

FC3.10 - Modbus-Registerliste

Anwendungsbeispiele:

Beispiel Nr.1:

Die gewünschte Solltemperatur des Warmwassers soll von 60 °C auf 55 °C geändert werden. Bitte das Register 527 über GLT/BMS auslesen (erscheint '60') und anschließend diesen Wert auf '55' ändern.

Beispiel Nr.2:

Die Ansteuerung der Primärpumpe soll auf PWM=64% eingestellt werden. Bitte ändern Sie den Wert im Register 362 von 1 auf 0. Hierdurch wird der Handbetrieb für die Primärpumpe aktiviert (Automatikmodus wird deaktiviert). '640' in das Register 522 um den PWM Wert auf 64 % einzustellen. Schreiben Sie als nächstes den Wert.

Beispiel Nr.3:

Sie wollen erfahren ob alle Sensoren funktionieren? Bitte lesen Sie dafür die bitcodierte Register 512 und 513 aus. Der gelesene Dezimalwert des Registers 512 ist z.B. '4' (Umrechnung in Binär '0100'). Laut der Modbus Register Dokumentation entspricht dies einem Fehler (Unterbrechung) des Sensors im Pufferspeicher ('S3').

Beispiel Nr.4:

Sie wollen die aktuellen Temperaturen am Tkw Sensor einer Kaskade von 1, Server 2 und Server 3 ermitteln. Lesen Sie dazu folgende Register aus: 6516, 7516 und 8516. Der ausgelesene Wert von z.B. '155' bedeutet eine Temperatur in Höhe von 15,5 °C.

Application examples:

Example No. 1:

The desired setpoint temperature for the domestic hot water should be changed from 60 °C to 55 °C. Please read register 527 via the BMS (Building Management System) – it will show '60' – and then change this value to '55'.

Example No. 2:

The control of the primary pump should be set to PWM = 64%. Please change the value in register 362 from 1 to 0. This activates manual operation for the primary pump (automatic mode is deactivated). Next, write the value '640' into register 522 to set the PWM value to 64%.

Example No. 3:

To check if all sensors are working, read registers 512 and 513. For example, a value of '4' in register 512 (binary: '0100') indicates a fault in the buffer tank sensor ('S3').

Example No. 4:

To check the current Tkw temperatures of a cascade (Server 1–3), read registers 6516, 7516, and 8516. A value like '155' means 15.5 °C.



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Bezeichnung Designation	Bereich Range
Hardware	1-60
Zeit	90-99
Control parameter	100-499
Current values	500-599
Debug	600-899
Statistic	900-999
Parameter range values	1000-1099
Message - Desinfection	1100-1120
Message - Alarmmeldungen	1200-1499
Message - Parameter history	4000-4799
System parameter	1900-1999
MB3.10 system parameter	5000-5006
MB3.10 current data	5010-5060
Server 1	6013-6999
Server 2	7013-7999
Server 3	8013-8999

Bez.	Default	Ab FW	Werte
ID	64	3.0.x	1-247
Baud	38400	3.0.x	2400, 4800, 9600, 19200,
Parity	Odd	1.0.3	None, even, odd
Data Bit	8	3.0.x	8, 9
Stop Bit	1	3.0.x	1, 2

Unterstützte Funktioncodes: 03, 06, 16 || Supported function codes: 03, 06, 16

Anzahl gleichzeitig abzurufende Register: 125 || Number of registers to be called up simultaneously: 125

read	Kann dieses Register gelesen werden? x: Ja -: Nein
write User	Ist dieses Register mit dem Kunden-Bedienercode änderbar? x: Ja -: Nein
write Spec.	Ist dieses Register mit dem Installateur-Bedienercode änderbar? x: Ja -: Nein

Reg.	Name	Note	Type	read	write User	write Spec.	Technical field	Ab FW	Write Interval > 12min (20Y EEPROM)	Group
1	FW Date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		2.1.4		Hardware
2	FW Time	Hour * 100 + Minute	uint16	x	-	-		2.1.4		Hardware
3	FW Version - Major release	Major release	uint16	x	-	-		2.1.4		Hardware
4	FW Version - Minor release	Minor release	uint16	x	-	-		2.1.4		Hardware
5	FW Version - patch level	Patch level	uint16	x	-	-		2.1.4		Hardware
6	FW Build Nummer		uint16	x	-	-		2.1.4		Hardware
7	PCB Version		uint16	x	-	-		2.1.4		Hardware
8	Assembly variant		uint16	x	-	-		2.1.4		Hardware
13	Bootloader FW Version - Major release	Major release	uint16	x	-	-		3.0.x		Hardware
14	Bootloader FW Version - Minor release	Minor release	uint16	x	-	-		3.0.x		Hardware
15	Bootloader FW Version - patch level	Patch level	uint16	x	-	-		3.0.x		Hardware
50	MB3.10 FW Date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		2.1.4		Hardware
51	MB3.10 FW Time	Hour * 100 + Minute	uint16	x	-	-		2.1.4		Hardware
52	MB3.10 FW Version - Major release	Major release	uint16	x	-	-		2.1.4		Hardware
53	MB3.10 FW Version - Minor release	Minor release	uint16	x	-	-		2.1.4		Hardware
54	MB3.10 FW Version - patch level	Patch level	uint16	x	-	-		2.1.4		Hardware
55	MB3.10 FW Build Nummer		uint16	x	-	-		2.1.4		Hardware
56	MB3.10 PCB Version		uint16	x	-	-		2.1.4		Hardware
57	MB3.10 Assembly variant		uint16	x	-	-		2.1.4		Hardware
58	MB3.10 Bootloader FW Version - Major release	Major release	uint16	x	-	-		3.0.x		Hardware
59	MB3.10 Bootloader FW Version - Minor release	Minor release	uint16	x	-	-		3.0.x		Hardware
60	MB3.10 Bootloader FW Version - patch level	Patch level	uint16	x	-	-		3.0.x		Hardware
90	Day		uint8	x	x	x		1.0.3		DateTime
91	Month		uint8	x	x	x		1.0.3		DateTime
92	Year	YYYY	uint16	x	x	x		1.0.3		DateTime
93	Hour		uint8	x	x	x		1.0.3		DateTime
94	Minute		uint8	x	x	x		1.0.3		DateTime
95	Second		uint8	x	x	x		1.0.3		DateTime
100	Circulation available	Default: 0 0: No 1: Yes	uint8	x	x	x		1.0.3	x	Ctrl. Para.
101	Circulation temperature mode available	Default: 0 0: No 1: Yes	uint8	x	x	x	Can the controller use the circulation temperature leaded func. No status!	1.0.3	x	Ctrl. Para.
102	Circulation time mode available	Default: 0 0: No 1: Yes	uint8	x	x	x	Can the controller use the circulation time func. No status!	1.0.3	x	Ctrl. Para.
103	Circulation on demand mode available	Default: 0 0: No 1: Yes	uint8	x	x	x	Can the controller use the circulation on demand function No status!	1.0.3	x	Ctrl. Para.
104	Circulation sensor	Value = Module ID * 10 + Sensor no. Module ID: 0: Own pin 1: Master 2: Server 1 3: Server 2 ... Sensor number 0: No selection 1: S1 2: S2 3: S3 4: S4		x	x	x		1.0.3	x	Ctrl. Para.
105	Circulation PWM	Default: 100% Resolution 1%	uint8	x	x	x		1.0.3	x	Ctrl. Para.
106	Circulation T mode temperature switch on	Default: 55 °C Range: T-WW-Soll min to T-Zirk. OFF - 2K Resolution 1 °C	uint8	x	x	x		1.0.3	x	Ctrl. Para.
107	Circulation T mode delta T switch off	Default: 2K Range: 2K - 10K	uint8	x	x	x		1.0.3	x	Ctrl. Para.
108	Circulation time mode	0: Time control 1: Continuous	uint16	x	x	x		1.0.3	x	Ctrl. Para.
109	Circulation on demand work time	Default: 60s Resolution 1s	uint16	x	x	x	0 - 600s	1.0.3	x	Ctrl. Para.
110	Circulation on demand break time	Default: 10min Resolution 1min	uint8	x	x	x	0 - 60 Minutes	1.0.3	x	Ctrl. Para.
111	Circulation Monday Timer 1 Start	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
112	Circulation Monday Timer 1 Ende	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
113	Circulation Monday Timer 2 Start	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
114	Circulation Monday Timer 2 Ende	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
115	Circulation Monday Timer 3 Start	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
116	Circulation Monday Timer 3 Ende	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
117	Circulation Monday Timer 4 Start	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
118	Circulation Monday Timer 4 Ende	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
119	Circulation Monday Timer 5 Start	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
120	Circulation Monday Timer 5 Ende	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
121	Circulation Tuesday Timer 1 Start	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
122	Circulation Tuesday Timer 1 Ende	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
123	Circulation Tuesday Timer 2 Start	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.

205	Circulation Friday Timer 5 Enabled	0: Disabled 1: Enabled	uint8	x	x	x		1.0.3	x	Ctrl. Para.
206	Circulation Saturday Timer 1 Enabled	0: Disabled 1: Enabled	uint8	x	x	x		1.0.3	x	Ctrl. Para.
207	Circulation Saturday Timer 2 Enabled	0: Disabled 1: Enabled	uint8	x	x	x		1.0.3	x	Ctrl. Para.
208	Circulation Saturday Timer 3 Enabled	0: Disabled 1: Enabled	uint8	x	x	x		1.0.3	x	Ctrl. Para.
209	Circulation Saturday Timer 4 Enabled	0: Disabled 1: Enabled	uint8	x	x	x		1.0.3	x	Ctrl. Para.
210	Circulation Saturday Timer 5 Enabled	0: Disabled 1: Enabled	uint8	x	x	x		1.0.3	x	Ctrl. Para.
211	Circulation Sunday Timer 1 Enabled	0: Disabled 1: Enabled	uint8	x	x	x		1.0.3	x	Ctrl. Para.
212	Circulation Sunday Timer 2 Enabled	0: Disabled 1: Enabled	uint8	x	x	x		1.0.3	x	Ctrl. Para.
213	Circulation Sunday Timer 3 Enabled	0: Disabled 1: Enabled	uint8	x	x	x		1.0.3	x	Ctrl. Para.
214	Circulation Sunday Timer 4 Enabled	0: Disabled 1: Enabled	uint8	x	x	x		1.0.3	x	Ctrl. Para.
215	Circulation Sunday Timer 5 Enabled	0: Disabled 1: Enabled	uint8	x	x	x		1.0.3	x	Ctrl. Para.
216	Stratification available	Default: 0 0: Deactivated 1: Thermostat 2: Temperature difference	uint8	x	x	x	No status!	1.0.3	x	Ctrl. Para.
217	Stratification sensor	Value = Module ID * 10 + Sensor no. Module ID: 0: Own pin 1: Master 2: Server 1 3: Server 2 ... Sensor number 0: No selection 1: S1 2: S2 3: S3 4: S4 5: Tkw cascade	uint16	x	x	x		1.0.3	x	Ctrl. Para.
218	Stratification relay	Value = Module ID * 10 + Relay no. Module ID: 0: Own pin / own controller 1: Master 2: Server 1 3: Server 2 ... Relay number 0: No selection 1: R1 2: R2 3: R3		x	x	x		1.0.3	x	Ctrl. Para.
220	Stratification switch on temperature	Default: 35°C Resolution 1°C	uint8	x	x	x		1.0.3	x	Ctrl. Para.
221	Stratification hysteresis	Default: 5K Resolution 1K	uint8	x	x	x		1.0.3	x	Ctrl. Para.
222	Stratification deltaT ON	Default: 10K Resolution 1K	uint8	x	x	x		1.0.3	x	Ctrl. Para.
223	Stratification deltaT OFF	Default: 6K Resolution 1K	uint8	x	x	x		1.0.3	x	Ctrl. Para.
224	Modulating hot water temperature available	Default: 0 0: No 1: Yes	uint8	x	x	x	No status!	1.0.3	x	Ctrl. Para.
225	Comfort function available	0: Deactive 1: Time controll 2: Continuous	uint16	x	x	x	Can the controller use the comfort function No status!	1.0.3	x	Ctrl. Para.
226	Comfort break time	Default: 10min Resolution 1min	uint8	x	x	x		1.0.3	x	Ctrl. Para.
227	Comfort deltaT	Default: 5K Range: 1-20 Resolution 1K	uint8	x	x	x		1.0.3	x	Ctrl. Para.
228	Comfort PWM	PWM Comfort Function		x	x	x		1.0.3	x	Ctrl. Para.
229	Comfort Monday Timer 1 Start	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
230	Comfort Monday Timer 1 Ende	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
231	Comfort Monday Timer 2 Start	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
232	Comfort Monday Timer 2 Ende	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
233	Comfort Monday Timer 3 Start	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
234	Comfort Monday Timer 3 Ende	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
235	Comfort Monday Timer 4 Start	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
236	Comfort Monday Timer 4 Ende	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
237	Comfort Monday Timer 5 Start	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
238	Comfort Monday Timer 5 Ende	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
239	Comfort Tuesday Timer 1 Start	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
240	Comfort Tuesday Timer 1 Ende	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
241	Comfort Tuesday Timer 2 Start	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
242	Comfort Tuesday Timer 2 Ende	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
243	Comfort Tuesday Timer 3 Start	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
244	Comfort Tuesday Timer 3 Ende	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
245	Comfort Tuesday Timer 4 Start	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
246	Comfort Tuesday Timer 4 Ende	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
247	Comfort Tuesday Timer 5 Start	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
248	Comfort Tuesday Timer 5 Ende	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
249	Comfort Wednesday Timer 1 Start	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
250	Comfort Wednesday Timer 1 Ende	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
251	Comfort Wednesday Timer 2 Start	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
252	Comfort Wednesday Timer 2 Ende	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
253	Comfort Wednesday Timer 3 Start	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
254	Comfort Wednesday Timer 3 Ende	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
255	Comfort Wednesday Timer 4 Start	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
256	Comfort Wednesday Timer 4 Ende	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
257	Comfort Wednesday Timer 5 Start	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
258	Comfort Wednesday Timer 5 Ende	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
259	Comfort Thursday Timer 1 Start	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
260	Comfort Thursday Timer 1 Ende	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.
261	Comfort Thursday Timer 2 Start	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Ctrl. Para.

