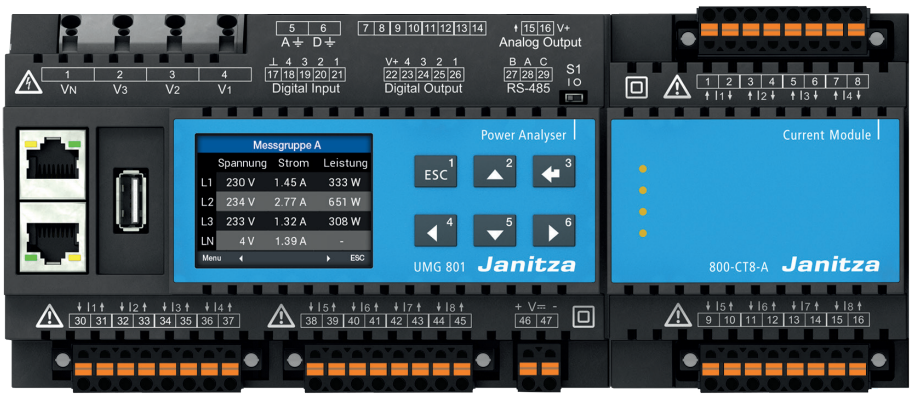
Power Analyser

UMG 801& Module

Modbus-address list and Formulary



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Content

Modbus 4
- Modbus functions (master) 4
- Modbus Functions (Slave) 4
- Transfer parameters 5
- Byte sequence 5
- Update rate 5
- Measured values 5
- Number formats 5
- Symbols and definitions 5

Explanations of the measured values 6

Address list UMG 801 12
- Frequently required readings 12
  - Basic device (system 1) 12
  - Basic device (system 2) 13
  - Basic device (system 3) 14
  - Module 1 (system 1) 15
  - Module 1 (system 2) 16
  - Module 2 (system 1) 17
  - Module 2 (system 2) 19
  - Module 3 (system 1) 20
  - Module 3 (system 2) 21
  - Module 4 (system 1) 22
  - Module 4 (system 2) 23
  - Module 5 (system 1) 24
  - Module 5 (system 2) 25
  - Module 6 (system 1) 26
  - Module 6 (system 2) 28
  - Module 7 (system 1) 29
  - Module 7 (system 2) 30
  - Module 8 (system 1) 31
  - Module 8 (system 2) 32
  - Module 9 (system 1) 33
  - Moduel 9 (system 2) 34
  - Module 10 (system 1) 35
  - Module 10 (system 2) 37

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Modbus

Modbus functions (master)

As a master, the UMG 801 supports the following modbus functions;

01 Read Coil Status

Reads the ON/OFF status of discrete outputs (0X references, coils) in the slave. Broadcast is not supported.

02 Read Input Status

Reads the ON/OFF status of discrete inputs (0X references) in the slave. Broadcast is not supported.

03 Read Holding Registers

Reads the binary contents of holding registers (4X references) in the slave.

04 Read Input Registers

Reads the binary contents of input registers (3X references) in the slave.

05 Force Single Coil

Forces a single coil (0X references) to either ON or OFF. When broadcast, the function forces the same coil reference in all attached slaves.

06 Preset Single Register

Presets a value into a single holding register (4X reference). When broadcast, the function presets the same register reference in all attached slaves.

15 (0F Hex) Force Multiple Coils

Forces each coil (0X references) in a sequence of coils to either ON or OFF. When broadcast, the function forces the same coil reference in all attached slaves.

16 (10Hex) Preset Multiple Registers

Presets values into a sequence of holding registers (4X references). When broadcast, the function presets the same register references in all attached slaves.

23 (17Hex) Read/Write 4X Registers

Performs a combination of one read and one write operation in a single Modbus transaction. The function can write new contents to a group of 4XXXX registers, and then return the contents of another group of 4XXXX registers. Broadcast is not supported.

Modbus Functions (Slave)

As a slave, the UMG 801 supports the following modbus functions:

03 Read Holding Registers

Reads the binary contents of holding registers (4X references) in the slave.

04 Read Input Registers

Reads the binary contents of input registers (3X references) in the slave.

06 Preset Single Register

Presets a value into a single holding register (4X reference). When broadcast, the function presets the same register reference in all attached slaves.

16 (10Hex) Preset Multiple Registers

Presets values into a sequence of holding registers (4X references). When broadcast, the function presets the same register references in all attached slaves.

23 (17Hex) Read/Write 4X Registers

Performs a combination of one read and one write operation in a single Modbus transaction. The function can write new contents to a group of 4XXXX registers, and then return the contents of another group of 4XXXX registers. Broadcast is not supported.

Transfer parameters

The UMG 801 supports the following transfer parameters:

Baudrate	: 9600, 19200, 38400, 57600 and 115200 baud
Data bits	: 8
Parity	: none
Stop bits (UMG 801)	: 2
Stop bits external	: 1 or 2

Byte sequence

The data in the Modbus address list can be retrieved in big-endian format (high byte before low byte).
The addresses described in this address list return the data in big-endian format.

Update rate

The modbus register addresses are updated every 200ms.

Measured values

- Measured values in the **short** format do not take into account the set transformer ratio, i.e. these measured values have to be multiplied by the corresponding transformer factor!
- Measured values in **float or integer format** take into account the corresponding transformer factors!

Number formats

Type	Size	Minimum	Maximum
char	8 bit	0	255
byte	8 bit	-128	127
short	16 bit	-2^{15}	2^{15} -1
int	32 bit	-2^{31}	2^{31} -1
uint	32 bit	0	2^{32} -1
long64	64 bit	-2^{63}	2^{63} -1
float	32 bit	IEEE 754	IEEE 754
double	64 bit	IEEE 754	IEEE 754

Symbols and definitions

N	Total number of sample points per period (For example, in a period of 20 ms)
k	Sample value or number of samples per period (0 <= k < N)
p	Number or identification of the phase conductor (p = 1, 2 oder 3)
i_{pk}	Sample value k of the current of the phase conductor p
u_{pNk}	Sample value k of the neutral voltage of the phase conductor p
P_p	Real power of the phase conductor p

Explanations of the measured values

Measured value

- A measured value (in the UMG) is a effective value which is formed over a period (measuring window) of 200ms.
- A measuring window is 10 periods in the 50Hz network and 12 periods in the 60Hz network.
- A measuring window has a start time and an end time.
- The resolution between the start time and end time is approximately 2ns.
- The accuracy of the start time and end time depends on the accuracy of the internal clock.
- In order to improve the accuracy of the internal clock, it is recommended that the clock in the device is compared with a time service and reset.

Mean value of measured value

- For each measured value, a sliding mean value is calculated over the selected averaging time.
- The mean value is calculated every 200ms.
- You can take the possible averaging times from the table.

n	Mean time / seconds
0	5
1	10
2	15
3	30
4	60
5	300
6	480
7	600
8	900

Maximum value of measured value

- The ***max. value of the measured value*** is the largest measured value which has occurred since the last deletion.

Minimum value of measured value

- The ***min. value of the measured value*** is the lowest measured value which has occurred since the last deletion.

Maximum value of mean value

- The ***max. value of the mean value*** is the largest mean value which has occurred since the last deletion.

Nominal current, voltage, frequency

- The limit values for events and transients are set by the nominal value in percentage.

Nominal current I_{rated}

- The Irated is the nominal current of the transformers and is required for calculation of the K-factor.

Peak value negative

- Highest negative sampling value from the last 200ms measuring window..

Peak value positive

- Highest positive sampling value from the last 200ms measuring window.

Crest factor

- The crest factor describes the relation between the peak value and effective value of a periodic quantity. It serves as a characteristic value for general description of the curve form of a periodic quantity. The distortion factor is another example of a quantity for characterization of the difference from the pure sinusoidal form.

- Example
  A sinusoidal change voltage with an effective value of 230 V has a peak value of approx. 325 V. The crest factor is then 325 V / 230 V =1.414 .

Effective value of the current for phase conductor p

$$I_p = \sqrt{\frac{1}{N} \cdot \sum_{k=0}^{N-1} i_{p_k}^{\,2}}$$

Effective value of neutral conductor current

$$I_N = \sqrt{\frac{1}{N} \cdot \sum_{k=0}^{N-1} (i_{1_k} + i_{2_k} + i_{3_k})^2}$$

Effective voltage L-N

$$U_{pN} = \sqrt{\frac{1}{N} \cdot \sum_{k=0}^{N-1} u_{pN_k}^{\,2}}$$

Effective voltage L-L

$$U_{pg} = \sqrt{\frac{1}{N} \cdot \sum_{k=0}^{N-1} (u_{gN_k} - u_{pN_k})^2}$$

Star connection voltage (vectorial)

$$U_{Star\ connection\ voltage} = U_{1_{rms}} + U_{2_{rms}} + U_{3_{rms}}$$

Real power for phase conductor

$$P_p = \frac{1}{N} \cdot \sum_{k=0}^{N-1} (u_{pN_k} \times i_{p_k})$$

Apparent power for phase conductor

- Unsigned

$$S_p = U_{pN} \cdot I_p$$

Total apparent power (arithmetic) Sa

- Unsigned

$$S_A = S_1 + S_2 + S_3$$

Order number of harmonics

xxx[0] = mains frequency (50 Hz/60 Hz)
xxx[1] = 2nd harmonic (100 Hz/120 Hz)
xxx[2] = 3rd harmonic (150 Hz/180 Hz)
etc.

THD

- THD (Total Harmonic Distortion) is the distortion factor and provides the relation of the harmonic parts of an oscillation to the mains frequency.

Distortion factor THD (U) for the voltage

- M = 40 (UMG 604, UMG 508, UMG 96RM)
- M = 50 (UMG 605, UMG 509, UMG 511, UMG 512, UMG801)
- fund corresponds to n=1

$$THD_U = \frac{1}{|U_{fund}|}\sqrt{\sum_{n=2}^{M}|U_{n.Harm}|^2}$$

Distortion factor THD (I) for the current

- M = 40 (UMG 604, UMG 508, UMG 96RM)
- M = 50 (UMG 605, UMG 509, UMG 511, UMG 512, UMG801)
- fund corresponds to n=1

$$THD_I = \frac{1}{|I_{fund}|}\sqrt{\sum_{n=2}^{M}|I_{n.Harm}|^2}$$

ZHD

- THD for the interharmonics.
- Is calculated in the product series and UMG 511, UMG 512, UMG 605.

Interharmonics

- Sinusoidal oscillations, which frequencies are not a multiple integer of the main frequency.
- Are calculated in the product series and UMG 511, UMG 512, UMG 605.
- Calculation and measurement methods in accordance with the IEC 61000-4-30.
- The order number of interharmonics corresponds to the order number of the next smaller harmonic. For example, between the 3rd and 4th harmonic of the 3rd inter harmonics.

TDD (I)

- TDD Total demand distortion, harmonic current distortion in % of maximum demand load current
- IL = IL= Maximum demand load current
- M = 40 (UMG 604, UMG 508, UMG 509, UMG 96RM)
- M = 50 (UMG 605, UMG 511, UMG 512)

$$TDD = \frac{1}{I_L}\sqrt{\sum_{n=2}^{M} I_n^2} \times 100\%$$

Ripple control signal U (EN61000-4-30)

The ripple control signal U is a voltage (200 ms measured value) which is measured at a carrier frequency specified by the user. Only frequencies beneath 3 kHz are observed.

