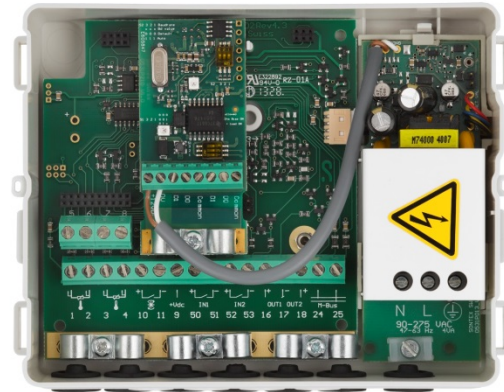
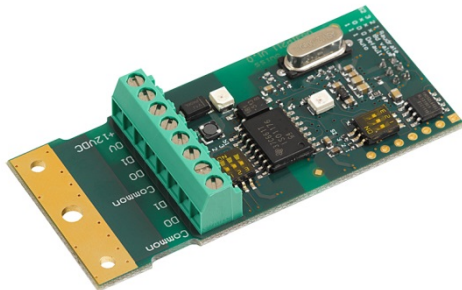


Modbus EIA-485 module

**For Sontex Thermal Energy Meters
Supercal 531, Superstatic 440, Superstatic 449**



The Modbus module

- Compatible with *PI-MBUS-300 Rev. J – Modicon Modbus Protocol Reference Guide (June 1996)*.
- Compatible with *MODBUS APPLICATION PROTOCOL SPECIFICATION V1.1b*.
- Compatible with *Modbus over Serial Line Specification and Implementation Guide V1.02 (December 20, 2006)*.
- Communication speed up to 115200 bits/sec.
- Supports multiple property of reading and writing.
- RS-485 galvanically isolated from module (2 wires, half duplex).
- Transmission mode RS-485 supported: RTU or ASCII.

Versions

The **Modbus EIA-485 module** is available with the following products:

- Integrator Supercal 531.
- Thermal energy meter Superstatic 440.
- Thermal energy meter Superstatic 449.

Application

Modbus allows intelligent systems from various industries and manufacturers to exchange information and coordinate equipment operation to achieve optimum building performance.

The Modbus EIA-485 module is available with the Supercal 531, Superstatic 440, Superstatic 449 meters and is used for data transfer to a Modbus system. The module can be used in various applications: In Business & Commercial buildings, residences, heating & cooling; where intelligent building management systems are used.

Functions

The Modbus module communicates with the Modbus network via RS-485 (RTU or ASCII) as a slave device.

Actual data, accumulated data, monthly values, temperatures or error can be transmitted by the module to the Modbus Controller.

Reliability

The Modbus module communicates using RS-485 as its physical layer. The RS-485 port of the Modbus module is galvanically separated.

Addressing

The Modbus EIA-485 module distinguishes the master devices and the slave peripherals.

The Modbus module can be addressed as slave in the range 1-247.

The address 0 is used for broadcast.

By default the Modbus module is 1 and the transmission mode is RTU.

The address of the module can be changed by the software Prog531 and Prog449 or by M-Bus command.

TECHNICAL DATA MODBUS module

General

Operating temperature 5° to 55°C
Storage temperature -10° to 55°C (dry environment)

Dimensions

Dimensions 66 x 30 mm
Mounting in one of the module slots of the Supercal 531/449 integrator

Power supply

Internal power supply: Mains switching power supply of 531 / 449 integrator
0531A030, 230 VAC with 2 outputs
0690A013, 24 VAC with 2 outputs
External power supply: 12 VDC / 150 mA

Network transmission and technical details

Bus communication RS-485 twisted pair
RS-485 connection Plug-screw terminal for D0, D1 and Common (2x3-pin)
+ 12 VDC / 0 VDC
Bus termination Through DIP switch S1 or with an external resistor
Parity Even, odd or none
Communication speed: 1200, 2400, 9600, 19200, 38400, 57600 or 115200 bits/s

Firmware compatibility

Supercal 531 / Superstatic 449 firmware release FW 3.7 or higher (FW ≥ V3.7)

Mapping registers for Supercal 531, Superstatic 440, Superstatic 449

Product Description:

The thermal energy meter SUPERCAL 531/449 can be used in various commercial building and apartments, mainly for cooling and heating applications. The system based on signal inputs of two matched temperature sensors and any of e.g. Sontex flow meters.

