
2	Incorrect polarity of the input circuit. Possible remedy: Reverse the input connections.
3	Undefined state.
4	Input short circuit. Possible remedy: Check connections, replace sensor.

PVP1	r	base 1dP	295 16679	33358	Float	-3000...3200	☐	Measurement value for phase conductor 1, after measurement value correction, e.g. with offset or 2-poin correction, and scaled.
XphysP1	r	base 1dP	296 16680	33360	Float	-3000...3200	☐	Measurement value of Input P1, before measurement value correction, read directly from the input.

10 ohnE3

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
InpModP2	r/w	base 1dP	300 16684	33368	Enum	*Enum_Modul*	Module that supplies the input signal for outer conductor 2.

0	Not active
1	device
2	module 1
3	module 2
4	module 3
5	module 4
6	module 5
7	module 6
8	module 7
9	module 8
10	module 9
11	module 10
12	module 11
13	module 12
14	module 13
15	module 14
16	module 15
17	module 16
18	module 17
19	module 18
20	module 19
21	module 20

InpIndP2	r/w	base 1dP	301 16685	33370	Enum	*Enum_Input_Index*	Selection of an input for phase conductor 2 in the device or module of the internal bus.

0	not active
1	input 1
2	input 2
3	input 3
4	input 4
5	input 5
6	input 6
7	input 7
8	input 8
9	input 9
10	input 10
11	input 11
12	input 12
13	input 13
14	input 14
15	input 15
16	input 16

10 ohnE3

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
S.tYPP2	r/w	base 1dP	302 16686	33372	Enum	*Enum_StYP_I*	Selection of the connected sensor type or input signal, e.g. thermocouple type J. The input signals can be scaled.

0	thermocouple type L (-100...900°C, -148...1652°F), Fe-CuNi DIN
1	thermocouple type J (-100...1200°C, -148...2192°F), Fe-CuNi
2	thermocouple type K(-100...1350°C,-148...2462°F), NiCr-Ni
3	thermocouple type N (-100...1300°C, -148...2372°F), Nicrosil-Nisil
4	thermocouple type S (0...1760°C, 32...3200°F), PtRh-Pt10%
5	thermocouple type R (0...1760°C, 32...3200°F), PtRh-Pt13%
6	thermocouple type T (-200...400°C, -328...752°F), Cu-CuNi
7	thermocouple type C (0...2315°C, 32...4199°F), W5%Re-W26%Re
8	thermocouple type D (0...2315°C, 32...4199°F), W3%Re-W25%Re
9	thermocouple type E (-100...1000°C, -148...1832°F), NiCr-CuNi
10	thermocouple type B0/100...1820°C, 32/212...3308°F), PtRh-Pt6%
11	thermocouple type W (0...2315°C, 32...4199°F)
20	Pt100 (-200 ... 850°C, -140...1562°F)
21	Pt 1000 (-200...850°C, -328...1562°F)
22	Ni 100 (-60...180°C, -76...356°F)
23	Ni 1000 (-60...180°C, -76...356°F)
24	KTY81-110 (-55...150°C, -67...302°F)
25	KTY84 (-40...300°C, -104...572°F)
26	Resistance : 0...400 Ohms
27	Resistance : 0...450 Ohms
28	Resistance : 0...4000 Ohms
30	current : 0...20 mA
31	current : -20...20 mA
32	current : 4...20 mA
33	current : 0...40 mA
34	current : -40...40 mA
40	voltage : 0...5 V
41	voltage : -5...5 V
42	voltage : 0...10 V
43	voltage : -10...10 V
44	voltage : 0...25 V
45	voltage : -25...25 V
46	voltage : 0...50 V
47	Voltage : 0...70 mV
48	Voltage: -15...+85 mV

Name	r/w	Adr.		real	Typ	Value/off	Description
ForcingP2	r/w	base 1dP	303 16687	33374	Enum	*Enum_Forcing*	Activates forcing of the input. Forcing involves the external operation of an input. The instrument takes over this input value (preset value for inputs from a superordinate system, e.g. for a function test.)

0	No forcing. The value is read by the digital input.
1	Forcing is active, the value is written via serial interface.

10 ohnE3

PArA

Name	r/w	Adr.		real	Typ	Value/off		Description
InLP2	r/w	base 1dP	307 16691	33382	Float	-3000...3200	☐	Input value of the lower scaling point. Depending on sensor type, the input value can be scaled to the required display value in the Parameter Level. The display of the input value of the lower scaling point (e.g 4 mA) is done using the corresponding electrical value.
OuLP2	r/w	base 1dP	308 16692	33384	Float	-3000...3200	☑	Display value of the lower scaling point. Depending on sensor type, the input value can be scaled to the required display value in the Parameter Level. The operator can change the display value of the lower scaling point, e.g. 4 mA is displayed as 2 [pH].
InHP2	r/w	base 1dP	309 16693	33386	Float	-3000...3200	☐	Input value of the upper scaling point. Depending on sensor type, the input value can be scaled to the required display value in the Parameter Level. The display of the input value of the upper scaling point (e.g. 20 mA) is done using the corresponding electrical value.
OuHP2	r/w	base 1dP	310 16694	33388	Float	-3000...3200	☐	Display value of the upper scaling point. Depending on sensor type, the input value can be scaled to the required display value in the Parameter Level. The operator can change the display value of the upper scaling point, e.g. 20 mA is displayed as 12 [pH].

Signal

Name	r/w	Adr.		real	Typ	Value/off		Description
F.InpP2	r/w	base 1dP	318 16702	33404	Float	-3000...3200	☐	Forcing of Input P2. Forcing involves the external operation of an input. The instrument takes over this input value (preset value for inputs from a superordinate system, e.g. for a function test.)
FailP2	r	base 1dP	317 16701	33402	Enum	*Enum_Input*		Nature of the fault at input P2.

0	no error
1	Break of the input circuit. Possible remedy: Check connections, replace sensor.
2	Incorrect polarity of the input circuit. Possible remedy: Reverse the input connections.
3	Undefined state.
4	Input short circuit. Possible remedy: Check connections, replace sensor.

PVP2	r	base 1dP	315 16699	33398	Float	-3000...3200	☐	Measurement value for phase conductor 2, after measurement value correction, e.g. with offset or 2-poin correction, and scaled.
XphysP2	r	base 1dP	316 16700	33400	Float	-3000...3200	☐	Measurement value (uncorrected) of Input P2, before measurement value correction, read directly from the input.

11 ohnE4

• ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
S.tYPP3	r/w	base 1dP	322 16706	33412	Enum	*Enum_StYP_I*	Selection of the connected sensor type or input signal, e.g. thermocouple type J. The input signals can be scaled.

0	thermocouple type L (-100...900°C, -148...1652°F), Fe-CuNi DIN
1	thermocouple type J (-100...1200°C, -148...2192°F), Fe-CuNi
2	thermocouple type K(-100...1350°C,-148...2462°F), NiCr-Ni
3	thermocouple type N (-100...1300°C, -148...2372°F), Nicrosil-Nisil
4	thermocouple type S (0...1760°C, 32...3200°F), PtRh-Pt10%
5	thermocouple type R (0...1760°C, 32...3200°F), PtRh-Pt13%
6	thermocouple type T (-200...400°C, -328...752°F), Cu-CuNi
7	thermocouple type C (0...2315°C, 32...4199°F), W5%Re-W26%Re
8	thermocouple type D (0...2315°C, 32...4199°F), W3%Re-W25%Re
9	thermocouple type E (-100...1000°C, -148...1832°F), NiCr-CuNi
10	thermocouple type B0/100...1820°C, 32/212...3308°F), PtRh-Pt6%
11	thermocouple type W (0...2315°C, 32...4199°F)
20	Pt100 (-200 ... 850°C, -140...1562°F)
21	Pt 1000 (-200...850°C, -328...1562°F)
22	Ni 100 (-60...180°C, -76...356°F)
23	Ni 1000 (-60...180°C, -76...356°F)
24	KTY81-110 (-55...150°C, -67...302°F)
25	KTY84 (-40...300°C, -104...572°F)
26	Resistance : 0...400 Ohms
27	Resistance : 0...450 Ohms
28	Resistance : 0...4000 Ohms
30	current : 0...20 mA
31	current : -20...20 mA
32	current : 4...20 mA
33	current : 0...40 mA
34	current : -40...40 mA
40	voltage : 0...5 V
41	voltage : -5...5 V
42	voltage : 0...10 V
43	voltage : -10...10 V
44	voltage : 0...25 V
45	voltage : -25...25 V
46	voltage : 0...50 V
47	Voltage : 0...70 mV
48	Voltage: -15...+85 mV

ForcingP3	r/w	base 1dP	323 16707	33414	Enum	*Enum_Forcing*	Activates forcing of the input. Forcing involves the external operation of an input. The instrument takes over this input value (preset value for inputs from a superordinate system, e.g. for a function test.)

0	No forcing. The value is read by the digital input.
1	Forcing is active, the value is written via serial interface.

11 ohnE4

PArA

Name	r/w	Adr.		real	Typ	Value/off	Description
InLP3	r/w	base 1dP	327 16711	33422	Float	-3000...3200 ☐	Input value of the lower scaling point. Depending on sensor type, the input value can be scaled to the required display value in the Parameter Level. The display of the input value of the lower scaling point (e.g 4 mA) is done using the corresponding electrical value.
OuLP3	r/w	base 1dP	328 16712	33424	Float	-3000...3200 ☑	Display value of the lower scaling point. Depending on sensor type, the input value can be scaled to the required display value in the Parameter Level. The operator can change the display value of the lower scaling point, e.g. 4 mA is displayed as 2 [pH].
InHP3	r/w	base 1dP	329 16713	33426	Float	-3000...3200 ☐	Input value of the upper scaling point. Depending on sensor type, the input value can be scaled to the required display value in the Parameter Level. The display of the input value of the upper scaling point (e.g. 20 mA) is done using the corresponding electrical value.
OuHP3	r/w	base 1dP	330 16714	33428	Float	-3000...3200 ☐	Display value of the upper scaling point. Depending on sensor type, the input value can be scaled to the required display value in the Parameter Level. The operator can change the display value of the upper scaling point, e.g. 20 mA is displayed as 12 [pH].

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
F.InpP3	r/w	base 1dP	338 16722	33444	Float	-3000...3200 ☐	Forcing of Input P3. Forcing involves the external operation of an input. The instrument takes over this input value (preset value for inputs from a superordinate system, e.g. for a function test.)
FailP3	r	base 1dP	337 16721	33442	Enum	*Enum_Input*	Nature of the fault at input P3.

0	no error
1	Break of the input circuit. Possible remedy: Check connections, replace sensor.
2	Incorrect polarity of the input circuit. Possible remedy: Reverse the input connections.
3	Undefined state.
4	Input short circuit. Possible remedy: Check connections, replace sensor.

PVP3	r	base 1dP	335 16719	33438	Float	-3000...3200 ☐	Measurement value for phase conductor 3, after measurement value correction, e.g. with offset or 2-poin correction, and scaled.
XphysP3	r	base 1dP	336 16720	33440	Float	-3000...3200 ☐	Measurement value (uncorrected) of Input P3, before measurement value correction, read directly from the input.

12 othr

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
StMod	r/w	base 13 1dP 16397	32794	Enum	*Enum_PowerOnControlOff*	This datum must be set, if it is necessary that the controllers are switched off after power-up. The controllers must then be activated via the interface.
					0 Controller outputs are not disabled on power-up; the previous state (before power off) is maintained.	
					1 Controller outputs are disabled on power-up.	
Unit	r/w	base 12 1dP 16396	32792	Enum	*Enum_Unit*	Physical unit (temperature), f.e.°C
					0 without unit	
					1 °C	
					2 °F	
U.norm	r/w	base 73 1dP 16457	32914	Int	1...32000 ☑	The nominal supply voltage is required for voltage compensation by the heating current monitor. It is the supply voltage for the heater(s), usually 230 V in Europe. If the compensating function is activated the nominal voltage value defines the compensating amount to ensure the standardized heating power. This means that the indicated heating current only corresponds to the real heating current, if the supply voltage is the same as the nominal voltage.
Addr	r/w	base 170 1dP 16554	33108	Int	1...247 ☐	Address on the field bus interface Modbus 1 ... 247 PROFIBUS 1 ... 126 DeviceNet 0 ... 63 CANopen 1 ... 127
bAud	r/w	base 171 1dP 16555	33110	Enum	*Enum_Baud*	Bit rate of the interface (only visible with OPTION). The bit rate determines the transmission speed.
					0 2400 Baud	
					1 4800 Baud	
					2 9600 Baud	
					3 19200 Baud	
					4 38.400 bits/s	
EthAdr.HH	r/w	base 175 1dP 16559	33118	Int	0...255 ☐	Ethernet address HH The address is a combination of the elements HH.H.L.LL
EthAdr.H	r/w	base 176 1dP 16560	33120	Int	0...255 ☐	Ethernet address H The address is a combination of the elements HH.H.L.LL
PrtY	r/w	base 172 1dP 16556	33112	Enum	*Enum_Parity*	Parity of data on the interface (only visible with OPTION). Simple possibility of checking that transferred data is correct.
					0 No parity, with 2 stop bits.	
					1 even parity	
					2 odd parity	
					3 no parity (1 stop bit)	

12 othr

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
C.dEL	r/w	base 174 1dP 16558	33116	Int	0...200 ☐	For both interfaces, Modbus only. Additional acceptable delay time between 2 received bytes, before "end of message" is assumed. This time is needed if data is not transmitted continousely by the modem.
EthAdr.L	r/w	base 177 1dP 16561	33122	Int	0...255 ☐	Ethernet address net L The address is a combination of the elements HH.H.L.LL
dELY	r/w	base 173 1dP 16557	33114	Int	0...200 ☐	Response delay [ms] (only visible with OPTION). Additional delay time before the received message may be answered on the Modbus. (Might be necessary, if the same line is used for transmit/receive.)
EthAdr.LL	r/w	base 178 1dP 16562	33124	Int	0...255 ☐	Ethernet address net LL The address is a combination of the elements HH.H.L.LL
SubNet.H	r/w	base 179 1dP 16563	33126	Int	0...255 ☐	Ethernet SubNet mask HH The mask is a combination of the elements HH.H.L.LL
HW.Vers	r	base 205 1dP 16589	33178	Int	0...32000 ☐	Hardware identification: is entered via FU mode. 'Read only' via Modbus or InterBus.
SubNet.H	r/w	base 180 1dP 16564	33128	Int	0...255 ☐	Ethernet SubNet mask H The mask is a combination of the elements HH.H.L.LL
SubNet.L	r/w	base 181 1dP 16565	33130	Int	0...255 ☐	Ethernet SubNet mask L The mask is a combination of the elements HH.H.L.LL
SubNet.LL	r/w	base 182 1dP 16566	33132	Int	0...255 ☐	Ethernet SubNet mask LL The mask is a combination of the elements HH.H.L.LL

12 othr

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
I.MasMod	r/w	base 15 1dP 16399	32798	Enum	*ENUM_IntMastMod*	Selection of the device on the internal bus (assignment of which module is plugged into this bus socket, e.g. input module VARIO DI 4/24. The modules must be in an uninterrupted sequence, and the assignment must correspond to the actual socket.

0	No further module on internal bus
1	VARIO DI 2/24 Vario digital input module, 2 digital inputs, 24 V DC, 4-wire connection
2	VARIO DI 4/24 Vario digital input module, 4 digital inputs, 24 V DC, 3-wire connection
3	VARIO DI 8/24 Vario digital input module, 8 digital inputs, 24 V DC, 4-wire connection
4	VARIO DI 16/24 Vario digital input module, 16 digital inputs, 24 V DC, 3-wire connection
10	VARIO DO 2/24 Vario digital output module, 2 digital outputs, 24 V DC, 500 mA, 4-wire connection
11	VARIO DO 4/24 Vario digital output module, 4 digital outputs, 24 V DC, 500 mA, 3-wire connection
12	VARIO DO 8/24 Vario digital output module, 8 digital outputs, 24 V DC, 500 mA, 4-wire connection
13	VARIO DO 16/24 Vario digital output module, 16 digital outputs, 24 V DC, 500 mA, 3-wire connection
14	VARIO DO 1/230 Vario relay output module, 1 relay output, gold plated change-over contact, 5...253 V AC, 3 A
15	VARIO DO 4/230 Vario relay output module, 4 relay outputs, gold plated change-over contact, 5...253 V AC, 3 A
20	VARIO AI 2/SF Vario analog input module, 2 analog inputs (current / voltage), 2-wire connection
21	VARIO AI 8/SF Vario analog input module, 8 analog inputs (current / voltage), 2-wire connection
22	VARIO UTH 2 Vario analog input module, 2 analog inputs (thermocouples), 2-wire connection
23	VARIO RTD 2 Vario analog input module, 2 analog inputs (resistive sensors), 2-, 3-, 4-wire connection
30	VARIO AO 1/SF Vario analog output module, 1 analog output (current / voltage), 2-wire connection
31	VARIO AO 2/U/BP Vario analog output module, 2 analog outputs (voltage), 2-wire connection
40	VARIO RTD 6 - DO 6 Vario I/O module, 6 inputs for resistance thermometers, 3-wire connection + screen, 6 outputs 24 V DC, 1 heating current sum input
41	VARIO UTH 8 - DO 8 Vario I/O module, 8 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input
42	VARIO UTH 4 - DO 8 Vario I/O module, 4 inputs for thermocouples, 2-wire connection +

12 othr

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
					60	VARIO RM TX branch module for connecting remote I/O
					61	VARIO RM BK bus coupler module for connecting remote I/O

12 othr

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
I.MasMod	r/w	base 1dP	16 16400	32800	Enum	*ENUM_IntMastMod*	Selection of the device on the internal bus (assignment of which module is plugged into this bus socket, e.g. input module with 4 digital inputs. The modules must be in an uninterrupted sequence, and the assignment must correspond to the actual socket.

