

BAS integration guide

Modbus protocol

Doc. Name:

D-EIGOC00210-21_04EN_iCM

Product Name:

iCM (Option 184)

Control software name:

iCM



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1. Introduction

This document contains information to incorporate a MicroTech® III and Microtech 4 Unit Controllers into a building automation system (BAS) via Modbus communication protocols.

Microtech III and Microtech 4 are suitable for network integration. Data points accessible from a Modbus network are made available to a BAS provided that the proper communication module (Microtech III and Microtech 4) or the corresponding software option (Microtech 4) are installed / activated.

Modbus terms are not defined. Refer to the standard Modbus specifications for definitions and details about the protocol.



2. About this document

2.1 Revision History

Version	Date	Software Version	Description
D-EOMOC00211-20EN_iCM	11/2020	iCM_2.00	First edition iCM integration of iPM integration of iCT
D-EOMOC00210-21_01EN_iCM	10/2021	iCM_3.00	System Heat Recovery System Free-cooling System Defrost
D-EOMOC00210-21_02EN_iCM	07/2022	iCM_4.00	Integration of iSM iCM Expanded
D-EOMOC00210-21_03EN_iCM	11/2023	iCM_5.00	Management of Four-pipe Plant
D-EOMOC00210-21_04EN_iCM	12/2024	iCM_5.50	Domestic Hot Water management

2.2 Notice

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- **Modbus** from Schneider Electric (originally from Modicon)
- **MicroTech III** from Daikin Applied Europe.
- **MicroTech 4** from Daikin Applied Europe.

2.3 Before starting

Application range

This document refers to the following components:

Microtech III	Controller
Microtech 4	Controller
POL902.00/STD	Modbus MSTP module

Users

Users of this document are intended to be:

- Modbus systems integrators
- Service Technicians
- Plant Engineers
- Sales staff

Conventions

Microtech III e Microtech 4 further in this document and when proper will be referred to as "Microtech"

Abbreviation

BSP	Board Support Package (operating system)
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References

- Siemens Building Technologies - CB1J3960en - **Modbus** communication, slave mode



- Siemens Building Technologies - CB1Q3934en - Climatix™ **Modbus** communication modules POL902.00
- The Modbus Organization - www.modbus.org



3. Safety information

Only personnel qualified in accordance with IEC (International Electrotechnical Commission) recommendations may be permitted access to electrical components. It is particularly recommended that all sources of electricity to the unit be shut off before any work is begun. Shut off main power supply at the main circuit breaker or isolator.

IMPORTANT: This equipment uses and emits electromagnetic signals. Tests have shown that the equipment conforms to all applicable codes with respect to electromagnetic compatibility.



RISK OF ELECTROCUTION: Even when the main circuit breaker or isolator is switched off, certain circuits may still be energized, since they may be connected to a separate power source.



RISK OF BURNS: Electrical currents cause components to get hot either temporarily or permanently. Handle power cable, electrical cables and conduits, terminal box covers and motor frames with great care.

Field of application	 Use Modbus communication module only for control and monitoring functions in ventilation, air conditioning and refrigeration plants.
Intended use	 Trouble-free and safe product operation of the above products presupposes transport, storage, mounting, installation, and commissioning as intended as well as careful operation.
Electrical installation	 Fuses, switches, wiring and grounding must comply with local safety regulations for electrical installations.
Wiring	 When wiring, strictly separate AC 230 V mains voltage from AC 24 V safety extralow voltage (SELV) to protect against electrical shock!
Commissioning and maintenance	 Only qualified staff trained accordingly may prepare for use, commission, and maintain Modbus communication modules. Maintenance of Modbus communication modules generally only means regular cleaning. We recommend removing dust and dirt from system components installed in the control panels during standard service.
Faults	 Only authorized staff may diagnose and correct faults and recommission the plant. This applies to working within the panel as well (e.g. testing or changing fuses).
Storage and transport	 Refer to the environmental conditions specified in the respective data sheets for storage and transport. If in doubt, contact your supplier.
Disposal	 Devices contain electrical and electronic components; do not dispose of them in household garbage. Observe all local and applicable laws.



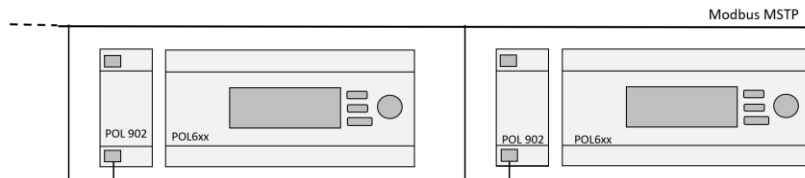
4. Commission this unit in a Modbus network

4.1 General information

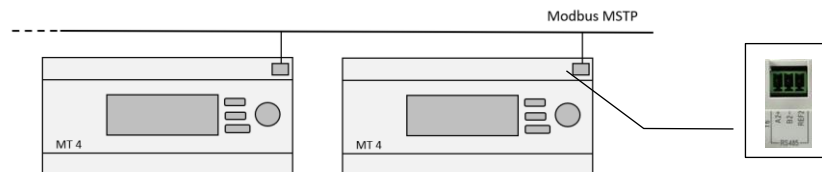
Unit controller is a Microtech III or a POL638 Microtech III controller can be integrated in a Modbus network provided that it is equipped with the proper communication module. See “Communication modules” section below in this page.

Unit controller is a Microtech 4 Microtech 4 controller can be integrated in a Modbus network provided one of the followings:
a) it is equipped with the proper communication module
b) the onboard communication has been made available (software option).

Modbus MSTP (POL902) Communication module to configure Microtech controllers in Modbus network is the POL902:



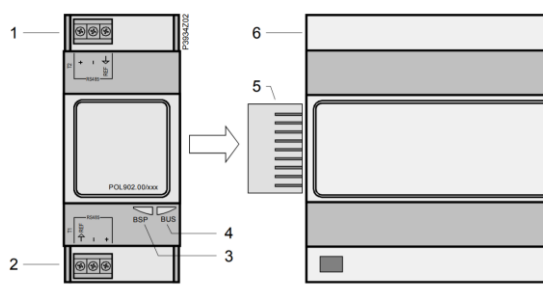
Communication software option For Microtech 4, Modbus communication is also available onboard the controller as a software option.





4.2 Modbus MSTP module (POL902)

Module description



Part	Description
1	Modbus RS485 interface T1 (slave, channel 0).
2	Modbus RS485 interface T2 (slave, channel 1).
3	Status display "BSP" (Board Support Package).
4	Status display "BUS" (bus connections o.k. / bus traffic).
5	Plug connection "Communication extension bus".
6	Microtech III controller.

BSP Led

Color	Flashing frequency	Meaning
Green	Steady on	BSP operating and communication with controller working.
Yellow	Steady on	BSP operating, but no communication with controller.
Red	Steady on	Hardware fault.
Red/Yellow	Flashing at 1 Hz (1 second on/ 1 second off)	Upgrade mode running.
Red	Flashing at 2 Hz (0,5 second on/ 0,5 second off)	BSP error (software error).

BUS Led

Color	Flashing frequency	Meaning
Green	Steady on	Communication active.
Yellow	Steady on	Initializing
Red	Steady on	Communication interrupted.

