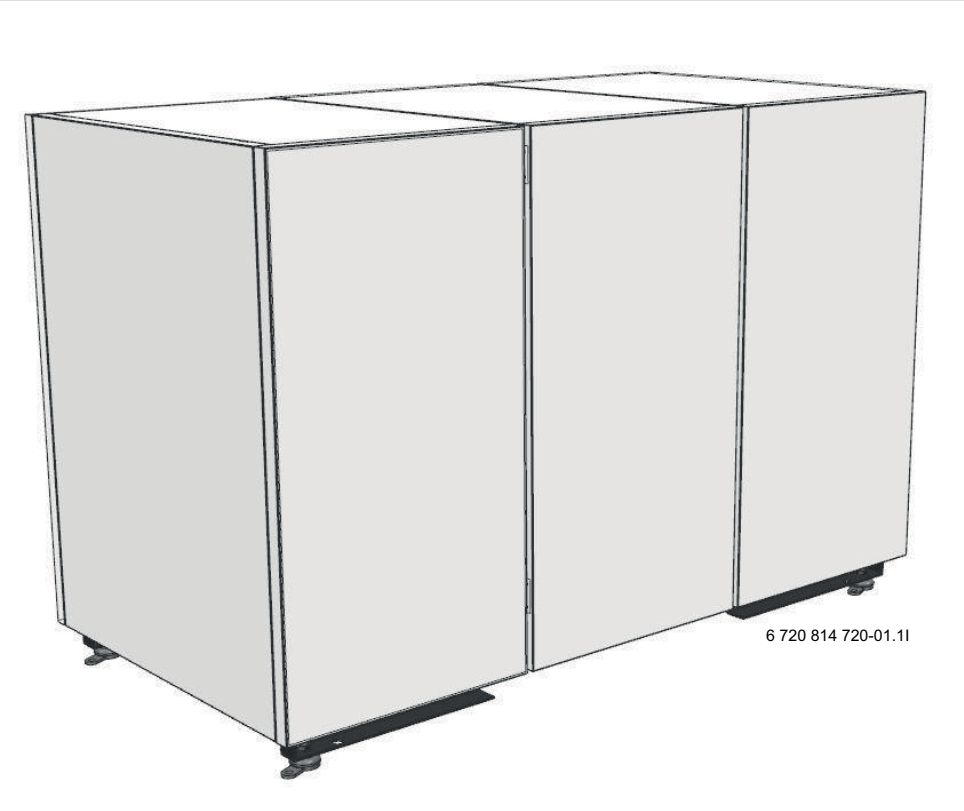
Modbus/ Bacnet protocol



REGO 5200

6 720 821 165 (2016/11)

MODBUS PROTOCOL REGO 5200

REGO 5200, program version: 1.3-0-00 and later
Document version 1.3.1

Data types, Type, Scale, Offset & Function

Data types:

L: Logic, range from False to True
X: Index, range from 0 to 255
I: Integer, range from -32767 to 32768
R: Real, range from -3,3E38 to +3,3E38

Type:

0: No decoding.
1: LSB (byte) decodes to an Index variable.
2: LSB och MSB decodes to two consecutive Index variables.
3: Decodes to an Integer variable.
4: Decodes to a Real variable, Scale and Offset is used.
5: Two consecutive registers are decoded (binary) and transformed to a Real variable, Scale and Offset is used.
6: Two consecutive registers are decoded (IEEE) and transformed to a Real variable, Scale and Offset is used. *1
7: MSB (8bits) decodes to an Index variable.
8: LSB decodes to 8 consecutive Logic variables (False/True) *2
9: MSB decodes till 8 consecutive Logic variables (False/True) *2
10: The register (16 bits) decodes to 16 consecutive Logic variables (False/True)
*1 Only applies to function 15, see "**Function**" below.
*2 Not valid with function 6, see "**Function**" below.

Scale:

1: No scale
10: Scaled by factor ten, i.e. the read/written value are increased/decreased by a tenfold.
Example: The sensor value from T0 (27.3°C) is transferred as 273 and must be divided by ten before use.

Offset:

Zero point calibration.

Scale & Offset:

Reading registers Variable value = MODBUS value – actual value/Scale – Offset
Writing registers MODBUS value = (variable – actual value + Offset) * Scale

Function:		**Explanation:**
1:	Read Coil Status	Read one or several consecutive logic registers
2:	Read Input Status	Read one or several consecutive logic registers
3:	Read Holding Registers	Read one or several consecutive analogue registers *1
4:	Read Input Registers	Read one or several consecutive analogue registers *1
5:	Force Single Coil	Write a logic value to a logic register
6:	Preset Single Holding Register	Write a logic value to a logic register *1
7:	Read Exception Status	Read 8 "Exception Status Coils", containing vendor specific data
15:	Force Multiple Coils	Write one or several consecutive logic values to consecutive logic registers
16:	Preset Multiple Holding Registers	Write one or several consecutive logic values to consecutive analogue registers *1

*1 Dependent on type, See "Type" above.

Alarm status in REGO

1: Normal /No alarm
2: Blocked
3: Acknowledged
4: reserved
5: Returned (but not acknowledged)
6: reserved
7: Trigged

Acknowledge an alarm by sending the alarm number to address 40001. Await confirmation (255).
Alarms must be acknowledged one by one.

Addressing

There's a "De Facto-standard" that has been developed for easier integration.
Addressing is handled as follows:

The first variable of	Is addressed	Typical function(s)
COIL STATUS	00001	1, 5 (5=write)
INPUT STATUS	10001	2
HOLDING REGISTERS	40001	3, 6 (6=write)
INPUT REGISTERS	30001	4

Note that some systems can't handle the addressing above. Commonly a combination of function and an absolute reference are being used instead. Our address list consists of both alternatives.

Factory configuration

Modbus TCP

Settable	Factory	Range
Device ID:	1	0-255

Non settable

Port	502

531

<ADDRESS LIST>

Read Digital Registers

INPUT STATUS Function 2

Address	De Facto-address	Type	Scale	Offs	Description
100	10001	*	*	*	Unit was just powered on
101	10002	*	*	*	Temporary protection
102	10003	*	*	*	Protection, needs reset
103	10004	*	*	*	Sum alarm, A
104	10005	*	*	*	Sum alarm, B
105	10006	*	*	*	DHW valve, 0=Heat, 1=DHW
106	10007	*	*	*	Digital input 1
107	10008	*	*	*	Digital input 2
108	10009	*	*	*	Digital input 3
109	10010	*	*	*	Digital input 4
110	10011	*	*	*	Digital input 5
111	10012	*	*	*	Digital input 6
112	10013	*	*	*	Digital input 7
113	10014	*	*	*	Digital input 8
114	10015	*	*	*	Digital output PC0
115	10016	*	*	*	Digital output EE1
116	10017	*	*	*	Digital output EE2
117	10018	*	*	*	Digital output VW1
118	10019	*	*	*	Digital output PC1
119	10020	*	*	*	Digital output PM1
120	10021	*	*	*	Digital output SSM
121	10022	*	*	*	Digital output compressor 1
122	10023	*	*	*	Digital output compressor 2
123	10024	*	*	*	Digital output ER3, wet injection
124	10025	*	*	*	Digital output ER4, wet injection

Read/Write Digital Registers

COIL STATUS Functions 1, 5 (5=write)

Address	De Facto-address	Type	Scale	Offs	Description
5	1	*	*	*	Thirdpartie compressor start enable (0=Auto, 1=Manual)
6	2	*	*	*	Thirdpartie compressor start (0=STOP, 1=Start) for compressor 1
7	3	*	*	*	Reserved for future use
8	4	*	*	*	Reserved for future use
9	5	*	*	*	Thirdpartie WatchDog reset (set to 1 whithin 5 minutes)
10	6	*	*	*	Override sensor inputs for T0 and TL1, apply values at 40002/3
11	7	*	*	*	Thirdpartie compressor start (0=STOP, 1=Start) for compressor 2
12	8	*	*	*	Thirdpartie flow temp. setpoint, apply value at 40053
13	9	*	*	*	External Circ. Pump DHW time channel (0=inactive, 1=active)
14	10	*	*	*	Heating hybrid control (0=inactive, 1=active)
15	11	*	*	*	DHW hybrid control (0=inactive, 1=active)

