

# Parameter address table

## Household Parameter

### Household Meter

#### Grid Meter

Address Register	variable	Belong to R/W	Data format	Data Model	Remarks
Grid Meter Config					
0000H	Grid Meter CT Enable	R/W	Occupy 2byte	unsigned short	1/bit
0001H	Grid Meter CT Rate	R/W	Occupy 2byte	unsigned short	1/bit

Grid Meter Running Data					
0010H 0011H	Total energy feed to grid(Grid)	RO	Occupy 4 byte	unsigned int	0.01kWh/bit
0012H 0013H	Total energy consume from grid(Grid)	RO	Occupy 4 byte	unsigned int	0.01kWh/bit
0014H	Voltage of A phase(Grid)	RO	Occupy 2byte	unsigned short	1V
0015H	Voltage of B phase(Grid)	RO	Occupy 2byte	unsigned short	1V
0016H	Voltage of C phase(Grid)	RO	Occupy 2byte	unsigned short	1V
0017H	Current of A phase(Grid)	RO	Occupy 2byte	short	0.1A
0018H	Current of B phase(Grid)	RO	Occupy 2byte	short	0.1A
0019H	Current of C phase(Grid)	RO	Occupy 2byte	short	0.1A
001AH	Frequent(Grid)	RO	Occupy 2byte	unsigned short	0.01Hz
001BH 001CH	Active power of A phase(Grid)	RO	Occupy 4 byte	int	1W/bit
001DH 001EH	Active power of B phase(Grid)	RO	Occupy 4 byte	int	1W/bit

001FH 0020H	Active power of C phase(Grid)	RO	Occupy 4 byte	int	1W/bit
0021H 0022H	Total Active power(Grid Meter)	RO	Occupy 4byte	int	1W/bit
0023H 0024H	Reactive power of A phase(Grid)	RO	Occupy 4 byte	int	1var
0025H 0026H	Reactive power of B phase(Grid)	RO	Occupy 4 byte	int	1var
0027H 0028H	Reactive power of C phase(Grid)	RO	Occupy 4 byte	int	1var
0029H 002AH	Total reactive power(Grid)	RO	Occupy 4 byte	int	1var
002BH 002CH	Apparent power of A phase(Grid)	RO	Occupy 4 byte	int	1VA
002DH 002EH	Apparent power of B phase(Grid)	RO	Occupy 4 byte	int	1VA
002FH 0030H	Apparent power of C phase(Grid)	RO	Occupy 4 byte	int	1VA
0031H 0032H	Total apparent power(Grid)	RO	Occupy 4 byte	int	1VA
0033H	Power factor of A phase(Grid)	RO	Occupy 2byte	short	0.01 kWh
0034H	Power factor of B phase(Grid)	RO	Occupy 2byte	short	0.01 kWh
0035H	Power factor of C phase(Grid)	RO	Occupy 2byte	short	0.01 kWh
0036H	Total Power factor(Grid)	RO	Occupy 2byte	short	0.01 kWh
0037H 0038H	A phase energy consume from Grid	RO	Occupy 4 byte	int	0.01 kWh
0039H 003AH	A phase energy feed to Grid	RO	Occupy 4 byte	int	0.01 kWh
003BH 003CH	B phase energy consume from Grid	RO	Occupy 4 byte	int	0.01 kWh
003DH 003EH	B phase energy feed to Grid	RO	Occupy 4 byte	int	0.01 kWh
003FH 0040H	C phase energy consume from Grid	RO	Occupy 4 byte	int	0.01 kWh
0041H 0042H	C phase energy feed to Grid	RO	Occupy 4 byte	int	0.01 kWh

**PV Meter**

<b>Address Register</b>	<b>variable</b>	<b>Belong to R/W</b>	<b>Data format</b>	<b>Data Model</b>	<b>Remarks</b>
<b>PV Meter config</b>					
0080H	PV Meter CT Enable	R/W	Occupy 2byte	unsigned short	1/bit
0081H	PV Meter CT Rate	R/W	Occupy 2byte	unsigned short	1/bit