Module connection

Step	Action
1	Power off the controller
2	Connect POL902 module to the controller via plug connection (part 5).
4	Power on the controller

Configuration procedure

Step	Action
1	Check that BUS led status is steady on green coloured.
2	Navigate the unit's keypad/display to the main menu page and set the "service" password
3	Navigate the unit's keypad/display following the path below: Main menu→Commissioning→Modbus
4	Set parameters in the table below as needed according to the local network

Configuration parameters

Parameter	Default value
Address T1	1
Parity T1	None
2 Stop bits T1	Yes
Baud rate T1	19200
Rspnce Dly T1	5 ms
Port T2	Passive
Address T2	1
Parity T2	None
2 Stop bits T2	Yes
Baud rate T2	19200
Rspnce Dly T2	5 ms



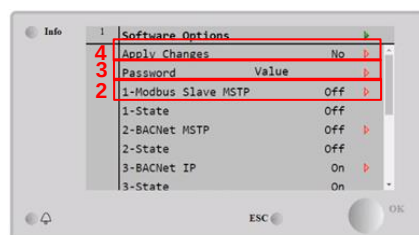
4.3 Modbus MSTP software option (Microtech 4)

Option enabling

1. From the HMI main menu choose:

Commissioning → *Configuration* → *Software Options*

2. Select “On” for option #1-Modbus Slave MSTP
3. Insert the unlock password
4. Apply Changes

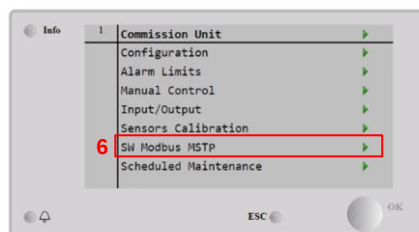


Option configuration

5. From the HMI main menu choose:

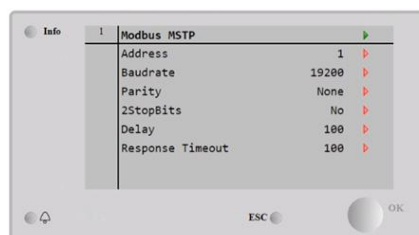
Commissioning →

6. Select “SW Modbus MSTP”



7. Select proper parameters for Modbus communication

Parameter	Default value
Address	Variable
Baudrate	19200
Parity	None
2StopBits	No
Delay	100 ms
Response Timeout	100 ms





5. Modbus integration list

Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
System Operating State	Unsigned Word	1100	1	1 Stop 2 Run	R
SCM type	Unsigned Word	1101	1	0 Mst/Slv 1 iCM_Std 2 iCM_Adv	R
Configuration type	Unsigned Word	1102	1	0 Undef 1 OnlyC/O 2 OnlyH/P 3 C/O_H/P 4 Only4P 5 4P_C/O	R
System Cooling leaving water temp.	Signed Word	1103	10	°C	R
System heating leaving water temp.	Signed Word	1104	10	°C	R
System avg evaporator entering water temp.	Signed Word	1105	10	°C	R
System avg condenser entering water temp.	Signed Word	1106	10	°C	R
System controlled temp.	Signed Word	21	10	°C	R
System controlled heat temp.	Signed Word	1890	10	°C	R
System actual setpoint	Signed Word	1107	10	°C	R
System heat setpoint	Signed Word	1108	10	°C	R



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
Next chiller on	Unsigned Word	1109	1	0 None 1 Master 2 Slave 1 3 Slave 2 4 Slave 3 5 Slave 4 6 Slave 5 7 Slave 6 8 Slave 7	R
Next chiller off	Unsigned Word	1110	1	as Next Chiller On	R
Standby chiller Value	Unsigned Word	1111	1	as Next Chiller On	R
System load	Signed Word	1112	1	0...100%	R
Cooling load	Signed Word	1113	1	0...100%	R
Heating load	Signed Word	1114	1	0...100%	R
System Demand Limit Value	Signed Word	1115	1	0...100%	R
System Demand Limit Operating State	Unsigned Word	1116	1	1 No 2 Yes	R
Energy monitoring configured	Unsigned Word	1117	1	1 N/Cfgd Cfgd	R
Heat recovery configured	Unsigned Word	1118	1	1 N/Cfgd 2 Cfgd	R
Master - Actual mode	Unsigned Word	1119	1	0 Cool 1 Ice 2 Heat 3 Test 4 Multi	R



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
Master - Circuit #1 Current mode	Unsigned Word	1120	1	0 Off 1 Water 2 Cool 3 Heat 4 N/Avail 5 N/Cfgd	R
Master - Circuit #1 Load	Signed Word	1121	1	0...100%	R
Master - Circuit #1 No. starts	Unsigned Word	1122	1	0...4294967292	R
Master - Circuit #1 Run hours	Unsigned Word	1123	1	0...4294967292	R
Master - Circuit #2 Current mode	Unsigned Word	1124	1	as MasterData'CurrentModeC1	R
Master - Circuit #2 Load	Signed Word	1125	1	0...100%	R
Master - Circuit #2 No. starts	Unsigned Word	1126	1	0...4294967292	R
Master - Circuit #2 Run hours	Unsigned Word	1127	1	0...4294967292	R
Master - Condenser entering water temp.	Signed Word	1128	10	°C	R
Master - Condenser leaving water temp.	Signed Word	1129	10	°C	R
Master - Evaporator entering water temp.	Signed Word	1130	10	°C	R
Master - Evaporator leaving water temp.	Signed Word	1131	10	°C	R
Master - Load	Signed Word	1132	1	0...100%	R
Master - No. starts	Unsigned Word	1133	1	0...4294967292	R
Master - Run hours	Unsigned Word	1134	1	0...4294967292	R
Master - Standalone	Unsigned Word	1135	1	1 No 2 Yes	R



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
Master - State	Unsigned Word	1136	1	0 Off 1 Run 2 Alarm 3 ComErr 4 N/Avail 5 N/Cfgd	R
Slave #1 - Actual mode	Unsigned Word	1137	1	as MasterData'ActMode	R
Slave #1 - Circuit #1 Current mode	Unsigned Word	1138	1	as MasterData'CurrentModeC1	R
Slave #1 - Circuit #1 Load	Signed Word	1139	1	0...100%	R
Slave #1 - Circuit #1 No. starts	Unsigned Word	1140	1	0...4294967292	R
Slave #1 - Circuit #1 Run hours	Unsigned Word	1141	1	0...4294967292	R
Slave #1 - Circuit #2 Current mode	Unsigned Word	1142	1	as MasterData'CurrentModeC1	R
Slave #1 - Circuit #2 Load	Signed Word	1143	1	0...100%	R
Slave #1 - Circuit #2 No. starts	Unsigned Word	1144	1	0...4294967292	R
Slave #1 - Circuit #2 Run hours	Unsigned Word	1145	1	0...4294967292	R
Slave #1 - Condenser entering water temp.	Signed Word	1146	10	°C	R
Slave #1 - Condenser leaving water temp.	Signed Word	1147	10	°C	R
Slave #1 - Evaporator entering water temp.	Signed Word	1148	10	°C	R
Slave #1 - Evaporator leaving water temp.	Signed Word	1149	10	°C	R
Slave #1 - Load	Signed Word	1150	1	0...100%	R
Slave #1 - No. starts	Unsigned Word	1151	1	0...4294967292	R
Slave #1 - Run hours	Unsigned Word	1152	1	0...4294967292	R
Slave #1 - Standalone	Unsigned Word	1153	1	as MasterData'StandAlone	R
Slave #1 - State	Unsigned Word	1154	1	as MasterData'State	R
Slave #2 - Actual mode	Unsigned Word	1155	1	as MasterData'ActMode	R
Slave #2 - Circuit #1 Current mode	Unsigned Word	1156	1	as MasterData'CurrentModeC1	R