16	12	*	*	*	Override sensor input for T0, apply value at 40002
17	13	*	*	*	Override sensor input for TL1, apply value at 40003
18	14	*	*	*	Override sensor input for TC2, apply value at 40078

Read Analogue Registers, Type: 1=Index, 3=Integer, 4=Real

INPUT REGISTERS Function 4

Address	De Facto-address	Type	Scale	Offs	Description	
700	30001	1	1		Number of accessories	
701	30002	1	1		Additional heat type	0 = No additional heat, 1 = Step el. heat, 2 = Modulated add. heat, 3 = Mixed add. heat, 4 = District heating
702	30003	1	1		Enabled heat sources	0 = Only additional heat, 1 = Comp. + add. heat, 2 = Only compressor
703	30004	1	1		DHW sensor type	0 = No hot water, 1 = Local sensor, 2 = Communicated, 3 = Previous HP
704	30005	1	1		Additional heat: Current	demand in steps (0/1/2/3)
705	30006	1	1		Current demand compressor 1;	0=No demand, 1=Heat, 2=DHW, 3=Thermic desinfection, 4=Freeze protection. 5=External start, 6=Manual start
706	30007	5	1		Compressor 1 status	0 = OFF, 1 = DEPRESSURIZE, 2 = CLOSE_AND_WAIT, 3 = COMPRESSOR_START, 4 = COMPRESSOR_HEATUP, 5 = COMPRESSOR_RUN, 6= COMPRESSOR_STOP
707	30008	4	10		AI1, direct read	
708	30009	4	10		AI2, direct read	
709	30010	4	10		AI3, direct read	
710	30011	4	10		T0 sensor, heating system	
711	30012	4	10		TL1 sensor, outdoor direct	
712	30013	4	10		TL1 sensor, outdoor damped	
713	30014	4	10		TW1 sensor, DHW cylinder	
714	30015	4	10		TR6 sensor, hotgas compressor 1	
715	30016	4	10		TC1 sensor, additional heat	
716	30017	4	10		TC0 sensor, heating return	
717	30018	4	10		TB0 sensor, brine return	
718	30019	4	10		TB1 sensor, brine flow	
719	30020	4	10		T0 setpoint, Ymin	
720	30021	4	10		T0 setpoint, Ymax	
721	30022	4	10		T0 setpoint, DOT	
722	30023	4	10		T0 setpoint, heating system	
723	30024	4	10		x-coordinate 1	
724	30025	4	10		x-coordinate 2	
725	30026	4	10		x-coordinate 3	
726	30027	4	10		x-coordinate 4	
727	30028	4	10		x-coordinate 5	
728	30029	4	10		x-coordinate 6	
729	30030	4	10		x-coordinate 7	
730	30031	4	10		x-coordinate 8	
731	30032	4	10		x-coordinate 9	
732	30033	4	10		x-coordinate 10	
733	30034	4	10		x-coordinate 11	
734	30035	4	10		x-coordinate 12	
735	30036	4	10		Summer timer	
736	30037	4	10		Winter timer	
737	30038	4	10		Additional heat valve	
738	30039	4	1		Compressor 1	RunTimeMeter total h
739	30040	4	1		Compressor 1	RunTimeMeter total x
740	30041	4	1		Compressor 2	RunTimeMeter total h
741	30042	4	1		Compressor 2	RunTimeMeter total x
742	30043	4	1		Additonal heat step1	RunTimeMeter total h
743	30044	4	1		Additonal heat step1	RunTimeMeter total x
744	30045	4	1		Additonal heat step2	RunTimeMeter total h
745	30046	4	1		Additonal heat step2	RunTimeMeter total x

746	30047	4	1	Additonal heat step3	RunTimeMeter total h
747	30048	4	1	Additonal heat step3	RunTimeMeter total x
748	30049	4	1	PC1 circ. pump	RunTimeMeter total h
749	30050	4	1	PC1 circ. pump	RunTimeMeter total x
750	30051	4	1	Add.Heater valve	RunTimeMeter total h
751	30052	4	1	Add.Heater valve	RunTimeMeter total x
752	30053	4	1	Sum Alarm	RunTimeMeter total h
753	30054	4	1	Sum Alarm	RunTimeMeter total x
754	30055	4	1	DHW RunTimeMeter total h	
755	30056	4	1	DHW RunTimeMeter total x	
756	30057	4	1	Reserved for future use	RunTimeMeter total h
757	30058	4	1	Reserved for future use	RunTimeMeter total x
758	30059	4	1	Reserved for future use	RunTimeMeter total h
759	30060	4	1	Reserved for future use	RunTimeMeter total x
760	30061	4	1	PC0 RunTimeMeter total h	
761	30062	4	1	PC0 RunTimeMeter total x	
762	30063	4	1	PB3 RunTimeMeter total h	
763	30064	4	1	PB3 RunTimeMeter total x	
764	30065	4	1	Reserved for future use	
765	30066	4	1	Reserved for future use	
766	30067	4	10	Reserved for future use	
767	30068	4	10	Reserved for future use	
768	30069	4	10	Reserved for future use	
769	30070	4	1	Additional heat current start timer step 1, °minutes	
770	30071	4	1	Additional heat current start timer step 2, °minutes	
771	30072	4	1	Additional heat current start timer step 3, °minutes	
772	30073	4	1	Additional heat current stop timer step 2, °minutes	
773	30074	4	1	Additional heat current stop timer step 3, °minutes	
774	30075	4	1	Additional heat current stop timer step 3, °minutes	
775	30076	4	10	Reserved for future use	
776	30077	4	10	Reserved for future use	
777	30078	5	1	Compressor 2 status	0 = OFF, 1 = DEPRESSURIZE, 2 = CLOSE_AND_WAIT, 3 = COMPRESSOR_ START, 4 = COMPRESSOR_HEATUP, 5 = COMPRESSOR_RUN, 6 = COMPRESSOR_STOP
778	30079	4	10	TC2 sensor, buffer temp.	
779	30080	5	1	FWS DHW circ. Pump	
780	30081	5	1	FWS diverter valve position	
781	30082	5	1	FWS heating water pump	
782	30083	5	1	FWS DHW circ. Pump total runtime	
783	30084	4	10	FWS cold water temp	
784	30085	4	10	FWS sensor, cold water temp	
785	30086	4	10	FWS sensor, DHW circulation temp	
786	30087	4	10	FWS sensor, DHW flow temp	
787	30088	4	10	FWS sensor, DHW return temp	
788	30089	4	10	FWS sensor, heating flow temp	
789	30090	4	10	FWS sensor, heating return temp	
790	30091	4	10	FWS sensor, water flow	
791	30092	4	100	FWS Heating water pump speed	
792	30093	1	1	Current demand compressor 2;	0=No demand, 1=Heat, 2=DHW, 3=Thermic desinfection, 4=Freeze protection. 5=External start, 6=Manual start
793	30094	4	10	Electric meter, kW	
794	30095	4	1	Electric meter, kWh	
795	30096	4	1	Electric meter, voltage L1	
796	30097	4	1	Electric meter, voltage L2	
797	30098	4	1	Electric meter, voltage L3	
798	30099	4	1	Electric meter, current L1	
799	30100	4	1	Electric meter, current L2	
800	30101	4	1	Electric meter, current L3	
801	30102	4	1	Currently produced power, kW	
802	30103	4	1	Produced heating energy, kWh	
803	30104	4	1	Produced dhw energy, kWh	
804	30105	4	1	Consumed energy, kWh	
805	30106	4	10	Reserved for future use	