Supercal 531/449 provide high accuracy e.g. energy, volume, power, flow, and temperature data via the local LCD display and various communication protocols, like Modbus, BACnet MS/TP, LON FFT-10A and M-Bus.

The Modbus uses a register start address of 1 (meaning physical address 0 in the telegram).

Both RTU and ASCII mode are supported. Byte length strictly follows V 1.1 specification with mode RTU using 8 bit data and ASCII mode 7 bit data.

If no parity is set, the number of stop bits is set to 2 automatically.

Data model mapping

Group (A) : settings

Holding Register	M-Bus data Individual description Group (A) : settings (read/write)	Data type	Read/Write	Remarks
Managing actual date and time (IEEE745 single float values)				
40011	Actual date: year	16 Bit Integer	R/W	
40012	Actual date: month	16 Bit Integer	R/W	
40013	Actual date: day	16 Bit Integer	R/W	
40014	Actual time: hour	16 Bit Integer	R/W	
40015	Actual time: minute	16 Bit Integer	R/W	
40016	Actual time: second	16 Bit Integer	R/W	
Communication parameters				
40017	Password „Communication“	16 Bit Integer	R/W	„1234“
40018	Modbus Address	16 Bit Integer	R/W	1-247
40019	Parity	16 Bit Integer	R/W	MB_PAR_NONE=0, MB_PAR_ODD=1, MB_PAR_EVEN=2
40020	Flow Control	16 Bit Integer	R/W	MB_RTU=0, MB_RTU=1
40021	Stop Bits	16 Bit Integer	R/W	1, 2
40022	Reserved	16 Bit Integer	R/W	
40023	Custom ID	32 bits integer (high)	R/W	OEM serial number
40024	Custom ID	32 bits integer (low)	R/W	OEM serial number
Setting date for next Set Day (IEEE745 single float values)				
40025	Password „Set Day“	16 Bit Integer	R/W	
40026	Set-Day1: month	16 Bit Integer	R/W	
40027	Set-Day1: day	16 Bit Integer	R/W	
40028	Set-Day2: month	16 Bit Integer	R/W	
40029	Set-Day2: day	16 Bit Integer	R/W	

Group (B) : informations

Input Register	M-Bus data Individual description Group (B) : Informations (read)	Data type	Read/Write
Device information			
30001	Fabrication number MET	16 Bit Integer (high)	R
30002	Fabrication number MET (Input Register)	16 Bit Integer (low)	R
30003	Firmware version	16 Bit Integer	R
30004	Baudrate	16 Bit Integer (high)	R
30005	Baudrate	16 Bit Integer (low)	R
30006	Running hours	16 Bit Integer (high)	R
30007	Running hours (Input Register)	16 Bit Integer (low)	R
Error flags			
10001	Error status: temp. sensor 1	1 Bit	R
10002	Error status: temp. sensor 2	1 Bit	R
10003	Error status: flow	1 Bit	R
10004	Error status: MET access	1 Bit	R
10005	Error status: MIO access	1 Bit	R
10006	Error status: eep. Blank inv.	1 Bit	R
10007	Error status: AD Converter	1 Bit	R
10008	Error status: Hardware	1 Bit	R
10009	Error status: Supply power	1 Bit	R
10010	Error status: Option 1	1 Bit	R
10011	Error status: Option 2	1 Bit	R
10012	Error status: A1	1 Bit	R
10013	Error status: A2	1 Bit	R
10014	Error status: Internal HW	1 Bit	R
10015	Error status: CRC Err	1 Bit	R
10016	Error status: Conf Err	1 Bit	R