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
Slave #2 - Circuit #1 Load	Signed Word	1157	1	0...100%	R
Slave #2 - Circuit #1 No. starts	Unsigned Word	1158	1	0...4294967292	R
Slave #2 - Circuit #1 Run hours	Unsigned Word	1159	1	0...4294967292	R
Slave #2 - Circuit #2 Current mode	Unsigned Word	1160	1	as MasterData'CurrentModeC1	R
Slave #2 - Circuit #2 Load	Signed Word	1161	1	0...100%	R
Slave #2 - Circuit #2 No. starts	Unsigned Word	1162	1	0...4294967292	R
Slave #2 - Circuit #2 Run hours	Unsigned Word	1163	1	0...4294967292	R
Slave #2 - Condenser entering water temp.	Signed Word	1164	10	°C	R
Slave #2 - Condenser leaving water temp.	Signed Word	1165	10	°C	R
Slave #2 - Evaporator entering water temp.	Signed Word	1166	10	°C	R
Slave #2 - Evaporator leaving water temp.	Signed Word	1167	10	°C	R
Slave #2 - Load	Signed Word	1168	1	0...100%	R
Slave #2 - No. starts	Unsigned Word	1169	1	0...4294967292	R
Slave #2 - Run hours	Unsigned Word	1170	1	0...4294967292	R
Slave #2 - Standalone	Unsigned Word	1171	1	as MasterData'StandAlone	R
Slave #2 - State	Unsigned Word	1172	1	as MasterData'State	R
Slave #3 - Actual mode	Unsigned Word	1173	1	as MasterData'ActMode	R
Slave #3 - Circuit #1 Current mode	Unsigned Word	1174	1	as MasterData'CurrentModeC1	R
Slave #3 - Circuit #1 Load	Signed Word	1175	1	0...100%	R
Slave #3 - Circuit #1 No. starts	Unsigned Word	1176	1	0...4294967292	R
Slave #3 - Circuit #1 Run hours	Unsigned Word	1177	1	0...4294967292	R
Slave #3 - Circuit #2 Current mode	Unsigned Word	1178	1	as MasterData'CurrentModeC1	R
Slave #3 - Circuit #2 Load	Signed Word	1179	1	0...100%	R
Slave #3 - Circuit #2 No. starts	Unsigned Word	1180	1	0...4294967292	R
Slave #3 - Circuit #2 Run hours	Unsigned Word	1181	1	0...4294967292	R
Slave #3 - Condenser entering water temp.	Signed Word	1182	10	°C	R



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
Slave #3 - Condenser leaving water temp.	Signed Word	1183	10	°C	R
Slave #3 - Evaporator entering water temp.	Signed Word	1184	10	°C	R
Slave #3 - Evaporator leaving water temp.	Signed Word	1185	10	°C	R
Slave #3 - Load	Signed Word	1186	1	0...100%	R
Slave #3 - No. starts	Unsigned Word	1187	1	0...4294967292	R
Slave #3 - Run hours	Unsigned Word	1188	1	0...4294967292	R
Slave #3 - Standalone	Unsigned Word	1189	1	as MasterData'StandAlone	R
Slave #3 - State	Unsigned Word	1190	1	as MasterData'State	R
Slave #4 - Actual mode	Unsigned Word	1191	1	as MasterData'ActMode	R
Slave #4 - Circuit #1 Current mode	Unsigned Word	1192	1	as MasterData'CurrentModeC1	R
Slave #4 - Circuit #1 Load	Signed Word	1193	1	0...100%	R
Slave #4 - Circuit #1 No. starts	Unsigned Word	1194	1	0...4294967292	R
Slave #4 - Circuit #1 Run hours	Unsigned Word	1195	1	0...4294967292	R
Slave #4 - Circuit #2 Current mode	Unsigned Word	1196	1	as MasterData'CurrentModeC1	R
Slave #4 - Circuit #2 Load	Signed Word	1197	1	0...100%	R
Slave #4 - Circuit #2 No. starts	Unsigned Word	1198	1	0...4294967292	R
Slave #4 - Circuit #2 Run hours	Unsigned Word	1199	1	0...4294967292	R
Slave #4 - Condenser entering water temp.	Signed Word	1200	10	°C	R
Slave #4 - Condenser leaving water temp.	Signed Word	1201	10	°C	R
Slave #4 - Evaporator entering water temp.	Signed Word	1202	10	°C	R
Slave #4 - Evaporator leaving water temp.	Signed Word	1203	10	°C	R
Slave #4 - Load	Signed Word	1204	1	0...100%	R
Slave #4 - No. starts	Unsigned Word	1205	1	0...4294967292	R
Slave #4 - Run hours	Unsigned Word	1206	1	0...4294967292	R
Slave #4 - Standalone	Unsigned Word	1207	1	as MasterData'StandAlone	R
Slave #4 - State	Unsigned Word	1208	1	as MasterData'State	R



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
Slave #5 - Actual mode	Unsigned Word	1209	1	as MasterData'ActMode	R
Slave #5 - Circuit #1 Current mode	Unsigned Word	1210	1	as MasterData'CurrentModeC1	R
Slave #5 - Circuit #1 Load	Signed Word	1211	1	0...100%	R
Slave #5 - Circuit #1 No. starts	Unsigned Word	1212	1	0...4294967292	R
Slave #5 - Circuit #1 Run hours	Unsigned Word	1213	1	0...4294967292	R
Slave #5 - Circuit #2 Current mode	Unsigned Word	1214	1	as MasterData'CurrentModeC1	R
Slave #5 - Circuit #2 Load	Signed Word	1215	1	0...100%	R
Slave #5 - Circuit #2 No. starts	Unsigned Word	1216	1	0...4294967292	R
Slave #5 - Circuit #2 Run hours	Unsigned Word	1217	1	0...4294967292	R
Slave #5 - Condenser entering water temp.	Signed Word	1218	10	°C	R
Slave #5 - Condenser leaving water temp.	Signed Word	1219	10	°C	R
Slave #5 - Evaporator entering water temp.	Signed Word	1220	10	°C	R
Slave #5 - Evaporator leaving water temp.	Signed Word	1221	10	°C	R
Slave #5 - Load	Signed Word	1222	1	0...100%	R
Slave #5 - No. starts	Unsigned Word	1223	1	0...4294967292	R
Slave #5 - Run hours	Unsigned Word	1224	1	0...4294967292	R
Slave #5 - Standalone	Unsigned Word	1225	1	as MasterData'StandAlone	R
Slave #5 - State	Unsigned Word	1226	1	as MasterData'State	R
Slave #6 - Actual mode	Unsigned Word	1227	1	as MasterData'ActMode	R
Slave #6 - Circuit #1 Current mode	Unsigned Word	1228	1	as MasterData'CurrentModeC1	R
Slave #6 - Circuit #1 Load	Signed Word	1229	1	0...100%	R
Slave #6 - Circuit #1 No. starts	Unsigned Word	1230	1	0...4294967292	R
Slave #6 - Circuit #1 Run hours	Unsigned Word	1231	1	0...4294967292	R
Slave #6 - Circuit #2 Current mode	Unsigned Word	1232	1	as MasterData'CurrentModeC1	R
Slave #6 - Circuit #2 Load	Signed Word	1233	1	0...100%	R
Slave #6 - Circuit #2 No. starts	Unsigned Word	1234	1	0...4294967292	R