806	30107	4	10	Reserved for future use	
807	30108	4	10	Reserved for future use	
808	30109	4	10	Reserved for future use	
809	30110	4	10	Reserved for future use	
810	30111	4	10	Reserved for future use	
811	30112	4	10	Reserved for future use	
812	30113	4	10	Reserved for future use	
813	30114	4	10	Reserved for future use	
814	30115	4	10	Reserved for future use	
815	30116	4	10	Reserved for future use	
816	30117	4	10	Reserved for future use	
817	30118	4	10	Reserved for future use	
818	30119	4	10	Reserved for future use	
819	30120	4	10	Reserved for future use	
820	30121	4	10	Reserved for future use	
821	30122	4	10	Reserved for future use	
822	30123	4	10	Reserved for future use	
823	30124	4	10	Reserved for future use	
824	30125	4	10	Reserved for future use	
825	30126	4	10	Reserved for future use	
826	30127	4	10	Reserved for future use	
827	30128	4	10	Reserved for future use	
828	30129	4	10	Reserved for future use	
829	30130	4	10	Reserved for future use	
830	30131	4	10	Reserved for future use	
831	30132	4	10	Reserved for future use	
832	30133	4	10	Reserved for future use	
833	30134	4	10	Reserved for future use	
834	30135	4	10	Reserved for future use	
835	30136	4	10	Reserved for future use	
836	30137	4	10	Reserved for future use	
837	30138	4	10	Reserved for future use	
838	30139	4	10	Reserved for future use	
839	30140	4	10	Reserved for future use	
840	30141	4	10	Reserved for future use	
841	30142	4	10	Reserved for future use	
842	30143	4	10	Reserved for future use	
843	30144	4	10	Reserved for future use	
844	30145	4	10	Reserved for future use	
845	30146	4	10	Reserved for future use	
846	30147	4	10	Reserved for future use	
847	30148	4	10	Reserved for future use	
848	30149	4	10	Reserved for future use	
849	30150	4	10	Reserved for future use	
A-alarms					
850	30151	1	1	Alarm 1	Oper. error all PC1
851	30152	1	1	Alarm 2	Oper. error compr. and add. heat
852	30153	1	1	Alarm 3	Failure on sensor T0 and TC2
853	30154	1	1	Alarm 4	Sensor error TW4 DHW flowtemp
854	30155	1	1	Alarm 5	Failure PC4 Heating water pump
855	30156	1	1	Alarm 6	Reserved for future use
856	30157	1	1	Alarm 7	Reserved for future use
857	30158	1	1	Alarm 8	Reserved for future use
858	30159	1	1	Alarm 9	Reserved for future use
B-alarms					
859	30160	1	1	Alarm 10	Failure on sensor TR3
860	30161	1	1	Alarm 11	Failure on sensor TW1
861	30162	1	1	Alarm 12	Failure on sensor TC0
862	30163	1	1	Alarm 13	Failure on sensor TC2
863	30164	1	1	Alarm 14	Failure on sensor TC3
864	30165	1	1	Alarm 15	Failure on sensor TB0
865	30166	1	1	Alarm 16	Failure on sensor TB1
866	30167	1	1	Alarm 17	Failure on sensor TR2
867	30168	1	1	Alarm 18	Failure on sensor TR5
868	30169	1	1	Alarm 19	Failure on sensor JR0
869	30170	1	1	Alarm 20	Failure on sensor JR1
870	30171	1	1	Alarm 21	Communication error with HP-card

871	30172	1	1	Alarm 22	Oper. error compressor 1
872	30173	1	1	Alarm 23	Oper. error compressor 2
873	30174	1	1	Alarm 24	Operating error PB3
874	30175	1	1	Alarm 25	Low temperature JR0
875	30176	1	1	Alarm 26	Tripped high pressure switch
876	30177	1	1	Alarm 27	Operating error PC0
877	30178	1	1	Alarm 28	Internal add. heater overheated
878	30179	1	1	Alarm 29	Mixed add. heater doesn't get warm
879	30180	1	1	Alarm 30	Compressor 1 does not start
880	30181	1	1	Alarm 31	Compressor 2 does not start
881	30182	1	1	Alarm 32	High pressure JR1
882	30183	1	1	Alarm 33	Low pressure JR1
883	30184	1	1	Alarm 34	Low temperature TB0
884	30185	1	1	Alarm 35	Low temperature TB1
885	30186	1	1	Alarm 36	High temperature TB0
886	30187	1	1	Alarm 37	High temperature TB1
887	30188	1	1	Alarm 38	High temperature TR6
888	30189	1	1	Alarm 39	High temperature TR7
889	30190	1	1	Alarm 40	High temperature TC1
890	30191	1	1	Alarm 41	High temperature TC0
891	30192	1	1	Alarm 42	Low temperature TR5
892	30193	1	1	Alarm 43	Problem with hot water production
893	30194	1	1	Alarm 44	Problem with VW1 3-way valve
894	30195	1	1	Alarm 45	Problem with Zx VWx 3-way valve
895	30196	1	1	Alarm 46	Start-up attempt interrupted
896	30197	1	1	Alarm 47	Wrong rotation compressor 1
897	30198	1	1	Alarm 48	Wrong rotation compressor 2
898	30199	1	1	Alarm 49	Operating error PC1
899	30200	1	1	Alarm 50	Compressor 1 overheated
900	30201	1	1	Alarm 51	Compressor 2 overheated
901	30202	1	1	Alarm 52	Communication error with accessory 1
902	30203	1	1	Alarm 53	Communication error with accessory 2
903	30204	1	1	Alarm 54	Communication error with accessory 3
904	30205	1	1	Alarm 55	Communication error with accessory 4
905	30206	1	1	Alarm 56	Communication error with accessory 5
906	30207	1	1	Alarm 57	Communication error with accessory 6
907	30208	1	1	Alarm 58	Communication error with accessory 7
908	30209	1	1	Alarm 59	Communication error with accessory 8
909	30210	1	1	Alarm 60	Communication error with accessory 9
910	30211	1	1	Alarm 61	Access.1 pump out of order
911	30212	1	1	Alarm 62	Access.2 pump out of order
912	30213	1	1	Alarm 63	Access.3 pump out of order
913	30214	1	1	Alarm 64	Access.4 pump out of order
914	30215	1	1	Alarm 65	Access.5 pump out of order
915	30216	1	1	Alarm 66	Access.6 pump out of order
916	30217	1	1	Alarm 67	Access.7 pump out of order
917	30218	1	1	Alarm 68	Access.8 pump out of order
918	30219	1	1	Alarm 69	Access.9 pump out of order
919	30220	1	1	Alarm 70	Communication error with Z1
920	30221	1	1	Alarm 71	Communication error with Z2
921	30222	1	1	Alarm 72	Communication error with Z3
922	30223	1	1	Alarm 73	Communication error with Z4
923	30224	1	1	Alarm 74	Communication error with Z5
924	30225	1	1	Alarm 75	Compressor 1 overcurrent
925	30226	1	1	Alarm 76	Compressor 1 stall
926	30227	1	1	Alarm 77	Bypass relay 1 failure
927	30228	1	1	Alarm 78	Wrong phase order on power supply
928	30229	1	1	Alarm 79	Wrong frequency order on power supply
929	30230	1	1	Alarm 80	Soft starter 1 faliure
930	30231	1	1	Alarm 81	Fuse tripped for compressor 1
931	30232	1	1	Alarm 82	Fuse tripped for compressor 2
932	30233	1	1	Alarm 83	Wrong phase order to compressor 1
933	30234	1	1	Alarm 84	Wrong phase order to compressor 2
934	30235	1	1	Alarm 85	Wrong frequency to comperssor 1
935	30236	1	1	Alarm 86	Wrong frequency to comperssor 2
936	30237	1	1	Alarm 87	Compressor 2 overcurrent
937	30238	1	1	Alarm 88	Compressor 2 stall