334	Disinfection available	0: No 1: Yes	uint16	x	x	x	Checkbox in the submenu "function" from the subitem Disinfection	1.0.3	x	Ctrl. Para.
335	Disinfection temperature	Default: 73°C Range: 60°C - 80°C Resolution 1°C	uint8	x	x	x		1.0.3	x	Ctrl. Para.
336	Disinfection start hour	Hour	uint16	x	x	x		1.0.3	x	Ctrl. Para.
337	Disinfection duration	Minutes, 10 bis 240 min	uint16	x	x	x		1.0.3	x	Ctrl. Para.
338	Disinfection OK after	Minutes	uint16	x	x	x	Disinfection OK after this time	1.0.3	x	Ctrl. Para.
339	Disinfection stop before time	Default: ??? 0: deactivated 1: activated	uint8	x	x	x	Thermal disinfection 1: When the thermal disinfection is successful, the remaining time can ignore.	1.0.3	x	Ctrl. Para.
340	Disinfection-monday-activated	0: Disabled 1: Enabled	uint16	x	x	x		1.0.3	x	Ctrl. Para.
341	Disinfection-tuesday-activated	0: Disabled 1: Enabled	uint16	x	x	x		1.0.3	x	Ctrl. Para.
342	Disinfection-wendsday-activated	0: Disabled 1: Enabled	uint16	x	x	x		1.0.3	x	Ctrl. Para.
343	Disinfection-thursday-activated	0: Disabled 1: Enabled	uint16	x	x	x		1.0.3	x	Ctrl. Para.
344	Disinfection-friday-activated	0: Disabled 1: Enabled	uint16	x	x	x		1.0.3	x	Ctrl. Para.
345	Disinfection-saturday-activated	0: Disabled 1: Enabled	uint16	x	x	x		1.0.3	x	Ctrl. Para.
346	Disinfection-sunday-activated	0: Disabled 1: Enabled	uint16	x	x	x		1.0.3	x	Ctrl. Para.
347	Error relay available	0: No 1: Yes	uint16	x	x	x		1.0.3	x	Ctrl. Para.
348	Error relay	Value = Module ID * 10 + Relay no. Module ID: 0: Own pin / own controller 1: Master 2: Server 1 3: Server 2 ... Relay number 0: No selection 1: R1 2: R2 3: R3	uint16	x	x	x	New values!	1.0.3	x	Ctrl. Para.
349	Error relay trigger	Bit coded 0: Inverted 1: Pt1000 error 2: VFS/US error 3: uC error 4: RTC error 5: Communication error 6: Desinfection error	uint16	x	x	x		1.0.3	x	Ctrl. Para.
350	Parallel relay available Client / Single controller	0: No 1: Yes	uint16	x	x	x		1.0.3	x	Ctrl. Para.
351	Parallel relay Client / Single controller	Coding	uint16	x	x	x	New values!	8.7.6x	x	Ctrl. Para.
353	Hygienic flush available	0: No 1: Yes	uint16	x	x	x		1.0.3	x	Ctrl. Para.
354	Hygienic Start time	Hour	uint16	x	x	x		1.0.3	x	Ctrl. Para.
355	Hygienic duration	Seconds	uint16	x	x	x		1.0.3	x	Ctrl. Para.
356	Buffer storage available	0: No 1: Yes		x	-	x	Checkbox at the subitem "Buffer storage"	1.0.3	x	Ctrl. Para.
357	Reheating available	0: No 1: Yes		x	-	x	Checkbox at the subitem "Reheating"	1.0.3	x	Ctrl. Para.
358	Buffer storage /Reheating sensor	Value = Module ID * 10 + Sensor no. Module ID: 0: Own pin 1: Master 2: Server 1 3: Server 2 ... Sensor number 0: No selection 1: S1 2: S2 3: S3 4: S4		x	-	x		1.0.3	x	Ctrl. Para.
359	Buffer storage relay	Value = Module ID * 10 + Relay no. Module ID: 0: Own pin / own controller 1: Master 2: Server 1 3: Server 2 ... Relay number 0: No selection 1: R1 2: R2 3: R3		x	-	x		1.0.3	x	Ctrl. Para.
362	Operating mode primary pump	0: manual mode 1: automatic mode	uint8	x	x	x	PWM signal	1.0.3		Ctrl. Para.
363	Operating mode circulation pump	0: manual mode 1: automatic mode	uint8	x	x	x	PWM signal	1.0.3		Ctrl. Para.
364	Operating mode output R1	0: manual mode 1: automatic mode	uint8	x	x	x		1.0.3		Ctrl. Para.
365	Operating mode output R2	0: manual mode 1: automatic mode	uint8	x	x	x		1.0.3		Ctrl. Para.
366	Operating mode output R3	0: manual mode 1: automatic mode	uint8	x	x	x		1.0.3		Ctrl. Para.
367	Operating mode input S1	0: manual mode 1: automatic mode	uint8	x	x	x		1.0.3		Ctrl. Para.
368	Operating mode input S2	0: manual mode 1: automatic mode	uint8	x	x	x		1.0.3		Ctrl. Para.
369	Operating mode input S3	0: manual mode 1: automatic mode	uint8	x	x	x		1.0.3		Ctrl. Para.
370	Operating mode input S4	0: manual mode 1: automatic mode	uint8	x	x	x		1.0.3		Ctrl. Para.
371	Operating mode VFS/US T - Connector 1	0: manual mode 1: automatic mode	uint8	x	x	x		1.0.3		Ctrl. Para.

372	Operating mode VFS/US V - Connector 1	0: manual mode 1: automatic mode	uint8	x	x	x		1.0.3		Ctrl. Para.
373	Operating mode VFS/US T - Connector 2	0: manual mode 1: automatic mode	uint8	x	x	x		1.0.3		Ctrl. Para.
374	Operating mode VFS/US V - Connector 2	0: manual mode 1: automatic mode	uint8	x	x	x		1.0.3		Ctrl. Para.
377	Modul 2 switching ON flow	Default: 256 Resolution 0.1 l/min e.g.: 25.6l/min -> 256	int16	x	-	-	Cascade point of changeover	1.0.3	x	Ctrl. Para.
378	Modul 2 switching OFF flow	Default: 192 Resolution 0.1 l/min e.g.: 19.2l/min -> 192	int16	x	-	-	Cascade point of changeover	1.0.3	x	Ctrl. Para.
379	Modul 3 switching ON flow	Default: 512 Resolution 0.1 l/min Bsp.: 51.2l/min -> 512	int16	x	-	-	Cascade point of changeover	1.0.3	x	Ctrl. Para.
380	Modul 3 switching OFF flow	Default: 288 Resolution 0.1 l/min e.g.: 28.8l/min -> 288	int16	x	-	-	Cascade point of changeover	1.0.3	x	Ctrl. Para.
381	Modul 4 switching ON flow	Default: 768 Resolution 0.1 l/min e.g.: 76.8l/min -> 768	int16	x	-	-	Cascade point of changeover	1.0.3	x	Ctrl. Para.
382	Modul 4 switching OFF flow	Default: 384 Resolution 0.1 l/min e.g.: 38.4l/min -> 384	int16	x	-	-	Cascade point of changeover	1.0.3	x	Ctrl. Para.
383	Modul switching On	Default: 80 Resolution 1%	int16	x	-	x		1.0.3	x	Ctrl. Para.
384	Modul switching Off	Default: 30 Resolution 1%	int16	x	-	x		1.0.3	x	Ctrl. Para.
385	Time modul change	Default: 0s Range: 0s - 600s	int16	x	-	x	Step: 10s	1.0.3	x	Ctrl. Para.
387	Change stand by modul after	Default value 420 minutes Range: 1 minute - 420 minutes	uint16	x	-	x	Time after the stand by module change	2.1.4	x	Ctrl. Para.
396	Optimized learning active	0: deactive 1: active	uint8	x	-	x		>8.7.49	x	Ctrl. Para.
397	Optimized learning dT	Range: -10K to 30K	uint8	x	-	x		>8.7.49	x	Ctrl. Para.
398	Circulation flow	Resolution: 0.1 l/min	uint8	x	?	?		>8.7.xx	x	Ctrl. Para.
500	S1	Resolution 0.1 °C 9999: Unterbrechung -9999: Short circuit	int16	x	x	x	read: With decimalplace example: 14.3 °C -> 143 write: Without decimal place example: 60°C -> 60	1.0.3	x (manual mode)	Current values
501	S2	Resolution 0.1 °C 9999: Unterbrechung -9999: Short circuit	int16	x	x	x	read: With decimalplace example: 14.3 °C -> 143 write: Without decimal place example: 60°C -> 60	1.0.3	x (manual mode)	Current values
502	S3	Resolution 0.1 °C 9999: Unterbrechung -9999: Short circuit	int16	x	x	x	read: With decimalplace example: 14.3 °C -> 143 write: Without decimal place example: 60°C -> 60	1.0.3	x (manual mode)	Current values
503	S4	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	read: With decimalplace example: 14.3 °C -> 143 write: Without decimal place example: 60°C -> 60	1.0.3	x (manual mode)	Current values
504	VFS/US 1 T	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	read: With decimalplace example: 14.3 °C -> 143 write: Without decimal place example: 60°C -> 60	1.0.3	x (manual mode)	Current values
505	VFS/US 1 V	Resolution 0.1 l/min 9999: Interruption -9999: Short circuit	int16	x	x	x	read / write: With decimalplace example: 5.4l/min -> 54	1.0.3	x (manual mode)	Current values
506	VFS/US 2 T	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	read: With decimalplace example: 14.3 °C -> 143 write: Without decimal place example: 60°C -> 60	1.0.3	x (manual mode)	Current values
507	VFS/US 2 V	Resolution 0.1 l/min 9999: Interruption -9999: Short circuit	int16	x	x	x	read / write: With decimalplace example: 5.4l/min -> 54	1.0.3	x (manual mode)	Current values
508	Status 1 - Manual mode / Error exists	Bit coded 0: Error exists 1: Pri. pump pwm manual mode 2: Circ. pwm manual mode 3: Output R1 manual mode 4: Output R2 manual mode 5: Output R3 manual mode 6: S1 manual mode 7: S2 manual mode 8: S3 manual mode 9: S4 manual mode 10: VFS/US 1 T manual mode 11: VFS/US 1 V manual mode 12: VFS/US 2 T manual mode 13: VFS/US 2 V manual mode 14: --- 15: ---	uint16	x	-	-	Section to retrieve: 0: System parameter 1: Control parameter 2: Statistics	1.0.3		Current values

