SACI AQM2

Power quality monitoring device

-Modbus-RTU

Applicable model

SACI AQM2

catalogue

1. Overview

The communication protocol provides a detailed specification for the SACI AQM2 series' operation under the Modbus-RTU protocol, enabling third-party users to utilize and develop applications.

2. Communications

2.1 Physical Layer

The communication interface should utilize shielded twisted pair cables. A bus can connect up to 32 devices, with termination resistors installed at both ends. The communication rate ranges from 2400 to 115200 bps, defaulting to 57600 bps. The byte transfer format includes: 1 start bit, 8 data bits (with no parity bit or 1 parity bit), and 1/2 stop bit.

2.2 Communication Protocols

message format

address code	FC	numeric data code	check code
1 byte	1 byte	N bytes	2 bytes

◆ Address code: slave address, address range 1-247, other addresses reserved.

◆Function code: Indicates the function performed by the addressed terminal. The table below lists the function codes supported by the instrument, along with their meanings and functions.

code	meaning
0x01	Read relay output status
0x02	Check the switch input status
0x03/0x04	Read data register
0x05	Remote control single relay output
0x06	Write a single register
0x0F	Remote control multiple relay outputs
0x10	Write multiple registers

0x14	Event Record Read Command
0x0E	clear data

◆Data Code: Contains data required by the terminal to execute specific functions or data collected during terminal response queries. These data may include numerical values, reference addresses, or configuration settings. For example: The function code instructs the terminal to read a register, while the data field specifies the starting register and the number of data items to be read. The slave data code returns content that includes both the data length and corresponding data.

◆Checksum: The error checksum (CRC16) field occupies two bytes and contains a 16-bit binary value. The transmitting device calculates the CRC value and appends it to the data frame. Upon receiving the data, the receiving device recalculates the CRC value and compares it with the received CRC value. If the two values do not match, it indicates a communication error.

2.3 Message Format Instructions

2.3.1 Read relay output status (Function code 0x01)

Master request	frame structure	address code	FC	numeric data code		check code
				Starting relay address	Number of relays	
	Occupied bytes	1 byte	1 byte	2 bytes	2 bytes	2 bytes
	data area	1～247	0x01	0x0000 (fixed)	0x0000～0x0004	CRC16
	Message example	0x01	0x01	0x00 0x00	0x00 0x02	0xBDCB
Machine response	frame structure	address code	FC	numeric data code		check code
				Register byte count	Register value	
	Occupied bytes	1 byte	1 byte	1 byte	1 byte	2 bytes
	Message example	0x01	0x01	0x01	0x03	0x1189

Note: The register value of the slave response corresponds to the relay status value. Starting from the least significant bit of the slave byte, each relay output status value is represented by 1 for closed and 0 for open. For example, the binary value "0000 0011" of the register value "0x03" indicates that the 1st and 2nd relay outputs are closed.

2.3.2 Read switch input status (Function code 0x02)

master request	frame structure	address code	FC	numeric data code		check code
				Start switch	Number of	

				address	switches	
	Occupied bytes	1 byte	1 byte	2 bytes	2 bytes	2 bytes
	data area	1 ~ 247	0x02	0x0000	0x0000 ~ 0x0004	CRC16
	Message example	0x01	0x02	0x00 0x00	0x00 0x04	0x79C9
Machine response	frame structure	address code	FC	numeric data code		check code
				Register byte count	Register value	
	Occupied bytes	1 byte	1 byte	1 byte	1 byte	2 bytes
	Message example	0x01	0x02	0x01	0x02	0x2049

Note: The register value from the slave device corresponds to the switch input status. Starting from the least significant bit of the byte, each bit represents the status of a switch input: 1 indicates closed, 0 indicates open. For example, the binary value "0000 0010" of the register "0x02" indicates that the second switch input is closed.

2.3.3 Read Data Register (Function Codes 0x03/0x04)

master request	frame structure	address code	FC	numeric data code		check code
				Start register address	Number of registers	
	Occupied bytes	1 byte	1 byte	2 bytes	2 bytes	2 bytes
	data area	1 ~ 247	0x03/ 0x04	0x0000 ~ 0xFFFF	Maximum 125	CRC16
	Message example	0x01	0x03	0x00 0x06	0x00 0x06	0x25C9
Machi	frame	address	FC	numeric data code		check

ne respon se	structure	code		Register byte count	Register value	code
	Occupied bytes	1 byte	1 byte	1 byte	12 bytes	2 bytes
	Message Examples	0x01	0x03	0x0C	12-byte data	CRC16

Note: The host requests the starting register address as the first address of the primary or secondary grid data to be queried. The number of registers corresponds to the data length. For example, the starting register address "0x00 0x06" indicates the float-type data address for three-phase phase voltage, with the register number "0x00 0x06" representing a data length of 6 (3 float-type data occupy 6 registers).

2.3.4 Remote Control of Single Relay Output (Function Code 0x05)

master request	frame structure	address code	FC	numeric data code		check code
				Start relay address	Relay action value	
	Occupied bytes	1 byte	1 byte	2 bytes	2 bytes	2 bytes
	data area	1～247	0x05	0x0000～0x0003	0xFF00/0x0000	CRC16
	Message Examples	0x01	0x05	0x00 0x00	0xFF 0x00	0x8C3A
Machine response	frame structure	address code	FC	numeric data code		check code
				Start relay address	Relay action value	
	Occupied bytes	1 byte	1 byte	2 bytes	2 bytes	2 bytes
	Message example	0x01	0x05	0x00 0x00	0xFF 0x00	0x8C3A

Note: The relay action value "0xFF00" indicates closed, and "0x0000" indicates open. Use the remote control command to set the relay to remote mode.

2.3.5 Write to a single register (Function code 0x06)

master request	frame structure	address code	FC	numeric data code		check code
				Register address	Register Data	
	Occupied bytes	1 byte	1 byte	2 bytes	2 bytes	2 bytes
	data area	1 ~ 247	0x06	0x0000 ~ 0xFFFF	0x0000 ~ 0xFFFF	CRC16
	Message Examples	0x01	0x06	0x00 0x00	0xAA 0x55	0x3755
Machine response	frame structure	address code	FC	numeric data code		check code
				Register address	Register Data	
	Occupied bytes	1 byte	1 byte	2 bytes	2 bytes	2 bytes
	Message Examples	0x01	0x06	0x00 0x00	0xAA 0x55	0x3755

Note: When writing configuration registers, strictly follow the instrument settings in the address table. Incorrect configuration register writing may cause abnormal instrument operation. Proceed with caution.

2.3.6 Remote Multi-Relay Output (Function Code 0x0F)

master request	frame structure	address code	FC	numeric data code				chec code
				Start relay address	Number of relays	Data bytes	Relay action value	
	Occupied bytes	1 byte	1 byte	2 bytes	2 bytes	1 byte	1 byte	2 byte
	data area	1 ~ 247	0x0F	0x0000	0x0000 ~ 0004	0x01		CRC1
	Message Examples	0x01	0x0F	0x00 0x00	0x00 0x02	0x01	0x03	0x9E 6
Machine	frame	addres	FC	numeric data code				chec

response	structure	s code		Starting relay address	Number of relays	code
	Occupied bytes	1 byte	1 byte	2 bytes	2 bytes	2 byte
	Message example	0x01	0x0F	0x00 0x00	0x00 0x02	0xD4 A

Note: The relay action value requested by the host corresponds to each relay output starting from the least significant bit of the byte. 1 indicates closed relay, 0 indicates open relay. For example, the binary value "0000 0011" of the relay action value "0x03" indicates that the first and second relay channels of the remote control are closed.

2.2.7 Write Configuration Register (Function Code 0x10)

				numeric data code				
	frame structure	addres s code	FC	Register start address	register length	Register byte count	Write value	check code
master request	Occupied bytes	1 byte	1 byte	2 bytes	2 bytes	1 byte	2N bytes	2 bytes
	data area	1 ~ 247	0x10	0x080A	0x0001	N		CRC16
	Message example	0x01	0x10	0x08 0x0A	0x00 0x01	0x02	0x0064	0x2ED 1
				numeric data code				
Machine response	frame structure	addres s code	FC	Register start address		register length		check code
	Occupied bytes	1 byte	1 byte	2 bytes		2 bytes		2 bytes
	Message Examples	0x01	0x10	0x08 0x0A		0x00 0x01		0x23A B

Note: When writing configuration registers, strictly follow the instrument settings

in the address table. Incorrect configuration register writes may cause abnormal instrument operation. Proceed with caution.

2.3.8 Read Event Records (Function Code 0x14)

ask

FC	1 byte	0x14
byte count	1 byte	0x07
Subrequest x, parameter type	1 byte	0x06
Request for file number x	2 bytes	0x0001-0x000B
Request x, record number	2 bytes	0x0000-0xFFFF
Request x, record length	2 bytes	N

respond

FC	1 byte	0x14
Response data length	1 byte	2 * N + 1
Request x, corresponding file length	1 byte	2 * N + 2
Reference type for sub-request x	1 byte	6
Request x, record data	N×2 bytes	...

The sub-request file number, record number, and record length description of the message to be sent

incident record	file number	record number	length
Voltage dip event	0x0001	0x0000 ~ 0x03FF 0x0000: Most recent voltage sag event 0x0001: Previous voltage sag event ## ... 0x03FF: 1023 records	64
Voltage spike	0x0002	0x0000 ~ 0x03FF 0x0000: Most recent voltage spike event	64

		0x0001: Previous voltage spike event ## ... 0x03FF: 1023 records	
Voltage interruption	0x0003	0x0000 ~ 0x03FF 0x0000: Most recent voltage interruption event 0x0001: Previous voltage interrupt event ## ... 0x03FF: 1023 records	64
Fast voltage change event	0x0004	0x0000 ~ 0x03FF 0x0000: Most recent voltage fast change event 0x0001: Previous voltage fast-change event ## ... 0x03FF: 1023 records	64
Voltage flicker event	0x0005	0x0000 ~ 0x03FF 0x0000: Most recent voltage flicker event 0x0001: Previous voltage flicker event## ... 0x03FF: 1023 records	64
Long-term voltage flicker event	0x0006	0x0000 ~ 0x03FF 0x0000: Most recent long-term voltage flicker event 0x0001: Last long-term voltage flicker event## ... 0x03FF: 1023 records	64
Fault	0x0007	0x0000 ~ 0x03FF	It is

Recording		0x0000: The waveform of the most recent event 0x0001: Waveform of the previous event ## ... 0x03FF: 1023 records	determined by the number of weekly wave sampling points
SOE incident record	0x0008	0x0000～0x03FF 0x0000: Most recent SOE event 0x0001: Previous SOE event ## ... 0x03FF: 1023 records	8
Freeze data	0x0009	0x0000～0x893F 0x0000: Most recent frozen data 0x0001: Previous frozen data ## ... 0x893F:35,135 records above	128
Manual recording	0x000A	0x0000～0x003B 0x0000: The waveform of the most recent event 0x0001: Waveform of the previous event ## ... 0x003B:59 records above	It is determined by the number of weekly wave sampling points
EN50160 Report	0x000B	0x0000～0x003B 0x0000: Most recent EN50160 report 0x0001: Previous EN50160 report ## ... 0x89F3: 59 records above	3864

Note: A total of 1024 voltage sag events, voltage surge events, voltage interruption events, voltage rapid change events, voltage flicker events, and voltage

flicker events were recorded.

2.3.8.1 SOE Event Record Reading

master request	frame structure	address code	FC	numeric data code					check code
				byte count	Parameter type	file number	record number	length	
	Occupied bytes	1 byte	1 byte	1 byte	1 byte	2 bytes	2 bytes	2 bytes	2 bytes
	data area	1 ~ 247	0x14	0x07	0x06	8	0 ~ 1023	6	CRC16
	Message example	01	0x14	0x07	0x06	0x0008	0x0000	0x0006	0x98E7

Machine response	frame structure	address code	FC	numeric data code				check code
				Response data length	File response length	Parameter type	recorded data	
	Occupied bytes	1 byte	1 byte	1 byte	1 byte	1 byte	12 bytes	2 bytes
	Message example	0x01	0x14	0x0A	0x09	0x06	SOE take notes	CRC16

The instrument contains 1024 SOE event records, documenting switch inputs, relay outputs, and alarm types with their timestamps.

SOE event record data format description:

SOE type (4 bytes) + year, month, day, hour, minute, second (6 bytes) + backup (2 bytes)

The time of the SOE event: year, month, day, hour, minute, second

SOE event type ：

8-bit	event type	Low 24-bit	Specific event
0x00	No events	—	—
0x01	Power on/off event	0x00	interrupt
		0x01	power on

0x02	Event beyond the limit	See Appendix B for the alarm monitoring objects beyond limits [Note 1]	
0x03	Boundary End Event		
0x04	DI event	See Appendix C for switch input SOE event types	
0x05	DO event	See Appendix C for relay output SOE event types	
0x06	Instrument operation event	0x00	Parameter modification
		0x01	Clear power
		0x02	Clear required quantity
		0x03	Clear extremes
		0x04	Clear power quality events
		0x05	clean up SOE
		0x06	Clear DI pulse count #
		0x07	Clear Frozen Data
		0x08	Clear EN50160 report
		0x09	Clear cumulative time
		0x0A	Clear manual recording
		0x0B	Clear all records

Note 1: When the SOE event type is a limit-over alarm, the lower 24 bits (Bit0-Bit15) indicate the specific event, while Bit16-Bit23 (0-1) indicate whether the upper limit is exceeded (1) or the lower limit is exceeded (0).

2.3.8.2 Voltage sag event record reading

	frame structure	address code	FC	numeric data code					check code
				byte count	Parameter type	file number	record number	length	
master request	Occupied bytes	1 byte	1 byte	1 byte	1 byte	2 bytes	2 bytes	2 bytes	2 bytes
	data area	1 ~ 247	0x14	0x07	0x06	1	0 ~ 1023	32	CRC16

	Message example	0x01	0x14	0x07	0x06	0x0001	0x0000	0x0020	0xC53C
Machine response	frame structure	address code	FC	numeric data code					check code
				Response data length	File response length		Parameter type	recorded data	
	Occupied bytes	1 byte	1 byte	1 byte	1 byte		1 byte	64 bytes	2 bytes
	Message example	0x01	0x14	0x42	0x41		0x06	Temporary download record	CRC16

2.3.8.3 Voltage Surge Event Record Reading

master request	frame structure	address code	FC	numeric data code					check code
				byte count	Parameter type	file number	record number	length	
	Occupied bytes	1 byte	1 byte	1 byte	1 byte	2 bytes	2 bytes	2 bytes	2 byte
	data area	1 ~ 247	0x14	0x07	0x06	2	0 ~ 1023	32	CRC1
	Message Examples	0x01	0x14	0x07	0x06	0x0002	0x0000	0x0020	0x813C
Machine response	frame structure	address code	FC	numeric data code					check code
				Response data length	File response length		Parameter type	recorded data	
	Occupied bytes	1 byte	1 byte	1 byte	1 byte		1 byte	64 bytes	2 byte
	Message example	0x01	0x14	0x42	0x41		0x06	Temporary upload record	CRC1

2.3.8.4 Voltage Interruption Event Record Reading

master request	frame structure	address code	FC	numeric data code					check code
				byte count	Parameter type	file number	record number	length	
	Occupied bytes	1 byte	1 byte	1 byte	1 byte	2 bytes	2 bytes	2 bytes	2 byte
	data area	1 ~ 247	0x14	0x07	0x06	3	0 ~ 1023	32	CRC1
	Message Examples	0x01	0x14	0x07	0x06	0x0003	0x0000	0x0020	0xBC C

Machine response	frame structure	address code	FC	numeric data code				check code
				Response data length	File response length	Argument type	recorded data	
	Occupied bytes	1 byte	1 byte	1 byte	1 byte	1 byte	64 bytes	2 byte
	Message Examples	0x01	0x14	0x42	0x41	0x06	interrupt logging	CRC1

Voltage sag, sag, and interruption event record data format:

Year, month, day, hour, minute, second, and millisecond (start time) (12 bytes) + Minimum half-wave RMS value (4 bytes) + Number of sustained half-wave cycles (4 bytes) + Year, month, day, hour, minute, second, and millisecond (end time) (12 bytes) + Spare byte (20 bytes) + Number of waveform points (4 bytes) + Event type (4 bytes) + Waveform index (4 bytes)

Host request: 01 14 07 06 00 01 00 00 00 20 C53C

Return from machine: 01 14 2A 29 06

xx 0E 03 05 xx 00 78 0E xx xx x1 02

(1) (2) (3)

00 02 E6 30

(4)

00 02 E6 30

(5)

xx 0E 03 05 xx 00 78 0E xx xx x1 02

(6) (7) (8)

xx xx xx xx

(9)-(13)

xx xx xx xx xx xx xx xx xx xx xx CRC

(14) (15) (16)

1. Start date
2. Start time (hours, minutes, seconds)
3. Start time (in milliseconds)
4. Minimum half-wave RMS value
5. Number of continuous half-wave cycles
6. End date (year, month, day)
7. End time (hours, minutes, seconds)
8. End time (in milliseconds)

9-13, Retain

14. Waveform points
15. Event type
16. Wave Index

2.3.8.5 Read voltage rapid change event records

	frame structure	address code	FC	numeric data code					check code
				byte count	Parameter type	file number	record number	length	
master request	Occupied bytes	1 byte	1 byte	1 byte	1 byte	2 bytes	2 bytes	2 bytes	2 byte
	data area	1 ~ 247	0x14	0x07	0x06	4	0 ~ 1023	32	CRC1
	Message example	0x01	0x14	0x07	0x06	0x0004	0x0000	0x0020	0x093C
Machine	frame	address	FC	numeric data code					check

response	structure	code		Response data length	File response length	Paramet er type	recorded data	code
	Occupied bytes	1 byte	1 byte	1 byte	1 byte	1 byte	64 bytes	2 byte
	Message Examples	0x01	0x14	0x42	0x41	0x06	Temporary download record	CRC1

Voltage rapid change event record data format:

Year, month, day, hour, minute, second, and millisecond (start time) (12 bytes) + Year, month, day, hour, minute, second, and millisecond (end time) (12 bytes) + Duration (in milliseconds) (4 bytes) + Maximum difference between event and before event (4 bytes) + Maximum difference between event end and before event (4 bytes) + Spare bytes (16 bytes) + Frequency points (4 bytes) + Event type (4 bytes) + Waveform index (4 bytes)

Host request: 01 14 07 06 00 04 00 00 00 14 093C

Return from machine: 01 14 2A 29 06

xx 0E 03 05 xx 00 78 0E xx xx x1 02

(1) (2) (3)

xx 0E 03 05 xx 00 78 0E xx xx x1 02

(4) (5) (6)

x0 02 E6 30 00 02 E6 30 00 00 78 0E

(7) (8) (9)

xx xx xx xx

(10)-(13)

xx xx xx xx xx xx xx xx xx xx xx CRC

(14) (15) (16)

1. Start date
2. Start time (hours, minutes, seconds)

3. Start time (in milliseconds)
4. End date (year, month, day)
5. End time (hours, minutes, seconds)
6. End time (in milliseconds)
7. Duration (in milliseconds)
8. Maximum difference between event and pre-event
9. Maximum difference between post-event and pre-event

9-13, Retain

14. Frequency points
15. Event type
16. Wave Index

2.3.8.6 Voltage flicker event record reading

master request	frame structure	address code	FC	numeric data code					chec cod
				byte count	Paramet er type	file number	record number	length	
	Occupied bytes	1 byte	1 byte	1 byte	1 byte	2 bytes	2 bytes	2 bytes	2 byt
	data area	1 ~ 247	0x14	0x07	0x06	5	0 ~ 1023	32	CRC
	Message example	0x01	0x14	0x07	0x06	0x0005	0x0000	0x0020	0x34

Machine response	frame structure	address code	FC	numeric data code				chec cod
				Response data length	File response length	Paramet er type	recorded data	
	Occupied bytes	1 byte	1 byte	1 byte	1 byte	1 byte	64 bytes	2 byt
	Message Examples	0x01	0x14	0x42	0x41	0x06	Temporary download record	CRC

2.3.8.7 Voltage Long-Term Flicker Event Record Reading

master request	frame structure	address code	FC	numeric data code					che coc
				byte count	Parameter type	file number	record number	length	
	Occupied bytes	1 byte	1 byte	1 byte	1 byte	2 bytes	2 bytes	2 bytes	2 by
	data area	1 ~ 247	0x14	0x07	0x06	6	0 ~ 1023	32	CRC
	Message Examples	0x01	0x14	0x07	0x06	0x0006	0x0000	0x0020	0x70

Machine response	frame structure	address code	FC	numeric data code				che coc
				Response data length	File response length	Parameter type	recorded data	
	Occupied bytes	1 byte	1 byte	1 byte	1 byte	1 byte	64 bytes	2 by
	Message Examples	0x01	0x14	0x42	0x41	0x06	Temporary download record	CRC

Voltage long-term and short-term flicker event record data format:

Phase A voltage flicker severity (4 bytes) + Phase B voltage flicker severity (4 bytes) + Phase C voltage flicker severity (4 bytes) + timestamp (year, month, day) (4 bytes) + timestamp (hour, minute, second) (4 bytes) + reserved bytes (36 bytes) + event type (4 bytes) + reserved bytes (4 bytes)

Host request: 01 14 07 06 00 05 00 00 00 14 34FC

Return from machine: 01 14 2A 29 06

xx 0E 03 05 xx 00 78 0E xx xx x1 02 xx 02 E6 30 xx 02 E6 30

(1) (2) (3) (4) (5)

xx xx xx xx xx xx xx xx xx xx xx xx CRC

(6)-(14) (15) (16)

1. A-phase voltage flicker severity

2. B-phase voltage flicker severity

3. C-phase voltage flicker severity

4. Date and time

5. Time stamp (hours, minutes, seconds)

6-14. Keep

15. Event type

16. Keep

A total of 1024 voltage sag events, voltage rise events, voltage interruption events, voltage rapid change events, voltage flicker events, and voltage flicker events were recorded.

Power quality event type:

order number	content	remarks
0	anonymous	
1	A-phase voltage dip	
2	B-phase voltage sag	
3	C-phase voltage dip	
4	Reserved	
5	A-phase voltage surge	
6	B-phase voltage surge	
7	C-phase voltage surge	
8	Reserved	
9	Phase A voltage interruption	
10	B-phase voltage interruption	
11	C-phase voltage interruption	
12	Reserved	
13	A-phase voltage changes rapidly	
14	B-phase voltage changes rapidly	
15	C-phase voltage changes rapidly	

16	The phase voltage changes rapidly	
17	Voltage flicker	
18	Long-term voltage flicker	

2.3.8.8 Fault Record Reading

Fault recording data (time data)

master request	frame structure	address code	FC	numeric data code							check code
				byte count	Parameter type	file number	record number	length	cycle	frame number	
	Occupied bytes	1 byte	1 byte	1 byte	1 byte	2 bytes	2 bytes	2 bytes	1 byte	1 byte	2 bytes
	data area	1 ~ 247	0x14	0x09	0x08	7	0 ~ 1023	4	0xFF	0xFF	CRC16
	Message example	0x01	0x14	0x09	0x08	0x0007	0x0000	0x0004	0xFF	0xFF	0x74FA

Machine response	frame structure	address code	FC	numeric data code			check code
				Response data length	File response length	Parameter type	recorded data	
	Occupied bytes	1 byte	1 byte	1 byte	1 byte	1 byte	8 bytes	2 bytes
	Message example	0x01	0x14	0x0A	0x09	0x06	time	CRC16

Fault waveform data

master request	frame structure	address code	FC	numeric data code							check code
				byte count	Parameter type	file number	record number	length	cycle	frame number	
	Occup	1 byte	1 byte	1	1	2	2	2	1	1	2

	ied bytes			byte	byte	bytes	bytes	bytes	byte	byte	bytes
	data area	1 ~ 247	0x14	0x09	0x08	7	0 ~ 1023	64	0 ~ 9	0 ~ 47	CRC16
	Message Examples	0x01	0x14	0x09	0x08	0x0007	0x0000	0x0040	0x00	0x00	0x754A

Machine response	frame structure	address code	FC	numeric data code				check code
				Response data length	File response length	Argument type	recorded data	
	Occupied bytes	1 byte	1 byte	1 byte	1 byte	1 byte	128 bytes	2 bytes
	Message example	0x01	0x14	0x82	0x81	0x06	Waveform data [Note 1]	CRC16

Note 1: Due to their excessive length, waveform data must be divided into multiple frames for reading. For example, a 64-point weekly waveform (signed 32-bit integer) requires 1536 (64*6*4) bytes of data to be read, with each frame fixed at 128 bytes, divided into 12 frames. The same applies to 32-point, 128-point, and 256-point weekly waveforms. A complete recorded waveform contains 10 weekly cycles.

Weekly dot count	cycle	Frames per week	Total FPS
32	10	6	60
64	10	12	120
128	10	24	240

256	10	48	480

Complete fault recording data format:

Phase A voltage waveform data, Phase B voltage waveform data, Phase C voltage waveform data, Phase A current waveform data, Phase B current waveform data, Phase C current waveform data.

2.3.8.9 Manual waveform recording

Manual recording (record information)

master request	frame structure	address code	FC	numeric data code							check code
				byte count	Parameter type	file number	record number	length	cycle	frame number	
	Occupied bytes	1 byte	1 byte	1 byte	1 byte	2 bytes	2 bytes	1 byte	2 bytes	1 byte	2 bytes
	data area	1 ~ 247	0x14	0x09	0x08	10	0 ~ 59	8	0xFFFF	0xFF	CRC16
	Message example	0x01	0x14	0x09	0x08	0x000A	0x0000	0x08	0xFFFF	0xFF	0xF63E

Machine response	frame structure	address code	FC	numeric data code				check code
				Response data length	File response length	Parameter type	recorded data	
	Occupied bytes	1 byte	1 byte	1 byte	1 byte	1 byte	8 bytes	2 bytes
	Message	0x01	0x14	0x12	0x11	0x06	information	CRC16

	Examples							

Manual recording format:

Time (8 bytes) + weekly frequency points (2 bytes) + frequency (2 bytes) + reserved bytes (4 bytes)

Manual recording (waveform data)

master request	frame structure	address code	FC	numeric data code							check code
				byte count	Parameter type	file number	record number	length	cycle	frame number	
	Occupied bytes	1 byte	1 byte	1 byte	1 byte	2 bytes	2 bytes	1 byte	2 bytes	1 byte	2 bytes
	data area	1 ~ 247	0x14	0x09	0x08	10	0 ~ 59	64	0 ~ 0x0BB7	0 ~ 23	CRC16
	Message Examples	0x01	0x14	0x09	0x08	0x000A	0x0000	0x40	0x00	0x00	0xD01E

Machine response	frame structure	address code	FC	numeric data code				check code
				Response data length	File response length	Parameter type	recorded data	
	Occupied bytes	1 byte	1 byte	1 byte	1 byte	1 byte	128 bytes	2 bytes
	Messa	0x01	0x14	0x82	0x81	0x06	Waveform	CRC16

	ge Exam ples						data [Note 1]	

Note 1: Same as fault recording

2.3.8.10 Freeze Data Read

master request	frame structure	address code	FC	numeric data code					check code
				byte count	Argument type	file number	record number	length	
	Occupied bytes	1 byte	1 byte	1 byte	1 byte	2 bytes	2 bytes	2 bytes	2 bytes
	data area	1 ~ 247	0x14	0x07	0x06	9	0 ~ 35135	64	CRC16
	Message example	0x01	0x14	0x07	0x06	0x0009	0x0000	0x0040	0x24D5

Machine response	frame structure	address code	FC	numeric data code				check code
				Response data length	File response length	Parameter type	recorded data	
	Occupied bytes	1 byte	1 byte	1 byte	1 byte	1 byte	128 bytes	2 bytes
	Message Examples	0x01	0x14	0x82	0x81	0x06	Freeze data	CRC16

Freeze data format:

data type	data type
time	8-byte (8-bit unsigned integer)
Set data 1-20	4 * 20 bytes (single-precision floating-point)

	See Appendix A for data types.
Positive active power	8 bytes (64-bit unsigned integer, primary side power base number)
Reverse active power	ditto
Positive reactive power	ditto
Reverse reactive power	ditto
Apparent power	ditto

2.3.8.11 EN50160 Report Read

master request	frame structure	address code	FC	numeric data code						check code
				byte count	Argument type	file number	record number	length	frame number	
	Occupied bytes	1 byte	1 byte	1 byte	1 byte	2 bytes	2 bytes	2 bytes	1 byte	2 bytes
	data area	1 ~ 247	0x14	0x08	0x07	11	0 ~ 59	64	0 ~ 30	CRC16
	Message example	0x01	0x14	0x08	0x07	0x000B	0x0000	0x0040	0x00	0x84F9

Machine response	frame structure	address code	FC	numeric data code				check code
				Response data length	File response length	Parameter type	recorded data	
	Occupied bytes	1 byte	1 byte	1 byte	1 byte	1 byte	8 bytes	2 bytes

	Message Examples	0x01	0x14	0x82	0x81	0x06	EN50160 Report	CRC16

The EN50160 report contains 60 entries.

EN50160 report data format: see Appendix D.

Note: The EN50160 signal is too long to read in a single frame. It must be divided into 31 frames, each containing 128 bytes.

2.3.9 Clear Data (Function Code 0x0E)

	frame structure	address code	FC	numeric data code				check code
				Initial register address	password	Data Reset Number	Number value	
master request	Occupied bytes	1 byte	1 byte	2 bytes	2 bytes	1 byte	1 byte	2 bytes
	data area	1 ~ 247	0x0E	0xAACC	0x0001	0x00 ~ 0xFF	0xFF	CRC16
	Message Examples	0x01	0x0E	0xAACC	0x0001	0x01	0xFF	0x760D
	frame structure	address code	FC	numeric data code				check code
				Initial register address	password	Data reset number	Number value	
Machine response	Occupied bytes	1 byte	1 byte	2 bytes	2 bytes	1 byte	1 byte	2 bytes
	data area	1 ~ 247	0x0E	0xAACC	0x0001	0x00 ~ 0xFF	0xFF	CRC16
	Message example	0x01	0x0E	0xAACC	0x0001	0x01	0xFF	0x760D

Note: This function code can clear data such as power consumption, demand, extreme values, and event records.

Password: User password

Data reset number:

0x01: Power Clear	0x02: Demand Clearing	0x03: Extreme Value Clear
0x05: Clear SOE alarm event records	0x07: DI pulse count reset	0x09: Clear accumulated time
0x0A: Clear power quality event records	0x0B: EN50160 report cleared	0x0C: Freeze Data Clear
0x0D: Manual waveform clearing	0xFF: Clear all	

Number value: The value must be 0xff.

2.4 Data Format

2.4.1 32-bit floating-point format

32-bit floating-point data follows the IEEE-754 standard. The byte order is big-endian, with the high byte preceding the low byte.

Address(Hex)	Data(Hex)	Description
0000-0001	435C-8000	0x435C8000 = 220.5
0002-0003	4360-4CCD	0x43604CCD = 224.3
0004-0005	435E-B333	0x435EB333 = 222.7

2.4.2 16-bit Shaped Format

The 16-bit floating-point format uses two's complement storage. The byte order follows big-endian convention, with the high byte preceding the low byte.

Address(Hex)	Data(Hex)	Description
0000	0230	0x0230 = 560
0001	0172	0x0172 = 370
0002	0096	0x0096 = 150

2.4.3 32-bit format

32-bit floating-point format data uses two's complement storage. The byte order is big-endian, with the high byte first and the low byte last.

Address(Hex)	Data(Hex)	Description
0000-0001	0007-A120	0x0007A120 = 500000
0002-0003	0000-07D0	0x000007D0 = 2000
0004-0005	FFFF-FDF0	0xFFFFFDF0 = -528

2.4.4 64-bit format

64-bit fixed-format data uses two's complement storage. The byte order follows big-endian format, with the high byte preceding the low byte.