<b>PV Meter Running Data</b>					
0090H 0091H	Total energy feed to Grid(PV)	RO	Occupy 4 byte	unsigned int	0.01kWh/bit
0092H 0093H	Total energy consume from Grid(PV)	RO	Occupy 4 byte	unsigned int	0.01kWh/bit
0094H	Voltage of A phase(PV)	RO	Occupy 2byte	unsigned short	1V
0095H	Voltage of B phase(PV)	RO	Occupy 2byte	unsigned short	1V
0096H	Voltage of C phase(PV)	RO	Occupy 2byte	unsigned short	1V
0097H	Current of A phase(PV)	RO	Occupy 2byte	short	0.1A
0098H	Current of B phase(PV)	RO	Occupy 2byte	short	0.1A
0099H	Current of C phase(PV)	RO	Occupy 2byte	short	0.1A
009AH	Frequent(PV)	RO	Occupy 2byte	unsigned short	0.01HZ
009BH 009CH	Active power of A phase(PV)	RO	Occupy 4 byte	int	1W/bit
009DH 009EH	Active power of B phase(PV)	RO	Occupy 4 byte	int	1W/bit
009FH 00A0H	Active power of C phase(PV)	RO	Occupy 4 byte	int	1W/bit
00A1H 00A2H	Total Active power(PV Meter)	RO	Occupy 4byte	int	1W/bit
00A3H 00A4H	Reactive power of A phase(PV)	RO	Occupy 4 byte	int	1var
00A5H 00A6H	Reactive power of B phase(PV)	RO	Occupy 4 byte	int	1var
00A7H 00A8H	Reactive power of C phase(PV)	RO	Occupy 4 byte	int	1var

00A9H 00AAH	Total reactive power(PV)	RO	Occupy 4 byte	int	1var
00ABH 00ACH	Apparent power of A phase(PV)	RO	Occupy 4 byte	int	1VA
00ADH 00AEH	Apparent power of B phase(PV)	RO	Occupy 4 byte	int	1VA
00AFH 00B0H	Apparent power of C phase(PV)	RO	Occupy 4 byte	int	1VA
00B1H 00B2H	Total apparent power(PV)	RO	Occupy 4 byte	int	1VA
00B3H	Power factor of A phase(PV)	RO	Occupy 2byte	short	0.01
00B4H	Power factor of B phase(PV)	RO	Occupy 2byte	short	0.01
00B5H	Power factor of C phase(PV)	RO	Occupy 2byte	short	0.01
00B6H	Total Power factor(PV)	RO	Occupy 2byte	short	0.01

## Household Battery

Address Register	variable	Belong to R/W	Data format	Data Model	Remarks
Household Battery Running Data					
0100H	Battery voltage	RO	Occupy 2 byte	unsigned short	0.1V/bit
0101H	Battery current	RO	Occupy 2 byte	short	0.1A/bit
0102H	Battery SOC	RO	Occupy 2 byte	unsigned short	0.1/bit
0103H	Battery status	RO	Occupy 2 byte	unsigned short	<a href="#">Note1</a>
0104H	Battery relay status	RO	Occupy 2 byte	unsigned short	<a href="#">Note2</a>
0105H	Pack ID of min cell voltage	RO	Occupy 2 byte	unsigned short	0.001V/bit
0106H	Cell ID of min cell voltage	RO	Occupy 2 byte	unsigned short	0.001V/bit
0107H	Min cell voltage	RO	Occupy 2 byte	unsigned short	0.001V/bit
0108H	Pack ID of max cell voltage	RO	Occupy 2 byte	unsigned short	0.001V/bit
0109H	Cell ID of max cell voltage	RO	Occupy 2 byte	unsigned short	0.001V/bit
010AH	Max cell voltage	RO	Occupy 2 byte	unsigned short	0.001V/bit
010BH	Pack ID of min cell temperature	RO	Occupy 2 byte	unsigned short	0.1°C/bit
010CH	Cell ID of min cell temperature	RO	Occupy 2 byte	unsigned short	0.1°C/bit
010DH	Min cell temperature	RO	Occupy 2 byte	short	0.1°C/bit
010EH	Pack ID of max cell temperature	RO	Occupy 2 byte	unsigned short	0.1°C/bit
010FH	Cell ID of max cell temperature	RO	Occupy 2 byte	unsigned short	0.1°C/bit
0110H	Max cell temperature	RO	Occupy 2 byte	short	0.1°C/bit
0111H	Battery max charge current	RO	Occupy 2 byte	unsigned short	0.1A/bit
0112H	Battery max discharge current	RO	Occupy	unsigned	0.1A/bit