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
Slave #6 - Circuit #2 Run hours	Unsigned Word	1235	1	0...4294967292	R
Slave #6 - Condenser entering water temp.	Signed Word	1236	10	°C	R
Slave #6 - Condenser leaving water temp.	Signed Word	1237	10	°C	R
Slave #6 - Evaporator entering water temp.	Signed Word	1238	10	°C	R
Slave #6 - Evaporator leaving water temp.	Signed Word	1239	10	°C	R
Slave #6 - Load	Signed Word	1240	1	0...100%	R
Slave #6 - No. starts	Unsigned Word	1241	1	0...4294967292	R
Slave #6 - Run hours	Unsigned Word	1242	1	0...4294967292	R
Slave #6 - Standalone	Unsigned Word	1243	1	as MasterData'StandAlone	R
Slave #6 - State	Unsigned Word	1244	1	as MasterData'State	R
Slave #7 - Actual mode	Unsigned Word	1245	1	as MasterData'ActMode	R
Slave #7 - Circuit #1 Current mode	Unsigned Word	1246	1	as MasterData'CurrentModeC1	R
Slave #7 - Circuit #1 Load	Signed Word	1247	1	0...100%	R
Slave #7 - Circuit #1 No. starts	Unsigned Word	1248	1	0...4294967292	R
Slave #7 - Circuit #1 Run hours	Unsigned Word	1249	1	0...4294967292	R
Slave #7 - Circuit #2 Current mode	Unsigned Word	1250	1	as MasterData'CurrentModeC1	R
Slave #7 - Circuit #2 Load	Signed Word	1251	1	0...100%	R
Slave #7 - Circuit #2 No. starts	Unsigned Word	1252	1	0...4294967292	R
Slave #7 - Circuit #2 Run hours	Unsigned Word	1253	1	0...4294967292	R
Slave #7 - Condenser entering water temp.	Signed Word	1254	10	°C	R
Slave #7 - Condenser leaving water temp.	Signed Word	1255	10	°C	R
Slave #7 - Evaporator entering water temp.	Signed Word	1256	10	°C	R
Slave #7 - Evaporator leaving water temp.	Signed Word	1257	10	°C	R
Slave #7 - Load	Signed Word	1258	1	0...100%	R
Slave #7 - No. starts	Unsigned Word	1259	1	0...4294967292	R
Slave #7 - Run hours	Unsigned Word	1260	1	0...4294967292	R



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
Slave #7 - Standalone	Unsigned Word	1261	1	as MasterData'StandAlone	R
Slave #7 - State	Unsigned Word	1262	1	as MasterData'State	R
System electrical power	Signed Word	1263	10	MW	R
System thermal power	Signed Word	1264	10	MW	R
System COP	Signed Word	1265	10	-	R
Master - Energy monitoring configured	Unsigned Word	1266	1	1 N/Cfgd 2 Cfgd	R
Master - Thermal power	Signed Word	1267	10	kW	R
Master - Electrical power	Signed Word	1268	10	kW	R
Slave #1 - Thermal power	Signed Word	1270	10	kW	R
Slave #1 - Electrical power	Signed Word	1271	10	kW	R
Slave #2 - Thermal power	Signed Word	1273	10	kW	R
Slave #2 - Electrical power	Signed Word	1274	10	kW	R
Slave #3 - Thermal power	Signed Word	1276	10	kW	R
Slave #3 - Electrical power	Signed Word	1277	10	kW	R
Slave #4 - Thermal power	Signed Word	1279	10	kW	R
Slave #4 - Electrical power	Signed Word	1280	10	kW	R
Slave #5 - Thermal power	Signed Word	1282	10	kW	R
Slave #5 - Electrical power	Signed Word	1283	10	kW	R
Slave #6 - Thermal power	Signed Word	1285	10	kW	R
Slave #6 - Electrical power	Signed Word	1286	10	kW	R
Slave #7 - Thermal power	Signed Word	1288	10	kW	R
Slave #7 - Electrical power	Signed Word	1289	10	kW	R
System Heat recovery operating state	Unsigned Word	1290	1	1 Stop 2 Run	R
Average Heat Recovery Entering Water temp.	Signed Word	1291	10	°C	R



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
Master - Heat recovery configured	Unsigned Word	1292	1	1 N/Cfgd 2 Cfgd	R
Master - Heat recovery state	Unsigned Word	1293	1	1 Stop 2 Run	R
Master - Heat recovery entering water temp.	Signed Word	1294	10	°C	R
Slave #1 - Heat recovery state	Unsigned Word	1295	1	as MasterData'HeatRecRun	R
Slave #1 - Heat recovery entering water temp.	Signed Word	1296	10	°C	R
Slave #2 - Heat recovery state	Unsigned Word	1297	1	as MasterData'HeatRecRun	R
Slave #2 - Heat recovery entering water temp.	Signed Word	1298	10	°C	R
Slave #3 - Heat recovery state	Unsigned Word	1299	1	as MasterData'HeatRecRun	R
Slave #3 - Heat recovery entering water temp.	Signed Word	1300	10	°C	R
Slave #4 - Heat recovery state	Unsigned Word	1301	1	as MasterData'HeatRecRun	R
Slave #4 - Heat recovery entering water temp.	Signed Word	1302	10	°C	R
Slave #5 - Heat recovery state	Unsigned Word	1303	1	as MasterData'HeatRecRun	R
Slave #5 - Heat recovery entering water temp.	Signed Word	1304	10	°C	R
Slave #6 - Heat recovery state	Unsigned Word	1305	1	as MasterData'HeatRecRun	R
Slave #6 - Heat recovery entering water temp.	Signed Word	1306	10	°C	R
Slave #7 - Heat recovery state	Unsigned Word	1307	1	as MasterData'HeatRecRun	R
Slave #7 - Heat recovery entering water temp.	Signed Word	1308	10	°C	R
Freecooling Status	Unsigned Word	1309	1	0 Off:Switch 1 WaitOAT 2 Run 3 Off:Alarm	R
System Outside Air Temperature	Signed Word	1310	10	°C	R
Master - Freecooling configured	Unsigned Word	1311	1	1 N/Cfgd 2 Cfgd	R