Ripple control signal I

The ripple control signal I is a current (200 ms measured value) which is measured at a carrier frequency specified by the user. Only frequencies beneath 3 kHz are observed.

Positive sequence-negative sequence-zero sequence

- The extent of a voltage or current imbalance in a three-phase system is identified using the positive sequence, negative sequence and zero sequence components.
- The balance of the rotation current system strived for in normal operation is disturbed by the unsymmetrical loads, errors and equipment.
- A three-phase system is called symmetric, when the three phase conductor voltages and currents are the same size and are displaced against each other by 120°. If one or both conditions are not fulfilled, the system is described as unsymmetrical. By calculating the symmetrical components consisting of the positive sequence, negative sequence and zero sequence, the simplified analysis of an imbalanced error is possible in a rotary current system..
- Imbalance is a feature of the network quality for the limits specified in international norms (EN 50160 for example).

Positive sequence

$$U_{pos} = \frac{1}{3}\left|U_{L1,fund} + U_{L2,fund} \cdot e^{j\frac{2\pi}{3}} + U_{L3,fund} \cdot e^{j\frac{4\pi}{3}}\right|$$

Negative sequence

$$U_{neg} = \frac{1}{3}\left|U_{L1,fund} + U_{L2,fund} \cdot e^{-j\frac{2\pi}{3}} + U_{L3,fund} \cdot e^{-j\frac{4\pi}{3}}\right|$$

Zero sequence

$$U_{zero} = \frac{1}{3}\left|U_{L1,fund} + U_{L2,fund} + U_{L3,fund}\right|$$

A zero component can only occur if a sum current can flow back through the main conductor.

Voltage imbalance

$$Voltage\ imbalance = \frac{U_{Geg}}{U_{Mit}}$$

Under difference U (EN 61000-4-30)

$$U_{under} = \frac{U_{din} - \sqrt{\frac{\sum_{i=1}^{n} U_{rms-under,i}^2}{n}}}{U_{din}}\left[\%\right]$$

Under difference I

$$I_{under} = \frac{I_{Nominal\ current} - \sqrt{\frac{\sum_{i=1}^{n} I_{rms-under,i}^2}{n}}}{I_{Nominal\ current}}\Bigg|$$

K-factor

- The K-factor describes the increase of the eddy current losses when loaded with harmonics. For a sinusoidal load on the transformer, the K-factor =1. The larger the K-factor, the heavier a transformer can be loaded with harmonics without overheating.

Power Factor (vectorial) - Lambda

- The power factor is unsigned.

$$PF_x = \frac{|P_x|}{S_x}$$

x = L1, L2, L3, L4

Cos(φ) - Fundamental Power Factor

- Only the mains frequency part is used for calculation of the Cos(φ).
- Cos(φ) sign:
  - = for the supply of real power
  + = for obtaining real power

$$PF_1 = \cos(\varphi) = \frac{P_1}{S_1}$$

Cos(φ) total

- Cos(φ) sign:
  - = for the supply of real power
  + = for obtaining real power

$$\cos(\varphi)_{Sum_3} = \frac{P_{1_{fund}} + P_{2_{fund}} + P_{3_{fund}}}{\sqrt{(P_{1_{fund}} + P_{2_{fund}} + P_{3_{fund}})^2 + (Q_{1_{fund}} + Q_{2_{fund}} + Q_{3_{fund}})^2}}$$

$$\cos(\varphi)_{Sum_4} = \frac{P_{1_{fund}} + P_{2_{fund}} + P_{3_{fund}} + P_{4_{fund}}}{\sqrt{(P_{1_{fund}} + P_{2_{fund}} + P_{3_{fund}} + P_{4_{fund}})^2 + (Q_{1_{fund}} + Q_{2_{fund}} + Q_{3_{fund}} + Q_{4_{fund}})^2}}$$

Phase Angle φ

- The phase angle between current and voltage of the external conductor p is calculated according to DIN EN 61557-12 and displayed.
- The sign of the phase angle corresponding to the sign of the reactive power.

Mains frequency power factor

The mains frequency power factor is the power factor of the mains frequency and is calculated using the fourier analysis (FFT). The voltage and current must not be sinusoidal. All in the device calculated reactive power are resulting of fundamental reactive power.

Power factor sign

- Sign Q = +1 for φ in the range 0° .. 180° (inductive)
- Sign Q = -1 for φ in the range 180° .. 360° (capacitive)

$$Sign\ Q(\varphi_p) = +1 \ if \ \varphi_p \in [0° - 180°]$$

$$Sign\ Q(\varphi_p) = -1 \ if \ \varphi_p \in [180° - 360°]$$

Reactive power for phase conductor p

- Reactive power of the mains frequency.

$$Q_{fund\,p} = Sign\ Q(\varphi_p) \cdot \sqrt{S_{fund\,p}^{\ 2} - P_{fund\,p}^{\ 2}}$$

Total reactive power

- Reactive power of the mains frequency.

$$Q_V = Q_1 + Q_2 + Q_3$$

Distortion power factor

- The distortion power factor is the power factor of all mains frequencies and is calculated using the fourier analysis (FFT).

$$D = \sqrt{S^2 - P^2 - Q_{fund}^2}$$

- The apparent power „S" contains all fundamental harmonics and all harmonic rates up to the M-th harmonic.
- The effective power „P" contains all fundamental harmonics and all harmonic rates up to the M-th harmonic.

Reactive energy per phase

$$E_{r_{L1}} = \int Q_{L1}(t) \cdot \Delta t$$

Reactive energy per phase, inductive

$$E_{r(ind)_{L1}} = \int Q_{L1}(t) \cdot \Delta t \qquad \text{for } Q_{L1}(t) > 0$$

Reactive energy per phase, capazitive

$$E_{r(cap)_{L1}} = \int Q_{L1}(t) \cdot \Delta t \qquad \text{for } Q_{L1}(t) < 0$$

Reactive energy, sum L1-L3

$$E_{r_{L1,L2,L3}} = \int (Q_{L1}(t) + Q_{L2}(t) + Q_{L3}(t)) \cdot \Delta t$$

Reactive energy, sum L1-L3, inductive

$$E_{r(ind)_{L1,L2,L3}} = \int (Q_{L1}(t) + Q_{L2}(t) + Q_{L3}(t)) \cdot \Delta t$$

for $(Q_{L1}(t) + Q_{L2}(t) + Q_{L3}(t)) > 0$

Reactive energy, sum L1-L3, capazitive

$$E_{r(cap)_{L1,L2,L3}} = \int (Q_{L1}(t) + Q_{L2}(t) + Q_{L3}(t)) \cdot \Delta t$$

for $(Q_{L1}(t) + Q_{L2}(t) + Q_{L3}(t)) < 0$

Address list UMG 801

Frequently required readings

Address	Format	RD/WR	Unit	Note
Basic device (system 1)				
19000	float	RD	V	Voltage L1-N
19002	float	RD	V	Voltage L2-N
19004	float	RD	V	Voltage L3-N
19006	float	RD	V	Voltage L1-L2
19008	float	RD	V	Voltage L2-L3
19010	float	RD	V	Voltage L3-L1
19012	float	RD	A	Current, I1
19014	float	RD	A	Current, I2
19016	float	RD	A	Current, I3
19018	float	RD	A	Current, I4
19020	float	RD	W	Real power P1
19022	float	RD	W	Real power P2
19024	float	RD	W	Real power P3
19026	float	RD	W	Sum; Psum3=P1+P2+P3
19028	float	RD	VA	Apparent power S1
19030	float	RD	VA	Apparent power S2
19032	float	RD	VA	Apparent power S3
19034	float	RD	VA	Sum; Ssum3=S1+S2+S3
19036	float	RD	var	Reactive power (mains frequ.) Q1
19038	float	RD	var	Reactive power (mains frequ.) Q2
19040	float	RD	var	Reactive power (mains frequ.) Q3
19042	float	RD	var	Sum; Qsum3=Q1+Q2+Q3
19044	float	RD		Fund.power factor, Cos(φ); UL1 IL1
19046	float	RD		Fund.power factor, Cos(φ); UL2 IL2
19048	float	RD		Fund.power factor, Cos(φ); UL3 IL3
19050	float	RD	Hz	Measured frequency
19052	float	RD		Rotation field; 1=right, 0=none, -1=left
19054	float	RD	Wh	Real energy W1
19056	float	RD	Wh	Real energy W2
19058	float	RD	Wh	Real energy W3
19060	float	RD	Wh	Real energy W1..W3
19062	float	RD	Wh	Real energy W1, consumed
19064	float	RD	Wh	Real energy W2, consumed
19066	float	RD	Wh	Real energy W3, consumed
19068	float	RD	Wh	Real energy W1..W3, consumed, rate 1
19070	float	RD	Wh	Real energy W1, delivered
19072	float	RD	Wh	Real energy W2, delivered
19074	float	RD	Wh	Real energy W3, delivered
19076	float	RD	Wh	Real energy W1..W3, delivered
19078	float	RD	VAh	Apparent energy WS1
19080	float	RD	VAh	Apparent energy WS2
19082	float	RD	VAh	Apparent energy WS3
19084	float	RD	VAh	Apparent energy WS1..WS3

Address	Format	RD/WR	Unit	Note
19086	float	RD	varh	Reactive energy WQ1 (fundamental comp.)
19088	float	RD	varh	Reactive energy WQ2 (fundamental comp.)
19090	float	RD	varh	Reactive energy WQ3 (fundamental comp.)
19092	float	RD	varh	Reactive energy WQ1..WQ3 (fundamental comp.)
19094	float	RD	varh	Reactive energy WQ1, inductive
19096	float	RD	varh	Reactive energy WQ2, inductive
19098	float	RD	varh	Reactive energy WQ3, inductive
19100	float	RD	varh	Reactive energy WQ1..WQ3, inductive
19102	float	RD	varh	Reactive energy WQ1, capacitive
19104	float	RD	varh	Reactive energy WQ2, capacitive
19106	float	RD	varh	Reactive energy WQ3, capacitive
19108	float	RD	varh	Reactive energy WQ1..WQ3, capacitive
19110	float	RD	%	Harmonic, THD,U L1-N
19112	float	RD	%	Harmonic, THD,U L2-N
19114	float	RD	%	Harmonic, THD,U L3-N
19116	float	RD	%	Harmonic, THD,I1
19118	float	RD	%	Harmonic, THD,I2
19120	float	RD	%	Harmonic, THD,I3
Basic device (system 2)				
19200	float	RD	A	Current, I5
19202	float	RD	A	Current, I6
19204	float	RD	A	Current, I7
19206	float	RD	A	Current, I8
19208	float	RD	W	Real power P5
19210	float	RD	W	Real power P6
19212	float	RD	W	Real power P7
19214	float	RD	W	Sum; Psum3=P5+P6+P7
19216	float	RD	VA	Apparent power S5
19218	float	RD	VA	Apparent power S6
19220	float	RD	VA	Apparent power S7
19222	float	RD	VA	Sum; Ssum3=S5+S6+S7
19224	float	RD	var	Reactive power (mains frequ.) Q5
19226	float	RD	var	Reactive power (mains frequ.) Q6
19228	float	RD	var	Reactive power (mains frequ.) Q7
19230	float	RD	var	Sum; Qsum3=Q5+Q6+Q7
19232	float	RD		Fund.power factor, Cos(φ); UL1 IL5
19234	float	RD		Fund.power factor, Cos(φ); UL2 IL6
19236	float	RD		Fund.power factor, Cos(φ); UL3 IL7
19238	float	RD	Wh	Real energy W5
19240	float	RD	Wh	Real energy W6
19242	float	RD	Wh	Real energy W7
19244	float	RD	Wh	Real energy W5..W7
19246	float	RD	Wh	Real energy W5, consumed
19248	float	RD	Wh	Real energy W6, consumed
19250	float	RD	Wh	Real energy W7, consumed
19252	float	RD	Wh	Real energy W5..W7, consumed, rate 1