Group (C) : actual values

Input Register	M-Bus data Individual description Group (C) : Actual values (read)	Data type	Read/Write	Remarks
Energy data (IEEE754 single float values)				
30101	Energy Unit	16 Bit Integer	R	Wh=18, kWh=19, MWh=146, MJ=126, GJ=226, BTU=20
30102	Reserved			
30103	Energy totalizer heating	IEEE754 Single (high)	R	Actual value
30104	Energy totalizer heating	IEEE754 Single (low)	R	Actual value
30105	Energy totalizer Tariff 1	IEEE754 Single (high)	R	Actual value
30106	Energy totalizer Tariff 1	IEEE754 Single (low)	R	Actual value
30107	Energy totalizer Tariff 2	IEEE754 Single (high)	R	Actual value
30108	Energy totalizer Tariff 2	IEEE754 Single (low)	R	Actual value
30109	Energy – stored ST1	IEEE754 Single (high)	R	
30110	Energy – stored ST1	IEEE754 Single (low)	R	
30111	Energy Tariff 1 – stored ST1	IEEE754 Single (high)	R	
30112	Energy Tariff 1 – stored ST1	IEEE754 Single (low)	R	
30113	Energy Tariff 2 – stored ST1	IEEE754 Single (high)	R	
30114	Energy Tariff 2 – stored ST1	IEEE754 Single (low)	R	
30115	Energy – stored ST2	IEEE754 Single (high)	R	
30116	Energy – stored ST2	IEEE754 Single (low)	R	
30117	Energy Tariff 1 – stored ST2	IEEE754 Single (high)	R	
30118	Energy Tariff 1 – stored ST2	IEEE754 Single (low)	R	
30119	Energy Tariff 2 – stored ST2	IEEE754 Single (high)	R	
30120	Energy Tariff 2 – stored ST2	IEEE754 Single (low)	R	
Energy data (long data points)				
30201	Energy Unit	16 Bit Integer	R	Wh=18, kWh=19, MWh=146, MJ=126, GJ=226, BTU=20
30202	Energy Decimals	16 Bit Integer	R	Decimals: 0, 1 2 3
30203	Energy totalizer heating	32 bits integer (high)	R	Actual value
30204	Energy totalizer heating	32 bits integer (low)	R	Actual value
30205	Energy totalizer Tariff 1	32 bits integer (high)	R	Actual value
30206	Energy totalizer Tariff 1	32 bits integer (low)	R	Actual value
30207	Energy totalizer Tariff 2	32 bits integer (high)	R	Actual value
30208	Energy totalizer Tariff 2	32 bits integer (low)	R	Actual value
30209	Energy – stored ST1	32 bits integer (high)	R	
30210	Energy – stored ST1	32 bits integer (low)	R	
30211	Energy Tariff 1 – stored ST1	32 bits integer (high)	R	
30212	Energy Tariff 1 – stored ST1	32 bits integer (low)	R	
30213	Energy Tariff 2 – stored ST1	32 bits integer (high)	R	
30214	Energy Tariff 2 – stored ST1	32 bits integer (low)	R	
30215	Energy – stored ST2	32 bits integer (high)	R	
30216	Energy – stored ST2	32 bits integer (low)	R	
30217	Energy Tariff 1 – stored ST2	32 bits integer (high)	R	
30218	Energy Tariff 1 – stored ST2	32 bits integer (low)	R	
30219	Energy Tariff 2 – stored ST2	32 bits integer (high)	R	
30220	Energy Tariff 2 – stored ST2	32 bits integer (low)	R	