509	Status 2 - Function	Bit coded 0: Circ. function T available 1: Circ. function time available 2: Circ. function on demand available 3: Circ. function T active 4: Circ. function time active 5: Circ. function on demand active 6: Stratification of return available 7: Stratification of return Locked protection active 8: Modulation hot water available 9: Modulation hot water active 10: Comfort function available 11: Comfort function active 12: Comfort function pump locked 13: Disinfection available 14: Disinfection active 15: Disinfection last one successful	uint16	x	-	-	Bit 12: When the temperature is after 100s to low, there is a protection (wait time) from 1h.	1.0.3		Current values
510	Status 3 - Function	Bit coded 0: Error relay available 1: Error relay active 2: Parallel relay available 3: Parallel relay active 4: Hygienic flush available 5: Hygienic flush active 6: Buffer storage available 7: Buffer storage active 8: Heating available 9: Heating active 10: Overtemperature protection active 11: Average flow active 12: Cascade valve on 13: User plant user 14: User plumber 15: User PAW	uint16	x	-	-		1.0.3		Current values
511	Status 4	Bit coded 0: First start up pass 1: Hydraulic system adaptation running 2: Cascade valve open 3: Short tap volume detected. Circulation pump must start. 4: Remote write protection active	uint16	x	-	-		1.0.3		Current values
512	Status 5 - Sensor error	Bit coded 0: Tvl interruption 1: Tvl short circuit 2: Tbuffer interruption 3: Tbuffer short circuit 4: Tww interruption 5: Tww short circuit 6: Tkw interruption 7: Tkw short circuit 8: Tstratification interruption 9: Tstratification short circuit 10: Tcirculation interruption 11: Tcirculation short circuit 12: VFS/US 1 T interruption 13: VFS/US 1 T short circuit 14: VFS/US 1 V interruption 15: VFS/US 1 V short circuit	uint16	x	-	-		1.0.3		Current values
513	Status 6 - Sensor error	Bit coded 0: VFS/US 2 T interruption 1: VFS/US 2 T short circuit 2: VFS/US 2 V interruption 3: VFS/US 2 V short circuit 4: RTC error 5: uC error 6: --- 7: ---	uint16	x	-	-		1.0.3		Current values
514	Tvl	Resolution 0.1 °C 9999: Unterbrechung -9999: Short circuit	int16	x	-	-	14.3 °C -> 143 Temperature primary warm sensor	1.0.3		Current values
515	Tww	Resolution 0.1 °C 9999: Unterbrechung -9999: Short circuit	int16	x	-	-	14.3 °C -> 143 Temperature secondary warm sensor	1.0.3		Current values
516	Tkw	Resolution 0.1 °C 9999: Unterbrechung -9999: Short circuit	int16	x	-	-	14.3 °C -> 143 Temperature secondary cold sensor	1.0.3		Current values
517	T buffer	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	-	-	14.3 °C -> 143 Temperature buffer sensor	1.0.3		Current values
518	T stratification	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	-	-	14.3 °C -> 143 Temperature stratification of return sensor	1.0.3		Current values
519	T circulation	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	-	-	14.3 °C -> 143 Temperature circulation sensor	1.0.3		Current values
521	Vsecondary	Resolution 0.1 l/min 9999 = Interruption -8888 = No sensor	int16	x	-	-	17.5 l/min -> 175 Secondary flow (flowsensor 1)	1.0.3		Current values
522	PWM primary	Resolution 0.1%	int16	x	x	x	50% -> 500	1.0.3		Current values
523	PWM circulation	Resolution 0.1%	int16	x	x	x	50% -> 500	1.0.3		Current values
524	Control output R1	0: Off 100: On	uint8	x	x	x	Only writable in manual mode	1.0.3		Current values
525	Control output R2	0: Off 100: On	uint8	x	x	x	Only writable in manual mode	1.0.3		Current values
526	Control output R3	0: Off 100: On	uint8	x	x	x	Only writable in manual mode	1.0.3		Current values
527	Tww_set_temperature	60°C -> 60	uint8	x	x	x	D.H.W. set temperatur	1.0.3	x	Current values
528	Tww_modulation_temperature	60°C -> 600	uint16	x	-	-	Calculated set point of modulation temperature regulation	2.1.4		Current values
529	Tset_temperature_current	60°C -> 600	uint16	x	-	-	Set point, currently in use	1.0.3		Current values

530	T cold water cascade	60°C -> 600	uint16	x	-	-	Calculated value of the master. It's the highest T cold sensor data of the active modules. The master calculate this value and send it to the Servers. This value ist among other things needed for the stratification of return function at the Server.	1.0.3		Current values
580	Error free [High]	Modbus communication counter	int16	x	-	-		3.0.2		Current values
581	Error free [Low]	Modbus communication counter	int16	x	-	-		3.0.2		Current values
582	CRC [High]	Modbus communication counter	int16	x	-	-		3.0.2		Current values
583	CRC [Low]	Modbus communication counter	int16	x	-	-		3.0.2		Current values
584	Timeout [High]	Modbus communication counter	int16	x	-	-		3.0.2		Current values
585	Timeout [Low]	Modbus communication counter	int16	x	-	-		3.0.2		Current values
586	Illegal function [High]	Modbus communication counter	int16	x	-	-		3.0.2		Current values
587	Illegal function [Low]	Modbus communication counter	int16	x	-	-		3.0.2		Current values
588	Illegal address [High]	Modbus communication counter	int16	x	-	-		3.0.2		Current values
589	Illegal address [Low]	Modbus communication counter	int16	x	-	-		3.0.2		Current values
590	Illegal data [High]	Modbus communication counter	int16	x	-	-		3.0.2		Current values
591	Illegal data [Low]	Modbus communication counter	int16	x	-	-		3.0.2		Current values
592	Server error [High]	Modbus communication counter	int16	x	-	-		3.0.2		Current values
593	Server error [Low]	Modbus communication counter	int16	x	-	-		3.0.2		Current values
594	Other [High]	Modbus communication counter	int16	x	-	-		3.0.2		Current values
595	Other [Low]	Modbus communication counter	int16	x	-	-		3.0.2		Current values
900	Tvl Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only 10000 to clear	1.0.3	x	Statistics
901	Tvl Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only 10000 to clear	1.0.3	x	Statistics
902	Tkw Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only 10000 to clear	1.0.3	x	Statistics
903	Tkw Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only 10000 to clear	1.0.3	x	Statistics
904	Tww Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only 10000 to clear	1.0.3	x	Statistics
905	Tww Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only 10000 to clear	1.0.3	x	Statistics
906	Tbuffer Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only 10000 to clear	1.0.3	x	Statistics
907	Tbuffer Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only 10000 to clear	1.0.3	x	Statistics
908	Tstratification Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only 10000 to clear	1.0.3	x	Statistics
909	Tstratification Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only 10000 to clear	1.0.3	x	Statistics
910	Tcirculation Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	1.0.3	x	Statistics
911	Tcirculation Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only 10000 to clear	1.0.3	x	Statistics
916	Vsecondary Min	Resolution 0.1 l/min 9999 = Interruption -8888 = No sensor	int16	x	x	x	17.5 l/min -> 175 write only 10000 to clear	1.0.3	x	Statistics
917	Vsecondary Max	Resolution 0.1 l/min 9999 = Interruption -8888 = No sensor	int16	x	x	x	17.5 l/min -> 175 write only 10000 to clear	1.0.3	x	Statistics
918	PWM primary Min	Resolution 0.1%	int16	x	x	x	write only 10000 to clear	1.0.3	x	Statistics
919	PWM primary Max	Resolution 0.1%	int16	x	x	x	write only 10000 to clear	1.0.3	x	Statistics
920	PWM circulation Min	Resolution 0.1%	int16	x	x	x	write only 10000 to clear	1.0.3	x	Statistics
921	PWM circulation Max	Resolution 0.1%	int16	x	x	x	write only 10000 to clear	1.0.3	x	Statistics
922	Switch cycles output R1 [High]		uint16	x	-	-	Only complet high and low to reset (sending 0)	1.0.3	x	Statistics
923	Switch cycles output R1 [Low]		uint16	x	-	-	Only complet high and low to reset (sending 0)	1.0.3	x	Statistics
924	Switch cycles output R2 [High]		uint16	x	-	-	Only complet high and low to reset (sending 0)	1.0.3	x	Statistics
925	Switch cycles output R2 [Low]		uint16	x	-	-	Only complet high and low to reset (sending 0)	1.0.3	x	Statistics
926	Switch cycles output R3 [High]		uint16	x	-	-	Only complet high and low to reset (sending 0)	1.0.3	x	Statistics
927	Switch cycles output R3 [Low]		uint16	x	-	-	Only complet high and low to reset (sending 0)	1.0.3	x	Statistics
928	Operating minutes output R1 [High]	Resolution 1min	uint16	x	-	-	Only complet high and low to reset (sending 0)	1.0.3	x	Statistics
929	Operating minutes output R1 [Low]	Resolution 1min	uint16	x	-	-	Only complet high and low to reset (sending 0)	1.0.3	x	Statistics
930	Operating minutes output R2 [High]	Resolution 1min	uint16	x	-	-	Only complet high and low to reset (sending 0)	1.0.3	x	Statistics
931	Operating minutes output R2 [Low]	Resolution 1min	uint16	x	-	-	Only complet high and low to reset (sending 0)	1.0.3	x	Statistics
932	Operating minutes output R3 [High]	Resolution 1min	uint16	x	-	-	Only complet high and low to reset (sending 0)	1.0.3	x	Statistics
933	Operating minutes output R3 [Low]	Resolution 1min	uint16	x	-	-	Only complet high and low to reset (sending 0)	1.0.3	x	Statistics
934	Operating minutes pwm pri [High]	Resolution 1min	uint16	x	-	-	Only complet high and low to reset (sending 0)	1.0.3	x	Statistics
935	Operating minutes pwm pri [Low]	Resolution 1min	uint16	x	-	-	Only complet high and low to reset (sending 0)	1.0.3	x	Statistics
936	Operating minutes pwm circ [High]	Resolution 1min	uint16	x	-	-	Only complet high and low to reset (sending 0)	1.0.3	x	Statistics
937	Operating minutes pwm circ [Low]	Resolution 1min	uint16	x	-	-	Only complet high and low to reset (sending 0)	1.0.3	x	Statistics
938	Operating hours modul last 24h	Resolution 1min	uint16	x	-	-	Time where the primary pump was on	1.0.3	x	Statistics

939	Flow actually liter day [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	1.0.3	x	Statistics
940	Flow actually liter day [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	1.0.3	x	Statistics
941	Flow actually liter week [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	1.0.3	x	Statistics
942	Flow actually liter week [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	1.0.3	x	Statistics
943	Flow actually liter month [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	1.0.3	x	Statistics
944	Flow actually liter month [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	1.0.3	x	Statistics
945	Flow actually liter total [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	1.0.3	x	Statistics
946	Flow actually liter total [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	1.0.3	x	Statistics
947	Heat quantity day [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	1.0.3	x	Statistics

948	Heat quantity day [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	1.0.3	x	Statistics
949	Heat quantity week [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	1.0.3	x	Statistics
950	Heat quantity week [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	1.0.3	x	Statistics
951	Heat quantity month [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	1.0.3	x	Statistics
952	Heat quantity month [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	1.0.3	x	Statistics
953	Heat quantity total [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	1.0.3	x	Statistics
954	Heat quantity total [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	1.0.3	x	Statistics
955	Heat quantity total since (Date)	(Month * 40 + Day) * 100 + Year	uint16	x	x	x		1.0.3	x	Statistics
956	Heat quantity total since (Time)	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Statistics
957	Flow total since (Date)	(Month * 40 + Day) * 100 + Year	uint16	x	x	x		1.0.3	x	Statistics
958	Flow total since (Time)	Hour * 100 + Minute	uint16	x	x	x		1.0.3	x	Statistics
959	T cold water cascade Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	1.0.3	x	Statistics
960	T cold water cascade Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	1.0.3	x	Statistics
1000	D.H.W. set temperature min	Range: 35°C to T-WW-Soll max - 5K Resolution 1 °C	uint8	x	-	x		1.0.3	x	Parameter range values
1001	D.H.W. set temperature max	Range: T-WW-Soll min +5K to 75°C Resolution 1 °C	uint8	x	-	x		1.0.3	x	Parameter range values
1100	Desinfection 1 Date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3		Message
1101	Desinfection 1 Time	Hour * 100 + Minute	uint16	x	-	-		1.0.3		Message
1102	Desinfection 1 Status	Coded: XYYY X: 0: Unsuccessful 1: Successful YYY: Temperature	uint16	x	-	-	E.g.: 0531 -> Unsuccessful 53.1°C 1702 -> Successful. 70.2°C	1.0.3		Message
1103	Desinfection 2 Date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3		Message
1104	Desinfection 2 Time	Hour * 100 + Minute	uint16	x	-	-		1.0.3		Message