Address	Format	RD/WR	Unit	Note
19254	float	RD	Wh	Real energy W5, delivered
19256	float	RD	Wh	Real energy W6, delivered
19258	float	RD	Wh	Real energy W7, delivered
19260	float	RD	Wh	Real energy W5..W7, delivered
19262	float	RD	VAh	Apparent energy WS5
19264	float	RD	VAh	Apparent energy WS6
19266	float	RD	VAh	Apparent energy WS7
19268	float	RD	VAh	Apparent energy WS5..WS7
19270	float	RD	varh	Reactive energy WQ5 (fundamental comp.)
19272	float	RD	varh	Reactive energy WQ6 (fundamental comp.)
19274	float	RD	varh	Reactive energy WQ7 (fundamental comp.)
19276	float	RD	varh	Reactive energy WQ5..WQ7 (fundamental comp.)
19278	float	RD	varh	Reactive energy WQ5, inductive
19280	float	RD	varh	Reactive energy WQ6, inductive
19282	float	RD	varh	Reactive energy WQ7, inductive
19284	float	RD	varh	Reactive energy WQ5..WQ7, inductive
19286	float	RD	varh	Reactive energy WQ5, capacitive
19288	float	RD	varh	Reactive energy WQ6, capacitive
19290	float	RD	varh	Reactive energy WQ7, capacitive
19292	float	RD	varh	Reactive energy WQ5..WQ7, capacitive
19294	float	RD	%	Harmonic, THD,I5
19296	float	RD	%	Harmonic, THD,I6
19298	float	RD	%	Harmonic, THD,I7
Basic device (system 3)				
19300	float	RD	A	Current, I9
19302	float	RD	A	Current, I10
19304	float	RD	A	Current, I11
19306	float	RD	A	Current, I12
19308	float	RD	W	Real power P9
19310	float	RD	W	Real power P10
19312	float	RD	W	Real power P11
19314	float	RD	W	Sum; Psum3=P9+P10+P11
19316	float	RD	VA	Apparent power S9
19318	float	RD	VA	Apparent power S10
19320	float	RD	VA	Apparent power S11
19322	float	RD	VA	Sum; Ssum3=S9+S10+S11
19324	float	RD	var	Reactive power (mains frequ.) Q9
19326	float	RD	var	Reactive power (mains frequ.) Q10
19328	float	RD	var	Reactive power (mains frequ.) Q11
19330	float	RD	var	Sum; Qsum3=Q9+Q10+Q11
19332	float	RD		Fund.power factor, Cos(φ); UL1 IL9
19334	float	RD		Fund.power factor, Cos(φ); UL2 IL10
19336	float	RD		Fund.power factor, Cos(φ); UL3 IL11
19338	float	RD	Wh	Real energy W9
19340	float	RD	Wh	Real energy W10

Address	Format	RD/WR	Unit	Note
19342	float	RD	Wh	Real energy W11
19344	float	RD	Wh	Real energy W9..W11
19346	float	RD	Wh	Real energy W9, consumed
19348	float	RD	Wh	Real energy W10, consumed
19350	float	RD	Wh	Real energy W11, consumed
19352	float	RD	Wh	Real energy W9..W11, consumed, rate 1
19354	float	RD	Wh	Real energy W9, delivered
19356	float	RD	Wh	Real energy W10, delivered
19358	float	RD	Wh	Real energy W11, delivered
19360	float	RD	Wh	Real energy W9..W11, delivered
19362	float	RD	VAh	Apparent energy WS9
19364	float	RD	VAh	Apparent energy WS10
19366	float	RD	VAh	Apparent energy WS11
19368	float	RD	VAh	Apparent energy WS9..WS11
19370	float	RD	varh	Reactive energy WQ9 (fundamental comp.)
19372	float	RD	varh	Reactive energy WQ10 (fundamental comp.)
19374	float	RD	varh	Reactive energy WQ11 (fundamental comp.)
19376	float	RD	varh	Reactive energy WQ9..WQ11 (fundamental comp.)
19378	float	RD	varh	Reactive energy WQ9, inductive
19380	float	RD	varh	Reactive energy WQ10, inductive
19382	float	RD	varh	Reactive energy WQ11, inductive
19384	float	RD	varh	Reactive energy WQ9..WQ11, inductive
19386	float	RD	varh	Reactive energy WQ9, capacitive
19388	float	RD	varh	Reactive energy WQ10, capacitive
19390	float	RD	varh	Reactive energy WQ11, capacitive
19392	float	RD	varh	Reactive energy WQ9..WQ11, capacitive
19394	float	RD	%	Harmonic, THD,I9
19396	float	RD	%	Harmonic, THD,I10
19398	float	RD	%	Harmonic, THD,I11
Basic device (DI)				
21400	short	RD		Digital in1 state
21401	short	RD		Digital in2 state
21402	short	RD		Digital in3 state
21403	short	RD		Digital in4 state
21404	float	RD		Digital in1 S0 counter reading
21406	float	RD		Digital in2 S0 counter reading
21408	float	RD		Digital in3 S0 counter reading
21410	float	RD		Digital in4 S0 counter reading
21412	uint	RD		Digital in1 Pulse count
21414	uint	RD		Digital in2 Pulse count
21416	uint	RD		Digital in3 Pulse count
21418	uint	RD		Digital in4 Pulse count

Address	Format	RD/WR	Unit	Note
Basic device (Temperature)				
21420	float	RD	°C	Temperature multifunction input 1
21422	float	RD	°C	Temperature multifunction input 2
21424	float	RD	°C	Temperature multifunction input 3
21426	float	RD	°C	Temperature multifunction input 4
Basic device (RCM)				
Please note: You configure the RCM values (differential current values) via the Modbus addresses 19300 to 19306 (currents I9 to I12 - multifunctional channels)! See „Basic device (system 3)“ on page 14.				
21427	short	RD	-	RCM treshold warning I1
21428	short	RD	-	RCM treshold warning I2
21429	short	RD	-	RCM treshold warning I3
21430	short	RD	-	RCM treshold warning I4
21431	short	RD	-	RCM treshold limit I1
21432	short	RD	-	RCM treshold limit I2
21433	short	RD	-	RCM treshold limit I3
21434	short	RD	-	RCM treshold limit I4
21435	short	RD	-	Alarm bit, treshold limit I1, manually resettable
21436	short	RD	-	Alarm bit, treshold limit I2, manually resettable
21437	short	RD	-	Alarm bit, treshold limit I3, manually resettable
21438	short	RD	-	Alarm bit, treshold limit I4, manually resettable
21439	short	RD	-	Open-circuit detection I1
21440	short	RD	-	Open-circuit detection I2
21441	short	RD	-	Open-circuit detection I3
21442	short	RD	-	Open-circuit detection I4
Module 1 (system 1)				
19400	float	RD	A	Current, I1
19402	float	RD	A	Current, I2
19404	float	RD	A	Current, I3
19406	float	RD	A	Current, I4
19408	float	RD	W	Real power P1
19410	float	RD	W	Real power P2
19412	float	RD	W	Real power P3
19414	float	RD	W	Sum; Psum3=P1+P2+P3
19416	float	RD	VA	Apparent power S1
19418	float	RD	VA	Apparent power S2
19420	float	RD	VA	Apparent power S3
19422	float	RD	VA	Sum; Ssum3=S1+S2+S3
19424	float	RD	var	Reactive power (mains frequ.) Q1
19426	float	RD	var	Reactive power (mains frequ.) Q2
19428	float	RD	var	Reactive power (mains frequ.) Q3
19430	float	RD	var	Sum; Qsum3=Q1+Q2+Q3
19432	float	RD		Fund.power factor, Cos(φ); UL1 IL1
19434	float	RD		Fund.power factor, Cos(φ); UL2 IL2
19436	float	RD		Fund.power factor, Cos(φ); UL3 IL3
19438	float	RD	Wh	Real energy W1
19440	float	RD	Wh	Real energy W2
19442	float	RD	Wh	Real energy W3
19444	float	RD	Wh	Real energy W1..W3

Address	Format	RD/WR	Unit	Note
19446	float	RD	Wh	Real energy W1, consumed
19448	float	RD	Wh	Real energy W2, consumed
19450	float	RD	Wh	Real energy W3, consumed
19452	float	RD	Wh	Real energy W1..W3, consumed, rate 1
19454	float	RD	Wh	Real energy W1, delivered
19456	float	RD	Wh	Real energy W2, delivered
19458	float	RD	Wh	Real energy W3, delivered
19460	float	RD	Wh	Real energy W1..W3, delivered
19462	float	RD	VAh	Apparent energy WS1
19464	float	RD	VAh	Apparent energy WS2
19466	float	RD	VAh	Apparent energy WS3
19468	float	RD	VAh	Apparent energy WS1..WS3
19470	float	RD	varh	Reactive energy WQ1 (fundamental comp.)
19472	float	RD	varh	Reactive energy WQ2 (fundamental comp.)
19474	float	RD	varh	Reactive energy WQ3 (fundamental comp.)
19476	float	RD	varh	Reactive energy WQ1..WQ3 (fundamental comp.)
19478	float	RD	varh	Reactive energy WQ1, inductive
19480	float	RD	varh	Reactive energy WQ2, inductive
19482	float	RD	varh	Reactive energy WQ3, inductive
19484	float	RD	varh	Reactive energy WQ1..WQ3, inductive
19486	float	RD	varh	Reactive energy WQ1, capacitive
19488	float	RD	varh	Reactive energy WQ2, capacitive
19490	float	RD	varh	Reactive energy WQ3, capacitive
19492	float	RD	varh	Reactive energy WQ1..WQ3, capacitive
19494	float	RD	%	Harmonic, THD,I1
19496	float	RD	%	Harmonic, THD,I2
19498	float	RD	%	Harmonic, THD,I3
Module 1 (system 2)				
19500	float	RD	A	Current, I5
19502	float	RD	A	Current, I6
19504	float	RD	A	Current, I7
19506	float	RD	A	Current, I8
19508	float	RD	W	Real power P5
19510	float	RD	W	Real power P6
19512	float	RD	W	Real power P7
19514	float	RD	W	Sum; Psum3=P5+P6+P7
19516	float	RD	VA	Apparent power S5
19518	float	RD	VA	Apparent power S6
19520	float	RD	VA	Apparent power S7
19522	float	RD	VA	Sum; Ssum3=S5+S6+S7
19524	float	RD	var	Reactive power (mains frequ.) Q5
19526	float	RD	var	Reactive power (mains frequ.) Q6
19528	float	RD	var	Reactive power (mains frequ.) Q7
19530	float	RD	var	Sum; Qsum3=Q5+Q6+Q7