Address(Hex)	Data(Hex)	Description
0000-0003	0007-A120-0000-0000	0x0007A12000000000 = 500000
0004-0007	0000-07D0-0000-0000	0x000007D000000000 = 2000
0008-000B	FFFF-FDF0-0000-0000	0xFFFFFDF000000000 = -528

3. Communication Address Information Table

3.1 Power

3.1.1 Full Wave

address	form	data specification	unit	R/W	remarks
0000-0005	continue to have				
0006-0007	Float	Full-wave A-phase voltage	V	R	Invalid for three-phase three-wire system

0008-0009	Float	B-phase full-wave voltage	V	R	Invalid for three-phase three-wire system
000A-000B	Float	Full-wave C-phase voltage	V	R	Invalid for three-phase three-wire system
000C-000D	Float	Full-wave average of phase voltage	V	R	Invalid for three-phase three-wire system
000E-000F	Float	Full-wave AB line voltage	V	R	Select one of the fundamental values
0010-0011	Float	Full-wave BC line voltage	V	R	Select one of the fundamental values
0012-0013	Float	CA line voltage full-wave value	V	R	Select one of the fundamental values
0014-0015	Float	Line voltage RMS	V	R	Select one of the fundamental values
0016-0017	Float	Full-wave A-phase current	A	R	
0018-0019	Float	B-phase current full-wave value	A	R	
001A-001B	Float	Full-wave C-phase current	A	R	
001C-001D	Float	N-phase current full-wave value	A	R	
001E-001F	Float	Full-wave current average	A	R	
0020-0021	Float	Full-wave active power of Phase A	kW	R	Invalid for three-phase three-wire system
0022-0023	Float	Full-wave active power of phase B	kW	R	Invalid for three-phase three-wire system
0024-0025	Float	Full-wave active power of phase C	kW	R	Invalid for three-phase

					three-wire system
0026-0027	Float	Total active power full wave value	kW	R	
0028-0029	Float	Full-wave value of phase A reactive power	kvar	R	Invalid for three-phase three-wire system
002A-002B	Float	B-phase reactive power full-wave value	kvar	R	Invalid for three-phase three-wire system
002C-002D	Float	C-phase reactive power full-wave value	kvar	R	Invalid for three-phase three-wire system
002E-002F	Float	Total reactive power full wave value	kvar	R	
0030-0031	Float	A-phase current at full power	kVA	R	Invalid for three-phase three-wire system
0032-0033	Float	B-phase relative to full-wave power	kVA	R	Invalid for three-phase three-wire system
0034-0035	Float	C-phase relative to full-wave power	kVA	R	Invalid for three-phase three-wire system
0036-0037	Float	Total apparent power full-wave value	kVA	R	
0038-0039	Float	Full-wave A-phase power factor		R	Invalid for three-phase three-wire system
003A-003B	Float	B-phase full-wave power factor		R	Invalid for three-phase three-wire system

003C-003D	Float	Full-wave C-phase power factor		R	Invalid for three-phase three-wire system
003E-003F	Float	Total power factor full-wave value		R	
0040-0041	Float	Grid frequency	Hz	R	

3.1.2 Base Wave

address	form	data specification	unit	R/W	remarks
0042-0043	Float	A-phase voltage fundamental value	V	R	Invalid for three-phase three-wire system
0044-0045	Float	B-phase fundamental voltage	V	R	Invalid for three-phase three-wire system
0046-0047	Float	C-phase voltage fundamental value	V	R	Invalid for three-phase three-wire system
0048-0049	Float	Average fundamental voltage	V	R	Invalid for three-phase three-wire system
004A-004B	Float	AB line voltage fundamental value	V	R	Select one of the full wave values
004C-004D	Float	Base frequency value of BC line voltage	V	R	Select one of the full wave values
004E-004F	Float	CA line voltage fundamental frequency	V	R	Select one of the full wave values
0050-0051	Float	Line voltage fundamental average	V	R	Select one of the full wave values
0052-0053	Float	A-phase current fundamental value	A	R	

0054-0055	Float	B-phase current fundamental value	A	R	
0056-0057	Float	C-phase current fundamental value	A	R	
0058-0059	Float	N-phase current fundamental value	A	R	
005A-005B	Float	Average current fundamental	A	R	
005C-005D	Float	The fundamental power value of phase A	kW	R	Invalid for three-phase three-wire system
005E-005F	Float	B-phase active power fundamental value	kW	R	Invalid for three-phase three-wire system
0060-0061	Float	C-phase active power fundamental value	kW	R	Invalid for three-phase three-wire system
0062-0063	Float	There is always a fundamental power value	kW	R	
0064-0065	Float	Fundamental value of A-phase reactive power	kvar	R	Invalid for three-phase three-wire system
0066-0067	Float	B-phase active power fundamental value	kvar	R	Invalid for three-phase three-wire system
0068-0069	Float	C-phase active power fundamental value	kvar	R	Invalid for three-phase three-wire system
006A-006B	Float	Total reactive power fundamental value	kvar	R	
006C-006D	Float	The A-phase value is based on the	kVA	R	Invalid for

		power fundamental			three-phase three-wire system
006E-006F	Float	B-phase relative to the power fundamental	kVA	R	Invalid for three-phase three-wire system
0070-0071	Float	C-phase relative to the power fundamental	kVA	R	Invalid for three-phase three-wire system
0072-0073	Float	Total apparent power fundamental value	kVA	R	
0074-0075	Float	A-phase power factor fundamental value		R	Invalid for three-phase three-wire system
0076-0077	Float	B-phase power factor fundamental value		R	Invalid for three-phase three-wire system
0078-0079	Float	C-phase power factor fundamental value		R	Invalid for three-phase three-wire system
007A-007B	Float	Total power factor fundamental value		R	
007C-007D	Reserved				
007E-007F	Reserved				

3.2 Power (32-bit integer)

3.2.1 Full Wave

address	form	data specification	unit	R/W	remarks

0080-0081	Long	Full-wave A-phase voltage	0.001V	R	Invalid for three-phase three-wire system
0082-0083	Long	B-phase full-wave voltage	0.001V	R	Invalid for three-phase three-wire system
0084-0085	Long	Full-wave C-phase voltage	0.001V	R	Invalid for three-phase three-wire system
0086-0087	Long	Full-wave average of phase voltage	0.001V	R	
0088-0089	Long	Full-wave AB line voltage	0.001V	R	
008A-008B	Long	Full-wave BC line voltage	0.001V	R	
008C-008D	Long	CA line voltage full-wave value	0.001V	R	
008E-008F	Long	Line voltage RMS	0.001V	R	
0090-0091	Long	Full-wave A-phase current	0.0001A	R	
0092-0093	Long	B-phase current full-wave value	0.0001A	R	
0094-0095	Long	Full-wave C-phase current	0.0001A	R	
0096-0097	Long	N-phase current full-wave value	0.0001A	R	
0098-0099	Long	Full-wave current average	0.0001A	R	
009A-009B	Long	Full-wave active power of Phase A	0.001W	R	Invalid for three-phase three-wire system
009C-009D	Long	Full-wave active power of phase B	0.001W	R	Invalid for three-phase three-wire system
009E-009F	Long	Full-wave active power of phase C	0.001W	R	Invalid for three-phase three-wire system
00A0-00A1	Long	Total active power full wave value	0.001W	R	

00A2-00A3	Long	Full-wave value of phase A reactive power	0.001var	R	Invalid for three-phase three-wire system
00A4-00A5	Long	B-phase reactive power full-wave value	0.001var	R	Invalid for three-phase three-wire system
00A6-00A7	Long	C-phase reactive power full-wave value	0.001var	R	Invalid for three-phase three-wire system
00A8-00A9	Long	Total reactive power full wave value	0.001var	R	
00AA-00AB	Long	A-phase current at full power	0.001VA	R	Invalid for three-phase three-wire system
00AC-00AD	Long	B-phase relative to full-wave power	0.001VA	R	Invalid for three-phase three-wire system
00AE-00AF	Long	C-phase relative to full-wave power	0.001VA	R	Invalid for three-phase three-wire system
00B0-00B1	Long	Total apparent power full-wave value	0.001VA	R	
00B2-00B3	Long	Full-wave A-phase power factor	0.001	R	Invalid for three-phase three-wire system
00B4-00B5	Long	B-phase full-wave power factor	0.001	R	Invalid for three-phase three-wire system
00B6-00B7	Long	Full-wave C-phase power factor	0.001	R	Invalid for three-phase

					three-wire system
00B8-00B9	Long	Total power factor full-wave value	0.001	R	
00BA-00BB	Long	Grid frequency	0.001Hz	R	

3.2.2 Base Wave

address	form	data specification	unit	R/W	remarks
00BC-00BD	Long	A-phase voltage fundamental value	0.001V	R	Invalid for three-phase three-wire system
00BE-00BF	Long	B-phase fundamental voltage	0.001V	R	Invalid for three-phase three-wire system
00C0-00C1	Long	C-phase voltage fundamental value	0.001V	R	Invalid for three-phase three-wire system
00C2-00C3	Long	Average fundamental voltage	0.001V	R	Invalid for three-phase three-wire system
00C4-00C5	Long	AB line voltage fundamental value	0.001V	R	Select one of the full wave values
00C6-00C7	Long	Base frequency value of BC line voltage	0.001V	R	Select one of the full wave values
00C8-00C9	Long	CA line voltage fundamental frequency	0.001V	R	Select one of the full wave values
00CA-00CB	Long	Line voltage fundamental average	0.001V	R	Select one of the full wave values
00CC-00CD	Long	A-phase current fundamental value	0.001A	R	
00CE-00CF	Long	B-phase current fundamental value	0.001A	R	

00D0-00D1	Long	C-phase current fundamental value	0.001A	R	
00D2-00D3	Long	Current fundamental value	0.001A	R	
00D4-00D5	Long	Average current fundamental	0.001A	R	
00D6-00D7	Long	The fundamental power value of phase A	0.001W	R	Invalid for three-phase three-wire system
00D8-00D9	Long	B-phase active power fundamental value	0.001W	R	Invalid for three-phase three-wire system
00DA-00DB	Long	C-phase active power fundamental value	0.001W	R	Invalid for three-phase three-wire system
00DC-00DD	Long	There is always a fundamental power value	0.001W	R	
00DE-00DF	Long	Fundamental value of A-phase reactive power	0.001var	R	Invalid for three-phase three-wire system
00E0-00E1	Long	B-phase active power fundamental value	0.001var	R	Invalid for three-phase three-wire system
00E2-00E3	Long	C-phase active power fundamental value	0.001var	R	Invalid for three-phase three-wire system
00E4-00E5	Long	Total reactive power fundamental value	0.001var	R	
00E6-00E7	Long	The A-phase value is based on the power fundamental	0.001VA	R	Invalid for three-phase three-wire system
00E8-00E9	Long	B-phase relative to the power	0.001VA	R	Invalid for

		fundamental			three-phase three-wire system
00EA-00EB	Long	C-phase relative to the power fundamental	0.001VA	R	Invalid for three-phase three-wire system
00EC-00ED	Long	Total apparent power fundamental value	0.001VA	R	
00EE-00EF	Long	A-phase power factor fundamental value	0.001	R	Invalid for three-phase three-wire system
00F0-00F1	Long	B-phase power factor fundamental value	0.001	R	Invalid for three-phase three-wire system
00F2-00F3	Long	C-phase power factor fundamental value	0.001	R	Invalid for three-phase three-wire system
00F4-00F5	Long	Total power factor fundamental value	0.001	R	
00F6-00F7	Reserved				
00F8-00FF	Reserved				

3.3 Electric Power

3.3.1 Full Wave

address	form	data specification	unit	R/W	remarks
0100-0101	Float	Positive full-wave active power	kWh	R	
0102-0103	Float	Reverse full-wave active power	kWh	R	
0104-0105	Float	Positive full-wave reactive power	kvarh	R	

0106-0107	Float	Reverse full-wave reactive power	kvarh	R	
0108-0109	Float	Total wave energy	kVA	R	
010A-010B	Float	Positive full-wave active power	kWh	R	
010C-010D	Float	Reverse full-wave active power	kWh	R	
010E-010F	Float	Positive full-wave reactive power	kvarh	R	
0110-0111	Float	Reverse full-wave reactive power	kvarh	R	
0112-0113	Float	Total wave energy	kVA	R	
0114-0115	Float	Full-wave active power in phase A	kWh	R	Invalid for three-phase three-wire system
0116-0117	Float	B-phase forward full-wave active power	kWh	R	Invalid for three-phase three-wire system
0118-0119	Float	C-phase forward full-wave active power	kWh	R	Invalid for three-phase three-wire system
011A-011B	Float	A reverse-phase full-wave active power	kWh	R	Invalid for three-phase three-wire system
011C-011D	Float	B Reverse direction of full-wave active power	kWh	R	Invalid for three-phase three-wire system
011E-011F	Float	C inverse to full-wave active power	kWh	R	Invalid for three-phase three-wire system
0120-0121	Float	Phase A forward full-wave reactive power	kvarh	R	Invalid for three-phase three-wire system
0122-0123	Float	B-phase forward full-wave reactive power	kvarh	R	Invalid for three-phase

					three-wire system
0124-0125	Float	C-phase forward full-wave reactive power	kvarh	R	Invalid for three-phase three-wire system
0126-0127	Float	A reverse-phase full-wave reactive power	kvarh	R	Invalid for three-phase three-wire system
0128-0129	Float	B Reverse full-wave reactive power	kvarh	R	Invalid for three-phase three-wire system
012A-012B	Float	C Reverse full-wave reactive power	kvarh	R	Invalid for three-phase three-wire system
012C-012D	Float	Full-wave reactive power in the first quadrant	kvarh	R	
012E-012F	Float	Total reactive power in the second quadrant	kvarh	R	
0130-0131	Float	Total reactive power in the third quadrant	kvarh	R	
0132-0133	Float	Total reactive power in the fourth quadrant	kvarh	R	

3.3.2 Base Wave

address	form	data specification	unit	R/W	remarks
0134-0135	Float	Active power of the fundamental positive wave	kWh	R	the truth of a matter
0136-0137	Float	Active power of the reverse fundamental wave	kWh	R	the truth of a matter
0138-0139	Float	Positive fundamental reactive power	kvarh	R	The base number 7132L version does not have this data

013A-013B	Float	Reverse fundamental reactive power	kvarh	R	The base number 7132L version does not have this data
013C-013D	Reserved				
013E-013F	Float	Active power of the fundamental positive wave	kWh	R	
0140-0141	Float	Active power of the reverse fundamental wave	kWh	R	
0142-0143	Float	Positive fundamental reactive power	kvarh	R	This data is not available for the 7132L version
0144-0145	Float	Reverse fundamental reactive power	kvarh	R	This data is not available for the 7132L version
0146-0147	Reserved				
0148-017F	Reserved				

3.4 Electric energy (64-bit integer)

3.4.1 Full Wave

address	form	data specification	unit	R/W	remarks
0180-0183	Long Long	Positive full-wave active power	Wh	R	
0184-0187	Long Long	Reverse full-wave active power	Wh	R	
0188-018B	Long Long	Positive full-wave reactive power	varh	R	
018C-018F	Long	Reverse full-wave reactive	varh	R	

	Long	power			
0190-0193	Long Long	Total wave energy	VAh	R	
0194-0197	Long Long	Positive full-wave active power	Wh	R	
0198-019B	Long Long	Reverse full-wave active power	Wh	R	
019C-019F	Long Long	Positive full-wave reactive power	varh	R	
01A0-01A3	Long Long	Reverse full-wave reactive power	varh	R	
01A4-01A7	Long Long	Total wave energy	VA	R	
01A8-01AB	Long Long	Full-wave active power in phase A	Wh	R	Invalid for three-phase three-wire system
01AC-01AF	Long Long	B-phase forward full-wave active power	Wh	R	Invalid for three-phase three-wire system
01B0-01B3	Long Long	C-phase forward full-wave active power	Wh	R	Invalid for three-phase three-wire system
01B4-01B7	Long Long	A reverse-phase full-wave active power	Wh	R	Invalid for three-phase three-wire system
01B8-01BB	Long Long	B Reverse direction of full-wave active power	Wh	R	Invalid for three-phase three-wire system
01BC-01BF	Long Long	C inverse to full-wave active power	Wh	R	Invalid for three-phase

					three-wire system
01C0-01C3	Long Long	Phase A forward full-wave reactive power	varh	R	Invalid for three-phase three-wire system
01C4-01C7	Long Long	B-phase forward full-wave reactive power	varh	R	Invalid for three-phase three-wire system
01C8-01CB	Long Long	C-phase forward full-wave reactive power	varh	R	Invalid for three-phase three-wire system
01CC-01CF	Long Long	A reverse-phase full-wave reactive power	varh	R	Invalid for three-phase three-wire system
01D0-01D3	Long Long	B Reverse full-wave reactive power	varh	R	Invalid for three-phase three-wire system
01D4-01D7	Long Long	C Reverse full-wave reactive power	varh	R	Invalid for three-phase three-wire system
01D8-01DB	Long Long	Full-wave reactive power in the first quadrant	varh	R	
01DC-01DF	Long Long	Total reactive power in the second quadrant	varh	R	
01E0-01E3	Long Long	Total reactive power in the third quadrant	varh	R	
01E4-01E7	Long Long	Total reactive power in the fourth quadrant	varh	R	

3.4.2 Base Wave

address	form	data specification	unit	R/W	remarks
01E8-01EB	Long	Active power of the	Wh	R	

	Long	fundamental positive wave			
01EC-01EF	Long Long	Active power of the reverse fundamental wave	Wh	R	
01F0-01F3	Long Long	Positive fundamental reactive power	varh	R	The base number 7132L version does not have this data
01F4-01F7	Long Long	Reverse fundamental reactive power	varh	R	The base number 7132L version does not have this data
01F8-01FB	Reserved				
01FC-01FF	Long Long	Active power of the fundamental positive wave	Wh	R	
0200-0203	Long Long	Active power of the reverse fundamental wave	Wh	R	
0204-0207	Long Long	Positive fundamental reactive power	varh	R	This data is not available for the 7132L version
0208-020B	Long Long	Reverse fundamental reactive power	varh	R	This data is not available for the 7132L version
020C-024F	Reserved				
0250-027F	Reserved				

3.5 Recurrent Electricity

3.5.1 Repeated-rate electricity (forward)

address	form	data specification	unit	R/W	remarks
0280-0281	Float	Total active power	kWh	R	
0282-0283	Float	Current active power-T1 rate	kWh	R	
0284-0285	Float	Current active power-T2 rate	kWh	R	

0286-0287	Float	Current active power-T3 rate	kWh	R	
0288-0289	Float	Current active power-T4 rate	kWh	R	
028A-028B	Float	Current active power-T5 rate	kWh	R	
028C-028D	Float	Current active power-T6 rate	kWh	R	
028E-028F	Float	Current active power-T7 rate	kWh	R	
0290-0291	Float	Current active power-T8 rate	kWh	R	
0292-0293	Float	This month, there is always active power	kWh	R	
0294-0295	Float	This month's active power-T1 rate	kWh	R	
0296-0297	Float	This month's active power-T2 rate	kWh	R	
0298-0299	Float	This month's active power-T3 rate	kWh	R	
029A-029B	Float	This month's active power-T4 rate	kWh	R	
029C-029D	Float	This month's active power-T5 rate	kWh	R	
029E-029F	Float	This month's active power-T6 rate	kWh	R	
02A0-02A1	Float	This month's active power-T7 rate	kWh	R	
02A2-02A3	Float	This month's active power-T8 rate	kWh	R	
02A4-02A5	Float	Total active power in January	kWh	R	
02A6-02A7	Float	Upstream January active power-T1 rate	kWh	R	
02A8-02A9	Float	Up 1 month active power-T2 rate	kWh	R	
02AA-02AB	Float	Up 1 month active power-T3 rate	kWh	R	
02AC-02AD	Float	Up 1 month active power-T4 rate	kWh	R	
02AE-02AF	Float	January 1st active power-T5 rate	kWh	R	
02B0-02B1	Float	January 1st active power-T6 rate	kWh	R	
02B2-02B3	Float	January 1st active power-T7 rate	kWh	R	
02B4-02B5	Float	January 1st active power-T8 rate	kWh	R	
02B6-02B7	Float	Total active power in February	kWh	R	
02B8-02B9	Float	Upstream power consumption-T1 rate	kWh	R	

02BA-02BB	Float	Upstream power consumption-T2 rate	kWh	R	
02BC-02BD	Float	Upstream power consumption-T3 rate	kWh	R	
02BE-02BF	Float	Power consumption in February-T4 rate	kWh	R	
02C0-02C1	Float	February 2023 Active Power-T5 Rate	kWh	R	
02C2-02C3	Float	February 2023 Active Power-T6 Rate	kWh	R	
02C4-02C5	Float	Up to 2 months of active power-T7 rate	kWh	R	
02C6-02C7	Float	February 2023 Active Power-T8 Rate	kWh	R	
02C8-02C9	Float	Total active power in the previous three months	kWh	R	
02CA-02CB	Float	Electricity consumption in the previous three months-T1 rate	kWh	R	
02CC-02CD	Float	Top 3 months of active power-T2 rate	kWh	R	
02CE-02CF	Float	Top 3 months of active power-T3 rate	kWh	R	
02D0-02D1	Float	Top 3 months of active power-T4 rate	kWh	R	
02D2-02D3	Float	Top 3 months of active power-T5 rate	kWh	R	
02D4-02D5	Float	Top 3 months of active power-T6 rate	kWh	R	
02D6-02D7	Float	Top 3 months of active power-T7 rate	kWh	R	

02D8-02D9	Float	Top 3 months of active power-T8 rate	kWh	R	
02DA-02DB	Float	Total active power in April	kWh	R	
02DC-02DD	Float	April 2024 Active Power-T1 Rate	kWh	R	
02DE-02DF	Float	April 2024 Active Power-T2 Rate	kWh	R	
02E0-02E1	Float	April 2024 Active Power-T3 Rate	kWh	R	
02E2-02E3	Float	April 4th active power-T4 rate	kWh	R	
02E4-02E5	Float	April 2024 Active Power-T5 Rate	kWh	R	
02E6-02E7	Float	April 2024 Active Power-T6 Rate	kWh	R	
02E8-02E9	Float	April 2024 Active Power-T7 Tariff	kWh	R	
02EA-02EB	Float	April 2024 Active Power-T8 Rate	kWh	R	
02EC-02ED	Float	Total power consumption in May	kWh	R	
02EE-02EF	Float	May 5th active power-T1 rate	kWh	R	
02F0-02F1	Float	May 5th active power-T2 rate	kWh	R	
02F2-02F3	Float	May 5th active power-T3 rate	kWh	R	
02F4-02F5	Float	May 5th active power-T4 rate	kWh	R	
02F6-02F7	Float	May 5th active power-T5 rate	kWh	R	
02F8-02F9	Float	May 5th active power-T6 rate	kWh	R	
02FA-02FB	Float	May 5th active power-T7 rate	kWh	R	
02FC-02FD	Float	May 5th Power Consumption-T8 Rate	kWh	R	
02FE-02FF	Float	Total active power in June	kWh	R	
0300-0301	Float	Power consumption in June-T1 rate	kWh	R	
0302-0303	Float	Power consumption in June-T2 rate	kWh	R	
0304-0305	Float	Power consumption in June-T3 rate	kWh	R	
0306-0307	Float	Power consumption in June-T4 rate	kWh	R	

0308-0309	Float	6 months of active power-T5 rate	kWh	R	
030A-030B	Float	Power consumption in June-T6 rate	kWh	R	
030C-030D	Float	6 months of active power-T7 rate	kWh	R	
030E-030F	Float	Power consumption in June-T8 rate	kWh	R	
0310-0311	Float	Total power output in July	kWh	R	
0312-0313	Float	July 2023 active power-T1 rate	kWh	R	
0314-0315	Float	July 2023 active power-T2 rate	kWh	R	
0316-0317	Float	July 2023 active power-T3 rate	kWh	R	
0318-0319	Float	July 2023 active power-T4 rate	kWh	R	
031A-031B	Float	July 2023 active power-T5 rate	kWh	R	
031C-031D	Float	July 2023 active power-T6 rate	kWh	R	
031E-031F	Float	July 7th active power-T7 rate	kWh	R	
0320-0321	Float	July 2023 active power-T8 rate	kWh	R	
0322-0323	Float	Total power consumption in August	kWh	R	
0324-0325	Float	8th month of the previous year with active power-T1 tariff	kWh	R	
0326-0327	Float	8th month of the previous year with active power-T2 tariff	kWh	R	
0328-0329	Float	8th month of the previous year with power consumption-T3 rate	kWh	R	
032A-032B	Float	8th month of the previous year with active power-T4 rate	kWh	R	
032C-032D	Float	8th month of the previous year with power consumption-T5 rate	kWh	R	
032E-032F	Float	The T6 rate applies to the electricity generated in August.	kWh	R	
0330-0331	Float	8th month of the previous year	kWh	R	

		with power consumption-T7 tariff			
0332-0333	Float	8th month with power consumption-T8 rate	kWh	R	
0334-0335	Float	Total power consumption in September	kWh	R	
0336-0337	Float	September 9th-Active Power-T1 Tariff	kWh	R	
0338-0339	Float	September 9th-Power Consumption T2 Rate	kWh	R	
033A-033B	Float	September 9th-Power Consumption T3 Rate	kWh	R	
033C-033D	Float	September 9th-Power Consumption T4 Rate	kWh	R	
033E-033F	Float	September 9th-Power Consumption T5 Rate	kWh	R	
0340-0341	Float	September 9th-Power Consumption T6 Rate	kWh	R	
0342-0343	Float	September 9th-Power Consumption T7 Rate	kWh	R	
0344-0345	Float	September 9th-Power Consumption T8 Rate	kWh	R	
0346-0347	Float	Total active power in October	kWh	R	
0348-0349	Float	October active power-T1 rate	kWh	R	
034A-034B	Float	October 10th active power-T2 rate	kWh	R	
034C-034D	Float	October 10th active power-T3 rate	kWh	R	
034E-034F	Float	October 10th active power-T4 rate	kWh	R	
0350-0351	Float	October 10th active power-T5 rate	kWh	R	
0352-0353	Float	The T6 rate for active power in October	kWh	R	
0354-0355	Float	The T7 rate for active power in	kWh	R	

		October			
0356-0357	Float	October 10th active power-T8 rate	kWh	R	
0358-0359	Float	Total active power in November	kWh	R	
035A-035B	Float	Up 11th month active power-T1 rate	kWh	R	
035C-035D	Float	Up 11th month with power tariff-T2 rate	kWh	R	
035E-035F	Float	Last November's active power-T3 rate	kWh	R	
0360-0361	Float	Up 11th month of active power-T4 rate	kWh	R	
0362-0363	Float	In November, the T5 rate for active power was applied.	kWh	R	
0364-0365	Float	In November, the T6 rate for active power was applied.	kWh	R	
0366-0367	Float	In November, the T7 rate for active power was applied.	kWh	R	
0368-0369	Float	In November, the T8 rate for active power was applied.	kWh	R	
036A-036B	Float	Total active power in December	kWh	R	
036C-036D	Float	Active power in December-T1 rate	kWh	R	
036E-036F	Float	December active power-T2 rate	kWh	R	
0370-0371	Float	Last December's active power-T3 rate	kWh	R	
0372-0373	Float	Last December's active power-T4 rate	kWh	R	
0374-0375	Float	December active power-T5 rate	kWh	R	
0376-0377	Float	Last December's active power-T6 rate	kWh	R	
0378-0379	Float	December active power-T7 rate	kWh	R	

037A-037B	Float	December active power-T8 rate	kWh	R	
037C-037F					

3.5.2 Repeated-rate electricity (reverse)

address	form	data specification	unit	R/W	remarks
0380-0381	Float	Total active power	kWh	R	
0382-0383	Float	Current active power-T1 rate	kWh	R	
0384-0385	Float	Current active power-T2 rate	kWh	R	
0386-0387	Float	Current active power-T3 rate	kWh	R	
0388-0389	Float	Current active power-T4 rate	kWh	R	
038A-038B	Float	Current active power-T5 rate	kWh	R	
038C-038D	Float	Current active power-T6 rate	kWh	R	
038E-038F	Float	Current active power-T7 rate	kWh	R	
0390-0391	Float	Current active power-T8 rate	kWh	R	
0392-0393	Float	This month, there is always active power	kWh	R	
0394-0395	Float	This month's active power-T1 rate	kWh	R	
0396-0397	Float	This month's active power-T2 rate	kWh	R	
0398-0399	Float	This month's active power-T3 rate	kWh	R	
039A-039B	Float	This month's active power-T4 rate	kWh	R	
039C-039D	Float	This month's active power-T5 rate	kWh	R	
039E-039F	Float	This month's active power-T6 rate	kWh	R	
03A0-03A1	Float	This month's active power-T7 rate	kWh	R	
03A2-03A3	Float	This month's active power-T8 rate	kWh	R	
03A4-03A5	Float	Total active power in January	kWh	R	
03A6-03A7	Float	Upstream January active power-T1 rate	kWh	R	
03A8-03A9	Float	Up 1 month active power-T2 rate	kWh	R	
03AA-03AB	Float	Up 1 month active power-T3 rate	kWh	R	

03AC-03AD	Float	Up 1 month active power-T4 rate	kWh	R	
03AE-03AF	Float	January 1st active power-T5 rate	kWh	R	
03B0-03B1	Float	January 1st active power-T6 rate	kWh	R	
03B2-03B3	Float	January 1st active power-T7 rate	kWh	R	
03B4-03B5	Float	January 1st active power-T8 rate	kWh	R	
03B6-03B7	Float	Total active power in February	kWh	R	
03B8-03B9	Float	Upstream power consumption-T1 rate	kWh	R	
03BA-03BB	Float	Upstream power consumption-T2 rate	kWh	R	
03BC-03BD	Float	Upstream power consumption-T3 rate	kWh	R	
03BE-03BF	Float	Power consumption in February-T4 rate	kWh	R	
03C0-03C1	Float	February 2023 Active Power-T5 Rate	kWh	R	
03C2-03C3	Float	February 2023 Active Power-T6 Rate	kWh	R	
03C4-03C5	Float	Up to 2 months of active power-T7 rate	kWh	R	
03C6-03C7	Float	February 2023 Active Power-T8 Rate	kWh	R	
03C8-03C9	Float	Total active power in the previous three months	kWh	R	
03CA-03CB	Float	Top 3 months of active power-T1 rate	kWh	R	
03CC-03CD	Float	Top 3 months of active power-T2 rate	kWh	R	
03CE-03CF	Float	Top 3 months of active power-T3 rate	kWh	R	

03D0-03D1	Float	Top 3 months of active power-T4 rate	kWh	R	
03D2-03D3	Float	Top 3 months of active power-T5 rate	kWh	R	
03D4-03D5	Float	Top 3 months of active power-T6 rate	kWh	R	
03D6-03D7	Float	Top 3 months of active power-T7 rate	kWh	R	
03D8-03D9	Float	Top 3 months of active power-T8 rate	kWh	R	
03DA-03DB	Float	Total active power in April	kWh	R	
03DC-03DD	Float	April 2024 Active Power-T1 Rate	kWh	R	
03DE-03DF	Float	April 2024 Active Power-T2 Rate	kWh	R	
03E0-03E1	Float	April 2024 Active Power-T3 Rate	kWh	R	
03E2-03E3	Float	April 4th active power-T4 rate	kWh	R	
03E4-03E5	Float	April 2024 active power-T5 rate	kWh	R	
03E6-03E7	Float	April 2024 Active Power-T6 Rate	kWh	R	
03E8-03E9	Float	April 2024 Active Power-T7 Tariff	kWh	R	
03EA-03EB	Float	April 2024 Active Power-T8 Rate	kWh	R	
03EC-03ED	Float	Total power consumption in May	kWh	R	
03EE-03EF	Float	May 5th active power-T1 rate	kWh	R	
03F0-03F1	Float	May 5th active power-T2 rate	kWh	R	
03F2-03F3	Float	May 5th active power-T3 rate	kWh	R	
03F4-03F5	Float	May 5th active power-T4 rate	kWh	R	
03F6-03F7	Float	May 5th active power-T5 rate	kWh	R	
03F8-03F9	Float	May 5th active power-T6 rate	kWh	R	
03FA-03FB	Float	May 5th active power-T7 rate	kWh	R	
03FC-03FD	Float	May 5th Power Consumption-T8 Rate	kWh	R	
03FE-03FF	Float	Total active power in June	kWh	R	