0	No further module on internal bus
1	VARIO DI 2/24 Vario digital input module, 2 digital inputs, 24 V DC, 4-wire connection
2	VARIO DI 4/24 Vario digital input module, 4 digital inputs, 24 V DC, 3-wire connection
3	VARIO DI 8/24 Vario digital input module, 8 digital inputs, 24 V DC, 4-wire connection
4	VARIO DI 16/24 Vario digital input module, 16 digital inputs, 24 V DC, 3-wire connection
10	VARIO DO 2/24 Vario digital output module, 2 digital outputs, 24 V DC, 500 mA, 4-wire connection
11	VARIO DO 4/24 Vario digital output module, 4 digital outputs, 24 V DC, 500 mA, 3-wire connection
12	VARIO DO 8/24 Vario digital output module, 8 digital outputs, 24 V DC, 500 mA, 4-wire connection
13	VARIO DO 16/24 Vario digital output module, 16 digital outputs, 24 V DC, 500 mA, 3-wire connection
14	VARIO DO 1/230 Vario relay output module, 1 relay output, gold plated change-over contact, 5...253 V AC, 3 A
15	VARIO DO 4/230 Vario relay output module, 4 relay outputs, gold plated change-over contact, 5...253 V AC, 3 A
20	VARIO AI 2/SF Vario analog input module, 2 analog inputs (current / voltage), 2-wire connection
21	VARIO AI 8/SF Vario analog input module, 8 analog inputs (current / voltage), 2-wire connection
22	VARIO UTH 2 Vario analog input module, 2 analog inputs (thermocouples), 2-wire connection
23	VARIO RTD 2 Vario analog input module, 2 analog inputs (resistive sensors), 2-, 3-, 4-wire connection
30	VARIO AO 1/SF Vario analog output module, 1 analog output (current / voltage), 2-wire connection
31	VARIO AO 2/U/BP Vario analog output module, 2 analog outputs (voltage), 2-wire connection
40	VARIO RTD 6 - DO 6 Vario I/O module, 6 inputs for resistance thermometers, 3-wire connection + screen, 6 outputs 24 V DC, 1 heating current sum input
41	VARIO UTH 8 - DO 8 Vario I/O module, 8 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input

12 othr

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
					42	VARIO UTH 4 - DO 8 Vario I/O module, 4 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input
					50	remote I/O module, custom made, with 8 digital 230V inputs and 8 relay outputs
					60	VARIO RM TX branch module for connecting remote I/O
					61	VARIO RM BK bus coupler module for connecting remote I/O

12 othr

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
I.MasMod	r/w	base 1dP	17 16401	32802	Enum	*ENUM_IntMastMod*	Selection of the device on the internal bus (assignment of which module is plugged into this bus socket, e.g. input module with 4 digital inputs. The modules must be in an uninterrupted sequence, and the assignment must correspond to the actual socket.

0	No further module on internal bus
1	VARIO DI 2/24 Vario digital input module, 2 digital inputs, 24 V DC, 4-wire connection
2	VARIO DI 4/24 Vario digital input module, 4 digital inputs, 24 V DC, 3-wire connection
3	VARIO DI 8/24 Vario digital input module, 8 digital inputs, 24 V DC, 4-wire connection
4	VARIO DI 16/24 Vario digital input module, 16 digital inputs, 24 V DC, 3-wire connection
10	VARIO DO 2/24 Vario digital output module, 2 digital outputs, 24 V DC, 500 mA, 4-wire connection
11	VARIO DO 4/24 Vario digital output module, 4 digital outputs, 24 V DC, 500 mA, 3-wire connection
12	VARIO DO 8/24 Vario digital output module, 8 digital outputs, 24 V DC, 500 mA, 4-wire connection
13	VARIO DO 16/24 Vario digital output module, 16 digital outputs, 24 V DC, 500 mA, 3-wire connection
14	VARIO DO 1/230 Vario relay output module, 1 relay output, gold plated change-over contact, 5...253 V AC, 3 A
15	VARIO DO 4/230 Vario relay output module, 4 relay outputs, gold plated change-over contact, 5...253 V AC, 3 A
20	VARIO AI 2/SF Vario analog input module, 2 analog inputs (current / voltage), 2-wire connection
21	VARIO AI 8/SF Vario analog input module, 8 analog inputs (current / voltage), 2-wire connection
22	VARIO UTH 2 Vario analog input module, 2 analog inputs (thermocouples), 2-wire connection
23	VARIO RTD 2 Vario analog input module, 2 analog inputs (resistive sensors), 2-, 3-, 4-wire connection
30	VARIO AO 1/SF Vario analog output module, 1 analog output (current / voltage), 2-wire connection
31	VARIO AO 2/U/BP Vario analog output module, 2 analog outputs (voltage), 2-wire connection
40	VARIO RTD 6 - DO 6 Vario I/O module, 6 inputs for resistance thermometers, 3-wire connection + screen, 6 outputs 24 V DC, 1 heating current sum input
41	VARIO UTH 8 - DO 8 Vario I/O module, 8 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input

12 othr

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
					42	VARIO UTH 4 - DO 8 Vario I/O module, 4 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input
					50	remote I/O module, custom made, with 8 digital 230V inputs and 8 relay outputs
					60	VARIO RM TX branch module for connecting remote I/O
					61	VARIO RM BK bus coupler module for connecting remote I/O

12 othr

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
I.MasMod	r/w	base 1dP	18 16402	32804	Enum	*ENUM_IntMastMod*	Selection of the device on the internal bus (assignment of which module is plugged into this bus socket, e.g. input module with 4 digital inputs. The modules must be in an uninterrupted sequence, and the assignment must correspond to the actual socket.

0	No further module on internal bus
1	VARIO DI 2/24 Vario digital input module, 2 digital inputs, 24 V DC, 4-wire connection
2	VARIO DI 4/24 Vario digital input module, 4 digital inputs, 24 V DC, 3-wire connection
3	VARIO DI 8/24 Vario digital input module, 8 digital inputs, 24 V DC, 4-wire connection
4	VARIO DI 16/24 Vario digital input module, 16 digital inputs, 24 V DC, 3-wire connection
10	VARIO DO 2/24 Vario digital output module, 2 digital outputs, 24 V DC, 500 mA, 4-wire connection
11	VARIO DO 4/24 Vario digital output module, 4 digital outputs, 24 V DC, 500 mA, 3-wire connection
12	VARIO DO 8/24 Vario digital output module, 8 digital outputs, 24 V DC, 500 mA, 4-wire connection
13	VARIO DO 16/24 Vario digital output module, 16 digital outputs, 24 V DC, 500 mA, 3-wire connection
14	VARIO DO 1/230 Vario relay output module, 1 relay output, gold plated change-over contact, 5...253 V AC, 3 A
15	VARIO DO 4/230 Vario relay output module, 4 relay outputs, gold plated change-over contact, 5...253 V AC, 3 A
20	VARIO AI 2/SF Vario analog input module, 2 analog inputs (current / voltage), 2-wire connection
21	VARIO AI 8/SF Vario analog input module, 8 analog inputs (current / voltage), 2-wire connection
22	VARIO UTH 2 Vario analog input module, 2 analog inputs (thermocouples), 2-wire connection
23	VARIO RTD 2 Vario analog input module, 2 analog inputs (resistive sensors), 2-, 3-, 4-wire connection
30	VARIO AO 1/SF Vario analog output module, 1 analog output (current / voltage), 2-wire connection
31	VARIO AO 2/U/BP Vario analog output module, 2 analog outputs (voltage), 2-wire connection
40	VARIO RTD 6 - DO 6 Vario I/O module, 6 inputs for resistance thermometers, 3-wire connection + screen, 6 outputs 24 V DC, 1 heating current sum input
41	VARIO UTH 8 - DO 8 Vario I/O module, 8 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input

12 othr

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
					42	VARIO UTH 4 - DO 8 Vario I/O module, 4 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input
					50	remote I/O module, custom made, with 8 digital 230V inputs and 8 relay outputs
					60	VARIO RM TX branch module for connecting remote I/O
					61	VARIO RM BK bus coupler module for connecting remote I/O

12 othr

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
I.MasMod	r/w	base 19 1dP 16403	32806	Enum	*ENUM_IntMastMod*	Selection of the device on the internal bus (assignment of which module is plugged into this bus socket, e.g. input module with 4 digital inputs. The modules must be in an uninterrupted sequence, and the assignment must correspond to the actual socket.

0	No further module on internal bus
1	VARIO DI 2/24 Vario digital input module, 2 digital inputs, 24 V DC, 4-wire connection
2	VARIO DI 4/24 Vario digital input module, 4 digital inputs, 24 V DC, 3-wire connection
3	VARIO DI 8/24 Vario digital input module, 8 digital inputs, 24 V DC, 4-wire connection
4	VARIO DI 16/24 Vario digital input module, 16 digital inputs, 24 V DC, 3-wire connection
10	VARIO DO 2/24 Vario digital output module, 2 digital outputs, 24 V DC, 500 mA, 4-wire connection
11	VARIO DO 4/24 Vario digital output module, 4 digital outputs, 24 V DC, 500 mA, 3-wire connection
12	VARIO DO 8/24 Vario digital output module, 8 digital outputs, 24 V DC, 500 mA, 4-wire connection
13	VARIO DO 16/24 Vario digital output module, 16 digital outputs, 24 V DC, 500 mA, 3-wire connection
14	VARIO DO 1/230 Vario relay output module, 1 relay output, gold plated change-over contact, 5...253 V AC, 3 A
15	VARIO DO 4/230 Vario relay output module, 4 relay outputs, gold plated change-over contact, 5...253 V AC, 3 A
20	VARIO AI 2/SF Vario analog input module, 2 analog inputs (current / voltage), 2-wire connection
21	VARIO AI 8/SF Vario analog input module, 8 analog inputs (current / voltage), 2-wire connection
22	VARIO UTH 2 Vario analog input module, 2 analog inputs (thermocouples), 2-wire connection
23	VARIO RTD 2 Vario analog input module, 2 analog inputs (resistive sensors), 2-, 3-, 4-wire connection
30	VARIO AO 1/SF Vario analog output module, 1 analog output (current / voltage), 2-wire connection
31	VARIO AO 2/U/BP Vario analog output module, 2 analog outputs (voltage), 2-wire connection
40	VARIO RTD 6 - DO 6 Vario I/O module, 6 inputs for resistance thermometers, 3-wire connection + screen, 6 outputs 24 V DC, 1 heating current sum input
41	VARIO UTH 8 - DO 8 Vario I/O module, 8 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input

12 othr

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
					42	VARIO UTH 4 - DO 8 Vario I/O module, 4 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input
					50	remote I/O module, custom made, with 8 digital 230V inputs and 8 relay outputs
					60	VARIO RM TX branch module for connecting remote I/O
					61	VARIO RM BK bus coupler module for connecting remote I/O
P.Addr	r/w	base 1dP	190 16574	33148	Int	1...247 ☐	Address on the panel interface Modbus 1 ... 247

12 othr

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
I.MasMod	r/w	base 1dP	20 16404	32808	Enum	*ENUM_IntMastMod*	Selection of the device on the internal bus (assignment of which module is plugged into this bus socket, e.g. input module with 4 digital inputs. The modules must be in an uninterrupted sequence, and the assignment must correspond to the actual socket.

0	No further module on internal bus
1	VARIO DI 2/24 Vario digital input module, 2 digital inputs, 24 V DC, 4-wire connection
2	VARIO DI 4/24 Vario digital input module, 4 digital inputs, 24 V DC, 3-wire connection
3	VARIO DI 8/24 Vario digital input module, 8 digital inputs, 24 V DC, 4-wire connection
4	VARIO DI 16/24 Vario digital input module, 16 digital inputs, 24 V DC, 3-wire connection
10	VARIO DO 2/24 Vario digital output module, 2 digital outputs, 24 V DC, 500 mA, 4-wire connection
11	VARIO DO 4/24 Vario digital output module, 4 digital outputs, 24 V DC, 500 mA, 3-wire connection
12	VARIO DO 8/24 Vario digital output module, 8 digital outputs, 24 V DC, 500 mA, 4-wire connection
13	VARIO DO 16/24 Vario digital output module, 16 digital outputs, 24 V DC, 500 mA, 3-wire connection
14	VARIO DO 1/230 Vario relay output module, 1 relay output, gold plated change-over contact, 5...253 V AC, 3 A
15	VARIO DO 4/230 Vario relay output module, 4 relay outputs, gold plated change-over contact, 5...253 V AC, 3 A
20	VARIO AI 2/SF Vario analog input module, 2 analog inputs (current / voltage), 2-wire connection
21	VARIO AI 8/SF Vario analog input module, 8 analog inputs (current / voltage), 2-wire connection
22	VARIO UTH 2 Vario analog input module, 2 analog inputs (thermocouples), 2-wire connection
23	VARIO RTD 2 Vario analog input module, 2 analog inputs (resistive sensors), 2-, 3-, 4-wire connection
30	VARIO AO 1/SF Vario analog output module, 1 analog output (current / voltage), 2-wire connection
31	VARIO AO 2/U/BP Vario analog output module, 2 analog outputs (voltage), 2-wire connection
40	VARIO RTD 6 - DO 6 Vario I/O module, 6 inputs for resistance thermometers, 3-wire connection + screen, 6 outputs 24 V DC, 1 heating current sum input
41	VARIO UTH 8 - DO 8 Vario I/O module, 8 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input

12 othr

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
					42	VARIO UTH 4 - DO 8 Vario I/O module, 4 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input
					50	remote I/O module, custom made, with 8 digital 230V inputs and 8 relay outputs
					60	VARIO RM TX branch module for connecting remote I/O
					61	VARIO RM BK bus coupler module for connecting remote I/O
P.bAud	r/w	base 191 1dP 16575	33150	Enum	*Enum_Baud*	Bit rate of the panel interface. The bit rate determines the transmission speed.
					0	2400 Baud
					1	4800 Baud
					2	9600 Baud
					3	19200 Baud
					4	38.400 bits/s

12 othr

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
I.MasMod	r/w	base 21 1dP 16405	32810	Enum	*ENUM_IntMastMod*	Selection of the device on the internal bus (assignment of which module is plugged into this bus socket, e.g. input module with 4 digital inputs. The modules must be in an uninterrupted sequence, and the assignment must correspond to the actual socket.

0	No further module on internal bus
1	VARIO DI 2/24 Vario digital input module, 2 digital inputs, 24 V DC, 4-wire connection
2	VARIO DI 4/24 Vario digital input module, 4 digital inputs, 24 V DC, 3-wire connection
3	VARIO DI 8/24 Vario digital input module, 8 digital inputs, 24 V DC, 4-wire connection
4	VARIO DI 16/24 Vario digital input module, 16 digital inputs, 24 V DC, 3-wire connection
10	VARIO DO 2/24 Vario digital output module, 2 digital outputs, 24 V DC, 500 mA, 4-wire connection
11	VARIO DO 4/24 Vario digital output module, 4 digital outputs, 24 V DC, 500 mA, 3-wire connection
12	VARIO DO 8/24 Vario digital output module, 8 digital outputs, 24 V DC, 500 mA, 4-wire connection
13	VARIO DO 16/24 Vario digital output module, 16 digital outputs, 24 V DC, 500 mA, 3-wire connection
14	VARIO DO 1/230 Vario relay output module, 1 relay output, gold plated change-over contact, 5...253 V AC, 3 A
15	VARIO DO 4/230 Vario relay output module, 4 relay outputs, gold plated change-over contact, 5...253 V AC, 3 A
20	VARIO AI 2/SF Vario analog input module, 2 analog inputs (current / voltage), 2-wire connection
21	VARIO AI 8/SF Vario analog input module, 8 analog inputs (current / voltage), 2-wire connection
22	VARIO UTH 2 Vario analog input module, 2 analog inputs (thermocouples), 2-wire connection
23	VARIO RTD 2 Vario analog input module, 2 analog inputs (resistive sensors), 2-, 3-, 4-wire connection
30	VARIO AO 1/SF Vario analog output module, 1 analog output (current / voltage), 2-wire connection
31	VARIO AO 2/U/BP Vario analog output module, 2 analog outputs (voltage), 2-wire connection
40	VARIO RTD 6 - DO 6 Vario I/O module, 6 inputs for resistance thermometers, 3-wire connection + screen, 6 outputs 24 V DC, 1 heating current sum input
41	VARIO UTH 8 - DO 8 Vario I/O module, 8 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input

12 othr

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
					42	VARIO UTH 4 - DO 8 Vario I/O module, 4 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input
					50	remote I/O module, custom made, with 8 digital 230V inputs and 8 relay outputs
					60	VARIO RM TX branch module for connecting remote I/O
					61	VARIO RM BK bus coupler module for connecting remote I/O

P.PrtY	r/w	base 1dP	192 16576	33152	Enum	*Enum_Parity*	Parity of data on the panel interface. Simple possibility of checking that transferred data is correct.
						0	No parity, with 2 stop bits.
						1	even parity
						2	odd parity
						3	no parity (1 stop bit)

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ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
I.MasMod	r/w	base 1dP	22 16406	32812	Enum	*ENUM_IntMastMod*	Selection of the device on the internal bus (assignment of which module is plugged into this bus socket, e.g. input module with 4 digital inputs. The modules must be in an uninterrupted sequence, and the assignment must correspond to the actual socket.

0	No further module on internal bus
1	VARIO DI 2/24 Vario digital input module, 2 digital inputs, 24 V DC, 4-wire connection
2	VARIO DI 4/24 Vario digital input module, 4 digital inputs, 24 V DC, 3-wire connection
3	VARIO DI 8/24 Vario digital input module, 8 digital inputs, 24 V DC, 4-wire connection
4	VARIO DI 16/24 Vario digital input module, 16 digital inputs, 24 V DC, 3-wire connection
10	VARIO DO 2/24 Vario digital output module, 2 digital outputs, 24 V DC, 500 mA, 4-wire connection
11	VARIO DO 4/24 Vario digital output module, 4 digital outputs, 24 V DC, 500 mA, 3-wire connection
12	VARIO DO 8/24 Vario digital output module, 8 digital outputs, 24 V DC, 500 mA, 4-wire connection
13	VARIO DO 16/24 Vario digital output module, 16 digital outputs, 24 V DC, 500 mA, 3-wire connection
14	VARIO DO 1/230 Vario relay output module, 1 relay output, gold plated change-over contact, 5...253 V AC, 3 A
15	VARIO DO 4/230 Vario relay output module, 4 relay outputs, gold plated change-over contact, 5...253 V AC, 3 A
20	VARIO AI 2/SF Vario analog input module, 2 analog inputs (current / voltage), 2-wire connection
21	VARIO AI 8/SF Vario analog input module, 8 analog inputs (current / voltage), 2-wire connection
22	VARIO UTH 2 Vario analog input module, 2 analog inputs (thermocouples), 2-wire connection
23	VARIO RTD 2 Vario analog input module, 2 analog inputs (resistive sensors), 2-, 3-, 4-wire connection
30	VARIO AO 1/SF Vario analog output module, 1 analog output (current / voltage), 2-wire connection
31	VARIO AO 2/U/BP Vario analog output module, 2 analog outputs (voltage), 2-wire connection
40	VARIO RTD 6 - DO 6 Vario I/O module, 6 inputs for resistance thermometers, 3-wire connection + screen, 6 outputs 24 V DC, 1 heating current sum input
41	VARIO UTH 8 - DO 8 Vario I/O module, 8 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input

12 othr

• ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
					42	VARIO UTH 4 - DO 8 Vario I/O module, 4 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input
					50	remote I/O module, custom made, with 8 digital 230V inputs and 8 relay outputs
					60	VARIO RM TX branch module for connecting remote I/O
					61	VARIO RM BK bus coupler module for connecting remote I/O
P.CdEL	r/w	base 194 1dP 16578	33156	Int	0...200 ☐	For panel interface. Additional acceptable delay time between 2 received bytes, before "end of message" is assumed. This time is needed if data is not transmitted continousely by the modem.