1105	Desinfection 2 Status	Coded: YYYY X: 0: Unsuccessful 1: Successful YYY: Temperature	uint16	x	-	-	E.g.: 0531 -> Unsuccessful 53.1°C 1702 -> Successful. 70.2°C	1.0.3	Message
1106	Desinfection 3 Date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3	Message
1107	Desinfection 3 Time	Hour * 100 + Minute	uint16	x	-	-		1.0.3	Message
1108	Desinfection 3 Status	Coded: YYYY X: 0: Unsuccessful 1: Successful YYY: Temperature	uint16	x	-	-	E.g.: 0531 -> Unsuccessful 53.1°C 1702 -> Successful. 70.2°C	1.0.3	Message
1109	Desinfection 4 Date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3	Message
1110	Desinfection 4 Time	Hour * 100 + Minute	uint16	x	-	-		1.0.3	Message
1111	Desinfection 4 Status	Coded: YYYY X: 0: Unsuccessful 1: Successful YYY: Temperature	uint16	x	-	-	E.g.: 0531 -> Unsuccessful 53.1°C 1702 -> Successful. 70.2°C	1.0.3	Message
1112	Desinfection 5 Date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3	Message
1113	Desinfection 5 Time	Hour * 100 + Minute	uint16	x	-	-		1.0.3	Message
1114	Desinfection 5 Status	Coded: YYYY X: 0: Unsuccessful 1: Successful YYY: Temperature	uint16	x	-	-	E.g.: 0531 -> Unsuccessful 53.1°C 1702 -> Successful. 70.2°C	1.0.3	Message
1115	Desinfection 6 Date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3	Message
1116	Desinfection 6 Time	Hour * 100 + Minute	uint16	x	-	-		1.0.3	Message
1117	Desinfection 6 Status	Coded: YYYY X: 0: Unsuccessful 1: Successful YYY: Temperature	uint16	x	-	-	E.g.: 0531 -> Unsuccessful 53.1°C 1702 -> Successful. 70.2°C	1.0.3	Message
1118	Desinfection 7 Date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3	Message
1119	Desinfection 7 Time	Hour * 100 + Minute	uint16	x	-	-		1.0.3	Message
1120	Desinfection 7 Status	Coded: YYYY X: 0: Unsuccessful 1: Successful YYY: Temperature	uint16	x	-	-	E.g.: 0531 -> Unsuccessful 53.1°C 1702 -> Successful. 70.2°C	1.0.3	Message
1200	Alarm Message 1 - ID	Values: tabpage "Alarm history ID's"	uint8	x	-	-		1.0.3	Message
1201	Alarm message 1 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3	Message
1202	Alarm message 1 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3	Message
1203	Alarm Message 2 - ID		uint8	x	-	-		1.0.3	Message
1204	Alarm message 2 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3	Message
1205	Alarm message 2 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3	Message
1206	Alarm Message 3 - ID		uint8	x	-	-		1.0.3	Message
1207	Alarm message 3 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3	Message
1208	Alarm message 3 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3	Message
1209	Alarm Message 4 - ID		uint8	x	-	-		1.0.3	Message
1210	Alarm message 4 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3	Message
1211	Alarm message 4 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3	Message
1212	Alarm Message 5 - ID		uint8	x	-	-		1.0.3	Message
1213	Alarm message 5 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3	Message
1214	Alarm message 5 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3	Message
1215	Alarm Message 6 - ID		uint8	x	-	-		1.0.3	Message
1216	Alarm message 6 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3	Message
1217	Alarm message 6 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3	Message
1218	Alarm Message 7 - ID		uint8	x	-	-		1.0.3	Message
1219	Alarm message 7 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3	Message
1220	Alarm message 7 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3	Message
1221	Alarm Message 8 - ID		uint8	x	-	-		1.0.3	Message
1222	Alarm message 8 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3	Message
1223	Alarm message 8 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3	Message
1224	Alarm Message 9 - ID		uint8	x	-	-		1.0.3	Message
1225	Alarm message 9 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3	Message
1226	Alarm message 9 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3	Message
1227	Alarm Message 10 - ID		uint8	x	-	-		1.0.3	Message
1228	Alarm message 10 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3	Message
1229	Alarm message 10 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3	Message
1230	Alarm Message 11 - ID		uint8	x	-	-		1.0.3	Message
1231	Alarm message 11 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3	Message
1232	Alarm message 11 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3	Message
1233	Alarm Message 12 - ID		uint8	x	-	-		1.0.3	Message
1234	Alarm message 12 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3	Message
1235	Alarm message 12 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3	Message
1236	Alarm Message 13 - ID		uint8	x	-	-		1.0.3	Message
1237	Alarm message 13 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3	Message
1238	Alarm message 13 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3	Message
1239	Alarm Message 14 - ID		uint8	x	-	-		1.0.3	Message
1240	Alarm Message 14 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3	Message
1241	Alarm Message 14 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3	Message
1242	Alarm Message 15 - ID		uint8	x	-	-		1.0.3	Message
1243	Alarm Message 15 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3	Message
1244	Alarm Message 15 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3	Message
1245	Alarm Message 16 - ID		uint8	x	-	-		1.0.3	Message
1246	Alarm Message 16 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3	Message
1247	Alarm Message 16 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3	Message
1248	Alarm Message 17 - ID		uint8	x	-	-		1.0.3	Message
1249	Alarm Message 17 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3	Message
1250	Alarm Message 17 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3	Message
1251	Alarm Message 18 - ID		uint8	x	-	-		1.0.3	Message
1252	Alarm Message 18 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3	Message

1447	Alarm Message 83 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3		Message
1448	Alarm Message 83 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3		Message
1449	Alarm Message 84 - ID		uint8	x	-	-		1.0.3		Message
1450	Alarm Message 84 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3		Message
1451	Alarm Message 84 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3		Message
1452	Alarm Message 85 - ID		uint8	x	-	-		1.0.3		Message
1453	Alarm Message 85 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3		Message
1454	Alarm Message 85 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3		Message
1455	Alarm Message 86 - ID		uint8	x	-	-		1.0.3		Message
1456	Alarm Message 86 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3		Message
1457	Alarm Message 86 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3		Message
1458	Alarm Message 87 - ID		uint8	x	-	-		1.0.3		Message
1459	Alarm Message 87 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3		Message
1460	Alarm Message 87 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3		Message
1461	Alarm Message 88 - ID		uint8	x	-	-		1.0.3		Message
1462	Alarm Message 88 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3		Message
1463	Alarm Message 88 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3		Message
1464	Alarm Message 89 - ID		uint8	x	-	-		1.0.3		Message
1465	Alarm Message 89 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3		Message
1466	Alarm Message 89 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3		Message
1467	Alarm Message 90 - ID		uint8	x	-	-		1.0.3		Message
1468	Alarm Message 90 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3		Message
1469	Alarm Message 90 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3		Message
1470	Alarm Message 91 - ID		uint8	x	-	-		1.0.3		Message
1471	Alarm Message 91 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3		Message
1472	Alarm Message 91 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3		Message
1473	Alarm Message 92 - ID		uint8	x	-	-		1.0.3		Message
1474	Alarm Message 92 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3		Message
1475	Alarm Message 92 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3		Message
1476	Alarm Message 93 - ID		uint8	x	-	-		1.0.3		Message
1477	Alarm Message 93 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3		Message
1478	Alarm Message 93 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3		Message
1479	Alarm Message 94 - ID		uint8	x	-	-		1.0.3		Message
1480	Alarm Message 94 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3		Message
1481	Alarm Message 94 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3		Message
1482	Alarm Message 95 - ID		uint8	x	-	-		1.0.3		Message
1483	Alarm Message 95 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3		Message
1484	Alarm Message 95 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3		Message
1485	Alarm Message 96 - ID		uint8	x	-	-		1.0.3		Message
1486	Alarm Message 96 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3		Message
1487	Alarm Message 96 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3		Message
1488	Alarm Message 97 - ID		uint8	x	-	-		1.0.3		Message
1489	Alarm Message 97 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3		Message
1490	Alarm Message 97 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3		Message
1491	Alarm Message 98 - ID		uint8	x	-	-		1.0.3		Message
1492	Alarm Message 98 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3		Message
1493	Alarm Message 98 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3		Message
1494	Alarm Message 99 - ID		uint8	x	-	-		1.0.3		Message
1495	Alarm Message 99 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3		Message
1496	Alarm Message 99 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3		Message
1497	Alarm Message 100 - ID		uint8	x	-	-		1.0.3		Message
1498	Alarm Message 100 - date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3		Message
1499	Alarm Message 100 - time	Hour * 100 + Minute	uint16	x	-	-		1.0.3		Message
1900	Language	0: German 1: English 2: French 3: Polish 4: Italian 5: Spanish 6: Netherlands 7: Swedish	uint8	x	x	x		1.0.3	x	Sys. Para.
1901	User	0000: Operator 0011, 1000, 9856: Specialist (customer dependent)	uint16	x	x	x	Change from 5 to 4 places at FW 3.0.0	8.7.x	x	Sys. Para.
1912	Display brightness	Range 0 - xx	uint8	x	x	x		1.0.3	x	Sys. Para.
1913	Display dim brightness	Range 0 - xx	uint8	x	x	x		1.0.3	x	Sys. Para.
1914	Display contrast	Range 0 - xx	uint8	x	x	x		1.0.3	x	Sys. Para.
1915	Display screen lock	0: Deactive 1: Active	uint8	x	x	x		1.0.3	x	Sys. Para.
1916	Display screen lock delay	1-10 minutes	uint8	x	x	x		1.0.3	x	Sys. Para.
1917	Display operating mode backlight	0: OFF 1: ON 2: Automatic	uint8	x	x	x		1.0.3	x	Sys. Para.
1918	Central European Summer time	0: Automatic 1: Manual	uint8	x	x	x		1.0.3	x	Sys. Para.
1920	S1 Offset	Default: 0 Range: -15K to +15K Resolution: 1K	int8	x	x	x		1.0.3	x	Sys. Para.
1921	S2 Offset	Default: 0 Range: -15K to +15K Resolution: 1K	int8	x	x	x		1.0.3	x	Sys. Para.
1922	S3 Offset	Default: 0 Range: -15K to +15K Resolution: 1K	int8	x	x	x		1.0.3	x	Sys. Para.
1923	S4 Offset	Default: 0 Range: -15K to +15K Resolution: 1K	int8	x	x	x		1.0.3	x	Sys. Para.
1924	VFS/US V offset	Default: 0 Range: -5l/min to 5l/min Resolution: 0.1l/min	int8	x	x	x		1.0.3	x	Sys. Para.
1925	VFS/US T offset	Default: 0 Range: -15K to +15K Resolution: 1K	int8	x	x	x		1.0.3	x	Sys. Para.
1940	Display -> Color inversion	0: Deactive 1: Active	uint8	x	x	x		1.0.3	x	Sys. Para.
1941	USB -> Data logging interval	1 - 60s	uint8	x	x	x		1.0.3	x	Sys. Para.
1942	USB -> Recording type	0: Linear 1: Cyclical	uint8	x	x	x		1.0.3	x	Sys. Para.
4000	Parameter history 1 - Funct./Param	Values: tab "Parameter history ID's"	uint16	x	-	-		1.0.3		Message
4001	Parameter history 1 - Date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		1.0.3		Message
4002	Parameter history 1 - Time	Hour * 100 + Minute	uint16	x	-	-		1.0.3		Message
4003	Parameter history 1 - Parameter type	Values: tab "Parameter type ID's"	uint16	x	-	-		1.0.3		Message
4004	Parameter history 1 - Value 1 old		uint16	x	-	-		1.0.3		Message