938	30239	1	1	Alarm 89	Bypass relay 2 faliure
939	30240	1	1	Alarm 90	Soft starter 2 faliure
940	30241	1	1	Alarm 91	TW4 sensor error
941	30242	1	1	Alarm 92	Reserved for future use
942	30243	1	1	Alarm 93	TW5 sensor error
943	30244	1	1	Alarm 94	Low temperature TW6
944	30245	1	1	Alarm 95	Low temperature TW4
945	30246	1	1	Alarm 96	The software in the HP-card is too old
946	30247	1	1	Alarm 97	The SW in the Regin box is too old
947	30248	1	1	Alarm 98	TW2 sensor error
948	30249	1	1	Alarm 99	TW3 sensor error
949	30250	1	1	Alarm 100	GW0 sensor error
950	30251	1	1	Alarm 101	TW4 high temperature
951	30252	1	1	Alarm 102	TW2 low temperature
952	30253	1	1	Alarm 103	The software in the FWS is too old
953	30254	1	1	Alarm 104	The Regin SW is too old for the FWS
954	30255	1	1	Alarm 105	Communication error with FWS
955	30256	1	1	Alarm 106	Low temperature cooling system
956	30257	1	1	Alarm 107	Cooling system SSM alarm
957	30258	1	1	Alarm 108	Reserved for future use
958	30259	1	1	Alarm 109	Reserved for future use
959	30260	1	1	Alarm 110	Reserved for future use
960	30261	1	1	Alarm 111	Reserved for future use
961	30262	1	1	Alarm 112	Reserved for future use
962	30263	1	1	Alarm 113	Reserved for future use
963	30264	1	1	Alarm 114	Reserved for future use
964	30265	1	1	Alarm 115	Reserved for future use
965	30266	1	1	Alarm 116	Reserved for future use
966	30267	1	1	Alarm 117	Reserved for future use
967	30268	1	1	Alarm 118	Reserved for future use
968	30269	1	1	Alarm 119	Reserved for future use
969	30270	1	1	Alarm 120	Reserved for future use
970	30271	1	1	Alarm 121	Reserved for future use
971	30272	1	1	Alarm 122	Reserved for future use
972	30273	1	1	Alarm 123	Reserved for future use
973	30274	1	1	Alarm 124	Reserved for future use
974	30275	1	1	Alarm 125	Reserved for future use
975	30276	1	1	Alarm 126	Reserved for future use
976	30277	1	1	Alarm 127	Reserved for future use
977	30278	1	1	Alarm 128	Reserved for future use
978	30279	1	1	Alarm 129	Reserved for future use
979	30280	1	1	Alarm 130	Reserved for future use
980	30281	1	1	Alarm 131	Reserved for future use
981	30282	1	1	Alarm 132	Reserved for future use
982	30283	1	1	Alarm 133	Reserved for future use
C-alarms					
983	30284	1	1	Alarm 134	Control unit restarted
984	30285	1	1	Alarm 135	High pressure JR1
985	30286	1	1	Alarm 136	Low pressure JR1
986	30287	1	1	Alarm 137	Low pressure JR0
987	30288	1	1	Alarm 138	Start-up attempt interrupted
988	30289	1	1	Alarm 139	Failure on sensor TB0
989	30290	1	1	Alarm 140	Failure on sensor TR3
990	30291	1	1	Alarm 141	Failure on sensor TR2
991	30292	1	1	Alarm 142	Failure on sensor TR6
992	30293	1	1	Alarm 143	Failure on sensor TR7
993	30294	1	1	Alarm 144	Failure on sensor TR8
994	30295	1	1	Alarm 145	Failure on sensor JR1
995	30296	1	1	Alarm 146	Failure on sensor JR2
996	30297	1	1	Alarm 147	Failure on sensor TC1
997	30298	1	1	Alarm 148	Failure on sensor TB1
998	30299	1	1	Alarm 149	Failure on sensor TC2
999	30300	1	1	Alarm 150	Failure on sensor TL1
1000	30301	1	1	Alarm 151	Compressor 1 does not start
1001	30302	1	1	Alarm 152	Compressor 2 does not start
1002	30303	1	1	Alarm 153	Oper. error compressor 1
1003	30304	1	1	Alarm 154	Oper. error compressor 2

1004	30305	1	1	Alarm 155	Wrong rotation compressor 1
1005	30306	1	1	Alarm 156	Wrong rotation compressor 2
1006	30307	1	1	Alarm 157	Compressor 1 overheated
1007	30308	1	1	Alarm 158	Compressor 2 overheated
1008	30309	1	1	Alarm 159	Replace memory battery
1009	30310	1	1	Alarm 160	Temporary error PB3 coll. circuit pump
1010	30311	1	1	Alarm 161	High temperature TR7
1011	30312	1	1	Alarm 162	Low temperature TR5
1012	30313	1	1	Alarm 163	Low temperature TR2
1013	30314	1	1	Alarm 164	Output in wrong pos after function test
1014	30315	1	1	Alarm 165	Hot water in emerg. oper.
1015	30316	1	1	Alarm 166	High temperature T0 flow
1016	30317	1	1	Alarm 167	Low temperature T0 flow
1017	30318	1	1	Alarm 168	Low temperature TW1 hot water
1018	30319	1	1	Alarm 169	High temperature TR6
1019	30320	1	1	Alarm 170	Tripped high pressure switch
1020	30321	1	1	Alarm 171	High temperature TC1
1021	30322	1	1	Alarm 172	High temperature TC0
1022	30323	1	1	Alarm 173	Low temperature TB0
1023	30324	1	1	Alarm 174	Low temperature TB1
1024	30325	1	1	Alarm 175	Low temp. diff. heat transfer fluid
1025	30326	1	1	Alarm 176	High temp. diff. heat transfer fluid
1026	30327	1	1	Alarm 177	High temp. diff. collector circuit
1027	30328	1	1	Alarm 178	Therm.disinfection unsuccessful
1028	30329	1	1	Alarm 179	Short oper.time in hot water mode
1029	30330	1	1	Alarm 180	Short oper.time in heating
1030	30331	1	1	Alarm 181	Temporary error PC0 heat carrier pump
1031	30332	1	1	Alarm 182	Failure on sensor T0
1032	30333	1	1	Alarm 183	High overheating TR5
1033	30334	1	1	Alarm 184	Too much refrigerant
1034	30335	1	1	Alarm 185	Lack of refrigerant
1035	30336	1	1	Alarm 186	Communication error with HP-card
1036	30337	1	1	Alarm 187	Accessory 1 temp. deviation
1037	30338	1	1	Alarm 188	Accessory 2 temp. deviation
1038	30339	1	1	Alarm 189	Accessory 3 temp. deviation
1039	30340	1	1	Alarm 190	Accessory 4 temp. deviation
1040	30341	1	1	Alarm 191	Accessory 5 temp. deviation
1041	30342	1	1	Alarm 192	Accessory 6 temp. deviation
1042	30343	1	1	Alarm 193	Accessory 7 temp. deviation
1043	30344	1	1	Alarm 194	Accessory 8 temp. deviation
1044	30345	1	1	Alarm 195	Accessory 9 temp. deviation
1045	30346	1	1	Alarm 196	Too low or too high voltage
1046	30347	1	1	Alarm 197	Too high temp softstart 1
1047	30348	1	1	Alarm 198	Too high temp softstart 2
1048	30349	1	1	Alarm 199	Failure on sensor TW6
1049	30350	1	1	Alarm 200	Failure on sensor TW7
1050	30351	1	1	Alarm 201	Oil equalization compressor 1
1051	30352	1	1	Alarm 202	Oil equalization compressor 2
1052	30353	1	1	Alarm 203	Failure on PW2 DHW circulation pump
1053	30354	1	1	Alarm 204	High temperature TW2
1054	30355	1	1	Alarm 205	Too long depressurize time
1055	30356	1	1	Alarm 206	High temperature TW6
1056	30357	1	1	Alarm 207	High temperature TW3
1057	30358	1	1	Alarm 208	Lov voltage L1
1058	30359	1	1	Alarm 209	Lov voltage L2
1059	30360	1	1	Alarm 210	Lov voltage L3
1060	30361	1	1	Alarm 211	High current L1
1061	30362	1	1	Alarm 212	High current L2
1062	30363	1	1	Alarm 213	High current L3
1063	30364	1	1	Alarm 214	Wrong phase order
1064	30365	1	1	Alarm 215	Warmwater stopped by TC3
1065	30366	1	1	Alarm 216	Low temperature cooling system
1066	30367	1	1	Alarm 217	Cooling system startsignal alar
1067	30368	1	1	Alarm 218	Current to heat pump upper limit
1068	30369	1	1	Alarm 219	Evacuation and vaccuum suction active
1069	30370	1	1	Alarm 220	Reserved for future use
1070	30371	1	1	Alarm 221	Reserved for future use