Address	Format	RD/WR	Unit	Note
19532	float	RD		Fund.power factor, Cos(φ); UL1 IL5
19534	float	RD		Fund.power factor, Cos(φ); UL2 IL6
19536	float	RD		Fund.power factor, Cos(φ); UL3 IL7
19538	float	RD	Wh	Real energy W5
19540	float	RD	Wh	Real energy W6
19542	float	RD	Wh	Real energy W7
19544	float	RD	Wh	Real energy W5..W7
19546	float	RD	Wh	Real energy W5, consumed
19548	float	RD	Wh	Real energy W6, consumed
19550	float	RD	Wh	Real energy W7, consumed
19552	float	RD	Wh	Real energy W5..W7, consumed, rate 1
19554	float	RD	Wh	Real energy W5, delivered
19556	float	RD	Wh	Real energy W6, delivered
19558	float	RD	Wh	Real energy W7, delivered
19560	float	RD	Wh	Real energy W5..W7, delivered
19562	float	RD	VAh	Apparent energy WS5
19564	float	RD	VAh	Apparent energy WS6
19566	float	RD	VAh	Apparent energy WS7
19568	float	RD	VAh	Apparent energy WS5..WS7
19570	float	RD	varh	Reactive energy WQ5 (fundamental comp.)
19572	float	RD	varh	Reactive energy WQ6 (fundamental comp.)
19574	float	RD	varh	Reactive energy WQ7 (fundamental comp.)
19576	float	RD	varh	Reactive energy WQ5..WQ7 (fundamental comp.)
19578	float	RD	varh	Reactive energy WQ5, inductive
19580	float	RD	varh	Reactive energy WQ6, inductive
19582	float	RD	varh	Reactive energy WQ7, inductive
19584	float	RD	varh	Reactive energy WQ5..WQ7, inductive
19586	float	RD	varh	Reactive energy WQ5, capacitive
19588	float	RD	varh	Reactive energy WQ6, capacitive
19590	float	RD	varh	Reactive energy WQ7, capacitive
19592	float	RD	varh	Reactive energy WQ5..WQ7, capacitive
19594	float	RD	%	Harmonic, THD, I5
19596	float	RD	%	Harmonic, THD, I6
19598	float	RD	%	Harmonic, THD, I7

Module 2 (system 1)

19600	float	RD	A	Current, I1
19602	float	RD	A	Current, I2
19604	float	RD	A	Current, I3
19606	float	RD	A	Current, I4
19608	float	RD	W	Real power P1
19610	float	RD	W	Real power P2
19612	float	RD	W	Real power P3
19614	float	RD	W	Sum; Psum3=P1+P2+P3
19616	float	RD	VA	Apparent power S1
19618	float	RD	VA	Apparent power S2
19620	float	RD	VA	Apparent power S3
19622	float	RD	VA	Sum; Ssum3=S1+S2+S3

Address	Format	RD/WR	Unit	Note
19624	float	RD	var	Reactive power (mains frequ.) Q1
19626	float	RD	var	Reactive power (mains frequ.) Q2
19628	float	RD	var	Reactive power (mains frequ.) Q3
19630	float	RD	var	Sum; Qsum3=Q1+Q2+Q3
19632	float	RD		Fund.power factor, Cos(φ); UL1 IL1
19634	float	RD		Fund.power factor, Cos(φ); UL2 IL2
19636	float	RD		Fund.power factor, Cos(φ); UL3 IL3
19638	float	RD	Wh	Real energy W1
19640	float	RD	Wh	Real energy W2
19642	float	RD	Wh	Real energy W3
19644	float	RD	Wh	Real energy W1..W3
19646	float	RD	Wh	Real energy W1, consumed
19648	float	RD	Wh	Real energy W2, consumed
19650	float	RD	Wh	Real energy W3, consumed
19652	float	RD	Wh	Real energy W1..W3, consumed, rate 1
19654	float	RD	Wh	Real energy W1, delivered
19656	float	RD	Wh	Real energy W2, delivered
19658	float	RD	Wh	Real energy W3, delivered
19660	float	RD	Wh	Real energy W1..W3, delivered
19662	float	RD	VAh	Apparent energy WS1
19664	float	RD	VAh	Apparent energy WS2
19666	float	RD	VAh	Apparent energy WS3
19668	float	RD	VAh	Apparent energy WS1..WS3
19670	float	RD	varh	Reactive energy WQ1 (fundamental comp.)
19672	float	RD	varh	Reactive energy WQ2 (fundamental comp.)
19674	float	RD	varh	Reactive energy WQ3 (fundamental comp.)
19676	float	RD	varh	Reactive energy WQ1..WQ3 (fundamental comp.)
19678	float	RD	varh	Reactive energy WQ1, inductive
19680	float	RD	varh	Reactive energy WQ2, inductive
19682	float	RD	varh	Reactive energy WQ3, inductive
19684	float	RD	varh	Reactive energy WQ1..WQ3, inductive
19686	float	RD	varh	Reactive energy WQ1, capacitive
19688	float	RD	varh	Reactive energy WQ2, capacitive
19690	float	RD	varh	Reactive energy WQ3, capacitive
19692	float	RD	varh	Reactive energy WQ1..WQ3, capacitive
19694	float	RD	%	Harmonic, THD,I1
19696	float	RD	%	Harmonic, THD,I2
19698	float	RD	%	Harmonic, THD,I3

Module 2 (system 2)

19700	float	RD	A	Current, I5
19702	float	RD	A	Current, I6
19704	float	RD	A	Current, I7
19706	float	RD	A	Current, I8

Address	Format	RD/WR	Unit	Note
19708	float	RD	W	Real power P5
19710	float	RD	W	Real power P6
19712	float	RD	W	Real power P7
19714	float	RD	W	Sum; Psum3=P5+P6+P7
19716	float	RD	VA	Apparent power S5
19718	float	RD	VA	Apparent power S6
19720	float	RD	VA	Apparent power S7
19722	float	RD	VA	Sum; Ssum3=S5+S6+S7
19724	float	RD	var	Reactive power (mains frequ.) Q5
19726	float	RD	var	Reactive power (mains frequ.) Q6
19728	float	RD	var	Reactive power (mains frequ.) Q7
19730	float	RD	var	Sum; Qsum3=Q5+Q6+Q7
19732	float	RD		Fund.power factor, Cos(φ); UL1 IL5
19734	float	RD		Fund.power factor, Cos(φ); UL2 IL6
19736	float	RD		Fund.power factor, Cos(φ); UL3 IL7
19738	float	RD	Wh	Real energy W5
19740	float	RD	Wh	Real energy W6
19742	float	RD	Wh	Real energy W7
19744	float	RD	Wh	Real energy W5..W7
19746	float	RD	Wh	Real energy W5, consumed
19748	float	RD	Wh	Real energy W6, consumed
19750	float	RD	Wh	Real energy W7, consumed
19752	float	RD	Wh	Real energy W5..W7, consumed, rate 1
19754	float	RD	Wh	Real energy W5, delivered
19756	float	RD	Wh	Real energy W6, delivered
19758	float	RD	Wh	Real energy W7, delivered
19760	float	RD	Wh	Real energy W5..W7, delivered
19762	float	RD	VAh	Apparent energy WS5
19764	float	RD	VAh	Apparent energy WS6
19766	float	RD	VAh	Apparent energy WS7
19768	float	RD	VAh	Apparent energy WS5..WS7
19770	float	RD	varh	Reactive energy WQ5 (fundamental comp.)
19772	float	RD	varh	Reactive energy WQ6 (fundamental comp.)
19774	float	RD	varh	Reactive energy WQ7 (fundamental comp.)
19776	float	RD	varh	Reactive energy WQ5..WQ7 (fundamental comp.)
19778	float	RD	varh	Reactive energy WQ5, inductive
19780	float	RD	varh	Reactive energy WQ6, inductive
19782	float	RD	varh	Reactive energy WQ7, inductive
19784	float	RD	varh	Reactive energy WQ5..WQ7, inductive
19786	float	RD	varh	Reactive energy WQ5, capacitive
19788	float	RD	varh	Reactive energy WQ6, capacitive
19790	float	RD	varh	Reactive energy WQ7, capacitive
19792	float	RD	varh	Reactive energy WQ5..WQ7, capacitive
19794	float	RD	%	Harmonic, THD,I5
19796	float	RD	%	Harmonic, THD,I6
19798	float	RD	%	Harmonic, THD,I7

Address	Format	RD/WR	Unit	Note
Module 3 (system 1)				
19800	float	RD	A	Current, I1
19802	float	RD	A	Current, I2
19804	float	RD	A	Current, I3
19806	float	RD	A	Current, I4
19808	float	RD	W	Real power P1
19810	float	RD	W	Real power P2
19812	float	RD	W	Real power P3
19814	float	RD	W	Sum; Psum3=P1+P2+P3
19816	float	RD	VA	Apparent power S1
19818	float	RD	VA	Apparent power S2
19820	float	RD	VA	Apparent power S3
19822	float	RD	VA	Sum; Ssum3=S1+S2+S3
19824	float	RD	var	Reactive power (mains frequ.) Q1
19826	float	RD	var	Reactive power (mains frequ.) Q2
19828	float	RD	var	Reactive power (mains frequ.) Q3
19830	float	RD	var	Sum; Qsum3=Q1+Q2+Q3
19832	float	RD		Fund.power factor, Cos(φ); UL1 IL1
19834	float	RD		Fund.power factor, Cos(φ); UL2 IL2
19836	float	RD		Fund.power factor, Cos(φ); UL3 IL3
19838	float	RD	Wh	Real energy W1
19840	float	RD	Wh	Real energy W2
19842	float	RD	Wh	Real energy W3
19844	float	RD	Wh	Real energy W1..W3
19846	float	RD	Wh	Real energy W1, consumed
19848	float	RD	Wh	Real energy W2, consumed
19850	float	RD	Wh	Real energy W3, consumed
19852	float	RD	Wh	Real energy W1..W3, consumed, rate 1
19854	float	RD	Wh	Real energy W1, delivered
19856	float	RD	Wh	Real energy W2, delivered
19858	float	RD	Wh	Real energy W3, delivered
19860	float	RD	Wh	Real energy W1..W3, delivered
19862	float	RD	VAh	Apparent energy WS1
19864	float	RD	VAh	Apparent energy WS2
19866	float	RD	VAh	Apparent energy WS3
19868	float	RD	VAh	Apparent energy WS1..WS3
19870	float	RD	varh	Reactive energy WQ1 (fundamental comp.)
19872	float	RD	varh	Reactive energy WQ2 (fundamental comp.)
19874	float	RD	varh	Reactive energy WQ3 (fundamental comp.)
19876	float	RD	varh	Reactive energy WQ1..WQ3 (fundamental comp.)
19878	float	RD	varh	Reactive energy WQ1, inductive
19880	float	RD	varh	Reactive energy WQ2, inductive
19882	float	RD	varh	Reactive energy WQ3, inductive
19884	float	RD	varh	Reactive energy WQ1..WQ3, inductive