0400-0401	Float	Power consumption in June-T1 rate	kWh	R	
0402-0403	Float	Power consumption in June-T2 rate	kWh	R	
0404-0405	Float	Power consumption in June-T3 rate	kWh	R	
0406-0407	Float	Power consumption in June-T4 rate	kWh	R	
0408-0409	Float	Power consumption in June-T5 rate	kWh	R	
040A-040B	Float	Power consumption in June-T6 rate	kWh	R	
040C-040D	Float	Power consumption in June-T7 rate	kWh	R	
040E-040F	Float	Power consumption in June-T8 rate	kWh	R	
0410-0411	Float	Total power output in July	kWh	R	
0412-0413	Float	July 2023 active power-T1 rate	kWh	R	
0414-0415	Float	July 2023 active power-T2 rate	kWh	R	
0416-0417	Float	July 2023 active power-T3 rate	kWh	R	
0418-0419	Float	July 2023 active power-T4 rate	kWh	R	
041A-041B	Float	July 2023 active power-T5 rate	kWh	R	
041C-041D	Float	July 2023 active power-T6 rate	kWh	R	
041E-041F	Float	July 7th active power-T7 rate	kWh	R	
0420-0421	Float	July 2023 active power-T8 rate	kWh	R	
0422-0423	Float	Total power consumption in August	kWh	R	
0424-0425	Float	8th month of the previous year with active power-T1 tariff	kWh	R	
0426-0427	Float	8th month of the previous year	kWh	R	

		with power consumption-T2 rate			
0428-0429	Float	8th month of the previous year with power consumption-T3 rate	kWh	R	
042A-042B	Float	8th month of the previous year with active power-T4 rate	kWh	R	
042C-042D	Float	8th month of the previous year with power consumption-T5 rate	kWh	R	
042E-042F	Float	The T6 rate applies to the previous August's active power consumption	kWh	R	
0430-0431	Float	8th month of the previous year with power consumption-T7 tariff	kWh	R	
0432-0433	Float	8th month with power consumption-T8 rate	kWh	R	
0434-0435	Float	Total power consumption in September	kWh	R	
0436-0437	Float	September 9th-Active Power-T1 Tariff	kWh	R	
0438-0439	Float	September 9th-Power Consumption T2 Rate	kWh	R	
043A-043B	Float	September 9th-Power Consumption T3 Rate	kWh	R	
043C-043D	Float	September 9th-Power Consumption T4 Rate	kWh	R	
043E-043F	Float	September 9th-Power Consumption T5 Rate	kWh	R	
0440-0441	Float	September 9th-Power Consumption T6 Rate	kWh	R	
0442-0443	Float	September 9th-Power Consumption T7 Rate	kWh	R	

0444-0445	Float	September 9th Power Consumption-T8 Rate	kWh	R	
0446-0447	Float	Total active power in October	kWh	R	
0448-0449	Float	October active power-T1 rate	kWh	R	
044A-044B	Float	October 10th active power-T2 rate	kWh	R	
044C-044D	Float	October 10th active power-T3 rate	kWh	R	
044E-044F	Float	October 10th active power-T4 rate	kWh	R	
0450-0451	Float	October 10th active power-T5 rate	kWh	R	
0452-0453	Float	The T6 rate for active power in October	kWh	R	
0454-0455	Float	October's active power-T7 rate	kWh	R	
0456-0457	Float	The T8 rate for active power in October	kWh	R	
0458-0459	Float	Total active power in November	kWh	R	
045A-045B	Float	Up 11th month active power-T1 rate	kWh	R	
045C-045D	Float	Up 11th month with power tariff-T2 rate	kWh	R	
045E-045F	Float	Last November's active power-T3 rate	kWh	R	
0460-0461	Float	Up 11th month of active power-T4 rate	kWh	R	
0462-0463	Float	In November, the T5 rate for active power was applied.	kWh	R	
0464-0465	Float	In November, the T6 rate applies to active power consumption	kWh	R	
0466-0467	Float	In November, the T7 rate for active power was applied.	kWh	R	
0468-0469	Float	In November, the T8 rate for active power was applied.	kWh	R	

046A-046B	Float	Total active power in December	kWh	R	
046C-046D	Float	Last December's active power-T1 rate	kWh	R	
046E-046F	Float	December active power-T2 rate	kWh	R	
0470-0471	Float	Last December's active power-T3 rate	kWh	R	
0472-0473	Float	Last December's active power-T4 rate	kWh	R	
0474-0475	Float	December active power-T5 rate	kWh	R	
0476-0477	Float	Last December's active power-T6 rate	kWh	R	
0478-0479	Float	Last December's active power-T7 rate	kWh	R	
047A-047B	Float	Last December's active power-T8 rate	kWh	R	
047C-047F					

3.6 Repeated-rate electricity (64-bit integer)

3.6.1 Repeated-rate electricity (forward)

address	form	data specification	unit	R/W	remarks
0480-0483	Long Long	Positive total active power	Wh	R	
0484-0487	Long Long	Forward current active power-T1 rate	Wh	R	
0488-048B	Long Long	Positive active power current-T2 rate	Wh	R	
048C-048F	Long Long	Forward current active power-T3 rate	Wh	R	
0490-0493	Long Long	Positive active power current-T4 rate	Wh	R	

0494-0497	Long Long	Positive active power current-T5 rate	Wh	R	
0498-049B	Long Long	Positive active power current-T6 rate	Wh	R	
049C-049F	Long Long	Positive active power current-T7 rate	Wh	R	
04A0-04A3	Long Long	Positive current active power-T8 rate	Wh	R	
04A4-04A7	Long Long	Positive total active power for this month	Wh	R	
04A8-04AB	Long Long	Positive active power this month-T1 rate	Wh	R	
04AC-04AF	Long Long	Positive active power this month-T2 rate	Wh	R	
04B0-04B3	Long Long	Forward active power this month-T3 rate	Wh	R	
04B4-04B7	Long Long	Positive active power this month-T4 rate	Wh	R	
04B8-04BB	Long Long	Forward active power this month-T5 rate	Wh	R	
04BC-04BF	Long Long	Positive active power this month-T6 rate	Wh	R	
04C0-04C3	Long Long	Positive active power this month-T7 rate	Wh	R	
04C4-04C7	Long Long	Positive active power this month-T8 rate	Wh	R	
04C8-04CB	Long Long	Total active power in January	Wh	R	
04CC-04CF	Long Long	Positive active power in January-T1 rate	Wh	R	

04D0-04D3	Long Long	Positive active power in January-T2 rate	Wh	R	
04D4-04D7	Long Long	Positive active power in January-T3 rate	Wh	R	
04D8-04DB	Long Long	Positive active power in January-T4 rate	Wh	R	
04DC-04DF	Long Long	Positive active power in January-T5 rate	Wh	R	
04E0-04E3	Long Long	Positive active power in January-T6 rate	Wh	R	
04E4-04E7	Long Long	Positive active power in January-T7 tariff	Wh	R	
04E8-04EB	Long Long	Positive active power in January-T8 rate	Wh	R	
04EC-04EF	Long Long	Total active power in February	Wh	R	
04F0-04F3	Long Long	Positive active power in February-T1 tariff	Wh	R	
04F4-04F7	Long Long	Positive active power in February-T2 tariff	Wh	R	
04F8-04FB	Long Long	Positive active power in February-T3 tariff	Wh	R	
04FC-04FF	Long Long	Positive active power in February-T4 tariff	Wh	R	
0500-0503	Long Long	Positive 2-month active power-T5 rate	Wh	R	
0504-0507	Long Long	Positive 2-month active power-T6 rate	Wh	R	
0508-050B	Long Long	Positive 2-month active power-T7 tariff	Wh	R	

050C-050F	Long Long	Positive 2-month active power-T8 rate	Wh	R	
0510-0513	Long Long	Total active power in March	Wh	R	
0514-0517	Long Long	Positive active power in March-T1 tariff	Wh	R	
0518-051B	Long Long	Positive 3-month active power-T2 tariff	Wh	R	
051C-051F	Long Long	Positive 3-month active power-T3 rate	Wh	R	
0520-0523	Long Long	Positive 3-month active power-T4 rate	Wh	R	
0524-0527	Long Long	Positive 3-month active power-T5 rate	Wh	R	
0528-052B	Long Long	Positive 3-month active power-T6 rate	Wh	R	
052C-052F	Long Long	Positive 3-month active power-T7 tariff	Wh	R	
0530-0533	Long Long	Positive 3-month active power-T8 rate	Wh	R	
0534-0537	Long Long	Total active power in April	Wh	R	
0538-053B	Long Long	Positive active power in April-T1 tariff	Wh	R	
053C-053F	Long Long	Positive active power in April-T2 tariff	Wh	R	
0540-0543	Long Long	Positive 4th-month active power-T3 tariff	Wh	R	
0544-0547	Long Long	Positive 4th-month active power-T4 tariff	Wh	R	

0548-054B	Long Long	Positive 4th-month active power-T5 tariff	Wh	R	
054C-054F	Long Long	Positive 4th-month active power-T6 tariff	Wh	R	
0550-0553	Long Long	Positive 4th-month active power-T7 tariff	Wh	R	
0554-0557	Long Long	Positive 4th-month active power-T8 tariff	Wh	R	
0558-055B	Long Long	Positive power consumption in May	Wh	R	
055C-055F	Long Long	Positive active power in May-T1 tariff	Wh	R	
0560-0563	Long Long	Positive active power in May-T2 tariff	Wh	R	
0564-0567	Long Long	Positive active power in May-T3 tariff	Wh	R	
0568-056B	Long Long	Positive active power in May-T4 tariff	Wh	R	
056C-056F	Long Long	Positive active power in May-T5 rate	Wh	R	
0570-0573	Long Long	Positive active power in May-T6 tariff	Wh	R	
0574-0577	Long Long	Positive active power in May-T7 tariff	Wh	R	
0578-057B	Long Long	Positive active power in May-T8 tariff	Wh	R	
057C-057F	Long Long	Total active power in June	Wh	R	
0580-0583	Long Long	Positive active power in June-T1 tariff	Wh	R	

0584-0587	Long Long	Positive active power in June-T2 tariff	Wh	R	
0588-058B	Long Long	Positive active power in June-T3 tariff	Wh	R	
058C-058F	Long Long	Positive active power in June-T4 tariff	Wh	R	
0590-0593	Long Long	Positive active power in June-T5 tariff	Wh	R	
0594-0597	Long Long	Positive active power in June-T6 tariff	Wh	R	
0598-059B	Long Long	Positive active power in June-T7 tariff	Wh	R	
059C-059F	Long Long	Positive active power in June-T8 tariff	Wh	R	
05A0-05A3	Long Long	Total active power in July	Wh	R	
05A4-05A7	Long Long	Positive active power in July-T1 tariff	Wh	R	
05A8-05AB	Long Long	Positive active power in July-T2 tariff	Wh	R	
05AC-05AF	Long Long	Positive active power in July-T3 tariff	Wh	R	
05B0-05B3	Long Long	Positive active power in July-T4 tariff	Wh	R	
05B4-05B7	Long Long	Positive active power in July-T5 tariff	Wh	R	
05B8-05BB	Long Long	Positive active power in July-T6 tariff	Wh	R	
05BC-05BF	Long Long	Positive active power in July-T7 tariff	Wh	R	

05C0-05C3	Long Long	Positive active power in July-T8 tariff	Wh	R	
05C4-05C7	Long Long	Total active power in August	Wh	R	
05C8-05CB	Long Long	Positive active power in August-T1 tariff	Wh	R	
05CC-05CF	Long Long	Positive active power in August-T2 tariff	Wh	R	
05D0-05D3	Long Long	Positive active power in August-T3 tariff	Wh	R	
05D4-05D7	Long Long	Positive active power in August-T4 tariff	Wh	R	
05D8-05DB	Long Long	Positive active power in August-T5 tariff	Wh	R	
05DC-05DF	Long Long	Positive active power in August-T6 tariff	Wh	R	
05E0-05E3	Long Long	Positive active power in August-T7 tariff	Wh	R	
05E4-05E7	Long Long	Positive active power in August-T8 rate	Wh	R	
05E8-05EB	Long Long	Positive total active power in September	Wh	R	
05EC-05EF	Long Long	Positive 9-month active power-T1 tariff	Wh	R	
05F0-05F3	Long Long	Positive 9-month active power-T2 tariff	Wh	R	
05F4-05F7	Long Long	Positive 9-month active power-T3 tariff	Wh	R	
05F8-05FB	Long Long	Positive 9-month active power-T4 tariff	Wh	R	

05FC-05FF	Long Long	Positive September active power-T5 rate	Wh	R	
0600-0603	Long Long	Positive 9-month active power-T6 tariff	Wh	R	
0604-0607	Long Long	Positive 9-month active power-T7 tariff	Wh	R	
0608-060B	Long Long	Positive September active power-T8 rate	Wh	R	
060C-060F	Long Long	Total active power in October	Wh	R	
0610-0613	Long Long	Positive active power in October-T1 tariff	Wh	R	
0614-0617	Long Long	Positive active power in October-T2 tariff	Wh	R	
0618-061B	Long Long	Positive active power for October-T3 tariff	Wh	R	
061C-061F	Long Long	Positive active power in October-T4 tariff	Wh	R	
0620-0623	Long Long	Positive active power for October-T5 tariff	Wh	R	
0624-0627	Long Long	Positive active power for October-T6 tariff	Wh	R	
0628-062B	Long Long	Positive active power in October-T7 tariff	Wh	R	
062C-062F	Long Long	Positive active power in October-T8 tariff	Wh	R	
0630-0633	Long Long	Total active power in November	Wh	R	
0634-0637	Long Long	Positive active power in November-T1 tariff	Wh	R	

0638-063B	Long Long	Positive active power in November-T2 tariff	Wh	R	
063C-063F	Long Long	Positive active power in November-T3 tariff	Wh	R	
0640-0643	Long Long	Positive active power in November-T4 tariff	Wh	R	
0644-0647	Long Long	Positive active power for November-T5 tariff	Wh	R	
0648-064B	Long Long	Positive active power for November-T6 tariff	Wh	R	
064C-064F	Long Long	Positive active power in November-T7 tariff	Wh	R	
0650-0653	Long Long	Positive active power in November-T8 tariff	Wh	R	
0654-0657	Long Long	Total active power in December	Wh	R	
0658-065B	Long Long	Positive active power for December-T1 tariff	Wh	R	
065C-065F	Long Long	Positive 12-month active power-T2 tariff	Wh	R	
0660-0663	Long Long	Positive 12-month active power-T3 tariff	Wh	R	
0664-0667	Long Long	Positive 12-month active power-T4 tariff	Wh	R	
0668-066B	Long Long	Positive 12-month active power-T5 tariff	Wh	R	
066C-066F	Long Long	Positive 12-month active power-T6 tariff	Wh	R	
0670-0673	Long Long	Positive 12-month active power-T7 tariff	Wh	R	

0674-0677	Long Long	Positive 12-month active power-T8 tariff	Wh	R	
0678-067F	Reserved				

3.6.2 Repeated rate electricity (reverse)

address	form	data specification	unit	R/W	remarks
0680-0683	Long Long	Reverse the current total active power	Wh	R	
0684-0687	Long Long	Reverse current active power-T1 rate	Wh	R	
0688-068B	Long Long	Reverse current active power-T2 rate	Wh	R	
068C-068F	Long Long	Reverse current active power-T3 rate	Wh	R	
0690-0693	Long Long	Reverse current active power-T4 rate	Wh	R	
0694-0697	Long Long	Reverse current active power-T5 rate	Wh	R	
0698-069B	Long Long	Reverse current active power-T6 rate	Wh	R	
069C-069F	Long Long	Reverse current active power-T7 rate	Wh	R	
06A0-06A3	Long Long	Reverse current active power-T8 rate	Wh	R	
06A4-06A7	Long Long	Total active power of the month in reverse	Wh	R	
06A8-06AB	Long Long	Reverse this month's active power-T1 rate	Wh	R	
06AC-06AF	Long Long	Reverse this month's active power-T2 rate	Wh	R	
06B0-06B	Long	Reverse this month's active	Wh	R	

3	Long	power-T3 rate			
06B4-06B7	Long Long	Reverse this month's active power-T4 rate	Wh	R	
06B8-06BB	Long Long	Reverse this month's active power-T5 rate	Wh	R	
06BC-06BF	Long Long	Reverse this month's active power-T6 rate	Wh	R	
06C0-06C3	Long Long	Reverse this month's active power-T7 rate	Wh	R	
06C4-06C7	Long Long	Reverse this month's active power-T8 rate	Wh	R	
06C8-06CB	Long Long	On the other hand, the total active power in January	Wh	R	
06CC-06CF	Long Long	Conversely, the active power in January is charged at the T1 rate.	Wh	R	
06D0-06D3	Long Long	Conversely, the January active power consumption is charged at the T2 rate.	Wh	R	
06D4-06D7	Long Long	Conversely, the active power in January is charged at the T3 rate.	Wh	R	
06D8-06DB	Long Long	Conversely, the active power in January is charged at the T4 rate.	Wh	R	
06DC-06DF	Long Long	Conversely, the January active power consumption is charged at the T5 rate.	Wh	R	
06E0-06E3	Long Long	Conversely, the January active power consumption is	Wh	R	

		charged at the T6 rate.			
06E4-06E7	Long Long	Conversely, the January active power consumption is charged at the T7 rate.	Wh	R	
06E8-06EB	Long Long	Conversely, the January active power consumption is charged at the T8 rate.	Wh	R	
06EC-06EF	Long Long	On the contrary, the total active power in February	Wh	R	
06F0-06F3	Long Long	Conversely, the active power in February is charged at the T1 rate.	Wh	R	
06F4-06F7	Long Long	Conversely, the active power in February is charged at the T2 rate.	Wh	R	
06F8-06FB	Long Long	Conversely, the active power in February is charged at the T3 rate.	Wh	R	
06FC-06FF	Long Long	Conversely, the active power in February is charged at the T4 rate.	Wh	R	
0700-0703	Long Long	Conversely, the February active power consumption is charged at the T5 rate.	Wh	R	
0704-0707	Long Long	Conversely, the February active power consumption is charged at the T6 rate.	Wh	R	
0708-070B	Long Long	Conversely, the February active power consumption is charged at the T7 rate.	Wh	R	

070C-070F	Long Long	Conversely, the T8 rate applies to the active power in February.	Wh	R	
0710-0713	Long Long	On the contrary, the total active power in March	Wh	R	
0714-0717	Long Long	Conversely, the March active power-T1 rate	Wh	R	
0718-071B	Long Long	Conversely, the March active power-T2 rate	Wh	R	
071C-071F	Long Long	Conversely, the March active power consumption is charged at the T3 rate.	Wh	R	
0720-0723	Long Long	Conversely, the March active power-T4 rate	Wh	R	
0724-0727	Long Long	Conversely, the March active power-T5 rate	Wh	R	
0728-072B	Long Long	Conversely, the March active power-T6 rate	Wh	R	
072C-072F	Long Long	Conversely, the March active power-T7 rate	Wh	R	
0730-0733	Long Long	Conversely, the March active power-T8 rate	Wh	R	
0734-0737	Long Long	On the contrary, April always has total active power	Wh	R	
0738-073B	Long Long	Conversely, the April active power-T1 rate	Wh	R	
073C-073F	Long Long	Conversely, the April active power-T2 rate	Wh	R	
0740-0743	Long Long	Conversely, the April active power consumption is	Wh	R	

		charged at the T3 rate.			
0744-0747	Long Long	Conversely, the April active power consumption is charged at the T4 rate.	Wh	R	
0748-074B	Long Long	Conversely, the April active power consumption is charged at the T5 rate.	Wh	R	
074C-074F	Long Long	Conversely, the April active power-T6 rate	Wh	R	
0750-0753	Long Long	Conversely, the April active power-T7 rate	Wh	R	
0754-0757	Long Long	Conversely, the April active power consumption is charged at the T8 rate.	Wh	R	
0758-075B	Long Long	On the contrary, there is always active power in May	Wh	R	
075C-075F	Long Long	Conversely, the May active power-T1 rate	Wh	R	
0760-0763	Long Long	Conversely, the May active power-T2 rate	Wh	R	
0764-0767	Long Long	Conversely, the May active power-T3 rate	Wh	R	
0768-076B	Long Long	Conversely, the May active power-T4 rate	Wh	R	
076C-076F	Long Long	Conversely, the May active power consumption is charged at the T5 rate.	Wh	R	
0770-0773	Long Long	Conversely, the May active power-T6 rate	Wh	R	
0774-077	Long	Conversely, the May active	Wh	R	

7	Long	power-T7 rate			
0778-077B	Long Long	Conversely, the May active power-T8 rate	Wh	R	
077C-077F	Long Long	On the contrary, there is always active power in June	Wh	R	
0780-0783	Long Long	Conversely, the T1 rate applies to the active power in June.	Wh	R	
0784-0787	Long Long	Conversely, the T2 rate applies to the active power in June.	Wh	R	
0788-078B	Long Long	Conversely, the active power in June is charged at the T3 rate.	Wh	R	
078C-078F	Long Long	Conversely, the T4 rate applies to the active power in June.	Wh	R	
0790-0793	Long Long	Conversely, the T5 rate applies to the active power in June.	Wh	R	
0794-0797	Long Long	Conversely, the T6 rate applies to the active power in June.	Wh	R	
0798-079B	Long Long	Conversely, the T7 rate applies to the active power in June.	Wh	R	
079C-079F	Long Long	Conversely, the T8 rate applies to the active power in June.	Wh	R	
07A0-07A3	Long Long	On the contrary, there is always active power in July	Wh	R	
07A4-07A7	Long Long	Conversely, the July active power-T1 rate	Wh	R	
07A8-07AB	Long Long	Conversely, the July active power-T2 rate	Wh	R	
07AC-07AF	Long Long	Conversely, the July active power-T3 rate	Wh	R	

07B0-07B3	Long Long	Conversely, the July active power consumption is charged at the T4 rate.	Wh	R	
07B4-07B7	Long Long	Conversely, the July active power-T5 rate	Wh	R	
07B8-07BB	Long Long	Conversely, the July active power-T6 rate	Wh	R	
07BC-07BF	Long Long	Conversely, the July active power consumption is charged at the T7 rate.	Wh	R	
07C0-07C3	Long Long	Conversely, the July active power-T8 rate	Wh	R	
07C4-07C7	Long Long	On the contrary, there is always active power in August	Wh	R	
07C8-07CB	Long Long	Conversely, the T1 rate applies to the active power in August.	Wh	R	
07CC-07CF	Long Long	Conversely, the T2 rate applies to the active power in August.	Wh	R	
07D0-07D3	Long Long	Conversely, the August active power-T3 rate	Wh	R	
07D4-07D7	Long Long	Conversely, the T4 rate applies to the active power in August.	Wh	R	
07D8-07DB	Long Long	Conversely, the T5 rate applies to the active power in August.	Wh	R	
07DC-07DF	Long Long	Conversely, the T6 rate applies to the active power in August.	Wh	R	
07E0-07E3	Long Long	Conversely, the T7 rate applies to the active power in August.	Wh	R	
07E4-07E7	Long Long	Conversely, the August active power consumption is	Wh	R	

		charged at the T8 rate.			
07E8-07EB	Long Long	On the contrary, there is always active power in September	Wh	R	
07EC-07EF	Long Long	Conversely, the T1 rate applies to the active power in September.	Wh	R	
07F0-07F3	Long Long	Conversely, the September active power-T2 rate	Wh	R	
07F4-07F7	Long Long	Conversely, the September active power-T3 rate	Wh	R	
07F8-07FB	Long Long	Conversely, the September active power-T4 rate	Wh	R	
07FC-07FF	Long Long	Conversely, the September active power-T5 rate	Wh	R	
0800-0803	Long Long	Conversely, the September active power-T6 rate	Wh	R	
0804-0807	Long Long	Conversely, the September active power-T7 rate	Wh	R	
0808-080B	Long Long	Conversely, the September active power-T8 rate	Wh	R	
080C-080F	Long Long	On the contrary, there is always active power in October	Wh	R	
0810-0813	Long Long	Conversely, the active power in October is charged at the T1 rate.	Wh	R	
0814-0817	Long Long	Conversely, the active power in October is charged at the T2 rate.	Wh	R	

0818-081B	Long Long	Conversely, the active power in October is charged at the T3 rate.	Wh	R	
081C-081F	Long Long	Conversely, the active power in October is charged at the T4 rate.	Wh	R	
0820-0823	Long Long	Conversely, the October active power-T5 rate	Wh	R	
0824-0827	Long Long	Conversely, the October active power-T6 rate	Wh	R	
0828-082B	Long Long	Conversely, the T7 rate applies to the active power in October.	Wh	R	
082C-082F	Long Long	Conversely, the October active power-T8 rate	Wh	R	
0830-0833	Long Long	On the contrary, there is always active power in November	Wh	R	
0834-0837	Long Long	Conversely, the T1 rate applies to the active power in November.	Wh	R	
0838-083B	Long Long	Conversely, the T2 rate applies to the active power in November.	Wh	R	
083C-083F	Long Long	Conversely, the T3 rate applies to the active power in November.	Wh	R	
0840-0843	Long Long	Conversely, the T4 rate applies to the active power in November.	Wh	R	

0844-0847	Long Long	Conversely, the T5 rate applies to the active power in November.	Wh	R	
0848-084B	Long Long	Conversely, the November active power-T6 rate	Wh	R	
084C-084F	Long Long	Conversely, the T7 rate applies to the active power in November.	Wh	R	
0850-0853	Long Long	Conversely, the T8 rate applies to the active power in November.	Wh	R	
0854-0857	Long Long	On the other hand, there is always active power in December	Wh	R	
0858-085B	Long Long	Conversely, the T1 rate applies to the active power in December.	Wh	R	
085C-085F	Long Long	Conversely, the December active power-T2 rate	Wh	R	
0860-0863	Long Long	Conversely, the December active power-T3 rate	Wh	R	
0864-0867	Long Long	Conversely, the December active power-T4 rate	Wh	R	
0868-086B	Long Long	Conversely, the December active power-T5 rate	Wh	R	
086C-086F	Long Long	Conversely, the December active power-T6 rate	Wh	R	
0870-0873	Long Long	Conversely, the T7 rate applies to the active power in December.	Wh	R	

0874-0877	Long Long	Conversely, the December active power-T8 rate	Wh	R	
0878-087F					

3.7 state

address	form	data specification	unit	R/W	remarks
0880	char	High byte: year; low byte: month		R	
0881	char	High byte: day; low byte: hour		R	
0882	char	High byte: minutes; low byte: seconds		R	
0883	char	High byte: Week; low byte: Reserved		R	
0884-0885	Long	Instrument runtime	s	R	
0886-0887	Long	Load runtime	s	R	
0888-0889	Long	Bit00-Bit03: Main DO1-DO4		R	0: OFF 1: ON [Note 1]
088A-088B	Long	Bit00-Bit03: Main DI1-DI4		R	0：OFF 1：ON
088C-088D	Long	Pulse count: Main DI1		R	
088E-088F	Long	Pulse count: Main DI2		R	
0890-0891	Long	Pulse count: Main DI3		R	
0892-0893	Long	Pulse count: main DI4		R	

0894	Int	Bit00-Bit15: Normal limit exceedance status 001-016		R	0: Normal 1: Abnormal
0895	Int	Bit00-Bit15: Normal limit 017-032 status		R	0: Normal 1: Abnormal
0896	Int	Bit00-Bit15: Normal Out-of-Bounds Status 033-048		R	0: Normal 1: Abnormal
0897	Int	Bit00-Bit15: Normal Out-of-Bounds Status 049-064		R	0: Normal 1: Abnormal
0898	Int	Bit00-Bit15: Normal limit 065-080 status		R	0: Normal 1: Abnormal
0899	Int	Bit00-Bit15: Normal Out-of-Bounds Status 081-096		R	0: Normal 1: Abnormal
089A	Int	Bit00-Bit15: Normal Out-of-Bounds Status 097-112		R	0: Normal 1: Abnormal
089B	Int	Bit00-Bit15: Normal limit 113-128 status		R	0: Normal 1: Abnormal
089C	Int	Bit00-Bit15: Normal out-of-range status 129-144		R	0: Normal 1: Abnormal
089D	Int	Bit00-Bit15: Normal limit 145-160 status		R	0: Normal 1: Abnormal
089E	Int	Bit00-Bit15: Normal limit 161-176 status		R	0: Normal 1: Abnormal
089F	Int	Bit00-Bit15: Normal limit 177-192 status		R	0: Normal 1: Abnormal
08A0	Int	Bit00-Bit15: Normal limit 193-208 status		R	0: Normal 1: Abnormal
08A1	Int	Bit00-Bit15: Normal limit 209-224 status		R	0: Normal 1: Abnormal
08A2	Int	Bit00-Bit15: Normal limit exceedance status 225-240		R	0: Normal 1: Abnormal

08A3	Int	Bit00-Bit15: Normal limit 241-256 status		R	0: Normal 1: Abnormal
08A4-8B3	Reserved				
08B4	Int	Bit00-Bit15: Quick Out-of-Bounds Status 001-016		R	0: Normal 1: Abnormal
08B5	Reserved				
08B6	Int	SOE readable records		R	
08B7	Int	EN50160 readable records		R	
08B8	Int	Freeze the number of readable data records		R	
08B9	Int	Number of readable power quality records		R	
08BA	Int	Number of voltage sag readings		R	
08BB	Int	Number of voltage surge readings		R	
08BC	Int	Voltage interruption read count		R	
08BD	Int	Number of readable voltage change records		R	
08BE-08BF	Int	Short-time flicker read count		R	
08C0-08C1	Int	Long-term flicker read count		R	
08C0-08C1	Long	SOE number of times		R	
08C2-08C3	Long	EN50160 count		R	
08C4-08C5	Long	Number of frozen data		R	
08C6-08C	Long	Power quality count		R	

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08C8-08C9	Long	Number of voltage sags		R	
08CA-08CB	Long	Number of voltage spikes		R	
08CC-08CD	Long	Number of voltage interruptions		R	
08CE-08CF	Long	Number of voltage changes		R	
08D0-08D1	Long	Short flicker count		R	
08D2-08D3	Long	Long-term flicker frequency		R	
08D4	Reserved				
08D5	Int	Manual recording read count		R	
08D6-08D7	Int	Manual recording count		R	
08D8-08DF	Reserved				
08E0	Int	Alarm status: Bit00: Phase sequence alarm Bit01-Bit15: Reserved		R	
08E1-08FF	Reserved				

3.8 Extreme

3.8.1 Extreme Data

address	form	data specification	unit	R/W	remarks
0900-090	Floa	Maximum value in history-V1	V	R	

1	t				
0902-0903	Float	Maximum in history-V2	V	R	
0904-0905	Float	Maximum in history-V3	V	R	
0906-0907	Float	Maximum in history-V12	V	R	
0908-0909	Float	Maximum in history-V23	V	R	
090A-090B	Float	Maximum in history-V31	V	R	
090C-090D	Float	Maximum Historical Value-I1	A	R	
090E-090F	Float	Maximum in history-I2	A	R	
0910-0911	Float	Maximum in history-I3	A	R	
0912-0913	Float	Maximum Historical Value-In (Three-phase Four-wire)	A	R	
0914-0915	Float	Maximum in history-P	kW	R	
0916-0917	Float	Maximum in history-Q	kvar	R	
0918-0919	Float	Maximum in history-S	kVA	R	
091A-091B	Float	Maximum Historical Value-PF		R	
091C-091D	Float	Maximum in history-F	Hz	R	
091E-091	Floa	Minimum historical value-V1	V	R	

F	t				
0920-0921	Float	Historical Minimum-V2	V	R	
0922-0923	Float	Historical Minimum-V3	V	R	
0924-0925	Float	Historical Minimum-V12	V	R	
0926-0927	Float	Historical Minimum-V23	V	R	
0928-0929	Float	Historical Minimum-V31	V	R	
092A-092B	Float	Historical Minimum-I1	A	R	
092C-092D	Float	Historical Minimum-I2	A	R	
092E-092F	Float	Historical Minimum-I3	A	R	
0930-0931	Float	Minimum historical value-In (three-phase four-wire)	A	R	
0932-0933	Float	Minimum historical value-P	kW	R	
0934-0935	Float	Minimum historical value-Q	kvar	R	
0936-0937	Float	Minimum historical value-S	kVA	R	
0938-0939	Float	Historical Minimum-PF		R	
093A-093B	Float	Minimum Historical Value-F	Hz	R	
093C-097	Float	Historical maximum 1-34		R	Defined by the set

F		(optional)			value
0980-0981	Float	This month's maximum-V1	V	R	
0982-0983	Float	This month's maximum-V2	V	R	
0984-0985	Float	This month's maximum-V3	V	R	
0986-0987	Float	This month's maximum-V12	V	R	
0988-0989	Float	This month's maximum-V23	V	R	
098A-098B	Float	This month's maximum-V31	V	R	
098C-098D	Float	This month's maximum-I1	A	R	
098E-098F	Float	This month's maximum-I2	A	R	
0990-0991	Float	This month's maximum-I3	A	R	
0992-0993	Float	Maximum this month-In (three-phase four-wire)	A	R	
0994-0995	Float	Maximum of this month-P	kW	R	
0996-0997	Float	Maximum of this month-Q	kvar	R	
0998-0999	Float	Maximum of this month-S	kVA	R	
099A-099B	Float	Maximum this month-PF		R	
099C-099	Floa	Maximum for this month-F	Hz	R	