Only at Modbus Gateway

Reg.	Name	Note	Type	read	write User	write Spec.	Technical field	Ab FW	Write Interval > 12min (20Y EEPROM)	Group
6013	Bootloader FW Version - Major release	Major release	uint16	x	-	-		3.0.x		Server 1
6014	Bootloader FW Version - Minor release	Minor release	uint16	x	-	-		3.0.x		Server 1
6015	Bootloader FW Version - patch level	Patch level	uint16	x	-	-		3.0.x		Server 1
6362	Operating mode primary pump	0: manual mode 1: automatic mode	uint8	x	x	x	PWM signal	2.1.4		Server 1
6363	Operating mode circulation pump	0: manual mode 1: automatic mode	uint8	x	x	x	PWM signal	2.1.4		Server 1
6364	Operating mode output R1	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server 1
6365	Operating mode output R2	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server 1
6366	Operating mode output R3	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server 1
6367	Operating mode input S1	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server 1
6368	Operating mode input S2	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server 1
6369	Operating mode input S3	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server 1
6370	Operating mode input S4	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server 1
6371	Operating mode VFS/US T - Connector 1	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server 1
6372	Operating mode VFS/US V - Connector 1	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server 1
6373	Operating mode VFS/US T - Connector 2	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server 1
6374	Operating mode VFS/US V - Connector 2	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server 1
6500	S1	Resolution 0.1 °C 9999: Unterbrechung -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 Raw data	2.1.4	x (manual mode)	Server 1
6501	S2	Resolution 0.1 °C 9999: Unterbrechung -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 Raw data	2.1.4	x (manual mode)	Server 1
6502	S3	Resolution 0.1 °C 9999: Unterbrechung -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 Raw data	2.1.4	x (manual mode)	Server 1
6503	S4	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 Raw data	2.1.4	x (manual mode)	Server 1
6504	VFS/US 1 T	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 Raw data	2.1.4	x (manual mode)	Server 1
6505	VFS/US 1 V	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 Raw data	2.1.4	x (manual mode)	Server 1
6506	VFS/US 2 T	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 Raw data	2.1.4	x (manual mode)	Server 1
6507	VFS/US 2 V	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 Raw data	2.1.4	x (manual mode)	Server1
6508	Status 1 - Manual mode / Error exists	Bit coded 0: Error exists 1: Pri. pump pwm manual mode 2: Circ. pwm manual mode 3: Output R1 manual mode 4: Output R2 manual mode 5: Output R3 manual mode 6: S1 manual mode 7: S2 manual mode 8: S3 manual mode 9: S4 manual mode 10: VFS/US 1 T manual mode 11: VFS/US 1 V manual mode 12: VFS/US 2 T manual mode 13: VFS/US 2 V manual mode	uint16	x	-	-	Section to retrieve: 0: System parameter 1: Control parameter 2: Statistics	2.1.4		Server1
6509	Status 2 - Function	Bit coded 0: Circ. function T available 1: Circ. function time available 2: Circ. function on demand available 3: Circ. function T active 4: Circ. function time active 5: Circ. function on demand active 6: Stratification of return available 7: Stratification of return Locked protection active 8: Modulation hot water available 9: Modulation hot water active 10: Comfort function available 11: Comfort function active 12: Comfort function pump locked 13: Disinfection available 14: Disinfection active 15: Disinfection last one successful	uint16	x	-	-	Bit 12: When the temperature is after 100s to low, there is a protection (wait time) from 1h.	2.1.4		Server1
6510	Status 3 - Function	Bit coded 0: Error relay available 1: Error relay active 2: Parallel relay available 3: Parallel relay active 4: Hygienic flush available 5: Hygienic flush active 6: Buffer storage available 7: Buffer storage active 8: Heating available 9: Heating active 10: Overtemperature protection active 11: Average flow active 12: Cascade valve on 13: User plant user 14: User specialist 15: User PAW	uint16	x	-	-		2.1.4		Server1

6511	Status 4	Bit coded 0: First start up pass 1: Hydraulic system adaptation running 2: Cascade valve open 3: Short tap volume detected. Circulation pump must start. 4: User specialist advanced	uint16	x	-	-		2.1.4	Server1
6512	Status 5 - Sensor error	Bit coded 0: Tvl interruption 1: Tvl short circuit 2: Tbuffer interruption 3: Tbuffer short circuit 4: Tww interruption 5: Tww short circuit 6: Tkw interruption 7: Tkw short circuit 8: Tstratification interruption 9: Tstratification short circuit 10: Tcirculation interruption 11: Tcirculation short circuit 12: VFS/US 1 T interruption 13: VFS/US 1 T short circuit 14: VFS/US 1 V interruption 15: VFS/US 1 V short circuit	uint16	x	-	-		2.1.4	Server1
6513	Status 6 - Sensor error	Bit coded 0: VFS/US 2 T interruption 1: VFS/US 2 T short circuit 2: VFS/US 2 V interruption 3: VFS/US 2 V short circuit 4: RTC error 5: uC error	uint16	x	-	-		2.1.4	Server1
6514	Tvl	Resolution 0.1 °C 9999: Unterbrechung -9999: Short circuit	int16	x	-	-	14.3 °C -> 143 Temperature primary warm sensor	2.1.4	Server1
6515	Tww	Resolution 0.1 °C 9999: Unterbrechung -9999: Short circuit	int16	x	-	-	14.3 °C -> 143 Temperature secondary warm sensor	2.1.4	Server1
6516	Tkw	Resolution 0.1 °C 9999: Unterbrechung -9999: Short circuit	int16	x	-	-	14.3 °C -> 143 Temperature secondary cold sensor	2.1.4	Server 1
6517	T buffer	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	-	-	14.3 °C -> 143 Temperature buffer sensor	2.1.4	Server 1
6518	T stratification	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	-	-	14.3 °C -> 143 Temperature stratification of return sensor	2.1.4	Server 1
6519	T circulation	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	-	-	14.3 °C -> 143 Temperature circulation sensor	2.1.4	Server 1
6520	Vprimary	Resolution 0.1 l/min 9999 = Interruption -8888 = No sensor	int16	x	-	-	17.5 l/min -> 175 Primary flow (flowsensor 1)	2.1.4	Server 1
6521	Vsecondary	Resolution 0.1 l/min 9999 = Interruption -8888 = No sensor	int16	x	-	-	17.5 l/min -> 175 Secondary flow (flowsensor 1)	2.1.4	Server 1
6522	PWM primary	Resolution 0.1%	int16	x	x	x	50% -> 500	2.1.4	Server 1
6523	PWM circulation	Resolution 0.1%	int16	x	x	x	50% -> 500	2.1.4	Server 1
6524	Control output R1	0: Off 100: On	uint8	x	x	x	Only writable in manual mode	2.1.4	Server 1
6525	Control output R2	0: Off 100: On	uint8	x	x	x	Only writable in manual mode	2.1.4	Server 1
6526	Control output R3	0: Off 100: On	uint8	x	x	x	Only writable in manual mode	2.1.4	Server 1
6527	Tww_set_temperature	60°C -> 60	uint8	x	-	-	D.H.W. set temperatur	2.1.4	Server 1
6528	Tww_modulation_temperature	60°C -> 600	uint16	x	-	-	Calculated set point of modulation temperature regulation	2.1.4	Server 1
6529	Tset_temperature_current	60°C -> 600	uint16	x	-	-	Set point, currently in use	2.1.4	Server 1
6530	T cold water cascade	60°C -> 600	uint16	x	-	-	Calculated value of the master. It's the highest T cold sensor data of the active modules. The master calculate this value and send it to the Servers. This value ist among other things needed for the stratification of return function at the Server.	2.1.4	Server 1
6580	Error free [High]	Modbus communication counter	uint16	x	-	-		3.0.2	Server1
6581	Error free [Low]	Modbus communication counter	uint16	x	-	-		3.0.2	Server1
6582	CRC [High]	Modbus communication counter	uint16	x	-	-		3.0.2	Server1
6583	CRC [Low]	Modbus communication counter	uint16	x	-	-		3.0.2	Server1
6584	Timeout [High]	Modbus communication counter	uint16	x	-	-		3.0.2	Server1
6585	Timeout [Low]	Modbus communication counter	uint16	x	-	-		3.0.2	Server1
6586	Illegal function [High]	Modbus communication counter	uint16	x	-	-		3.0.2	Server1
6587	Illegal function [Low]	Modbus communication counter	uint16	x	-	-		3.0.2	Server1
6588	Illigal address [High]	Modbus communication counter	uint16	x	-	-		3.0.2	Server1
6589	Illigal address [Low]	Modbus communication counter	uint16	x	-	-		3.0.2	Server1
6590	Illigal data [High]	Modbus communication counter	uint16	x	-	-		3.0.2	Server1
6591	Illigal data [Low]	Modbus communication counter	uint16	x	-	-		3.0.2	Server1
6592	Server error [High]	Modbus communication counter	uint16	x	-	-		3.0.2	Server1
6593	Server error [Low]	Modbus communication counter	uint16	x	-	-		3.0.2	Server1
6594	Other [High]	Modbus communication counter	uint16	x	-	-		3.0.2	Server1
6595	Other [Low]	Modbus communication counter	uint16	x	-	-		3.0.2	Server1
6690	FW Date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		2.1.4	Server1
6691	FW Time	Hour * 100 + Minute	uint16	x	-	-		2.1.4	Server1
6692	FW Version - Major release	Major release	uint16	x	-	-		2.1.4	Server1
6693	FW Version - Minor release	Minor release	uint16	x	-	-		2.1.4	Server1
6694	FW Version - patch level	Patch level	uint16	x	-	-		2.1.4	Server1
6695	FW Build Nummer		uint16	x	-	-		2.1.4	Server1
6696	PCB Version		uint16	x	-	-		2.1.4	Server1
6697	Assembly variant		uint16	x	-	-		2.1.4	Server1

6900	Tvl Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server1
6901	Tvl Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server1
6902	Tkw Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server1
6903	Tkw Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server1
6904	Tww Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server1
6905	Tww Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server1
6906	Tbuffer Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server1
6907	Tbuffer Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server1
6908	Tstratification Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server1
6909	Tstratification Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server1
6910	Tcirculation Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server1
6911	Tcirculation Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server1
6916	Vsecondary Min	Resolution 0.1 l/min 9999 = Interruption -8888 = No sensor	int16	x	x	x	17.5 l/min -> 175 write only delete with 10000	2.1.4	x	Server1
6917	Vsecondary Max	Resolution 0.1 l/min 9999 = Interruption -8888 = No sensor	int16	x	x	x	17.5 l/min -> 175 write only delete with 10000	2.1.4	x	Server1
6918	PWM primary Min	Resolution 0.1%	int16	x	x	x	write only delete with 10000	2.1.4	x	Server1
6919	PWM primary Max	Resolution 0.1%	int16	x	x	x	write only delete with 10000	2.1.4	x	Server1
6920	PWM circulation Min	Resolution 0.1%	int16	x	x	x	write only delete with 10000	2.1.4	x	Server1
6921	PWM circulation Max	Resolution 0.1%	int16	x	x	x	write only delete with 10000	2.1.4	x	Server1
6922	Switch cycles output R1 [High]		uint16	x	-	-	Only complet high and low	2.1.4	x	Server1
6923	Switch cycles output R1 [Low]		uint16	x	-	-	Only complet high and low	2.1.4	x	Server1
6924	Switch cycles output R2 [High]		uint16	x	-	-	Only complet high and low	2.1.4	x	Server1
6925	Switch cycles output R2 [Low]		uint16	x	-	-	Only complet high and low	2.1.4	x	Server1
6926	Switch cycles output R3 [High]		uint16	x	-	-	Only complet high and low	2.1.4	x	Server1
6927	Switch cycles output R3 [Low]		uint16	x	-	-	Only complet high and low	2.1.4	x	Server1
6928	Operating hours output R1 [High]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server1
6929	Operating hours output R1 [Low]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server1
6930	Operating hours output R2 [High]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server1
6931	Operating hours output R2 [Low]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server1
6932	Operating hours output R3 [High]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server1
6933	Operating hours output R3 [Low]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server1
6934	Operating hours pwm pri [High]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server1
6935	Operating hours pwm pri [Low]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server1
6936	Operating hours pwm circ [High]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server1
6937	Operating hours pwm circ [Low]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server1
6938	Operating hours modul last 24h	Resolution 1min	uint16	x	-	-	Time where the primary pump was on	2.1.4	x	Server1
6939	Flow actually liter day [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	2.1.4	x	Server1
6940	Flow actually liter day [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	2.1.4	x	Server1

6941	Flow actually liter week [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	2.1.4	x	Server1
6942	Flow actually liter week [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	2.1.4	x	Server1
6943	Flow actually liter month [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	2.1.4	x	Server1
6944	Flow actually liter month [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	2.1.4	x	Server1
6945	Flow actually liter total [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	2.1.4	x	Server1
6946	Flow actually liter total [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	2.1.4	x	Server1
6947	Heat quantity day [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	2.1.4	x	Server1
6948	Heat quantity day [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	2.1.4	x	Server1
6949	Heat quantity week [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	2.1.4	x	Server1