12 othr

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
I.MasMod	r/w	base 23 1dP 16407	32814	Enum	*ENUM_IntMastMod*	Selection of the device on the internal bus (assignment of which module is plugged into this bus socket, e.g. input module with 4 digital inputs. The modules must be in an uninterrupted sequence, and the assignment must correspond to the actual socket.

0	No further module on internal bus
1	VARIO DI 2/24 Vario digital input module, 2 digital inputs, 24 V DC, 4-wire connection
2	VARIO DI 4/24 Vario digital input module, 4 digital inputs, 24 V DC, 3-wire connection
3	VARIO DI 8/24 Vario digital input module, 8 digital inputs, 24 V DC, 4-wire connection
4	VARIO DI 16/24 Vario digital input module, 16 digital inputs, 24 V DC, 3-wire connection
10	VARIO DO 2/24 Vario digital output module, 2 digital outputs, 24 V DC, 500 mA, 4-wire connection
11	VARIO DO 4/24 Vario digital output module, 4 digital outputs, 24 V DC, 500 mA, 3-wire connection
12	VARIO DO 8/24 Vario digital output module, 8 digital outputs, 24 V DC, 500 mA, 4-wire connection
13	VARIO DO 16/24 Vario digital output module, 16 digital outputs, 24 V DC, 500 mA, 3-wire connection
14	VARIO DO 1/230 Vario relay output module, 1 relay output, gold plated change-over contact, 5...253 V AC, 3 A
15	VARIO DO 4/230 Vario relay output module, 4 relay outputs, gold plated change-over contact, 5...253 V AC, 3 A
20	VARIO AI 2/SF Vario analog input module, 2 analog inputs (current / voltage), 2-wire connection
21	VARIO AI 8/SF Vario analog input module, 8 analog inputs (current / voltage), 2-wire connection
22	VARIO UTH 2 Vario analog input module, 2 analog inputs (thermocouples), 2-wire connection
23	VARIO RTD 2 Vario analog input module, 2 analog inputs (resistive sensors), 2-, 3-, 4-wire connection
30	VARIO AO 1/SF Vario analog output module, 1 analog output (current / voltage), 2-wire connection
31	VARIO AO 2/U/BP Vario analog output module, 2 analog outputs (voltage), 2-wire connection
40	VARIO RTD 6 - DO 6 Vario I/O module, 6 inputs for resistance thermometers, 3-wire connection + screen, 6 outputs 24 V DC, 1 heating current sum input
41	VARIO UTH 8 - DO 8 Vario I/O module, 8 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input
42	VARIO UTH 4 - DO 8 Vario I/O module, 4 inputs for thermocouples, 2-wire connection +

12 othr

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
					60	VARIO RM TX branch module for connecting remote I/O
					61	VARIO RM BK bus coupler module for connecting remote I/O

P.dELY	r/w	base 1dP	193 16577	33154	Int	0...200 ☐	Response delay [ms] for panel interface. Additional delay time before the received message may be answered on the Modbus. (Might be necessary, if the same line is used for transmit/receive.)

12 othr

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
I.MasMod	r/w	base 1dP	24 16408	32816	Enum	*ENUM_IntMastMod*	Selection of the device on the internal bus (assignment of which module is plugged into this bus socket, e.g. input module with 4 digital inputs. The modules must be in an uninterrupted sequence, and the assignment must correspond to the actual socket.

0	No further module on internal bus
1	VARIO DI 2/24 Vario digital input module, 2 digital inputs, 24 V DC, 4-wire connection
2	VARIO DI 4/24 Vario digital input module, 4 digital inputs, 24 V DC, 3-wire connection
3	VARIO DI 8/24 Vario digital input module, 8 digital inputs, 24 V DC, 4-wire connection
4	VARIO DI 16/24 Vario digital input module, 16 digital inputs, 24 V DC, 3-wire connection
10	VARIO DO 2/24 Vario digital output module, 2 digital outputs, 24 V DC, 500 mA, 4-wire connection
11	VARIO DO 4/24 Vario digital output module, 4 digital outputs, 24 V DC, 500 mA, 3-wire connection
12	VARIO DO 8/24 Vario digital output module, 8 digital outputs, 24 V DC, 500 mA, 4-wire connection
13	VARIO DO 16/24 Vario digital output module, 16 digital outputs, 24 V DC, 500 mA, 3-wire connection
14	VARIO DO 1/230 Vario relay output module, 1 relay output, gold plated change-over contact, 5...253 V AC, 3 A
15	VARIO DO 4/230 Vario relay output module, 4 relay outputs, gold plated change-over contact, 5...253 V AC, 3 A
20	VARIO AI 2/SF Vario analog input module, 2 analog inputs (current / voltage), 2-wire connection
21	VARIO AI 8/SF Vario analog input module, 8 analog inputs (current / voltage), 2-wire connection
22	VARIO UTH 2 Vario analog input module, 2 analog inputs (thermocouples), 2-wire connection
23	VARIO RTD 2 Vario analog input module, 2 analog inputs (resistive sensors), 2-, 3-, 4-wire connection
30	VARIO AO 1/SF Vario analog output module, 1 analog output (current / voltage), 2-wire connection
31	VARIO AO 2/U/BP Vario analog output module, 2 analog outputs (voltage), 2-wire connection
40	VARIO RTD 6 - DO 6 Vario I/O module, 6 inputs for resistance thermometers, 3-wire connection + screen, 6 outputs 24 V DC, 1 heating current sum input
41	VARIO UTH 8 - DO 8 Vario I/O module, 8 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input

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ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
					42	VARIO UTH 4 - DO 8 Vario I/O module, 4 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input
					50	remote I/O module, custom made, with 8 digital 230V inputs and 8 relay outputs
					60	VARIO RM TX branch module for connecting remote I/O
					61	VARIO RM BK bus coupler module for connecting remote I/O

12 othr

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
I.MasMod	r/w	base 1dP	25 16409	32818	Enum	*ENUM_IntMastMod*	Selection of the device on the internal bus (assignment of which module is plugged into this bus socket, e.g. input module with 4 digital inputs. The modules must be in an uninterrupted sequence, and the assignment must correspond to the actual socket.

0	No further module on internal bus
1	VARIO DI 2/24 Vario digital input module, 2 digital inputs, 24 V DC, 4-wire connection
2	VARIO DI 4/24 Vario digital input module, 4 digital inputs, 24 V DC, 3-wire connection
3	VARIO DI 8/24 Vario digital input module, 8 digital inputs, 24 V DC, 4-wire connection
4	VARIO DI 16/24 Vario digital input module, 16 digital inputs, 24 V DC, 3-wire connection
10	VARIO DO 2/24 Vario digital output module, 2 digital outputs, 24 V DC, 500 mA, 4-wire connection
11	VARIO DO 4/24 Vario digital output module, 4 digital outputs, 24 V DC, 500 mA, 3-wire connection
12	VARIO DO 8/24 Vario digital output module, 8 digital outputs, 24 V DC, 500 mA, 4-wire connection
13	VARIO DO 16/24 Vario digital output module, 16 digital outputs, 24 V DC, 500 mA, 3-wire connection
14	VARIO DO 1/230 Vario relay output module, 1 relay output, gold plated change-over contact, 5...253 V AC, 3 A
15	VARIO DO 4/230 Vario relay output module, 4 relay outputs, gold plated change-over contact, 5...253 V AC, 3 A
20	VARIO AI 2/SF Vario analog input module, 2 analog inputs (current / voltage), 2-wire connection
21	VARIO AI 8/SF Vario analog input module, 8 analog inputs (current / voltage), 2-wire connection
22	VARIO UTH 2 Vario analog input module, 2 analog inputs (thermocouples), 2-wire connection
23	VARIO RTD 2 Vario analog input module, 2 analog inputs (resistive sensors), 2-, 3-, 4-wire connection
30	VARIO AO 1/SF Vario analog output module, 1 analog output (current / voltage), 2-wire connection
31	VARIO AO 2/U/BP Vario analog output module, 2 analog outputs (voltage), 2-wire connection
40	VARIO RTD 6 - DO 6 Vario I/O module, 6 inputs for resistance thermometers, 3-wire connection + screen, 6 outputs 24 V DC, 1 heating current sum input
41	VARIO UTH 8 - DO 8 Vario I/O module, 8 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input

12 othr

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
					42	VARIO UTH 4 - DO 8 Vario I/O module, 4 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input
					50	remote I/O module, custom made, with 8 digital 230V inputs and 8 relay outputs
					60	VARIO RM TX branch module for connecting remote I/O
					61	VARIO RM BK bus coupler module for connecting remote I/O

12 othr

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
I.MasMod	r/w	base 1dP	26 16410	32820	Enum	*ENUM_IntMastMod*	Selection of the device on the internal bus (assignment of which module is plugged into this bus socket, e.g. input module with 4 digital inputs. The modules must be in an uninterrupted sequence, and the assignment must correspond to the actual socket.

0	No further module on internal bus
1	VARIO DI 2/24 Vario digital input module, 2 digital inputs, 24 V DC, 4-wire connection
2	VARIO DI 4/24 Vario digital input module, 4 digital inputs, 24 V DC, 3-wire connection
3	VARIO DI 8/24 Vario digital input module, 8 digital inputs, 24 V DC, 4-wire connection
4	VARIO DI 16/24 Vario digital input module, 16 digital inputs, 24 V DC, 3-wire connection
10	VARIO DO 2/24 Vario digital output module, 2 digital outputs, 24 V DC, 500 mA, 4-wire connection
11	VARIO DO 4/24 Vario digital output module, 4 digital outputs, 24 V DC, 500 mA, 3-wire connection
12	VARIO DO 8/24 Vario digital output module, 8 digital outputs, 24 V DC, 500 mA, 4-wire connection
13	VARIO DO 16/24 Vario digital output module, 16 digital outputs, 24 V DC, 500 mA, 3-wire connection
14	VARIO DO 1/230 Vario relay output module, 1 relay output, gold plated change-over contact, 5...253 V AC, 3 A
15	VARIO DO 4/230 Vario relay output module, 4 relay outputs, gold plated change-over contact, 5...253 V AC, 3 A
20	VARIO AI 2/SF Vario analog input module, 2 analog inputs (current / voltage), 2-wire connection
21	VARIO AI 8/SF Vario analog input module, 8 analog inputs (current / voltage), 2-wire connection
22	VARIO UTH 2 Vario analog input module, 2 analog inputs (thermocouples), 2-wire connection
23	VARIO RTD 2 Vario analog input module, 2 analog inputs (resistive sensors), 2-, 3-, 4-wire connection
30	VARIO AO 1/SF Vario analog output module, 1 analog output (current / voltage), 2-wire connection
31	VARIO AO 2/U/BP Vario analog output module, 2 analog outputs (voltage), 2-wire connection
40	VARIO RTD 6 - DO 6 Vario I/O module, 6 inputs for resistance thermometers, 3-wire connection + screen, 6 outputs 24 V DC, 1 heating current sum input
41	VARIO UTH 8 - DO 8 Vario I/O module, 8 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input

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ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
					42	VARIO UTH 4 - DO 8 Vario I/O module, 4 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input
					50	remote I/O module, custom made, with 8 digital 230V inputs and 8 relay outputs
					60	VARIO RM TX branch module for connecting remote I/O
					61	VARIO RM BK bus coupler module for connecting remote I/O

12 othr

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
I.MasMod	r/w	base 1dP	27 16411	32822	Enum	*ENUM_IntMastMod*	Selection of the device on the internal bus (assignment of which module is plugged into this bus socket, e.g. input module with 4 digital inputs. The modules must be in an uninterrupted sequence, and the assignment must correspond to the actual socket.

0	No further module on internal bus
1	VARIO DI 2/24 Vario digital input module, 2 digital inputs, 24 V DC, 4-wire connection
2	VARIO DI 4/24 Vario digital input module, 4 digital inputs, 24 V DC, 3-wire connection
3	VARIO DI 8/24 Vario digital input module, 8 digital inputs, 24 V DC, 4-wire connection
4	VARIO DI 16/24 Vario digital input module, 16 digital inputs, 24 V DC, 3-wire connection
10	VARIO DO 2/24 Vario digital output module, 2 digital outputs, 24 V DC, 500 mA, 4-wire connection
11	VARIO DO 4/24 Vario digital output module, 4 digital outputs, 24 V DC, 500 mA, 3-wire connection
12	VARIO DO 8/24 Vario digital output module, 8 digital outputs, 24 V DC, 500 mA, 4-wire connection
13	VARIO DO 16/24 Vario digital output module, 16 digital outputs, 24 V DC, 500 mA, 3-wire connection
14	VARIO DO 1/230 Vario relay output module, 1 relay output, gold plated change-over contact, 5...253 V AC, 3 A
15	VARIO DO 4/230 Vario relay output module, 4 relay outputs, gold plated change-over contact, 5...253 V AC, 3 A
20	VARIO AI 2/SF Vario analog input module, 2 analog inputs (current / voltage), 2-wire connection
21	VARIO AI 8/SF Vario analog input module, 8 analog inputs (current / voltage), 2-wire connection
22	VARIO UTH 2 Vario analog input module, 2 analog inputs (thermocouples), 2-wire connection
23	VARIO RTD 2 Vario analog input module, 2 analog inputs (resistive sensors), 2-, 3-, 4-wire connection
30	VARIO AO 1/SF Vario analog output module, 1 analog output (current / voltage), 2-wire connection
31	VARIO AO 2/U/BP Vario analog output module, 2 analog outputs (voltage), 2-wire connection
40	VARIO RTD 6 - DO 6 Vario I/O module, 6 inputs for resistance thermometers, 3-wire connection + screen, 6 outputs 24 V DC, 1 heating current sum input
41	VARIO UTH 8 - DO 8 Vario I/O module, 8 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input

12 othr

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
					42	VARIO UTH 4 - DO 8 Vario I/O module, 4 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input
					50	remote I/O module, custom made, with 8 digital 230V inputs and 8 relay outputs
					60	VARIO RM TX branch module for connecting remote I/O
					61	VARIO RM BK bus coupler module for connecting remote I/O

12 othr

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
I.MasMod	r/w	base 1dP	28 16412	32824	Enum	*ENUM_IntMastMod*	Selection of the device on the internal bus (assignment of which module is plugged into this bus socket, e.g. input module with 4 digital inputs. The modules must be in an uninterrupted sequence, and the assignment must correspond to the actual socket.

0	No further module on internal bus
1	VARIO DI 2/24 Vario digital input module, 2 digital inputs, 24 V DC, 4-wire connection
2	VARIO DI 4/24 Vario digital input module, 4 digital inputs, 24 V DC, 3-wire connection
3	VARIO DI 8/24 Vario digital input module, 8 digital inputs, 24 V DC, 4-wire connection
4	VARIO DI 16/24 Vario digital input module, 16 digital inputs, 24 V DC, 3-wire connection
10	VARIO DO 2/24 Vario digital output module, 2 digital outputs, 24 V DC, 500 mA, 4-wire connection
11	VARIO DO 4/24 Vario digital output module, 4 digital outputs, 24 V DC, 500 mA, 3-wire connection
12	VARIO DO 8/24 Vario digital output module, 8 digital outputs, 24 V DC, 500 mA, 4-wire connection
13	VARIO DO 16/24 Vario digital output module, 16 digital outputs, 24 V DC, 500 mA, 3-wire connection
14	VARIO DO 1/230 Vario relay output module, 1 relay output, gold plated change-over contact, 5...253 V AC, 3 A
15	VARIO DO 4/230 Vario relay output module, 4 relay outputs, gold plated change-over contact, 5...253 V AC, 3 A
20	VARIO AI 2/SF Vario analog input module, 2 analog inputs (current / voltage), 2-wire connection
21	VARIO AI 8/SF Vario analog input module, 8 analog inputs (current / voltage), 2-wire connection
22	VARIO UTH 2 Vario analog input module, 2 analog inputs (thermocouples), 2-wire connection
23	VARIO RTD 2 Vario analog input module, 2 analog inputs (resistive sensors), 2-, 3-, 4-wire connection
30	VARIO AO 1/SF Vario analog output module, 1 analog output (current / voltage), 2-wire connection
31	VARIO AO 2/U/BP Vario analog output module, 2 analog outputs (voltage), 2-wire connection
40	VARIO RTD 6 - DO 6 Vario I/O module, 6 inputs for resistance thermometers, 3-wire connection + screen, 6 outputs 24 V DC, 1 heating current sum input
41	VARIO UTH 8 - DO 8 Vario I/O module, 8 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input

12 othr

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
					42	VARIO UTH 4 - DO 8 Vario I/O module, 4 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input
					50	remote I/O module, custom made, with 8 digital 230V inputs and 8 relay outputs
					60	VARIO RM TX branch module for connecting remote I/O
					61	VARIO RM BK bus coupler module for connecting remote I/O

12 othr

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
I.MasMod	r/w	base 1dP	29 16413	32826	Enum	*ENUM_IntMastMod*	Selection of the device on the internal bus (assignment of which module is plugged into this bus socket, e.g. input module with 4 digital inputs. The modules must be in an uninterrupted sequence, and the assignment must correspond to the actual socket.

0	No further module on internal bus
1	VARIO DI 2/24 Vario digital input module, 2 digital inputs, 24 V DC, 4-wire connection
2	VARIO DI 4/24 Vario digital input module, 4 digital inputs, 24 V DC, 3-wire connection
3	VARIO DI 8/24 Vario digital input module, 8 digital inputs, 24 V DC, 4-wire connection
4	VARIO DI 16/24 Vario digital input module, 16 digital inputs, 24 V DC, 3-wire connection
10	VARIO DO 2/24 Vario digital output module, 2 digital outputs, 24 V DC, 500 mA, 4-wire connection
11	VARIO DO 4/24 Vario digital output module, 4 digital outputs, 24 V DC, 500 mA, 3-wire connection
12	VARIO DO 8/24 Vario digital output module, 8 digital outputs, 24 V DC, 500 mA, 4-wire connection
13	VARIO DO 16/24 Vario digital output module, 16 digital outputs, 24 V DC, 500 mA, 3-wire connection
14	VARIO DO 1/230 Vario relay output module, 1 relay output, gold plated change-over contact, 5...253 V AC, 3 A
15	VARIO DO 4/230 Vario relay output module, 4 relay outputs, gold plated change-over contact, 5...253 V AC, 3 A
20	VARIO AI 2/SF Vario analog input module, 2 analog inputs (current / voltage), 2-wire connection
21	VARIO AI 8/SF Vario analog input module, 8 analog inputs (current / voltage), 2-wire connection
22	VARIO UTH 2 Vario analog input module, 2 analog inputs (thermocouples), 2-wire connection
23	VARIO RTD 2 Vario analog input module, 2 analog inputs (resistive sensors), 2-, 3-, 4-wire connection
30	VARIO AO 1/SF Vario analog output module, 1 analog output (current / voltage), 2-wire connection
31	VARIO AO 2/U/BP Vario analog output module, 2 analog outputs (voltage), 2-wire connection
40	VARIO RTD 6 - DO 6 Vario I/O module, 6 inputs for resistance thermometers, 3-wire connection + screen, 6 outputs 24 V DC, 1 heating current sum input
41	VARIO UTH 8 - DO 8 Vario I/O module, 8 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input

12 othr

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
					42	VARIO UTH 4 - DO 8 Vario I/O module, 4 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input
					50	remote I/O module, custom made, with 8 digital 230V inputs and 8 relay outputs
					60	VARIO RM TX branch module for connecting remote I/O
					61	VARIO RM BK bus coupler module for connecting remote I/O

12 othr

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
I.MasMod	r/w	base 1dP	30 16414	32828	Enum	*ENUM_IntMastMod*	Selection of the device on the internal bus (assignment of which module is plugged into this bus socket, e.g. input module with 4 digital inputs. The modules must be in an uninterrupted sequence, and the assignment must correspond to the actual socket.