			2 byte	short	
0113H	Battery charge cut-off voltage	RO	Occupy 2 byte	unsigned short	0.1V/bit
0114H	Battery discharge cut-off voltage	RO	Occupy 2 byte	unsigned short	0.1V/bit
0115H	BMU software version	RO	Occupy 2 byte	unsigned short	
0116H	LMU software version	RO	Occupy 2 byte	unsigned short	
0117H	ISO software version	RO	Occupy 2 byte	unsigned short	
0118H	Battery num	RO	Occupy 2 byte	unsigned short	Battery module number
0119H	Battery capacity	RO	Occupy 2 byte	unsigned short	0.1kWh/bit
011AH	Battery type	RO	Occupy 2 byte	unsigned short	<a href="#">Note3</a>
011BH	Battery SOH	RO	Occupy 2 byte	unsigned short	0.1/bit
011CH 011DH	Battery warning	RO	Occupy 4 byte	unsigned int	<a href="#">Note28</a>
011EH 011FH	Battery fault	RO	Occupy 4 byte	unsigned int	<a href="#">Note4</a>
0120H 0121H	Battery charge energy	RO	Occupy 4 byte	unsigned int	0.1kWh/bit
0122H 0123H	Battery discharge energy	RO	Occupy 4 byte	unsigned int	0.1kWh/bit
0124H 0125H	Battery energy charge from grid	RO	Occupy 4 byte	unsigned int	0.1kWh/bit
0126H	Battery Power	RO	Occupy 2 byte	short	1W/bit ( -: Charge, +: Discharge)
0127H	Battery remaining time	RO	Occupy 2 byte	unsigned short	1min/bit
0128H	Battery Implementation Charge SOC	RO	Occupy 2 byte	unsigned short	0.1/bit(Rate_SOC-UPS_SOC)
0129H	Battery Implementation Discharge SOC	RO	Occupy 2 byte	unsigned short	0.1/bit(Rate_SOC-UPS_SOC)
012AH	Battery Remaining Charge SOC	RO	Occupy 2 byte	unsigned short	0.1/bit(Rate_SOC-Remain_SOC)
012BH	Battery Remaining Discharge SOC	RO	Occupy 2 byte	unsigned short	0.1/bit(Remain_SOC - UPS_SOC)
012CH	Battery Max charge power	RO	Occupy	unsigned	1W/bit

			2 byte	short	
012DH	Battery Max Discharge power	RO	Occupy 2 byte	unsigned short	1W/bit
012EH	Battery MOS Control	R/W	Occupy 2 byte	unsigned short	0:Open, 1:Close
012FH	Battery SOC Calibration	RO	Occupy 2 byte	unsigned short	0:Disable, 1: Enable
0130H	Battery Single cut error code	RO	Occupy 2 byte	unsigned short	
0131H 0132H	Battery fault1	RO	Occupy 4 byte	unsigned int	
0133H 0134H	Battery fault2	RO	Occupy 4 byte	unsigned int	
0135H 0136H	Battery fault3	RO	Occupy 4 byte	unsigned int	
0137H 0138H	Battery fault4	RO	Occupy 4 byte	unsigned int	
0139H 013AH	Battery fault5	RO	Occupy 4 byte	unsigned int	
013BH 013CH	Battery fault6	RO	Occupy 4 byte	unsigned int	
013DH 013EH	Battery warning1	RO	Occupy 4 byte	unsigned int	
013FH 0140H	Battery warning2	RO	Occupy 4 byte	unsigned int	
0141H 0142H	Battery warning3	RO	Occupy 4 byte	unsigned int	
0143H 0144H	Battery warning4	RO	Occupy 4 byte	unsigned int	
0145H 0146H	Battery warning5	RO	Occupy 4 byte	unsigned int	
0147H 0148H	Battery warning6	RO	Occupy 4 byte	unsigned int	
0150H~ 0154H	Battery SN1	RO	Occupy 10 byte	unsigned int	
0155H~ 0159H	Battery SN2	RO	Occupy 10 byte	unsigned int	
015AH~ 015EH	Battery SN3	RO	Occupy 10 byte	unsigned int	
015FH~ 0163H	Battery SN4	RO	Occupy 10 byte	unsigned int	
0164H~ 0168H	Battery SN5	RO	Occupy 10 byte	unsigned int	