6950	Heat quantity week [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	2.1.4	x	Server1
6951	Heat quantity month [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	2.1.4	x	Server1
6952	Heat quantity month [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	2.1.4	x	Server1
6953	Heat quantity total [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	2.1.4	x	Server1
6954	Heat quantity total [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	2.1.4	x	Server1
6955	Heat quantity total since (Date)	(Month * 40 + Day) * 100 + Year	uint16	x	x	x		2.1.4	x	Server1
6956	Heat quantity total since (Time)	Hour * 100 + Minute	uint16	x	x	x		2.1.4	x	Server1
6957	Flow total since (Date)	(Month * 40 + Day) * 100 + Year	uint16	x	x	x		2.1.4	x	Server1
6958	Flow total since (Time)	Hour * 100 + Minute+G141	uint16	x	x	x		2.1.4	x	Server1
6959	T cold water cascade Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server1
6960	T cold water cascade Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server1
7013	Bootloader FW Version - Major release	Major release	uint16	x	-	-		3.0.x		Server2
7014	Bootloader FW Version - Minor release	Minor release	uint16	x	-	-		3.0.x		Server2
7015	Bootloader FW Version - patch level	Patch level	uint16	x	-	-		3.0.x		Server2
7362	Operating mode primary pump	0: manual mode 1: automatic mode	uint8	x	x	x	PWM signal	2.1.4		Server2
7363	Operating mode circulation pump	0: manual mode 1: automatic mode	uint8	x	x	x	PWM signal	2.1.4		Server2
7364	Operating mode output R1	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server2
7365	Operating mode output R2	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server2
7366	Operating mode output R3	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server2
7367	Operating mode input S1	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server2
7368	Operating mode input S2	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server2
7369	Operating mode input S3	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server2
7370	Operating mode input S4	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server2
7371	Operating mode VFS/US T - Connector 1	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server2
7372	Operating mode VFS/US V - Connector 1	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server2
7373	Operating mode VFS/US T - Connector 2	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server2
7374	Operating mode VFS/US V - Connector 2	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server2
7500	S1	Resolution 0.1 °C 9999: Unterbrechung -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 Raw data	2.1.4	x (manual mode)	Server2
7501	S2	Resolution 0.1 °C 9999: Unterbrechung -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 Raw data	2.1.4	x (manual mode)	Server2
7502	S3	Resolution 0.1 °C 9999: Unterbrechung -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 Raw data	2.1.4	x (manual mode)	Server2
7503	S4	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 Raw data	2.1.4	x (manual mode)	Server2

7504	VFS/US 1 T	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 Raw data	2.1.4	x (manual mode)	Server2
7505	VFS/US 1 V	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 Raw data	2.1.4	x (manual mode)	Server2
7506	VFS/US 2 T	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 Raw data	2.1.4	x (manual mode)	Server2
7507	VFS/US 2 V	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 Raw data	2.1.4	x (manual mode)	Server2
7508	Status 1 - Manual mode / Error exists	Bit coded 0: Error exists 1: Pri. pump pwm manual mode 2: Circ. pwm manual mode 3: Output R1 manual mode 4: Output R2 manual mode 5: Output R3 manual mode 6: S1 manual mode 7: S2 manual mode 8: S3 manual mode 9: S4 manual mode 10: VFS/US 1 T manual mode 11: VFS/US 1 V manual mode 12: VFS/US 2 T manual mode 13: VFS/US 2 V manual mode	uint16	x	-	-	Section to retrieve: 0: System parameter 1: Control parameter 2: Statistics	2.1.4		Server2
7509	Status 2 - Function	Bit coded 0: Circ. function T available 1: Circ. function time available 2: Circ. function on demand available 3: Circ. function T active 4: Circ. function time active 5: Circ. function on demand active 6: Stratification of return available 7: Stratification of return Locked protection active 8: Modulation hot water available 9: Modulation hot water active 10: Comfort function available 11: Comfort function active 12: Comfort function pump locked 13: Disinfection available 14: Disinfection active 15: Disinfection last one successful	uint16	x	-	-	Bit 12: When the temperature is after 100s to low, there is a protection (wait time) from 1h.	2.1.4		Server2
7510	Status 3 - Function	Bit coded 0: Error relay available 1: Error relay active 2: Parallel relay available 3: Parallel relay active 4: Hygienic flush available 5: Hygienic flush active 6: Buffer storage available 7: Buffer storage active 8: Heating available 9: Heating active 10: Overtemperature protection active 11: Average flow active 12: Cascade valve on 13: User plant user 14: User plumber 15: User PAW	uint16	x	-	-		2.1.4		Server2
7511	Status 4	Bit coded 0: First start up pass 1: Hydraulic system adaptation running 2: Cascade valve open 3: Short tap volume detected. Circulation pump must start.	uint16	x	-	-		2.1.4		Server2
7512	Status 5 - Sensor error	Bit coded 0: Tvl interruption 1: Tvl short circuit 2: Tbuffer interruption 3: Tbuffer short circuit 4: Tww interruption 5: Tww short circuit 6: Tkw interruption 7: Tkw short circuit 8: Tstratification interruption 9: Tstratification short circuit 10: Tcirculation interruption 11: Tcirculation short circuit 12: VFS/US 1 T interruption 13: VFS/US 1 T short circuit 14: VFS/US 1 V interruption 15: VFS/US 1 V short circuit	uint16	x	-	-		2.1.4		Server2
7513	Status 6 - Sensor error	Bit coded 0: VFS/US 2 T interruption 1: VFS/US 2 T short circuit 2: VFS/US 2 V interruption 3: VFS/US 2 V short circuit 4: RTC error 5: uC error	uint16	x	-	-		2.1.4		Server2
7514	Tvl	Resolution 0.1 °C 9999: Unterbrechung -9999: Short circuit	int16	x	-	-	14.3 °C -> 143 Temperature primary warm sensor	2.1.4		Server2
7515	Tww	Resolution 0.1 °C 9999: Unterbrechung -9999: Short circuit	int16	x	-	-	14.3 °C -> 143 Temperature secondary warm sensor	2.1.4		Server2
7516	Tkw	Resolution 0.1 °C 9999: Unterbrechung -9999: Short circuit	int16	x	-	-	14.3 °C -> 143 Temperature secondary cold sensor	2.1.4		Server2
7517	T buffer	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	-	-	14.3 °C -> 143 Temperature buffer sensor	2.1.4		Server2

7518	T stratification	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	-	-	14.3 °C -> 143 Temperature stratification of return sensor	2.1.4		Server2
7519	T circulation	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	-	-	14.3 °C -> 143 Temperature circulation sensor	2.1.4		Server2
7520	Vprimary	Resolution 0.1 l/min 9999 = Interruption -8888 = No sensor	int16	x	-	-	17.5 l/min -> 175 Primary flow (flowsensor 1)	2.1.4		Server2
7521	Vsecondary	Resolution 0.1 l/min 9999 = Interruption -8888 = No sensor	int16	x	-	-	17.5 l/min -> 175 Secondary flow (flowsensor 1)	2.1.4		Server2
7522	PWM primary	Resolution 0.1%	int16	x	x	x	50% -> 500	2.1.4		Server2
7523	PWM circulation	Resolution 0.1%	int16	x	x	x	50% -> 500	2.1.4		Server2
7524	Control output R1	0: Off 100: On	uint8	x	x	x	Only writable in manual mode	2.1.4		Server2
7525	Control output R2	0: Off 100: On	uint8	x	x	x	Only writable in manual mode	2.1.4		Server2
7526	Control output R3	0: Off 100: On	uint8	x	x	x	Only writable in manual mode	2.1.4		Server2
7527	Tww_set_temperature	60°C -> 60	uint8	x	-	-	D.H.W. set temperatur	2.1.4		Server2
7528	Tww_modulation_temperature	60°C -> 600	uint16	x	-	-	Calculated set point of modulation temperature regulation	2.1.4		Server2
7529	Tset_temperature_current	60°C -> 600	uint16	x	-	-	Set point, currently in use	2.1.4		Server2
7530	T cold water cascade	60°C -> 600	uint16	x	-	-	Calculated value of the master. It's the highest T cold sensor data of the active modules. The master calculate this value and send it to the Servers. This value ist among other things needed for the stratification of return function at the Server.	2.1.4		Server2
7580	Error free [High]	Modbus communication counter	uint16	x	-	-		3.0.2		Server2
7581	Error free [Low]	Modbus communication counter	uint16	x	-	-		3.0.2		Server2
7582	CRC [High]	Modbus communication counter	uint16	x	-	-		3.0.2		Server2
7583	CRC [Low]	Modbus communication counter	uint16	x	-	-		3.0.2		Server2
7584	Timeout [High]	Modbus communication counter	uint16	x	-	-		3.0.2		Server2
7585	Timeout [Low]	Modbus communication counter	uint16	x	-	-		3.0.2		Server2
7586	Illegal function [High]	Modbus communication counter	uint16	x	-	-		3.0.2		Server2
7587	Illegal function [Low]	Modbus communication counter	uint16	x	-	-		3.0.2		Server2
7588	Illegal address [High]	Modbus communication counter	uint16	x	-	-		3.0.2		Server2
7589	Illegal address [Low]	Modbus communication counter	uint16	x	-	-		3.0.2		Server2
7590	Illegal data [High]	Modbus communication counter	uint16	x	-	-		3.0.2		Server2
7591	Illegal data [Low]	Modbus communication counter	uint16	x	-	-		3.0.2		Server2
7592	Server error [High]	Modbus communication counter	uint16	x	-	-		3.0.2		Server2
7593	Server error [Low]	Modbus communication counter	uint16	x	-	-		3.0.2		Server2
7594	Other [High]	Modbus communication counter	uint16	x	-	-		3.0.2		Server2
7595	Other [Low]	Modbus communication counter	uint16	x	-	-		3.0.2		Server2
7690	FW Date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		2.1.4		Server2
7691	FW Time	Hour * 100 + Minute	uint16	x	-	-		2.1.4		Server2
7692	FW Version - Major release	Major release	uint16	x	-	-		2.1.4		Server2
7693	FW Version - Minor release	Minor release	uint16	x	-	-		2.1.4		Server2
7694	FW Version - patch level	Patch level	uint16	x	-	-		2.1.4		Server2
7695	FW Build Nummer		uint16	x	-	-		2.1.4		Server2
7696	PCB Version		uint16	x	-	-		2.1.4		Server2
7697	Assembly variant		uint16	x	-	-		2.1.4		Server2
7900	Tvl Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server2
7901	Tvl Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server2
7902	Tkw Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server2
7903	Tkw Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server2
7904	Tww Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server2
7905	Tww Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server2
7906	Tbuffer Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server2
7907	Tbuffer Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server2
7908	Tstratification Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server2
7909	Tstratification Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server2
7910	Tcirculation Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server2
7911	Tcirculation Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server2
7916	Vsecondary Min	Resolution 0.1 l/min 9999 = Interruption -8888 = No sensor	int16	x	x	x	17.5 l/min -> 175 write only delete with 10000	2.1.4	x	Server2
7917	Vsecondary Max	Resolution 0.1 l/min 9999 = Interruption -8888 = No sensor	int16	x	x	x	17.5 l/min -> 175 write only delete with 10000	2.1.4	x	Server2
7918	PWM primary Min	Resolution 0.1%	int16	x	x	x	write only delete with 10000	2.1.4	x	Server2
7919	PWM primary Max	Resolution 0.1%	int16	x	x	x	write only delete with 10000	2.1.4	x	Server2
7920	PWM circulation Min	Resolution 0.1%	int16	x	x	x	write only delete with 10000	2.1.4	x	Server2

7921	PWM circulation Max	Resolution 0.1%	uint16	x	x	x	write only delete with - 10000	2.1.4	x	Server2
7922	Switch cycles output R1 [High]		uint16	x	-	-	Only complet high and low	2.1.4	x	Server2
7923	Switch cycles output R1 [Low]		uint16	x	-	-	Only complet high and low	2.1.4	x	Server2
7924	Switch cycles output R2 [High]		uint16	x	-	-	Only complet high and low	2.1.4	x	Server2
7925	Switch cycles output R2 [Low]		uint16	x	-	-	Only complet high and low	2.1.4	x	Server2
7926	Switch cycles output R3 [High]		uint16	x	-	-	Only complet high and low	2.1.4	x	Server2
7927	Switch cycles output R3 [Low]		uint16	x	-	-	Only complet high and low	2.1.4	x	Server2
7928	Operating hours output R1 [High]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server2
7929	Operating hours output R1 [Low]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server2
7930	Operating hours output R2 [High]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server2
7931	Operating hours output R2 [Low]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server2
7932	Operating hours output R3 [High]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server2
7933	Operating hours output R3 [Low]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server2
7934	Operating hours pwm pri [High]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server2
7935	Operating hours pwm pri [Low]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server2
7936	Operating hours pwm circ [High]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server2
7937	Operating hours pwm circ [Low]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server2
7938	Operating hours modul last 24h	Resolution 1min	uint16	x	-	-	Time where the primary pump was on	2.1.4	x	Server2
7939	Flow actually liter day [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	2.1.4	x	Server2
7940	Flow actually liter day [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	2.1.4	x	Server2
7941	Flow actually liter week [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	2.1.4	x	Server2
7942	Flow actually liter week [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	2.1.4	x	Server2
7943	Flow actually liter month [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	2.1.4	x	Server2
7944	Flow actually liter month [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	2.1.4	x	Server2