D	t				
099E-099F	Float	Minimum value this month-V1	V	R	
09A0-09A1	Float	Minimum value this month-V2	V	R	
09A2-09A3	Float	Minimum value this month-V3	V	R	
09A4-09A5	Float	Minimum value this month-V12	V	R	
09A6-09A7	Float	Minimum value this month-V23	V	R	
09A8-09A9	Float	Minimum value this month-V31	V	R	
09AA-09AB	Float	Minimum value for this month-I1	A	R	
09AC-09AD	Float	Minimum this month-I2	A	R	
09AE-09AF	Float	Minimum this month-I3	A	R	
09B0-09B1	Float	Minimum value this month-In (three-phase four-wire)	A	R	
09B2-09B3	Float	Minimum value for this month-P	kW	R	
09B4-09B5	Float	Minimum value for this month-Q	kvar	R	
09B6-09B7	Float	Minimum this month-S	kVA	R	
09B8-09B9	Float	Minimum value this month-PF		R	
09BA-09B	Floa	Minimum for this month-F	Hz	R	

B	t				
09BC-09F F	Float	This month's extreme value 1-34 (optional)		R	Defined by the set value
0A00-0A0 1	Floa t	Last month's maximum-V1	V	R	
0A02-0A0 3	Floa t	Last month's maximum-V2	V	R	
0A04-0A0 5	Floa t	Last month's maximum-V3	V	R	
0A06-0A0 7	Floa t	Last month's maximum-V12	V	R	
0A08-0A0 9	Floa t	Last month's maximum-V23	V	R	
0A0A-0A0 B	Floa t	Last month's maximum-V31	V	R	
0A0C-0A0 D	Floa t	Last month's maximum-I1	A	R	
0A0E-0A0 F	Floa t	Last month's maximum-I2	A	R	
0A10-0A1 1	Floa t	Last month's maximum-I3	A	R	
0A12-0A1 3	Floa t	Last month's maximum value-In (three-phase four-wire)	A	R	
0A14-0A1 5	Floa t	Last month's maximum-P	kW	R	
0A16-0A1 7	Floa t	Last month's maximum-Q	kvar	R	
0A18-0A1 9	Floa t	Last month's maximum-S	kVA	R	
0A1A-0A1	Floa	Last month's maximum-PF		R	

B	t				
0A1C-0A1D	Float	Last month's maximum-F	Hz	R	
0A1E-0A1F	Float	Last month's minimum-V1	V	R	
0A20-0A21	Float	Last month's minimum-V2	V	R	
0A22-0A23	Float	Last month's minimum-V3	V	R	
0A24-0A25	Float	Last month's minimum-V12	V	R	
0A26-0A27	Float	Last month's minimum-V23	V	R	
0A28-0A29	Float	Last month's minimum-V31	V	R	
0A2A-0A2B	Float	Last month's minimum-I1	A	R	
0A2C-0A2D	Float	Last month's minimum-I2	A	R	
0A2E-0A2F	Float	Last month's minimum-I3	A	R	
0A30-0A31	Float	Last month's minimum value-In (three-phase four-wire)	A	R	
0A32-0A33	Float	Last month's minimum-P	kW	R	
0A34-0A35	Float	Last month's minimum-Q	kvar	R	
0A36-0A37	Float	Last month's minimum-S	kVA	R	
0A38-0A3	Floa	Last month's minimum-PF		R	

9	t				
0A3A-0A3B	Float	Last month's minimum-F	Hz	R	
0A3C-0A7F	Float	Last month's extreme value 1-34 (optional)		R	Defined by the set value
0A80-0A81	Float	Last month's maximum-V1	V	R	
0A82-0A83	Float	Last month's maximum-V2	V	R	
0A84-0A85	Float	Last month's maximum-V3	V	R	
0A86-0A87	Float	Last month's maximum-V12	V	R	
0A88-0A89	Float	Last month's maximum-V23	V	R	
0A8A-0A8B	Float	Last month's maximum-V31	V	R	
0A8C-0A8D	Float	Last month's maximum value-I1	A	R	
0A8E-0A8F	Float	Last month's maximum-I2	A	R	
0A90-0A91	Float	Last month's maximum-I3	A	R	
0A92-0A93	Float	Last month's maximum value-In (three-phase four-wire)	A	R	
0A94-0A95	Float	Last Month Maximum-P	kW	R	
0A96-0A97	Float	Last month's maximum value-Q	kvar	R	
0A98-0A9	Floa	Last Month Maximum-S	kVA	R	

9	t				
0A9A-0A9B	Float	Last Month Maximum-PF		R	
0A9C-0A9D	Float	Last Month Maximum-F	Hz	R	
0A9E-0A9F	Float	Last month's minimum-V1	V	R	
0AA0-0AA1	Float	Last month's minimum-V2	V	R	
0AA2-0AA3	Float	Last month's minimum-V3	V	R	
0AA4-0AA5	Float	Last month's minimum-V12	V	R	
0AA6-0AA7	Float	Last month's minimum-V23	V	R	
0AA8-0AA9	Float	Last month's minimum-V31	V	R	
0AAA-0AAB	Float	Last month's minimum-I1	A	R	
0AAC-0AAD	Float	Last month's minimum-I2	A	R	
0AAE-0AAF	Float	Last month's minimum-I3	A	R	
0AB0-0AB1	Float	Last month's minimum value-In (three-phase four-wire)	A	R	
0AB2-0AB3	Float	Last Month's Minimum-P	kW	R	
0AB4-0AB5	Float	Last month's minimum-Q	kvar	R	
0AB6-0AB	Floa	Last Month's Minimum-S	kVA	R	

7	t				
0AB8-0AB9	Float	Last Month's Minimum-PF		R	
0ABA-0ABB	Float	Last Month's Minimum-F	Hz	R	
0ABC-0AFF	Float	The extreme value of the previous month is 1-34 (optional)		R	Defined by the set value
0B00-0B3F	Reserved				

3.8.2 Extreme Time

address	form	data specification	unit	R/W	remarks
0B40	Int	Maximum value in history-V1 Time: High byte: Year Low byte: Month		R	
0B41	Int	Maximum value in history-V1 Time: High byte: day Low byte: hour		R	
0B42	Int	Maximum value in history-V1 Time: high byte: minutes, low byte: seconds		R	
0B43	Int	Maximum value in history-V1 High byte: 8-bit high millisecond Low byte: milliseconds (8-bit)		R	
0B44-0B47	Int	Maximum in history-V2		R	
0B48-0B4B	Int	Maximum in history-V3		R	
0B4C-0B4F	Int	Maximum in history-V12		R	
0B50-0B53	Int	Maximum in history-V23		R	
0B54-0B57	Int	Maximum in history-V31		R	

0B58-0B5B	Int	Maximum in history-I1		R	
0B5C-0B5F	Int	Maximum in history-I2		R	
0B60-0B63	Int	Maximum in history-I3		R	
0B64-0B67	Int	Maximum Historical Value-In (Three-phase Four-wire)		R	
0B68-0B6B	Int	Maximum in history-P		R	
0B6C-0B6F	Int	Maximum in history-Q		R	
0B70-0B73	Int	Maximum in history-S		R	
0B74-0B77	Int	Maximum Historical Value-PF		R	
0B78-0B7B	Int	Maximum in history-F		R	
0B7C-0B7F	Int	Minimum historical value-V1		R	
0B80-0B83	Int	Historical Minimum-V2		R	
0B84-0B87	Int	Historical Minimum-V3		R	
0B88-0B8B	Int	Historical Minimum-V12		R	
0B8C-0B8F	Int	Historical Minimum-V23		R	
0B90-0B93	Int	Historical Minimum-V31		R	
0B94-0B97	Int	Historical Minimum-I1		R	
0B98-0B9B	Int	Historical Minimum-I2		R	
0B9C-0B9F	Int	Historical Minimum-I3		R	
0BA0-0BA3	Int	Minimum historical value-In (three-phase four-wire)		R	
0BA4-0BA7	Int	Minimum historical value-P		R	
0BA8-0BAB	Int	Minimum historical value-Q		R	
0BAC-0BAF	Int	Minimum historical value-S		R	
0BB0-0BB3	Int	Historical Minimum-PF		R	
0BB4-0BB7	Int	Minimum Historical Value-F		R	
0BB8-0C3F	Int	Historical maximum 1-34 hours (optional)		R	Defined by the set value
0C40-0C43	Int	This month's maximum-V1		R	

0C44-0C47	Int	This month's maximum-V2		R	
0C48-0C4B	Int	This month's maximum-V3		R	
0C4C-0C4F	Int	This month's maximum-V12		R	
0C50-0C53	Int	This month's maximum-V23		R	
0C54-0C57	Int	This month's maximum-V31		R	
0C58-0C5B	Int	Maximum this month-I1		R	
0C5C-0C5F	Int	This month's maximum-I2		R	
0C60-0C63	Int	This month's maximum-I3		R	
0C64-0C67	Int	Maximum this month-In (three-phase four-wire)		R	
0C68-0C6B	Int	Maximum of this month-P		R	
0C6C-0C6F	Int	Maximum of this month-Q		R	
0C70-0C73	Int	Maximum of this month-S		R	
0C74-0C77	Int	Maximum this month-PF		R	
0C78-0C7B	Int	Maximum for this month-F		R	
0C7C-0C7F	Int	Minimum value this month-V1		R	
0C80-0C83	Int	Minimum value this month-V2		R	
0C84-0C87	Int	Minimum value for this month-V3		R	
0C88-0C8B	Int	Minimum value this month-V12		R	
0C8C-0C8F	Int	Minimum value this month-V23		R	
0C90-0C93	Int	Minimum value this month-V31		R	
0C94-0C97	Int	Minimum value for this month-I1		R	
0C98-0C9B	Int	Minimum this month-I2		R	
0C9C-0C9F	Int	Minimum this month-I3		R	
0CA0-0CA3	Int	Minimum value this month-In (three-phase four-wire)		R	
0CA4-0CA7	Int	Minimum value for this month-P		R	
0CA8-0CAB	Int	Minimum value for this		R	

		month-Q			
0CAC-0CAF	Int	Minimum this month-S		R	
0CB0-0CB3	Int	Minimum value this month-PF		R	
0CB4-0CB7	Int	Minimum for this month-F		R	
0CB8-0D3F	Int	Maximum value for 1-34 hours (optional)		R	Defined by the set value
0D40-0D43	Int	Last month's maximum-V1		R	
0D44-0D47	Int	Last month's maximum-V2		R	
0D48-0D4B	Int	Last month's maximum-V3		R	
0D4C-0D4F	Int	Last month's maximum-V12		R	
0D50-0D53	Int	Last month's maximum-V23		R	
0D54-0D57	Int	Last month's maximum-V31		R	
0D58-0D5B	Int	Last month's maximum-I1		R	
0D5C-0D5F	Int	Last month's maximum-I2		R	
0D60-0D63	Int	Last month's maximum-I3		R	
0D64-0D67	Int	Last month's maximum value-In (three-phase four-wire)		R	
0D68-0D6B	Int	Last month's maximum-P		R	
0D6C-0D6F	Int	Last month's maximum-Q		R	
0D70-0D73	Int	Last month's maximum-S		R	
0D74-0D77	Int	Last Month's Maximum-PF		R	
0D78-0D7B	Int	Last month's maximum-F		R	
0D7C-0D7F	Int	Last month's minimum-V1		R	
0D80-0D83	Int	Last month's minimum-V2		R	
0D84-0D87	Int	Last month's minimum-V3		R	
0D88-0D8B	Int	Last month's minimum-V12		R	
0D8C-0D8F	Int	Last month's minimum-V23		R	
0D90-0D93	Int	Last month's minimum-V31		R	
0D94-0D97	Int	Last month's minimum-I1		R	

0D98-0D9B	Int	Last month's minimum-I2		R	
0D9C-0D9F	Int	Last month's minimum-I3		R	
0DA0-0DA3	Int	Last month's minimum value-In (three-phase four-wire)		R	
0DA4-0DA7	Int	Last month's minimum-P		R	
0DA8-0DAB	Int	Last month's minimum-Q		R	
0DAC-0DAF	Int	Last month's minimum-S		R	
0DB0-0DB3	Int	Last month's minimum-PF		R	
0DB4-0DB7	Int	Last month's minimum-F		R	
0DB8-0E3F	Int	Last month's extreme value 1-34 (optional)		R	Defined by the set value
0E40-0E43	Int	Last month's maximum-V1		R	
0E44-0E47	Int	Last month's maximum-V2		R	
0E48-0E4B	Int	Last month's maximum-V3		R	
0E4C-0E4F	Int	Last month's maximum-V12		R	
0E50-0E53	Int	Last month's maximum-V23		R	
0E54-0E57	Int	Last month's maximum-V31		R	
0E58-0E5B	Int	Last month's maximum value-I1		R	
0E5C-0E5F	Int	Last month's maximum-I2		R	
0E60-0E63	Int	Last month's maximum-I3		R	
0E64-0E67	Int	Last month's maximum value-In (three-phase four-wire)		R	
0E68-0E6B	Int	Last Month Maximum-P		R	
0E6C-0E6F	Int	Last month's maximum value-Q		R	
0E70-0E73	Int	Last Month Maximum-S		R	
0E74-0E77	Int	Last Month Maximum-PF		R	
0E78-0E7B	Int	Last Month Maximum-F		R	
0E7C-0E7F	Int	Last month's minimum-V1		R	
0E80-0E83	Int	Last month's minimum-V2		R	

0E84-0E87	Int	Last month's minimum-V3		R	
0E88-0E8B	Int	Last month's minimum-V12		R	
0E8C-0E8F	Int	Last month's minimum-V23		R	
0E90-0E93	Int	Last month's minimum-V31		R	
0E94-0E97	Int	Last month's minimum-I1		R	
0E98-0E9B	Int	Last month's minimum-I2		R	
0E9C-0E9F	Int	Last month's minimum-I3		R	
0EA0-0EA3	Int	Last month's minimum value-In (three-phase four-wire)		R	
0EA4-0EA7	Int	Last Month's Minimum-P		R	
0EA8-0EAB	Int	Last month's minimum-Q		R	
0EAC-0EAF	Int	Last Month's Minimum-S		R	
0EB0-0EB3	Int	Last Month's Minimum-PF		R	
0EB4-0EB7	Int	Last Month's Minimum-F		R	
0EB8-0F3F	Int	The extreme value for the previous month (1-34 days) (optional)		R	Defined by the set value

3.9 Demand

3.9.1 Demand data

address	form	data specification	unit	R/W	remarks
0F40-0F41	Float	Current Demand-I1	A	R	
0F42-0F43	Float	Current Demand-I2	A	R	
0F44-0F45	Float	Current Demand-I3	A	R	
0F46-0F47	Float	Current Demand-P	kW	R	
0F48-0F49	Float	Current Demand-Q	kvar	R	
0F4A-0F4B	Float	Current Demand-S	kVA	R	
0F4C-0F5F	Float	Current demand 1-10 (optional)		R	Defined by the set value
0F60-0F61	Float	Previous period demand-I1	A	R	
0F62-0F63	Float	Previous cycle demand-I2	A	R	

0F64-0F65	Float	Previous cycle demand-I3	A	R	
0F66-0F67	Float	Previous Cycle Demand-P	kW	R	
0F68-0F69	Float	Previous cycle demand-Q	kvar	R	
0F6A-0F6B	Float	Previous cycle demand-S	kVA	R	
0F6C-0F7F	Float	Previous cycle demand 1-10 (optional)		R	Defined by the set value
0F80-0F81	Float	Forecast Demand-I1	A	R	
0F82-0F83	Float	Demand Forecast-I2	A	R	
0F84-0F85	Float	Demand Forecast-I3	A	R	
0F86-0F87	Float	Forecasting Demand-P	kW	R	
0F88-0F89	Float	Forecasting Demand-Q	kvar	R	
0F8A-0F8B	Float	Forecasting Demand-S	kVA	R	
0F8C-0F9F	Float	Forecast demand 1-10 (optional)		R	Defined by the set value
0FA0-0FA1	Float	Maximum Demand-I1	A	R	
0FA2-0FA3	Float	Maximum Demand-I2	A	R	
0FA4-0FA5	Float	Maximum Demand-I3	A	R	
0FA6-0FA7	Float	maximum demand -P	kW	R	
0FA8-0FA9	Float	maximum demand -Q	kvar	R	
0FAA-0FAB	Float	maximum demand -S	kVA	R	
0FAC-0FBF	Float	Maximum demand 1-10 (optional)		R	Defined by the set value
0FC0-0FC1	Float	Maximum Demand for This Month-I1	A	R	
0FC2-0FC3	Float	Maximum demand this month-I2	A	R	
0FC4-0FC5	Float	Maximum demand this month-I3	A	R	
0FC6-0FC7	Float	Maximum Demand for this Month-P	kW	R	

0FC8-0FC9	Float	Maximum Demand for this month-Q	kvar	R	
0FCA-0FCB	Float	Maximum Demand for this month-S	kVA	R	
0FCC-0FDF	Float	Maximum demand for this month (January to October) (optional)		R	Defined by the set value
0FE0-0FE1	Float	Last month's peak demand-I1	A	R	
0FE2-0FE3	Float	Last month's peak demand-I2	A	R	
0FE4-0FE5	Float	Last month's peak demand-I3	A	R	
0FE6-0FE7	Float	Maximum Demand Last Month-P	kW	R	
0FE8-0FE9	Float	Last Month's Maximum Demand-Q	kvar	R	
0FEA-0FEB	Float	Maximum Demand Last Month-S	kVA	R	
0FEC-0FFF	Float	Maximum demand for the month 1-10 (optional)		R	Defined by the set value
1000-1001	Float	Last Month's Maximum Demand-I1	A	R	
1002-1003	Float	Last Month's Maximum Demand-I2	A	R	
1004-1005	Float	Last Month's Maximum Demand-I3	A	R	
1006-1007	Float	Last Month's Maximum Demand-P	kW	R	
1008-1009	Float	Last Month's Maximum Demand-Q	kvar	R	
100A-100B	Float	Last Month's Maximum Demand-S	kVA	R	

100C-101F	Float	Maximum demand for the previous month 1-10 (optional)		R	Defined by the set value

3.9.2 Demand Time

address	form	data specification	unit	R/W	remarks
1020	Int	Maximum Demand-I1 Time High byte: Year, low byte: Month		R	
1021	Int	Maximum Demand-I1 Time High byte: day, low byte: hour		R	
1022	Int	Maximum Demand-I1 Time High byte: minutes, low byte: seconds		R	
1023	Int	Maximum Demand-I1 Time High byte: 8-bit high millisecond Low byte: milliseconds (8-bit)		R	
1024-1027	Int	Maximum Demand-I2 Time		R	
1028-102B	Int	Maximum Demand-I3 Time		R	
102C-102F	Int	Maximum Demand-P Time		R	
1030-1033	Int	Maximum Demand-Q Time		R	
1034-1037	Int	Maximum Demand-S Time		R	
1038-105F	Int	Maximum demand period 1-10		R	Defined by the set value
1060-1063	Int	Maximum demand for this month-I1 time		R	
1064-1067	Int	Maximum demand for this month-I2 time		R	
1068-106B	Int	Maximum demand for this month-I3 time		R	
106C-106F	Int	Maximum demand this month-P		R	

		time			
1070-1073	Int	Maximum demand this month-Q time		R	
1074-1077	Int	Maximum demand this month-S time		R	
1078-109F	Int	Maximum demand for this month from January to October		R	Defined by the set value
10A0-10A3	Int	Maximum demand last month-I1 time		R	
10A4-10A7	Int	Maximum demand last month-I2 time		R	
10A8-10AB	Int	Maximum demand last month-I3 time		R	
10AC-10AF	Int	Maximum demand last month-P time		R	
10B0-10B3	Int	Maximum demand-Q time last month		R	
10B4-10B7	Int	Maximum demand last month-S time		R	
10B8-10DF	Int	Maximum demand period from January to October last month		R	Defined by the set value
10E0-10E3	Int	Last month's peak demand-I1 time		R	
10E4-10E7	Int	Last month's peak demand-I2 time		R	
10E8-10EB	Int	Last month's peak demand-I3 time		R	
10EC-10EF	Int	Last month's peak demand-P time		R	
10F0-10F3	Int	Last month's peak demand-Q		R	

		time			
10F4-10F7	Int	Last month's maximum demand-S time		R	
10F8-111F	Int	Maximum demand period from January to October		R	Defined by the set value

3.10 Extension Module

3.10.1 Basic Status

address	form	data specification	unit	R/W	remarks
1120	Int	Module 1 Status		R	0: Module 1: No module
1121	Int	Module 1 Communication Status		R	0: Abnormal 1: Normal
1122	Int	Extension Module 1 Type		R	FMxx
1123	Int	Extension Module 1 Version Number		R	
1124	Int	Extension Module 1 Communication Address		R	
1125	Int	Module 1 Status		R	Bit15:0 module connection failed, 1 module connection succeeded
1126	Int	Module 2 Status		R	to Extension Module 1
1127	Int	Extension Module 2 Communication Status		R	
1128	Int	Extension Module 2 Type		R	
1129	Int	Extension Module 2 version number		R	

112A	Int	Extension Module 2 Communication Address		R	
112B	Int	Module 2 Status		R	
112C	Int	Module 3 Status		R	to Extension Module 1
112D	Int	Module 3 Communication Status		R	
112E	Int	Extension Module Type 3		R	
112F	Int	Extension Module 3 Version Number		R	
1130	Int	Extension Module 3 Communication Address		R	
1131	Int	Module 3 Status		R	
1132	Int	Module 4 Status		R	to Extension Module 1
1133	Int	Module 4 Communication Status		R	
1134	Int	Extension Module 4 Type		R	
1135	Int	Extension Module 4 Version Number		R	
1136	Int	Extension Module 4 Communication Address		R	
1137	Int	Module 4 Status		R	

3.10.2 Extension Module (FM2)

address	form	data specification	unit	R/W	remarks
113C	Int	Bit00-Bit03: Module X1 DI1-DI4		R	0：OFF 1：ON
113D	Int	Bit00-Bit03: Module X2 DI1-DI4		R	0：OFF 1：ON
113E	Int	Bit00-Bit03: Module X3 DI1-DI4		R	0：OFF 1：ON
113F	Int	Bit00-Bit03: Module X4 DI1-DI4		R	0：OFF 1：ON
1140-1141	Long	Pulse Count: Module X1 DI1		R	
1142-1143	Long	Pulse Count: Module X1 DI2		R	
1144-1145	Long	Pulse Count: Module X1 DI3		R	

1146-1147	Long	Pulse Count: Module X1 DI4		R	
1148-1149	Long	Pulse Count: Module X2 DI1		R	
114A-114B	Long	Pulse Count: Module X2 DI2		R	
114C-114D	Long	Pulse Count: Module X2 DI3		R	
114E-114F	Long	Pulse Count: Module X2 DI4		R	
1150-1151	Long	Pulse Count: Module X3 DI1		R	
1152-1153	Long	Pulse Count: Module X3 DI2		R	
1154-1155	Long	Pulse Count: Module X3 DI3		R	
1156-1157	Long	Pulse Count: Module X3 DI4		R	
1158-1159	Long	Pulse Count: Module X4 DI1		R	
115A-115B	Long	Pulse Count: Module X4 DI2		R	
115C-115D	Long	Pulse Count: Module X4 DI3		R	
115E-115F	Long	Pulse Count: Module X4 DI4		R	
1160-127F	Reserved				

3.10.3 Extension Module (FM3)

address	form	data specification	unit	R/W	remarks
1138	Int	Bit00-Bit01: Module X1, DO1-DO2		R	0：OFF 1：ON
1139	Int	Bit00-Bit01: Module X2 DO1-DO2		R	0：OFF 1：ON
113A	Int	Bit00-Bit01: Module X3 DO1-DO2		R	0：OFF 1：ON
113B	Int	Bit00-Bit01: Module X4, DO1-DO2		R	0：OFF 1：ON

3.11 Power Quality

3.11.1 Basic Data

address	form	data specification	unit	R/W	remarks
1280-1281	Long	A trust voltage	0.001V	R	Frequency 1
1282-1283	Long	B trust voltage	0.001V	R	Frequency 1
1284-1285	Long	C trust voltage	0.001V	R	Frequency 1
1286-1287	Long	A trust voltage	0.001V	R	Frequency 2
1288-1289	Long	B trust voltage	0.001V	R	Frequency 2

128A-128B	Long	C trust voltage	0.001V	R	Frequency 2
128C-128D	Long	A trust voltage	0.001V	R	Frequency 3
128E-128F	Long	B trust voltage	0.001V	R	Frequency 3
1290-1291	Long	C trust voltage	0.001V	R	Frequency 3
1292-1293	Long	Phase A current K factor	0.001	R	
1294-1295	Long	B-phase current K factor	0.001	R	
1296-1297	Long	C-phase current K factor	0.001	R	
1298	Int	Phase A voltage phase angle	0.1°	R	Set to 0
1299	Int	B-phase voltage phase angle	0.1°	R	
129A	Int	Phase angle of phase C voltage	0.1°	R	
129B	Int	Phase A current phase angle	0.1°	R	
129C	Int	B-phase current phase angle	0.1°	R	
129D	Int	Phase angle of phase C current	0.1°	R	
129E	Int	Phase A voltage peak factor	0.001	R	
129F	Int	B-phase voltage peak factor	0.001	R	
12A0	Int	C-phase voltage crest factor	0.001	R	
12A1	Int	Phase A current peak factor	0.001	R	
12A2	Int	B-phase current peak factor	0.001	R	
12A3	Int	C-phase current crest factor	0.001	R	
12A4	Int	Transformer capacity reduction factor	0.001	R	
12A5	Int	Phase A current percentage	0.1%	R	
12A6	Int	B-phase current percentage	0.1%	R	
12A7	Int	Phase C current percentage	0.1%	R	
12A8	Int	Load percentage	0.1%	R	
12A9	Int	Voltage pass rate	0.1%	R	
12AA	Int	Frequency pass rate	0.1%	R	
12AB-12FF	Reserved				

3.11.2 bias in statistics

address	form	data specification	unit	R/W	remarks
1300-1301	Float	A-phase voltage deviation	%	R	
1302-1303	Float	A-phase voltage deviation	%	R	
1304-1305	Float	A-phase voltage deviation	%	R	
1306-1307	Float	AB line voltage deviation	%	R	
1308-1309	Float	BC line voltage deviation	%	R	
130A-130B	Float	CA line voltage deviation	%	R	
130C-130D	Float	Frequency deviation-F	Hz	R	
130E-137F	Reserved				

3.11.3 Imbalance

address	form	data specification	unit	R/W	remarks
1380-1397	Reserved				
1398-1399	Float	Positive voltage component	V	R	
139A-139B	Float	Negative voltage sequence component	V	R	
139C-139D	Float	Voltage zero-sequence component	V	R	
139E-139F	Float	Positive sequence current component	A	R	
13A0-13A1	Float	Negative current component	A	R	
13A2-13A3	Float	Current zero-sequence component	A	R	
13A4-13A5	Long	Negative voltage sequence imbalance	0.001%	R	
13A6-13A7	Long	Voltage zero-sequence imbalance	0.001%	R	
13A8-13A9	Long	Negative current imbalance	0.001%	R	
13AA-13AB	Long	Current zero-sequence imbalance	0.001%	R	

13AC-13FF	Reserved				

3.11.4 Harmonics

address	form	data specification	unit	R/W	remarks
1400-147F	Long	A-phase voltage 1st to 51st harmonic distortion content	0.001%	R	For three-phase three-wire systems, the line voltage value is [Note 1]
1480-14FF	Long	B-phase voltage 1st to 51st harmonic distortion content	0.001%	R	ditto
1500-157F	Long	C-phase voltage 1st to 51st harmonic distortion content	0.001%	R	ditto
1580-1581	Long	Total harmonic distortion rate of phase A voltage	0.001%	R	ditto
1582-1583	Long	B-phase voltage total harmonic distortion rate	0.001%	R	ditto
1584-1585	Long	Total harmonic distortion rate of phase C voltage	0.001%	R	ditto
1586-1587	Long	Total even-order harmonic distortion rate of phase A voltage	0.001%	R	ditto
1588-1589	Long	B-phase voltage total even harmonic distortion rate	0.001%	R	ditto
158A-158B	Long	C-phase voltage total even harmonic distortion rate	0.001%	R	ditto
158C-158D	Long	Total odd-order harmonic distortion rate of phase A voltage	0.001%	R	ditto
158E-158F	Long	B-phase voltage total odd harmonic distortion rate	0.001%	R	ditto
1590-1591	Long	Total odd harmonic distortion rate of phase C voltage	0.001%	R	ditto

1592-1593	Float	A-phase voltage harmonic content	V	R	ditto
1594-1595	Float	B-phase voltage harmonic content	V	R	ditto
1596-1597	Float	C-phase voltage harmonic content	V	R	ditto
1598-1617	Float	Phase A voltage 1-51st harmonic voltage	V	R	ditto
1618-1697	Float	B-phase voltage 1-51st harmonic voltage	V	R	ditto
1698-1717	Float	C-phase voltage 1-51st harmonic voltage	V	R	ditto
1718-1797	Long	A-phase current 1st to 51st harmonic distortion content	0.001%	R	
1798-1817	Long	B-phase current 1st to 51st harmonic distortion content	0.001%	R	
1818-1897	Long	C-phase current 1st to 51st harmonic content	0.001%	R	
1898-1899	Long	Total harmonic distortion rate of phase A current	0.001%	R	
189A-189B	Long	B-phase current total harmonic distortion rate	0.001%	R	
189C-189D	Long	Total harmonic distortion rate of phase C current	0.001%	R	
189E-189F	Long	Total even-order harmonic distortion rate of phase A current	0.001%	R	
18A0-18A1	Long	B-phase current total even harmonic distortion rate	0.001%	R	
18A2-18A3	Long	Total even-order harmonic distortion rate of phase C current	0.001%	R	
18A4-18A5	Long	Total odd-order harmonic	0.001%	R	

		distortion rate of phase A current			
18A6-18A7	Long	B-phase current total odd harmonic distortion rate	0.001%	R	
18A8-18A9	Long	Total odd-order harmonic distortion rate of phase C current	0.001%	R	
18AA-18AB	Float	A-phase current harmonic content	A	R	
18AC-18AD	Float	B-phase current harmonic content	A	R	
18AE-18AF	Float	C-phase current harmonic content	A	R	
18B0-192F	Float	Phase A current 1st to 51st harmonic currents	A	R	
1930-19AF	Float	B-phase current 1st to 51st harmonic currents	A	R	
19B0-1A2F	Float	C-phase current 1st to 51st harmonic currents	A	R	
1A30-1AAF	Long	Phase angle of the 1st to 51st harmonics in phase A	0.1	R	
1AB0-1B2F	Long	B-phase 1-51st harmonic phase angle	0.1	R	
1B30-1BAF	Long	Phase angle of C-phase 1-51st harmonics	0.1	R	
1BB0-1EAF	Reserved				
1EB0-1F2F	Long	Active power of A-phase 1st to 51st harmonics	0.001W	R	
1F30-1FAF	Long	Active power of B-phase 1-51st harmonics	0.001W	R	
1FB0-202F	Long	Active power of C-phase 1st to 51st harmonics	0.001W	R	
2030-20AF	Long	A-phase 1-51st harmonic reactive power	0.001var	R	

20B0-212F	Long	B-phase 1-51st harmonic reactive power	0.001var	R	
2130-21AF	Long	C-phase 1st to 51st harmonic reactive power	0.001var	R	
21B0-222F	Long	A-phase 1-51st harmonic apparent power	0.001VA	R	
2230-22AF	Long	B-phase 1-51st harmonic apparent power	0.001VA	R	
22B0-232F	Long	C-phase 1st to 51st harmonic apparent power	0.001VA	R	
2330-2347	Reserved				
2348-2349	Long	Active power of A-phase harmonics	0.001W	R	
234A-234B	Long	B-phase active power harmonic	0.001W	R	
234C-234D	Long	C-phase active power	0.001W	R	
234E-234F	Long	Total harmonic active power	0.001W	R	
2350-2351	Long	Reactive power of A-phase harmonics	0.001var	R	
2352-2353	Long	B-phase harmonic reactive power	0.001var	R	
2354-2355	Long	C-phase harmonic reactive power	0.001var	R	
2356-2357	Long	Total harmonic reactive power	0.001var	R	
2358-2359	Long	A-phase harmonic apparent power	0.001VA	R	
235A-235B	Long	B-phase harmonic apparent power	0.001VA	R	
235C-235D	Long	C-phase harmonic apparent power	0.001VA	R	
235E-235F	Long	Total harmonic apparent power	0.001VA	R	
2360-27FF					