1071	30372	1	1	Alarm 222	Reserved for future use
1072	30373	1	1	Alarm 223	Reserved for future use
1073	30374	1	1	Alarm 224	Reserved for future use
1074	30375	1	1	Alarm 225	Reserved for future use
1075	30376	1	1	Alarm 226	Reserved for future use
1076	30377	1	1	Alarm 227	Reserved for future use
1077	30378	1	1	Alarm 228	Reserved for future use
1078	30379	1	1	Alarm 229	Reserved for future use
1079	30380	1	1	Alarm 230	Reserved for future use
1080	30381	1	1	Alarm 231	Reserved for future use
1081	30382	1	1	Alarm 232	Reserved for future use
1082	30383	1	1	Alarm 233	Reserved for future use
1083	30384	1	1	Alarm 234	Reserved for future use
1084	30385	1	1	Alarm 235	Reserved for future use
1085	30386	1	1	Alarm 236	Reserved for future use
1086	30387	1	1	Alarm 237	Reserved for future use
1087	30388	1	1	Alarm 238	Reserved for future use
1088	30389	1	1	Alarm 239	Reserved for future use
1089	30390	1	1	Alarm 240	Reserved for future use
1090	30391	1	1	Alarm 241	Reserved for future use
1091	30392	1	1	Alarm 242	Reserved for future use
1092	30393	1	1	Alarm 243	Reserved for future use
1093	30394	1	1	Alarm 244	Reserved for future use
1094	30395	1	1	Alarm 245	Reserved for future use
1095	30396	1	1	Alarm 246	Reserved for future use
1096	30397	1	1	Alarm 247	Reserved for future use
1097	30398	1	1	Alarm 248	Reserved for future use
1098	30399	4	1	Reserved for future use	
1099	30400	4	1	Reserved for future use	
1100	30401	4	1	Reserved for future use	
1101	30402	4	1	Reserved for future use	
1102	30403	4	1	Reserved for future use	
1103	30404	4	1	Reserved for future use	
1104	30405	4	1	Reserved for future use	
1105	30406	4	1	Reserved for future use	
1106	30407	4	1	Reserved for future use	
1107	30408	4	1	Reserved for future use	
1108	30409	4	1	Reserved for future use	
1109	30410	4	1	Reserved for future use	
1110	30411	4	1	Reserved for future use	
1111	30412	4	1	Reserved for future use	
1112	30413	4	1	Reserved for future use	
1113	30414	4	1	Reserved for future use	
1114	30415	4	1	Reserved for future use	
1115	30416	4	1	Reserved for future use	
1116	30417	4	1	Reserved for future use	
1117	30418	4	1	Reserved for future use	
1118	30419	4	1	Reserved for future use	
1119	30420	4	1	Reserved for future use	
1120	30421	4	1	Reserved for future use	
1121	30422	4	1	Reserved for future use	
1122	30423	4	1	Reserved for future use	
1123	30424	4	1	Reserved for future use	
1124	30425	4	1	Reserved for future use	
1125	30426	4	1	Reserved for future use	
1126	30427	4	10	TR8 sensor	
1127	30428	4	10	Current speed PC0	
1128	30429	4	10	Current speed PB3	
1129	30430	4	100	Reserved for future use	
1130	30431	4	100	Reserved for future use	
1131	30432	4	10	TC3 sensor, flow temp.	
1132	30433	5	1	Reserved for future use	
1133	30434	5	1	Reserved for future use	
1134	30435	4	10	TR3 sensor	
1135	30436	4	10	TR2 sensor	
1136	30437	4	10	TR5 sensor	
1137	30438	4	10	TR7 sensor, hotgas temperature compressor 2	

1138	30439	4	10	JR0 sensor, temperature
1139	30440	4	10	JR2 sensor, temperature
1140	30441	4	10	JR0 sensor, pressure
1141	30442	4	10	JR2 sensor, pressure
1142	30443	5	1	Reserved for future use
1143	30444	4	100	Reserved for future use
1144	30445	4	1	Reserved for future use
1145	30446	4	100	Reserved for future use
1146	30447	4	100	Reserved for future use
1147	30448	5	1	Reserved for future use
1148	30449	5	1	Reserved for future use
1149	30450	5	1	Reserved for future use
1150	30451	4	10	Reserved for future use
1151	30452	4	10	Reserved for future use
1152	30453	4	10	JR1 sensor, pressure
1153	30454	4	10	JR1 sensor, temperature

Read/Write Analogue Registers, Type: 1=Index, 3=Integer, 4=Real

HOLDING REGISTERS Functions 3, 6 (6=write)

Address	De Facto-address	Type	Scale	Offs	Description
500	40001	1	1	*	Alarm acknowledge (Alarm number)
501	40002	4	10	*	Sensor value to T0 in override mode
502	40003	4	10	*	Sensor value to TL1 in override mode
503	40004	4	10	*	Sensor value to TW1 in communicated mode
504	40005	4	10	*	y-coordinate 1
505	40006	4	10	*	y-coordinate 2
506	40007	4	10	*	y-coordinate 3
507	40008	4	10	*	y-coordinate 4
508	40009	4	10	*	y-coordinate 5
509	40010	4	10	*	y-coordinate 6
510	40011	4	10	*	y-coordinate 7
511	40012	4	10	*	y-coordinate 8
512	40013	4	10	*	y-coordinate 9
513	40014	4	10	*	y-coordinate 10
514	40015	4	10	*	y-coordinate 11
515	40016	4	10	*	y-coordinate 12
516	40017	4	10	*	Start of summer (17°)
517	40018	4	10	*	Start of summer (180m)
518	40019	4	10	*	Start of winter (15°)
519	40020	4	10	*	Start of winter (300m)
520	40021	4	10	*	Start of winter (7°)
521	40022	4	10	*	Hotwater start, only when TW1 setting = 2
522	40023	4	10	*	Hotwater stop, only when TW1 setting = 2
523	40024	4	10	*	Hotwater start, only when TW1 setting != 2
524	40025	4	10	*	Hotwater stop, only when TW1 setting != 2
525	40026	4	10	*	Additional heat, Start hysteresis
526	40027	4	10	*	Additional heat, Start step 1, °minutes
527	40028	4	10	*	Additional heat, Start step 2, °minutes
528	40029	4	10	*	Additional heat, Start step 3, °minutes
529	40030	4	10	*	Additional heat, Stop step 1, °minutes
530	40031	4	10	*	Additional heat, Stop step 2, °minutes
531	40032	4	10	*	Additional heat, Stop step 3, °minutes
532	40033	4	10	*	Additional heat, Thermostat alarm delay, minutes
533	40034	5	1	*	Reserved for future use
534	40035	5	1	*	Reserved for future use
535	40036	5	1	*	Reserved for future use
536	40037	5	1	*	Reserved for future use
537	40038	4	1	*	Reserved for future use
538	40039	4	1	*	Reserved for future use
539	40040	4	10	*	Reserved for future use
540	40041	4	10	*	Reserved for future use
541	40042	1	1	*	Reserved for future use
542	40043	1	1	*	Reserved for future use
543	40044	4	1	*	Reserved for future use
544	40045	1	1	*	Pump PB3, digital signal select 0 = 0ff, 1 = on, 2 = auto
545	40046	1	1	*	Pump PB3, analogue signal select, 0 = 0ff, 1 = man, 2=auto
546	40047	4	1	*	Pump PB3, analogue signal percentage