0	No further module on internal bus
1	VARIO DI 2/24 Vario digital input module, 2 digital inputs, 24 V DC, 4-wire connection
2	VARIO DI 4/24 Vario digital input module, 4 digital inputs, 24 V DC, 3-wire connection
3	VARIO DI 8/24 Vario digital input module, 8 digital inputs, 24 V DC, 4-wire connection
4	VARIO DI 16/24 Vario digital input module, 16 digital inputs, 24 V DC, 3-wire connection
10	VARIO DO 2/24 Vario digital output module, 2 digital outputs, 24 V DC, 500 mA, 4-wire connection
11	VARIO DO 4/24 Vario digital output module, 4 digital outputs, 24 V DC, 500 mA, 3-wire connection
12	VARIO DO 8/24 Vario digital output module, 8 digital outputs, 24 V DC, 500 mA, 4-wire connection
13	VARIO DO 16/24 Vario digital output module, 16 digital outputs, 24 V DC, 500 mA, 3-wire connection
14	VARIO DO 1/230 Vario relay output module, 1 relay output, gold plated change-over contact, 5...253 V AC, 3 A
15	VARIO DO 4/230 Vario relay output module, 4 relay outputs, gold plated change-over contact, 5...253 V AC, 3 A
20	VARIO AI 2/SF Vario analog input module, 2 analog inputs (current / voltage), 2-wire connection
21	VARIO AI 8/SF Vario analog input module, 8 analog inputs (current / voltage), 2-wire connection
22	VARIO UTH 2 Vario analog input module, 2 analog inputs (thermocouples), 2-wire connection
23	VARIO RTD 2 Vario analog input module, 2 analog inputs (resistive sensors), 2-, 3-, 4-wire connection
30	VARIO AO 1/SF Vario analog output module, 1 analog output (current / voltage), 2-wire connection
31	VARIO AO 2/U/BP Vario analog output module, 2 analog outputs (voltage), 2-wire connection
40	VARIO RTD 6 - DO 6 Vario I/O module, 6 inputs for resistance thermometers, 3-wire connection + screen, 6 outputs 24 V DC, 1 heating current sum input
41	VARIO UTH 8 - DO 8 Vario I/O module, 8 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input

12 othr

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
					42	VARIO UTH 4 - DO 8 Vario I/O module, 4 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input
					50	remote I/O module, custom made, with 8 digital 230V inputs and 8 relay outputs
					60	VARIO RM TX branch module for connecting remote I/O
					61	VARIO RM BK bus coupler module for connecting remote I/O

12 othr

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
I.MasMod	r/w	base 1dP	31 16415	32830	Enum	*ENUM_IntMastMod*	Selection of the device on the internal bus (assignment of which module is plugged into this bus socket, e.g. input module with 4 digital inputs. The modules must be in an uninterrupted sequence, and the assignment must correspond to the actual socket.

0	No further module on internal bus
1	VARIO DI 2/24 Vario digital input module, 2 digital inputs, 24 V DC, 4-wire connection
2	VARIO DI 4/24 Vario digital input module, 4 digital inputs, 24 V DC, 3-wire connection
3	VARIO DI 8/24 Vario digital input module, 8 digital inputs, 24 V DC, 4-wire connection
4	VARIO DI 16/24 Vario digital input module, 16 digital inputs, 24 V DC, 3-wire connection
10	VARIO DO 2/24 Vario digital output module, 2 digital outputs, 24 V DC, 500 mA, 4-wire connection
11	VARIO DO 4/24 Vario digital output module, 4 digital outputs, 24 V DC, 500 mA, 3-wire connection
12	VARIO DO 8/24 Vario digital output module, 8 digital outputs, 24 V DC, 500 mA, 4-wire connection
13	VARIO DO 16/24 Vario digital output module, 16 digital outputs, 24 V DC, 500 mA, 3-wire connection
14	VARIO DO 1/230 Vario relay output module, 1 relay output, gold plated change-over contact, 5...253 V AC, 3 A
15	VARIO DO 4/230 Vario relay output module, 4 relay outputs, gold plated change-over contact, 5...253 V AC, 3 A
20	VARIO AI 2/SF Vario analog input module, 2 analog inputs (current / voltage), 2-wire connection
21	VARIO AI 8/SF Vario analog input module, 8 analog inputs (current / voltage), 2-wire connection
22	VARIO UTH 2 Vario analog input module, 2 analog inputs (thermocouples), 2-wire connection
23	VARIO RTD 2 Vario analog input module, 2 analog inputs (resistive sensors), 2-, 3-, 4-wire connection
30	VARIO AO 1/SF Vario analog output module, 1 analog output (current / voltage), 2-wire connection
31	VARIO AO 2/U/BP Vario analog output module, 2 analog outputs (voltage), 2-wire connection
40	VARIO RTD 6 - DO 6 Vario I/O module, 6 inputs for resistance thermometers, 3-wire connection + screen, 6 outputs 24 V DC, 1 heating current sum input
41	VARIO UTH 8 - DO 8 Vario I/O module, 8 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input

12 othr

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
					42	VARIO UTH 4 - DO 8 Vario I/O module, 4 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input
					50	remote I/O module, custom made, with 8 digital 230V inputs and 8 relay outputs
					60	VARIO RM TX branch module for connecting remote I/O
					61	VARIO RM BK bus coupler module for connecting remote I/O

12 othr

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
I.MasMod	r/w	base 1dP	32 16416	32832	Enum	*ENUM_IntMastMod*	Selection of the device on the internal bus (assignment of which module is plugged into this bus socket, e.g. input module with 4 digital inputs. The modules must be in an uninterrupted sequence, and the assignment must correspond to the actual socket.

0	No further module on internal bus
1	VARIO DI 2/24 Vario digital input module, 2 digital inputs, 24 V DC, 4-wire connection
2	VARIO DI 4/24 Vario digital input module, 4 digital inputs, 24 V DC, 3-wire connection
3	VARIO DI 8/24 Vario digital input module, 8 digital inputs, 24 V DC, 4-wire connection
4	VARIO DI 16/24 Vario digital input module, 16 digital inputs, 24 V DC, 3-wire connection
10	VARIO DO 2/24 Vario digital output module, 2 digital outputs, 24 V DC, 500 mA, 4-wire connection
11	VARIO DO 4/24 Vario digital output module, 4 digital outputs, 24 V DC, 500 mA, 3-wire connection
12	VARIO DO 8/24 Vario digital output module, 8 digital outputs, 24 V DC, 500 mA, 4-wire connection
13	VARIO DO 16/24 Vario digital output module, 16 digital outputs, 24 V DC, 500 mA, 3-wire connection
14	VARIO DO 1/230 Vario relay output module, 1 relay output, gold plated change-over contact, 5...253 V AC, 3 A
15	VARIO DO 4/230 Vario relay output module, 4 relay outputs, gold plated change-over contact, 5...253 V AC, 3 A
20	VARIO AI 2/SF Vario analog input module, 2 analog inputs (current / voltage), 2-wire connection
21	VARIO AI 8/SF Vario analog input module, 8 analog inputs (current / voltage), 2-wire connection
22	VARIO UTH 2 Vario analog input module, 2 analog inputs (thermocouples), 2-wire connection
23	VARIO RTD 2 Vario analog input module, 2 analog inputs (resistive sensors), 2-, 3-, 4-wire connection
30	VARIO AO 1/SF Vario analog output module, 1 analog output (current / voltage), 2-wire connection
31	VARIO AO 2/U/BP Vario analog output module, 2 analog outputs (voltage), 2-wire connection
40	VARIO RTD 6 - DO 6 Vario I/O module, 6 inputs for resistance thermometers, 3-wire connection + screen, 6 outputs 24 V DC, 1 heating current sum input
41	VARIO UTH 8 - DO 8 Vario I/O module, 8 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input

12 othr

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
					42	VARIO UTH 4 - DO 8 Vario I/O module, 4 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input
					50	remote I/O module, custom made, with 8 digital 230V inputs and 8 relay outputs
					60	VARIO RM TX branch module for connecting remote I/O
					61	VARIO RM BK bus coupler module for connecting remote I/O

12 othr

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
I.MasMod	r/w	base 1dP	33 16417	32834	Enum	*ENUM_IntMastMod*	Selection of the device on the internal bus (assignment of which module is plugged into this bus socket, e.g. input module with 4 digital inputs. The modules must be in an uninterrupted sequence, and the assignment must correspond to the actual socket.

0	No further module on internal bus
1	VARIO DI 2/24 Vario digital input module, 2 digital inputs, 24 V DC, 4-wire connection
2	VARIO DI 4/24 Vario digital input module, 4 digital inputs, 24 V DC, 3-wire connection
3	VARIO DI 8/24 Vario digital input module, 8 digital inputs, 24 V DC, 4-wire connection
4	VARIO DI 16/24 Vario digital input module, 16 digital inputs, 24 V DC, 3-wire connection
10	VARIO DO 2/24 Vario digital output module, 2 digital outputs, 24 V DC, 500 mA, 4-wire connection
11	VARIO DO 4/24 Vario digital output module, 4 digital outputs, 24 V DC, 500 mA, 3-wire connection
12	VARIO DO 8/24 Vario digital output module, 8 digital outputs, 24 V DC, 500 mA, 4-wire connection
13	VARIO DO 16/24 Vario digital output module, 16 digital outputs, 24 V DC, 500 mA, 3-wire connection
14	VARIO DO 1/230 Vario relay output module, 1 relay output, gold plated change-over contact, 5...253 V AC, 3 A
15	VARIO DO 4/230 Vario relay output module, 4 relay outputs, gold plated change-over contact, 5...253 V AC, 3 A
20	VARIO AI 2/SF Vario analog input module, 2 analog inputs (current / voltage), 2-wire connection
21	VARIO AI 8/SF Vario analog input module, 8 analog inputs (current / voltage), 2-wire connection
22	VARIO UTH 2 Vario analog input module, 2 analog inputs (thermocouples), 2-wire connection
23	VARIO RTD 2 Vario analog input module, 2 analog inputs (resistive sensors), 2-, 3-, 4-wire connection
30	VARIO AO 1/SF Vario analog output module, 1 analog output (current / voltage), 2-wire connection
31	VARIO AO 2/U/BP Vario analog output module, 2 analog outputs (voltage), 2-wire connection
40	VARIO RTD 6 - DO 6 Vario I/O module, 6 inputs for resistance thermometers, 3-wire connection + screen, 6 outputs 24 V DC, 1 heating current sum input
41	VARIO UTH 8 - DO 8 Vario I/O module, 8 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input

12 othr

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
					42	VARIO UTH 4 - DO 8 Vario I/O module, 4 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input
					50	remote I/O module, custom made, with 8 digital 230V inputs and 8 relay outputs
					60	VARIO RM TX branch module for connecting remote I/O
					61	VARIO RM BK bus coupler module for connecting remote I/O

12 othr

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
I.MasMod	r/w	base 1dP	34 16418	32836	Enum	*ENUM_IntMastMod*	Selection of the device on the internal bus (assignment of which module is plugged into this bus socket, e.g. input module with 4 digital inputs. The modules must be in an uninterrupted sequence, and the assignment must correspond to the actual socket.

0	No further module on internal bus
1	VARIO DI 2/24 Vario digital input module, 2 digital inputs, 24 V DC, 4-wire connection
2	VARIO DI 4/24 Vario digital input module, 4 digital inputs, 24 V DC, 3-wire connection
3	VARIO DI 8/24 Vario digital input module, 8 digital inputs, 24 V DC, 4-wire connection
4	VARIO DI 16/24 Vario digital input module, 16 digital inputs, 24 V DC, 3-wire connection
10	VARIO DO 2/24 Vario digital output module, 2 digital outputs, 24 V DC, 500 mA, 4-wire connection
11	VARIO DO 4/24 Vario digital output module, 4 digital outputs, 24 V DC, 500 mA, 3-wire connection
12	VARIO DO 8/24 Vario digital output module, 8 digital outputs, 24 V DC, 500 mA, 4-wire connection
13	VARIO DO 16/24 Vario digital output module, 16 digital outputs, 24 V DC, 500 mA, 3-wire connection
14	VARIO DO 1/230 Vario relay output module, 1 relay output, gold plated change-over contact, 5...253 V AC, 3 A
15	VARIO DO 4/230 Vario relay output module, 4 relay outputs, gold plated change-over contact, 5...253 V AC, 3 A
20	VARIO AI 2/SF Vario analog input module, 2 analog inputs (current / voltage), 2-wire connection
21	VARIO AI 8/SF Vario analog input module, 8 analog inputs (current / voltage), 2-wire connection
22	VARIO UTH 2 Vario analog input module, 2 analog inputs (thermocouples), 2-wire connection
23	VARIO RTD 2 Vario analog input module, 2 analog inputs (resistive sensors), 2-, 3-, 4-wire connection
30	VARIO AO 1/SF Vario analog output module, 1 analog output (current / voltage), 2-wire connection
31	VARIO AO 2/U/BP Vario analog output module, 2 analog outputs (voltage), 2-wire connection
40	VARIO RTD 6 - DO 6 Vario I/O module, 6 inputs for resistance thermometers, 3-wire connection + screen, 6 outputs 24 V DC, 1 heating current sum input
41	VARIO UTH 8 - DO 8 Vario I/O module, 8 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input

12 othr

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
					42	VARIO UTH 4 - DO 8 Vario I/O module, 4 inputs for thermocouples, 2-wire connection + screen, 8 outputs 24 V DC, 1 heating current sum input
					50	remote I/O module, custom made, with 8 digital 230V inputs and 8 relay outputs
					60	VARIO RM TX branch module for connecting remote I/O
					61	VARIO RM BK bus coupler module for connecting remote I/O
RInd0	r/w	base 1514 1dP 17898	35796	Int	0...16384 ☐	Definition of the datum that is to be output for Index 0 when reading.
Step 0 To 29 By 512 1024						
RInd1	r/w	base 1515 1dP 17899	35798	Int	0...16384 ☐	Definition of the datum that is to be output for Index 1 when reading.
Step 0 To 29 By 512 1024						
RInd2	r/w	base 1516 1dP 17900	35800	Int	0...16384 ☐	Definition of the datum that is to be output for Index 2 when reading.
Step 0 To 29 By 512 1024						
RInd3	r/w	base 1517 1dP 17901	35802	Int	0...16384 ☐	Definition of the datum that is to be output for Index 3 when reading.
Step 0 To 29 By 512 1024						
RInd4	r/w	base 1518 1dP 17902	35804	Int	0...16384 ☐	Definition of the datum that is to be output for Index 4 when reading.
Step 0 To 29 By 512 1024						
RInd5	r/w	base 1519 1dP 17903	35806	Int	0...16384 ☐	Definition of the datum that is to be output for Index 5 when reading.
Step 0 To 29 By 512 1024						
RInd6	r/w	base 1520 1dP 17904	35808	Int	0...16384 ☐	Definition of the datum that is to be output for Index 6 when reading.
Step 0 To 29 By 512 1024						
RInd7	r/w	base 1521 1dP 17905	35810	Int	0...16384 ☐	Definition of the datum that is to be output for Index 7 when reading.
Step 0 To 29 By 512 1024						
WInd0	r/w	base 1522 1dP 17906	35812	Int	0...16384 ☐	Definition of the datum that is to be read for Index 0 whe writing.
Step 0 To 29 By 512 1024						

12 othr

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
WInd1	r/w	base 1dP	1523 17907	35814	Int	0...16384 ☐	Definition of the datum that is to be read for Index 1 whe writing.
Step 0 To 29 By			512	1024			
WInd2	r/w	base 1dP	1524 17908	35816	Int	0...16384 ☐	Definition of the datum that is to be read for Index 2 whe writing.
Step 0 To 29 By			512	1024			
WInd3	r/w	base 1dP	1525 17909	35818	Int	0...16384 ☐	Definition of the datum that is to be read for Index 3 whe writing.
Step 0 To 29 By			512	1024			
WInd4	r/w	base 1dP	1526 17910	35820	Int	0...16384 ☐	Definition of the datum that is to be read for Index 4 whe writing.
Step 0 To 29 By			512	1024			
WInd5	r/w	base 1dP	1527 17911	35822	Int	0...16384 ☐	Definition of the datum that is to be read for Index 5 whe writing.
Step 0 To 29 By			512	1024			
WInd6	r/w	base 1dP	1528 17912	35824	Int	0...16384 ☐	Definition of the datum that is to be read for Index 6 whe writing.
Step 0 To 29 By			512	1024			
WInd7	r/w	base 1dP	1529 17913	35826	Int	0...16384 ☐	Definition of the datum that is to be read for Index 7 whe writing.
Step 0 To 29 By			512	1024			
U.StE	r/w	base 1dP	11 16395	32790	Enum	*ENUM_USTATERR*	Activates the StatErr function. The StatErr function transfers module fault messages to an InterBus master, e.g. sensor fault and Loop alarm.
						0	Do not activate 'StatErr' of the Interbus, i.e. do not signal a module fault to the Interbus master.
						1	Activate 'StatErr' of the Interbus, if the device signals 'Fail'. Module faults are signalled to the Interbus master.

12 othr

PArA

Name	r/w	Adr.		real	Typ	Value/off	Description
Gef.Del	r/w	base 1dP	350 16734	33468	Float	0...3000 ☐	With 'guided setpoint changes', this delta is added to or subtracted from the lowest process value. Channels already at the setpoint (target setpoint ± delta), or with Fail or OFF are given the target setpoint directly. The function 'guided setpoint change' permits several zones to be guided to a new (target) setpoint with minimum deviations between the process values, e.g. to prevent thermal stresses.
Hc.Tol	r/w	base 1dP	74 16458	32916	Int	0...50 ☐	The heat current limit Hc.Lim results in the calculation o the actual measured heating current and the heating tolerance. If overload+short circuit is selected the tolerance is added to the measured value, in case of break + short circuit the tolerance is subtracted.

