EV METER

MODBUS MAP

3-PHASE

9AKK107991A9529 Revision B

Default Modbus settings:

Baud rate = 9600 (settable)

Device Address = 1 (settable)

Parity = Even (settable via Modbus)

1 Total energy

Name	Binary Address	Hexadecimal Address	Data Format (4 bytes, 4 decimal places, the unit: kWh)			
Active import energy	0101 0000 0000 0000	0x5000	0x00000000000112233	0x0000000000112233 =1122867	112.2867kWh	unsigned
Active export energy	0101 0000 0000 0100	0x5004	0x00000000000112233	0x0000000000112233 =1122867	112.2867kWh	unsigned
Active net energy	0101 0000 0000 1000	0x5008	0x00000000000112233	0x0000000000112233 =1122867	112.2867kWh	signed

2 Total energy per phase

Name	Details	Binary Address	Hexadecimal Address	Data Format (8 bytes, 4 decimal places, the unit: kWh)			
Active import energy	L1	0101 0100 0110 0000	0x5460	0x00000000 11112222	0x00000000 11112222=286335522	28633.5522kWh	unsigned
Active import energy	L2	0101 0100 0110 0100	0x5464	0x00000000 11112222	0x00000000 11112222=286335522	28633.5522kWh	unsigned
Active import energy	L3	0101 0100 0110 1000	0x5468	0x00000000 11112222	0x00000000 11112222=286335522	28633.5522kWh	unsigned
Active export energy	L1	0101 0100 0110 1100	0x546C	0x00000000 11112222	0x00000000 11112222=286335522	28633.5522kWh	unsigned
Active export energy	L2	0101 0100 0111 0000	0x5470	0x00000000 11112222	0x00000000 11112222=286335522	28633.5522kWh	unsigned
Active export energy	L3	0101 0100 0111 0100	0x5474	0x00000000 11112222	0x00000000 11112222=286335522	28633.5522kWh	unsigned
Active net energy	L1	0101 0100 0111 1000	0x5478	0x00000000 11112222	0x00000000 11112222=286335522	28633.5522kWh	signed
Active net energy	L2	0101 0100 0111 1100	0x547C	0x00000000 11112222	0x00000000 11112222=286335522	28633.5522kWh	signed
Active net energy	L3	0101 0100 1000 0000	0x5480	0x00000000 11112222	0x00000000 11112222=286335522	28633.5522kWh	signed

3 Instantaneous values

3.1 Voltage

Details	Binary Address	Hexadecimal Address	Data Format (4 bytes, 1 decimal places, the unit: V)			
L1-N	0101 1011 0000 0000	0x5B00	0x000008F3	0x000008F3 = 2291	229.1V	unsigned
L2-N	0101 1011 0000 0010	0x5B02	0x000008F3	0x000008F3 = 2291	229.1V	unsigned
L3-N	0101 1011 0000 0100	0x5B04	0x000008F3	0x000008F3 = 2291	229.1V	unsigned

3.2 Current

Details	Binary Address	Hexadecimal Address	Data Format (4 bytes, 2 decimal places, the unit: A)			
L1	0101 1011 0000 1100	0x5B0C	0x00000209	0x00000209 =521	5.21A	unsigned
L2	0101 1011 0000 1110	0x5B0E	0x00000209	0x00000209 =521	5.21A	unsigned
L3	0101 1011 0001 0000	0x5B10	0x00000209	0x00000209 =521	5.21A	unsigned

3.3 Active power

Details	Binary Address	Hexadecimal Address	Data Format (4 bytes, 2 decimal places, the unit: W)			
Total active power	0101 1011 0001 0100	0x5B14	0x0001C14D	0x0001C14D =115021	1150.21W	signed
L1 active power	0101 1011 0001 0110	0x5B16	0x0001C14D	0x0001C14D =115021	1150.21W	signed
L2 active power	0101 1011 0001 1000	0x5B18	0x0001C14D	0x0001C14D =115021	1150.21W	signed
L3 active power	0101 1011 0001 1010	0x5B1A	0x0001C14D	0x0001C14D =115021	1150.21W	signed

3.4 Frequency

Details	Binary Address	Hexadecimal Address	Data Format (2 bytes, 2 decimal places, the unit: Hz)			
Frequency	0101 1011 0010 1100	0x5B2C	0x1388	0x1388 =5000	50.00Hz	unsigned