Address	Format	RD/WR	Unit	Note
19886	float	RD	varh	Reactive energy WQ1, capacitive
19888	float	RD	varh	Reactive energy WQ2, capacitive
19890	float	RD	varh	Reactive energy WQ3, capacitive
19892	float	RD	varh	Reactive energy WQ1..WQ3, capacitive
19894	float	RD	%	Harmonic, THD,I1
19896	float	RD	%	Harmonic, THD,I2
19898	float	RD	%	Harmonic, THD,I3
Module 3 (system 2)				
19900	float	RD	A	Current, I5
19902	float	RD	A	Current, I6
19904	float	RD	A	Current, I7
19906	float	RD	A	Current, I8
19908	float	RD	W	Real power P5
19910	float	RD	W	Real power P6
19912	float	RD	W	Real power P7
19914	float	RD	W	Sum; Psum3=P5+P6+P7
19916	float	RD	VA	Apparent power S5
19918	float	RD	VA	Apparent power S6
19920	float	RD	VA	Apparent power S7
19922	float	RD	VA	Sum; Ssum3=S5+S6+S7
19924	float	RD	var	Reactive power (mains frequ.) Q5
19926	float	RD	var	Reactive power (mains frequ.) Q6
19928	float	RD	var	Reactive power (mains frequ.) Q7
19930	float	RD	var	Sum; Qsum3=Q5+Q6+Q7
19932	float	RD		Fund.power factor, Cos(φ); UL1 IL5
19934	float	RD		Fund.power factor, Cos(φ); UL2 IL6
19936	float	RD		Fund.power factor, Cos(φ); UL3 IL7
19938	float	RD	Wh	Real energy W5
19940	float	RD	Wh	Real energy W6
19942	float	RD	Wh	Real energy W7
19944	float	RD	Wh	Real energy W5..W7
19946	float	RD	Wh	Real energy W5, consumed
19948	float	RD	Wh	Real energy W6, consumed
19950	float	RD	Wh	Real energy W7, consumed
19952	float	RD	Wh	Real energy W5..W7, consumed, rate 1
19954	float	RD	Wh	Real energy W5, delivered
19956	float	RD	Wh	Real energy W6, delivered
19958	float	RD	Wh	Real energy W7, delivered
19960	float	RD	Wh	Real energy W5..W7, delivered
19962	float	RD	VAh	Apparent energy WS5
19964	float	RD	VAh	Apparent energy WS6
19966	float	RD	VAh	Apparent energy WS7
19968	float	RD	VAh	Apparent energy WS5..WS7

Address	Format	RD/WR	Unit	Note
19970	float	RD	varh	Reactive energy WQ5 (fundamental comp.)
19972	float	RD	varh	Reactive energy WQ6 (fundamental comp.)
19974	float	RD	varh	Reactive energy WQ7 (fundamental comp.)
19976	float	RD	varh	Reactive energy WQ5..WQ7 (fundamental comp.)
19978	float	RD	varh	Reactive energy WQ5, inductive
19980	float	RD	varh	Reactive energy WQ6, inductive
19982	float	RD	varh	Reactive energy WQ7, inductive
19984	float	RD	varh	Reactive energy WQ5..WQ7, inductive
19986	float	RD	varh	Reactive energy WQ5, capacitive
19988	float	RD	varh	Reactive energy WQ6, capacitive
19990	float	RD	varh	Reactive energy WQ7, capacitive
19992	float	RD	varh	Reactive energy WQ5..WQ7, capacitive
19994	float	RD	%	Harmonic, THD,I5
19996	float	RD	%	Harmonic, THD,I6
19998	float	RD	%	Harmonic, THD,I7
Module 4 (system 1)				
20000	float	RD	A	Current, I1
20002	float	RD	A	Current, I2
20004	float	RD	A	Current, I3
20006	float	RD	A	Current, I4
20008	float	RD	W	Real power P1
20010	float	RD	W	Real power P2
20012	float	RD	W	Real power P3
20014	float	RD	W	Sum; Psum3=P1+P2+P3
20016	float	RD	VA	Apparent power S1
20018	float	RD	VA	Apparent power S2
20020	float	RD	VA	Apparent power S3
20022	float	RD	VA	Sum; Ssum3=S1+S2+S3
20024	float	RD	var	Reactive power (mains frequ.) Q1
20026	float	RD	var	Reactive power (mains frequ.) Q2
20028	float	RD	var	Reactive power (mains frequ.) Q3
20030	float	RD	var	Sum; Qsum3=Q1+Q2+Q3
20032	float	RD		Fund.power factor, Cos(φ); UL1 IL1
20034	float	RD		Fund.power factor, Cos(φ); UL2 IL2
20036	float	RD		Fund.power factor, Cos(φ); UL3 IL3
20038	float	RD	Wh	Real energy W1
20040	float	RD	Wh	Real energy W2
20042	float	RD	Wh	Real energy W3
20044	float	RD	Wh	Real energy W1..W3
20046	float	RD	Wh	Real energy W1, consumed
20048	float	RD	Wh	Real energy W2, consumed
20050	float	RD	Wh	Real energy W3, consumed
20052	float	RD	Wh	Real energy W1..W3, consumed, rate 1
20054	float	RD	Wh	Real energy W1, delivered
20056	float	RD	Wh	Real energy W2, delivered
20058	float	RD	Wh	Real energy W3, delivered
20060	float	RD	Wh	Real energy W1..W3, delivered

Address	Format	RD/WR	Unit	Note
20062	float	RD	VAh	Apparent energy WS1
20064	float	RD	VAh	Apparent energy WS2
20066	float	RD	VAh	Apparent energy WS3
20068	float	RD	VAh	Apparent energy WS1..WS3
20070	float	RD	varh	Reactive energy WQ1 (fundamental comp.)
20072	float	RD	varh	Reactive energy WQ2 (fundamental comp.)
20074	float	RD	varh	Reactive energy WQ3 (fundamental comp.)
20076	float	RD	varh	Reactive energy WQ1..WQ3 (fundamental comp.)
20078	float	RD	varh	Reactive energy WQ1, inductive
20080	float	RD	varh	Reactive energy WQ2, inductive
20082	float	RD	varh	Reactive energy WQ3, inductive
20084	float	RD	varh	Reactive energy WQ1..WQ3, inductive
20086	float	RD	varh	Reactive energy WQ1, capacitive
20088	float	RD	varh	Reactive energy WQ2, capacitive
20090	float	RD	varh	Reactive energy WQ3, capacitive
20092	float	RD	varh	Reactive energy WQ1..WQ3, capacitive
20094	float	RD	%	Harmonic, THD,I1
20096	float	RD	%	Harmonic, THD,I2
20098	float	RD	%	Harmonic, THD,I3
Module 4 (system 2)				
20100	float	RD	A	Current, I5
20102	float	RD	A	Current, I6
20104	float	RD	A	Current, I7
20106	float	RD	A	Current, I8
20108	float	RD	W	Real power P5
20110	float	RD	W	Real power P6
20112	float	RD	W	Real power P7
20114	float	RD	W	Sum; Psum3=P5+P6+P7
20116	float	RD	VA	Apparent power S5
20118	float	RD	VA	Apparent power S6
20120	float	RD	VA	Apparent power S7
20122	float	RD	VA	Sum; Ssum3=S5+S6+S7
20124	float	RD	var	Reactive power (mains frequ.) Q5
20126	float	RD	var	Reactive power (mains frequ.) Q6
20128	float	RD	var	Reactive power (mains frequ.) Q7
20130	float	RD	var	Sum; Qsum3=Q5+Q6+Q7
20132	float	RD		Fund.power factor, Cos(φ); UL1 IL5
20134	float	RD		Fund.power factor, Cos(φ); UL2 IL6
20136	float	RD		Fund.power factor, Cos(φ); UL3 IL7
20138	float	RD	Wh	Real energy W5
20140	float	RD	Wh	Real energy W6
20142	float	RD	Wh	Real energy W7
20144	float	RD	Wh	Real energy W5..W7
20146	float	RD	Wh	Real energy W5, consumed
20148	float	RD	Wh	Real energy W6, consumed
20150	float	RD	Wh	Real energy W7, consumed
20152	float	RD	Wh	Real energy W5..W7, consumed, rate 1

Address	Format	RD/WR	Unit	Note
20154	float	RD	Wh	Real energy W5, delivered
20156	float	RD	Wh	Real energy W6, delivered
20158	float	RD	Wh	Real energy W7, delivered
20160	float	RD	Wh	Real energy W5..W7, delivered
20162	float	RD	VAh	Apparent energy WS5
20164	float	RD	VAh	Apparent energy WS6
20166	float	RD	VAh	Apparent energy WS7
20168	float	RD	VAh	Apparent energy WS5..WS7
20170	float	RD	varh	Reactive energy WQ5 (fundamental comp.)
20172	float	RD	varh	Reactive energy WQ6 (fundamental comp.)
20174	float	RD	varh	Reactive energy WQ7 (fundamental comp.)
20176	float	RD	varh	Reactive energy WQ5..WQ7 (fundamental comp.)
20178	float	RD	varh	Reactive energy WQ5, inductive
20180	float	RD	varh	Reactive energy WQ6, inductive
20182	float	RD	varh	Reactive energy WQ7, inductive
20184	float	RD	varh	Reactive energy WQ5..WQ7, inductive
20186	float	RD	varh	Reactive energy WQ5, capacitive
20188	float	RD	varh	Reactive energy WQ6, capacitive
20190	float	RD	varh	Reactive energy WQ7, capacitive
20192	float	RD	varh	Reactive energy WQ5..WQ7, capacitive
20194	float	RD	%	Harmonic, THD,I5
20196	float	RD	%	Harmonic, THD,I6
20198	float	RD	%	Harmonic, THD,I7
Module 5 (system 1)				
20200	float	RD	A	Current, I1
20202	float	RD	A	Current, I2
20204	float	RD	A	Current, I3
20206	float	RD	A	Current, I4
20208	float	RD	W	Real power P1
20210	float	RD	W	Real power P2
20212	float	RD	W	Real power P3
20214	float	RD	W	Sum; Psum3=P1+P2+P3
20216	float	RD	VA	Apparent power S1
20218	float	RD	VA	Apparent power S2
20220	float	RD	VA	Apparent power S3
20222	float	RD	VA	Sum; Ssum3=S1+S2+S3
20224	float	RD	var	Reactive power (mains frequ.) Q1
20226	float	RD	var	Reactive power (mains frequ.) Q2
20228	float	RD	var	Reactive power (mains frequ.) Q3
20230	float	RD	var	Sum; Qsum3=Q1+Q2+Q3
20232	float	RD		Fund.power factor, Cos(φ); UL1 IL1
20234	float	RD		Fund.power factor, Cos(φ); UL2 IL2
20236	float	RD		Fund.power factor, Cos(φ); UL3 IL3
20238	float	RD	Wh	Real energy W1
20240	float	RD	Wh	Real energy W2
20242	float	RD	Wh	Real energy W3
20244	float	RD	Wh	Real energy W1..W3

Address	Format	RD/WR	Unit	Note
20246	float	RD	Wh	Real energy W1, consumed
20248	float	RD	Wh	Real energy W2, consumed
20250	float	RD	Wh	Real energy W3, consumed
20252	float	RD	Wh	Real energy W1..W3, consumed, rate 1
20254	float	RD	Wh	Real energy W1, delivered
20256	float	RD	Wh	Real energy W2, delivered
20258	float	RD	Wh	Real energy W3, delivered
20260	float	RD	Wh	Real energy W1..W3, delivered
20262	float	RD	VAh	Apparent energy WS1
20264	float	RD	VAh	Apparent energy WS2
20266	float	RD	VAh	Apparent energy WS3
20268	float	RD	VAh	Apparent energy WS1..WS3
20270	float	RD	varh	Reactive energy WQ1 (fundamental comp.)
20272	float	RD	varh	Reactive energy WQ2 (fundamental comp.)
20274	float	RD	varh	Reactive energy WQ3 (fundamental comp.)
20276	float	RD	varh	Reactive energy WQ1..WQ3 (fundamental comp.)
20278	float	RD	varh	Reactive energy WQ1, inductive
20280	float	RD	varh	Reactive energy WQ2, inductive
20282	float	RD	varh	Reactive energy WQ3, inductive
20284	float	RD	varh	Reactive energy WQ1..WQ3, inductive
20286	float	RD	varh	Reactive energy WQ1, capacitive
20288	float	RD	varh	Reactive energy WQ2, capacitive
20290	float	RD	varh	Reactive energy WQ3, capacitive
20292	float	RD	varh	Reactive energy WQ1..WQ3, capacitive
20294	float	RD	%	Harmonic, THD,I1
20296	float	RD	%	Harmonic, THD,I2
20298	float	RD	%	Harmonic, THD,I3