Volume data (IEEE754 single float values)				
30301	Volume Unit	16 Bit Integer	R	m3=80, USGallon=83
30302	Reserved			
30303	Volume	IEEE754 Single (high)	R	Actual value
30304	Volume	IEEE754 Single (low)	R	Actual value
30305	Volume Tariff 1	IEEE754 Single (high)	R	Actual value
30306	Volume Tariff 1	IEEE754 Single (low)	R	Actual value
30307	Volume Tariff 2	IEEE754 Single (high)	R	Actual value
30308	Volume Tariff 2	IEEE754 Single (low)	R	Actual value
30309	Volume – stored ST1	IEEE754 Single (high)	R	
30310	Volume – stored ST1	IEEE754 Single (low)	R	
30311	Volume Tariff 1 – stored ST1	IEEE754 Single (high)	R	
30312	Volume Tariff 1 – stored ST1	IEEE754 Single (low)	R	
30313	Volume Tariff 2 – stored ST1	IEEE754 Single (high)	R	
30314	Volume Tariff 2 – stored ST1	IEEE754 Single (low)	R	
30315	Volume – stored ST2	IEEE754 Single (high)	R	
30316	Volume – stored ST2	IEEE754 Single (low)	R	
30317	Volume Tariff 1 – stored ST2	IEEE754 Single (high)	R	
30318	Volume Tariff 1 – stored ST2	IEEE754 Single (low)	R	
30319	Volume Tariff 2 – stored ST2	IEEE754 Single (high)	R	
30320	Volume Tariff 2 – stored ST2	IEEE754 Single (low)	R	
Volume data (long data points)				
30401	Volume Unit	16 Bit Integer	R	m3=80, USGallon=83
30402	Volume decimals	16 Bit Integer	R	Decimals: 0,1,2,3
30403	Volume	32 bits integer (high)	R	Actual value
30404	Volume	32 bits integer (low)	R	Actual value
30405	Volume Tariff 1	32 bits integer (high)	R	Actual value
30406	Volume Tariff 1	32 bits integer (low)	R	Actual value
30407	Volume Tariff 2	32 bits integer (high)	R	Actual value
30408	Volume Tariff 2	32 bits integer (low)	R	Actual value
30409	Volume – stored ST1	32 bits integer (high)	R	
30410	Volume – stored ST1	32 bits integer (low)	R	
30411	Volume Tariff 1 – stored ST1	32 bits integer (high)	R	
30412	Volume Tariff 1 – stored ST1	32 bits integer (low)	R	
30413	Volume Tariff 2 – stored ST1	32 bits integer (high)	R	
30414	Volume Tariff 2 – stored ST1	32 bits integer (low)	R	
30415	Volume – stored ST2	32 bits integer (high)	R	
30416	Volume – stored ST2	32 bits integer (low)	R	
30417	Volume Tariff 1 – stored ST2	32 bits integer (high)	R	
30418	Volume Tariff 1 – stored ST2	32 bits integer (low)	R	
30419	Volume Tariff 2 – stored ST2	32 bits integer (high)	R	
30420	Volume Tariff 2 – stored ST2	32 bits integer (low)	R	