7945	Flow actually liter total [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	2.1.4	x	Server2
7946	Flow actually liter total [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	2.1.4	x	Server2
7947	Heat quantity day [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	2.1.4	x	Server2
7948	Heat quantity day [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	2.1.4	x	Server2
7949	Heat quantity week [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	2.1.4	x	Server2
7950	Heat quantity week [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	2.1.4	x	Server2
7951	Heat quantity month [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	2.1.4	x	Server2
7952	Heat quantity month [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	2.1.4	x	Server2
7953	Heat quantity total [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	2.1.4	x	Server2

7954	Heat quantity total [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	2.1.4	x	Server2
7955	Heat quantity total since (Date)	(Month * 40 + Day) * 100 + Year	uint16	x	x	x		2.1.4	x	Server2
7956	Heat quantity total since (Time)	Hour * 100 + Minute	uint16	x	x	x		2.1.4	x	Server2
7957	Flow total since (Date)	(Month * 40 + Day) * 100 + Year	uint16	x	x	x		2.1.4	x	Server2
7958	Flow total since (Time)	Hour * 100 + Minute+G141	uint16	x	x	x		2.1.4	x	Server2
7959	T cold water cascade Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server2
7960	T cold water cascade Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server2
8013	Bootloader FW Version - Major release	Major release	uint16	x	-	-		3.0.x		Server3
8014	Bootloader FW Version - Minor release	Minor release	uint16	x	-	-		3.0.x		Server3
8015	Bootloader FW Version - patch level	Patch level	uint16	x	-	-		3.0.x		Server3
8362	Operating mode primary pump	0: manual mode 1: automatic mode	uint8	x	x	x	PWM signal	2.1.4		Server3
8363	Operating mode circulation pump	0: manual mode 1: automatic mode	uint8	x	x	x	PWM signal	2.1.4		Server3
8364	Operating mode output R1	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server3
8365	Operating mode output R2	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server3
8366	Operating mode output R3	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server3
8367	Operating mode input S1	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server3
8368	Operating mode input S2	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server3
8369	Operating mode input S3	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server3
8370	Operating mode input S4	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server3
8371	Operating mode VFS/US T - Connector 1	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server3
8372	Operating mode VFS/US V - Connector 1	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server3
8373	Operating mode VFS/US T - Connector 2	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server3
8374	Operating mode VFS/US V - Connector 2	0: manual mode 1: automatic mode	uint8	x	x	x		2.1.4		Server3
8500	S1	Resolution 0.1 °C 9999: Unterbrechung -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 Raw data	2.1.4	x (manual mode)	Server3
8501	S2	Resolution 0.1 °C 9999: Unterbrechung -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 Raw data	2.1.4	x (manual mode)	Server3
8502	S3	Resolution 0.1 °C 9999: Unterbrechung -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 Raw data	2.1.4	x (manual mode)	Server3
8503	S4	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 Raw data	2.1.4	x (manual mode)	Server3
8504	VFS/US 1 T	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 Raw data	2.1.4	x (manual mode)	Server3
8505	VFS/US 1 V	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 Raw data	2.1.4	x (manual mode)	Server3
8506	VFS/US 2 T	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 Raw data	2.1.4	x (manual mode)	Server3
8507	VFS/US 2 V	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 Raw data	2.1.4	x (manual mode)	Server3
8508	Status 1 - Manual mode / Error exists	Bit coded 0: Error exists 1: Pri. pump pwm manual mode 2: Circ. pwm manual mode 3: Output R1 manual mode 4: Output R2 manual mode 5: Output R3 manual mode 6: S1 manual mode 7: S2 manual mode 8: S3 manual mode 9: S4 manual mode 10: VFS/US 1 T manual mode 11: VFS/US 1 V manual mode 12: VFS/US 2 T manual mode 13: VFS/US 2 V manual mode	uint16	x	-	-	Section to retrieve: 0: System parameter 1: Control parameter 2: Statistics	2.1.4		Server3
8509	Status 2 - Function	Bit coded 0: Circ. function T available 1: Circ. function time available 2: Circ. function on demand available 3: Circ. function T active 4: Circ. function time active 5: Circ. function on demand active 6: Stratification of return available 7: Stratification of return Locked protection active 8: Modulation hot water available 9: Modulation hot water active 10: Comfort function available 11: Comfort function active 12: Comfort function pump locked 13: Disinfection available 14: Disinfection active 15: Disinfection last one successful	uint16	x	-	-	Bit 12: When the temperature is after 100s to low, there is a protection (wait time) from 1h.	2.1.4		Server3

8510	Status 3 - Function	Bit coded 0: Error relay available 1: Error relay active 2: Parallel relay available 3: Parallel relay active 4: Hygienic flush available 5: Hygienic flush active 6: Buffer storage available 7: Buffer storage active 8: Heating available 9: Heating active 10: Overtemperature protection active 11: Average flow active 12: Cascade valve on 13: User plant user 14: User plumber 15: User PAW	uint16	x	-	-		2.1.4		Server3
8511	Status 4	Bit coded 0: First start up pass 1: Hydraulic system adaptation running 2: Cascade valve open 3: Short tap volume detected. Circulation pump must start.	uint16	x	-	-		2.1.4		Server3
8512	Status 5 - Sensor error	Bit coded 0: Tvl interruption 1: Tvl short circuit 2: Tbuffer interruption 3: Tbuffer short circuit 4: Tww interruption 5: Tww short circuit 6: Tkw interruption 7: Tkw short circuit 8: Tstratification interruption 9: Tstratification short circuit 10: Tcirculation interruption 11: Tcirculation short circuit 12: VFS/US 1 T interruption 13: VFS/US 1 T short circuit 14: VFS/US 1 V interruption 15: VFS/US 1 V short circuit	uint16	x	-	-		2.1.4		Server3
8513	Status 6 - Sensor error	Bit coded 0: VFS/US 2 T interruption 1: VFS/US 2 T short circuit 2: VFS/US 2 V interruption 3: VFS/US 2 V short circuit 4: RTC error 5: uC error	uint16	x	-	-		2.1.4		Server3
8514	Tvl	Resolution 0.1 °C 9999: Unterbrechung -9999: Short circuit	int16	x	-	-	14.3 °C -> 143 Temperature primary warm sensor	2.1.4		Server3
8515	Tww	Resolution 0.1 °C 9999: Unterbrechung -9999: Short circuit	int16	x	-	-	14.3 °C -> 143 Temperature secondary warm sensor	2.1.4		Server3
8516	Tkw	Resolution 0.1 °C 9999: Unterbrechung -9999: Short circuit	int16	x	-	-	14.3 °C -> 143 Temperature secondary cold sensor	2.1.4		Server3
8517	T buffer	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	-	-	14.3 °C -> 143 Temperature buffer sensor	2.1.4		Server3
8518	T stratification	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	-	-	14.3 °C -> 143 Temperature stratification of return sensor	2.1.4		Server3
8519	T circulation	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	-	-	14.3 °C -> 143 Temperature circulation sensor	2.1.4		Server3
8520	Vprimary	Resolution 0.1 l/min 9999 = Interruption -8888 = No sensor	int16	x	-	-	17.5 l/min -> 175 Primary flow (flowsensor 1)	2.1.4		Server3
8521	Vsecondary	Resolution 0.1 l/min 9999 = Interruption -8888 = No sensor	int16	x	-	-	17.5 l/min -> 175 Secondary flow (flowsensor 1)	2.1.4		Server3
8522	PWM primary	Resolution 0.1%	int16	x	x	x	50% -> 500	2.1.4		Server3
8523	PWM circulation	Resolution 0.1%	int16	x	x	x	50% -> 500	2.1.4		Server3
8524	Control output R1	0: Off 100: On	uint8	x	x	x	Only writable in manual mode	2.1.4		Server3
8525	Control output R2	0: Off 100: On	uint8	x	x	x	Only writable in manual mode	2.1.4		Server3
8526	Control output R3	0: Off 100: On	uint8	x	x	x	Only writable in manual mode	2.1.4		Server3
8527	Tww_set_temperature	60°C -> 60	uint8	x	-	-	D.H.W. set temperatur	2.1.4		Server3
8528	Tww_modulation_temperature	60°C -> 600	uint16	x	-	-	Calculated set point of modulation temperature regulation	2.1.4		Server3
8529	Tset_temperature_current	60°C -> 600	uint16	x	-	-	Set point, currently in use	2.1.4		Server3
8530	T cold water cascade	60°C -> 600	uint16	x	-	-	Calculated value of the master. It's the highest T cold sensor data of the active modules. The master calculate this value and send it to the Servers. This value ist among other things needed for the stratification of return function at the Server.	2.1.4		Server3
8580	Error free [High]	Modbus communication counter	uint16	x	-	-		3.0.2		Server3
8581	Error free [Low]	Modbus communication counter	uint16	x	-	-		3.0.2		Server3
8582	CRC [High]	Modbus communication counter	uint16	x	-	-		3.0.2		Server3
8583	CRC [Low]	Modbus communication counter	uint16	x	-	-		3.0.2		Server3
8584	Timeout [High]	Modbus communication counter	uint16	x	-	-		3.0.2		Server3
8585	Timeout [Low]	Modbus communication counter	uint16	x	-	-		3.0.2		Server3
8586	Illegal function [High]	Modbus communication counter	uint16	x	-	-		3.0.2		Server3
8587	Illegal function [Low]	Modbus communication counter	uint16	x	-	-		3.0.2		Server3
8588	Illegal address [High]	Modbus communication counter	uint16	x	-	-		3.0.2		Server3

8589	Illegal address [Low]	Modbus communication counter	uint16	x	-	-		3.0.2		Server3
8590	Illegal data [High]	Modbus communication counter	uint16	x	-	-		3.0.2		Server3
8591	Illegal data [Low]	Modbus communication counter	uint16	x	-	-		3.0.2		Server3
8592	Server error [High]	Modbus communication counter	uint16	x	-	-		3.0.2		Server3
8593	Server error [Low]	Modbus communication counter	uint16	x	-	-		3.0.2		Server3
8594	Other [High]	Modbus communication counter	uint16	x	-	-		3.0.2		Server3
8595	Other [Low]	Modbus communication counter	uint16	x	-	-		3.0.2		Server3
8690	FW Date	(Month * 40 + Day) * 100 + Year	uint16	x	-	-		2.1.4		Server3
8691	FW Time	Hour * 100 + Minute	uint16	x	-	-		2.1.4		Server3
8692	FW Version - Major release	Major release	uint16	x	-	-		2.1.4		Server3
8693	FW Version - Minor release	Minor release	uint16	x	-	-		2.1.4		Server3
8694	FW Version - patch level	Patch level	uint16	x	-	-		2.1.4		Server3
8695	FW Build Nummer		uint16	x	-	-		2.1.4		Server3
8696	PCB Version		uint16	x	-	-		2.1.4		Server3
8697	Assembly variant		uint16	x	-	-		2.1.4		Server3
8900	Tvl Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server3
8901	Tvl Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server3
8902	Tkw Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server3
8903	Tkw Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server3
8904	Tww Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server3
8905	Tww Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server3
8906	Tbuffer Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server3
8907	Tbuffer Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server3
8908	Tstratification Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server3
8909	Tstratification Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server3
8910	Tcirculation Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server3
8911	Tcirculation Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server3
8916	Vsecondary Min	Resolution 0.1 l/min 9999 = Interruption -8888 = No sensor	int16	x	x	x	17.5 l/min -> 175 write only delete with 10000	2.1.4	x	Server3
8917	Vsecondary Max	Resolution 0.1 l/min 9999 = Interruption -8888 = No sensor	int16	x	x	x	17.5 l/min -> 175 write only delete with 10000	2.1.4	x	Server3
8918	PWM primary Min	Resolution 0.1%	int16	x	x	x	write only delete with 10000	2.1.4	x	Server3
8919	PWM primary Max	Resolution 0.1%	int16	x	x	x	write only delete with 10000	2.1.4	x	Server3
8920	PWM circulation Min	Resolution 0.1%	int16	x	x	x	write only delete with 10000	2.1.4	x	Server3
8921	PWM circulation Max	Resolution 0.1%	int16	x	x	x	write only delete with 10000	2.1.4	x	Server3
8922	Switch cycles output R1 [High]		uint16	x	-	-	Only complet high and low	2.1.4	x	Server3
8923	Switch cycles output R1 [Low]		uint16	x	-	-	Only complet high and low	2.1.4	x	Server3
8924	Switch cycles output R2 [High]		uint16	x	-	-	Only complet high and low	2.1.4	x	Server3
8925	Switch cycles output R2 [Low]		uint16	x	-	-	Only complet high and low	2.1.4	x	Server3
8926	Switch cycles output R3 [High]		uint16	x	-	-	Only complet high and low	2.1.4	x	Server3
8927	Switch cycles output R3 [Low]		uint16	x	-	-	Only complet high and low	2.1.4	x	Server3
8928	Operating hours output R1 [High]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server3
8929	Operating hours output R1 [Low]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server3
8930	Operating hours output R2 [High]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server3
8931	Operating hours output R2 [Low]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server3
8932	Operating hours output R3 [High]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server3
8933	Operating hours output R3 [Low]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server3
8934	Operating hours pwm pri [High]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server3
8935	Operating hours pwm pri [Low]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server3
8936	Operating hours pwm circ [High]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server3
8937	Operating hours pwm circ [Low]	Resolution 1min	uint16	x	-	-	Only complet high and low	2.1.4	x	Server3
8938	Operating hours modul last 24h	Resolution 1min	uint16	x	-	-	Time where the primary pump was on	2.1.4	x	Server3
8939	Flow actually liter day [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	2.1.4	x	Server3