0169H~ 016DH	Battery SN6	RO	Occupy 10 byte	unsigned int	

## Household Inverter

Address Register	variable	Belong to R/W	Data format	Data Model	Remarks
Household Inverter Running Data					
0400H	Inverter_Voltage_L1	RO	Occupy 2 byte	unsigned short	0.1V/bit
0401H	Inverter_Voltage_L2	RO	Occupy 2 byte	unsigned short	0.1V/bit
0402H	Inverter_Voltage_L3	RO	Occupy 2 byte	unsigned short	0.1V/bit
0403H	Inverter_Current_L1	RO	Occupy 2 byte	short	0.1A/bit
0404H	Inverter_Current_L2	RO	Occupy 2 byte	short	0.1A/bit
0405H	Inverter_Current_L3	RO	Occupy 2 byte	short	0.1A/bit
0406H 0407H	Inverter_Power_L1	RO	Occupy 4 byte	int	1W/bit
0408H 0409H	Inverter_Power_L2	RO	Occupy 4 byte	int	1W/bit
040AH 040BH	Inverter_Power_L3	RO	Occupy 4 byte	int	1W/bit
040CH 040DH	Inverter_Power_Total	RO	Occupy 4 byte	int	1W/bit
040EH	Inverter_Backup_Voltage_L1	RO	Occupy 2 byte	unsigned short	0.1V/bit
040FH	Inverter_Backup_Voltage_L2	RO	Occupy 2 byte	unsigned short	0.1V/bit
0410H	Inverter_Backup_Voltage_L3	RO	Occupy 2 byte	unsigned short	0.1V/bit
0411H	Inverter_Backup_Current_L1	RO	Occupy 2 byte	unsigned short	0.1A/bit
0412H	Inverter_Backup_Current_L2	RO	Occupy 2 byte	unsigned short	0.1A/bit
0413H	Inverter_Backup_Current_L3	RO	Occupy 2 byte	unsigned short	0.1A/bit

0414H 0415H	Inverter_Backup_Power_L1	RO	Occupy 4 byte	unsigned int	1W/bit
0416H 0417H	Inverter_Backup_Power_L2	RO	Occupy 4 byte	unsigned int	1W/bit
0418H 0419H	Inverter_Backup_Power_L3	RO	Occupy 4 byte	unsigned int	1W/bit
041AH 041BH	Inverter_Backup_Power_Total	RO	Occupy 4 byte	unsigned int	1W/bit
041CH	Inverter Grid Frequency	RO	Occupy 2 byte	unsigned short	0.01Hz/bit
041DH	PV1 Voltage	RO	Occupy 2 byte	unsigned short	0.1V/bit
041EH	PV1 Current	RO	Occupy 2 byte	unsigned short	0.1A/bit
041FH 0420H	PV1 power	RO	Occupy 4 byte	unsigned int	1w/bit
0421H	PV2 Voltage	RO	Occupy 2 byte	unsigned short	0.1V/bit
0422H	PV2 Current	RO	Occupy 2 byte	unsigned short	0.1A/bit
0423H 0424H	PV2 power	RO	Occupy 4 byte	unsigned int	1w/bit
0425H	PV3 Voltage	RO	Occupy 2 byte	unsigned short	0.1V/bit
0426H	PV3 Current	RO	Occupy 2 byte	unsigned short	0.1A/bit
0427H 0428H	PV3 power	RO	Occupy 4 byte	unsigned int	1w/bit
0429H	PV4 Voltage	RO	Occupy 2 byte	unsigned short	0.1V/bit
042AH	PV4 Current	RO	Occupy 2 byte	unsigned short	0.1A/bit
042BH 042CH	PV4 power	RO	Occupy 4 byte	unsigned int	1w/bit
042DH	PV5 Voltage	RO	Occupy 2 byte	unsigned short	0.1V/bit
042EH	PV5 Current	RO	Occupy 2 byte	unsigned short	0.1A/bit
042FH 0430H	PV5 power	RO	Occupy 4 byte	unsigned int	1w/bit
0431H	PV6 Voltage	RO	Occupy 2 byte	unsigned short	0.1V/bit