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
Master - Freecooling available	Unsigned Word	1312	1	1 N/Avail 2 Avail	R
Master - Freecooling Mode	Unsigned Word	1313	1	0 Mech_All 1 Start_FC 2 Mech+FC 3 FC_All	R
Slave #1 - Freecooling Mode	Unsigned Word	1314	1	as MasterData'FreeClgMode	R
Slave #2 - Freecooling Mode	Unsigned Word	1315	1	as MasterData'FreeClgMode	R
Slave #3 - Freecooling Mode	Unsigned Word	1316	1	as MasterData'FreeClgMode	R
Slave #4 - Freecooling Mode	Unsigned Word	1317	1	as MasterData'FreeClgMode	R
Slave #5 - Freecooling Mode	Unsigned Word	1318	1	as MasterData'FreeClgMode	R
Slave #6 - Freecooling Mode	Unsigned Word	1319	1	as MasterData'FreeClgMode	R
Slave #7 - Freecooling Mode	Unsigned Word	1320	1	as MasterData'FreeClgMode	R
Reserved	0	1321	0	0	0
Reserved	0	1322	0	0	0
Reserved	0	1323	0	0	0
Standalone Mode Setpoint	Unsigned Word	330	1	0 No 1 Yes	R/W
Master enabling	Unsigned Word	1324	1	0 Disable 1 Enable	R/W
Master - Priority (Cooling mode)	Unsigned Word	1325	1	1...8	R/W
Master - Priority (Heating mode)	Unsigned Word	1326	1	1...8	R/W
Slave #1 - Priority (Cooling mode)	Unsigned Word	1327	1	1...8	R/W
Slave #1 - Priority (Heating mode)	Unsigned Word	1328	1	1...8	R/W
Slave #2 - Priority (Cooling mode)	Unsigned Word	1329	1	1...8	R/W
Slave #2 - Priority (Heating mode)	Unsigned Word	1330	1	1...8	R/W



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
Slave #3 - Priority (Cooling mode)	Unsigned Word	1331	1	1...8	R/W
Slave #3 - Priority (Heating mode)	Unsigned Word	1332	1	1...8	R/W
Slave #4 - Priority (Cooling mode)	Unsigned Word	1333	1	1...8	R/W
Slave #4 - Priority (Heating mode)	Unsigned Word	1334	1	1...8	R/W
Slave #5 - Priority (Cooling mode)	Unsigned Word	1335	1	1...8	R/W
Slave #5 - Priority (Heating mode)	Unsigned Word	1336	1	1...8	R/W
Slave #6 - Priority (Cooling mode)	Unsigned Word	1337	1	1...8	R/W
Slave #6 - Priority (Heating mode)	Unsigned Word	1338	1	1...8	R/W
Slave #7 - Priority (Cooling mode)	Unsigned Word	1339	1	1...8	R/W
Slave #7 - Priority (Heating mode)	Unsigned Word	1340	1	1...8	R/W
Standby Unit Setpoint	Unsigned Word	331	1	0 No 1 Auto 2 Master 3 Slave 1 4 Slave 2 5 Slave 3 6 Slave 4 7 Slave 5 8 Slave 6 9 Slave 7	R/W
Standby temp compensation	Unsigned Word	1341	1	0 No 1 Yes	R/W



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
Master - Unit type	Unsigned Word	1342	1	0 Undef 1 AC C/O Screw 2 AC H/P Screw 3 Polyfun Screw 4 Undef 5 WC C/O Screw 6 WC H/P Screw 7 AC C/O Scroll 8 AC H/P Scroll 9 Polyfun Scroll 10 Undef 11 Undef 12 WC C/O Scroll 13 WC H/P Scroll 14 WC C/O Centrif 15 WC H/P Centrif	R
Slave #1 - Unit type	Unsigned Word	1343	1	as MstUnitType	R
Slave #2 - Unit type	Unsigned Word	1344	1	as MstUnitType	R
Slave #3 - Unit type	Unsigned Word	1345	1	as MstUnitType	R
Slave #4 - Unit type	Unsigned Word	1346	1	as MstUnitType	R
Slave #5 - Unit type	Unsigned Word	1347	1	as MstUnitType	R
Slave #6 - Unit type	Unsigned Word	1348	1	as MstUnitType	R
Slave #7 - Unit type	Unsigned Word	1349	1	as MstUnitType	R
Evap PM - Application Version	Unsigned Word	1350	100	X,XX	R
Evap PM - Number of Pump	Unsigned Word	1351	1	0...10	R



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
Evap PM - Status	Unsigned Word	1352	1	0 Off:Auto 1 On:Auto 2 Off:Local 3 Off:SensAlarm 4 On:SensAlarm 5 Off:CommErr 6 On:CommErr 7 Configuration 8 Off:ConfigAlarm	R
Evap PM - Operating state	Unsigned Word	1353	1	1 Stop 2 Run	R
Evap PM - General Alarm	Unsigned Word	1354	1	1 None 2 Active	R
Evap Pump #1 - Status	Unsigned Word	1355	1	0 Off 1 On 2 ManOn 3 ManOff 4 Alm 5 Test 6 N/Cfg	R
Evap Pump #2 - Status	Unsigned Word	1356	1	as EvapPM'StatusP1	R
Evap Pump #3 - Status	Unsigned Word	1357	1	as EvapPM'StatusP1	R
Evap Pump #4 - Status	Unsigned Word	1358	1	as EvapPM'StatusP1	R
Evap Pump #5 - Status	Unsigned Word	1359	1	as EvapPM'StatusP1	R
Evap Pump #6 - Status	Unsigned Word	1360	1	as EvapPM'StatusP1	R
Evap Pump #7 - Status	Unsigned Word	1361	1	as EvapPM'StatusP1	R
Evap Pump #8 - Status	Unsigned Word	1362	1	as EvapPM'StatusP1	R



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
Evap Pump #9 - Status	Unsigned Word	1363	1	as EvapPM'StatusP1	R
Evap Pump #10 - Status	Unsigned Word	1364	1	as EvapPM'StatusP1	R
Evap Pumps - Running	Unsigned Word	1365	1	0...10	R
Evap Pumps - Speed	Unsigned Word	1366	1	0...100%	R
Evap PM - Speed Control Type	Unsigned Word	1367	1	0 NULL 1 Constant 2 Dtemp 3 DifPres 4 AbsPres	R
Evap Speed Control - Delta Temp	Signed Word	1368	10	°Dc	R
Evap Speed Control - Actual Setpoint	Signed Word	1369	10	°Dc	R
Evap Speed Control - Setpoint Network	Signed Word	1370	10	°Dc	R/W
Evap Speed Control - Differential Pressure	Signed Word	1371	1	kPa	R
Evap Speed Control - Actual Setpoint	Signed Word	1372	1	kPa	R
Evap Speed Control - Setpoint Network	Signed Word	1373	1	kPa	R/W
Evap Speed Control - Absolute Pressure	Signed Word	1374	1	kPa	R
Evap Speed Control - Actual Setpoint	Signed Word	1375	1	kPa	R
Evap Speed Control - Setpoint Network	Signed Word	1376	1	kPa	R/W
Evaporator Bypass Valve - Opening	Signed Word	1377	1	0...100%	R
Evap PM - Bypass Valve Control Type	Unsigned Word	1378	1	0 NULL 1 None 2 MinDP 3 Flow 4 EvapEwt 5 CondEwt	R
Evap Bypass Control - Min Diff Pressure on Units	Unsigned Word	1379	1	0 None 1 Active	R