Note 1: The three-phase four-wire and three-phase three-wire use the same register

3.11.5 Interharmonics

address	form	data specification	unit	R/W	remarks
2800-287F	Long	A-phase voltage 1-50th harmonic distortion content	0.001%	R	For three-phase three-wire systems, the line voltage value is [Note 1]
2880-28FF	Long	B-phase voltage 1-50th harmonic distortion content	0.001%	R	ditto
2900-297F	Long	C-phase voltage 1-50th harmonic distortion content	0.001%	R	ditto
2980-2981	Long	Total harmonic distortion rate of phase A voltage	0.001%	R	ditto
2982-2983	Long	B-phase voltage total harmonic distortion rate	0.001%	R	ditto
2984-2985	Long	Total harmonic distortion rate of phase C voltage	0.001%	R	ditto
2986-2987	Long	Total even-order harmonic distortion rate of phase A voltage	0.001%	R	ditto
2988-2989	Long	B-phase voltage total even-order harmonic distortion rate	0.001%	R	ditto
298A-298B	Long	Total even-order harmonic distortion rate of phase C voltage	0.001%	R	ditto
298C-298D	Long	Total odd-order harmonic distortion rate of phase A voltage	0.001%	R	ditto
298E-298F	Long	B-phase voltage total odd-order harmonic distortion rate	0.001%	R	ditto
2990-2991	Long	Total odd-order harmonic distortion rate of phase C voltage	0.001%	R	ditto
2992-2993	Float	Harmonic content between	V	R	ditto

		A-phase voltages			
2994-2995	Float	B-phase voltage harmonic content	V	R	ditto
2996-2997	Float	C-phase voltage harmonic content	V	R	ditto
2998-29FB	Float	Phase A voltage with 1st to 50th harmonic components	V	R	ditto
2A18-2A97	Float	B-phase voltage 1-50th harmonic voltage	V	R	ditto
2A98-2B17	Float	C-phase voltage 1-50th harmonic voltage	V	R	ditto
2B18-2B97	Long	Harmonic content ratio of phase A current (1st to 50th order)	0.001%	R	
2B98-2C17	Long	B-phase current 1-50th harmonic distortion content	0.001%	R	
2C18-2C97	Long	C-phase current 1-50th harmonic content	0.001%	R	
2C98-2C99	Long	Total harmonic distortion rate of phase A current	0.001%	R	
2C9A-2C9B	Long	Total harmonic distortion rate of B-phase current	0.001%	R	
2C9C-2C9D	Long	Total harmonic distortion rate of phase C current	0.001%	R	
2C9E-2C9F	Long	Total even-order harmonic distortion rate of phase A current	0.001%	R	
2CA0-2CA1	Long	B-phase current total even-order harmonic distortion rate	0.001%	R	
2CA2-2CA3	Long	Total even-order harmonic distortion rate of phase C current	0.001%	R	
2CA4-2CA5	Long	Total odd-order harmonic distortion rate of phase A current	0.001%	R	
2CA6-2CA7	Long	B-phase current total odd-order	0.001%	R	

		harmonic distortion rate			
2CA8-2CA9	Long	Total odd-order harmonic distortion rate of phase C current	0.001%	R	
2CAA-2CAB	Float	Harmonic content of A-phase current	A	R	
2CAC-2CAD	Float	B-phase current harmonic content	A	R	
2CAE-2CAF	Float	C-phase current harmonic content	A	R	
2CB0-2D2F	Float	Phase A current contains 1st to 50th harmonic currents	A	R	
2D30-2DAF	Float	B-phase current 1-50th harmonic current	A	R	
2DB0-2E2F	Float	C-phase current 1-50th harmonic current	A	R	
2E30-317F	Reserved				

Note 1: The three-phase four-wire and three-phase three-wire use the same register

3.11.6 Flicker

address	form	data specification	unit	R/W	remarks
3180-3181	Long	A-phase voltage flicker severity	0.0001	R	For three-phase three-wire systems, the line voltage value is [Note 1]
3182-3183	Long	B-phase voltage flicker severity	0.0001	R	ditto
3184-3185	Long	C-phase voltage flicker severity	0.0001	R	ditto
3186-3187	Long	Short Flash Time Stamp-Year Month Day		R	Format: 0x00YYMMDD
3188-3189	Long	Short Flash Time Stamp-Hour, Minute, Second		R	Format: 0x00HHMMSS
318A-318B	Long	A-phase voltage flicker severity	0.0001	R	ditto
318C-318D	Long	B-phase voltage flicker severity	0.0001	R	ditto

318E-318F	Long	C-phase voltage flicker severity	0.0001	R	ditto
3190-3191	Long	Long-term flicker timestamp-Year Month Day		R	Format: 0x00YYMMDD
3192-3193	Long	Long Flash Time Stamp-Hour, Minute, Second		R	Format: 0x00HHMMSS
3194-3195	Long	A-phase voltage variation frequency		R	ditto
3196-3197	Long	B-phase voltage variation frequency		R	ditto
3198-3199	Long	C-phase voltage variation frequency		R	ditto
319A-319B	Long	A-phase voltage fluctuation amplitude	0.001V	R	ditto
319C-319D	Long	B-phase voltage variation amplitude	0.001V	R	ditto
319E-319F	Long	C-phase voltage variation amplitude	0.001V	R	ditto
31A0-31FF	Reserved				

Note 1: The three-phase four-wire and three-phase three-wire use the same register

3.11.7 Temporary increase

address	form	data specification	unit	R/W	remarks
3200-3201	Long	The current A-phase Swell begins on [date]		R	Format: 0x00YYMMHH
3202-3203	Long	The current A-phase Swell starts at the specified time		R	Format: 0x00HHMMSS
3204-3205	Long	A-phase Swell now starts in milliseconds		R	Format: 0x00000sss
3206-3207	Long	Maximum half-wave RMS value of A-phase surge	0.001V	R	

3208-3209	Long	Current A-phase Swell count in half-wave cycles		R	
320A-320B	Long	Current A-phase Swell end date		R	Format: 0x00YYMMHH
320C-320D	Long	Current A-phase Swell end time		R	Format: 0x00HHMMSS
320E-320F	Long	Current A-phase Swell ends in milliseconds		R	Format: 0x00000sss
3210-3211	Long	B-phase Swell start date		R	Format: 0x00YYMMHH
3212-3213	Long	Current B-phase Swell start time		R	Format: 0x00HHMMSS
3214-3215	Long	B-phase Swell begins in milliseconds		R	Format: 0x00000sss
3216-3217	Long	Maximum half-wave RMS value of B-phase Swell	0.001V	R	
3218-3219	Long	Current B-phase Swell count per half-cycle		R	
321A-321B	Long	Current B-phase Swell end date		R	Format: 0x00YYMMHH
321C-321D	Long	Current B-phase Swell end time (minute and second)		R	Format: 0x00HHMMSS
321E-321F	Long	B-phase Swell duration in milliseconds		R	Format: 0x00000sss
3220-3221	Long	The current C-phase Swell begins on [date]		R	Format: 0x00YYMMHH
3222-3223	Long	Current C-phase Swell start time		R	Format: 0x00HHMMSS
3224-3225	Long	C-phase Swell begins in milliseconds		R	Format: 0x00000sss

3226-3227	Long	Maximum half-wave RMS value of C-phase Swell	0.001V	R	
3228-3229	Long	Current C-phase Swell count per half-cycle		R	
322A-322B	Long	Current C-phase Swell end date		R	Format: 0x00YYMMHH
322C-322D	Long	Current C-phase Swell end time (minute and second)		R	Format: 0x00HHMMSS
322E-322F	Long	C-phase Swell duration in milliseconds		R	Format: 0x00000sss
3230-32FF	Reserved				

3.11.8 Temporary decline

address	form	data specification	unit	R/W	remarks
3300-3301	Long	Current A-phase Dip start date		R	Format: 0x00YYMMHH
3302-3303	Long	Current A-phase Dip start time		R	Format: 0x00HHMMSS
3304-3305	Long	The A-phase Dip has started.		R	Format: 0x00000sss
3306-3307	Long	Minimum RMS value of A-phase dip in current	0.001V	R	
3308-3309	Long	Number of A-phase Dip cycles in the current half-wave		R	
330A-330B	Long	Current A-phase Dip end date		R	Format: 0x00YYMMHH
330C-330D	Long	Current A-phase Dip end time		R	Format: 0x00HHMMSS
330E-330F	Long	Current A-phase Dip duration (in milliseconds)		R	Format: 0x00000sss
3310-3311	Long	Current B-phase Dip start date		R	Format:

					0x00YYMMHH
3312-3313	Long	Current B-phase Dip start time (minute and second)		R	Format: 0x00HHMMSS
3314-3315	Long	B-phase Dip starts in milliseconds		R	Format: 0x00000sss
3316-3317	Long	Minimum half-wave RMS value of B-phase dip	0.001V	R	
3318-3319	Long	Number of B-phase Dip pulses in half a cycle		R	
331A-331B	Long	Current B-phase Dip end date		R	Format: 0x00YYMMHH
331C-331D	Long	Current B-phase Dip end time (minute:second)		R	Format: 0x00HHMMSS
331E-331F	Long	Current B-phase Dip duration (in milliseconds)		R	Format: 0x00000sss
3320-3321	Long	Current C-phase Dip start date		R	Format: 0x00YYMMHH
3322-3323	Long	Current C-phase Dip start time (minute and second)		R	Format: 0x00HHMMSS
3324-3325	Long	The C-phase Dip has started.		R	Format: 0x00000sss
3326-3327	Long	Minimum half-wave RMS value of C-phase dip	0.001V	R	
3328-3329	Long	Number of C-phase DIP half-wave cycles		R	
332A-332B	Long	Current C-phase Dip end date		R	Format: 0x00YYMMHH
332C-332D	Long	Current C-phase Dip end time (minute and second)		R	Format: 0x00HHMMSS
332E-332F	Long	Current C-phase Dip duration (in milliseconds)		R	Format: 0x00000sss
3330-3395	Rese				

	rved				
3396	Int	Temporary downlink source positioning		R	0: Downstream direction 1: Upstream direction
3397-33FF	Rese rved				

3.11.9 Interruption

address	form	data specification	unit	R/W	remarks
3400-3401	Long	Current A-phase Int start date		R	Format: 0x00YYMMHH
3402-3403	Long	Current A-phase Int start time (minute and second)		R	Format: 0x00HHMMSS
3404-3405	Long	The A-phase Int starts at millisecond		R	Format: 0x00000sss
3406-3407	Long	The minimum half-wave RMS value of phase A	0.001V	R	
3408-3409	Long	Number of A-phase Ints in half a cycle		R	
340A-340B	Long	Current A-phase Int end date		R	Format: 0x00YYMMHH
340C-340D	Long	Current A-phase Int end time (minute and second)		R	Format: 0x00HHMMSS
340E-340F	Long	Current A-phase Int ended at millisecond		R	Format: 0x00000sss
3410-3411	Long	Current B-phase Int start date		R	Format: 0x00YYMMHH
3412-3413	Long	Current B-phase Int start time (minute and second)		R	Format: 0x00HHMMSS
3414-3415	Long	Current B-phase Int starts at millisecond		R	Format: 0x00000sss

3416-3417	Long	The minimum half-wave RMS value of phase B	0.001V	R	
3418-3419	Long	Number of B-phase Int cycles per half-cycle		R	
341A-341B	Long	Current B-phase Int end date		R	Format: 0x00YYMMHH
341C-341D	Long	Current B-phase Int end time (minute:second)		R	Format: 0x00HHMMSS
341E-341F	Long	Current B-phase Int ended milliseconds		R	Format: 0x00000sss
3420-3421	Long	Current C-phase Int start date		R	Format: 0x00YYMMHH
3422-3423	Long	Current phase C start time (minute and second)		R	Format: 0x00HHMMSS
3424-3425	Long	Current C-phase Int starts at millisecond		R	Format: 0x00000sss
3426-3427	Long	The minimum half-wave RMS value of the current C-phase Int	0.001V	R	
3428-3429	Long	Number of half-wave cycles of the current C-phase Int		R	
342A-342B	Long	Current C-phase Int end date		R	Format: 0x00YYMMHH
342C-342D	Long	Current C-phase Int end time (minute and second)		R	Format: 0x00HHMMSS
342E-342F	Long	Current C-phase Int ended at millisecond		R	Format: 0x00000sss
3430-34FF	Reserved				

3.11.9 Rapid voltage change

address	form	data specification	unit	R/W	remarks

3500-3501	Long	Phase A RVC Start Date		R	Format: 0x00YYMMHH
3502-3503	Long	A-phase RVC start time		R	Format: 0x00HHMMSS
3504-3505	Long	Phase A RVC starts in milliseconds		R	Format: 0x00000sss
3506-3507	Long	Phase A RVC completion date		R	Format: 0x00YYMMHH
3508-3509	Long	Phase A RVC ends in seconds		R	Format: 0x00HHMMSS
350A-350B	Long	Phase A RVC completion time (in milliseconds)		R	Format: 0x00000sss
350C-350D	Long	Phase A RVC duration (in milliseconds)		R	Format: 0xssssssss
350E-350F	Long	The maximum difference between phase A and Umax during the event compared to the pre-event value	0.001V	R	
3510-3511	Long	Phase A △Uss event duration and pre-event difference	0.001V	R	
3512-3513	Long	B-phase RVC start date		R	Format: 0x00YYMMHH
3514-3515	Long	B-phase RVC start time		R	Format: 0x00HHMMSS
3516-3517	Long	B-phase RVC starts in milliseconds		R	Format: 0x00000sss
3518-3519	Long	B-phase RVC completion date		R	Format: 0x00YYMMHH
351A-351B	Long	B-phase RVC completion time		R	Format: 0x00HHMMSS
351C-351D	Long	B-phase RVC completion time (in milliseconds)		R	Format: 0x00000sss

351E-351F	Long	B-phase RVC duration (in milliseconds)		R	Format: 0xssssssss
3520-3521	Long	The maximum difference between B-phase ΔUmax events and their pre-event values	0.001V	R	
3522-3523	Long	B-phase △Uss event termination versus pre-event values	0.001V	R	
3524-3525	Long	C-phase RVC start date		R	Format: 0x00YYMMHH
3526-3527	Long	C-phase RVC start time		R	Format: 0x00HHMMSS
3528-3529	Long	Phase C RVC starts in milliseconds		R	Format: 0x00000sss
352A-352B	Long	C-phase RVC completion date		R	Format: 0x00YYMMHH
352C-352D	Long	C-phase RVC completion time		R	Format: 0x00HHMMSS
352E-352F	Long	Phase C RVC completion time (in milliseconds)		R	Format: 0x00000sss
3530-3531	Long	C-phase RVC duration (in milliseconds)		R	Format: 0xssssssss
3532-3533	Long	The maximum difference between the event and its pre-event state in phase C	0.001V	R	
3534-3535	Long	C-phase Uss event duration versus pre-event duration	0.001V	R	
3536-35FF	Reserved				

3.11.10 Waveform data (updated per second)

address	form	data specification	unit	R/W	remarks
3600-3DFF	Long	V1 real-time waveform data	0.001V	R	A real-time waveform

					data for one cycle (secondary side value)
3E00-45FF	Long	V2 real-time waveform data	0.001V	R	ditto
4600-4DFF	Long	V3 real-time waveform data	0.001V	R	ditto
4E00-55FF	Long	I1 real-time waveform data	0.0001A	R	ditto
5600-5DFF	Long	I2 real-time waveform data	0.0001A	R	ditto
5E00-65FF	Long	I3 real-time waveform data	0.0001A	R	ditto

3.12 Custom Data Section

address	form	data specification	unit	R/W	remarks
6D00	Int	Custom Data 1		R	Determined by data type
6D01	Int	Custom Data 2		R	Determined by data type
6D02	Int	Custom Data 3		R	Determined by data type
6D03	Int	Custom Data 4		R	Determined by data type
6D04	Int	Custom Data 5		R	Determined by data type
6D05	Int	Custom Data 6		R	Determined by data type
6D06	Int	Custom Data 7		R	Determined by data type
6D07	Int	Custom Data 8		R	Determined by data type
6D08	Int	Custom Data 9		R	Determined by data type
6D09	Int	Custom Data 10		R	Determined by data

					type
6D0A	Int	Custom Data 11		R	Determined by data type
6D0B	Int	Custom Data 12		R	Determined by data type
6D0C	Int	Custom Data 13		R	Determined by data type
6D0D	Int	Custom Data 14		R	Determined by data type
6D0E	Int	Custom Data 15		R	Determined by data type
6D0F	Int	Custom Data 16		R	Determined by data type
6D10	Int	Custom Data 17		R	Determined by data type
6D11	Int	Custom Data 18		R	Determined by data type
6D12	Int	Custom Data 19		R	Determined by data type
6D13	Int	Custom Data 20		R	Determined by data type
6D14	Int	Custom Data 21		R	Determined by data type
6D15	Int	Custom Data 22		R	Determined by data type
6D16	Int	Custom Data 23		R	Determined by data type
6D17	Int	Custom Data 24		R	Determined by data type
6D18	Int	Custom Data 25		R	Determined by data

					type
6D19	Int	Custom Data 26		R	Determined by data type
6D1A	Int	Custom Data 27		R	Determined by data type
6D1B	Int	Custom Data 28		R	Determined by data type
6D1C	Int	Custom Data 29		R	Determined by data type
6D1D	Int	Custom Data 30		R	Determined by data type
6D1E	Int	Custom Data 31		R	Determined by data type
6D1F	Int	Custom Data 32		R	Determined by data type
6D20	Int	Custom Data 33		R	Determined by data type
6D21	Int	Custom Data 34		R	Determined by data type
6D22	Int	Custom Data 35		R	Determined by data type
6D23	Int	Custom Data 36		R	Determined by data type
6D24	Int	Custom Data 37		R	Determined by data type
6D25	Int	Custom Data 38		R	Determined by data type
6D26	Int	Custom Data 39		R	Determined by data type
6D27	Int	Custom Data 40		R	Determined by data

					type
6D28	Int	Custom Data 41		R	Determined by data type
6D29	Int	Custom Data 42		R	Determined by data type
6D2A	Int	Custom Data 43		R	Determined by data type
6D2B	Int	Custom Data 44		R	Determined by data type
6D2C	Int	Custom Data 45		R	Determined by data type
6D2D	Int	Custom Data 46		R	Determined by data type
6D2E	Int	Custom Data 47		R	Determined by data type
6D2F	Int	Custom Data 48		R	Determined by data type
6D30	Int	Custom Data 49		R	Determined by data type
6D31	Int	Custom Data 50		R	Determined by data type
6D32	Int	Custom Data 51		R	Determined by data type
6D33	Int	Custom Data 52		R	Determined by data type
6D34	Int	Custom Data 53		R	Determined by data type
6D35	Int	Custom Data 54		R	Determined by data type
6D36	Int	Custom Data 55		R	Determined by data

					type
6D37	Int	Custom Data 56		R	Determined by data type
6D38	Int	Custom Data 57		R	Determined by data type
6D39	Int	Custom Data 58		R	Determined by data type
6D3A	Int	Custom Data 59		R	Determined by data type
6D3B	Int	Custom Data 60		R	Determined by data type
6D3C-6D FF	Rese rved				

3.14 Settings

3.14.1 Basic Settings

address	form	Data content	data specification	Windows default	R/W
6E00	Int	#1 Instrument Address	1 ~ 247	1	R/W
6E01	Int	#1 baud rate	0: 2400bps 4: 38400bps 1: 4800bps 5: 57600bps 2: 9600bps 6: 115200bps 3: 19200bps	3	R/W
6E02	Int	#1 Check format	0: N,8,1 1: E,8,1 2: O,8,1	0	R/W

			3：N,8,2		
6E03	Int	Reserved			
6E04	Int	High byte: wiring method	0：3P4W 1：3P3W	0	R/W
		Low byte: grid frequency	0：50Hz 1：60Hz	0	R/W
6E05	Int	Secondary voltage rating	1～600V	220	R/W
6E06	Int	Secondary current rating	1～6A	5	R/W
6E07	Int	Rated N-phase current for secondary side	1～6A	5	R/W
6E08-6E09	Long	Primary side voltage rating	1～999999V	220	R/W
6E0A-6E0B	Long	Primary side current rating	1～999999A	5	R/W
6E0C-6E0D	Long	Rated N-phase current per side	1～999999A	5	R/W
6E0E-6E17	Int	Project 1-10 required quantity	See Appendix A		R/W
6E18-6E1D	Reserved				
6E1E	Int	On-demand mode	0: Sliding Block 1: Fixed Block	0	R/W
6E1F	Int	Required sliding time (t)	1～60min	1	R/W
6E20	Int	Demand calculation period (T)	1～30t	15	R/W
6E21-6E42	Int	Extreme 1-34 items	See Appendix A		R/W

6E43-6E60	Reserved				
6E61-6E82	Int	Extreme 1-34 type	0: maximum value 1: minimum value		R/W
6E83-6EA0	Reserved				
6EA1	Int	Extreme interval time	0: Historical maximum !0: Interval extremum 1：1min 2：5min 3：15min 4：30min 5：60min 6：1440min	3	R/W
6EA2-6EA3	Reserved				
6EA4	Int	Main DO1 working mode	0: Close 1: Alert 2: Remote	0	R/W
6EA5	Int	Main DO1 pulse width	Pulse width: 0.100～999.9s Level method: 000.0s	0	R/W
6EA6-6EAB	Reserved				
6EAC-6EB3	Float/Int	Main DO2 Settings	Set with the same DO1		R/W
6EB4-6EBB	Float/Int	Main DO3 Settings	Set [Note 1] for the same DO1		R/W
6EBC-6EC3	Float/Int	Main DO4 Settings	Set [Note 1] for the same DO1 entity		R/W
6EC4	Int	Enable manual filter	0: Disabled 1: Enabled	0	W
6EC5	Int	Manual filter length	10 to 3000 cycles	10	R/W
6EC6-6ECF	Rese				

	rved				
6ED0	Int	Weekly dot count	32、64、128、256	256	R
6ED1	Int	Enable alarm: Bit00: Phase sequence alarm Bit01-Bit15: Reserved	0: Disabled 1: Enabled	0	R/W
6ED2-6ED3	Float	Voltage qualification upper limit	One power grid data 1 to 999999V	242	R/W
6ED4-6ED5	Float	Voltage lower limit	One power grid data 1 to 999999V	198	R/W
6ED6-6ED7	Float	Frequency Qualification Upper Limit	45～65Hz	65	R/W
6ED8-6ED9	Float	Frequency Lower Limit	45～65Hz	45	R/W
6EDA	Int	Reverse current setting	0: Forward 1: Reverse [Note 2]	0	R/W
6EDB	Int	Power factor convention	0：IEEE-C 1：IEC-C 2：IEC-P	1	R/W
6EDC	Int	Time setting	0: Communication time synchronization 1: B-code time synchronization 2: Page time 3: NTP time synchronization	0	R/W
6EDD	Int	time zone	0-32	26	R/W
			0: International Day Line GMT-12:00 / 1: Samoa GMT-11:00		
			2: Hawaii / 3: Alaska		

			GMT-10:00	GMT-09:00		
			4: Pacific GMT-08:00	5: Mountain Time GMT-07:00		
			6: Mexico GMT-06:00	7: Eastern Time GMT-05:00		
			8: Canada GMT-04:00	9:00 Newfoundland GMT-03:30		
			10: Eastern South America GMT-03:00	11: Central Atlantic GMT-02:00		
			12: Azores GMT-01:00	13: Standard time GMT-00:00		
			14:00 GMT+01:00 Rome	15: Egypt GMT+02:00		
			16: Russia GMT+03:00	17: Iran GMT+03:30		
			18:00: Arab GMT+04:00	19:00: Afghanistan GMT+04:30		
			20:00: Eastern Time (GMT+05:00)	21: Indian GMT+05:30		
			22: Nepal GMT+05:45	23: Central Asia		

				GMT+06:00		
			24: Myanmar GMT+06:30	25: Bangkok GMT+07:00		
			26 : Beijing GMT+08:00	27: Tokyo GMT+09:00		
			28: Central Standard Time GMT+09:30	29: Western Pacific GMT+10:00		
			30: Central Pacific GMT+11:00	31: New Zealand GMT+12:00		
			32: Tonga GMT+13:00			
6EDE	Int	#1 Switching Input Type	0: Status check 1: Pulse count		0	R/W
6EDF	Int	#1 Switching noise suppression time	10-1000 ms		10	R/W
6EE0	Int	#2 Switching Input Type	0: Status check 1: Pulse count		0	R/W
6EE1	Int	#2 Switching noise suppression time	10-1000 ms		10	R/W
6EE2	Int	#3 Switching Input Type	0: Status check 1: Pulse count		0	R/W
6EE3	Int	#3 Switching Noise Reduction Time	10-1000 ms		10	R/W
6EE4	Int	#4 Switching Input Type	0: Status check 1: Pulse count		0	R/W
6EE5	Int	#4 Switching Noise Reduction Time	10-1000 ms		10	R/W

6EE6-6EFF	Reserved				

Note 1: The current direction is uniformly set for all three phases without distinguishing between phases A, B, and C.

3.14.2 Power Quality Settings

address	form	Data content	data specification	Windows default	R/W
6F00	Int	Enable power quality events Bit00: Temporarily down Bit01: Temporarily increase Bit02: Interrupt######## Bit03: Voltage change Bit04: Short flicker Bit05: Long-term flicker Bit15: Temporary drop source judgment	0: Disabled 1: Enabled	0	R/W
6F01	Reserved				
6F02-6F03	Long	PFOUT	0-3: Invalid 4: indicates the forward full-wave active power 5: indicates the reverse full-wave active power 6-17: Invalid	4	R/W
6F04-6F05	Reserved				
6F06-6F07	Long	USwell threshold	xxx% (Un percentage) limit 100%~180%	110	R/W

6F08-6F09	Long	UDip threshold	xxx% (Un percentage) limit 000%~100%	90	R/W
6F0A-6F0B	Long	UInt threshold	xxx% (Un percentage) limit 000%~100%	10	R/W
6F0C-6F0D	Long	USwell slow-moving	xxx% (Un percentage) limit 000%~010%	2	R/W
6F0E-6F0F	Long	UDip slow-moving	xxx% (Un percentage) limit 000%~010%	2	R/W
6F10-6F11	Long	UInt slow-moving	xxx% (Un percentage) limit 000%~010%	2	R/W
6F12-6F15	Reserved				
6F16-6F17	Long	RVC threshold	xxx% (Un percentage) limit 001%~006%	3	R/W
6F18-6F19	Long	RVC slow-moving	xxx% (Un percentage) limit 001%~003% [Note 1]	1	R/W
6F1A-6F1B	Long	Signal Frequency 1	500-25750(0.1Hz)	500	R/W
6F1C-6F1D	Long	Signal voltage frequency 2	500-25750(0.1Hz)	500	R/W
6F1E-6F1F	Long	Signal voltage frequency 3	500-25750(0.1Hz)	500	R/W
6F20-6F21	Long	Signal voltage threshold	xxx% (Un percentage) ranges from 0.3% to 100% (0.1%)	50	R/W
6F22-6F23	Long	EN50160 report number	20000101-20991231	20000101	R/W
6F24-6F7F	Reserved				

Note 1: The RVC hysteresis value does not exceed 50% of the threshold.

3.14.3 Compound Rate Settings

3.14.3.1 Reimbursement Rate Settings (Current Package)

address	form	data specification	unit	R/W	remarks
6F80	Int	Current rate plan selected		R	
6F81	Int	Current meter reading date		R	
6F82	Int	Current-First schedule #1 start time		R	
6F83	Int	Current-First schedule #2 start time		R	
6F84	Int	Current-First schedule #3 start time		R	
6F85	Int	Current-First schedule #4 start time		R	
6F86	Int	Current-First schedule #5 start time		R	
6F87	Int	Current-First schedule #6 start time		R	
6F88	Int	Current-First schedule #7 start time		R	
6F89	Int	Current-First schedule #8 start time		R	
6F8A	Int	Current-First schedule #9 start time		R	
6F8B	Int	Current-First schedule #10 start time		R	
6F8C	Int	Current-First schedule #11 start time		R	
6F8D	Int	Current-First schedule #12 start time		R	
6F8E	Int	Current-First schedule #13 start		R	

		time			
6F8F	Int	Current-First schedule #14 start time		R	
6F90	Int	Current-First Schedule #1 #2 Schedule Rate		R	
6F91	Int	Current-First Schedule #3 #4 Rate		R	
6F92	Int	Current-First Schedule #5 #6 Rate		R	
6F93	Int	Current-First Schedule #7 #8 Rate		R	
6F94	Int	Current-First Schedule #9 #10 Schedule Rates		R	
6F95	Int	Current-First Schedule #11 #12 Rate		R	
6F96	Int	Current-First Schedule #13 #14 rates		R	
6F97	Int	Current-Second Schedule #1 Start Time		R	
6F98	Int	Current-Second Schedule #2 Start Time		R	
6F99	Int	Current-Second Schedule #3 Start Time		R	
6F9A	Int	Current-Second schedule #4 start time		R	
6F9B	Int	Current-Second schedule #5 start time		R	
6F9C	Int	Current-Second schedule #6 start time		R	
6F9D	Int	Current-Second schedule #7 start time		R	
6F9E	Int	Current-Second schedule #8 start time		R	

6F9F	Int	Current-Second schedule #9 start time		R	
6FA0	Int	Current-Second schedule #10 start time		R	
6FA1	Int	Current-Second schedule #11 start time		R	
6FA2	Int	Current-Second schedule #12 start time		R	
6FA3	Int	Current-Second schedule #13 start time		R	
6FA4	Int	Current-Second schedule #14 start time		R	
6FA5	Int	Current-Second Schedule #1 #2 Schedule Rates		R	
6FA6	Int	Current-Second Schedule #3 #4 Rate		R	
6FA7	Int	Current-Second Schedule #5 #6 Rate		R	
6FA8	Int	Current-Second Schedule #7 #8 Rate		R	
6FA9	Int	Current-Second Schedule #9 #10 rates		R	
6FAA	Int	Current-Second Schedule #11 #12 Rate		R	
6FAB	Int	Current-Second Schedule #13 #14 rates		R	
6FAC	Int	Current-Start time of the third schedule #1		R	
6FAD	Int	Current-Start time of the third schedule #2		R	

6FAE	Int	Current-Start time of the third schedule #3		R	
6FAF	Int	Current-Start time of the third schedule #4		R	
6FB0	Int	Current-Start time of the third schedule #5		R	
6FB1	Int	Current-Start time of the third schedule #6		R	
6FB2	Int	Current-Start time of the third schedule #7		R	
6FB3	Int	Current-Start time of the third schedule #8		R	
6FB4	Int	Current-Start time of the third schedule #9		R	
6FB5	Int	Current-Third Schedule #10 Start Time		R	
6FB6	Int	Current-Third Schedule #11 Start Time		R	
6FB7	Int	Current-Third Schedule #12 Start Time		R	
6FB8	Int	Current-Start time of the third schedule #13		R	
6FB9	Int	Current-Start time of the third schedule #14		R	
6FBA	Int	Current-Third Schedule #1 #2 Schedule Rates		R	
6FBB	Int	Current-Third Schedule #3 #4 Schedule Rates		R	
6FBC	Int	Current-Third Schedule #5 #6 rates		R	

6FBD	Int	Current-Third Schedule #7 #8 Rate		R	
6FBE	Int	Current-Third Schedule #9 #10 rates		R	
6FBF	Int	Current-Third Schedule #11 #12 Rate		R	
6FC0	Int	Current-Third Schedule #13 #14 rates		R	
6FC1	Int	Current-Start time of the fourth schedule #1		R	
6FC2	Int	Current-Start time of the fourth schedule #2		R	
6FC3	Int	Current-Start time of the fourth schedule #3		R	
6FC4	Int	Current-Fourth Schedule #4 Start Time		R	
6FC5	Int	Current-Start time of the fourth schedule #5		R	
6FC6	Int	Current-Start time of the fourth schedule #6		R	
6FC7	Int	Current-Start time of the fourth schedule #7		R	
6FC8	Int	Current-Start time of the fourth schedule #8		R	
6FC9	Int	Current-Start time of the fourth schedule #9		R	
6FCA	Int	Current-Fourth Schedule #10 Start Time		R	
6FCB	Int	Current-Start time of the fourth schedule #11		R	