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
DIMod1	r	base 1dP	400 16784	33568	Int	0...0 ☐	If the module no. 1 has digital input, the status of the input can be read here.
DIMod10	r	base 1dP	409 16793	33586	Int	0...0 ☐	If the module no. 10 has digital inputs, the status of the inputs can be read here.
DIMod11	r	base 1dP	410 16794	33588	Int	0...0 ☐	If the module no. 11has digital inputs, the status of the inputs can be read here.
DIMod12	r	base 1dP	411 16795	33590	Int	0...0 ☐	If the module no. 12 has digital inputs, the status of the inputs can be read here.
DIMod13	r	base 1dP	412 16796	33592	Int	0...0 ☐	If the module no. 13 has digital inputs, the status of the inputs can be read here.
DIMod14	r	base 1dP	413 16797	33594	Int	0...0 ☐	If the module no. 14 has digital inputs, the status of the inputs can be read here.
DIMod15	r	base 1dP	414 16798	33596	Int	0...0 ☐	If the module no.15 has digital inputs, the status of the inputs can be read here.
DIMod16	r	base 1dP	415 16799	33598	Int	0...0 ☐	If the module no. 16 has digital inputs, the status of the inputs can be read here.
DIMod17	r	base 1dP	416 16800	33600	Int	0...0 ☐	If the module no. 17 has digital inputs, the status of the inputs can be read here.

12 othr

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
DIMod18	r	base 1dP	417 16801	33602	Int	0...0 ☐	If the module no. 18 has digital inputs, the status of the inputs can be read here.
DIMod19	r	base 1dP	418 16802	33604	Int	0...0 ☐	If the module no. 19 has digital inputs, the status of the inputs can be read here.
DIMod2	r	base 1dP	401 16785	33570	Int	0...0 ☐	If the module no. 2 has digital inputs, the status of the inputs can be read here.
DIMod20	r	base 1dP	419 16803	33606	Int	0...0 ☐	If the module no. 20 has digital inputs, the status of the inputs can be read here.
DIMod3	r	base 1dP	402 16786	33572	Int	0...0 ☐	If the module no. 3 has digital inputs, the status of the inputs can be read here.
DIMod4	r	base 1dP	403 16787	33574	Int	0...0 ☐	If the module no. 4 has digital inputs, the status of the inputs can be read here.
DIMod5	r	base 1dP	404 16788	33576	Int	0...0 ☐	If the module no.5 has digital inputs, the status of the inputs can be read here.
DIMod6	r	base 1dP	405 16789	33578	Int	0...0 ☐	If the module no. 6 has digital inputs, the status of the inputs can be read here.
DIMod7	r	base 1dP	406 16790	33580	Int	0...0 ☐	If the module no. 7 has digital inputs, the status of the inputs can be read here.
DIMod8	r	base 1dP	407 16791	33582	Int	0...0 ☐	If the module no. 8 has digital inputs, the status of the inputs can be read here.
DIMod9	r	base 1dP	408 16792	33584	Int	0...0 ☐	If the module no. 8 has digital inputs, the status of the inputs can be read here.
DOMod1	r/w	base 1dP	420 16804	33608	Int	0...65535 ☐	If the module no. 1 has digital outputs, the unused outputs can be set here. The outputs used in the engineering are not changed while writing. During the reading of these data the current condition of the digital outputs is indicated.
DOMod10	r/w	base 1dP	429 16813	33626	Int	0...65535 ☐	If the module no. 10 has digital outputs, the unused outputs can be set here. The outputs used in the engineering are not changed while writing. During the reading of these data the current condition of the digital outputs is indicated.

12 othr

Signal

Name	r/w	Adr.	real	Typ	Value/off	Description
DOMod11	r/w	base 430 1dP 16814	33628	Int	0...65535 ☐	If the module no. 11 has digital outputs, the unused outputs can be set here. The outputs used in the engineering are not changed while writing. During the reading of these data the current condition of the digital outputs is indicated.
DOMod12	r/w	base 431 1dP 16815	33630	Int	0...65535 ☐	If the module no. 12 has digital outputs, the unused outputs can be set here. The outputs used in the engineering are not changed while writing. During the reading of these data the current condition of the digital outputs is indicated.
DOMod13	r/w	base 432 1dP 16816	33632	Int	0...65535 ☐	If the module no. 13 has digital outputs, the unused outputs can be set here. The outputs used in the engineering are not changed while writing. During the reading of these data the current condition of the digital outputs is indicated.
DOMod14	r/w	base 433 1dP 16817	33634	Int	0...65535 ☐	If the module no. 14 has digital outputs, the unused outputs can be set here. The outputs used in the engineering are not changed while writing. During the reading of these data the current condition of the digital outputs is indicated.
DOMod15	r/w	base 434 1dP 16818	33636	Int	0...65535 ☐	If the module no. 15 has digital outputs, the unused outputs can be set here. The outputs used in the engineering are not changed while writing. During the reading of these data the current condition of the digital outputs is indicated.
DOMod16	r/w	base 435 1dP 16819	33638	Int	0...65535 ☐	If the module no. 16 has digital outputs, the unused outputs can be set here. The outputs used in the engineering are not changed while writing. During the reading of these data the current condition of the digital outputs is indicated.
DOMod17	r/w	base 436 1dP 16820	33640	Int	0...65535 ☐	If the module no. 17 has digital outputs, the unused outputs can be set here. The outputs used in the engineering are not changed while writing. During the reading of these data the current condition of the digital outputs is indicated.
DOMod18	r/w	base 437 1dP 16821	33642	Int	0...65535 ☐	If the module no. 18 has digital outputs, the unused outputs can be set here. The outputs used in the engineering are not changed while writing. During the reading of these data the current condition of the digital outputs is indicated.
DOMod19	r/w	base 438 1dP 16822	33644	Int	0...65535 ☐	If the module no. 19 has digital outputs, the unused outputs can be set here. The outputs used in the engineering are not changed while writing. During the reading of these data the current condition of the digital outputs is indicated.
DOMod2	r/w	base 421 1dP 16805	33610	Int	0...65535 ☐	If the module no. 2 has digital outputs, the unused outputs can be set here. The outputs used in the engineering are not changed while writing. During the reading of these data the current condition of the digital outputs is indicated.

12 othr

Signal

Name	r/w	Adr.	real	Typ	Value/off	Description
DOMod20	r/w	base 439 1dP 16823	33646	Int	0...65535 ☐	If the module no. 20 has digital outputs, the unused outputs can be set here. The outputs used in the engineering are not changed while writing. During the reading of these data the current condition of the digital outputs is indicated.
DOMod3	r/w	base 422 1dP 16806	33612	Int	0...65535 ☐	If the module no. 3 has digital outputs, the unused outputs can be set here. The outputs used in the engineering are not changed while writing. During the reading of these data the current condition of the digital outputs is indicated.
DOMod4	r/w	base 423 1dP 16807	33614	Int	0...65535 ☐	If the module no. 4 has digital outputs, the unused outputs can be set here. The outputs used in the engineering are not changed while writing. During the reading of these data the current condition of the digital outputs is indicated.
DOMod5	r/w	base 424 1dP 16808	33616	Int	0...65535 ☐	If the module no. 5 has digital outputs, the unused outputs can be set here. The outputs used in the engineering are not changed while writing. During the reading of these data the current condition of the digital outputs is indicated.
DOMod6	r/w	base 425 1dP 16809	33618	Int	0...65535 ☐	If the module no. 6 has digital outputs, the unused outputs can be set here. The outputs used in the engineering are not changed while writing. During the reading of these data the current condition of the digital outputs is indicated.
DOMod7	r/w	base 426 1dP 16810	33620	Int	0...65535 ☐	If the module no. 7 has digital outputs, the unused outputs can be set here. The outputs used in the engineering are not changed while writing. During the reading of these data the current condition of the digital outputs is indicated.
DOMod8	r/w	base 427 1dP 16811	33622	Int	0...65535 ☐	If the module no. 8 has digital outputs, the unused outputs can be set here. The outputs used in the engineering are not changed while writing. During the reading of these data the current condition of the digital outputs is indicated.
DOMod9	r/w	base 428 1dP 16812	33624	Int	0...65535 ☐	If the module no. 9 has digital outputs, the unused outputs can be set here. The outputs used in the engineering are not changed while writing. During the reading of these data the current condition of the digital outputs is indicated.
E.2	r/w	base 77 1dP 16461	32922	Int	0...2 ☐	Err 2 (internal error, resettable) (As a process value via fieldbus interface not writable!)
Gef.Sig	r/w	base 355 1dP 16739	33478	Enum	*Enum_Gef_Sig*	The signal "guidance active", starts the guided setpoint change, and indicates it.The function 'guided setpoint change' permits several zones to be guided to a new (target) setpoint with minimum deviations between the process values, e.g. to prevent thermal stresses.

0	The setpoints are not guided.
1	Guided setpoint increase (with temperatures: Heating).
2	Guided setpoint reduction (with temperatures: Cooling).

12 othr

Signal

Name	r/w	Adr.	real	Typ	Value/off	Description
Hc.Trigge	r/w	base 75 1dP 16459	32918	Enum	*ENUM_Hc_Trigger*	Trigger of heat current limit Hc.Lim which is calculated c the actual measured heating current Hc.Value and the heating tolerance Hc.Tol. If overload+short circuit is selected the tolerance is added to the measured value, in case of break+short circuit the tolerance is subtracted.
					0	
					1	Calculate the heat current limit Hc.Lim
IBusErr	r	base 79 1dP 16463	32926	Int	0...65535 ☐	Nature of the fault on the internal bus.
ProfErr	r	base 78 1dP 16462	32924	Int	0...65535 ☐	Nature of the fault on the PROFIBUS.
					Bit 0 - Dp 1 No access to bus Bit 1 - Dp 2 Configuration error Bit 2 - Dp 3 Parameter fault Bit 3 - Dp 4 No exchange of user data Bit 4 - Communication with the bus coupler failed Bit 5 - Fail-safe	
SumErr	r	base 76 1dP 16460	32920	Int	0...65535 ☐	Summary of various faults.
					Bit 0 - (internal fault, not resettable) return the controller to your supplier Bit 1 - (internal fault, resettable) Bit 2 - Configuration error in the device Bit 3 - Fault on the internal bus Bit 4 - Communication with the bus coupler failed Bit 5 - Fault on the Profibus	

13 Out1

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
OutMod	r/w	base 1dP	1324 17708	35416	Enum	*Enum_Modul*	Module to which the output can be connected.
Step 0 To 29 By				512	1024		

0	Not active
1	device
2	module 1
3	module 2
4	module 3
5	module 4
6	module 5
7	module 6
8	module 7
9	module 8
10	module 9
11	module 10
12	module 11
13	module 12
14	module 13
15	module 14
16	module 15
17	module 16
18	module 17
19	module 18
20	module 19
21	module 20

13 Out1

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
OutInd	r/w	base 1dP	13251 17709	35418	Enum	*Enum_AusKanal*	Output (hardware) to the module (index) with which the output is to be connected.
Step 0 To 29 By			512	1024			

0	Not active
1	output 1
2	output 2
3	output 3
4	output 4
5	output 5
6	output 6
7	output 7
8	output 8
9	output 9
10	output 10
11	output 11
12	output 12
13	output 13
14	output 14
15	output 15
16	output 16

SignSrc	r/w	base 1dP	13263 17710	35420	Enum	*Enum_Out*	Signal source of the output. An output can issue differer source signals. This source signal is defined uniquely by the signal type (SignalSrc) and the channel (ZoneSrc).
Step 0 To 29 By			512	1024			

0	Not active
1	The controller output Y1, e.g. heating, switches this output.
2	The controller output Y2, e.g. cooling, switches this output.
3	Limit value Lim1 switches this output.
4	Limit value Lim2 switches this output.
5	Limit value Lim3 switches this output.
6	The loop monitoring alarm switches this output.
7	The common alarm LimGr1 switches this output.
8	Common alarm LimGr2 switches this output.
9	Common alarm LimGr3 switches this output.
10	The common alarm LimGr4 switches this output.
11	The common alarm LimGr5 switches this output.
12	The common alarm LimGr6 switches this output.
13	Forcing is active. The output is operated by the external PLC.
15	controller output y1 (continuous)
16	controller output y2 (continuous)
17	controller output yPid
18	process value
19	effective set-point Weff
20	control deviation xw (process value - set-point)
21	Forcing is active. The value for this output is provided by the external PLC.

13 Out1

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
ChnSrc	r/w	base 1dP	1327 17711	35422	Enum	*Enum_Zone*	Definition of the channel whose signal is to be used.
Step 0 To 29 By			512	1024			

0	not activ
1	Signal comes from channel 1.
2	Signal comes from channel 2.
3	Signal comes from channel 3.
4	Signal comes from channel 4.
5	Signal comes from channel 5.
6	Signal comes from channel 6.
7	Signal comes from channel 7.
8	Signal comes from channel 8.
9	Signal comes from channel 9.
10	Signal comes from channel 10.
11	Signal comes from channel 11.
12	Signal comes from channel 12.
13	Signal comes from channel 13.
14	Signal comes from channel 14.
15	Signal comes from channel 15.
16	Signal comes from channel 16.
17	Signal comes from channel 17.
18	Signal comes from channel 18.
19	Signal comes from channel 19.
20	Signal comes from channel 20.
21	Signal comes from channel 21.
22	Signal comes from channel 22.
23	Signal comes from channel 23.
24	Signal comes from channel 24.
25	Signal comes from channel 25.
26	Signal comes from channel 26.
27	Signal comes from channel 27.
28	Signal comes from channel 28.
29	Signal comes from channel 29.
30	Signal comes from channel 30.

O.Typ	r/w	base 1dP	1328 17712	35424	Enum	*Enum_OtYP_I*	The signal type indicates which signal is to be generated as output value, e.g. current or voltage output.
Step 0 To 29 By			512	1024			

1	0 ... 20 mA continuous (only visible with current/logic/voltage).
2	4 ... 20 mA continuous (only visible with current/logic/voltage).
10	0...10 V continuous (only visible with current/logic/voltage)
11	2...10 V continuous (only visible with current/logic/voltage)
12	-10...10 V continuous (only visible with current/logic/voltage)

O.Act	r/w	base 1dP	1329 17713	35426	Enum	*Enum_OAct*	Operating sense of the switching output. Direct: Active function (e.g. limit value) switches the output ON; Inverse: Active function (e.g. limit value) switches the output OFF.
Step 0 To 29 By			512	1024			

0	direct / normally open
1	inverse / normally closed

13 Out1

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
Hc.ALMod	r/w	base	1331	35430	Enum	*Enum_HcAlMode*	Heating current alarm message. Depending on configuration, and apart from short-circuit monitoring, ar overload test checks whether the heating current is above the adjusted current limit, or below the limit when the heating is switched off.
		1dP	17715				
Step 0 To 29 By			512	1024			

0	Activation of overload and short circuit monitoring. Overload = current I > heat current limit.
1	Activation of break and short circuit monitoring. Break = current I < heat current limit.

Name	r/w	Adr.		real	Typ	Value/off	Description
Tr.Rat	r/w	base	1332	35432	Int	1...30000 ☐	Conversion ratio of the current transformer. For example, a load current 5A = 5000 mA for a measurement current of 10 mA has a ratio of 500.
		1dP	17716				
Step 0 To 29 By			512	1024			

Name	r/w	Adr.		real	Typ	Value/off	Description
Phase1	r/w	base	1333	35434	Enum	*ENUM_PHASE*	Outer conductor used for correcting the heating current (L1, L2, L3).
		1dP	17717				
Step 0 To 29 By			512	1024			

0	not active
1	Phase conductor 1 is used for correcting the heating current.
2	Phase conductor 2 is used for correcting the heating current.
3	Phase conductor 3 is used for correcting the heating current.

Name	r/w	Adr.		real	Typ	Value/off	Description
Out0	r/w	base	1334	35436	Float	-3000...3200 ☐	Lower scaling limit of the analog output (corresponds to 0%). If current and voltage signals are used as output values, the display can be scaled to the output value in the Parameter Level. The output value of the lower scaling point is indicated in the respective electrical unit (mA / V).
		1dP	17718				
Step 0 To 29 By			512	1024			

Name	r/w	Adr.		real	Typ	Value/off	Description
Out100	r/w	base	1335	35438	Float	-3000...3200 ☐	Upper scaling limit of the analog output (corresponds to 100%). If current or voltage signals are used as output values, scaling of the display can be applied to the output value by means of the Parameter Level. Definition of the upper output limit is done using the corresponding electrical value (mA / V).
		1dP	17719				
Step 0 To 29 By			512	1024			

PArA

Name	r/w	Adr.		real	Typ	Value/off	Description
Hc.Lim3	r/w	base	1340	35448	Float	1,5...50 ☑	Limit value of heating current monitor [A]. Depending on configuration, and apart from short-circuit monitoring, ar overload test checks whether the heating current is above the adjusted current limit, or below the limit when the heating is switched off. The heating current is measured by means of a current transformer (accessory), and the current range can be adapted.
		1dP	17724				
Step 0 To 29 By			512	1024			

13 Out1

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
DigOut3	r	base 1dP	1344 17728	35456	Enum	*Enum_Ausgang*	Signal at digital output
Step 0 To 29 By			512	1024		0 off 1 on	
AnaOut3	r	base 1dP	1345 17729	35458	Float	0...1 ☐	Present digital value of the analog output signal (ahead of the D/A converter)
Step 0 To 29 By			512	1024			
DigForc3	r/w	base 1dP	1346 17730	35460	Enum	*Enum_Ausgang*	Forcing value of the digital output. Forcing involves the external operation of an output, i.e. the instrument has r influence on this output. (Used for the operation of free outputs e.g. by a supervisory PLC.)
Step 0 To 29 By			512	1024		0 off 1 on	
F.Out3	r/w	base 1dP	1347 17731	35462	Float	-1999...3200 ☐	Forcing value of the analog output. Forcing involves the external operation of an output, i.e. the instrument has r influence on this output. (Used for the operation of free outputs e.g. by a supervisory PLC.)
Step 0 To 29 By			512	1024			
Hc.Status	r	base 1dP	1348 17732	35464	Enum	*Enum_HCStatus*	Status of the heating current alarm. Displayable are heating current short-circuit and/or heating current alarm. Depending on configuration, the heating current alarm is either an interruption of heating current (I < limi value) or heating current overload (I > limit value).
Step 0 To 29 By			512	1024		0 not active 1 Heating current limit has been exceeded. 2 An SSR short-circuit has occurred. 3 The heating current limit has been exceeded, and there is an SSR short-circuit.	
Hc.Value3	r	base 1dP	1349 17733	35466	Float	-3200...3200 ☐	Depending on configuration, and apart from short-circuit monitoring, an overload test checks whether the heating current is above the adjusted current limit, or below the limit when the heating is switched off. Input scaling can be adapted.
Step 0 To 29 By			512	1024			

14 Out2

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
OutMod	r/w	base	1354	35476	Enum	*Enum_Modul*	Module to which the output can be connected.
		1dP	17738				
Step 0 To 29 By			512	1024			

0	Not active
1	device
2	module 1
3	module 2
4	module 3
5	module 4
6	module 5
7	module 6
8	module 7
9	module 8
10	module 9
11	module 10
12	module 11
13	module 12
14	module 13
15	module 14
16	module 15
17	module 16
18	module 17
19	module 18
20	module 19
21	module 20

OutInd	r/w	base	1355	35478	Enum	*Enum_AusKanal*	Output (hardware) to the module (index) with which the output is to be connected.
		1dP	17739				
Step 0 To 29 By			512	1024			

0	Not active
1	output 1
2	output 2
3	output 3
4	output 4
5	output 5
6	output 6
7	output 7
8	output 8
9	output 9
10	output 10
11	output 11
12	output 12
13	output 13
14	output 14
15	output 15
16	output 16

14 Out2

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
SignSrc	r/w	base 1dP	13561 17740	35480	Enum	*Enum_Out*	Signal source of the output. An output can issue differer source signals. This source signal is defined uniquely by the signal type (SignalSrc) and the channel (ZoneSrc).
Step 0 To 29 By			512	1024			

0	Not active
1	The controller output Y1, e.g. heating, switches this output.
2	The controller output Y2, e.g. cooling, switches this output.
3	Limit value Lim1 switches this output.
4	Limit value Lim2 switches this output.
5	Limit value Lim3 switches this output.
6	The loop monitoring alarm switches this output.
7	The common alarm LimGr1 switches this output.
8	Common alarm LimGr2 switches this output.
9	Common alarm LimGr3 switches this output.
10	The common alarm LimGr4 switches this output.
11	The common alarm LimGr5 switches this output.
12	The common alarm LimGr6 switches this output.
13	Forcing is active. The output is operated by the external PLC.
15	controller output y1 (continuous)
16	controller output y2 (continuous)
17	controller output yPid
18	process value
19	effective set-point Weff
20	control deviation xw (process value - set-point)
21	Forcing is active. The value for this output is provided by the external PLC.