0432H	PV6 Current	RO	Occupy 2 byte	unsigned short	0.1A/bit
0433H	PV6 power	RO	Occupy 4 byte	unsigned int	1w/bit
0434H					
0435H	INV Temperature	RO	Occupy 2 byte	unsigned short	0.1°C/bit
0436H	Inverter warning1	RO	Occupy 4 byte	unsigned int	<a href="#">Note32</a>
0437H					
0438H	Inverter warning2	RO	Occupy 4 byte	unsigned int	<a href="#">Note32</a>
0439H					
043AH	Inverter fault1	RO	Occupy 4 byte	unsigned int	<a href="#">Note26</a>
043BH					
043CH	Inverter fault2	RO	Occupy 4 byte	unsigned int	<a href="#">Note26</a>
043DH					
043EH	Inverter Total PV Energy	RO	Occupy 4 byte	unsigned int	0.1kWh/bit
043FH					
0440H	Inverter work mode	RO	Occupy 2 byte	unsigned short	<a href="#">Note5</a>
0441H	Inverter Bat voltage	RO	Occupy 2byte	unsigned short	1V/bit
0442H	Inverter Bat Current	RO	Occupy 2 byte	unsigned short	0.1A/bit
0443H	Inverter Bat Power	RO	Occupy 2 byte	int	1W/bit
0444H	Inverter Total React power	RO	Occupy 4 byte	int	1W/bit
0445H					
0446H	Inverter Total Apparent power	RO	Occupy 4 byte	int	1W/bit
0447H					
0448H	Inverter Frequency	RO	Occupy 2 byte	unsigned short	0.01Hz/bit
0449H	Inverter Backup Frequency	RO	Occupy 2 byte	unsigned short	0.01Hz/bit
044AH	Inverter Power factor	RO	Occupy 2 byte	short	0.01/bit
044BH	Inverter fault extend1	RO	Occupy 4 byte	unsigned int	<a href="#">Note27</a>
044CH					
044DH	Inverter fault extend2	RO	Occupy 4 byte	unsigned int	<a href="#">Note27</a>
044EH					
044FH	Inverter fault extend3	RO	Occupy 4 byte	unsigned int	<a href="#">Reserve</a>
0450H					
0451H	Inverter fault extend4	RO	Occupy 4 byte	unsigned int	<a href="#">Reserve</a>
0452H					
0453H	Pv total power	RO	Occupy 4 byte	unsigned int	1w/bit
0454H					

Alpha-ESS

## Household Inverter (Only for Byte Watt)

Address Register	variable	Belong to R/W	Data format	Data Model	Remarks
Household Inverter (Only for Byte Watt)					
0500H	Grid rated voltage	RO	Occupy 2byte	unsigned short	0.1V/Bit
0501H	Grid rated frequency	RO	Occupy 2byte	unsigned short	0.01Hz/Bit
0502H 0503H	Total energy INV output	RO	Occupy 4byte	unsigned int	0.1kWh/Bit
0504H 0505H	Total energy INV input	RO	Occupy 4byte	unsigned int	0.1kWh/Bit
0506H 0507H	Total energy battery output	RO	Occupy 4byte	unsigned int	0.1kWh/Bit
0508H 0509H	Total energy battery input	RO	Occupy 4byte	unsigned int	0.1kWh/Bit
050AH 050BH	Total PV energy	RO	Occupy 4byte	unsigned int	0.1kWh/Bit
050CH 050DH	Total run time	RO	Occupy 4byte	unsigned int	0.1h/Bit
050EH	Work mode	RO	Occupy 2byte	unsigned short	<u>Note5</u>
050FH	Check count down	RO	Occupy 2byte	unsigned short	1S/Bit
0510H	INV module temperature	RO	Occupy 2byte	short	0.1°C/Bit
0511H	PV Boost temperature	RO	Occupy 2byte	short	0.1°C/Bit
0512H	Bat Buck Boost temperature	RO	Occupy 2byte	short	0.1°C/Bit
0513H	Power board temperature	RO	Occupy 2byte	short	0.1°C/Bit
0514H	Control board temperature	RO	Occupy 2byte	short	0.1°C/Bit
0515H	Grid relay temperature	RO	Occupy 2byte	short	0.1°C/Bit
0516H	Pass relay temperature	RO	Occupy 2byte	short	0.1°C/Bit
0517H	Backup relay temperature	RO	Occupy 2byte	short	0.1°C/Bit