8940	Flow actually liter day [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	2.1.4	x	Server3
8941	Flow actually liter week [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	2.1.4	x	Server3
8942	Flow actually liter week [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	2.1.4	x	Server3
8943	Flow actually liter month [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	2.1.4	x	Server3
8944	Flow actually liter month [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	2.1.4	x	Server3
8945	Flow actually liter total [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	2.1.4	x	Server3
8946	Flow actually liter total [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 M liter	2.1.4	x	Server3
8947	Heat quantity day [High]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	2.1.4	x	Server3
8948	Heat quantity day [Low]	Coded XXZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	2.1.4	x	Server3

8949	Heat quantity week [High]	Coded XXZZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	2.1.4	x	Server3
8950	Heat quantity week [Low]	Coded XXZZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	2.1.4	x	Server3
8951	Heat quantity month [High]	Coded XXZZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	2.1.4	x	Server3
8952	Heat quantity month [Low]	Coded XXZZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	2.1.4	x	Server3
8953	Heat quantity total [High]	Coded XXZZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	2.1.4	x	Server3
8954	Heat quantity total [Low]	Coded XXZZZZZZZZ XX: Prefix 0: 1: k 2: M 3: G 4: T 5: P ZZZZZZZ: Value. 3 digits after the digit point.	uint16	x	x	x	Delete with 0 - Only complet high and lowBsp.: 200009247 -> 9,247 MWh	2.1.4	x	Server3
8955	Heat quantity total since (Date)	(Month * 40 + Day) * 100 + Year	uint16	x	x	x		2.1.4	x	Server3
8956	Heat quantity total since (Time)	Hour * 100 + Minute	uint16	x	x	x		2.1.4	x	Server3
8957	Flow total since (Date)	(Month * 40 + Day) * 100 + Year	uint16	x	x	x		2.1.4	x	Server3
8958	Flow total since (Time)	Hour * 100 + Minute+G141	uint16	x	x	x		2.1.4	x	Server3
8959	T cold water cascade Min	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server3
8960	T cold water cascade Max	Resolution 0.1 °C 9999: Interruption -9999: Short circuit	int16	x	x	x	14.3 °C -> 143 write only delete with 10000	2.1.4	x	Server3

Alarm history ID	
ID	Note
0	SENSOR 1 ERROR
1	SENSOR 2 ERROR
2	SENSOR 3 ERROR
3	SENSOR 4 ERROR
4	FLOW METER FLOW SENSOR ERROR
5	FLOW METER TEMP SENSOR ERROR
6	PUMP 1 ERROR NO PWM
7	PUMP 1 ERROR VOLTAGE TOO LOW
8	PUMP 1 ELECTRICAL ERROR
9	PUMP 1 ERROR PUMP BLOCKED
10	PUMP 2 ERROR NO PWM
11	PUMP 2 ERROR VOLTAGE TOO LOW
12	PUMP 2 ELECTRICAL ERROR
13	PUMP 2 ERROR PUMP BLOCKED
14	COMM ERROR ETHERNET MODULE
15	COMM ERROR GATEWAY MODULE
16	COMM ERROR MODBUS
17	DISINFECTION FAILED
18	USB NO FREE SPACE
19	FLOW METER 2 FLOW SENSOR ERROR
20	FLOW METER 2 TEMP SENSOR ERROR
21	HOT WATER MODULATION
22	SENSOR 1 SIMULATION ACTIVE
23	SENSOR 1 SIMULATION INACTIVE
24	SENSOR 2 SIMULATION ACTIVE
25	SENSOR 2 SIMULATION INACTIVE
26	SENSOR 3 SIMULATION ACTIVE
27	SENSOR 3 SIMULATION INACTIVE
28	SENSOR 4 SIMULATION ACTIVE
29	SENSOR 4 SIMULATION INACTIVE
30	VFS 1 V SIMULATION ACTIVE
31	VFS 1 V SIMULATION INACTIVE
32	VFS 1 T SIMULATION ACTIVE
33	VFS 1 T SIMULATION INACTIVE
34	VFS 2 V SIMULATION ACTIVE
35	VFS 2 V SIMULATION INACTIVE
36	VFS 2 T SIMULATION ACTIVE
37	VFS 2 T SIMULATION INACTIVE

Parameter history ID	
ID	Note
0	AdvancedSettings DHWTempAttenuation
1	AlarmRelay Active
2	AlarmRelay RelaySelection
3	AlarmRelay Inversion
4	AlarmRelay PT100Error
5	AlarmRelay VFSError
6	AlarmRelay UcError
7	AlarmRelay TimeError
8	AlarmRelay CommError
9	AlarmRelay PumpError
10	AlarmRelay DisinfectionError
11	Buffer Active
12	Buffer Sensor
13	Cascade ControllerType
14	Cascade SwitchoverDelay
15	Cascade SwitchoverON
16	Cascade SwitchoverOFF
17	Circulation Active
18	Circulation TemperatureControll
19	Circulation TimeControll
20	Circulation OnDemandControll
21	Circulation OnDemandWorkTime
22	Circulation OnDemandBreakTime
23	Circulation SensorSelection
24	Circulation TempON
25	Circulation DeltaOFF
26	Circulation ContinuousOperation
27	Circulation PumpSpeed
28	ComfortFunction Active
29	ComfortFunction Time
30	ComfortFunction DeltaT
31	ComfortFunction Histeresis
32	ComfortFunction PumpSpeed
33	ComfortFunction ContinuousOperation
34	CyclicOperation Delay
35	CyclicOperation DeltaT
36	DHWModuleType
37	DHWTempDynamicRegulation Active
38	Disinfection Active
39	Disinfection Temp
40	Disinfection Duration
41	Disinfection Day
42	Disinfection StartHour
43	Disinfection OK
44	Disinfection StopBeforeTime
45	Display Brightness
46	Display DimBrightness
47	Display Contrast
48	Display ColorInversion
49	Display ScreenLockActive
50	Display ScreenLockDelay
51	Ethernet Active
52	Ethernet DHCP
53	FlowAverage Active
54	FlowAverage SamplesCount
55	FlowAverage LowestValues
56	FlowAverage HighestValues
57	Gateway Active
58	GeneralSettings DateTimeSync
59	GeneralSettings AutoDaylightSaving
60	GeneralSettings FactorySettings
61	Heating Active
62	Heating Sensor
63	Heating Relay
64	HotWater DHWSetpoint
65	HotWater DHWSetpointMin
66	HotWater DHWSetpointMax
67	HygienicFlush Active
68	HygienicFlush StartHour
69	HygienicFlush Duration
70	InputOutput Sensor1
71	InputOutput Sensor2
72	InputOutput Sensor3
73	InputOutput Sensor4
74	InputOutput FlowSensor
75	InputOutput FlowSensor 2
76	ModbusSettings Address
77	ModbusSettings BaudRate
78	ModbusSettings StopBits
79	ModbusSettings DataBits
80	ModbusSettings Parity
81	ParallelRelay Active
82	ParallelRelay Relay1
83	ParallelRelay Relay2
84	Stratification Active
85	Stratification Relay
86	Stratification Mode
87	Stratification DeltaON
88	Stratification DeltaOFF
89	Stratification TempON
90	Stratification Histeresis
91	Stratification Sensor
92	Stratification BlockProtectionTime
93	USB DataLoggingMode
94	USB DataLoggingInterval

95	CirculationWeekMode SundayWindow1
96	CirculationWeekMode SundayWindow2
97	CirculationWeekMode SundayWindow3
98	CirculationWeekMode SundayWindow4
99	CirculationWeekMode SundayWindow5
100	CirculationWeekMode MondayWindow1
101	CirculationWeekMode MondayWindow2
102	CirculationWeekMode MondayWindow3
103	CirculationWeekMode MondayWindow4
104	CirculationWeekMode MondayWindow5
105	CirculationWeekMode TuesdayWindow1
106	CirculationWeekMode TuesdayWindow2
107	CirculationWeekMode TuesdayWindow3
108	CirculationWeekMode TuesdayWindow4
109	CirculationWeekMode TuesdayWindow5
110	CirculationWeekMode WednesdayWindow1
111	CirculationWeekMode WednesdayWindow2
112	CirculationWeekMode WednesdayWindow3
113	CirculationWeekMode WednesdayWindow4
114	CirculationWeekMode WednesdayWindow5
115	CirculationWeekMode ThursdayWindow1
116	CirculationWeekMode ThursdayWindow2
117	CirculationWeekMode ThursdayWindow3
118	CirculationWeekMode ThursdayWindow4
119	CirculationWeekMode ThursdayWindow5
120	CirculationWeekMode FridayWindow1
121	CirculationWeekMode FridayWindow2
122	CirculationWeekMode FridayWindow3
123	CirculationWeekMode FridayWindow4
124	CirculationWeekMode FridayWindow5
125	CirculationWeekMode SaturdayWindow1
126	CirculationWeekMode SaturdayWindow2
127	CirculationWeekMode SaturdayWindow3
128	CirculationWeekMode SaturdayWindow4
129	CirculationWeekMode SaturdayWindow5
130	ComfortWeekMode SundayWindow1
131	ComfortWeekMode SundayWindow2
132	ComfortWeekMode SundayWindow3
133	ComfortWeekMode SundayWindow4
134	ComfortWeekMode SundayWindow5
135	ComfortWeekMode MondayWindow1
136	ComfortWeekMode MondayWindow2
137	ComfortWeekMode MondayWindow3
138	ComfortWeekMode MondayWindow4
139	ComfortWeekMode MondayWindow5
140	ComfortWeekMode TuesdayWindow1
141	ComfortWeekMode TuesdayWindow2
142	ComfortWeekMode TuesdayWindow3
143	ComfortWeekMode TuesdayWindow4
144	ComfortWeekMode TuesdayWindow5
145	ComfortWeekMode WednesdayWindow1
146	ComfortWeekMode WednesdayWindow2
147	ComfortWeekMode WednesdayWindow3
148	ComfortWeekMode WednesdayWindow4
149	ComfortWeekMode WednesdayWindow5
150	ComfortWeekMode ThursdayWindow1
151	ComfortWeekMode ThursdayWindow2
152	ComfortWeekMode ThursdayWindow3
153	ComfortWeekMode ThursdayWindow4
154	ComfortWeekMode ThursdayWindow5
155	ComfortWeekMode FridayWindow1
156	ComfortWeekMode FridayWindow2
157	ComfortWeekMode FridayWindow3
158	ComfortWeekMode FridayWindow4
159	ComfortWeekMode FridayWindow5
160	ComfortWeekMode SaturdayWindow1
161	ComfortWeekMode SaturdayWindow2
162	ComfortWeekMode SaturdayWindow3
163	ComfortWeekMode SaturdayWindow4
164	ComfortWeekMode SaturdayWindow5
165	AdvancedSettings MinSpeed
166	AdvancedSettings DebugLoggingActive

Parameter type ID	
ID	Note
0	DEGREE
1	SECONDS
2	MINUTES
3	BOOL
4	FLOW L M
5	PERCENT
6	FACTORY SETTINGS
7	DAY
8	MULTIPLE DAYS
9	K
10	HOUR
11	TIME WINDOW
12	ENUM
13	NONE



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1 Entsorgung

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