14 Out2

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
ChnSrc	r/w	base	1357	35482	Enum	*Enum_Zone*	Definition of the channel whose signal is to be used.
		1dP	17741				
Step 0 To 29 By			512	1024			

0	not activ
1	Signal comes from channel 1.
2	Signal comes from channel 2.
3	Signal comes from channel 3.
4	Signal comes from channel 4.
5	Signal comes from channel 5.
6	Signal comes from channel 6.
7	Signal comes from channel 7.
8	Signal comes from channel 8.
9	Signal comes from channel 9.
10	Signal comes from channel 10.
11	Signal comes from channel 11.
12	Signal comes from channel 12.
13	Signal comes from channel 13.
14	Signal comes from channel 14.
15	Signal comes from channel 15.
16	Signal comes from channel 16.
17	Signal comes from channel 17.
18	Signal comes from channel 18.
19	Signal comes from channel 19.
20	Signal comes from channel 20.
21	Signal comes from channel 21.
22	Signal comes from channel 22.
23	Signal comes from channel 23.
24	Signal comes from channel 24.
25	Signal comes from channel 25.
26	Signal comes from channel 26.
27	Signal comes from channel 27.
28	Signal comes from channel 28.
29	Signal comes from channel 29.
30	Signal comes from channel 30.

O.Typ	r/w	base	1358	35484	Enum	*Enum_OtYP_I*	The signal type indicates which signal is to be generated as output value, e.g. current or voltage output.
		1dP	17742				
Step 0 To 29 By			512	1024			

1	0 ... 20 mA continuous (only visible with current/logic/voltage).
2	4 ... 20 mA continuous (only visible with current/logic/voltage).
10	0...10 V continuous (only visible with current/logic/voltage)
11	2...10 V continuous (only visible with current/logic/voltage)
12	-10...10 V continuous (only visible with current/logic/voltage)

O.Act	r/w	base	1359	35486	Enum	*Enum_OAct*	Operating sense of the switching output. Direct: Active function (e.g. limit value) switches the output ON; Inverse: Active function (e.g. limit value) switches the output OFF.
		1dP	17743				
Step 0 To 29 By			512	1024			

0	direct / normally open
1	inverse / normally closed

14 Out2

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
Hc.ALMod	r/w	base 1dP	1361 17745	35490	Enum	*Enum_HcAlMode*	Heating current alarm message. Depending on configuration, and apart from short-circuit monitoring, ar overload test checks whether the heating current is above the adjusted current limit, or below the limit when the heating is switched off.
Step 0 To 29 By			512	1024			
						0	Activation of overload and short circuit monitoring. Overload = current I > heat current limit.
						1	Activation of break and short circuit monitoring. Break = current I < heat current limit.
Tr.Rat	r/w	base 1dP	1362 17746	35492	Int	1...30000 ☐	Conversion ratio of the current transformer. For example, a load current 5A = 5000 mA for a measurement current of 10 mA has a ratio of 500.
Step 0 To 29 By			512	1024			
Phase1	r/w	base 1dP	1363 17747	35494	Enum	*ENUM_PHASE*	Outer conductor used for correcting the heating current (L1, L2, L3).
Step 0 To 29 By			512	1024			
						0	not active
						1	Phase conductor 1 is used for correcting the heating current.
						2	Phase conductor 2 is used for correcting the heating current.
						3	Phase conductor 3 is used for correcting the heating current.
Out0	r/w	base 1dP	1364 17748	35496	Float	-3200...3200 ☐	Lower scaling limit of the analog output (corresponds to 0%). If current and voltage signals are used as output values, the display can be scaled to the output value in the Parameter Level. The output value of the lower scaling point is indicated in the respective electrical unit (mA / V).
Step 0 To 29 By			512	1024			
Out100	r/w	base 1dP	1365 17749	35498	Float	-3200...3200 ☐	Upper scaling limit of the analog output (corresponds to 100%). If current or voltage signals are used as output values, scaling of the display can be applied to the output value by means of the Parameter Level. Definition of the upper output limit is done using the corresponding electrical value (mA / V).
Step 0 To 29 By			512	1024			

PArA

Name	r/w	Adr.		real	Typ	Value/off	Description
Hc.Lim3	r/w	base 1dP	1370 17754	35508	Float	1,5...50 ☑	Limit value of heating current monitor [A]. Depending on configuration, and apart from short-circuit monitoring, ar overload test checks whether the heating current is above the adjusted current limit, or below the limit when the heating is switched off. The heating current is measured by means of a current transformer (accessory), and the current range can be adapted.
Step 0 To 29 By			512	1024			

14 Out2

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
DigOut3	r	base	13743	35516	Enum	*Enum_Ausgang*	Signal at digital output
		1dP	17758				
Step 0 To 29 By			512	1024		0 off 1 on	
AnaOut3	r	base	13753	35518	Float	-3200...3200 ☐	Present digital value of the analog output signal (ahead of the D/A converter)
		1dP	17759				
Step 0 To 29 By			512	1024			
DigForc3	r/w	base	13763	35520	Enum	*Enum_Ausgang*	Forcing value of the digital output. Forcing involves the external operation of an output, i.e. the instrument has r influence on this output. (Used for the operation of free outputs e.g. by a supervisory PLC.)
		1dP	17760				
Step 0 To 29 By			512	1024		0 off 1 on	
F.Out3	r/w	base	13773	35522	Float	-3200...3200 ☐	Forcing value of the analog output. Forcing involves the external operation of an output, i.e. the instrument has r influence on this output. (Used for the operation of free outputs e.g. by a supervisory PLC.)
		1dP	17761				
Step 0 To 29 By			512	1024			
Hc.Status	r	base	13783	35524	Enum	*Enum_HCStatus*	Status of the heating current alarm. Displayable are heating current short-circuit and/or heating current alarm. Depending on configuration, the heating current alarm is either an interruption of heating current (I < limi value) or heating current overload (I > limit value).
		1dP	17762				
Step 0 To 29 By			512	1024		0 not active 1 Heating current limit has been exceeded. 2 An SSR short-circuit has occurred. 3 The heating current limit has been exceeded, and there is an SSR short-circuit.	
Hc.Value3	r	base	13793	35526	Float	-3200...3200 ☐	Depending on configuration, and apart from short-circuit monitoring, an overload test checks whether the heating current is above the adjusted current limit, or below the limit when the heating is switched off. Input scaling can be adapted.
		1dP	17763				
Step 0 To 29 By			512	1024			

15 PAr2

PArA

Name	r/w	Adr.		real	Typ	Value/off		Description
Pb12	r/w	base 1dP	1204 17588	35176	Float	0,1...3200	☐	Proportional band 1 (heating) in engineering unit (e.g. °C) of the 2nd parameter set. The Pb defines the ratio between output value and control deviation. The smaller the value of Pb is, the stronger is the control response for a specific control deviation. Too large and too small values for Pb lead to process oscillations (hunting).
Step 0 To 29 By			512	1024				
Pb22	r/w	base 1dP	1205 17589	35178	Float	0,1...3200	☐	Proportional band 2 (cooling) in engineering unit (e.g. °C) of the 2nd parameter set. The Pb defines the ratio between output value and control deviation. The smaller the value of Pb is, the stronger is the control response for a specific control deviation. Too large and too small values for Pb lead to process oscillations (hunting).
Step 0 To 29 By			512	1024				
ti12	r/w	base 1dP	1206 17590	35180	Float	1...3200	☑	Integral action time 1 (heating) [s]. Second parameter set. Ti is the time constant of the integral portion. The smaller Ti is, the faster is the response of the integral action. Ti too small: Control tends to oscillate. Ti too large: Control is sluggish and needs a long time to line out.
Step 0 To 29 By			512	1024				
ti22	r/w	base 1dP	1207 17591	35182	Float	1...3200	☑	Integral action time 2 (cooling) [s]. Second parameter set. Ti is the time constant of the integral portion. The smaller Ti is, the faster is the response of the integral action. Ti too small: Control tends to oscillate. Ti too large: Control is sluggish and needs a long time to line out.
Step 0 To 29 By			512	1024				
td12	r/w	base 1dP	1208 17592	35184	Float	1...3200	☑	Derivative action time 1 (heating) [s], second parameter set. Td is the time constant of the derivative portion. The faster the process value changes, and the larger the value of Td is, the stronger will be the derivative action. Td too small: Very little derivative action. Td too large: Control tends to oscillate.
Step 0 To 29 By			512	1024				
td22	r/w	base 1dP	1209 17593	35186	Float	1...3200	☑	Derivative action time 2 (cooling) [s], second parameter set. Td is the time constant of the derivative portion. The faster the process value changes, and the larger the value of Td is, the stronger will be the derivative action. Td too small: Very little derivative action. Td too large: Control tends to oscillate.
Step 0 To 29 By			512	1024				

16 SamAlar

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
SrcSi1	r/w	base 1dP	14043 17788	35576	Enum	*Enum_Inp_SamAla*	Signal source 1: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 1), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

Name	r/w	Adr.		real	Typ	Value/off	Description
ChnSi1	r/w	base 1dP	14053 17789	35578	Int	0...30 ☐	Signal source 1: Channel. Generation of a common alarm from many individual signal sources (here signal source 1), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			
SrcSi2	r/w	base 1dP	14063 17790	35580	Enum	*Enum_Inp_SamAla*	Signal source 2: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 2), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

Name	r/w	Adr.		real	Typ	Value/off	Description
ChnSi2	r/w	base 1dP	14073 17791	35582	Int	0...30 ☐	Signal source 2: Channel. Generation of a common alarm from many individual signal sources (here signal source 2), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

16 SamAlar

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
SrcSi3	r/w	base 1dP	1408 17792	35584	Enum	*Enum_Inp_SamAla*	Signal source 3: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 3), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

Name	r/w	Adr.		real	Typ	Value/off	Description
ChnSi3	r/w	base 1dP	1409 17793	35586	Int	0...30 ☐	Signal source 3: Channel. Generation of a common alarm from many individual signal sources (here signal source 3), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			
SrcSi4	r/w	base 1dP	1410 17794	35588	Enum	*Enum_Inp_SamAla*	Signal source 4: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 4), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

Name	r/w	Adr.		real	Typ	Value/off	Description
ChnSi4	r/w	base 1dP	1411 17795	35590	Int	0...30 ☐	Signal source 4: Channel. Generation of a common alarm from many individual signal sources (here signal source 4), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

16 SamAlar

ConF

Name	r/w	Adr.	real	Typ	Value/off	Description
SrcSi5	r/w	base 1412 1dP 17796	35592	Enum	*Enum_Inp_SamAla*	Signal source 5: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 5), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By 512 1024						

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

Name	r/w	Adr.	real	Typ	Value/off	Description
ChnSi5	r/w	base 1413 1dP 17797	35594	Int	0...30 ☐	Signal source 5: Channel. Generation of a common alarm from many individual signal sources (here signal source 5), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By 512 1024						
SrcSi6	r/w	base 1414 1dP 17798	35596	Enum	*Enum_Inp_SamAla*	Signal source 6: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 6), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By 512 1024						

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

Name	r/w	Adr.	real	Typ	Value/off	Description
ChnSi6	r/w	base 1415 1dP 17799	35598	Int	0...30 ☐	Signal source 6: Channel. Generation of a common alarm from many individual signal sources (here signal source 6), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By 512 1024						

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Name	r/w	Adr.		real	Typ	Value/off	Description
SrcSi7	r/w	base 1dP	1416 17800	35600	Enum	*Enum_Inp_SamAla*	Signal source 7:Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 7), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

Name	r/w	Adr.		real	Typ	Value/off	Description
ChnSi7	r/w	base 1dP	1417 17801	35602	Int	0...30 ☐	Signal source 7: Channel. Generation of a common alarm from many individual signal sources (here signal source 7), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			
SrcSi8	r/w	base 1dP	1418 17802	35604	Enum	*Enum_Inp_SamAla*	Signal source 8: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 8), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

Name	r/w	Adr.		real	Typ	Value/off	Description
ChnSi8	r/w	base 1dP	1419 17803	35606	Int	0...30 ☐	Signal source 8: Channel. Generation of a common alarm from many individual signal sources (here signal source 8), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

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Name	r/w	Adr.		real	Typ	Value/off	Description
SrcSi9	r/w	base 1dP	14203 17804	35608	Enum	*Enum_Inp_SamAla*	Signal source 9: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 9), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

Name	r/w	Adr.		real	Typ	Value/off	Description
ChnSi9	r/w	base 1dP	14213 17805	35610	Int	0...30 ☐	Signal source 9: Channel. Generation of a common alarm from many individual signal sources (here signal source 9), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			
SrcSi10	r/w	base 1dP	14223 17806	35612	Enum	*Enum_Inp_SamAla*	Signal source 10: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 10), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

Name	r/w	Adr.		real	Typ	Value/off	Description
ChnSi10	r/w	base 1dP	14233 17807	35614	Int	0...30 ☐	Signal source 10: Channel. Generation of a common alarm from many individual signal sources (here signal source 10), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

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Name	r/w	Adr.		real	Typ	Value/off	Description
SrcSi11	r/w	base 1dP	1424 17808	35616	Enum	*Enum_Inp_SamAla*	Signal source 11: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 11), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

Name	r/w	Adr.		real	Typ	Value/off	Description
ChnSi11	r/w	base 1dP	1425 17809	35618	Int	0...30 ☐	Signal source 11: Channel. Generation of a common alarm from many individual signal sources (here signal source 11), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			
SrcSi12	r/w	base 1dP	1426 17810	35620	Enum	*Enum_Inp_SamAla*	Signal source 12: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 12), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

Name	r/w	Adr.		real	Typ	Value/off	Description
ChnSi12	r/w	base 1dP	1427 17811	35622	Int	0...30 ☐	Signal source 12: Channel. Generation of a common alarm from many individual signal sources (here signal source 12), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

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Name	r/w	Adr.		real	Typ	Value/off	Description
SrcSi13	r/w	base 1dP	1428 17812	35624	Enum	*Enum_Inp_SamAla*	Signal source 13: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 13), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

ChnSi13	r/w	base 1dP	1429 17813	35626	Int	0...30 ☐	Signal source 13: Channel. Generation of a common alarm from many individual signal sources (here signal source 13), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			
SrcSi14	r/w	base 1dP	1430 17814	35628	Enum	*Enum_Inp_SamAla*	Signal source 14: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 14), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

ChnSi14	r/w	base 1dP	1431 17815	35630	Int	0...30 ☐	Signal source 14: Channel. Generation of a common alarm from many individual signal sources (here signal source 14), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

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ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
SrcSi15	r/w	base 1dP	1432 17816	35632	Enum	*Enum_Inp_SamAla*	Signal source 15: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 15), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

Name	r/w	Adr.		real	Typ	Value/off	Description
ChnSi15	r/w	base 1dP	1433 17817	35634	Int	0...30 ☐	Signal source 15: Channel. Generation of a common alarm from many individual signal sources (here signal source 15), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			
SrcSi16	r/w	base 1dP	1434 17818	35636	Enum	*Enum_Inp_SamAla*	Signal source 16: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 16), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

Name	r/w	Adr.		real	Typ	Value/off	Description
ChnSi16	r/w	base 1dP	1435 17819	35638	Int	0...30 ☐	Signal source 16: Channel. Generation of a common alarm from many individual signal sources (here signal source 16), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

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ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
SrcSi17	r/w	base 1dP	14363 17820	35640	Enum	*Enum_Inp_SamAla*	Signal source 17: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 17), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

ChnSi17	r/w	base 1dP	14373 17821	35642	Int	0...30 ☐	Signal source 17: Channel. Generation of a common alarm from many individual signal sources (here signal source 17), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			
SrcSi18	r/w	base 1dP	14383 17822	35644	Enum	*Enum_Inp_SamAla*	Signal source 18: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 18), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

ChnSi18	r/w	base 1dP	14393 17823	35646	Int	0...30 ☐	Signal source 18: Channel. Generation of a common alarm from many individual signal sources (here signal source 18), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

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ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
SrcSi19	r/w	base 1dP	1440 17824	35648	Enum	*Enum_Inp_SamAla*	Signal source 19: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 19), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

Name	r/w	Adr.		real	Typ	Value/off	Description
ChnSi19	r/w	base 1dP	1441 17825	35650	Int	0...30 ☐	Signal source 19: Channel. Generation of a common alarm from many individual signal sources (here signal source 19), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			
SrcSi20	r/w	base 1dP	1442 17826	35652	Enum	*Enum_Inp_SamAla*	Signal source 20: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 20), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

Name	r/w	Adr.		real	Typ	Value/off	Description
ChnSi20	r/w	base 1dP	1443 17827	35654	Int	0...30 ☐	Signal source 20: Channel. Generation of a common alarm from many individual signal sources (here signal source 2), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

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ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
SrcSi21	r/w	base 1dP	14444 17828	35656	Enum	*Enum_Inp_SamAla*	Signal source 21: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 21), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

ChnSi21	r/w	base 1dP	14455 17829	35658	Int	0...30 ☐	Signal source 21: Channel. Generation of a common alarm from many individual signal sources (here signal source 21), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			
SrcSi22	r/w	base 1dP	14466 17830	35660	Enum	*Enum_Inp_SamAla*	Signal source 22: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 22), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