Auxiliary A1 data or complementary counter A1 totalizer (IEEE754 single float values)				
30501	Auxiliary-A1 Unit	16 Bit Integer	R	no unit=0, Wh=18, kWh=19, MWh=146, MJ=126, GJ=226, BTU=20, m3=80, USGallon=83
30502	Reserved			
30503	Auxiliary-A1	IEEE754 Single (high)	R	Actual value
30504	Auxiliary-A1	IEEE754 Single (low)	R	Actual value
30505	Auxiliary-A1 – stored ST1	IEEE754 Single (high)	R	
30506	Auxiliary-A1 – stored ST1	IEEE754 Single (low)	R	
30507	Auxiliary-A1 – stored ST2	IEEE754 Single (high)	R	
30508	Auxiliary-A1 – stored ST2	IEEE754 Single (low)	R	
Auxiliary A1 data or complementary counter A1 totalizer (long data points)				
30601	Auxiliary-A1 Unit	16 Bit Integer	R	no unit=0, Wh=18, kWh=19, MWh=146, MJ=126, GJ=226, BTU=20, m3=80, USGallon=83
30602	Decimals	16 Bit Integer	R	Decimals: 0,1,2,3
30603	Auxiliary-A1	32 bits integer (high)	R	Actual value
30604	Auxiliary-A1	32 bits integer (low)	R	Actual value
30605	Auxiliary-A1 – stored ST1	32 bits integer (high)	R	
30606	Auxiliary-A1 – stored ST1	32 bits integer (low)	R	
30607	Auxiliary-A1 – stored ST2	32 bits integer (high)	R	
30608	Auxiliary-A1 – stored ST2	32 bits integer (low)	R	
Auxiliary A2 data or complementary counter A2 totalizer (IEEE754 single float values)				
30511	Auxiliary-A2 Unit	16 Bit Integer	R	no unit=0, Wh=18, kWh=19, MWh=146, MJ=126, GJ=226, BTU=20, m3=80, USGallon=83
30512	Reserved			
30513	Auxiliary-A2	IEEE754 Single (high)	R	Actual value
30514	Auxiliary-A2	IEEE754 Single (low)	R	Actual value
30515	Auxiliary-A2 – stored ST1	IEEE754 Single (high)	R	
30516	Auxiliary-A2 – stored ST1	IEEE754 Single (low)	R	
30517	Auxiliary-A2 – stored ST2	IEEE754 Single (high)	R	
30518	Auxiliary-A2 – stored ST2	IEEE754 Single (low)	R	
Auxiliary A2 data or complementary counter A2 totalizer (long data points)				
30611	Auxiliary-A2 Unit	16 Bit Integer	R	no unit=0, Wh=18, kWh=19, MWh=146, MJ=126, GJ=226, BTU=20, m3=80, USGallon=83
30612	Decimals	16 Bit Integer	R	Decimals: 0,1,2,3
30613	Auxiliary-A2	32 bits integer (high)	R	Actual value
30614	Auxiliary-A2	32 bits integer (low)	R	Actual value
30615	Auxiliary-A2 – stored ST1	32 bits integer (high)	R	
30616	Auxiliary-A2 – stored ST1	32 bits integer (low)	R	
30617	Auxiliary-A2 – stored ST2	32 bits integer (high)	R	
30618	Auxiliary-A2 – stored ST2	32 bits integer (low)	R	
Power (IEEE754 single float values)				
30701	Power Unit	16 Bit Integer	R	W=47, kW=48
30702	Reserved			
30703	Power	IEEE754 Single (high)	R	Actual value
30704	Power	IEEE754 Single (low)	R	Actual value

Power (long data points)				
30801	Power Unit	16 Bit Integer	R	W=47, kW=48
30802	Decimals	16 Bit Integer	R	Decimals: 0,1,2,3
30803	Power	32 bits integer (high)	R	Actual value, signed
30804	Power	32 bits integer (low)	R	Actual value, signed
Flow (IEEE745 single float values)				
30711	Flow Unit	16 Bit Integer	R	m ³ /h=135
30712	Reserved			
30713	Flow	IEEE754 Single (high)	R	Actual value
30714	Flow	IEEE754 Single (low)	R	Actual value
Flow (long data points)				
30811	Flow Unit	16 Bit Integer	R	m ³ /h=135
30812	Decimals	16 Bit Integer	R	Decimals: 0,1,2,3
30813	Flow	32 bits integer (high)	R	Actual value
30814	Flow	32 bits integer (low)	R	Actual value
High temperature (IEEE745 single float values)				
30721	Temperature Unit	16 Bit Integer	R	°C=62
30722	Reserved			
30723	High temperature	IEEE754 Single (high)	R	Actual value
30724	High temperature	IEEE754 Single (low)	R	Actual value
High temperature (long data points)				
30821	Temperature Unit	16 Bit Integer	R	°C=62
30822	Decimals	16 Bit Integer	R	Decimals: 0,1,2,3
30823	High temperature	32 bits integer (high)	R	Actual value, signed
30824	High temperature	32 bits integer (low)	R	Actual value, signed
Low temperature (IEEE745 single float values)				
30721	Temperature Unit	16 Bit Integer	R	°C=62
30722	Reserved			
30725	Low temperature	IEEE754 Single (high)	R	Actual value
30726	Low temperature	IEEE754 Single (low)	R	Actual value
Low temperature (long data points)				
30821	Temperature Unit	16 Bit Integer	R	°C=62
30822	Decimals	16 Bit Integer	R	Decimals: 0,1,2,3
30825	Low temperature	32 bits integer (high)	R	Actual value, signed
30826	Low temperature	32 bits integer (low)	R	Actual value, signed
Temperature difference (IEEE745 single float values)				
30731	Delta Temperature Unit	16 Bit Integer	R	K=63
30732	Reserved		R	
30733	Delta Temperature	IEEE754 Single (high)	R	
30734	Delta Temperature	IEEE754 Single (low)	R	
Temperature difference (long data points)				
30831	Delta Temperature Unit	16 Bit Integer	R	K=63
30832	Decimals	16 Bit Integer	R	Decimals: 0,1,2,3
30833	Delta Temperature	32 bits integer (high)	R	Signed
30834	Delta Temperature	32 bits integer (low)	R	Signed