6FCC	Int	Current-Fourth Schedule #12 Start Time		R	
6FCD	Int	Current-Start time of the fourth schedule #13		R	
6FCE	Int	Current-Start time of the fourth schedule #14		R	
6FCF	Int	Current-Fourth Schedule #1 #2 Schedule Rates		R	
6FD0	Int	Current-Fourth Schedule #3 #4 Schedule Rate		R	
6FD1	Int	Current-Fourth Schedule #5 #6 Rate		R	
6FD2	Int	Current-Fourth Schedule #7 #8 Rate		R	
6FD3	Int	Current-Fourth Schedule #9 #10 Schedule Rates		R	
6FD4	Int	Current-Fourth Schedule #11 #12 Rate		R	
6FD5	Int	Current-Fourth Schedule #13 #14 rates		R	
6FD6	Int	Current-Start time of the fifth schedule #1		R	
6FD7	Int	Current-Start time of the fifth schedule #2		R	
6FD8	Int	Current-Start time of the fifth schedule #3		R	
6FD9	Int	Current-Start time of the fifth schedule #4		R	
6FDA	Int	Current-Start time of the fifth schedule #5		R	

6FDB	Int	Current-Start time of the fifth schedule #6		R	
6FDC	Int	Current-Start time of the fifth schedule #7		R	
6FDD	Int	Current-Start time of the fifth schedule #8		R	
6FDE	Int	Current-Start time of the fifth schedule #9		R	
6FDF	Int	Current-Start time of the fifth schedule #10		R	
6FE0	Int	Current-Fifth Schedule #11 Start Time		R	
6FE1	Int	Current-Fifth Schedule #12 Start Time		R	
6FE2	Int	Current-Start time of the fifth schedule #13		R	
6FE3	Int	Current-Start time of the fifth schedule #14		R	
6FE4	Int	Current-Fifth Schedule #1 #2 Schedule Rates		R	
6FE5	Int	Current-Fifth Schedule #3 #4 Schedule Rates		R	
6FE6	Int	Current-Schedule #5 #6 rates		R	
6FE7	Int	Current-Fifth Schedule #7 #8 Schedule Rates		R	
6FE8	Int	Current-Schedule #9 #10 rates		R	
6FE9	Int	Current-Fifth Schedule #11 #12 Schedule Rates		R	
6FEA	Int	Current-Fifth Set Schedule #13 #14 Period Rates		R	

6FEB	Int	Current-Start time of the sixth schedule #1		R	
6FEC	Int	Current-Sixth Schedule #2 Start Time		R	
6FED	Int	Current-Sixth Schedule #3 Start Time		R	
6FEE	Int	Current-Sixth Schedule #4 Start Time		R	
6FEF	Int	Current-Sixth Schedule #5 Start Time		R	
6FF0	Int	Current-Sixth Schedule #6 Start Time		R	
6FF1	Int	Current-Start time of the sixth schedule #7		R	
6FF2	Int	Current-Sixth Schedule #8 Start Time		R	
6FF3	Int	Current-Start time of the sixth schedule #9		R	
6FF4	Int	Current-Sixth set schedule #10 start time		R	
6FF5	Int	Current-Sixth Schedule #11 Start Time		R	
6FF6	Int	Current-Sixth Schedule #12 Start Time		R	
6FF7	Int	Current-Sixth set schedule #13 start time		R	
6FF8	Int	Current-Sixth Schedule #14 Start Time		R	
6FF9	Int	Current-Sixth Schedule #1 #2 Schedule Rates		R	

6FFA	Int	Current-Sixth Schedule #3 #4 rates		R	
6FFB	Int	Current-Sixth Schedule #5 #6 Schedule Rate		R	
6FFC	Int	Current-Sixth Schedule #7 #8 Schedule Rates		R	
6FFD	Int	Current-Sixth Schedule #9 #10 rates		R	
6FFE	Int	Current-Sixth Schedule #11 #12 rates		R	
6FFF	Int	Current-Sixth Schedule #13#14 rates		R	
7000	Int	Current-First paragraph time zone start		R	
7001	Int	Current-Start time zone for paragraph 2		R	
7002	Int	Current-Start time zone for paragraph 3		R	
7003	Int	Current-Start time zone for paragraph 4		R	
7004	Int	Current-Time Zone Start for Paragraph 5		R	
7005	Int	Current-Start time zone for paragraph 6		R	
7006	Int	Current-Start time zone for paragraph 7		R	
7007	Int	Current-Start time zone for paragraph 8		R	
7008	Int	Current-Time Zone Start for Paragraph 9		R	

7009	Int	Current-Time Zone Start for Paragraph 10		R	
700A	Int	Current-Start time zone for paragraph 11		R	
700B	Int	Current-Start time zone setting for paragraph 12		R	
700C	Int	High Byte: Current-First Paragraph Time Zone Schedule Settings		R	
		Low byte: Current-Second time zone schedule			
700D	Int	High Byte: Current-3rd Paragraph Time Zone Schedule Settings		R	
		Low byte: Current-4th paragraph time zone schedule settings			
700E	Int	High Byte: Current-5th Paragraph Time Zone Schedule Settings		R	
		Low byte: Current-6th time zone schedule setting			
700F	Int	High Byte: Current-7th Paragraph Time Zone Schedule Settings		R	
		Low byte: Current-8th paragraph time zone schedule settings			
7010	Int	High Byte: Current-9th Paragraph Time Zone Schedule Settings		R	
		Low byte: Current-Time zone schedule for paragraph 10			
7011	Int	High Byte: Current-11th Paragraph Time Zone Schedule Settings		R	
		Low byte: Current-12th time zone			

		schedule setting			
7012	Int	High Byte: Current to Sunday Schedule Settings		R	
		Low byte: Current to Monday schedule settings			
7013	Int	High Byte: Current-Tuesday Schedule Settings		R	
		Low Byte: Current to Wednesday schedule settings			
7014	Int	High Byte: Current-Thursday Schedule Settings		R	
		Low Byte: Current-Friday Schedule Settings			
7015	Int	High Byte: Current-Saturday Schedule Settings		R	
		Low Byte: Current holiday schedule settings			

3.14.3.2 Reimbursement Rate Settings (Backup Set)

address	form	Data content	data specification	Windows default	R/W
7016	Int	Backup rate plan selection	0: Monthly rate without holidays 1: Week rate without holidays 2: Monthly rate with holidays 3: Weekly rate with holidays	0	R/W
7017	Int	Backup meter reading date	High byte: 1-28	0x0100	R/

		and time	Low byte: 00-23		W
7018	Int	Backup-First schedule #1 start time	Set to 00h:00min	0x0000	R/W
7019	Int	Backup-First schedule #2 start time	High byte: 00-23 Low byte: 00-59 points	0x0100	R/W
701A	Int	Backup-First schedule starts at time #3	High byte: 00-23 Low byte: 00-59 points	0x0200	R/W
701B	Int	Backup-First schedule starts at time #4	High byte: 00-23 Low byte: 00-59 points	0x0300	R/W
701C	Int	Backup-First schedule starts at time #5	High byte: 00-23 Low byte: 00-59 points	0x0400	R/W
701D	Int	Backup-First schedule starts at time #6	High byte: 00-23 Low byte: 00-59 points	0x0500	R/W
701E	Int	Backup-First schedule starts at time #7	High byte: 00-23 Low byte: 00-59 points	0x0600	R/W
701F	Int	Backup-First schedule starts at time #8	High byte: 00-23 Low byte: 00-59 points	0x0700	R/W
7020	Int	Backup-First schedule starts at time #9	High byte: 00-23 Low byte: 00-59 points	0x0800	R/W
7021	Int	Backup-First schedule starts at time #10	High byte: 00-23 Low byte: 00-59 points	0x0900	R/W
7022	Int	Backup-First schedule starts at time #11	High byte: 00-23 Low byte: 00-59 points	0x0A00	R/W
7023	Int	Backup-First schedule starts at time #12	High byte: 00-23 Low byte: 00-59 points	0x1000	R/W
7024	Int	Backup-First schedule starts at time #13	High byte: 00-23 Low byte: 00-59 points	0x1100	R/W
7025	Int	Backup-First schedule starts at time #14	High byte: 00-23 Low byte: 00-59 points	0x1200	R/W
7026	Int	Backup-First set of time slots	High byte: #1 period rate	0x0000	R/

		#1 #2 time slot rates	Low byte: #2 period rate 0-T1、1-T2、2-T3、3-T4、4-T5、5-T6、6-T7、7-T8		W
7027	Int	Backup-First set of time slots #3 #4 rates	High byte: #3 period rate Low byte: #4 period rate	0x0000	R/W
7028	Int	Backup-First set of time slots #5 #6 rates	High byte: #5 period rate Low byte: #6 period rate	0x0000	R/W
7029	Int	Backup-First set of time slots #7 #8 rates	High byte: #7 period rate Low byte: #8 period rate	0x0000	R/W
702A	Int	Backup-First set of time slots #9 #10 rates	High byte: #9 period rate Low byte: #10 period rate	0x0000	R/W
702B	Int	Backup-First set of time slots #11 #12 rates	High byte: #11 period rate Low byte: #12 period rate	0x0000	R/W
702C	Int	Backup-First set of time slots #13 #14 rates	High byte: #13 period rate Low byte: #14 period rate	0x0000	R/W
702D	Int	Backup-Second schedule #1 start time	Set to 00h:00min	0x0000	R/W
702E	Int	Backup-Second schedule #2 start time	High byte: 00-23 Low byte: 00-59 points	0x0100	R/W
702F	Int	Backup-Second schedule #3 start time	High byte: 00-23 Low byte: 00-59 points	0x0200	R/W
7030	Int	Backup-Second schedule starts at time #4	High byte: 00-23 Low byte: 00-59 points	0x0300	R/W
7031	Int	Backup-Second schedule starts at time #5	High byte: 00-23 Low byte: 00-59 points	0x0400	R/W
7032	Int	Backup-Second schedule starts at time #6	High byte: 00-23 Low byte: 00-59 points	0x0500	R/W
7033	Int	Backup-Second schedule starts at time #7	High byte: 00-23 Low byte: 00-59 points	0x0600	R/W
7034	Int	Backup-Second schedule	High byte: 00-23	0x0700	R/

		starts at time #8	Low byte: 00-59 points		W
7035	Int	Backup-Second schedule starts at time #9	High byte: 00-23 Low byte: 00-59 points	0x0800	R/W
7036	Int	Backup-Second schedule starts at time #10	High byte: 00-23 Low byte: 00-59 points	0x0900	R/W
7037	Int	Backup-Second schedule starts at time #11	High byte: 00-23 Low byte: 00-59 points	0x0A00	R/W
7038	Int	Backup-Second schedule starts at time #12	High byte: 00-23 Low byte: 00-59 points	0x1000	R/W
7039	Int	Backup-Second schedule starts at time #13	High byte: 00-23 Low byte: 00-59 points	0x1100	R/W
703A	Int	Backup-Second schedule starts at time #14	High byte: 00-23 Low byte: 00-59 points	0x1200	R/W
703B	Int	Backup-Second Schedule #1 #2 Rate Schedule	High byte: #1 period rate Low byte: #2 period rate 0-T1、1-T2、2-T3、3-T4、4-T5、5-T6、6-T7、7-T8	0x0000	R/W
703C	Int	Backup-Second Schedule #3 #4 rates	High byte: #3 period rate Low byte: #4 period rate	0x0000	R/W
703D	Int	Backup-Second Schedule #5 #6 rates	High byte: #5 period rate Low byte: #6 period rate	0x0000	R/W
703E	Int	Backup-Second Schedule #7 #8 rates	High byte: #7 period rate Low byte: #8 period rate	0x0000	R/W
703F	Int	Backup-Second Schedule #9 #10 rates	High byte: #9 period rate Low byte: #10 period rate	0x0000	R/W
7040	Int	Backup-Second Schedule #11 #12 Rate Schedule	High byte: #11 period rate Low byte: #12 period rate	0x0000	R/W
7041	Int	Backup-Second Schedule #13 #14 rates	High byte: #13 period rate Low byte: #14 period rate	0x0000	R/W
7042	Int	Backup-Third Schedule #1	Set to 00h:00min	0x0000	R/

		Start Time			W
7043	Int	Backup-Third Schedule #2 Start Time	High byte: 00-23 Low byte: 00-59 points	0x0100	R/W
7044	Int	Backup-Third Schedule #3 Start Time	High byte: 00-23 Low byte: 00-59 points	0x0200	R/W
7045	Int	Backup-Start time of the third schedule #4	High byte: 00-23 Low byte: 00-59 points	0x0300	R/W
7046	Int	Backup-Start time of the third schedule #5	High byte: 00-23 Low byte: 00-59 points	0x0400	R/W
7047	Int	Backup-Start time of the third schedule #6	High byte: 00-23 Low byte: 00-59 points	0x0500	R/W
7048	Int	Backup-Start time of the third schedule #7	High byte: 00-23 Low byte: 00-59 points	0x0600	R/W
7049	Int	Backup-Start time of the third schedule #8	High byte: 00-23 Low byte: 00-59 points	0x0700	R/W
704A	Int	Backup-Start time of the third schedule #9	High byte: 00-23 Low byte: 00-59 points	0x0800	R/W
704B	Int	Backup-Third schedule #10 start time	High byte: 00-23 Low byte: 00-59 points	0x0900	R/W
704C	Int	Backup-Third schedule #11 start time	High byte: 00-23 Low byte: 00-59 points	0x0A00	R/W
704D	Int	Backup-Third schedule #12 start time	High byte: 00-23 Low byte: 00-59 points	0x1000	R/W
704E	Int	Backup-Third schedule #13 start time	High byte: 00-23 Low byte: 00-59 points	0x1100	R/W
704F	Int	Backup-Third schedule #14 start time	High byte: 00-23 Low byte: 00-59 points	0x1200	R/W
7050	Int	Backup-Third Schedule #1 #2 Rate	High byte: #1 period rate Low byte: #2 period rate 0-T1、1-T2、2-T3、3-T4、4-T5、	0x0000	R/W

			5-T6、6-T7、7-T8		
7051	Int	Backup-Third Schedule #3 #4 Rate	High byte: #3 period rate Low byte: #4 period rate	0x0000	R/W
7052	Int	Backup-Third Schedule #5 #6 rates	High byte: #5 period rate Low byte: #6 period rate	0x0000	R/W
7053	Int	Backup-Third Schedule #7 #8 rates	High byte: #7 period rate Low byte: #8 period rate	0x0000	R/W
7054	Int	Backup-Third Schedule #9 #10 rates	High byte: #9 period rate Low byte: #10 period rate	0x0000	R/W
7055	Int	Backup-Third Schedule #11 #12 Rate	High byte: #11 period rate Low byte: #12 period rate	0x0000	R/W
7056	Int	Backup-Third Schedule #13 #14 rates	High byte: #13 period rate Low byte: #14 period rate	0x0000	R/W
7057	Int	Backup-Fourth Schedule #1 Start Time	Set to 00h:00min	0x0000	R/W
7058	Int	Backup-Fourth Schedule #2 Start Time	High byte: 00-23 Low byte: 00-59 points	0x0100	R/W
7059	Int	Backup-Start time of the fourth schedule #3	High byte: 00-23 Low byte: 00-59 points	0x0200	R/W
705A	Int	Backup-Fourth Schedule #4 Start Time	High byte: 00-23 Low byte: 00-59 points	0x0300	R/W
705B	Int	Backup-Start time of the fourth schedule #5	High byte: 00-23 Low byte: 00-59 points	0x0400	R/W
705C	Int	Backup-Start time of the fourth schedule #6	High byte: 00-23 Low byte: 00-59 points	0x0500	R/W
705D	Int	Backup-Start time of the fourth schedule #7	High byte: 00-23 Low byte: 00-59 points	0x0600	R/W
705E	Int	Backup-Start time of the fourth schedule #8	High byte: 00-23 Low byte: 00-59 points	0x0700	R/W
705F	Int	Backup-Start time of the	High byte: 00-23	0x0800	R/

		fourth schedule #9	Low byte: 00-59 points		W
7060	Int	Backup-Fourth Schedule #10 Start Time	High byte: 00-23 Low byte: 00-59 points	0x0900	R/W
7061	Int	Backup-Fourth Schedule #11 Start Time	High byte: 00-23 Low byte: 00-59 points	0x0A00	R/W
7062	Int	Backup-Fourth Schedule #12 Start Time	High byte: 00-23 Low byte: 00-59 points	0x1000	R/W
7063	Int	Backup-Fourth Schedule #13 Start Time	High byte: 00-23 Low byte: 00-59 points	0x1100	R/W
7064	Int	Backup-Fourth Schedule #14 Start Time	High byte: 00-23 Low byte: 00-59 points	0x1200	R/W
7065	Int	Backup-Fourth Schedule #1 #2 Rate	High byte: #1 period rate Low byte: #2 period rate 0-T1、1-T2、2-T3、3-T4、4-T5、5-T6、6-T7、7-T8	0x0000	R/W
7066	Int	Backup-Fourth Schedule #3 #4 Rate	High byte: #3 period rate Low byte: #4 period rate	0x0000	R/W
7067	Int	Backup-Fourth Schedule #5 #6 rates	High byte: #5 period rate Low byte: #6 period rate	0x0000	R/W
7068	Int	Backup-Fourth Schedule #7 #8 rates	High byte: #7 period rate Low byte: #8 period rate	0x0000	R/W
7069	Int	Backup-Fourth Schedule #9 #10 rates	High byte: #9 period rate Low byte: #10 period rate	0x0000	R/W
706A	Int	Backup-Fourth Schedule #11 #12 Rate	High byte: #11 period rate Low byte: #12 period rate	0x0000	R/W
706B	Int	Backup-Fourth Schedule #13 #14 rates	High byte: #13 period rate Low byte: #14 period rate	0x0000	R/W
706C	Int	Backup-Start time of the fifth schedule #1	Set to 00h:00min	0x0000	R/W
706D	Int	Backup-Start time of the fifth	High byte: 00-23	0x0100	R/

		schedule #2	Low byte: 00-59 points		W
706E	Int	Backup-Start time of the fifth schedule #3	High byte: 00-23 Low byte: 00-59 points	0x0200	R/W
706F	Int	Backup-Start time of the fifth schedule #4	High byte: 00-23 Low byte: 00-59 points	0x0300	R/W
7070	Int	Backup-Start time of the fifth schedule #5	High byte: 00-23 Low byte: 00-59 points	0x0400	R/W
7071	Int	Backup-Start time of the fifth schedule #6	High byte: 00-23 Low byte: 00-59 points	0x0500	R/W
7072	Int	Backup-Start time of the fifth schedule #7	High byte: 00-23 Low byte: 00-59 points	0x0600	R/W
7073	Int	Backup-Start time of the fifth schedule #8	High byte: 00-23 Low byte: 00-59 points	0x0700	R/W
7074	Int	Backup-Start time of the fifth schedule #9	High byte: 00-23 Low byte: 00-59 points	0x0800	R/W
7075	Int	Backup-Start time of the fifth schedule #10	High byte: 00-23 Low byte: 00-59 points	0x0900	R/W
7076	Int	Backup-Start time of the fifth schedule #11	High byte: 00-23 Low byte: 00-59 points	0x0A00	R/W
7077	Int	Backup-Schedule for the fifth set starting at time #12	High byte: 00-23 Low byte: 00-59 points	0x1000	R/W
7078	Int	Backup-Start time of the fifth schedule #13	High byte: 00-23 Low byte: 00-59 points	0x1100	R/W
7079	Int	Backup-Start time of the fifth schedule #14	High byte: 00-23 Low byte: 00-59 points	0x1200	R/W
707A	Int	Backup-Schedule #1 #2 rates	High byte: #1 period rate Low byte: #2 period rate 0-T1、1-T2、2-T3、3-T4、4-T5、5-T6、6-T7、7-T8	0x0000	R/W
707B	Int	Backup-Schedule #3 and #4	High byte: #3 period rate	0x0000	R/

		rates	Low byte: #4 period rate		W
707C	Int	Backup-Schedule #5 #6 rates	High byte: #5 period rate Low byte: #6 period rate	0x0000	R/ W
707D	Int	Backup-Schedule #7 and #8 rates	High byte: #7 period rate Low byte: #8 period rate	0x0000	R/ W
707E	Int	Backup-Schedule #9 and #10 rates	High byte: #9 period rate Low byte: #10 period rate	0x0000	R/ W
707F	Int	Backup-Schedule #11 and #12 rates	High byte: #11 period rate Low byte: #12 period rate	0x0000	R/ W
7080	Int	Backup-Schedule #13 and #14 rates	High byte: #13 period rate Low byte: #14 period rate	0x0000	R/ W
7081	Int	Backup-Start time of the sixth schedule #1	Set to 00h:00min	0x0000	R/ W
7082	Int	Backup-Start time of the sixth schedule #2	High byte: 00-23 Low byte: 00-59 points	0x0100	R/ W
7083	Int	Backup-Start time of the sixth schedule #3	High byte: 00-23 Low byte: 00-59 points	0x0200	R/ W
7084	Int	Backup-Start time of the sixth schedule #4	High byte: 00-23 Low byte: 00-59 points	0x0300	R/ W
7085	Int	Backup-Start time of the sixth schedule #5	High byte: 00-23 Low byte: 00-59 points	0x0400	R/ W
7086	Int	Backup-Sixth Schedule #6 Start Time	High byte: 00-23 Low byte: 00-59 points	0x0500	R/ W
7087	Int	Backup-Start time of the sixth schedule #7	High byte: 00-23 Low byte: 00-59 points	0x0600	R/ W
7088	Int	Backup-Start time of the sixth schedule #8	High byte: 00-23 Low byte: 00-59 points	0x0700	R/ W
7089	Int	Backup-Start time of the sixth schedule #9	High byte: 00-23 Low byte: 00-59 points	0x0800	R/ W
708A	Int	Backup-Sixth Schedule #10	High byte: 00-23	0x0900	R/

		Start Time	Low byte: 00-59 points		W
708B	Int	Backup-Sixth Schedule #11 Start Time	High byte: 00-23 Low byte: 00-59 points	0x0A00	R/W
708C	Int	Backup-Sixth Schedule #12 Start Time	High byte: 00-23 Low byte: 00-59 points	0x1000	R/W
708D	Int	Backup-Sixth Schedule #13 Start Time	High byte: 00-23 Low byte: 00-59 points	0x1100	R/W
708E	Int	Backup-Sixth Schedule #14 Start Time	High byte: 00-23 Low byte: 00-59 points	0x1200	R/W
708F	Int	Backup-Sixth Set Schedule #1 #2 Rate Schedule	High byte: #1 period rate Low byte: #2 period rate 0-T1、1-T2、2-T3、3-T4、4-T5、5-T6、6-T7、7-T8	0x0000	R/W
7090	Int	Backup-Sixth Set Schedule #3 #4 Rate Schedule	High byte: #3 period rate Low byte: #4 period rate	0x0000	R/W
7091	Int	Backup-Sixth Schedule #5 #6 Rate	High byte: #5 period rate Low byte: #6 period rate	0x0000	R/W
7092	Int	Backup-Sixth Set Schedule #7 #8 Period Rates	High byte: #7 period rate Low byte: #8 period rate	0x0000	R/W
7093	Int	Backup-Sixth Schedule #9 #10 rates	High byte: #9 period rate Low byte: #10 period rate	0x0000	R/W
7094	Int	Backup-Sixth Schedule #11 #12 rates	High byte: #11 period rate Low byte: #12 period rate	0x0000	R/W
7095	Int	Backup-Sixth Set Schedule #13 #14 Rate Schedule	High byte: #13 period rate Low byte: #14 period rate	0x0000	R/W
7096	Int	Backup-Set the first time zone start	Set to January 1	0x0101	R/W
7097	Int	Backup-Set the second time zone start	High byte: 0-12 months Low byte: 0-31 days	0x0201	R/W
7098	Int	Backup-Set time zone start	High byte: 0-12 months	0x0301	R/

		for paragraph 3	Low byte: 0-31 days		W
7099	Int	Backup-Set time zone start for paragraph 4	High byte: 0-12 months Low byte: 0-31 days	0x0401	R/W
709A	Int	Backup-Set time zone start for paragraph 5	High byte: 0-12 months Low byte: 0-31 days	0x0501	R/W
709B	Int	Backup-Set time zone start for paragraph 6	High byte: 0-12 months Low byte: 0-31 days	0x0601	R/W
709C	Int	Backup-Set time zone start for paragraph 7	High byte: 0-12 months Low byte: 0-31 days	0x0701	R/W
709D	Int	Backup-Start time zone for paragraph 8	High byte: 0-12 months Low byte: 0-31 days	0x0801	R/W
709E	Int	Backup-Set time zone start for paragraph 9	High byte: 0-12 months Low byte: 0-31 days	0x0901	R/W
709F	Int	Backup-Time zone start setting for paragraph 10	High byte: 0-12 months Low byte: 0-31 days	0x0A01	R/W
70A0	Int	Backup-Time zone start setting for paragraph 11	High byte: 0-12 months Low byte: 0-31 days	0x0B01	R/W
70A1	Int	Backup-Time zone start setting for paragraph 12	High byte: 0-12 months Low byte: 0-31 days	0x0C01	R/W
70A2	Int	High Byte: Backup-First Paragraph Time Zone Schedule Settings Low byte: Reserve-Time zone schedule setting for paragraph 2	0: First schedule 1: Second schedule 2: Third Schedule 3: Fourth Schedule 4: Fifth Schedule 5: Sixth Schedule	0	R/W
70A3	Int	High Byte: Reserve-Time Zone Schedule Settings for Paragraph 3 Low byte: Reserve-Time zone schedule setting for	ditto	0	R/W

		paragraph 4			
70A4	Int	High Byte: Reserve-Time Zone Schedule Settings for Paragraph 5	ditto	0	R/W
		Low byte: Reserve-Time zone schedule setting for paragraph 6			
70A5	Int	High Byte: Reserve-Time Zone Schedule Settings for Paragraph 7	ditto	0	R/W
		Low byte: Reserve-Time zone schedule setting for paragraph 8			
70A6	Int	High Byte: Reserve-Time Zone Schedule Settings for Paragraph 9	ditto	0	R/W
		Low byte: Reserve-Time zone schedule setting for paragraph 10			
70A7	Int	High Byte: Reserve-Time Zone Schedule Settings for Paragraph 11	ditto	0	R/W
		Low byte: Reserve-Time zone schedule setting for paragraph 12			
70A8	Int	High Byte: Backup-Sunday Schedule Settings	ditto	0	R/W
		Low byte: Backup-Monday schedule settings			
70A9	Int	High Byte: Backup-Tuesday	ditto	0	R/

		Schedule Settings Low byte: Backup-Wednesday schedule settings			W
70AA	Int	High Byte: Backup-Thursday Schedule Settings Low byte: Backup-Friday schedule settings	ditto	0	R/W
70AB	Int	High Byte: Backup-Saturday Schedule Settings Low byte: Reserve-holiday period settings	ditto	0	R/W

3.14.3.3 Compound Rate Settings (Holidays)

address	form	Data content	data specification	Windows default	R/W
70AC-70CB	Reserved				
70CC	Int	Change holiday days	0-99	0	R/W
70CD	Int	Change holiday days	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
70CE	Int	Change holiday days	0-99	0	R/W
70CF	Int	Change holiday days	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
70D0	Int	Change holiday days	0-99	0	R/W
70D1	Int	Change holiday days	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W

70D2	Int	Change holiday dates	0-99	0	R/W
70D3	Int	Change holiday dates	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
70D4	Int	Change holiday days	0-99	0	R/W
70D5	Int	Change holiday days	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
70D6	Int	Change holiday days	0-99	0	R/W
70D7	Int	Change holiday days	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
70D8	Int	Change holiday days	0-99	0	R/W
70D9	Int	Change holiday days	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
70DA	Int	Change holiday 8	0-99	0	R/W
70DB	Int	Change holiday 8	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
70DC	Int	Change holiday 9	0-99	0	R/W
70DD	Int	Change holiday 9	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
70DE	Int	Change holiday 10	0-99	0	R/W
70DF	Int	Change holiday 10	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
70E0	Int	Change holiday 11	0-99	0	R/W

70E1	Int	Change holiday 11	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
70E2	Int	Change holiday 12	0-99	0	R/ W
70E3	Int	Change holiday 12	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
70E4	Int	Change holiday 13	0-99	0	R/ W
70E5	Int	Change holiday 13	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
70E6	Int	Change holiday 14	0-99	0	R/ W
70E7	Int	Change holiday 14	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
70E8	Int	Change holiday 15	0-99	0	R/ W
70E9	Int	Change holiday 15	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
70EA	Int	Change holiday 16	0-99	0	R/ W
70EB	Int	Change holiday 16	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
70EC	Int	Change holidays 17	0-99	0	R/ W
70ED	Int	Change holidays 17	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
70EE	Int	Change holiday 18	0-99	0	R/ W
70EF	Int	Change holiday 18	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W

70F0	Int	Change holidays 19	0-99	0	R/W
70F1	Int	Change holidays 19	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
70F2	Int	Change holiday dates 20	0-99	0	R/W
70F3	Int	Change holiday dates 20	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
70F4	Int	Change holiday 21	0-99	0	R/W
70F5	Int	Change holiday 21	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
70F6	Int	Change holidays 22	0-99	0	R/W
70F7	Int	Change holidays 22	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
70F8	Int	Change holidays 23	0-99	0	R/W
70F9	Int	Change holidays 23	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
70FA	Int	Change holiday 24	0-99	0	R/W
70FB	Int	Change holiday 24	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
70FC	Int	Change holidays 25	0-99	0	R/W
70FD	Int	Change holidays 25	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
70FE	Int	Change holidays 26	0-99	0	R/W

70FF	Int	Change holidays 26	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
7100	Int	Change holidays 27	0-99	0	R/ W
7101	Int	Change holidays 27	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
7102	Int	Change holidays 28	0-99	0	R/ W
7103	Int	Change holidays 28	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
7104	Int	Change holidays 29	0-99	0	R/ W
7105	Int	Change holidays 29	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
7106	Int	Change holiday 30	0-99	0	R/ W
7107	Int	Change holiday 30	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
7108	Int	Change holiday 31	0-99	0	R/ W
7109	Int	Change holiday 31	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
710A	Int	Change holiday 32	0-99	0	R/ W
710B	Int	Change holiday 32	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
710C	Int	Change holiday 33	0-99	0	R/ W
710D	Int	Change holiday 33	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W

710E	Int	Change holiday 34	0-99	0	R/W
710F	Int	Change holidays 34	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
7110	Int	Change holiday 35	0-99	0	R/W
7111	Int	Change holiday 35	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
7112	Int	Change holiday 36	0-99	0	R/W
7113	Int	Change holiday 36	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
7114	Int	Change holiday 37	0-99	0	R/W
7115	Int	Change holiday 37	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
7116	Int	Change holiday 38	0-99	0	R/W
7117	Int	Change holiday 38	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
7118	Int	Change holiday 39	0-99	0	R/W
7119	Int	Change holiday 39	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
711A	Int	Change holiday 40	0-99	0	R/W
711B	Int	Change holiday 40	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
711C	Int	Change holiday 41	0-99	0	R/W

711D	Int	Change holiday 41	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
711E	Int	Change holidays 42	0-99	0	R/ W
711F	Int	Change holidays 42	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
7120	Int	Change holiday 43	0-99	0	R/ W
7121	Int	Change holidays 43	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
7122	Int	Change holidays 44	0-99	0	R/ W
7123	Int	Change holidays 44	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
7124	Int	Change holiday 45	0-99	0	R/ W
7125	Int	Change holiday 45	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
7126	Int	Change holidays 46	0-99	0	R/ W
7127	Int	Change holidays 46	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
7128	Int	Change holidays 47	0-99	0	R/ W
7129	Int	Change holidays 47	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
712A	Int	Change holiday 48	0-99	0	R/ W
712B	Int	Change holiday 48	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W

712C	Int	Change holidays 49	0-99	0	R/W
712D	Int	Change holiday 49	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
712E	Int	Change holiday 50	0-99	0	R/W
712F	Int	Change holiday 50	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
7130	Int	Change holiday 51	0-99	0	R/W
7131	Int	Change holiday 51	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
7132	Int	Change holiday 52	0-99	0	R/W
7133	Int	Change holiday 52	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
7134	Int	Change holiday 53	0-99	0	R/W
7135	Int	Change holiday 53	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
7136	Int	Change holidays 54	0-99	0	R/W
7137	Int	Change holidays 54	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
7138	Int	Change holidays 55	0-99	0	R/W
7139	Int	Change holiday 55	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
713A	Int	Change holidays 56	0-99	0	R/W

