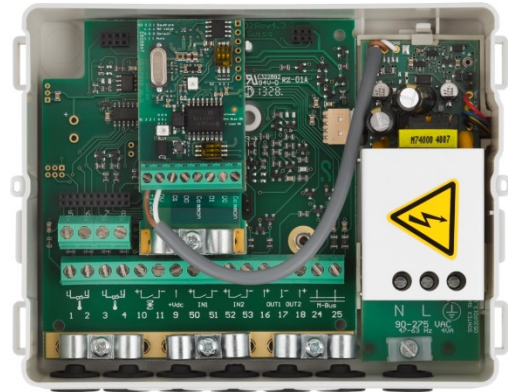
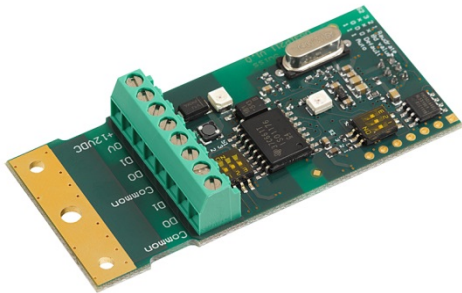


## Module Modbus EIA-485

**Pour les compteurs d'énergie thermique  
Supercal 531, Superstatic 440, Superstatic 449**



### Le module Modbus est

- Compatible avec *PI-MBUS-300 Rev. J – Modicon Modbus Protocol Reference Guide (June 1996)*.
- Compatible avec *MODBUS APPLICATION PROTOCOL SPECIFICATION V1.1b*.
- Compatible avec *Modbus over Serial Line Specification and Implementation Guide V1.02 (December 20, 2006)*.
- Vitesse de communication jusqu'à 115200 bits/sec.
- Prise en charge de la propriété multiple lecture et écriture.
- RS-485 séparé galvaniquement du module (2 fils, half duplex).
- Mode de fonctionnement RS-485 basé sur la communication RTU ou ASCII.

### Versions

Le **module Modbus EIA-485** est disponible pour les produits suivants:

- Intégrateur Supercal 531.
- Compteur d'énergie Superstatic 440.
- Compteur d'énergie Superstatic 449.

### Application

Le Modbus est un protocole de communication qui permet aux systèmes intelligents de diverses industries et fabricants d'échanger des informations utilisées pour la gestion des bâtiments.

Le module Modbus EIA-485 est disponible avec l'intégrateur Supercal 531 seul ou en combinaison avec le compteur d'énergie Superstatic 440 et 449 et est utilisé pour le transfert de données dans un réseau Modbus. Le module peut être utilisé dans des bâtiments commerciaux ou dans des appartements, principalement pour des applications frigorifiques ou thermiques.

### Fonctions

Le module Modbus communique via le réseau de communication RS-485 (RTU ou ASCII) en tant que slave.

Les données actuelles, les données cumulées, les valeurs mensuelles, les températures ainsi que l'erreur peuvent être transmises par le module au contrôleur Modbus.

### Fiabilité

Le module Modbus utilise la couche physique RS-485 pour communiquer. Le port RS-485 du module Modbus est séparé galvaniquement.

## Adressage

Le module Modbus EIA-485 fait la distinction entre les appareils maîtres et les périphériques esclaves.

Le module Modbus peut être adressé en tant qu'esclave dans la plage d'adresses allant de 1-247.

L'adresse 0 est utilisée comme diffuseur (broadcast).

**Par défaut l'adresse du module Modbus est 1 et le mode de travail est RTU.**

L'adresse du module Modbus peut être changée par le logiciel Prog531 et Prog449 ou par commande M-Bus.