Group (D) : ST1 values

Input Register	M-Bus data Individual description Group (D) : ST1 values (read)	Data type	Read/Write	Remarks
ST1 values (IEEE754 single float values)				
30008	Last Set-Day1: month	16 Bit Integer	R	
30009	Last Set-Day1: day	16 Bit Integer	R	
30109	Energy – stored ST1	IEEE754 Single (high)	R	
30110	Energy – stored ST1	IEEE754 Single (low)	R	
30111	Energy Tariff 1 – stored ST1	IEEE754 Single (high)	R	
30112	Energy Tariff 1 – stored ST1	IEEE754 Single (low)	R	
30113	Energy Tariff 2 – stored ST1	IEEE754 Single (high)	R	
30114	Energy Tariff 2 – stored ST1	IEEE754 Single (low)	R	
30309	Volume – stored ST1	IEEE754 Single (high)	R	
30310	Volume – stored ST1	IEEE754 Single (low)	R	
30311	Volume Tariff 1 – stored ST1	IEEE754 Single (high)	R	
30312	Volume Tariff 1 – stored ST1	IEEE754 Single (low)	R	
30313	Volume Tariff 2 – stored ST1	IEEE754 Single (high)	R	
30314	Volume Tariff 2 – stored ST1	IEEE754 Single (low)	R	
30505	Auxiliary-A1 – stored ST1	IEEE754 Single (high)	R	
30506	Auxiliary-A1 – stored ST1	IEEE754 Single (low)	R	
30515	Auxiliary-A2 – stored ST1	IEEE754 Single (high)	R	
30516	Auxiliary-A2 – stored ST1	IEEE754 Single (low)	R	
ST1 values (long data points)				
30008	Last Set-Day1: month	16 Bit Integer	R	
30009	Last Set-Day1: day	16 Bit Integer	R	
30209	Energy – stored ST1	32 bits integer (high)	R	
30210	Energy – stored ST1	32 bits integer (low)	R	
30211	Energy Tariff 1 – stored ST1	32 bits integer (high)	R	
30212	Energy Tariff 1 – stored ST1	32 bits integer (low)	R	
30213	Energy Tariff 2 – stored ST1	32 bits integer (high)	R	
30214	Energy Tariff 2 – stored ST1	32 bits integer (low)	R	
30409	Volume – stored ST1	32 bits integer (high)	R	
30410	Volume – stored ST1	32 bits integer (low)	R	
30411	Volume Tariff 1 – stored ST1	32 bits integer (high)	R	
30412	Volume Tariff 1 – stored ST1	32 bits integer (low)	R	
30413	Volume Tariff 2 – stored ST1	32 bits integer (high)	R	
30414	Volume Tariff 2 – stored ST1	32 bits integer (low)	R	
30605	Auxiliary-A1 – stored ST1	32 bits integer (high)	R	
30606	Auxiliary-A1 – stored ST1	32 bits integer (low)	R	
30615	Auxiliary-A2 – stored ST1	32 bits integer (high)	R	
30616	Auxiliary-A2 – stored ST1	32 bits integer (low)	R	