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
Evap Bypass Control - Flow	Signed Word	1380	10	l/s	R
Evap Bypass Control - Actual Setpoint	Signed Word	1381	10	l/s	R
Evap Bypass Control - Setpoint Network	Signed Word	1382	10	l/s	R/W
Evap Bypass Control - EWT	Signed Word	1383	10	°C	R
Evap Bypass Control - Actual Setpoint	Signed Word	1384	10	°C	R
Evap Bypass Control - Setpoint Network	Signed Word	1385	10	°C	R/W
Evap PM - Energy Meter Configured	Unsigned Word	1386	1	0 N/Cfgd 1 Cfgd	R
Evap PM - Electrical Active Power	Signed Word	1387	10	kW	R
Evap Pump Manager - Speed Control sensor alarm	Unsigned Word	1388	1	0 None 1 Active	R
Evap Pump Manager - Available pump alarm	Unsigned Word	1389	1	0 None 1 Active	R
Evap Pump Manager - Configuration alarm	Unsigned Word	1390	1	0 None 1 Active	R
Cond PM - Application Version	Unsigned Word	1391	100	X,XX	R
Cond PM - Number of Pump	Unsigned Word	1392	1	0...10	R
Cond PM - Status	Unsigned Word	1393	1	0 Off:Auto 1 On:Auto 2 Off:Local 3 Off:SensAlarm 4 On:SensAlarm 5 Off:CommErr 6 On:CommErr 7 Configuration 8 Off:ConfigAlarm	R



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
Cond PM - Operating state	Unsigned Word	1394	1	1 Stop 2 Run	R
Cond PM - General Alarm	Unsigned Word	1395	1	1 None 2 Active	R
Cond Pump #1 - Status	Unsigned Word	1396	1	0 Off 1 On 2 ManOn 3 ManOff 4 Alm 5 Test 6 N/Cfg	R
Cond Pump #2 - Status	Unsigned Word	1397	1	as EvapPM'StatusP1	R
Cond Pump #3 - Status	Unsigned Word	1398	1	as EvapPM'StatusP1	R
Cond Pump #4 - Status	Unsigned Word	1399	1	as EvapPM'StatusP1	R
Cond Pump #5 - Status	Unsigned Word	1400	1	as EvapPM'StatusP1	R
Cond Pump #6 - Status	Unsigned Word	1401	1	as EvapPM'StatusP1	R
Cond Pump #7 - Status	Unsigned Word	1402	1	as EvapPM'StatusP1	R
Cond Pump #8 - Status	Unsigned Word	1403	1	as EvapPM'StatusP1	R
Cond Pump #9 - Status	Unsigned Word	1404	1	as EvapPM'StatusP1	R
Cond Pump #10 - Status	Unsigned Word	1405	1	as EvapPM'StatusP1	R
Cond Pumps - Running	Unsigned Word	1406	1	0...10	R
Cond Pumps - Speed	Signed Word	1407	1	0...100%	R
Cond PM - Speed Control Type	Unsigned Word	1408	1	0 NULL 1 Constant 2 Dtemp 3 DifPres 4 AbsPres	R



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
Cond Speed Control - Delta Temp	Signed Word	1409	10	°Dc	R
Cond Speed Control - Actual Setpoint	Signed Word	1410	10	°Dc	R
Cond Speed Control - Setpoint Network	Signed Word	1411	10	°Dc	R/W
Cond Speed Control - Differential Pressure	Signed Word	1412	1	kPa	R
Cond Speed Control - Actual Setpoint	Signed Word	1413	1	kPa	R
Cond Speed Control - Setpoint Network	Signed Word	1414	1	kPa	R/W
Cond Speed Control - Absolute Pressure	Signed Word	1415	1	kPa	R
Cond Speed Control - Actual Setpoint	Signed Word	1416	1	kPa	R
Cond Speed Control - Setpoint Network	Signed Word	1417	1	kPa	R/W
Condenser Bypass Valve - Opening	Signed Word	1418	1	0...100%	R
Cond PM - Bypass Valve Control Type	Unsigned Word	1419	10	0 NULL 1 None 2 MinDP 3 Flow 4 EvapEwt 5 CondEwt	R
Cond Bypass Control - Flow	Signed Word	1420	10	l/s	R
Cond Bypass Control - Active Setpoint	Signed Word	1421	10	l/s	R
Cond Speed Control - Setpoint Network	Signed Word	1422	10	l/s	R/W
Cond Bypass Control - EWT	Signed Word	1423	10	°C	R
Cond Bypass Control - Actual Setpoint	Signed Word	1424	10	°C	R
Cond Bypass Control - Setpoint Network	Signed Word	1425	10	°C	R/W
Cond PM - Energy Meter configured	Unsigned Word	1426	1	0 N/Cfgd 1 Cfgd	R
Cond PM - Electrical Active Power	Signed Word	1427	10	kW	R



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
Cond Pump Manager - Speed Control sensor alarm	Unsigned Word	1428	1	0 None 1 Active	R
Cond Pump Manager - Available pump alarm	Unsigned Word	1429	1	0 None 1 Active	R
Cond Pump Manager - Configuration alarm	Unsigned Word	1430	1	0 None 1 Active	R
Slave - Master Missing	Unsigned Word	1431	1	0 None 1 Active	R
Slave - Master Disconnected	Unsigned Word	1432	1	0 No 1 Yes	R
Slave - Master Communication Error	Unsigned Word	890	1	0 None 1 Active	R
Common Leaving Hot water temp. sensor fault	Unsigned Word	1433	1	0 None 1 Active	R
Common Leaving water temp. sensor fault	Unsigned Word	595	1	0 None 1 Active	R
Slave #1 - Communication Error	Unsigned Word	891	1	0 None 1 Active	R
Slave #1 - Missing	Unsigned Word	1434	1	0 No 1 Yes	R
Slave #2 - Communication Error	Unsigned Word	892	1	0 None 1 Active	R
Slave #2 - Missing	Unsigned Word	1435	1	0 No 1 Yes	R
Slave #3 - Communication Error	Unsigned Word	893	1	0 None 1 Active	R



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
Slave #3 - Missing	Unsigned Word	1436	1	0 No 1 Yes	R
Slave #4 - Communication Error	Unsigned Word	1437	1	0 None 1 Active	R
Slave #4 - Missing	Unsigned Word	1438	1	0 No 1 Yes	R
Slave #5 - Communication Error	Unsigned Word	1439	1	0 None 1 Active	R
Slave #5 - Missing	Unsigned Word	1440	1	0 No 1 Yes	R
Slave #6 - Communication Error	Unsigned Word	1441	1	0 None 1 Active	R
Slave #6 - Missing	Unsigned Word	1442	1	0 No 1 Yes	R
Slave #7 - Communication Error	Unsigned Word	1443	1	0 None 1 Active	R
Slave #7 - Missing	Unsigned Word	1444	1	0 No 1 Yes	R
Configuration Alarm	Unsigned Word	1445	1	0 NULL 1 None 2 ModeErr 3 ComprErr 4 CooledErr 5 UnitNotDef 6 iCMtypeErr	R
Energy monitoring configuration Error	Unsigned Word	1446	1	0 None 1 Active	R