## DONNÉES TECHNIQUES DU MODULE MODBUS

### Général

Température de service	5° à 55°C
Température de stockage	-10 à 55°C (environnement sec)

### Encombrement

Dimensions du boîtier	66x30 mm
Montage	Module enfichable dans l'intégrateur 531 / 449

### Alimentation électrique

Alimentation électrique interne	Alimentation à découpage de l'intégrateur 531 / 449 0531A030, 230 VAC avec 2 sorties 0690A013, 24 VAC avec 2 sorties
Alimentation électrique externe	12 VDC / 150 mA

### Transmission et technique réseau

Communication par le Bus	RS-485 paire torsadée
Fixation du câble de connexion RS-485	Bornier à vis pour D0, D1 et Common (2x3 pins) + 12 VDC / 0 VDC
Terminaison du Bus	Par le DIP switch S1 ou par une résistance externe
Parité	Paire, impaire ou aucune
Vitesse de transmission :	1200, 2400, 9600, 19200, 38400, 57600 ou 115200 bits/sec

### Version de l'intégrateur Supercal 531

La version minimale du Firmware du Supercal 531 / Superstatic 449 doit être ≥ V3.7

## Mapping des adresses des registres des paramètres pour 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
<b>Managing actual date and time (IEEE745 single float values)</b>				
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	
<b>Communication parameters</b>				
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
<b>Setting date for next Set Day (IEEE745 single float values)</b>				
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
<b>Device information</b>			
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
<b>Error flags</b>			
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
<b>Energy data (IEEE754 single float values)</b>				
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	
<b>Energy data (long data points)</b>				
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	

<b>Volume data (IEEE754 single float values)</b>				
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	
<b>Volume data (long data points)</b>				
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	

<b>Auxiliary A1 data or complementary counter A1 totalizer (IEEE754 single float values)</b>				
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	
<b>Auxiliary A1 data or complementary counter A1 totalizer (long data points)</b>				
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	
<b>Auxiliary A2 data or complementary counter A2 totalizer (IEEE754 single float values)</b>				
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	
<b>Auxiliary A2 data or complementary counter A2 totalizer (long data points)</b>				
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	
<b>Power (IEEE754 single float values)</b>				
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

<b>Power (long data points)</b>				
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
<b>Flow (IEEE745 single float values)</b>				
30711	Flow Unit	16 Bit Integer	R	m <sup>3</sup> /h=135
30712	Reserved			
30713	Flow	IEEE754 Single (high)	R	Actual value
30714	Flow	IEEE754 Single (low)	R	Actual value
<b>Flow (long data points)</b>				
30811	Flow Unit	16 Bit Integer	R	m <sup>3</sup> /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
<b>High temperature (IEEE745 single float values)</b>				
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
<b>High temperature (long data points)</b>				
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
<b>Low temperature (IEEE745 single float values)</b>				
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
<b>Low temperature (long data points)</b>				
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
<b>Temperature difference (IEEE745 single float values)</b>				
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	
<b>Temperature difference (long data points)</b>				
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
<b>ST1 values (IEEE754 single float values)</b>				
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	
<b>ST1 values (long data points)</b>				
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
<b>ST2 values (IEEE754 single float values)</b>				
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	
<b>ST2 values (long data points)</b>				
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
<b>Day for monthly storage</b>				
30012	Last Monthly Data: day	16 Bit Integer	R	
<b>Energy Monthly value (IEEE745 single float values)</b>				
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
<b>Energy Monthly value (long data points)</b>				
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
<b>Volume Monthly value (IEEE745 single float values)</b>				
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
<b>Volume Monthly value (long data points)</b>				
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

<b>Auxiliary A1 monthly value or complementary counter (IEEE754 single float values)</b>				
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
<b>Auxiliary A1 monthly value or complementary counter (long data points)</b>				
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
<b>Auxiliary A2 monthly value or complementary counter (IEEE754 single float values)</b>				
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
<b>Auxiliary A2 monthly value or complementary counter (long data points)</b>				
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

### Assistance technique

Pour toute assistance technique, contactez votre agent Sontex local ou directement Sontex SA.

Hotline Sontex: [sontex@sontex.ch](mailto:sontex@sontex.ch) , +41 32 488 30 04

Les déclarations de conformité détaillées peuvent être trouvées sur notre site: [www.sontex.ch](http://www.sontex.ch)

Sous réserve de modifications

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