Module 5 (system 2)

20300	float	RD	A	Current, I5
20302	float	RD	A	Current, I6
20304	float	RD	A	Current, I7
20306	float	RD	A	Current, I8
20308	float	RD	W	Real power P5
20310	float	RD	W	Real power P6
20312	float	RD	W	Real power P7
20314	float	RD	W	Sum; Psum3=P5+P6+P7
20316	float	RD	VA	Apparent power S5
20318	float	RD	VA	Apparent power S6
20320	float	RD	VA	Apparent power S7
20322	float	RD	VA	Sum; Ssum3=S5+S6+S7
20324	float	RD	var	Reactive power (mains frequ.) Q5
20326	float	RD	var	Reactive power (mains frequ.) Q6
20328	float	RD	var	Reactive power (mains frequ.) Q7
20330	float	RD	var	Sum; Qsum3=Q5+Q6+Q7
20332	float	RD		Fund.power factor, Cos(φ); UL1 IL5
20334	float	RD		Fund.power factor, Cos(φ); UL2 IL6
20336	float	RD		Fund.power factor, Cos(φ); UL3 IL7

Address	Format	RD/WR	Unit	Note
20338	float	RD	Wh	Real energy W5
20340	float	RD	Wh	Real energy W6
20342	float	RD	Wh	Real energy W7
20344	float	RD	Wh	Real energy W5..W7
20346	float	RD	Wh	Real energy W5, consumed
20348	float	RD	Wh	Real energy W6, consumed
20350	float	RD	Wh	Real energy W7, consumed
20352	float	RD	Wh	Real energy W5..W7, consumed, rate 1
20354	float	RD	Wh	Real energy W5, delivered
20356	float	RD	Wh	Real energy W6, delivered
20358	float	RD	Wh	Real energy W7, delivered
20360	float	RD	Wh	Real energy W5..W7, delivered
20362	float	RD	VAh	Apparent energy WS5
20364	float	RD	VAh	Apparent energy WS6
20366	float	RD	VAh	Apparent energy WS7
20368	float	RD	VAh	Apparent energy WS5..WS7
20370	float	RD	varh	Reactive energy WQ5 (fundamental comp.)
20372	float	RD	varh	Reactive energy WQ6 (fundamental comp.)
20374	float	RD	varh	Reactive energy WQ7 (fundamental comp.)
20376	float	RD	varh	Reactive energy WQ5..WQ7 (fundamental comp.)
20378	float	RD	varh	Reactive energy WQ5, inductive
20380	float	RD	varh	Reactive energy WQ6, inductive
20382	float	RD	varh	Reactive energy WQ7, inductive
20384	float	RD	varh	Reactive energy WQ5..WQ7, inductive
20386	float	RD	varh	Reactive energy WQ5, capacitive
20388	float	RD	varh	Reactive energy WQ6, capacitive
20390	float	RD	varh	Reactive energy WQ7, capacitive
20392	float	RD	varh	Reactive energy WQ5..WQ7, capacitive
20394	float	RD	%	Harmonic, THD,I5
20396	float	RD	%	Harmonic, THD,I6
20398	float	RD	%	Harmonic, THD,I7

Module 6 (system 1)

20400	float	RD	A	Current, I1
20402	float	RD	A	Current, I2
20404	float	RD	A	Current, I3
20406	float	RD	A	Current, I4
20408	float	RD	W	Real power P1
20410	float	RD	W	Real power P2
20412	float	RD	W	Real power P3
20414	float	RD	W	Sum; Psum3=P1+P2+P3
20416	float	RD	VA	Apparent power S1
20418	float	RD	VA	Apparent power S2
20420	float	RD	VA	Apparent power S3
20422	float	RD	VA	Sum; Ssum3=S1+S2+S3

Address	Format	RD/WR	Unit	Note
20424	float	RD	var	Reactive power (mains frequ.) Q1
20426	float	RD	var	Reactive power (mains frequ.) Q2
20428	float	RD	var	Reactive power (mains frequ.) Q3
20430	float	RD	var	Sum; Qsum3=Q1+Q2+Q3
20432	float	RD		Fund.power factor, Cos(φ); UL1 IL1
20434	float	RD		Fund.power factor, Cos(φ); UL2 IL2
20436	float	RD		Fund.power factor, Cos(φ); UL3 IL3
20438	float	RD	Wh	Real energy W1
20440	float	RD	Wh	Real energy W2
20442	float	RD	Wh	Real energy W3
20444	float	RD	Wh	Real energy W1..W3
20446	float	RD	Wh	Real energy W1, consumed
20448	float	RD	Wh	Real energy W2, consumed
20450	float	RD	Wh	Real energy W3, consumed
20452	float	RD	Wh	Real energy W1..W3, consumed, rate 1
20454	float	RD	Wh	Real energy W1, delivered
20456	float	RD	Wh	Real energy W2, delivered
20458	float	RD	Wh	Real energy W3, delivered
20460	float	RD	Wh	Real energy W1..W3, delivered
20462	float	RD	VAh	Apparent energy WS1
20464	float	RD	VAh	Apparent energy WS2
20466	float	RD	VAh	Apparent energy WS3
20468	float	RD	VAh	Apparent energy WS1..WS3
20470	float	RD	varh	Reactive energy WQ1 (fundamental comp.)
20472	float	RD	varh	Reactive energy WQ2 (fundamental comp.)
20474	float	RD	varh	Reactive energy WQ3 (fundamental comp.)
20476	float	RD	varh	Reactive energy WQ1..WQ3 (fundamental comp.)
20478	float	RD	varh	Reactive energy WQ1, inductive
20480	float	RD	varh	Reactive energy WQ2, inductive
20482	float	RD	varh	Reactive energy WQ3, inductive
20484	float	RD	varh	Reactive energy WQ1..WQ3, inductive
20486	float	RD	varh	Reactive energy WQ1, capacitive
20488	float	RD	varh	Reactive energy WQ2, capacitive
20490	float	RD	varh	Reactive energy WQ3, capacitive
20492	float	RD	varh	Reactive energy WQ1..WQ3, capacitive
20494	float	RD	%	Harmonic, THD,I1
20496	float	RD	%	Harmonic, THD,I2
20498	float	RD	%	Harmonic, THD,I3
Module 6 (system 2)				
20500	float	RD	A	Current, I5
20502	float	RD	A	Current, I6
20504	float	RD	A	Current, I7
20506	float	RD	A	Current, I8
20508	float	RD	W	Real power P5
20510	float	RD	W	Real power P6
20512	float	RD	W	Real power P7
20514	float	RD	W	Sum; Psum3=P5+P6+P7

Address	Format	RD/WR	Unit	Note
20516	float	RD	VA	Apparent power S5
20518	float	RD	VA	Apparent power S6
20520	float	RD	VA	Apparent power S7
20522	float	RD	VA	Sum; Ssum3=S5+S6+S7
20524	float	RD	var	Reactive power (mains frequ.) Q5
20526	float	RD	var	Reactive power (mains frequ.) Q6
20528	float	RD	var	Reactive power (mains frequ.) Q7
20530	float	RD	var	Sum; Qsum3=Q5+Q6+Q7
20532	float	RD		Fund.power factor, Cos(φ); UL1 IL5
20534	float	RD		Fund.power factor, Cos(φ); UL2 IL6
20536	float	RD		Fund.power factor, Cos(φ); UL3 IL7
20538	float	RD	Wh	Real energy W5
20540	float	RD	Wh	Real energy W6
20542	float	RD	Wh	Real energy W7
20544	float	RD	Wh	Real energy W5..W7
20546	float	RD	Wh	Real energy W5, consumed
20548	float	RD	Wh	Real energy W6, consumed
20550	float	RD	Wh	Real energy W7, consumed
20552	float	RD	Wh	Real energy W5..W7, consumed, rate 1
20554	float	RD	Wh	Real energy W5, delivered
20556	float	RD	Wh	Real energy W6, delivered
20558	float	RD	Wh	Real energy W7, delivered
20560	float	RD	Wh	Real energy W5..W7, delivered
20562	float	RD	VAh	Apparent energy WS5
20564	float	RD	VAh	Apparent energy WS6
20566	float	RD	VAh	Apparent energy WS7
20568	float	RD	VAh	Apparent energy WS5..WS7
20570	float	RD	varh	Reactive energy WQ5 (fundamental comp.)
20572	float	RD	varh	Reactive energy WQ6 (fundamental comp.)
20574	float	RD	varh	Reactive energy WQ7 (fundamental comp.)
20576	float	RD	varh	Reactive energy WQ5..WQ7 (fundamental comp.)
20578	float	RD	varh	Reactive energy WQ5, inductive
20580	float	RD	varh	Reactive energy WQ6, inductive
20582	float	RD	varh	Reactive energy WQ7, inductive
20584	float	RD	varh	Reactive energy WQ5..WQ7, inductive
20586	float	RD	varh	Reactive energy WQ5, capacitive
20588	float	RD	varh	Reactive energy WQ6, capacitive
20590	float	RD	varh	Reactive energy WQ7, capacitive
20592	float	RD	varh	Reactive energy WQ5..WQ7, capacitive
20594	float	RD	%	Harmonic, THD,I5
20596	float	RD	%	Harmonic, THD,I6
20598	float	RD	%	Harmonic, THD,I7

Address	Format	RD/WR	Unit	Note
Module 7 (system 1)				
20600	float	RD	A	Current, I1
20602	float	RD	A	Current, I2
20604	float	RD	A	Current, I3
20606	float	RD	A	Current, I4
20608	float	RD	W	Real power P1
20610	float	RD	W	Real power P2
20612	float	RD	W	Real power P3
20614	float	RD	W	Sum; Psum3=P1+P2+P3
20616	float	RD	VA	Apparent power S1
20618	float	RD	VA	Apparent power S2
20620	float	RD	VA	Apparent power S3
20622	float	RD	VA	Sum; Ssum3=S1+S2+S3
20624	float	RD	var	Reactive power (mains frequ.) Q1
20626	float	RD	var	Reactive power (mains frequ.) Q2
20628	float	RD	var	Reactive power (mains frequ.) Q3
20630	float	RD	var	Sum; Qsum3=Q1+Q2+Q3
20632	float	RD		Fund.power factor, Cos(φ); UL1 IL1
20634	float	RD		Fund.power factor, Cos(φ); UL2 IL2
20636	float	RD		Fund.power factor, Cos(φ); UL3 IL3
20638	float	RD	Wh	Real energy W1
20640	float	RD	Wh	Real energy W2
20642	float	RD	Wh	Real energy W3
20644	float	RD	Wh	Real energy W1..W3
20646	float	RD	Wh	Real energy W1, consumed
20648	float	RD	Wh	Real energy W2, consumed
20650	float	RD	Wh	Real energy W3, consumed
20652	float	RD	Wh	Real energy W1..W3, consumed, rate 1
20654	float	RD	Wh	Real energy W1, delivered
20656	float	RD	Wh	Real energy W2, delivered
20658	float	RD	Wh	Real energy W3, delivered
20660	float	RD	Wh	Real energy W1..W3, delivered
20662	float	RD	VAh	Apparent energy WS1
20664	float	RD	VAh	Apparent energy WS2
20666	float	RD	VAh	Apparent energy WS3
20668	float	RD	VAh	Apparent energy WS1..WS3
20670	float	RD	varh	Reactive energy WQ1 (fundamental comp.)
20672	float	RD	varh	Reactive energy WQ2 (fundamental comp.)
20674	float	RD	varh	Reactive energy WQ3 (fundamental comp.)
20676	float	RD	varh	Reactive energy WQ1..WQ3 (fundamental comp.)
20678	float	RD	varh	Reactive energy WQ1, inductive
20680	float	RD	varh	Reactive energy WQ2, inductive
20682	float	RD	varh	Reactive energy WQ3, inductive
20684	float	RD	varh	Reactive energy WQ1..WQ3, inductive