ChnSi22	r/w	base 1dP	14477 17831	35662	Int	0...30 ☐	Signal source 22: Channel. Generation of a common alarm from many individual signal sources (here signal source 22), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

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• ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
SrcSi23	r/w	base 1dP	14483566417832		Enum	*Enum_Inp_SamAla*	Signal source 23: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 23), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

ChnSi23	r/w	base 1dP	14493566617833		Int	0...30 ☐	Signal source 23: Channel. Generation of a common alarm from many individual signal sources (here signal source 23), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			
SrcSi24	r/w	base 1dP	14503566817834		Enum	*Enum_Inp_SamAla*	Signal source 24: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 1), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

ChnSi24	r/w	base 1dP	14513567017835		Int	0...30 ☐	Signal source 24: Channel. Generation of a common alarm from many individual signal sources (here signal source 2), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

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ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
SrcSi25	r/w	base 1dP	14523 17836	35672	Enum	*Enum_Inp_SamAla*	Signal source 25: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 25), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

ChnSi25	r/w	base 1dP	14533 17837	35674	Int	0...30 ☐	Signal source 25: Channel. Generation of a common alarm from many individual signal sources (here signal source 25), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			
SrcSi26	r/w	base 1dP	14543 17838	35676	Enum	*Enum_Inp_SamAla*	Signal source 26: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 26), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

ChnSi26	r/w	base 1dP	14553 17839	35678	Int	0...30 ☐	Signal source 26: Channel. Generation of a common alarm from many individual signal sources (here signal source 26), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

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ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
SrcSi27	r/w	base 1dP	1456 17840	35680	Enum	*Enum_Inp_SamAla*	Signal source 27: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 27), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

Name	r/w	Adr.		real	Typ	Value/off	Description
ChnSi27	r/w	base 1dP	1457 17841	35682	Int	0...30 ☐	Signal source 27: Channel. Generation of a common alarm from many individual signal sources (here signal source 27), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			
SrcSi28	r/w	base 1dP	1458 17842	35684	Enum	*Enum_Inp_SamAla*	Signal source 28: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 28), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

Name	r/w	Adr.		real	Typ	Value/off	Description
ChnSi28	r/w	base 1dP	1459 17843	35686	Int	0...30 ☐	Signal source 28: Channel. Generation of a common alarm from many individual signal sources (here signal source 28), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

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ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
SrcSi29	r/w	base 1dP	14601 17844	35688	Enum	*Enum_Inp_SamAla*	Signal source 29: Alarm signal. Generation of a common alarm from many individual signal sources (here Signal 29), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

ChnSi29	r/w	base 1dP	14611 17845	35690	Int	0...30 ☐	Signal source 29: Channel. Generation of a common alarm from many individual signal sources (here signal source 29), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			
SrcSi30	r/w	base 1dP	14621 17846	35692	Enum	*Enum_Inp_SamAla*	Signal source 30: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 30), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

ChnSi30	r/w	base 1dP	14631 17847	35694	Int	0...30 ☐	Signal source 30: Channel. Generation of a common alarm from many individual signal sources (here signal source 30), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

16 SamAlar

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
SrcSi31	r/w	base 1dP	1464 17848	35696	Enum	*Enum_Inp_SamAla*	Signal source 31: Alarm signal. Generation of a common alarm from many individual signal sources (here signal source 31), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

Name	r/w	Adr.		real	Typ	Value/off	Description
ChnSi31	r/w	base 1dP	1465 17849	35698	Int	0...30 ☐	Signal source 31: Channel. Generation of a common alarm from many individual signal sources (here signal source 31), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			
SrcSi32	r/w	base 1dP	1466 17850	35700	Enum	*Enum_Inp_SamAla*	Signal source 32: Alarm signal. Generation of a common alarm from many individual signal sources (here Signal 32), each of which is specified together with channel and ALARMSIGNAL (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

0	Not active
1	The input circuit alarm FAIL is displayed by the common alarm.
2	The limit value alarm Lim1 is displayed by the common alarm.
3	The limit value alarm Lim2 is displayed by the common alarm.
4	The limit value alarm Lim3 is displayed by the common alarm.
5	The control loop monitoring alarm (loop alarm) is displayed by the common alarm.
6	The heating current alarm (HC alarm) is displayed by the common alarm.
7	The short-circuit alarm SSR is displayed by the common alarm.

Name	r/w	Adr.		real	Typ	Value/off	Description
ChnSi32	r/w	base 1dP	1467 17851	35702	Int	0...30 ☐	Signal source 32: Channel. Generation of a common alarm from many individual signal sources (here signal source 32), each of which is specified together with CHANNEL and alarm signal (e.g. short circuit alarm Channel 2).
Step 0 To 5 By			512	1024			

16 SamAlar

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
Inp.Sig.1...	r	base 1dP	14743 17858	35716	Int	0...65535 ☐	Bit-wise coded status of the input signals 1...16
Step 0 To 5 By			512	1024			Bit 00 status of input 1 Bit 01 status of input 2 Bit 02 status of input 3 Bit 03 status of input 4 Bit 04 status of input 5 Bit 05 status of input 6 Bit 06 status of input 7 Bit 07 status of input 8 Bit 08 status of input 9 Bit 09 status of input 10 Bit 10 status of input 11 Bit 11 status of input 12 Bit 12 status of input 13 Bit 13 status of input 14 Bit 14 status of input 15 Bit 15 status of input 16
Inp.Sig.17.	r	base 1dP	14753 17859	35718	Int	0...65535 ☐	Bit-wise coded status of the input signals 17...32
Step 0 To 5 By			512	1024			Bit 00 status of input 17 Bit 01 status of input 18 Bit 02 status of input 19 Bit 03 status of input 20 Bit 04 status of input 21 Bit 05 status of input 22 Bit 06 status of input 23 Bit 07 status of input 24 Bit 08 status of input 25 Bit 09 status of input 26 Bit 10 status of input 27 Bit 11 status of input 28 Bit 12 status of input 29 Bit 13 status of input 30 Bit 14 status of input 31 Bit 15 status of input 32
SamAlrm	r	base 1dP	14763 17860	35720	Int	0...1 ☐	The common alarm involves joint processing (OR-linked) of 32 input signals to generate one output signal. This output signal can be wired to an output, or read via the interface.
Step 0 To 5 By			512	1024			

17 SEtP

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
SP.Fn	r/w	base 1dP	1124 17508	35016	Enum	*Enum_SPFN_I*	Basic configuration for setpoint processing, e.g. 'setpoint controller switchable to external setpoint'. Configuration of special, controller-dependent setpoint functions.
Step 0 To 29 By			512	1024			

0	set-point controller (no startup function)
1	set-point controller with start-up circuit. The start-up function is a protective function, e.g. with hot runner control. To prevent destruction of high-performance heating elements, they must be heated slowly to remove any humidity. With activated start-up function, the controller maintains the reduced starting temperature for a defined dwell period. Subsequently, the controller switches over to the main setpoint.

Name	r/w	Adr.		real	Typ	Value/off	Description
TypEing	r/w	base 1dP	1125 17509	35018	Enum	*Enum_TypSetpEing*	Input signal type. In order to implement a slave controller, the output of one controller (master) can be used as setpoint for another controller (slave).The source for the setpoint is defined by the signal type (TypEingang) and the channel (ZoneSrc).
Step 0 To 29 By			512	1024			

0	The active setpoint Weff is used for this controller.
1	The controller is a slave controller (cascade) using the analog output Y1 from another controller as setpoint (see channel of the signal source: Conf/Channel/Setp/ChnSrc).
2	The controller is a slave controller (cascade) using the analog output Y2 from another controller as the setpoint (see channel of the signal source: Conf/Channel/Setp/ChnSrc).
3	The controller is a slave controller (cascade) using the output Ypid from another controller as setpoint (see channel of the signal source: Conf/Channel/Setp/ChnSrc).

17 SEtP

ConF

Name	r/w	Adr.		real	Typ	Value/off	Description
ChnSrc	r/w	base	1126	35020	Enum	*Enum_Zone*	Definition of the channel whose signal is to be used.
		1dP	17510				
Step 0 To 29 By			512	1024			

0	not activ
1	Signal comes from channel 1.
2	Signal comes from channel 2.
3	Signal comes from channel 3.
4	Signal comes from channel 4.
5	Signal comes from channel 5.
6	Signal comes from channel 6.
7	Signal comes from channel 7.
8	Signal comes from channel 8.
9	Signal comes from channel 9.
10	Signal comes from channel 10.
11	Signal comes from channel 11.
12	Signal comes from channel 12.
13	Signal comes from channel 13.
14	Signal comes from channel 14.
15	Signal comes from channel 15.
16	Signal comes from channel 16.
17	Signal comes from channel 17.
18	Signal comes from channel 18.
19	Signal comes from channel 19.
20	Signal comes from channel 20.
21	Signal comes from channel 21.
22	Signal comes from channel 22.
23	Signal comes from channel 23.
24	Signal comes from channel 24.
25	Signal comes from channel 25.
26	Signal comes from channel 26.
27	Signal comes from channel 27.
28	Signal comes from channel 28.
29	Signal comes from channel 29.
30	Signal comes from channel 30.

PArA

Name	r/w	Adr.		real	Typ	Value/off	Description
SP.LO	r/w	base	1129	35026	Float	-3000...3200 ☐	Lower setpoint limit. The setpoint is raised to this value automatically, if a lower setpoint is adjusted. BUT: The (safety) setpoint W2 is not restricted by the setpoint limits! The setpoint reserve for the step function is 10% of SPHi - SPLo.
		1dP	17513				
Step 0 To 29 By			512	1024			

17 SEtP

PArA

Name	r/w	Adr.		real	Typ	Value/off		Description
SP.Hi	r/w	base 1dP	1130 17514	35028	Float	-3000...3200	☐	Upper setpoint limit. The setpoint is reduced to this value automatically, if a higher setpoint is adjusted. BUT: The (safety) setpoint W2 is not restricted by the setpoint limits! The setpoint reserve for the step function is 10% of SPHi - SPLo.
Step 0 To 29 By			512	1024				
SP.2	r/w	base 1dP	1131 17515	35030	Float	-3000...3200	☐	Second (safety) setpoint. Ramp function as with other setpoints (effective, external). However, SP2 is not restricted by the setpoint limits.
Step 0 To 29 By			512	1024				
rSP	r/w	base 1dP	1132 17516	35032	Float	0,01...3200	☑	Setpoint gradient [/min] or ramp. Max. rate of change in order to avoid step changes of the setpoint. The gradient acts in the positive and negative directions. Note for self-tuning: with activated gradient function, the setpoint gradient is started from the process value, so that there is no sufficient setpoint reserve.
Step 0 To 29 By			512	1024				
SP.bo	r/w	base 1dP	1133 17517	35034	Float	-3000...3200	☐	Boost increase. Increases the setpoint SP for the duration t.bo by the amount SP.bo. The boost function causes a brief setpoint increase, which is used e.g. to clear blocked channels ('frozen' material) in a hot-runner system.
Step 0 To 29 By			512	1024				
t.bo	r/w	base 1dP	1134 17518	35036	Float	0...3200	☐	Duration of the boost increase in minutes. When the boost time t.bo has elapsed, the controller switches back to the standard setpoint SP. The boost function causes a brief setpoint increase, which is used e.g. to clear blocked channels ('frozen' material) in a hot-runner system.
Step 0 To 29 By			512	1024				
SP.St	r/w	base 1dP	1135 17519	35038	Float	-3000...3200	☐	Setpoint for start-up function. The start-up function is a protective function, e.g. with hot runner control. To prevent destruction of high-performance heating elements, they must be heated slowly to remove any humidity. With activated start-up function, the controller maintains the reduced starting temperature for a defined dwell period. Subsequently, the controller switches over to the main setpoint.
Step 0 To 29 By			512	1024				
t.St	r/w	base 1dP	1136 17520	35040	Float	0...3200	☐	Start-up dwell period [min]. The start-up function is a protective function, e.g. with hot runner control. To prevent destruction of high-performance heating elements, they must be heated slowly to remove any humidity. With activated start-up function, the controller maintains the reduced starting temperature for a defined dwell period. Subsequently, the controller switches over to the main setpoint.
Step 0 To 29 By			512	1024				

17 SEtP

PArA

Name	r/w	Adr.		real	Typ	Value/off	Description
Gef	r/w	base	1137	35042	Enum	*Enum_Gefuehrt*	Participation in guided setpoint change. The function 'guided setpoint change' permits several zones to be guided to a new (target) setpoint with minimum deviations between the process values, e.g. to prevent thermal stresses. Hereby, the zone with the lowest process value determines the starting setpoint.
		1dP	17521				
Step 0 To 29 By			512	1024			

0	Setpoint changes of this channel are not guided.
1	This channel participates in the 'Guided setpoint change'.

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
S.Status	r	base	1145	35058	Int	0...3 ☐	The status signals special conditions of the setpoint processing, such as an active gradient or an active start-up function.
		1dP	17529				
Step 0 To 29 By			512	1024			

Bit 0 Start-up function
0 disabled
1 active
Bit 1 Gradient
0 disabled
1 active

SP	r/w	base	1142	35052	Float	-3000...3200 ☐	Setpoint for the interface (without the additional function 'Controller off'). SetpInterface acts on the internal setpoint before the setpoint processing stage. Note: The value in RAM is always updated. To protect the EEPROM, storage of the value in the EEPROM is timed (at least one value per half hour).
		1dP	17526				
Step 0 To 29 By			512	1024			
SP.d	r/w	base	1144	35056	Float	-3000...3200 ☐	The effective setpoint is shifted by this value. In this way the setpoints of several controllers can be shifted together, regardless of the individually adjusted effective setpoints.
		1dP	17528				
Step 0 To 29 By			512	1024			
SP.EF	r	base	1143	35054	Float	-3000...3200 ☐	Effective setpoint. The value reached at the end of setpoint processing, after taking W2, external setpoint, gradient, boost function, programmer settings, start-up function, and limit functions into account. Comparison with the effective process value leads to the control deviation, from which the necessary controller response is derived.
		1dP	17527				
Step 0 To 29 By			512	1024			

18 Visual

• Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
F.DigEin	r/w	base 1dP	513 16897	33794	Int	0...31 ☐	Forcing of digital inputs. Forcing involves the external operation of at least one input. The instrument takes over this input value (preset value for inputs from a superordinate system, e.g. for a function test.)

Bit 0 Forcing of W/W2 switchover
Bit 1 Forcing of parameter switchover
Bit 2 Forcing of controller disabling (Coff)
Bit 3 Forcing of boost activation
Bit 4 Forcing of auto/manual switchover

F.Inp	r/w	base 1dP	517 16901	33802	Float	-1999...9999 ☐	Forcing the value for an analog input INP. Forcing involves the external operation of an input. The instrument takes over the value at this input like a measurement value (preset value for inputs from a superordinate system, e.g. for a function test.)

Step 0 To 33 By 1 2

F.Aus1	r/w	base 1dP	552 16936	33872	Int	0...65535 ☐	Forcing involves the external operation of an output. The instrument has no influence on this output (use of free outputs by superordinate system).

Bit 00 forcing for digital output 1
Bit 01 forcing for digital output 2
Bit 02 forcing for digital output 3
Bit 03 forcing for digital output 4
Bit 04 forcing for digital output 5
Bit 05 forcing for digital output 6
Bit 06 forcing for digital output 7
Bit 07 forcing for digital output 8
Bit 08 forcing for digital output 9
Bit 09 forcing for digital output 10
Bit 10 forcing for digital output 11
Bit 11 forcing for digital output 12
Bit 12 forcing for digital output 13
Bit 13 forcing for digital output 14
Bit 14 forcing for digital output 15
Bit 15 forcing for digital output 16

F.Aus17	r/w	base 1dP	553 16937	33874	Int	0...65535 ☐	Forcing involves the external operation of a output. The instrument has no influence on this output (use of free outputs by superordinate system.)

Bit 00 forcing for digital output 17
Bit 01 forcing for digital output 18
Bit 02 forcing for digital output 19
Bit 03 forcing for digital output 20
Bit 04 forcing for digital output 21
Bit 05 forcing for digital output 22
Bit 06 forcing for digital output 23
Bit 07 forcing for digital output 24
Bit 08 forcing for digital output 25
Bit 09 forcing for digital output 26
Bit 10 forcing for digital output 27
Bit 11 forcing for digital output 28
Bit 12 forcing for digital output 29
Bit 13 forcing for digital output 30
Bit 14 forcing for digital output 31
Bit 15 forcing for digital output 32

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Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
F.Aus33	r/w	base 1dP	554 16938	33876	Int	0...65535 ☐	Forcing involves the external operation of an output. The instrument has no influence on this output (use of free outputs by superordinate system).

Bit 00 forcing for digital output 33
Bit 01 forcing for digital output 34
Bit 02 forcing for digital output 35
Bit 03 forcing for digital output 36
Bit 04 forcing for digital output 37
Bit 05 forcing for digital output 38
Bit 06 forcing for digital output 39
Bit 07 forcing for digital output 40
Bit 08 forcing for digital output 41
Bit 09 forcing for digital output 42
Bit 10 forcing for digital output 43
Bit 11 forcing for digital output 44
Bit 12 forcing for digital output 45
Bit 13 forcing for digital output 46
Bit 14 forcing for digital output 47
Bit 15 forcing for digital output 48

F.Aus49	r/w	base 1dP	555 16939	33878	Int	0...4096 ☐	Forcing involves the external operation of an output. The instrument has no influence on this output (use of free outputs by superordinate system).

Bit 00 forcing for digital output 49
Bit 01 forcing for digital output 50
Bit 02 forcing for digital output 51
Bit 03 forcing for digital output 52
Bit 04 forcing for digital output 53
Bit 05 forcing for digital output 54
Bit 06 forcing for digital output 55
Bit 07 forcing for digital output 56
Bit 08 forcing for digital output 57
Bit 09 forcing for digital output 58
Bit 10 forcing for digital output 59
Bit 11 forcing for digital output 60

F.Out2	r/w	base 1dP	557 16941	33882	Float	-1999...9999 ☐	Forcing value of the analog output. Forcing involves the external operation of an output, i.e. the instrument has r influence on this output. (Used for the operation of free outputs e.g. by a supervisory PLC.)