547	40048	4	1	*	Reserved for future use
548	40049	4	1	*	Reserved for future use
549	40050	1	1	*	Reserved for future use
550	40051	1	1	*	Reserved for future use
551	40052	4	1	*	Reserved for future use
552	40053	4	10	*	Flow temp. Setpoint in communicated mode
553	40054	5	1	*	FWS DHW circ. Pump off time holiday
554	40055	5	1	*	FWS DHW circ. Pump on time holiday
555	40056	5	1	*	FWS DHW circ. Pump off time weekday
556	40057	5	1	*	FWS DHW circ. Pump on time weekday
557	40058	4	10	*	FWS Alarm limit high DHW circ. Temp.
558	40059	4	10	*	FWS Alarm limit high DHW temp
559	40060	4	10	*	FWS Alarm limit low DHW circ. Temp.
560	40061	4	10	*	FWS Alarm limit low DHW temp
561	40062	4	10	*	FWS heating water pump DHW temp. Setpoint
562	40063	4	1	*	FWS setpoint
563	40064	1	1	*	Time channel start time weekdays
564	40065	1	1	*	Time channel stop time weekdays
565	40066	5	1	*	Time channel offset weekdays
566	40067	1	1	*	Time channel start time weekends
567	40068	1	1	*	Time channel stop time weekends
568	40069	5	1	*	Time channel offset weekends
569	40070	4	10	*	Offset against TW1, when first compressor will shut down DHW
570	40071	1	1	*	Activation time for DHW circulation time channel during weekdays
571	40072	1	1	*	Deactivation time for DHW circulation time channel during weekdays
572	40073	1	1	*	Reserved for future use
573	40074	1	1	*	Activation time for DHW circulation time channel during weekends
574	40075	1	1	*	Deactivation time for DHW circulation time channel during weekends
575	40076	4	100	*	Electricity price per kWh
576	40077	4	100	*	Additional heat price per kWh
577	40078	4	10	*	Sensor value to TC2 in override mode
578	40079	4	1	*	Pump PB3 analogue value when compressor is not running
579	40080	1	1	*	Pump PB3, activate pump when compressor is not running
580	40081	1	1	*	FWS DHW circ. Pump timechannel activation

End

Remarks

*0 These settings requires that the watchdog has been reset, or else they will be ignored.
*1 0=None, 1=Internal, 2=Modulated, 3=Shunted, 4=District heating.
*2 0=Heater, 1=Compressor and Heater, 2=Compressor.
*3 0=None, 1=Local sensor, 2=Communicated sensor value, 3=Value from previous heat pump.
*4 0=No demand, 1=Heat, 2=DHW, 3=Thermal disinfection, 4=Freeze protection, 5=External start, 6=Manual start.
*5 0=Off, 1=Starting, 2=Temperature check, 3=Rotation control, 4=Running, 5=Stopping.
*6 Available as remote I/O PT1000 in a heat pump where the input is not in use.
*7 Valid only when TW1 sensor is selected as communicated.
*8 Valid only when TW1 sensor is selected as local or previous HP.

BACNET PROTOCOL REGO 5200

REGO 5200, program version: 1.3-0-00 and later
Document version 1.3.1-01

device-object-instance	object-name	object-type	object-instance	description	settable
2001	alarmAcknowledge	2	2	Alarm acknowledge, write alarm numer to acknowledge alarm	Y
2001	externalT0SensorValue	2	3	T0 sensor value in override mode	Y
2001	externalTL1SensorValue	2	4	TL1 sensor value in override mode	Y
2001	externalTW1SensorValue	2	5	TW1 sensor value in override mode	Y
2001	Y_coordinate1	2	6	The heat curves value if the outdoor temperature is 20 degrees	Y
2001	Y_coordinate2	2	7	The heat curves value if the outdoor temperature is 15 degrees	Y
2001	Y_coordinate3	2	8	The heat curves value if the outdoor temperature is 10 degrees	Y
2001	Y_coordinate4	2	9	The heat curves value if the outdoor temperature is 5 degrees	Y
2001	Y_coordinate5	2	10	The heat curves value if the outdoor temperature is 0 degrees	Y
2001	Y_coordinate6	2	11	The heat curves value if the outdoor temperature is -5 degrees	Y
2001	Y_coordinate7	2	12	The heat curves value if the outdoor temperature is -10 degrees	Y
2001	Y_coordinate8	2	13	The heat curves value if the outdoor temperature is -15 degrees	Y
2001	Y_coordinate9	2	14	The heat curves value if the outdoor temperature is -20 degrees	Y
2001	Y_coordinate10	2	15	The heat curves value if the outdoor temperature is -25 degrees	Y
2001	Y_coordinate11	2	16	The heat curves value if the outdoor temperature is -30 degrees	Y
2001	Y_coordinate12	2	17	The heat curves value if the outdoor temperature is -35 degrees	Y
2001	summerOperationTemperature	2	18	Start of summer operation temperature	Y
2001	summerOperationTime	2	19	Start of summer operation time	Y
2001	winterOperationTemperature	2	20	Start of winter operation temperature	Y
2001	winterOperationTime	2	21	Start of winter operation time	Y
2001	winterOperationNowTemperature	2	22	Imidiate start of winter operation temperature	Y
2001	dhwStartTemperatureCom	2	23	DHW TW1 start temperature if communicated TW1 sensor is used	Y
2001	dhwStopTemperatureCom	2	24	DHW TW1 stop temperature if communicated TW1 sensor is used	Y
2001	dhwStartTemperature	2	25	DHW TW1 start temperature if local TW1 sensor is used	Y
2001	dhwStopTemperature	2	26	DHW TW1 stop temperature if local TW1 sensor is used	Y
2001	addHeatStartHysteresis	2	27	additional heat start hysteresis	Y
2001	addHeatStartTime1	2	28	additional heat start time in degree minutes for step1	Y
2001	addHeatStartTime2	2	29	additional heat start time in degree minutes for step2	Y
2001	addHeatStartTime3	2	30	additional heat start time in degree minutes for step3	Y
2001	addHeatStopTime1	2	31	additional heat stop time in degree minutes for step1	Y
2001	addHeatStopTime2	2	32	additional heat stop time in degree minutes for step2	Y
2001	addHeatStopTime3	2	33	additional heat stop time in degree minutes for step3	Y
2001	addHeatAlarmDelayTime	2	34	Delay time for additional heat alarm	Y
2001	flowTemperatureSetpointCom	2	35	The flow temperature setpoint in communicated mode	Y
2001	fwsDhwCircPumpOffTimeWeekend	2	36	The FWS DHW curc. pump off time during weekends	Y
2001	fwsDhwCircPumpOnTimeWeekend	2	37	The FWS DHW curc. pump on time during weekends	Y
2001	fwsDhwCircPumpOffTimeWeekday	2	38	The FWS DHW curc. pump off time during weekdays	Y
2001	fwsDhwCircPumpOnTimeWeekday	2	39	The FWS DHW curc. pump on time during weekdays	Y
2001	fwsDhwAlarmHighDhwCircTemperatureLimit	2	40	The FWS Alarm limit for high DHW circ. temperature	Y
2001	fwsDhwAlarmHighDhwTemperatureLimit	2	41	The FWS Alarm limit for high DHW temperature	Y
2001	fwsDhwAlarmLowDhwCircTemperatureLimit	2	42	The FWS Alarm limit for low DHW circ. temperature	Y
2001	fwsDhwAlarmLowDhwTemperatureLimit	2	43	The FWS Alarm limit for low DHW temperature	Y
2001	fwsDhwHeatingWaterPumpTemperatureSetpoint	2	44	The FWS heating water pump DHW temperature setpoint	Y
2001	fwsDhwSetpoint	2	45	The FWS DHW setpoint	Y
2001	hybridControlElectricityPrice	2	64	Electricity price per kWh	Y