Group (E) : ST2 values

Input Register	M-Bus data Individual description Group (E) : ST2 values (read)	Data type	Read/Write	Remarks
ST2 values (IEEE754 single float values)				
30010	Last Set-Day2: month	16 Bit Integer	R	
30011	Last Set-Day2: day	16 Bit Integer	R	
30115	Energy – stored ST2	IEEE754 Single (high)	R	
30116	Energy – stored ST2	IEEE754 Single (low)	R	
30117	Energy Tariff 1 – stored ST2	IEEE754 Single (high)	R	
30118	Energy Tariff 1 – stored ST2	IEEE754 Single (low)	R	
30119	Energy Tariff 2 – stored ST2	IEEE754 Single (high)	R	
30120	Energy Tariff 2 – stored ST2	IEEE754 Single (low)	R	
30315	Volume – stored ST2	IEEE754 Single (high)	R	
30316	Volume – stored ST2	IEEE754 Single (low)	R	
30317	Volume Tariff 1 – stored ST2	IEEE754 Single (high)	R	
30318	Volume Tariff 1 – stored ST2	IEEE754 Single (low)	R	
30319	Volume Tariff 2 – stored ST2	IEEE754 Single (high)	R	
30320	Volume Tariff 2 – stored ST2	IEEE754 Single (low)	R	
30507	Auxiliary-A1 – stored ST2	IEEE754 Single (high)	R	
30508	Auxiliary-A1 – stored ST2	IEEE754 Single (low)	R	
30517	Auxiliary-A2 – stored ST2	IEEE754 Single (high)	R	
30518	Auxiliary-A2 – stored ST2	IEEE754 Single (low)	R	
ST2 values (long data points)				
30010	Last Set-Day2: month	16 Bit Integer	R	
30011	Last Set-Day2: day	16 Bit Integer	R	
30215	Energy – stored ST2	32 bits integer (high)	R	
30216	Energy – stored ST2	32 bits integer (low)	R	
30217	Energy Tariff 1 – stored ST2	32 bits integer (high)	R	
30218	Energy Tariff 1 – stored ST2	32 bits integer (low)	R	
30219	Energy Tariff 2 – stored ST2	32 bits integer (high)	R	
30220	Energy Tariff 2 – stored ST2	32 bits integer (low)	R	
30415	Volume – stored ST2	32 bits integer (high)	R	
30416	Volume – stored ST2	32 bits integer (low)	R	
30417	Volume Tariff 1 – stored ST2	32 bits integer (high)	R	
30418	Volume Tariff 1 – stored ST2	32 bits integer (low)	R	
30419	Volume Tariff 2 – stored ST2	32 bits integer (high)	R	
30420	Volume Tariff 2 – stored ST2	32 bits integer (low)	R	
30607	Auxiliary-A1 – stored ST2	32 bits integer (high)	R	
30608	Auxiliary-A1 – stored ST2	32 bits integer (low)	R	
30617	Auxiliary-A2 – stored ST2	32 bits integer (high)	R	
30618	Auxiliary-A2 – stored ST2	32 bits integer (low)	R	