Step 0 To 59 By 1 2

DigEin	r	base 1dP	617 17001	34002	Int	0...31 ☐	Bit-wise coded status of the digital inputs

Bit 0 Status of W/W2 switchover
Bit 1 Status of parameter switchover
Bit 2 Status of controller disabling (Coff)
Bit 3 Status of boost activation
Bit 4 Status of auto/manual switchover

18 Visual

• Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
SAInp1	r	base 1dP	618 17002	34004	Int	0...65535 ☐	Bit-wise coded Fail messages of analog inputs 1 ... 16

Bit 00 Fail at input 1
Bit 01 Fail at input 2
Bit 02 Fail at input 3
Bit 03 Fail at input 4
Bit 04 Fail at input 5
Bit 05 Fail at input 6
Bit 06 Fail at input 7
Bit 07 Fail at input 8
Bit 08 Fail at input 9
Bit 09 Fail at input 10
Bit 10 Fail at input 11
Bit 11 Fail at input 12
Bit 12 Fail at input 13
Bit 13 Fail at input 14
Bit 14 Fail at input 15
Bit 15 Fail at input 16

SAInp17	r	base 1dP	619 17003	34006	Int	0...65535 ☐	Bit-wise coded Fail messages of analog inputs 17 ... 32

Bit 00 Fail at input 17
Bit 01 Fail at input 18
Bit 02 Fail at input 19
Bit 03 Fail at input 20
Bit 04 Fail at input 21
Bit 05 Fail at input 22
Bit 06 Fail at input 23
Bit 07 Fail at input 24
Bit 08 Fail at input 25
Bit 09 Fail at input 26
Bit 10 Fail at input 27
Bit 11 Fail at input 28
Bit 12 Fail at input 29
Bit 13 Fail at input 30
Bit 14 Fail at input 31
Bit 15 Fail at input 32

SAInp33	r	base 1dP	620 17004	34008	Int	0...3 ☐	Bit-wise coded Fail messages of analog inputs 33 and 34.

Bit 00 Fail at input 33
Bit 01 Fail at input 34

PV	r	base 1dP	622 17006	34012	Float	-3000...9999 ☐	Measurement value after the measurement value correction (e.g. with offset or 2-point correction, and scaling).

Step 0 To 33 By 1 2

18 Visual

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
Aus1	r	base 1dP	657 17041	34082	Int	0...65535 ☐	Bit-wise coded status of the digital outputs 1...16

Bit 00 status of digital output 1
Bit 01 status of digital output 2
Bit 02 status of digital output 3
Bit 03 status of digital output 4
Bit 04 status of digital output 5
Bit 05 status of digital output 6
Bit 06 status of digital output 7
Bit 07 status of digital output 8
Bit 08 status of digital output 9
Bit 09 status of digital output 10
Bit 10 status of digital output 11
Bit 11 status of digital output 12
Bit 12 status of digital output 13
Bit 13 status of digital output 14
Bit 14 status of digital output 15
Bit 15 status of digital output 16

Name	r/w	Adr.		real	Typ	Value/off	Description
Aus17	r	base 1dP	658 17042	34084	Int	0...65535 ☐	Bit-wise coded status of the digital outputs 17 ... 32

Bit 00 status of digital output 17
Bit 01 status of digital output 18
Bit 02 status of digital output 19
Bit 03 status of digital output 20
Bit 04 status of digital output 21
Bit 05 status of digital output 22
Bit 06 status of digital output 23
Bit 07 status of digital output 24
Bit 08 status of digital output 25
Bit 09 status of digital output 26
Bit 10 status of digital output 27
Bit 11 status of digital output 28
Bit 12 status of digital output 29
Bit 13 status of digital output 30
Bit 14 status of digital output 31
Bit 15 status of digital output 32

18 Visual

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
Aus33	r	base 1dP	659 17043	34086	Int	0...65535 ☐	Bit-wise coded status of the digital outputs 33...48

Bit 00 status of digital output 33
Bit 01 status of digital output 34
Bit 02 status of digital output 35
Bit 03 status of digital output 36
Bit 04 status of digital output 37
Bit 05 status of digital output 38
Bit 06 status of digital output 39
Bit 07 status of digital output 40
Bit 08 status of digital output 41
Bit 09 status of digital output 42
Bit 10 status of digital output 43
Bit 11 status of digital output 44
Bit 12 status of digital output 45
Bit 13 status of digital output 46
Bit 14 status of digital output 47
Bit 15 status of digital output 48

Aus49	r	base 1dP	660 17044	34088	Int	0...4096 ☐	Bit-wise coded status of the digital outputs 49...60

Bit 00 status of digital output 49
Bit 01 status of digital output 50
Bit 02 status of digital output 51
Bit 03 status of digital output 52
Bit 04 status of digital output 53
Bit 05 status of digital output 54
Bit 06 status of digital output 55
Bit 07 status of digital output 56
Bit 08 status of digital output 57
Bit 09 status of digital output 58
Bit 10 status of digital output 59
Bit 11 status of digital output 60

AnaOut2	r	base 1dP	662 17046	34092	Float	-3200...3200 ☐	Present digital value of the analog output signal (ahead of the D/A converter)

Step 0 To 59 By 1 2

S.Ala1	r	base 1dP	722 17106	34212	Int	0...65535 ☐	Bit-wise coded alarms for limit value, heating current, and short-circuit of controllers 1 and 2.

Bit 00 - 01 alarm controller 1 Lim1
Bit 02 - 03 alarm controller 1 Lim2
Bit 04 - 05 alarm controller 1 Lim3
Bit 06 heating current alarm contr.1
Bit 07 short circuit alarm contr.1
Bit 08 - 09 alarm controller 2 Lim1
Bit 10 - 11 alarm controller 2 Lim2
Bit 12 - 13 alarm controller 2 Lim3
Bit 14 heating current alarm contr. 2
Bit 15 short circuit alarm contr. 2

18 Visual

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
S.Ala3	r	base 1dP	723 17107	34214	Int	0...65535 ☐	Bit-wise alarm status coding of the controller 3, 4

Bits 00 - 01 Alarm controller 3 Lim1
Bits 02 - 03 Alarm controller 3 Lim2
Bits 04 - 05 Alarm controller 3 Lim3
Bits 06 Heating current alarm controller 3
Bits 07 Short-circuit alarm controller 3
Bits 08 - 09 Alarm controller 4 Lim1
Bits 10 - 11 Alarm controller 4 Lim2
Bits 12 - 13 Alarm controller 4 Lim3
Bit 14 Heating current alarm controller 4
Bit 15 Short-circuit alarm controller 4

S.Ala5	r	base 1dP	724 17108	34216	Int	0...65535 ☐	Bit-wise alarm status coding of the controller 5, 6

Bit 00 - 01 alarm controller 5 Lim1
Bit 02 - 03 alarm controller 5 Lim2
Bit 04 - 05 alarm controller 5 Lim3
Bit 06 heating current alarm contr.5
Bit 07 short circuit alarm contr.5
Bit 08 - 09 alarm controller 6 Lim1
Bit 10 - 11 alarm controller 6 Lim2
Bit 12 - 13 alarm controller 6 Lim3
Bit 14 heating current alarm contr. 6
Bit 15 short circuit alarm contr. 6

S.Ala7	r	base 1dP	725 17109	34218	Int	0...65535 ☐	Bit-wise alarm status coding of the controller 7, 8

Bit 00 - 01 alarm controller 7 Lim1
Bit 02 - 03 alarm controller 7 Lim2
Bit 04 - 05 alarm controller 7 Lim3
Bit 06 heating current alarm contr.7
Bit 07 short circuit alarm contr.7
Bit 08 - 09 alarm controller 8 Lim1
Bit 10 - 11 alarm controller 8 Lim2
Bit 12 - 13 alarm controller 8 Lim3
Bit 14 heating current alarm contr. 8
Bit 15 short circuit alarm contr. 8

S.Ala9	r	base 1dP	726 17110	34220	Int	0...65535 ☐	Bit-wise coded status of controllers 9, 10

Bit 00 - 01 alarm controller 9 Lim1
Bit 02 - 03 alarm controller 9 Lim2
Bit 04 - 05 alarm controller 9 Lim3
Bit 06 heating current alarm contr.9
Bit 07 short circuit alarm contr.9
Bit 08 - 09 alarm controller 10 Lim1
Bit 10 - 11 alarm controller 10 Lim2
Bit 12 - 13 alarm controller 10 Lim3
Bit 14 heating current alarm contr. 10
Bit 15 short circuit alarm contr. 10

18 Visual

• Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
S.Ala11	r	base 1dP	727 17111	34222	Int	0...65535 ☐	Bit-wise coded status of controllers 11, 12

Bit 00 - 01 alarm controller 11 Lim1
Bit 02 - 03 alarm controller 11 Lim2
Bit 04 - 05 alarm controller 11 Lim3
Bit 06 heating current alarm contr.11
Bit 07 short circuit alarm contr.11
Bit 08 - 09 alarm controller 12 Lim1
Bit 10 - 11 alarm controller 12 Lim2
Bit 12 - 13 alarm controller 12 Lim3
Bit 14 heating current alarm contr. 12
Bit 15 short circuit alarm contr. 12

S.Ala13	r	base 1dP	728 17112	34224	Int	0...65535 ☐	Bit-wise coded status of controllers 13, 14

Bit 00 - 01 alarm controller 3 Lim1
Bit 02 - 03 alarm controller 3 Lim2
Bit 04 - 05 alarm controller 3 Lim3
Bit 06 heating current alarm contr.3
Bit 07 short circuit alarm contr.3
Bit 08 - 09 alarm controller 4 Lim1
Bit 10 - 11 alarm controller 4 Lim2
Bit 12 - 13 alarm controller 4 Lim3
Bit 14 heating current alarm contr. 4
Bit 15 short circuit alarm contr. 4

S.Ala15	r	base 1dP	729 17113	34226	Int	0...65535 ☐	Bit-wise coded status of controllers 15, 16

Bit 00 - 01 alarm controller 15 Lim1
Bit 02 - 03 alarm controller 15 Lim2
Bit 04 - 05 alarm controller 15 Lim3
Bit 06 heating current alarm contr.15
Bit 07 short circuit alarm contr.15
Bit 08 - 09 alarm controller 16 Lim1
Bit 10 - 11 alarm controller 16 Lim2
Bit 12 - 13 alarm controller 16 Lim3
Bit 14 heating current alarm contr. 16
Bit 15 short circuit alarm contr. 16

S.Ala17	r	base 1dP	730 17114	34228	Int	0...65535 ☐	Bit-wise coded status of controllers 17, 18

Bit 00 - 01 alarm controller 17 Lim1
Bit 02 - 03 alarm controller 17 Lim2
Bit 04 - 05 alarm controller 17 Lim3
Bit 06 heating current alarm contr.17
Bit 07 short circuit alarm contr.17
Bit 08 - 09 alarm controller 18 Lim1
Bit 10 - 11 alarm controller 18 Lim2
Bit 12 - 13 alarm controller 18 Lim3
Bit 14 heating current alarm contr. 18
Bit 15 short circuit alarm contr. 18

18 Visual

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
S.Ala19	r	base 1dP	731 17115	34230	Int	0...65535 ☐	Bit-wise coded status of controllers 19, 20

Bit 00 - 01 alarm controller 19 Lim1
Bit 02 - 03 alarm controller 19 Lim2
Bit 04 - 05 alarm controller 19 Lim3
Bit 06 heating current alarm contr.19
Bit 07 short circuit alarm contr.19
Bit 08 - 09 alarm controller 20 Lim1
Bit 10 - 11 alarm controller 20 Lim2
Bit 12 - 13 alarm controller 20 Lim3
Bit 14 heating current alarm contr. 20
Bit 15 short circuit alarm contr. 20

S.Ala21	r	base 1dP	732 17116	34232	Int	0...65535 ☐	Bit-wise coded status of controllers 21, 22

Bit 00 - 01 alarm controller 21 Lim1
Bit 02 - 03 alarm controller 21 Lim2
Bit 04 - 05 alarm controller 21 Lim3
Bit 06 heating current alarm contr.21
Bit 07 short circuit alarm contr.21
Bit 08 - 09 alarm controller 22 Lim1
Bit 10 - 11 alarm controller 22 Lim2
Bit 12 - 13 alarm controller 22 Lim3
Bit 14 heating current alarm contr. 22
Bit 15 short circuit alarm contr. 22

S.Ala23	r	base 1dP	733 17117	34234	Int	0...65535 ☐	Bit-wise coded status of controllers 23, 24

Bit 00 - 01 alarm controller 23 Lim1
Bit 02 - 03 alarm controller 23 Lim2
Bit 04 - 05 alarm controller 23 Lim3
Bit 06 heating current alarm contr.23
Bit 07 short circuit alarm contr.23
Bit 08 - 09 alarm controller 24 Lim1
Bit 10 - 11 alarm controller 24 Lim2
Bit 12 - 13 alarm controller 24 Lim3
Bit 14 heating current alarm contr. 24
Bit 15 short circuit alarm contr. 24

S.Ala25	r	base 1dP	734 17118	34236	Int	0...65535 ☐	Bit-wise coded status of controllers 25, 26

Bit 00 - 01 alarm controller 25 Lim1
Bit 02 - 03 alarm controller 25 Lim2
Bit 04 - 05 alarm controller 25 Lim3
Bit 06 heating current alarm contr.25
Bit 07 short circuit alarm contr.25
Bit 08 - 09 alarm controller 26 Lim1
Bit 10 - 11 alarm controller 26 Lim2
Bit 12 - 13 alarm controller 26 Lim3
Bit 14 heating current alarm contr. 26
Bit 15 short circuit alarm contr. 26

18 Visual

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
S.Ala27	r	base 1dP	735 17119	34238	Int	0...65535 ☐	Bit-wise coded status of controllers 27, 28

Bit 00 - 01 alarm controller 27 Lim1
Bit 02 - 03 alarm controller 27 Lim2
Bit 04 - 05 alarm controller 27 Lim3
Bit 06 heating current alarm contr.27
Bit 07 short circuit alarm contr.27
Bit 08 - 09 alarm controller 28 Lim1
Bit 10 - 11 alarm controller 28 Lim2
Bit 12 - 13 alarm controller 28 Lim3
Bit 14 heating current alarm contr. 28
Bit 15 short circuit alarm contr. 28

S.Ala29	r	base 1dP	736 17120	34240	Int	0...65535 ☐	Bit-wise coded status of controllers 29, 30

Bit 00 - 01 alarm controller 29 Lim1
Bit 02 - 03 alarm controller 29 Lim2
Bit 04 - 05 alarm controller 29 Lim3
Bit 06 heating current alarm contr.20
Bit 07 short circuit alarm contr.20
Bit 08 - 09 alarm controller 30 Lim1
Bit 10 - 11 alarm controller 30 Lim2
Bit 12 - 13 alarm controller 30 Lim3
Bit 14 heating current alarm contr. 30
Bit 15 short circuit alarm contr. 30

Hc.Me	r	base 1dP	737 17121	34242	Float	0...9999 ☑	Heating current measurement value for the controller. If several heating current monitors are active for one controller, the sum of the heating current measurements is indicated.

Step 0 To 29 By 1 2

18 Visual

Signal

Name	r/w	Adr.	real	Typ	Value/off	Description
C.Sta	r	base 772 1dP 17156	34312	Int	0...65535 ☐	Status informations of the controller.f.e. switching signals, controller off or informations about selftuning. The controller sratus shows the actual adjustments of the controller.
Step 0 To 29 By 7			14			Bit 0: Switching signal heating: 0: off 1: on Bit 1: Switching signal cooling: 0: off 1: on Bit 2: Sensor error 0: ok 1: error Bit 3: Controlsignal: Manual/automatic 0: automatic 1: manual Bit 4: Controlsignal: Y2 0: Y2 not activ 1: Y2 activ Bit 5: Controlsignal: Ext. setting of outputsignal 0: not activ 1: activ Bit 6: Controlsignal: Controller off 0: contr. on 1: contr. off Bit 7: Controlsignal:The activ parameter set 0: parameterset 1 1: parameterset 2 Bit 8: Loopalarm 0: no alarm 1: alarm Bit 9: Soft start function 0: not activ 1: activ Bit 10: Rate to setpoint 0: not activ 1: activ Bit 11: Not used Bit 12-15: Internal functional statuses (operating state) 0 0 0 0 Automatic 0 0 0 1 Selftuning is running 0 0 1 0 Selftuning faulty (Waiting for operator signal) 0 0 1 1 Sensor error 0 1 0 0 Not used 0 1 0 1 Manual 0 1 1 1 Not used 1 0 0 0 Manual, with external presetting of the outputsignal 1 0 0 1 Outputs switched off (neutral) 1 0 1 0 Abortion of the selftuning (by control- or error-signal)	
Ypid	r	base 773 1dP 17157	34314	Float	-120...120 ☐	Output value Ypid is the output signal determined by the controller, and from which the switching pulses for the digital and analog control outputs are calculated. Ypid is also available as an analog signal. e.g. for visualization.
Step 0 To 29 By 7			14			
X.Eff	r	base 774 1dP 17158	34316	Float	-1999...9999 ☐	Effective process value. The value resulting from input scaling and measurement value processing, i.e. after input signal processing. Comparison of the effective process value with the effective setpoint results in the value for control deviation, and the corresponding controller response.
Step 0 To 29 By 7			14			

18 Visual

Signal

Name	r/w	Adr.		real	Typ	Value/off	Description
SP.EF	r	base 1dP	775 17159	34318	Float	-1999...9999 ☐	Effective setpoint. The value reached at the end of setpoint processing, after taking W2, external setpoint, gradient, boost function, programmer settings, start-up function, and limit functions into account. Comparison with the effective process value leads to the control deviation, from which the necessary controller response is derived.
Step 0 To 29 By			7	14			
T.Sta	r	base 1dP	776 17160	34320	Int	0...65535 ☐	Status information during self-tuning, e.g. the actual condition, and possible results, warnings, and error messages.
Step 0 To 29 By			7	14			Bit 0 Process lined out; 0 = No; 1 = Yes Bit 1 Operating mode 'Self-tuning controller; 0 = Off; 1 = On Bit 2 Result of controller self-tuning; 0 = OK; 1 = Fault Bit 3 - 7 Not used Bit 8 - 11 Result of the 'heating' attempt 0 0 0 0 No message / Attempt still running 0 0 0 1 Successful 0 0 1 0 Successful, with risk of exceeded setpoint 0 0 1 1 Error: Wrong operating sense 0 1 0 0 Error: No response from process 0 1 0 1 Error: Turning point too low 0 1 1 0 Error: Risk of exceeded setpoint 0 1 1 1 Error: Step output too small 1 0 0 0 Error: Setpoint reserve too small Bit 12 - 15 Result of 'cooling' attempt (same as heating attempt)
C.Steuer	r/w	base 1dP	777 17161	34322	Int	0...65535 ☐	The control word contains the controller settings required by the user to determine the sequence of their activation, e.g. switchover after manual operation or start of the self-tuning function.
Step 0 To 29 By			7	14			Bit 0 W/W2 0 = W; 1 = W2 Bit 1 Par1/2 0 = Param.1; 1 = Param.2 Bit 2 Coff 0 = On; 1 = Off Bit 3 Boost 0 = Normal; 1 = Boost Bit 4 A/M 0 = Automatic; 1 = Manual Bit 5 Y/Y2 0 = Y; 1 = Y2 Bit 6 AlarmReset 0 = Normal; 1 = Reset Bits 7 - 13 Not used Bit 14 Start of self-tuning0 = Stop; 1 = Start Bit 15 The controller's parameters have been changed by the self-tuning function. 0 = Not changed; 1 = Changed

Subject to alternation without notice.
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P.O.B 31 02 29, D - 34058 Kassel Germany