2001	hybridControlAddHeatPrice	2	65	Additional heat price per kWh	Y
2001	analogInput1	2	67	AI1, direct read (T0)	N
2001	analogInput2	2	68	AI2, direct read (TL1)	N
2001	analogInput3	2	69	AI3, direct read (TW1)	N
2001	sensorT0	2	70	T0 sensor, heating system	N
2001	sensorTL1Raw	2	71	TL1 sensor, outdoor direct	N
2001	sensorTL1	2	72	TL1 sensor, outdoor damped	N
2001	sensorTW1	2	73	TW1 sensor, DHW cylinder	N
2001	sensorTR6	2	74	TR6 sensor, hotgas	N
2001	sensorTC1	2	75	TC1 sensor, additional heat	N
2001	sensorTC0	2	76	TC0 sensor, heating return	N
2001	sensorTB0	2	77	TB0 sensor, brine return	N
2001	sensorTB1	2	78	TB1 sensor, brine flow	N
2001	sensorTC2	2	79	TC2 sensor, buffer temperature	N
2001	sensorTR8	2	80	TR8 sensor	N
2001	sensorTC3	2	81	TC3 sensor, flow temperature	N
2001	sensorTR3	2	82	TR3 sensor	N
2001	sensorTR2	2	83	TR2 sensor	N
2001	sensorTR5	2	84	TR5 sensor	N
2001	sensorTR7	2	85	TR7 sensor, hotgas	N
2001	sensorJR0Temperature	2	86	JR0 sensor, temperature	N
2001	sensorJR0Pressure	2	87	JR0 sensor, pressure in bar	N
2001	sensorJR1Temperature	2	88	JR1 sensor, temperature	N
2001	sensorJR1Pressure	2	89	JR1 sensor, pressure in bar	N
2001	sensorJR2Temperature	2	90	JR2 sensor, temperature	N
2001	sensorJR2Pressure	2	91	JR2 sensor, pressure in bar	N
2001	flowTemperatureSetpoint	2	92	Flow temperature setpoint for T0	N
2001	addHeatValve	2	93	Output for the additional heater valve	N
2001	runTimeMeeterCompressor1	2	94	Run time meeter for compressor 1	N
2001	runTimeMeeterCompressor2	2	95	Run time meeter for compressor 2	N
2001	runTimeMeeterAddHeatStep1	2	96	Run time meeter for add heat step 1	N
2001	runTimeMeeterAddHeatStep2	2	97	Run time meeter for add heat step 2	N
2001	runTimeMeeterAddHeatStep3	2	98	Run time meeter for add heat step 3	N
2001	runTimeMeeterPC1	2	99	Run time meeter for PC1 circ. pump	N
2001	runTimeMeeterAddHeatValve	2	100	Run time meeter for Additional heater valve	N
2001	runTimeMeeterSummaryAlarm	2	101	Run time meeter for the summary alarm	N
2001	runTimeMeeterDHW	2	102	Run time meeter for DHW	N
2001	runTimeMeeterPC0	2	103	Run time meeter for PC0 heating pump	N
2001	runTimeMeeterPB3	2	104	Run time meeter for PB3 brine pump	N
2001	PC0Output	2	105	Current speed PC0	N
2001	PB3Output	2	106	Current speed PB3	N
2001	fwsDhwCircPump	2	107	FWS DHW circ. Pump	N
2001	fwsDiverterValvePosition	2	108		N
2001	fwsHeatingWaterPump	2	109		N
2001	fwsRunTimeMeeterDhwCirculationPump	2	110		N
2001	fwsColdWaterTemperature	2	111		N
2001	fwsSensorColdWaterTemperature	2	112		N
2001	fwsSensorDhwCircTemperature	2	113		N
2001	fwsSensorDhwFlowTemperature	2	114		N
2001	fwsSensorDhwReturnTemperature	2	115		N
2001	fwsSensorHeatingFlowTemperature	2	116		N
2001	fwsSensorHeatingReturnTemperature	2	117		N

2001	fwsSensorWaterFlow	2	118		N
2001	fwsHeatingWaterPumpSpeed	2	119		N
2001	summaryAlarmC_1	2	120		N
2001	summaryAlarmC_2	2	121		N
2001	summaryAlarmC_3	2	122		N
2001	summaryAlarmC_4	2	123		N
2001	summaryAlarmC_5	2	124		N
2001	externalCompressorStartEnable	5	1	Thirdpartie compressor start (0=Auto, 1=RUN)	Y
2001	externalStartCompressor1	5	2	Thirdpartie compressor allow (0=STOP, 1=Auto) for compressor1	Y
2001	externalStartCompressor2	5	3	Thirdpartie compressor allow (0=STOP, 1=Auto) for compressor2	Y
2001	resetWatchdog	5	4	Thirdpartie WatchDog reset (5 minutes)	Y
2001	CommunicatedSensors	5	5	Override sensor inputs for T0 and TL1	Y
2001	communicatedFlowTempSetpoint	5	6	Override sensor input for T0	Y
2001	bootMode	5	7	Unit was just powered on	N
2001	temporaryProtection	5	8	Temporary protection triggered	N
2001	blockingProtection	5	9	blocking protection, needs reset	N
2001	sumAlarmA	5	10	summary alarm, A	N
2001	sumAlarmB	5	11	summary alarm, B	N
2001	dhwValve	5	12	DHW valve VW1	N
2001	digitalInput1	5	13	Digital input 1	N
2001	digitalInput2	5	14	Digital input 2	N
2001	digitalInput3	5	15	Digital input 3	N
2001	digitalInput4	5	16	Digital input 4	N
2001	digitalInput5	5	17	Digital input 5	N
2001	digitalInput6	5	18	Digital input 6	N
2001	digitalInput7	5	19	Digital input 7	N
2001	digitalInput8	5	20	Digital input 8	N
2001	digitalOutputPC0	5	21	Digital output PC0	N
2001	digitalOutputEE1	5	22	Digital output EE1	N
2001	digitalOutputEE2	5	23	Digital output EE2	N
2001	digitalOutputVW1	5	24	Digital output VW1	N
2001	digitalOutputPC1	5	25	Digital output PC1	N
2001	digitalOutputPM1	5	26	Digital output PM1	N
2001	digitalOutputSSM	5	27	Digital output SSM	N
2001	digitalOutputCompressor1	5	28	Digital output compressor1	N
2001	digitalOutputCompressor2	5	29	Digital output compressor2	N
2001	digitalOutputER3	5	30	Digital output ER3	N
2001	digitalOutputER4	5	31	Digital output ER4	N
2001	externalDhwCircPumpTimeChannelEnable	5	32	External Circ. Pump DHW time channel (0=inactive, 1=active)	Y
2001	hybridControlHeatingEnable	5	33	Heating hybrid control (0=inactive, 1=active)	Y
2001	hybridControlDhwEnable	5	34	DHW hybrid control (0=inactive, 1=active)	Y
2001		8	2001		
2001	AlaAcknow	19	2	Alarm acknowledge, write alarm numer to acknowledge alarm	Y
2001	fwsDhwCircPumpOffTimeWeekend1	19	3	The FWS DHW curc. pump off time during weekends	Y
2001	numberOfStandardAccessories	19	10	Number of standard accessories installed	N
2001	additionalHeaterType	19	11	Which type of additional heat is installed	N
2001	selectCompAddHeat	19	12	Which combination of heating is used	N
2001	warmWaterType	19	13	Which type of warmwater sensor is used	N
2001	addHeatDemand	19	14	Current additional heat demand	N
2001	compressor1Demand	19	15	Current demand state of compressor 1	N
2001	compressor1RunState	19	16	Current run state of compressor 1	N
2001	compressor2Demand	19	17	Current demand state of compressor 2	N
2001	compressor2RunState	19	18	Current run state of compressor 2	N
2001	Alarm1	19	19	Oper. error all PC1	N
2001	Alarm2	19	20	Oper. error compr. and add. heat	N
2001	Alarm3	19	21	Failure on sensor T0 and TC2	N
2001	Alarm4	19	22	Sensor error TW4 DHW flowtemp	N
2001	Alarm5	19	23	Failure PC4 Heating water pump	N
2001	Alarm10	19	24	Failure on sensor TR3	N
2001	Alarm11	19	25	Failure on sensor TW1	N