713B	Int	Change holidays 56	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
713C	Int	Change holidays 57	0-99	0	R/ W
713D	Int	Change holidays 57	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
713E	Int	Change holidays 58	0-99	0	R/ W
713F	Int	Change holidays 58	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
7140	Int	Change holiday 59	0-99	0	R/ W
7141	Int	Change holiday 59	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
7142	Int	Change holiday 60	0-99	0	R/ W
7143	Int	Change holiday 60	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
7144	Int	Change holiday 61	0-99	0	R/ W
7145	Int	Change holiday 61	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
7146	Int	Change holiday 62	0-99	0	R/ W
7147	Int	Change holiday 62	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
7148	Int	Change holiday 63	0-99	0	R/ W
7149	Int	Change holiday 63	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W

714A	Int	Change holiday 64	0-99	0	R/W
714B	Int	Change holiday 64	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
714C	Int	Change holiday 65	0-99	0	R/W
714D	Int	Change holiday 65	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
714E	Int	Change holidays 66	0-99	0	R/W
714F	Int	Change holidays 66	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
7150	Int	Change holidays 67	0-99	0	R/W
7151	Int	Change holidays 67	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
7152	Int	Change holidays 68	0-99	0	R/W
7153	Int	Change holidays 68	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
7154	Int	Change holidays 69	0-99	0	R/W
7155	Int	Change holidays 69	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
7156	Int	Change holiday 70	0-99	0	R/W
7157	Int	Change holiday 70	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
7158	Int	Change holiday 71	0-99	0	R/W

7159	Int	Change holiday 71	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
715A	Int	Change holiday 72	0-99	0	R/ W
715B	Int	Change holiday 72	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
715C	Int	Change holiday 73	0-99	0	R/ W
715D	Int	Change holiday 73	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
715E	Int	Change holiday 74	0-99	0	R/ W
715F	Int	Change holiday 74	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
7160	Int	Change holiday 75	0-99	0	R/ W
7161	Int	Change holiday 75	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
7162	Int	Change holiday 76	0-99	0	R/ W
7163	Int	Change holiday 76	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
7164	Int	Change holiday 77	0-99	0	R/ W
7165	Int	Change holidays 77	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W
7166	Int	Change holiday 78	0-99	0	R/ W
7167	Int	Change holiday 78	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/ W

7168	Int	Change holiday 79	0-99	0	R/W
7169	Int	Change holiday 79	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
716A	Int	Change holiday 80	0-99	0	R/W
716B	Int	Change holiday 80	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
716C	Int	Change holiday 81	0-99	0	R/W
716D	Int	Change holiday 81	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
716E	Int	Change holiday 82	0-99	0	R/W
716F	Int	Change holiday 82	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
7170	Int	Change holiday 83	0-99	0	R/W
7171	Int	Change holiday 83	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
7172	Int	Change holiday 84	0-99	0	R/W
7173	Int	Change holiday 84	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
7174	Int	Change holiday 85	0-99	0	R/W
7175	Int	Change holiday 85	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
7176	Int	Change holiday 86	0-99	0	R/W

7177	Int	Change holiday 86	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
7178	Int	Change holiday 87	0-99	0	R/W
7179	Int	Change holiday 87	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
717A	Int	Change holiday 88	0-99	0	R/W
717B	Int	Change holiday 88	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
717C	Int	Change holiday 89	0-99	0	R/W
717D	Int	Change holiday 89	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
717E	Int	Change holiday 90	0-99	0	R/W
717F	Int	Change holiday 90	High byte: 0-12 months Low byte: 0-31 days	0x0000	R/W
7180-71CB	Reserved				

3.14.3.4 Reimbursement Rate Settings (Switching Day)

address	form	Data content	data specification	Windows default	R/W
71CC	Int	Switch time 1 High byte: Year Low byte: Month	Change billing plan and meter reading time Write 0xffff for backup and switch directly	0x0000	R/W
71CD	Int	Switch time 1		0x0000	R/

		High byte: day, low byte: hour			W
71CE	Int	Switch time 1 High byte: split, low byte: reserved		0x0000	R/W
71CF	Int	Switch time 2 High byte: Year Low byte: Month	Switch day time rate table Write 0xffff for backup and enable/disable directly	0x0000	R/W
71D0	Int	Switch time 2 High byte: day, low byte: hour		0x0000	R/W
71D1	Int	Switch time 2 High byte: split, low byte: reserved		0x0000	R/W
71D2	Int	Switch time 3 High byte: Year Low byte: Month	Switch time zones and weekly rate tables Write 0xffff for backup and enable/disable directly	0x0000	R/W
71D3	Int	Switch time 3 High byte: day, low byte: hour		0x0000	R/W
71D4	Int	Switch time 3 High byte: split, low byte: reserved		0x0000	R/W
71D5-71FF	Reserved				

3.14.4 Custom Storage Settings

address	form	Data content	data specification	Windows default	R/W
7200	Int	Data storage interval	0: Invalid 1：1min 2：5min	3	R/W

			3：15min 4：30min## 5：60min 6：1440min		
7201-7214	Int	Custom storage data 1-20	See Appendix A	0	R/W
7215-727F	Reserved				

3.14.5 Extension Module Settings

3.14.5.1 Expansion Module Settings (FM2)

address	form	Data content	data specification	Windows default	R/W
7280	Int	Module X1-DI1 input type	0: Status check 1: Pulse count	0	R/W
7281	Int	Module X1-DI1 noise reduction time	1-99ms	10	R/W
7282-7287	Int	Module X1 DI2-DI4	Module X1 DI1 Settings		R/W
7288-728F	Int	Module X2 DI1-DI4	Module X1 DI1 Settings		R/W
7290-7297	Int	Module X3 DI1-DI4	Module X1 DI1 Settings		R/W
7298-729F	Int	Module X4 DI1-DI4	Module X1 DI1 Settings		R/W

3.14.5.2 Extension Module Settings (FM3)

address	form	Data content	data specification	Windows default	R/W
72A0	Int	Module X1 DO1 operating	0: Close	0	R/

		mode	1: Alert 2: Remote		W
72A1	Int	Module X1 DO1 pulse width	Pulse width: 0.100～999.9s Level method: 000.0s	0	R/W
72A2-72A7	Reserved				
72A8-72AF	Float/Int	Module X1 DO2	Module X1 DO1 Settings		R/W
72B0-72BF	Float/Int	Module X2 DO1-DO2	Module X1 DO1 Settings		R/W
72C0-72CF	Float/Int	Module X3 DO1-DO2	Module X1 DO1 Settings		R/W
72D0-73DF	Float/Int	Module X4 DO1-DO2	Module X1 DO1 Settings		R/W
72E0-731F	Reserved				

3.14.5.3 Expansion Module Settings (FM11)

address	form	Data content	data specification	Windows default	R/W
7320	Int	#2 Instrument Address	1-247	2	R/W
7321	Int	#2 baud rate	0：2400bps 1：4800bps 2：9600bps 3：19200bps 4：38400bps 5：57600bps 6：115200bps	5	R/W
7322	Int	#2 Check format	0：N,8,1 1：E,8,1 2：O,8,1 3：N,8,2	0	R/W
7323	Reser				

	ved				
7324	Int	#3 Instrument Address	1-247 [Note 1]	3	R/W
7325	Int	#3 Baud rate	0：2400bps 1：4800bps 2：9600bps 3：19200bps 4：38400bps 5：57600bps 6：115200bps	5	R/W
7326	Int	#3 Check format	0：N,8,1 1：E,8,1 2：O,8,1 3：N,8,2	0	R/W
7327					

3.14.5.4 Expansion Module Settings (FM24)

address	form	Data content	data specification	Windows default	R/W
7328	Int	address assignment	0: Static 1: Dynamic	0	R/W
7329	Reserved				
732A	Int	port number	0-65535	502	R/W
732B	Int	IP Address 1	0-255	192	R/W
732C	Int	IP Address 2	0-255	168	R/W
732D	Int	IP Address 3	0-255	1	R/W
732E	Int	IP Address 4	0-255	254	R/

					W
732F	Int	Remote IP Address 1	0-255	192	R/W
7330	Int	Remote IP Address 2	0-255	168	R/W
7331	Int	Remote IP Address 3	0-255	1	R/W
7332	Int	Remote IP address 4	0-255	252	R/W
7333	Int	Subnet Mask 1	0-255	192	R/W
7334	Int	Subnet Mask 2	0-255	168	R/W
7335	Int	Subnet Mask 3	0-255	1	R/W
7336	Int	Subnet Mask 4	0-255	1	R/W
7337	Int	Gateway 1	0-255	255	R/W
7338	Int	Gateway 2	0-255	255	R/W
7339	Int	Gateway 3	0-255	255	R/W
733A	Int	Gateway 4	0-255	0	R/W
733B	Int	MAC Address 1			R
733C	Int	MAC Address 2			R
733D	Int	MAC Address 3			R
733E	Int	MAC Address 4			R
733F	Int	MAC Address 5			R

7340	Int	MAC Address 6			R
7341-73FF	Reserved				

3.14.6 Custom Data Addresses

address	form	Data content	data specification	Windows default	R/W
7400	Int	Custom Data Address 1	The address cannot be set between 0x7400 and 0x743B	0	R/W
7401	Int	Custom Data Address 2		0	R/W
7402	Int	Custom Data Address 3		0	R/W
7403	Int	Custom Data Address 4		0	R/W
7404	Int	Custom Data Address 5		0	R/W
7405	Int	Custom Data Address 6		0	R/W
7406	Int	Custom Data Address 7		0	R/W
7407	Int	Custom Data Address 8		0	R/W
7408	Int	Custom Data Address 9		0	R/W
7409	Int	Custom Data Address 10		0	R/W
740A	Int	Custom Data Address 11		0	R/W

740B	Int	Custom Data Address 12		0	R/W
740C	Int	Custom Data Address 13		0	R/W
740D	Int	Custom Data Address 14		0	R/W
740E	Int	Custom Data Address 15		0	R/W
740F	Int	Custom Data Address 16		0	R/W
7410	Int	Custom Data Address 17		0	R/W
7411	Int	Custom Data Address 18		0	R/W
7412	Int	Custom Data Address 19		0	R/W
7413	Int	Custom Data Address 20		0	R/W
7414	Int	Custom Data Address 21		0	R/W
7415	Int	Custom Data Address 22		0	R/W
7416	Int	Custom Data Address 23		0	R/W
7417	Int	Custom Data Address 24		0	R/W
7418	Int	Custom Data Address 25		0	R/W
7419	Int	Custom Data Address 26		0	R/W

741A	Int	Custom Data Address 27		0	R/W
741B	Int	Custom Data Address 28		0	R/W
741C	Int	Custom Data Address 29		0	R/W
741D	Int	Custom Data Address 30		0	R/W
741E	Int	Custom Data Address 31		0	R/W
741F	Int	Custom data address 32		0	R/W
7420	Int	Custom Data Address 33		0	R/W
7421	Int	Custom Data Address 34		0	R/W
7422	Int	Custom Data Address 35		0	R/W
7423	Int	Custom Data Address 36		0	R/W
7424	Int	Custom Data Address 37		0	R/W
7425	Int	Custom Data Address 38		0	R/W
7426	Int	Custom Data Address 39		0	R/W
7427	Int	Custom Data Address 40		0	R/W
7428	Int	Custom Data Address 41		0	R/W

7429	Int	Custom Data Address 42		0	R/W
742A	Int	Custom Data Address 43		0	R/W
742B	Int	Custom Data Address 44		0	R/W
742C	Int	Custom Data Address 45		0	R/W
742D	Int	Custom Data Address 46		0	R/W
742E	Int	Custom Data Address 47		0	R/W
742F	Int	Custom Data Address 48		0	R/W
7430	Int	Custom Data Address 49		0	R/W
7431	Int	Custom Data Address 50		0	R/W
7432	Int	Custom Data Address 51		0	R/W
7433	Int	Custom Data Address 52		0	R/W
7434	Int	Custom Data Address 53		0	R/W
7435	Int	Custom Data Address 54		0	R/W
7436	Int	Custom data address 55		0	R/W
7437	Int	Custom Data Address 56		0	R/W

7438	Int	Custom Data Address 57		0	R/W
7439	Int	Custom data address 58		0	R/W
743A	Int	Custom Data Address 59		0	R/W
743B	Int	Custom Data Address 60		0	R/W
743C-75FF	Reserved				

3.14.7 Out-of-Bounds Settings

address	form	Data content	data specification	Windows default	R/W
7600	Int	Bit00-Bit15: Enable alarms for general limit exceedance (001-016)	0: Disabled 1: Enabled	0x0000	R/W
7601	Int	Bit00-Bit15: Enable standard limit 017-032 alarms	0: Disabled 1: Enabled	0x0000	R/W
7602	Int	Bit00-Bit15: Enable standard limit 033-048 alarm	0: Disabled 1: Enabled	0x0000	R/W
7603	Int	Bit00-Bit15: Enable standard limit exceedance alarms (049-064)	0: Disabled 1: Enabled	0x0000	R/W
7604	Int	Bit00-Bit15: Enable standard limit exceedance alarms (065-080)	0: Disabled 1: Enabled	0x0000	R/W
7605	Int	Bit00-Bit15: Enable standard limit exceedance alarms 081-096	0: Disabled 1: Enabled	0x0000	R/W
7606	Int	Bit00-Bit15: Enable standard limit 097-112 alarms	0: Disabled 1: Enabled	0x0000	R/W
7607	Int	Bit00-Bit15: Enable alarm for general limit	0: Disabled 1:	0x000	R/

		exceedance (113-128)	Enabled	0	W
7608	Int	Bit00-Bit15: Enable alarm for general limit exceedance (129-144)	0: Disabled 1: Enabled	0x0000	R/W
7609	Int	Bit00-Bit15: Enable alarm for normal limit exceedance (145-160)	0: Disabled 1: Enabled	0x0000	R/W
760A	Int	Bit00-Bit15: Enable alarm for general limit exceedance (161-176)	0: Disabled 1: Enabled	0x0000	R/W
760B	Int	Bit00-Bit15: Enable alarm for general limit exceedance (177-192)	0: Disabled 1: Enabled	0x0000	R/W
760C	Int	Bit00-Bit15: Enable alarm for general limit exceedance (193-208)	0: Disabled 1: Enabled	0x0000	R/W
760D	Int	Bit00-Bit15: Enable alarm for general limit exceedance (209-224)	0: Disabled 1: Enabled	0x0000	R/W
760E	Int	Bit00-Bit15: Enable alarm for general limit exceedance (225-240)	0: Disabled 1: Enabled	0x0000	R/W
760F	Int	Bit00-Bit15: Enable alarm for general limit exceedance (241-256)	0: Disabled 1: Enabled	0x0000	R/W
7610-761F	Reserved				
7620	Int	Normal limit 1 alarm type	See Appendix B for the alarm monitoring objects beyond limits	0	R/W
7621	Int	Normal limit 1 trigger method	0: Exceeds the limit [Note 1] 1: Lower bound	0	R/W
7622-7623	Float	Normal limit 1 alarm value	By alarm type (Primary value) [Note 2]	0	R/W

7624-7625	Float	One-time oversubscription	By alarm type (Primary value) [Note 2]	0	R/W
7626	Int	The alarm for exceeding the limit by 1 unit is delayed	0-60s [Note 2]	0	R/W
7627	Int	Delay after the alarm ends for ordinary over-limit 1	0-60s [Note 2]	0	R/W
7628-7629	Long	Action type for ordinary limit 1 trigger	See Appendix B for alarm trigger action types	0	R/W
762A-801F	Float/Long/Int	Set the normal limit 2-256	ditto		R/W
8020-8A1F	Reserved				
8A20	Int	Bit00-Bit15: Enable rapid limit exceed alarm 001-016	0: Disabled 1: Enabled	0x0000	R/W
8A21	Reserved				
8A22	Int	Quick boundary violation 1 alarm type	See Appendix B for the alarm monitoring objects beyond limits	0	R/W
8A23	Int	Fast limit 1 trigger method	0: No trigger 1: Over the limit 2: Lower bound	0	R/W
8A24-8A25	Float	Quick threshold 1 alarm value	By alarm type	0	R/W

8A26-8A27	Float	1x faster than limit with delayed volume	By alarm type	0	R/W
8A28	Int	The first quick limit 1 alarm is delayed	0-60s	0	R/W
8A29	Int	Quick limit 1 alarm end delay	0-60s	0	R/W
8A2A-8A2B	Long	Quick boundary 1 trigger action type	See Appendix B for alarm trigger action types	0	R/W
8A2C-8AC1	Float/Long/Int	Fast limit 2-16 settings	ditto		R/W
8AC2-8B61	Reserved				

Note 1: When the alarm type is DI, 0 indicates an open alarm and 1 indicates a closed alarm.

Note 2: This setting is invalid when the alarm type is DI.

3.14.8 EN50160 Settings

address	form	Data content	data specification	Windows default	R/W
8B62	Int	EN50160 voltage selection	0: Low pressure 1: Medium voltage 2: High pressure	0	R/W
8B63	Int	EN50160 Start Date	0: Sunday 1-6: Monday to Saturday	0	R/W
8B64-8B65	Float	Frequency tolerance	0-100%	100	R/W
8B66-8B67	Float	Frequency wide limit positive deviation	0-200%	104	R/W

8B68-8B69	Float	Negative frequency bandwidth deviation	0-200%	94	R/W
8B6A-8B6B	Float	Frequency narrow tolerance	0-100%	99.5	R/W
8B6C-8B6D	Float	Narrowband positive frequency deviation	0-200%	101	R/W
8B6E-8B6F	Float	Narrowband negative frequency deviation	0-200%	99	R/W
8B70-8B71	Float	Voltage tolerance range	0-100%	100	R/W
8B72-8B73	Float	Voltage tolerance positive deviation	0-200%	Low pressure: 110 Medium voltage: 115 High pressure: 115	R/W
8B74-8B75	Float	Voltage tolerance negative deviation	0-200%	85	R/W
8B76-8B77	Float	Voltage narrow tolerance	0-100%	Low pressure: 95 Medium voltage: 99 High pressure: 99	R/W
8B78-8B79	Float	Narrow positive voltage deviation	0-200%	110	R/W
8B7A-8B7B	Float	Narrow voltage limit negative deviation	0-200%	90	R/W
8B7C-8B7D	Float	Flicker tolerance	0-100%	95	R/W

8B7E-8B7F	Float	Flicker Limit	0-100	1	R/W
8B80-8B81	Float	Unbalance tolerance	0-100%	100	R/W
8B82-8B83	Float	Unbalance limit	0-100%	2	R/W
8B84-8B85	Float	Harmonic tolerance	0-100%	100	R/W
8B86-8B87	Float	Total harmonic distortion limit	0-200%	8	R/W
8B88-8B89	Float	2nd harmonic distortion limit	0-200%	Low pressure: 2 Medium voltage: 2 High pressure: 1.9	R/W
8B8A-8B8B	Float	Third harmonic distortion limit	0-200%	Low pressure: 5 Medium voltage: 5 High pressure: 3	R/W
8B8C-8B8D	Float	4th harmonic distortion limit	0-200%	1	R/W
8B8E-8B8F	Float	5th harmonic distortion limit	0-200%	Low pressure: 6 Medium voltage: 6 High pressure: 5	R/W

8B90-8B91	Float	6th harmonic distortion limit	0-200%	0.5	R/W
8B92-8B93	Float	7th harmonic distortion limit	0-200%	Low pressure: 5 Medium voltage: 5 High pressure: 4	R/W
8B94-8B95	Float	8th harmonic distortion limit	0-200%	0.5	R/W
8B96-8B97	Float	9th harmonic distortion limit	0-200%	Low pressure: 1.5 Medium voltage: 1.5 High pressure: 1.3	R/W
8B98-8B99	Float	10th harmonic distortion limit	0-200%	0.5	R/W
8B9A-8B9B	Float	11th harmonic distortion limit	0-200%	Low pressure: 3.5 Medium voltage: 3.5 High pressure: 3	R/W
8B9C-8B9D	Float	12th harmonic distortion limit	0-200%	0.5	R/W
8B9E-8B9F	Float	13th harmonic distortion limit	0-200%	Low pressure: 3 Medium voltage: 3	R/W

				High pressure: 2.5	
8BA0-8BA1	Float	14th harmonic distortion limit	0-200%	0.5	R/W
8BA2-8BA3	Float	15th harmonic distortion limit	0-200%	Low pressure: 1 Medium voltage: 0.5 High pressure: 0.5	R/W
8BA4-8BA5	Float	16th harmonic distortion limit	0-200%	0.5	R/W
8BA6-8BA7	Float	17th harmonic distortion limit	0-200%	2	R/W
8BA8-8BA9	Float	18th harmonic distortion limit	0-200%	0.5	R/W
8BAA-8BAB	Float	19th harmonic distortion limit	0-200%	1.5	R/W
8BAC-8BAD	Float	20th harmonic distortion limit	0-200%	0.5	R/W
8BAE-8BAF	Float	21st harmonic distortion limit	0-200%	Low pressure: 0.75 Medium voltage: 0.5 High pressure: 0.5	R/W
8BB0-8BB1	Float	22nd harmonic distortion limit	0-200%	0.5	R/W
8BB2-8BB3	Float	23rd harmonic distortion limit	0-200%	1.5	R/W

8BB4-8BB5	Float	24th harmonic distortion limit	0-200%	0.5	R/W
8BB6-8BB7	Float	25th harmonic distortion limit	0-200%	1.5	R/W
8BB8-8BBF	Reserved				

3.15 Equivalent data

3.15.1 Formatting

address	form	data specification	unit	R/W	remarks
8BC0-8BC1	Long	Full-wave equivalent voltage	0.001V	R	
8BC2-8BC3	Long	Full-wave equivalent current	0.0001A	R	
8BC4-8BC5	Long	Full-wave equivalent apparent power	0.001VA	R	
8BC6-8BC7	Long	Full-wave equivalent power factor	0.001	R	
8BC8-8BC9	Long	Fundamental equivalent voltage	0.001V	R	
8BCA-8BCB	Long	Fundamental frequency equivalent current	0.0001A	R	
8BCC-8BCD	Long	Fundamental frequency equivalent apparent power	0.001VA	R	
8BCE-8BCF	Long	Nonfundamental equivalent apparent power	0.001VA	R	
8BD0-8BD1	Long	Fundamental positive sequence apparent power##	0.001VA	R	
8BD2-8BD3	Long	Unbalanced apparent power	0.001VA	R	

3.15.1 Floating-point type

address	form	data specification	unit	R/W	remarks
8BD4-8BD5	Float	Full-wave equivalent voltage	V	R	
8BD6-8BD7	Float	Full-wave equivalent current	A	R	
8BD8-8BD9	Float	Full-wave equivalent apparent power	kVA	R	
8BDA-8BDB	Float	Full-wave equivalent power factor		R	
8BDC-8BDD	Float	Fundamental equivalent voltage	V	R	
8BDE-8BDF	Float	Fundamental frequency equivalent current	I	R	
8BE0-8BE1	Float	Fundamental frequency equivalent apparent power	kVA	R	
8BE2-8BE3	Float	Nonfundamental equivalent apparent power	kVA	R	
8BE4-8BE5	Float	Fundamental positive sequence apparent power##	kVA	R	
8BE6-8BE7	Float	Unbalanced apparent power	kVA	R	
8BE8-8BFF	Reserved				

3.16 Meter status (not available externally)

address	form	data specification	unit	R/W	remarks
8C00-8C01	Long	version number		R	For example, 0x24081401 represents August 14,2024, with version 0 and minor version 1.
8C02-8C15	Reserved				

8C16-8C17	Long	UserCfg file version number		R	For example, 0x20240814 is August 14,2024

3.17 Average data

3.17.1 3-second data

address	form	data specification	unit	R/W	remarks
8D00-8D01	Long	Full-wave A-phase voltage	0.001V	R	
8D02-8D03	Long	B-phase full-wave voltage	0.001V	R	
8D04-8D05	Long	Full-wave C-phase voltage	0.001V	R	
8D06-8D07	Long	Full-wave A-phase current	0.0001A	R	
8D08-8D09	Long	B-phase current full-wave value	0.0001A	R	
8D0A-8D0B	Long	Full-wave C-phase current	0.0001A	R	
8D0C-8D0D	Long	Total harmonic distortion rate of phase A voltage	0.001%	R	
8D0E-8D0F	Long	B-phase voltage total harmonic distortion rate	0.001%	R	
8D10-8D11	Long	Total harmonic distortion rate of phase C voltage	0.001%	R	
8D12-8D13	Long	Total harmonic distortion rate of phase A voltage	0.001%	R	
8D14-8D15	Long	B-phase voltage total harmonic distortion rate	0.001%	R	
8D16-8D17	Long	Total harmonic distortion rate of phase C voltage	0.001%	R	
8D18-8D19	Long	A-phase voltage second harmonic content	0.001%	R	
8D1A-8D1B	Long	B-phase voltage second harmonic content	0.001%	R	
8D1C-8D1D	Long	C-phase voltage second harmonic content	0.001%	R	

	.....	.....	.....	.....	
8E3E-8E3F	Long	51st harmonic content of phase A voltage	0.001%	R	
8E40-8E41	Long	B-phase voltage 51st harmonic content	0.001%	R	
8E42-8E43	Long	C-phase voltage 51st harmonic content	0.001%	R	
8E44-8E45	Long	Primary interharmonic content of phase A voltage	0.001%	R	
8E46-8E47	Long	B-phase voltage 1st harmonic distortion content	0.001%	R	
8E48-8E49	Long	C-phase voltage 1st harmonic distortion content	0.001%	R	
	.....	.....	.....	.....	
8F6A-8F6B	Long	50th harmonic content in phase A voltage	0.001%	R	
8F6C-8F6D	Long	B-phase voltage 50th harmonic distortion content	0.001%	R	
8F6E-8F6F	Long	C-phase voltage 50th harmonic distortion content	0.001%	R	

3.17..2 10-second data

address	form	data specification	unit	R/W	remarks
8F70-8F71	Long	Grid frequency	0.001Hz	R	
8F72-91DF	Reserved				

3.17.3 10-minute data

address	form	data specification	unit	R/W	remarks
91E0-91E1	Long	Full-wave A-phase voltage	0.001V	R	
91E2-91E3	Long	B-phase full-wave voltage	0.001V	R	

91E4-91E5	Long	Full-wave C-phase voltage	0.001V	R	
91E6-91E7	Long	Full-wave A-phase current	0.0001A	R	
91E8-91E9	Long	B-phase current full-wave value	0.0001A	R	
91EA-91EB	Long	Full-wave C-phase current	0.0001A	R	
91EC-91ED	Long	Total harmonic distortion rate of phase A voltage	0.001%	R	
91EE-91EF	Long	B-phase voltage total harmonic distortion rate	0.001%	R	
91F0-91F1	Long	Total harmonic distortion rate of phase C voltage	0.001%	R	
91F2-91F3	Long	Total harmonic distortion rate of phase A voltage	0.001%	R	
91F4-91F5	Long	B-phase voltage total harmonic distortion rate	0.001%	R	
91F6-91F7	Long	Total harmonic distortion rate of phase C voltage	0.001%	R	
91F8-91F9	Long	A-phase voltage second harmonic content	0.001%	R	
91FA-91FB	Long	B-phase voltage second harmonic content	0.001%	R	
91FC-91FD	Long	C-phase voltage second harmonic content	0.001%	R	
	.....	.....	.....	.....	
931E-931F	Long	51st harmonic content of phase A voltage	0.001%	R	
9320-9321	Long	B-phase voltage 51st harmonic content	0.001%	R	
9322-9323	Long	C-phase voltage 51st harmonic content	0.001%	R	
9324-9325	Long	Primary interharmonic content of	0.001%	R	

		phase A voltage			
9326-9327	Long	B-phase voltage 1st harmonic distortion content	0.001%	R	
9328-9329	Long	C-phase voltage 1st harmonic distortion content	0.001%	R	
	.....	.....	.....	.....	
944A-944B	Long	50th harmonic content in phase A voltage	0.001%	R	
944C-944D	Long	B-phase voltage 50th harmonic distortion content	0.001%	R	
944E-944F	Long	C-phase voltage 50th harmonic distortion content	0.001%	R	

3.18 Commissioning (not for external use)

address	form	data specification	unit	R/W	remarks
EA60-EA61	**Long**	**Number of transmissions to Measurement Core**		**R**	
EA62-EA63	**Long**	**Number of successful metering core communication receptions**		**R**	
EA64-EA65	**Long**	**Number of failed metering core communication attempts**		**R**	
EA66-EA67	**Long**	**Number of failed verification attempts with Measurement Core Communication**		**R**	
EA68-EA69	**Long**	**Number of communication interruptions with the metering core**		**R**	
EA6A-EA6B	**Long**	**Frame loss rate with Measurement Core Communication**		**R**	

EA6C-EA6D	**Long**	**Number of communications sent to the host computer**		**R**	
EA6E-EA6F	**Long**	**Number of communication receptions with the host computer**		**R**	
EA70	**Int**	**SD Card Status**		**R**	**0: Normal 1: Abnormal**
EA71	**Int**	**Waveform read error flag ######**		**R**	**0: Normal 1: Abnormal**
EA72-EA73	**Long**	**Failed to receive waveform count**		**R**	
EA74-EA75	**Long**	**Number of correct received waveforms**		**R**	

3.19 Software version (not available externally)

address	form	data specification	unit	R/W	remarks
FF00-FF0F	Char	software release		R	
FF10-FFDF	Reserved				
FFE0-FFEF	Char	Instrument model		R	
FFF0-FFF5	Char	serial number		R	

Appendix

Appendix A Demand (Extreme, Custom Storage) Monitoring Object

Monitoring objects for demand (extremes, custom storage)

order number	meaning	Current demand	Forecasting demand	maximum demand	remarks
0	unused	—	—	—	
1	Full-wave A-phase voltage	●	●	●	Invalid for three-phase three-wire system
2	B-phase full-wave voltage	●	●	●	Invalid for three-phase

					three-wire system
3	Full-wave C-phase voltage	●	●	●	Invalid for three-phase three-wire system
4	Full-wave average of phase voltage	●	●	●	Invalid for three-phase three-wire system
5	Full-wave AB line voltage	●	●	●	
6	Full-wave BC line voltage	●	●	●	
7	CA line voltage full-wave value	●	●	●	
8	Line voltage RMS	●	●	●	
9	Full-wave A-phase current	●	●	●	
10	B-phase current full-wave value	●	●	●	
11	Full-wave C-phase current	●	●	●	
12	N-phase current full-wave value	●	●	●	
13	Full-wave current average	●	●	●	
14	Full-wave active power of Phase A	●	●	●	Invalid for three-phase three-wire system
15	Full-wave active power of phase B	●	●	●	Invalid for three-phase three-wire system
16	Full-wave active power of phase C	●	●	●	Invalid for three-phase three-wire system
17	Total active power full wave value	●	●	●	
18	Full-wave value of phase A reactive power	●	●	●	Invalid for three-phase three-wire system
19	B-phase reactive power full-wave value	●	●	●	Invalid for three-phase three-wire system
20	C-phase reactive power full-wave value	●	●	●	Invalid for three-phase three-wire system
21	Total reactive power full wave value	●	●	●	
22	A-phase current at full power	●	●	●	Invalid for three-phase three-wire system
23	B-phase relative to full-wave power	●	●	●	Invalid for three-phase three-wire system
24	C-phase relative to	●	●	●	Invalid for three-phase

	full-wave power				three-wire system
25	Total apparent power full-wave value	●	●	●	
26	Full-wave A-phase power factor	●	●	●	Invalid for three-phase three-wire system
27	B-phase full-wave power factor	●	●	●	Invalid for three-phase three-wire system
28	Full-wave C-phase power factor	●	●	●	Invalid for three-phase three-wire system
29	Total power factor full-wave value	●	●	●	
30	Grid frequency	●	●	●	
31	Phase A voltage deviation	●	—	●	
32	B-phase voltage deviation	●	—	●	
33	Phase C voltage deviation	●	—	●	
34	AB line voltage deviation	●	—	●	
35	BC line voltage deviation	●	—	●	
36	CA line voltage deviation	●	—	●	
37	Frequency deviation	●	—	●	
38	Zero-sequence voltage imbalance	●	—	●	
39	Negative voltage imbalance	●	—	●	
40	Zero-sequence current imbalance	●	—	●	
41	Negative sequence current imbalance	●	—	●	
42	Total harmonic distortion rate of phase A voltage	●	—	●	For three-phase three-wire systems, the line voltage value is [Note 1]
43	B-phase voltage total harmonic distortion rate	●	—	●	For three-phase three-wire systems, the line voltage value is [Note 1]
44	Total harmonic distortion rate of phase C voltage	●	—	●	For three-phase three-wire systems, the line voltage value is [Note 1]
45	Total harmonic distortion rate of phase A current	●	—	●	
46	B-phase current total	●	—	●	

	harmonic distortion rate				
47	Total harmonic distortion rate of phase C current	●	—	●	
48	Total odd-order harmonic distortion rate of phase A voltage	●	—	●	For three-phase three-wire systems, the line voltage value is [Note 1]
49	B-phase voltage total odd harmonic distortion rate	●	—	●	For three-phase three-wire systems, the line voltage value is [Note 1]
50	Total odd harmonic distortion rate of phase C voltage	●	—	●	For three-phase three-wire systems, the line voltage value is [Note 1]
51	Total odd-order harmonic distortion rate of phase A current	●	—	●	
52	B-phase current total odd harmonic distortion rate	●	—	●	
53	Total odd-order harmonic distortion rate of phase C current	●	—	●	
54	Total even-order harmonic distortion rate of phase A voltage	●	—	●	For three-phase three-wire systems, the line voltage value is [Note 1]
55	B-phase voltage total even harmonic distortion rate	●	—	●	For three-phase three-wire systems, the line voltage value is [Note 1]
56	C-phase voltage total even harmonic distortion rate	●	—	●	For three-phase three-wire systems, the line voltage value is [Note 1]
57	Total even-order harmonic distortion rate of phase A current	●	—	●	
58	B-phase current total even harmonic distortion rate	●	—	●	
59	Total even-order harmonic distortion rate of phase C current	●	—	●	
60	A-phase current	●	—	●	

	fundamental value				
61	B-phase current fundamental value	●	—	●	
62	C-phase current fundamental value	●	—	●	
63	N-phase current fundamental value	●	—	●	
64	A-phase power factor fundamental value	●	—	●	
65	B-phase power factor fundamental value	●	—	●	
66	C-phase power factor fundamental value	●	—	●	
67	Total power factor fundamental value	●	—	●	