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
Heat recovery configuration Error	Unsigned Word	1447	1	0 None 1 Active	R
Evap PM - Clear Alarm setpoint	Unsigned Word	1448	1	0 --- 1 Reset	R/W
Cond PM - Clear Alarm setpoint	Unsigned Word	1449	1	0 --- 1 Reset	R/W
iCT - Tower Number	Unsigned Word	1450	1	0...10	R
iCT - Status	Unsigned Word	1451	1	0 Off:Auto 1 On:Auto 2 Off:Local 3 Off:SensAlarm 4 On:SensAlarm 5 Off:CommErr 6 On:CommErr 7 Configuration 8 Off:ConfigAlarm	R
iCT - Operating State	Unsigned Word	1452	1	1 Stop 2 Run	R
iCT - General Alarm	Unsigned Word	1453	1	1 None 2 Active	R
iCT - Number of Running Tower	Unsigned Word	1454	1	0...10	R
iCT - Next On Tower	Unsigned Word	1455	1	0...10	R



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
iCT - Next Off Tower	Unsigned Word	1456	1	0 None 1 CT1 2 CT2 3 CT3 4 CT4 5 CT5 6 CT6 7 CT7 8 CT8 9 CT9 10 CT10	R
iCT - Leaving Water Temperature	Signed Word	1457	10	°C	R
iCT - LWT sensor Alarm	Unsigned Word	1458	1	0 None 1 Active	R
iCT LWT Control - Setpoint Reset type	Unsigned Word	1459	1	0 NULL 1 None 2 Outside Air T 3 Web Bulb T	R
iCT LWT Control - Actual Setpoint	Signed Word	1460	10	°C	R
iCT LWT Control - Setpoint iCM	Signed Word	1461	10	°C	R
iCT LWT Control - Setpoint Network	Signed Word	1462	10	°C	R/W
iCT - Outside Air Temperature	Signed Word	1463	10	°C	R
iCT - Outside Relative Humidity	Signed Word	1464	10	%r.H	R
iCT - Outside Wet Bulb Temperature	Signed Word	1465	10	°C	R



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
Cooling Tower 1 - Status	Unsigned Word	1466	1	0 Off 1 Start 2 Run 3 ManOn 4 ManOff 5 Alarm 6 Test 7 N/Cfgd 8 ComErr	R
Cooling Tower 1 - Fan Status	Unsigned Word	1467	1	0 Stop 1 Run 2 ManON 3 ManOFF 4 Alarm 5 Test	R
Cooling Tower 1 - Fan Speed	Unsigned Word	1468	1	0...100%	R
Cooling Tower 1 - Inlet Valve Status	Unsigned Word	1469	1	0 Close 1 Open 2 ManOpen 3 ManClose 4 Alarm 5 Test	R
Cooling Tower 1 - LWT	Signed Word	1470	10	°C	R
Cooling Tower 1 - LWT Alarm	Unsigned Word	1471	1	0 None 1 Active	R
Cooling Tower 2 - Status	Unsigned Word	1472	1	as iCT'Twr1'Status	R
Cooling Tower 2 - Fan Status	Unsigned Word	1473	1	as iCT'Twr1'FanSta	R



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
Cooling Tower 2 - Fan Speed	Unsigned Word	1474	1	0...100%	R
Cooling Tower 2 - Inlet Valve Status	Unsigned Word	1475	1	as iCT'Twr1'InVlvSta	R
Cooling Tower 2 - LWT	Signed Word	1476	10	°C	R
Cooling Tower 2 - LWT Alarm	Unsigned Word	1477	1	0 None 1 Active	R
Cooling Tower 3 - Status	Unsigned Word	1478	1	as iCT'Twr1'Status	R
Cooling Tower 3 - Fan Status	Unsigned Word	1479	1	as iCT'Twr1'FanSta	R
Cooling Tower 3 - Fan Speed	Unsigned Word	1480	1	0...100%	R
Cooling Tower 3 - Inlet Valve Status	Unsigned Word	1481	1	as iCT'Twr1'InVlvSta	R
Cooling Tower 3 - LWT	Signed Word	1482	10	°C	R
Cooling Tower 3 - LWT Alarm	Unsigned Word	1483	1	0 None 1 Active	R
Cooling Tower 4 - Status	Unsigned Word	1484	1	as iCT'Twr1'Status	R
Cooling Tower 4 - Fan Staus	Unsigned Word	1485	1	as iCT'Twr1'FanSta	R
Cooling Tower 4 - Fan Speed	Unsigned Word	1486	1	0...100%	R
Cooling Tower 4 - Inlet Valve Status	Unsigned Word	1487	1	as iCT'Twr1'InVlvSta	R
Cooling Tower 4 - LWT	Signed Word	1488	10	°C	R
Cooling Tower 4 - LWT Alarm	Unsigned Word	1489	1	0 None 1 Active	R
Cooling Tower 5 - Status	Unsigned Word	1490	1	as iCT'Twr1'Status	R
Cooling Tower 5 - Fan Staus	Unsigned Word	1491	1	as iCT'Twr1'FanSta	R
Cooling Tower 5 - Fan Speed	Unsigned Word	1492	1	0...100%	R
Cooling Tower 5 - Inlet Valve Status	Unsigned Word	1493	1	as iCT'Twr1'InVlvSta	R
Cooling Tower 5 - LWT	Signed Word	1494	10	°C	R
Cooling Tower 5 - LWT Alarm	Unsigned Word	1495	1	0 None 1 Active	R



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
Cooling Tower 6 - Status	Unsigned Word	1496	1	as iCT'Twr1'Status	R
Cooling Tower 6 - Fan Staus	Unsigned Word	1497	1	as iCT'Twr1'FanSta	R
Cooling Tower 6 - Fan Speed	Unsigned Word	1498	1	0...100%	R
Cooling Tower 6 - Inlet Valve Status	Unsigned Word	1499	1	as iCT'Twr1'InVlvSta	R
Cooling Tower 6 - LWT	Signed Word	1500	10	°C	R
Cooling Tower 6 - LWT Alarm	Unsigned Word	1501	1	0 None 1 Active	R
Cooling Tower 7 - Status	Unsigned Word	1502	1	as iCT'Twr1'Status	R
Cooling Tower 7 - Fan Staus	Unsigned Word	1503	1	as iCT'Twr1'FanSta	R
Cooling Tower 7 - Fan Speed	Unsigned Word	1504	1	0...100%	R
Cooling Tower 7 - Inlet Valve Status	Unsigned Word	1505	1	as iCT'Twr1'InVlvSta	R
Cooling Tower 7 - LWT	Signed Word	1506	10	°C	R
Cooling Tower 7 - LWT Alarm	Unsigned Word	1507	1	0 None 1 Active	R
Cooling Tower 8 - Status	Unsigned Word	1508	1	as iCT'Twr1'Status	R
Cooling Tower 8 - Fan Staus	Unsigned Word	1509	1	as iCT'Twr1'FanSta	R
Cooling Tower 8 - Fan Speed	Unsigned Word	1510	1	0...100%	R
Cooling Tower 8 - Inlet Valve Status	Unsigned Word	1511	1	as iCT'Twr1'InVlvSta	R
Cooling Tower 8 - LWT	Signed Word	1512	10	°C	R
Cooling Tower 8 - LWT Alarm	Unsigned Word	1513	1	0 None 1 Active	R
Cooling Tower 9 - Status	Unsigned Word	1514	1	as iCT'Twr1'Status	R
Cooling Tower 9 - Fan Staus	Unsigned Word	1515	1	as iCT'Twr1'FanSta	R
Cooling Tower 9 - Fan Speed	Unsigned Word	1516	1	0...100%	R
Cooling Tower 9 - Inlet Valve Status	Unsigned Word	1517	1	as iCT'Twr1'InVlvSta	R
Cooling Tower 9 - LWT	Signed Word	1518	10	°C	R