3.5 Power factor

Details	Binary Address	Hexadecimal Address	Data Format (2 bytes, 3 decimal places, range: 0 ~ +1.000)			
Total power factor	0101 1011 0011 1010	0x5B3A	0x03E6	0x03E6 =998	0.998	unsigned
L1 power factor	0101 1011 0011 1011	0x5B3B	0x03E6	0x03E6 =998	0.998	unsigned
L2 power factor	0101 1011 0011 1100	0x5B3C	0x03E6	0x03E6 =998	0.998	unsigned
L3 power factor	0101 1011 0011 1101	0x5B3D	0x03E6	0x03E6 =998	0.998	unsigned

4 Production data and identification

Name	Binary Address	Hexadecimal Address	Data size	Data Format		
Serial number	0000 0100 0000 0010	0x0402	6 Bytes	0x001122334455	“001122334455”	
Meter firmware version	1000 1001 0000 1000	0x8908	16 Bytes	0x41424344454647484950515253545556	“ABCDEFGHIJKLMNOP”	ASCII string (up to 16 characters)
Type designation	1000 1001 0110 0000	0x8960	8 Bytes	0x4142434445464748	“ABCDEFGH”	ASCII string (up to 8 characters)

5 Miscellaneous

Name	Binary Address	Hexadecimal Address	Data size	Description	Data type
Error flags	1000 1010 0001 0011	0x8A13	8 Bytes	64 flags	Bit string Bit0: EE_error Other: reserved

6 Display

Name	Binary Address	Hexadecimal Address	Data size	Data Format(unsigned)	Area	Attribute
Auto Mode Duration(sec)	0001 0000 0000 0000	0x1000	2 Bytes	0x000A=10	4~20，UNIT (s) default: 5s	RW
Alt Mode Exiting Duration(sec)	0001 0000 0000 0011	0x1003	2 Bytes	0x000A=10	4~20，UNIT (s) default: 5s	RW
Backlight on time(sec)	0001 0000 0000 0101	0x1005	2 Bytes	0x000A=10	5~60，UNIT (s) default: 20s	RW
Auto Mode Write register (32 Item)	0001 0001 0000 0000	0x1100	64 Bytes	5B00 FFFF FFFF FFFF ... FFFF (32 Item * 2 =64 bytes)		RW
Alt Mode Write register (32 Item)	0001 0001 0010 0000	0x1120	64 Bytes	5B00 FFFF FFFF FFFF ... FFFF (32 Item * 2 =64 bytes)		RW
Auto Display Item	0001 0000 0001 0000	0x1010	2 Bytes	0x000A=10		RW

Alt Display Item	0001 0000 0001 0001	0x1011	2 Bytes	0x000A=10		RW
Checksum	1000 1001 0001 0010	0x8912	2 Bytes	0x5A22	“5A22”	

7 Info Rate

Details	Binary Address	Hexadecimal Address	Data Format				Attribute	Data size
Rated Voltage	0000 0100 0000 1100	0x040C	0x000008FC	0x000008FC=2300	230.0V	unsigned	R	4 Bytes
Rated Current	0000 0100 0000 1110	0x040E	0x000001F4	0x000001F4 =500	5.00A	unsigned	R	4 Bytes
Maximum Current	0000 0100 0001 0001	0x0411	0x00001964	0x000019604 =6500	65.00 A	unsigned	R	4 Bytes
Rated Frequency	0000 0100 0001 0000	0x0410	0x1388	0x1388 =5000	50.00 Hz	unsigned	R	2 Bytes
Communication Address	1000 1001 0000 0000	0x8900	0x0074	0x0074	74		RW	2 Bytes
Baud rate	0000 0100 0000 1011	0x040B	0x0005 0x0006 0x0007	5 - 9600bps 6 - 19200bps 7 - 38400bps	Default: 5 - 9600 bps	RW	2 Bytes	Baud rate
Active pulse constant	0000 0100 0001 0011	0x0413	0x03E8	0x03E8 =1000	1000 imp/kWh	R	2 Bytes	Active pulse constant
Communication Parity	0000 0100 0001 0100	0x0414	0x0001 0x0002 0x0003	1 - 8N1 2 - 8E1 3 - 8O1	Default: 2 - 8E1	RW	2 Bytes	Communication Parity

7 Communication Enable

Details	Binary Address	Hexa-decimal Address	Data Format				Attribute
Communi-cation ad-dress ena-ble by push button	0000 0011 0000 0010	0x0302	0x0000 0x0001	0-Disable 1-Enable	unsigned	R	2 Bytes