Note 1: The three-phase four-wire and three-phase three-wire use the same register

Appendix B: Limit Exceeding Alarm Monitoring Targets and Trigger Actions

Alarm monitoring objects beyond limits

order number	meaning	remarks
0	phase voltage	It is also an object of rapid boundary monitoring
1	line voltage	
2	phase current	
3	N phase current	
4	Total active power	
5	Total reactive power	
6	Total apparent power	
7	Total power factor	
8-31	Reserved	
32	Zero-sequence voltage imbalance	
33	Negative voltage imbalance	
34	Zero-sequence current imbalance	
35	Negative sequence current	

	imbalance	
36	Fundamental phase voltage	
37	Fundamental phase current	
38	voltage deviation	Three-phase three-wire voltage deviation
39	frequency	
40	Frequency deviation	
41	Reserved	
42	Total harmonic distortion	
43	Total odd harmonic distortion rate	
44	Voltage total even harmonic distortion rate	
45	Total current harmonic distortion	
46	Total odd harmonic distortion rate	
47	Current total even harmonic distortion rate	
48	Total harmonic distortion rate	
49	Total odd-order harmonic distortion rate	
50	Voltage total even harmonic distortion rate	
51	Total current harmonic distortion rate	
52	Total odd-order harmonic distortion rate	
53	Current total even harmonic distortion rate	
54	Total harmonic voltage RMS	
55	Reserved	
56	Reserved	
57	Effective value of total current harmonics	

58	Reserved	
59	Reserved	
60	Total harmonic distortion voltage RMS	
61	Reserved	
62	Reserved	
63	Effective value of total current harmonics	
64	Reserved	
65	Reserved	
66	There is always real-time demand for active power	
67	Total real-time reactive power demand	
68	Total apparent power real-time demand	
69	Total power factor real-time demand	
70	There is always a power demand forecast	
71	Total reactive power forecast demand	
72	Total apparent power forecast demand	
73	Total power factor forecast demand	
74	Short flicker	
75	Long-term flicker	
76	Fast voltage change	
77	Reserved	
78	2nd-order voltage harmonic content	
79-126	...	3-50th harmonic voltage distortion
127	51st harmonic distortion content	
128-140	Reserved	
141	2nd-order current harmonic content	

142-189	...	3-50th current harmonic content
190	51st current harmonic content	
191-203	Reserved	
204	2nd harmonic voltage RMS	
205-252	...	3-50 times the effective value of voltage harmonics
253	51 RMS voltage harmonic	
254-266	Reserved	
267	2nd current harmonic RMS	
268-315	...	3-50 times the effective value of current harmonics
316	51 RMS current harmonic	
217-329	Reserved	
330	1st-order harmonic distortion	
331-378	...	2-49 Harmonic content between secondary voltages
379	50th harmonic distortion ratio	
380-393	Reserved	
394	1st-order current harmonic RMS value	
395-442	...	Effective value of 2nd to 49th current harmonics
443	50th harmonic current RMS	
444-457	Reserved	
458	Primary DI1	
459	Primary DI2	
460	Primary DI3	
461	Main DI4	
462	Module X1 DI1	
463	Module X1 DI2	
464	Module X1 DI3	
465	Module X1 DI4	

466	Module X2 DI1	
467	Module X2 DI2	
468	Module X2 DI3	
469	Module X2 DI4	
470	Module X3 DI1	
471	Module X3 DI2	
472	Module X3 DI3	
473	Module X3 DI4	
474	Module X4 DI1	
475	Module X4 DI2	
476	Module X4 DI3	
477	Module X4 DI4	

Alarm trigger action type

order number	meaning	remarks
Bit00	Close DO1	
Bit01	Close DO2	
Bit02	Close DO3	
Bit03	Close DO4	
Bit04	Module X1 DO1 closed	
Bit05	Module X1 DO2 closed	
Bit06	Module X2 DO1 closed	
Bit07	Module X2 DO2 closed	
Bit08	Module X3 DO1 closed	
Bit09	Module X3 DO2 closed	
Bit10	Module X4 DO1 closed	
Bit11	Module X4 DO2 closed	

Appendix C: SOE Record Event Types for Analog Inputs and Relay Outputs

Switch input SOE event type

order number	meaning	remarks
0	Close DI1	
1	The main DI1 is	

	disconnected	
2	Close D2	
3	The main DI2 is disconnected	
4	Close D3	
5	The main DI3 is disconnected	
6	Close DI4	
7	The main DI4 is disconnected	
8	Module X1 DI1 closed	
9	Module X1 DI1 disconnected	
10	Module X1 DI2 closed	
11	Module X1 DI2 disconnected	
12	Module X1 DI3 closed	
13	Module X1 DI3 disconnected	
14	Module X1 DI4 closed	
15	Module X1 DI4 disconnected	
16	Module X2 DI1 closed	
17	Module X2 DI1 disconnected	
18	Module X2 DI2 closed	
19	Module X2 DI2 disconnected	
20	Module X2 DI3 closed	
21	Module X2 DI3 disconnected	
22	Module X2 DI4 closed	
23	Module X2 DI4 disconnected	
24	Module X3 DI1 closed	
25	Module X3 DI1 disconnected	
26	Module X3 DI2 closed	

27	Module X3 DI2 disconnected	
28	Module X3 DI3 closed	
29	Module X3 DI3 disconnected	
30	Module X3 DI4 closed	
31	Module X3 DI4 disconnected	
32	Module X4 DI1 closed	
33	Module X4 DI1 disconnected	
34	Module X4 DI2 closed	
35	Module X4 DI2 disconnected	
36	Module X4 DI3 closed	
37	Module X4 DI3 disconnected	
38	Module X4 DI4 closed	
39	Module X4 DI4 disconnected	

Relay output SOE record event type

order number	meaning	remarks
0	Close DO1	
1	Main DO1 disconnected	
2	Close DO2	
3	Main DO2 disconnected	
4	Close DO3	
5	Main DO3 disconnected	
6	Close DO4	
7	Main DO4 disconnected	
8	Module X1 DO1 closed	
9	Module X1 DO1 disconnected	
10	Module X1 DO2 closed	
11	Module X1 DO2 disconnected	

12	Module X2 DO1 closed	
13	Module X2 DO1 disconnected	
14	Module X2 DO2 closed	
15	Module X2 DO2 disconnected	
16	Module X3 DO1 closed	
17	Module X3 DO1 disconnected	
18	Module X3 DO2 closed	
19	Module X3 DO2 disconnected	
20	Module X4 DO1 closed	
21	Module X4 DO1 disconnected	
22	Module X4 DO2 closed	
23	Module X4 DO2 disconnected	

Appendix D EN50160 Statistical Data Format

form	**data specification**	**unit**	**remarks**
Uint32	record number		No save by date is set
Uint32	Record start time: Bit24-Bit31: Year; Bit16-Bit23: Month Bit08-Bit15: Day; Bit00-Bit07: Hour		
Uint32	Reserved		
Uint32	Record end time: Bit24-Bit31: Year; Bit16-Bit23: Month Bit08-Bit15: Day; Bit00-Bit07: Hour		
Uint32	Reserved		
Uint32	Frequency Conclusion Bit00: Frequency Conclusion		0: Unqualified 1: Qualified
Uint32	Record frequency in valid time intervals		

Uint32	Invalid number of time intervals for frequency records		
Uint32	Frequency tolerance conclusion Bit00: Frequency Bandwidth Conclusion		0: Unqualified 1: Qualified
Uint32	Number of valid time intervals for frequency bandwidth		
Uint32	Frequency tolerance pass rate	0.01%	
Uint32	Narrowband frequency conclusion Bit00: Narrowband frequency conclusion		
Uint32	Number of valid time intervals for narrowband frequency		
Uint32	Frequency narrowband pass rate	0.01%	
Uint32	Maximum frequency per week	0.001Hz	
Uint32	Minimum frequency per week	0.001Hz	
Uint32	Voltage Conclusion Bit00: A-phase voltage conclusion Bit01: B-phase voltage conclusion Bit02: C-phase voltage conclusion		0: Unqualified 1: Qualified
Uint32	Number of valid time intervals for voltage recording		
Uint32	Number of valid time intervals for voltage recording		
Uint32	Voltage tolerance conclusion Bit00: A-phase voltage tolerance conclusion Bit01: B-phase voltage tolerance conclusion Bit02: C-phase voltage tolerance		0: Unqualified 1: Qualified

	conclusion		
Uint32	Number of valid time intervals outside the A-phase voltage tolerance		
Uint32	Number of valid time intervals outside the B-phase voltage tolerance		
Uint32	Number of valid time intervals outside the C-phase voltage tolerance		
Uint32	Phase A voltage tolerance pass rate	0.01%	
Uint32	B-phase voltage tolerance pass rate	0.01%	
Uint32	C-phase voltage tolerance pass rate	0.01%	
Uint32	Voltage narrowband conclusion Bit00: Narrow Limit of A-phase Voltage Conclusion Bit01: Narrow Limitation of Phase B Voltage Bit02: Narrow Limitation Conclusion for Phase C Voltage		0: Unqualified 1: Qualified
Uint32	Number of valid time intervals for A-phase voltage narrow limiter		
Uint32	Number of valid time intervals outside narrow B-phase voltage limit		
Uint32	Number of valid time intervals outside narrow C-phase voltage limit		
Uint32	A-phase voltage narrow limit pass rate	0.01%	
Uint32	B-phase voltage narrow limit pass rate	0.01%	
Uint32	C-phase voltage narrow limit pass rate	0.01%	
Uint32	Peak value of phase A voltage	0.001V	
Uint32	B-phase voltage peak	0.001V	
Uint32	C-phase voltage peak	0.001V	
Uint32	Minimum voltage of phase A	0.001V	

Uint32	B-phase voltage minimum	0.001V	
Uint32	Minimum voltage of phase C	0.001V	
Uint32	Shimmer Conclusion Bit00: A-phase flicker conclusion Bit01: B-phase flicker conclusion Bit02: C-phase flicker conclusion		0: Unqualified 1: Qualified
Uint32	Number of valid time intervals for flicker recording		
Uint32	Invalid number of time intervals for flicker recording		
Uint32	Number of valid time intervals outside the A-phase flashover tolerance		
Uint32	Number of valid time intervals outside B-phase flicker tolerance		
Uint32	Number of valid time intervals outside phase C flicker tolerance		
Uint32	A-phase flashover tolerance pass rate	0.01%	
Uint32	B-phase flashover tolerance pass rate	0.01%	
Uint32	C-phase flicker tolerance pass rate	0.01%	
Uint32	Maximum A-phase flicker frequency		
Uint32	B-phase flicker peak value		
Uint32	Maximum C-phase flicker frequency		
Uint32	Minimum A-phase flicker period		
Uint32	Minimum B-phase flicker period		
Uint32	Minimum C-phase flicker period		
Uint32	95% maximum A-phase flicker		
Uint32	B-phase flicker at 95% of maximum		
Uint32	95% maximum C-phase flicker		
Uint32	Imbalance Conclusion Bit00: Imbalance Conclusion		0: Unqualified 1: Qualified

Uint32	The imbalance record indicates the valid time interval count		
Uint32	The imbalance record contains invalid time intervals.		
Uint32	Number of valid time intervals beyond the imbalance tolerance		
Uint32	Unbalance tolerance pass rate	0.01%	
Uint32	Weekly maximum imbalance		
Uint32	Minimum weekly imbalance		
Uint32	95% maximum imbalance per week		
Uint32	Harmonic Conclusion Bit00: A-phase harmonic conclusion Bit01: B-phase harmonic conclusion Bit02: C-phase harmonic analysis		0: Unqualified 1: Qualified
Uint32	Number of valid time intervals for harmonic recording		
Uint32	Invalid number of harmonic recording time intervals		
Uint32	Total harmonic distortion rate conclusion Bit00: Concluding A-phase total harmonic distortion rate Bit01: B-phase Total Harmonic Distortion Rate Conclusion Bit02: C-phase Total Harmonic Distortion Rate Conclusion		0: Unqualified 1: Qualified
Uint32	Number of valid time intervals when the total harmonic distortion rate of Phase A exceeds the tolerance limit		
Uint32	B-phase total harmonic distortion rate		

	tolerance interval duration		
Uint32	Number of valid time intervals exceeding the C-phase total harmonic distortion tolerance		
Uint32	A-phase total harmonic distortion (THD) pass rate	0.01%	
Uint32	B-phase total harmonic distortion rate pass rate	0.01%	
Uint32	C-phase total harmonic distortion rate pass rate	0.01%	
Uint32	2nd harmonic distortion rate conclusion Bit00: Conclusions on the 2nd harmonic distortion rate of Phase A Bit01: B-phase 2nd harmonic distortion rate conclusion Bit02: C-phase 2nd harmonic distortion rate conclusion		0: Unqualified 1: Qualified
Uint32	Number of valid time intervals exceeding the A-phase 2nd harmonic distortion tolerance		
Uint32	B-phase second harmonic distortion rate tolerance interval duration		
Uint32	C-phase second harmonic distortion rate tolerance interval duration		
Uint32	Phase A 2nd harmonic distortion rate pass rate	0.01%	
Uint32	B-phase 2nd harmonic distortion rate pass rate	0.01%	
Uint32	Phase C 2nd harmonic distortion rate	0.01%	

	pass rate		
Uint32	.....		3rd to 24th harmonic distortion rate pass rate
Uint32	25th harmonic distortion rate conclusion Bit00: Concluding the 25th harmonic distortion rate of Phase A Bit01: B-phase 25th harmonic distortion rate conclusion Bit02: C-phase 25th harmonic distortion rate conclusion		0: Unqualified 1: Qualified
Uint32	Number of valid time intervals exceeding the A-phase 25th harmonic distortion tolerance		
Uint32	B-phase 25th harmonic distortion rate tolerance interval duration		
Uint32	C-phase 25th harmonic distortion rate tolerance interval duration		
Uint32	Phase A 25th harmonic distortion rate pass rate	0.01%	
Uint32	B-phase 25th harmonic distortion rate pass rate	0.01%	
Uint32	Phase C 25th harmonic distortion rate pass rate	0.01%	
Uint32	Maximum weekly value of A-phase total harmonic distortion rate	0.001%	
Uint32	Maximum weekly B-phase total harmonic distortion rate	0.001%	

Uint32	Maximum weekly value of C-phase total harmonic distortion rate	0.001%	
Uint32	Minimum weekly value of total harmonic distortion rate in phase A	0.001%	
Uint32	Minimum B-phase total harmonic distortion	0.001%	
Uint32	Minimum weekly value of C-phase total harmonic distortion rate	0.001%	
Uint32	95% maximum value of total harmonic distortion rate for phase A	0.001%	
Uint32	B-phase total harmonic distortion rate at 95%	0.001%	
Uint32	95% maximum value of total harmonic distortion rate in phase C	0.001%	
Uint32	Average weekly distortion rate of total harmonics in Phase A	0.001%	
Uint32	B-phase total harmonic distortion rate (Z-average)	0.001%	
Uint32	C-phase total harmonic distortion rate (Z-average)	0.001%	
Uint32	Maximum weekly variation rate of A-phase second harmonic distortion	0.001%	
Uint32	Maximum weekly B-phase 2nd harmonic distortion rate	0.001%	
Uint32	Maximum weekly value of C-phase 2nd harmonic distortion rate	0.001%	
Uint32	.....		3rd to 24th harmonic distortion rate weekly

			maximum
Uint32	Maximum weekly variation rate of A-phase 25th harmonic distortion	0.001%	
Uint32	Maximum weekly B-phase 25th harmonic distortion rate	0.001%	
Uint32	Maximum weekly value of C-phase 25th harmonic distortion rate	0.001%	
Uint32	Minimum weekly distortion rate of the second harmonic distortion in Phase A	0.001%	
Uint32	B-phase second harmonic distortion rate at weekly minimum	0.001%	
Uint32	Minimum value of the second harmonic distortion rate in phase C	0.001%	
Uint32	.....		3rd to 24th harmonic distortion rate weekly minimum
Uint32	Minimum value of the 25th harmonic distortion rate in phase A	0.001%	
Uint32	B-phase 25th harmonic distortion rate weekly minimum	0.001%	
Uint32	Minimum value of the 25th harmonic distortion rate in phase C	0.001%	
Uint32	Maximum 95% distortion rate of the second harmonic distortion in phase A	0.001%	
Uint32	B-phase 2nd harmonic distortion rate at 95%	0.001%	
Uint32	C-phase 2nd harmonic distortion rate at 95%	0.001%	

Uint32	.....		3rd to 24th harmonic distortion rate at 95% of the maximum
Uint32	95% Maximum Value of 25th Harmonic Distortion Rate in Phase A	0.001%	
Uint32	B-phase 25th harmonic distortion rate at 95%	0.001%	
Uint32	95% maximum value of C-phase 25th harmonic distortion rate	0.001%	
Uint32	Average weekly distortion rate of the second harmonic distortion in Phase A	0.001%	
Uint32	B-phase second harmonic distortion rate weekly average	0.001%	
Uint32	C-phase second harmonic distortion rate weekly average	0.001%	
Uint32	.....		3rd to 24th harmonic distortion rate weekly average
Uint32	Weekly average of A-phase 25th harmonic distortion rate	0.001%	
Uint32	B-phase 25th harmonic distortion rate weekly average	0.001%	
Uint32	C-phase 25th harmonic distortion rate weekly average	0.001%	
Uint32	Number of valid time intervals for interharmonic recording		
Uint32	Invalid number of time intervals for		

	inter-harmonic recording		
Uint32	Maximum weekly value of total harmonic distortion rate in phase A	0.001%	
Uint32	Maximum weekly B-phase total harmonic distortion rate	0.001%	
Uint32	Maximum weekly value of C-phase total harmonic distortion rate	0.001%	
Uint32	Minimum value of the total harmonic distortion rate of phase A	0.001%	
Uint32	Minimum B-phase total harmonic distortion rate	0.001%	
Uint32	Minimum value of the total harmonic distortion rate in phase C	0.001%	
Uint32	Maximum 95% Harmonic Distortion Rate of Phase A Total Interphase	0.001%	
Uint32	B-phase total harmonic distortion rate at 95%	0.001%	
Uint32	95% maximum value of total harmonic distortion rate in phase C	0.001%	
Uint32	Average weekly distortion rate of total harmonic distortion in Phase A	0.001%	
Uint32	B-phase total harmonic distortion rate (ZAV)	0.001%	
Uint32	Average weekly C-phase total harmonic distortion rate	0.001%	
Uint32	Maximum weekly distortion rate of the first-order interharmonic distortion in Phase A	0.001%	
Uint32	Maximum weekly B-phase 1st-order harmonic distortion rate	0.001%	

Uint32	Maximum weekly distortion rate of the first-order harmonic distortion in phase C	0.001%	
Uint32	.....		2-24 times the maximum weekly distortion rate of interharmonics
Uint32	Maximum weekly variation rate of 25th-order harmonic distortion in Phase A	0.001%	
Uint32	Maximum weekly distortion rate of B-phase 25th harmonic distortion	0.001%	
Uint32	Maximum weekly variation rate of 25rd harmonic distortion in Phase C	0.001%	
Uint32	Minimum value of the first-order harmonic distortion rate in phase A	0.001%	
Uint32	B-phase 1st-order harmonic distortion rate at its weekly minimum	0.001%	
Uint32	Minimum value of the first-order harmonic distortion rate in phase C	0.001%	
Uint32	.....		2-24th harmonic distortion rate with weekly minimum
Uint32	Minimum value of the 25th-order harmonic distortion rate in phase A	0.001%	
Uint32	B-phase 25th harmonic distortion rate with weekly minimum	0.001%	
Uint32	Minimum value of the 25th-order	0.001%	

	harmonic distortion rate in phase C		
Uint32	Maximum 95% distortion rate of the first-order harmonic distortion in phase A	0.001%	
Uint32	B-phase 1st-order harmonic distortion rate at 95%	0.001%	
Uint32	C-phase 1st-order harmonic distortion rate at 95%	0.001%	
Uint32	.....		2-24th harmonic distortion rate at 95% of the maximum value
Uint32	95% Maximum Value of 25th Order Interharmonic Distortion Rate for Phase A	0.001%	
Uint32	B-phase 25th harmonic distortion rate at 95% frequency	0.001%	
Uint32	95% maximum distortion rate of 25th harmonic distortion in phase C	0.001%	
Uint32	Average weekly distortion rate of the first-order interharmonic distortion in Phase A	0.001%	
Uint32	B-phase 1st-order harmonic distortion rate (weekly average)	0.001%	
Uint32	C-phase 1st-order harmonic distortion rate (weekly average)	0.001%	
Uint32	.....		2-24th harmonic distortion rate weekly average
Uint32	Average weekly distortion rate of 25th	0.001%	

	harmonic distortion in Phase A		
Uint32	B-phase 25th harmonic distortion rate weekly average	0.001%	
Uint32	C-phase 25th-order harmonic distortion rate weekly average	0.001%	
Uint32	Signal voltage conclusion Bit00: A-bit voltage conclusion Bit01: B-bit signal voltage conclusion Bit02: C confidence level voltage conclusion		0: Unqualified 1: Qualified
Uint32	Number of valid time intervals for signal voltage recording		
Uint32	The signal voltage record has invalid time intervals.		
Uint32	Signal voltage (frequency 1) conclusion Bit00: A confidence signal voltage (frequency 1) conclusion Bit01: B-bit signal voltage (frequency 1) conclusion Bit02: C Confidence Signal Voltage (Frequency 1) Conclusion		0: Unqualified 1: Qualified
Uint32	Number of valid time intervals outside tolerance for A 相信号 voltage (frequency 1)		
Uint32	B indicates the number of valid time intervals outside the tolerance for the signal voltage (frequency 1)		
Uint32	C: Valid time interval count for voltage (frequency 1) beyond tolerance		
Uint32	Pass rate of A belief signal voltage	0.01%	

	(frequency 1)		
Uint32	Pass rate of B trust signal voltage (frequency 1)	0.01%	
Uint32	Pass rate of C belief signal voltage (frequency 1)	0.01%	
Uint32	Signal voltage (frequency 2) conclusion Bit00: A Belief Signal Voltage (Frequency 2) Conclusion Bit01: B-bit signal voltage (frequency 2) conclusion Bit02: C's confidence signal voltage (frequency 2) conclusion		0: Unqualified 1: Qualified
Uint32	A: Valid time interval count for voltage (frequency 2) beyond tolerance in the signal		
Uint32	B: Valid time interval count for voltage (frequency 2) beyond tolerance in the signal		
Uint32	C: Valid time interval count for voltage (frequency 2) beyond tolerance in the signal		
Uint32	Pass rate of A belief signal voltage (frequency 2)	0.01%	
Uint32	Pass rate of B trust signal voltage (frequency 2)	0.01%	
Uint32	Pass rate of C belief signal voltage (frequency 2)	0.01%	
Uint32	Signal voltage (frequency 3) conclusion Bit00: A Belief Signal Voltage (Frequency 3) Conclusion		0: Unqualified 1: Qualified

	Bit01: B-bit signal voltage (frequency 3) conclusion Bit02: C's confidence signal voltage (frequency 3) conclusion		
Uint32	A: Number of valid time intervals outside the tolerance for the A-phase voltage (frequency 3)		
Uint32	B indicates the number of valid time intervals outside the tolerance range for the signal voltage (frequency 3)		
Uint32	C: Valid time interval count for voltage (frequency 3) beyond tolerance		
Uint32	Pass rate of A belief signal voltage (frequency 3)	0.01%	
Uint32	Pass rate of B trust signal voltage (frequency 3)	0.01%	
Uint32	Pass rate of C belief signal voltage (frequency 3)	0.01%	
Uint32	Maximum weekly voltage (frequency 1) of A-phase	0.001V	
Uint32	B-phase voltage (frequency 1) weekly maximum	0.001V	
Uint32	C: Maximum voltage (frequency 1)	0.001V	
Uint32	Maximum weekly voltage (frequency 2) of A-phase	0.001V	
Uint32	B-phase voltage (frequency 2) weekly maximum	0.001V	
Uint32	C: Maximum voltage (frequency 2)	0.001V	
Uint32	Peak voltage (frequency 3) of the A-phase signal	0.001V	

Uint32	B-phase voltage (frequency 3) weekly maximum	0.001V	
Uint32	C: Maximum voltage (frequency 3)	0.001V	
Uint32	Minimum voltage (frequency 1) of A-phase	0.001V	
Uint32	B-phase voltage (frequency 1) minimum value	0.001V	
Uint32	C-phase voltage (frequency 1) minimum value	0.001V	
Uint32	Minimum voltage (frequency 2) of A-phase	0.001V	
Uint32	B-phase voltage (frequency 2) minimum value	0.001V	
Uint32	C: Minimum voltage (frequency 2)	0.001V	
Uint32	Minimum voltage (frequency 3) of A-phase	0.001V	
Uint32	B-phase voltage (frequency 3) minimum value	0.001V	
Uint32	C-phase voltage (frequency 3) minimum value	0.001V	
Uint32	95% of the maximum voltage (frequency 1) of the A-phase	0.001V	
Uint32	95% of the maximum voltage (frequency 1) of the B trust signal	0.001V	
Uint32	95% of the maximum voltage (frequency 1) of the C belief signal	0.001V	
Uint32	95% of the maximum voltage (frequency 2) of the A-phase signal	0.001V	
Uint32	95% of the maximum voltage (frequency 2) of the B trust signal	0.001V	

Uint32	95% of the maximum voltage (frequency 2) of the C belief signal	0.001V	
Uint32	95% Maximum Voltage (Frequency 3) of the A-phase	0.001V	
Uint32	B-phase voltage (frequency 3) at 95% duty cycle	0.001V	
Uint32	95% Maximum Voltage (Frequency 3) of the C-Trust Signal	0.001V	
Uint32	Number of rapid voltage changes in phase A this week		
Uint32	Number of rapid voltage changes in phase B this week		
Uint32	Number of rapid voltage changes in phase C this week		
Uint32	Number of temporary rises Duration (10-500) Voltage amplitude (110-120)	hourly basis : ms Amplitude unit:%	
Uint32	Number of temporary rises Duration (500-5000) Voltage amplitude (110-120)	ditto	
Uint32	Number of temporary rises Duration (5000-60000) Voltage amplitude (110-120)	ditto	
Uint32	Number of temporary rises Duration (60000-) Voltage amplitude (110-120)	ditto	
Uint32	Number of temporary rises Duration (10-500) Voltage amplitude (120-140)	ditto	

Uint32	Number of temporary rises Duration (500-5000) Voltage amplitude (120-140)	ditto	
Uint32	Number of temporary rises Duration (5000-60000) Voltage amplitude (120-140)	ditto	
Uint32	Number of temporary rises Duration (60000-) Voltage amplitude (120-140)	ditto	
Uint32	Number of temporary rises Duration (10-500) Voltage amplitude (140-160)	ditto	
Uint32	Number of temporary rises Duration (500-5000) Voltage amplitude (140-160)	ditto	
Uint32	Number of temporary rises Duration (5000-60000) Voltage amplitude (140-160)	ditto	
Uint32	Number of temporary rises Duration (60000-) Voltage amplitude (140-160)	ditto	
Uint32	Number of temporary rises Duration (10-500) Voltage amplitude (160-200)	ditto	
Uint32	Number of temporary rises Duration (500-5000) Voltage amplitude (160-200)	ditto	
Uint32	Number of temporary rises Duration (5000-60000) Voltage amplitude (160-200)	ditto	
Uint32	Number of temporary rises Duration (60000-) Voltage amplitude (160-200)	ditto	
Uint32	Number of temporary rises Duration (10-500) Voltage amplitude (200-)	ditto	

Uint32	Number of temporary rises Duration (500-5000) Voltage amplitude (200-)	ditto	
Uint32	Number of temporary rises Duration (5000-60000) Voltage amplitude (200-)	ditto	
Uint32	Number of temporary rises Duration (60000-) Voltage amplitude (200-)	ditto	
Uint32	Number of dips Duration (10-200) Voltage amplitude (-5)	ditto	
Uint32	Number of dips Duration (200-500) Voltage amplitude (-5)	ditto	
Uint32	Number of dips Duration (500-1000) Voltage amplitude (-5)	ditto	
Uint32	Number of dips Duration (1000-5000) Voltage amplitude (-5)	ditto	
Uint32	Number of temporary drops Duration (5000-60000) Voltage amplitude (-5)	ditto	
Uint32	Number of temporary drops Duration (60000-) Voltage amplitude (-5)	ditto	
Uint32	Number of temporary drops Duration (10-200) Voltage amplitude (5-40)	ditto	
Uint32	Number of dips Duration (200-500) Voltage amplitude (5-40)	ditto	
Uint32	Number of dips Duration (500-1000) Voltage amplitude (5-40)	ditto	
Uint32	Number of temporary drops Duration (1000-5000) Voltage amplitude (5-40)	ditto	
Uint32	Number of temporary drops Duration (5000-60000) Voltage amplitude (5-40)	ditto	
Uint32	Number of temporary drops Duration (60000-) Voltage amplitude (5-40)	ditto	

Uint32	Number of temporary drops Duration (10-200) Voltage amplitude (40-70)	ditto	
Uint32	Number of dips, duration (200-500), voltage amplitude (40-70)	ditto	
Uint32	Number of temporary drops Duration (500-1000) Voltage amplitude (40-70)	ditto	
Uint32	Number of temporary drops Duration (1000-5000) Voltage amplitude (40-70)	ditto	
Uint32	Number of temporary drops Duration (5000-60000) Voltage amplitude (40-70)	ditto	
Uint32	Number of temporary drops Duration (60000-) Voltage amplitude (40-70)	ditto	
Uint32	Number of temporary drops Duration (10-200) Voltage amplitude (70-80)	ditto	
Uint32	Number of dips Duration (200-500) Voltage amplitude (70-80)	ditto	
Uint32	Number of temporary drops Duration (500-1000) Voltage amplitude (70-80)	ditto	
Uint32	Number of temporary drops Duration (1000-5000) Voltage amplitude (70-80)	ditto	
Uint32	Number of temporary drops Duration (5000-60000) Voltage amplitude (70-80)	ditto	
Uint32	Number of temporary drops Duration (60000-) Voltage amplitude (70-80)	ditto	
Uint32	Number of temporary drops Duration (10-200) Voltage amplitude (80-90)	ditto	
Uint32	Number of dips Duration (200-500) Voltage amplitude (80-90)	ditto	

Uint32	Number of dips, duration (500-1000), voltage amplitude (80-90)	ditto	
Uint32	Number of temporary drops Duration (1000-5000) Voltage amplitude (80-90)	ditto	
Uint32	Number of temporary drops Duration (5000-60000) Voltage amplitude (80-90)	ditto	
Uint32	Number of temporary drops Duration (60000-) Voltage amplitude (80-90)	ditto	
Uint32	Interrupt count duration (-1000)	ditto	
Uint32	Interrupt count duration (1000-180000)	ditto	
Uint32	Interrupt count duration (180000-)	ditto	
Uint32	A-phase transient count		
Uint32	B-phase transient count		
Uint32	C-phase transient count		