Address	Format	RD/WR	Unit	Note
20686	float	RD	varh	Reactive energy WQ1, capacitive
20688	float	RD	varh	Reactive energy WQ2, capacitive
20690	float	RD	varh	Reactive energy WQ3, capacitive
20692	float	RD	varh	Reactive energy WQ1..WQ3, capacitive
20694	float	RD	%	Harmonic, THD,I1
20696	float	RD	%	Harmonic, THD,I2
20698	float	RD	%	Harmonic, THD,I3
Module 7 (system 2)				
20700	float	RD	A	Current, I5
20702	float	RD	A	Current, I6
20704	float	RD	A	Current, I7
20706	float	RD	A	Current, I8
20708	float	RD	W	Real power P5
20710	float	RD	W	Real power P6
20712	float	RD	W	Real power P7
20714	float	RD	W	Sum; Psum3=P5+P6+P7
20716	float	RD	VA	Apparent power S5
20718	float	RD	VA	Apparent power S6
20720	float	RD	VA	Apparent power S7
20722	float	RD	VA	Sum; Ssum3=S5+S6+S7
20724	float	RD	var	Reactive power (mains frequ.) Q5
20726	float	RD	var	Reactive power (mains frequ.) Q6
20728	float	RD	var	Reactive power (mains frequ.) Q7
20730	float	RD	var	Sum; Qsum3=Q5+Q6+Q7
20732	float	RD		Fund.power factor, Cos(φ); UL1 IL5
20734	float	RD		Fund.power factor, Cos(φ); UL2 IL6
20736	float	RD		Fund.power factor, Cos(φ); UL3 IL7
20738	float	RD	Wh	Real energy W5
20740	float	RD	Wh	Real energy W6
20742	float	RD	Wh	Real energy W7
20744	float	RD	Wh	Real energy W5..W7
20746	float	RD	Wh	Real energy W5, consumed
20748	float	RD	Wh	Real energy W6, consumed
20750	float	RD	Wh	Real energy W7, consumed
20752	float	RD	Wh	Real energy W5..W7, consumed, rate 1
20754	float	RD	Wh	Real energy W5, delivered
20756	float	RD	Wh	Real energy W6, delivered
20758	float	RD	Wh	Real energy W7, delivered
20760	float	RD	Wh	Real energy W5..W7, delivered
20762	float	RD	VAh	Apparent energy WS5
20764	float	RD	VAh	Apparent energy WS6
20766	float	RD	VAh	Apparent energy WS7
20768	float	RD	VAh	Apparent energy WS5..WS7
20770	float	RD	varh	Reactive energy WQ5 (fundamental comp.)
20772	float	RD	varh	Reactive energy WQ6 (fundamental comp.)
20774	float	RD	varh	Reactive energy WQ7 (fundamental comp.)
20776	float	RD	varh	Reactive energy WQ5..WQ7 (fundamental comp.)

Address	Format	RD/WR	Unit	Note
20778	float	RD	varh	Reactive energy WQ5, inductive
20780	float	RD	varh	Reactive energy WQ6, inductive
20782	float	RD	varh	Reactive energy WQ7, inductive
20784	float	RD	varh	Reactive energy WQ5..WQ7, inductive
20786	float	RD	varh	Reactive energy WQ5, capacitive
20788	float	RD	varh	Reactive energy WQ6, capacitive
20790	float	RD	varh	Reactive energy WQ7, capacitive
20792	float	RD	varh	Reactive energy WQ5..WQ7, capacitive
20794	float	RD	%	Harmonic, THD,I5
20796	float	RD	%	Harmonic, THD,I6
20798	float	RD	%	Harmonic, THD,I7
Module 8 (system 1)				
20800	float	RD	A	Current, I1
20802	float	RD	A	Current, I2
20804	float	RD	A	Current, I3
20806	float	RD	A	Current, I4
20808	float	RD	W	Real power P1
20810	float	RD	W	Real power P2
20812	float	RD	W	Real power P3
20814	float	RD	W	Sum; Psum3=P1+P2+P3
20816	float	RD	VA	Apparent power S1
20818	float	RD	VA	Apparent power S2
20820	float	RD	VA	Apparent power S3
20822	float	RD	VA	Sum; Ssum3=S1+S2+S3
20824	float	RD	var	Reactive power (mains frequ.) Q1
20826	float	RD	var	Reactive power (mains frequ.) Q2
20828	float	RD	var	Reactive power (mains frequ.) Q3
20830	float	RD	var	Sum; Qsum3=Q1+Q2+Q3
20832	float	RD		Fund.power factor, Cos(φ); UL1 IL1
20834	float	RD		Fund.power factor, Cos(φ); UL2 IL2
20836	float	RD		Fund.power factor, Cos(φ); UL3 IL3
20838	float	RD	Wh	Real energy W1
20840	float	RD	Wh	Real energy W2
20842	float	RD	Wh	Real energy W3
20844	float	RD	Wh	Real energy W1..W3
20846	float	RD	Wh	Real energy W1, consumed
20848	float	RD	Wh	Real energy W2, consumed
20850	float	RD	Wh	Real energy W3, consumed
20852	float	RD	Wh	Real energy W1..W3, consumed, rate 1
20854	float	RD	Wh	Real energy W1, delivered
20856	float	RD	Wh	Real energy W2, delivered
20858	float	RD	Wh	Real energy W3, delivered
20860	float	RD	Wh	Real energy W1..W3, delivered
20862	float	RD	VAh	Apparent energy WS1
20864	float	RD	VAh	Apparent energy WS2
20866	float	RD	VAh	Apparent energy WS3
20868	float	RD	VAh	Apparent energy WS1..WS3

Address	Format	RD/WR	Unit	Note
20870	float	RD	varh	Reactive energy WQ1 (fundamental comp.)
20872	float	RD	varh	Reactive energy WQ2 (fundamental comp.)
20874	float	RD	varh	Reactive energy WQ3 (fundamental comp.)
20876	float	RD	varh	Reactive energy WQ1..WQ3 (fundamental comp.)
20878	float	RD	varh	Reactive energy WQ1, inductive
20880	float	RD	varh	Reactive energy WQ2, inductive
20882	float	RD	varh	Reactive energy WQ3, inductive
20884	float	RD	varh	Reactive energy WQ1..WQ3, inductive
20886	float	RD	varh	Reactive energy WQ1, capacitive
20888	float	RD	varh	Reactive energy WQ2, capacitive
20890	float	RD	varh	Reactive energy WQ3, capacitive
20892	float	RD	varh	Reactive energy WQ1..WQ3, capacitive
20894	float	RD	%	Harmonic, THD,I1
20896	float	RD	%	Harmonic, THD,I2
20898	float	RD	%	Harmonic, THD,I3
Module 8 (system 2)				
20900	float	RD	A	Current, I5
20902	float	RD	A	Current, I6
20904	float	RD	A	Current, I7
20906	float	RD	A	Current, I8
20908	float	RD	W	Real power P5
20910	float	RD	W	Real power P6
20912	float	RD	W	Real power P7
20914	float	RD	W	Sum; Psum3=P5+P6+P7
20916	float	RD	VA	Apparent power S5
20918	float	RD	VA	Apparent power S6
20920	float	RD	VA	Apparent power S7
20922	float	RD	VA	Sum; Ssum3=S5+S6+S7
20924	float	RD	var	Reactive power (mains frequ.) Q5
20926	float	RD	var	Reactive power (mains frequ.) Q6
20928	float	RD	var	Reactive power (mains frequ.) Q7
20930	float	RD	var	Sum; Qsum3=Q5+Q6+Q7
20932	float	RD		Fund.power factor, Cos(φ); UL1 IL5
20934	float	RD		Fund.power factor, Cos(φ); UL2 IL6
20936	float	RD		Fund.power factor, Cos(φ); UL3 IL7
20938	float	RD	Wh	Real energy W5
20940	float	RD	Wh	Real energy W6
20942	float	RD	Wh	Real energy W7
20944	float	RD	Wh	Real energy W5..W7
20946	float	RD	Wh	Real energy W5, consumed
20948	float	RD	Wh	Real energy W6, consumed
20950	float	RD	Wh	Real energy W7, consumed
20952	float	RD	Wh	Real energy W5..W7, consumed, rate 1
20954	float	RD	Wh	Real energy W5, delivered
20956	float	RD	Wh	Real energy W6, delivered
20958	float	RD	Wh	Real energy W7, delivered
20960	float	RD	Wh	Real energy W5..W7, delivered

Address	Format	RD/WR	Unit	Note
20962	float	RD	VAh	Apparent energy WS5
20964	float	RD	VAh	Apparent energy WS6
20966	float	RD	VAh	Apparent energy WS7
20968	float	RD	VAh	Apparent energy WS5..WS7
20970	float	RD	varh	Reactive energy WQ5 (fundamental comp.)
20972	float	RD	varh	Reactive energy WQ6 (fundamental comp.)
20974	float	RD	varh	Reactive energy WQ7 (fundamental comp.)
20976	float	RD	varh	Reactive energy WQ5..WQ7 (fundamental comp.)
20978	float	RD	varh	Reactive energy WQ5, inductive
20980	float	RD	varh	Reactive energy WQ6, inductive
20982	float	RD	varh	Reactive energy WQ7, inductive
20984	float	RD	varh	Reactive energy WQ5..WQ7, inductive
20986	float	RD	varh	Reactive energy WQ5, capacitive
20988	float	RD	varh	Reactive energy WQ6, capacitive
20990	float	RD	varh	Reactive energy WQ7, capacitive
20992	float	RD	varh	Reactive energy WQ5..WQ7, capacitive
20994	float	RD	%	Harmonic, THD,I5
20996	float	RD	%	Harmonic, THD,I6
20998	float	RD	%	Harmonic, THD,I7
Module 9 (system 1)				
21000	float	RD	A	Current, I1
21002	float	RD	A	Current, I2
21004	float	RD	A	Current, I3
21006	float	RD	A	Current, I4
21008	float	RD	W	Real power P1
21010	float	RD	W	Real power P2
21012	float	RD	W	Real power P3
21014	float	RD	W	Sum; Psum3=P1+P2+P3
21016	float	RD	VA	Apparent power S1
21018	float	RD	VA	Apparent power S2
21020	float	RD	VA	Apparent power S3
21022	float	RD	VA	Sum; Ssum3=S1+S2+S3
21024	float	RD	var	Reactive power (mains frequ.) Q1
21026	float	RD	var	Reactive power (mains frequ.) Q2
21028	float	RD	var	Reactive power (mains frequ.) Q3
21030	float	RD	var	Sum; Qsum3=Q1+Q2+Q3
21032	float	RD		Fund.power factor, Cos(φ); UL1 IL1
21034	float	RD		Fund.power factor, Cos(φ); UL2 IL2
21036	float	RD		Fund.power factor, Cos(φ); UL3 IL3
21038	float	RD	Wh	Real energy W1
21040	float	RD	Wh	Real energy W2
21042	float	RD	Wh	Real energy W3
21044	float	RD	Wh	Real energy W1..W3
21046	float	RD	Wh	Real energy W1, consumed
21048	float	RD	Wh	Real energy W2, consumed
21050	float	RD	Wh	Real energy W3, consumed
21052	float	RD	Wh	Real energy W1..W3, consumed, rate 1