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
Cooling Tower 9 - LWT Alarm	Unsigned Word	1519	1	0 None 1 Active	R
Cooling Tower 10 - Status	Unsigned Word	1520	1	as iCT'Twr1'Status	R
Cooling Tower 10 - Fan Staus	Unsigned Word	1521	1	as iCT'Twr1'FanSta	R
Cooling Tower 10 - Fan Speed	Unsigned Word	1522	1	0...100%	R
Cooling Tower 10 - Inlet Valve Status	Unsigned Word	1523	1	as iCT'Twr1'InVlvSta	R
Cooling Tower 10 - LWT	Signed Word	1524	10	°C	R
Cooling Tower 10 - LWT Alarm	Unsigned Word	1525	1	0 None 1 Active	R
iCT - Clear Alarm	Unsigned Word	1526	1	0 --- 1 Reset	R/W
iCT - CommError	Unsigned Word	1527	1	0 None 1 Active	R
iCT - Borads CommError	Unsigned Word	1528	1	0 None 1 Active	R
Mode Changeover management	Unsigned Word	1529	1	0 N/Mngd 1 Mngd	R
Defrost Management	Unsigned Word	1530	1	0 N/Mngd 1 Mngd	R
Master - Circuit #1 Defrost	Unsigned Word	1531	1	1 None 2 Defrost	R
Master - Circuit #2 Defrost	Unsigned Word	1532	1	1 None 2 Defrost	R
Slave #1 - Circuit #1 Defrost	Unsigned Word	1533	1	as MasterData'DfrstOpStac1	R
Slave #1 - Circuit #2 Defrost	Unsigned Word	1534	1	as MasterData'DfrstOpStac2	R
Slave #2 - Circuit #1 Defrost	Unsigned Word	1535	1	as MasterData'DfrstOpStac1	R
Slave #2 - Circuit #2 Defrost	Unsigned Word	1536	1	as MasterData'DfrstOpStac2	R



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
Slave #3 - Circuit #1 Defrost	Unsigned Word	1537	1	as MasterData'DfrstOpStac1	R
Slave #3 - Circuit #2 Defrost	Unsigned Word	1538	1	as MasterData'DfrstOpStac2	R
Slave #4 - Circuit #1 Defrost	Unsigned Word	1539	1	as MasterData'DfrstOpStac1	R
Slave #4 - Circuit #2 Defrost	Unsigned Word	1540	1	as MasterData'DfrstOpStac2	R
Slave #5 - Circuit #1 Defrost	Unsigned Word	1541	1	as MasterData'DfrstOpStac1	R
Slave #5 - Circuit #2 Defrost	Unsigned Word	1542	1	as MasterData'DfrstOpStac2	R
Slave #6 - Circuit #1 Defrost	Unsigned Word	1543	1	as MasterData'DfrstOpStac1	R
Slave #6 - Circuit #2 Defrost	Unsigned Word	1544	1	as MasterData'DfrstOpStac2	R
Slave #7 - Circuit #1 Defrost	Unsigned Word	1545	1	as MasterData'DfrstOpStac1	R
Slave #7 - Circuit #2 Defrost	Unsigned Word	1546	1	as MasterData'DfrstOpStac2	R
Reserved	0	1547	0	0	0
Reserved	0	1548	0	0	0
Reserved	0	1549	0	0	0
Reserved	0	1550	0	0	0
iSMs - Total cooling thermal power	Unsigned Double	1551	1	kW	R
Reserved	0	1552	0	0	0
iSMs - Total heating thermal power	Unsigned Double	1553	1	kW	R
Reserved	0	1554	0	0	0



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
iSM01 - Pump Group 1 - Status	Unsigned Word	1555	1	0 NULL 1 Off: Auto 2 On: Auto 3 Off: Local 4 Off: SensAlarm 5 On: SensAlarm 6 Off: CommErr 7 On: CommErr 8 ConfigStatus 9 Off: ConfigAlm 10 Test 11 Off: Remote 12 Off: Network	R
iSM01 - Pump Group 2 - Status	Unsigned Word	1556	1	as iSM01 - Pump Group 1 - Status	R
iSM01 - Pump Group 3 - Status	Unsigned Word	1557	1	as iSM01 - Pump Group 1 - Status	R
iSM01 - Pump Group 4 - Status	Unsigned Word	1558	1	as iSM01 - Pump Group 1 - Status	R
iSM02 - Pump Group 1 - Status	Unsigned Word	1559	1	as iSM01 - Pump Group 1 - Status	R
iSM03 - Pump Group 2 - Status	Unsigned Word	1560	1	as iSM01 - Pump Group 1 - Status	R
iSM02 - Pump Group 3 - Status	Unsigned Word	1561	1	as iSM01 - Pump Group 1 - Status	R
iSM02 - Pump Group 4 - Status	Unsigned Word	1562	1	as iSM01 - Pump Group 1 - Status	R
iSM03 - Pump Group 1 - Status	Unsigned Word	1563	1	as iSM01 - Pump Group 1 - Status	R
iSM03 - Pump Group 2 - Status	Unsigned Word	1564	1	as iSM01 - Pump Group 1 - Status	R
iSM03 - Pump Group 3 - Status	Unsigned Word	1565	1	as iSM01 - Pump Group 1 - Status	R
iSM02 - Pump Group 4 - Status	Unsigned Word	1566	1	as iSM01 - Pump Group 1 - Status	R
iCM Expanded: BACnet Communication error w/2nd	Unsigned Word	1567	1	0 None 1 Active	R



Description	Modbus Type	Modbus Address	Modbus Gain	Range	Read / Write
iCM Expanded: BACnet Communication error w/1st	Unsigned Word	1568	1	0 None 1 Active	R
Master - Fault code	Unsigned Word	1569	1	0...4294967294	R
Slave #1 - Fault code	Unsigned Word	1570	1	0...4294967294	R
Slave #2 - Fault code	Unsigned Word	1571	1	0...4294967294	R
Slave #3 - Fault code	Unsigned Word	1572	1	0...4294967294	R
Slave #4 - Fault code	Unsigned Word	1573	1	0...4294967294	R
Slave #5 - Fault code	Unsigned Word	1574	1	0...4294967294	R
Slave #6 - Fault code	Unsigned Word	1575	1	0...4294967294	R
Slave #7 - Fault code	Unsigned Word	1576	1	0...4294967294	R
Master - DHW Status	Unsigned Word	1577	1	1 Off 2 Run 3 Standby 4 N/Avail 5 Alarm 6 N/Cfgd	R
Slave #1 - DHW Status	Unsigned Word	1578	1	as Master DHW Status	R
Slave #2 - DHW Status	Unsigned Word	1579	1	as Master DHW Status	R
Slave #3 - DHW Status	Unsigned Word	1580	1	as Master DHW Status	R
Slave #4 - DHW Status	Unsigned Word	1581	1	as Master DHW Status	R
Slave #5 - DHW Status	Unsigned Word	1582	1	as Master DHW Status	R
Slave #6 - DHW Status	Unsigned Word	1583	1	as Master DHW Status	R
Slave #7 - DHW Status	Unsigned Word	1584	1	as Master DHW Status	R



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