2001	Alarm12	19	26	Failure on sensor TC0	N
2001	Alarm13	19	27	Failure on sensor TC2	N
2001	Alarm14	19	28	Failure on sensor TC3	N
2001	Alarm15	19	29	Failure on sensor TB0	N
2001	Alarm16	19	30	Failure on sensor TB1	N
2001	Alarm17	19	31	Failure on sensor TR2	N
2001	Alarm18	19	32	Failure on sensor TR5	N
2001	Alarm19	19	33	Failure on sensor JR0	N
2001	Alarm20	19	34	Failure on sensor JR1	N
2001	Alarm21	19	35	Communication error with HP-card	N
2001	Alarm22	19	36	Oper. error compressor 1	N
2001	Alarm23	19	37	Oper. error compressor 2	N
2001	Alarm24	19	38	Operating error PB3	N
2001	Alarm25	19	39	Low temperature JR0	N
2001	Alarm26	19	40	Tripped high pressure switch	N
2001	Alarm27	19	41	Operating error PC0	N
2001	Alarm28	19	42	Internal add. heater overheated	N
2001	Alarm29	19	43	Mixed add. heater doesn’t get warm	N
2001	Alarm30	19	44	Compressor 1 does not start	N
2001	Alarm31	19	45	Compressor 2 does not start	N
2001	Alarm32	19	46	High pressure JR1	N
2001	Alarm33	19	47	Low pressure JR1	N
2001	Alarm34	19	48	Low temperature TB0	N
2001	Alarm35	19	49	Low temperature TB1	N
2001	Alarm36	19	50	High temperature TB0	N
2001	Alarm37	19	51	High temperature TB1	N
2001	Alarm38	19	52	High temperature TR6	N
2001	Alarm39	19	53	High temperature TR7	N
2001	Alarm40	19	54	High temperature TC1	N
2001	Alarm41	19	55	High temperature TC0	N
2001	Alarm42	19	56	Low temperature TR5	N
2001	Alarm43	19	57	Problem with hot water production	N
2001	Alarm44	19	58	Problem with VW1 3-way valve	N
2001	Alarm45	19	59	Problem with Zx VWx 3-way valve	N
2001	Alarm46	19	60	Start-up attempt interrupted	N
2001	Alarm47	19	61	Wrong rotation compressor 1	N
2001	Alarm48	19	62	Wrong rotation compressor 2	N
2001	Alarm49	19	63	Operating error PC1	N
2001	Alarm50	19	64	Compressor 1 overheated	N
2001	Alarm51	19	65	Compressor 2 overheated	N
2001	Alarm52	19	66	Communication error with accessory 1	N
2001	Alarm53	19	67	Communication error with accessory 2	N
2001	Alarm54	19	68	Communication error with accessory 3	N
2001	Alarm55	19	69	Communication error with accessory 4	N
2001	Alarm56	19	70	Communication error with accessory 5	N
2001	Alarm57	19	71	Communication error with accessory 6	N
2001	Alarm58	19	72	Communication error with accessory 7	N
2001	Alarm59	19	73	Communication error with accessory 8	N
2001	Alarm60	19	74	Communication error with accessory 9	N
2001	Alarm61	19	75	Access.1 pump out of order	N
2001	Alarm62	19	76	Access.2 pump out of order	N
2001	Alarm63	19	77	Access.3 pump out of order	N
2001	Alarm64	19	78	Access.4 pump out of order	N
2001	Alarm65	19	79	Access.5 pump out of order	N
2001	Alarm66	19	80	Access.6 pump out of order	N
2001	Alarm67	19	81	Access.7 pump out of order	N
2001	Alarm68	19	82	Access.8 pump out of order	N
2001	Alarm69	19	83	Access.9 pump out of order	N
2001	Alarm70	19	84	Communication error with Z1	N
2001	Alarm71	19	85	Communication error with Z2	N
2001	Alarm72	19	86	Communication error with Z3	N
2001	Alarm73	19	87	Communication error with Z4	N
2001	Alarm74	19	88	Communication error with Z5	N
2001	Alarm75	19	89	Compressor 1 overcurrent	N
2001	Alarm76	19	90	Compressor 1 stall	N
2001	Alarm77	19	91	Bypass relay 1 failure	N
2001	Alarm78	19	92	Wrong phase order on power supply	N

2001	Alarm79	19	93	Wrong frequency order on power supply	N
2001	Alarm80	19	94	Soft starter 1 faliure	N
2001	Alarm81	19	95	Fuse tripped for compressor 1	N
2001	Alarm82	19	96	Fuse tripped for compressor 2	N
2001	Alarm83	19	97	Wrong phase order to compressor 1	N
2001	Alarm84	19	98	Wrong phase order to compressor 2	N
2001	Alarm85	19	99	Wrong frequency to comperssor 1	N
2001	Alarm86	19	100	Wrong frequency to comperssor 2	N
2001	Alarm87	19	101	Compressor 2 overcurrent	N
2001	Alarm88	19	102	Compressor 2 stall	N
2001	Alarm89	19	103	Bypass relay 2 faliure	N
2001	Alarm90	19	104	Soft starter 2 faliure	N
2001	Alarm91	19	105	TW4 sensor error	N
2001	Alarm93	19	107	TW5 sensor error	N
2001	Alarm94	19	108	Low temperature TW6	N
2001	Alarm95	19	109	Low temperature TW4	N
2001	Alarm96	19	110	The software in the HP-card is too old	N
2001	Alarm97	19	111	The SW in the Regin box is too old	N
2001	Alarm98	19	112	TW2 sensor error	N
2001	Alarm99	19	113	TW3 sensor error	N
2001	Alarm100	19	118	GW0 sensor error	N
2001	Alarm101	19	119	TW4 high temperature	N
2001	Alarm102	19	120	TW2 low temperature	N
2001	Alarm103	19	121	The software in the FWS is too old	N
2001	Alarm104	19	122	The Regin SW is too old for the FWS	N
2001	Alarm105	19	123	Communication error with FWS	N

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6	externalStartCompressor1	2
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11	externalStartCompressor2	3
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13	externalDhwCircPumpTimeChannelEnable	32
14	hybridControlHeatingEnable	33
15	hybridControlDhwEnable	34
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102	blockingProtection	9
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104	sumAlarmB	11
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503	externalTW1SensorValue	5
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522	dhwStopTemperatureCom	24
523	dhwStartTemperature	25

524	dhwStopTemperature	26
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