Address	Format	RD/WR	Unit	Note
21054	float	RD	Wh	Real energy W1, delivered
21056	float	RD	Wh	Real energy W2, delivered
21058	float	RD	Wh	Real energy W3, delivered
21060	float	RD	Wh	Real energy W1..W3, delivered
21062	float	RD	VAh	Apparent energy WS1
21064	float	RD	VAh	Apparent energy WS2
21066	float	RD	VAh	Apparent energy WS3
21068	float	RD	VAh	Apparent energy WS1..WS3
21070	float	RD	varh	Reactive energy WQ1 (fundamental comp.)
21072	float	RD	varh	Reactive energy WQ2 (fundamental comp.)
21074	float	RD	varh	Reactive energy WQ3 (fundamental comp.)
21076	float	RD	varh	Reactive energy WQ1..WQ3 (fundamental comp.)
21078	float	RD	varh	Reactive energy WQ1, inductive
21080	float	RD	varh	Reactive energy WQ2, inductive
21082	float	RD	varh	Reactive energy WQ3, inductive
21084	float	RD	varh	Reactive energy WQ1..WQ3, inductive
21086	float	RD	varh	Reactive energy WQ1, capacitive
21088	float	RD	varh	Reactive energy WQ2, capacitive
21090	float	RD	varh	Reactive energy WQ3, capacitive
21092	float	RD	varh	Reactive energy WQ1..WQ3, capacitive
21094	float	RD	%	Harmonic, THD,I1
21096	float	RD	%	Harmonic, THD,I2
21098	float	RD	%	Harmonic, THD,I3
Moduel 9 (system 2)				
21100	float	RD	A	Current, I5
21102	float	RD	A	Current, I6
21104	float	RD	A	Current, I7
21106	float	RD	A	Current, I8
21108	float	RD	W	Real power P5
21110	float	RD	W	Real power P6
21112	float	RD	W	Real power P7
21114	float	RD	W	Sum; Psum3=P5+P6+P7
21116	float	RD	VA	Apparent power S5
21118	float	RD	VA	Apparent power S6
21120	float	RD	VA	Apparent power S7
21122	float	RD	VA	Sum; Ssum3=S5+S6+S7
21124	float	RD	var	Reactive power (mains frequ.) Q5
21126	float	RD	var	Reactive power (mains frequ.) Q6
21128	float	RD	var	Reactive power (mains frequ.) Q7
21130	float	RD	var	Sum; Qsum3=Q5+Q6+Q7
21132	float	RD		Fund.power factor, Cos(φ); UL1 IL5
21134	float	RD		Fund.power factor, Cos(φ); UL2 IL6
21136	float	RD		Fund.power factor, Cos(φ); UL3 IL7
21138	float	RD	Wh	Real energy W5
21140	float	RD	Wh	Real energy W6
21142	float	RD	Wh	Real energy W7
21144	float	RD	Wh	Real energy W5..W7

Address	Format	RD/WR	Unit	Note
21146	float	RD	Wh	Real energy W5, consumed
21148	float	RD	Wh	Real energy W6, consumed
21150	float	RD	Wh	Real energy W7, consumed
21152	float	RD	Wh	Real energy W5..W7, consumed, rate 1
21154	float	RD	Wh	Real energy W5, delivered
21156	float	RD	Wh	Real energy W6, delivered
21158	float	RD	Wh	Real energy W7, delivered
21160	float	RD	Wh	Real energy W5..W7, delivered
21162	float	RD	VAh	Apparent energy WS5
21164	float	RD	VAh	Apparent energy WS6
21166	float	RD	VAh	Apparent energy WS7
21168	float	RD	VAh	Apparent energy WS5..WS7
21170	float	RD	varh	Reactive energy WQ5 (fundamental comp.)
21172	float	RD	varh	Reactive energy WQ6 (fundamental comp.)
21174	float	RD	varh	Reactive energy WQ7 (fundamental comp.)
21176	float	RD	varh	Reactive energy WQ5..WQ7 (fundamental comp.)
21178	float	RD	varh	Reactive energy WQ5, inductive
21180	float	RD	varh	Reactive energy WQ6, inductive
21182	float	RD	varh	Reactive energy WQ7, inductive
21184	float	RD	varh	Reactive energy WQ5..WQ7, inductive
21186	float	RD	varh	Reactive energy WQ5, capacitive
21188	float	RD	varh	Reactive energy WQ6, capacitive
21190	float	RD	varh	Reactive energy WQ7, capacitive
21192	float	RD	varh	Reactive energy WQ5..WQ7, capacitive
21194	float	RD	%	Harmonic, THD,I5
21196	float	RD	%	Harmonic, THD,I6
21198	float	RD	%	Harmonic, THD,I7

Module 10 (system 1)

21200	float	RD	A	Current, I1
21202	float	RD	A	Current, I2
21204	float	RD	A	Current, I3
21206	float	RD	A	Current, I4
21208	float	RD	W	Real power P1
21210	float	RD	W	Real power P2
21212	float	RD	W	Real power P3
21214	float	RD	W	Sum; Psum3=P1+P2+P3
21216	float	RD	VA	Apparent power S1
21218	float	RD	VA	Apparent power S2
21220	float	RD	VA	Apparent power S3
21222	float	RD	VA	Sum; Ssum3=S1+S2+S3
21224	float	RD	var	Reactive power (mains frequ.) Q1
21226	float	RD	var	Reactive power (mains frequ.) Q2
21228	float	RD	var	Reactive power (mains frequ.) Q3
21230	float	RD	var	Sum; Qsum3=Q1+Q2+Q3

Address	Format	RD/WR	Unit	Note
21232	float	RD		Fund.power factor, Cos(φ); UL1 IL1
21234	float	RD		Fund.power factor, Cos(φ); UL2 IL2
21236	float	RD		Fund.power factor, Cos(φ); UL3 IL3
21238	float	RD	Wh	Real energy W1
21240	float	RD	Wh	Real energy W2
21242	float	RD	Wh	Real energy W3
21244	float	RD	Wh	Real energy W1..W3
21246	float	RD	Wh	Real energy W1, consumed
21248	float	RD	Wh	Real energy W2, consumed
21250	float	RD	Wh	Real energy W3, consumed
21252	float	RD	Wh	Real energy W1..W3, consumed, rate 1
21254	float	RD	Wh	Real energy W1, delivered
21256	float	RD	Wh	Real energy W2, delivered
21258	float	RD	Wh	Real energy W3, delivered
21260	float	RD	Wh	Real energy W1..W3, delivered
21262	float	RD	VAh	Apparent energy WS1
21264	float	RD	VAh	Apparent energy WS2
21266	float	RD	VAh	Apparent energy WS3
21268	float	RD	VAh	Apparent energy WS1..WS3
21270	float	RD	varh	Reactive energy WQ1 (fundamental comp.)
21272	float	RD	varh	Reactive energy WQ2 (fundamental comp.)
21274	float	RD	varh	Reactive energy WQ3 (fundamental comp.)
21276	float	RD	varh	Reactive energy WQ1..WQ3 (fundamental comp.)
21278	float	RD	varh	Reactive energy WQ1, inductive
21280	float	RD	varh	Reactive energy WQ2, inductive
21282	float	RD	varh	Reactive energy WQ3, inductive
21284	float	RD	varh	Reactive energy WQ1..WQ3, inductive
21286	float	RD	varh	Reactive energy WQ1, capacitive
21288	float	RD	varh	Reactive energy WQ2, capacitive
21290	float	RD	varh	Reactive energy WQ3, capacitive
21292	float	RD	varh	Reactive energy WQ1..WQ3, capacitive
21294	float	RD	%	Harmonic, THD,I1
21296	float	RD	%	Harmonic, THD,I2
21298	float	RD	%	Harmonic, THD,I3
Module 10 (system 2)				
21300	float	RD	A	Current, I5
21302	float	RD	A	Current, I6
21304	float	RD	A	Current, I7
21306	float	RD	A	Current, I8
21308	float	RD	W	Real power P5
21310	float	RD	W	Real power P6
21312	float	RD	W	Real power P7
21314	float	RD	W	Sum; Psum3=P5+P6+P7
21316	float	RD	VA	Apparent power S5
21318	float	RD	VA	Apparent power S6
21320	float	RD	VA	Apparent power S7
21322	float	RD	VA	Sum; Ssum3=S5+S6+S7

Address	Format	RD/WR	Unit	Note
21324	float	RD	var	Reactive power (mains frequ.) Q5
21326	float	RD	var	Reactive power (mains frequ.) Q6
21328	float	RD	var	Reactive power (mains frequ.) Q7
21330	float	RD	var	Sum; Qsum3=Q5+Q6+Q7
21332	float	RD		Fund.power factor, Cos(φ); UL1 IL5
21334	float	RD		Fund.power factor, Cos(φ); UL2 IL6
21336	float	RD		Fund.power factor, Cos(φ); UL3 IL7
21338	float	RD	Wh	Real energy W5
21340	float	RD	Wh	Real energy W6
21342	float	RD	Wh	Real energy W7
21344	float	RD	Wh	Real energy W5..W7
21346	float	RD	Wh	Real energy W5, consumed
21348	float	RD	Wh	Real energy W6, consumed
21350	float	RD	Wh	Real energy W7, consumed
21352	float	RD	Wh	Real energy W5..W7, consumed, rate 1
21354	float	RD	Wh	Real energy W5, delivered
21356	float	RD	Wh	Real energy W6, delivered
21358	float	RD	Wh	Real energy W7, delivered
21360	float	RD	Wh	Real energy W5..W7, delivered
21362	float	RD	VAh	Apparent energy WS5
21364	float	RD	VAh	Apparent energy WS6
21366	float	RD	VAh	Apparent energy WS7
21368	float	RD	VAh	Apparent energy WS5..WS7
21370	float	RD	varh	Reactive energy WQ5 (fundamental comp.)
21372	float	RD	varh	Reactive energy WQ6 (fundamental comp.)
21374	float	RD	varh	Reactive energy WQ7 (fundamental comp.)
21376	float	RD	varh	Reactive energy WQ5..WQ7 (fundamental comp.)
21378	float	RD	varh	Reactive energy WQ5, inductive
21380	float	RD	varh	Reactive energy WQ6, inductive
21382	float	RD	varh	Reactive energy WQ7, inductive
21384	float	RD	varh	Reactive energy WQ5..WQ7, inductive
21386	float	RD	varh	Reactive energy WQ5, capacitive
21388	float	RD	varh	Reactive energy WQ6, capacitive
21390	float	RD	varh	Reactive energy WQ7, capacitive
21392	float	RD	varh	Reactive energy WQ5..WQ7, capacitive
21394	float	RD	%	Harmonic, THD,I5
21396	float	RD	%	Harmonic, THD,I6
21398	float	RD	%	Harmonic, THD,I7