Group (F) : monthly values

Input Register	M-Bus data Individual description Group (F) : Monthly values (read)	Data type	Read/Write	Remarks
Day for monthly storage				
30012	Last Monthly Data: day	16 Bit Integer	R	
Energy Monthly value (IEEE745 single float values)				
31001	Energy Unit	16 Bit Integer	R	Wh=18, kWh=19, MWh=146, MJ=126(not a BACnet unit), GJ=226, BTU=20
31002	Reserved			
31003 - 31066	Energy Monthly Value - Stored [0..31]	IEEE754 Single	R	32 x 2 Input registers
31067 - 31130	Energy Monthly Value Tariff 1 – Stored [0..31]	IEEE754 Single	R	32 x 2 Input registers
31131 - 31194	Energy Monthly Value Tariff 2 – Stored [0..31]	IEEE754 Single	R	32 x 2 Input registers
Energy Monthly value (long data points)				
31201	Energy Unit	16 Bit Integer	R	Wh=18, kWh=19, MWh=146, MJ=126(not a BACnet unit), GJ=226, BTU=20
31202	Decimals	16 Bit Integer	R	Decimals: 0,1,2,3
31203 - 31266	Energy Monthly Value - Stored [0..31]	32 bits integer	R	32 x 2 Input registers
31267 - 31330	Energy Monthly Value Tariff 1 – Stored [0..31]	32 bits integer	R	32 x 2 Input registers
31331 - 31394	Energy Monthly Value Tariff 2 – Stored [0..31]	32 bits integer	R	32 x 2 Input registers
Volume Monthly value (IEEE745 single float values)				
31401	Volume Unit	16 Bit Integer	R	m3=80, USGallon=83
31402	Reserved			
31403 - 31466	Volume Monthly Value - Stored [0..31]	IEEE754 Single	R	32 x 2 Input registers
31467 - 31530	Volume Monthly Value Tariff 1 – Stored [0..31]	IEEE754 Single	R	32 x 2 Input registers
31531 - 31594	Volume Monthly Value Tariff 2 – Stored [0..31]	IEEE754 Single	R	32 x 2 Input registers
Volume Monthly value (long data points)				
31601	Volume Unit	16 Bit Integer	R	m3=80, USGallon=83
31602	Decimals	16 Bit Integer	R	Decimals: 0,1,2,3
31603 - 31666	Volume Monthly Value - Stored [0..31]	32 bits integer	R	32 x 2 Input registers
31667 - 31730	Volume Monthly Value Tariff 1 – Stored [0..31]	32 bits integer	R	32 x 2 Input registers
31731 - 31794	Volume Monthly Value Tariff 2 – Stored [0..31]	32 bits integer	R	32 x 2 Input registers

Auxiliary A1 monthly value or complementary counter (IEEE745 single float values)				
32001	Auxiliary-A1 Unit	16 Bit Integer	R	no unit=0 , Wh=18, kWh=19, MWh=146, MJ=126, GJ=226, BTU=20, m3=80, USGallon=83
32002	Reserved			
32003 - 32066	Auxiliary-A1 Monthly Value - Stored [0..31]	IEEE754 Single	R	32 x 2 Input registers
Auxiliary A1 monthly value or complementary counter (long data points)				
33001	Auxiliary-A1 Unit	16 Bit Integer	R	no unit=0 , Wh=18, kWh=19, MWh=146, MJ=126, GJ=226, BTU=20, m3=80, USGallon=83
33002	Decimals	16 Bit Integer	R	Decimals: 0,1,2,3
33003 - 33066	Auxiliary-A1 Monthly Value - Stored [0..31]	32 bits integer	R	32 x 2 Input registers
Auxiliary A2 monthly value or complementary counter (IEEE745 single float values)				
32201	Auxiliary-A2 Unit	16 Bit Integer	R	no unit=0 , Wh=18, kWh=19, MWh=146, MJ=126, GJ=226, BTU=20, m3=80, USGallon=83
32202	Reserved			
32203 - 32266	Auxiliary-A2 Monthly Value - Stored [0..31]	IEEE754 Single	R	32 x 2 Input registers
Auxiliary A2 monthly value or complementary counter (long data points)				
33201	Auxiliary-A2 Unit	16 Bit Integer	R	no unit=0 , Wh=18, kWh=19, MWh=146, MJ=126, GJ=226, BTU=20, m3=80, USGallon=83
33202	Decimals	16 Bit Integer	R	Decimals: 0,1,2,3
33203 - 33266	Auxiliary-A2 Monthly Value - Stored [0..31]	32 bits integer	R	32 x 2 Input registers

Technical assistance

For technical support, please contact your local Sontex representation or Sontex SA directly.

Sontex hotline: sontex@sontex.ch, +41 32 488 30 04

Detailed declarations of conformity can found on our home page: www.sontex.ch

Subject to change without notice

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