0518H ~ 051FH	Reverse temperature	RO	Occupy 16byte	short	0.1°C/Bit
0520H	Bus voltage	RO	Occupy 2byte	unsigned short	0.1V/Bit
0521H	PBus voltage	RO	Occupy 2byte	unsigned short	0.1V/Bit
0522H	NBus voltage	RO	Occupy 2byte	unsigned short	0.1V/Bit
0523H	PV connect state	RO	Occupy 2byte	unsigned short	0-Single 1-Double
0524H	PV1 voltage	RO	Occupy 2byte	unsigned short	0.1V/Bit
0525H	PV2 voltage	RO	Occupy 2byte	unsigned short	0.1V/Bit
0526H	PV3 voltage	RO	Occupy 2byte	unsigned short	0.1V/Bit
0527H	PV1 current	RO	Occupy 2byte	unsigned short	0.01A/Bit
0528H	PV2 current	RO	Occupy 2byte	unsigned short	0.01A/Bit
0529H	PV3 current	RO	Occupy 2byte	unsigned short	0.01A/Bit
052AH	PV1 power	RO	Occupy 2byte	unsigned short	1W/Bit
052BH	PV2 power	RO	Occupy 2byte	unsigned short	1W/Bit
052CH	PV3 power	RO	Occupy 2byte	unsigned short	1W/Bit
052DH	Total PV power	RO	Occupy 2byte	unsigned short	1W/Bit
052EH	String1 current	RO	Occupy 2byte	unsigned short	0.1A/Bit
052FH	String2 current	RO	Occupy 2byte	unsigned short	0.1A/Bit
0530H	String3 current	RO	Occupy 2byte	unsigned short	0.1A/Bit
0531H	String4 current	RO	Occupy 2byte	unsigned short	0.1A/Bit
0532H	String5 current	RO	Occupy 2byte	unsigned short	0.1A/Bit
0533H	String6 current	RO	Occupy 2byte	unsigned short	0.1A/Bit

0534H	Battery front voltage	RO	Occupy 2byte	short	0.1V/Bit
0535H	Battery back voltage	RO	Occupy 2byte	short	0.1V/Bit
0536H	BuckBoost1 current	RO	Occupy 2byte	short	0.01A/Bit
0537H	BuckBoost2 current	RO	Occupy 2byte	short	0.01A/Bit
0538H	Total bat current	RO	Occupy 2byte	short	0.01A/Bit
0539H	BuckBoost1 power	RO	Occupy 2byte	short	1W/Bit
053AH	BuckBoost2 power	RO	Occupy 2byte	short	1W/Bit
053BH	Total bat power	RO	Occupy 2byte	short	1W/Bit
053CH	INV Voltage R	RO	Occupy 2byte	unsigned short	0.1V/Bit
053DH	INV Current R	RO	Occupy 2byte	short	0.01A/Bit
053EH	INV Voltage S	RO	Occupy 2byte	unsigned short	0.1V/Bit
053FH	INV Current S	RO	Occupy 2byte	short	0.01A/Bit
0540H	INV Voltage T	RO	Occupy 2byte	unsigned short	0.1V/Bit
0541H	INV Current T	RO	Occupy 2byte	short	0.01A/Bit
0542H	INV frequency	RO	Occupy 2byte	unsigned short	0.01Hz/Bit
0543H 0544H	INV apparent power	RO	Occupy 4 byte	int	1VA/Bit
0545H 0546H	INV active power	RO	Occupy 4 byte	int	1W/Bit
0547H 0548H	INV reactive power	RO	Occupy 4 byte	int	1VA/Bit
0549H	INV power factor	RO	Occupy 2 byte	short	0.01/Bit
054AH	Grid voltage R	RO	Occupy 2 byte	unsigned short	0.1V/Bit
054BH	Grid voltage S	RO	Occupy 2 byte	unsigned short	0.1V/Bit

054CH	Grid voltage T	RO	Occupy 2 byte	unsigned short	0.1V/Bit
054DH	Grid voltage RS	RO	Occupy 2 byte	unsigned short	0.1V/Bit
054EH	Grid voltage RT	RO	Occupy 2 byte	unsigned short	0.1V/Bit
054FH	Grid voltage ST	RO	Occupy 2 byte	unsigned short	0.1V/Bit
0550H	Grid frequency	RO	Occupy 2 byte	unsigned short	0.01Hz/Bit
0551H	Backup voltage R	RO	Occupy 2 byte	unsigned short	0.1V/Bit
0552H	Backup current R	RO	Occupy 2 byte	short	0.01A/Bit
0553H	Backup voltage S	RO	Occupy 2 byte	unsigned short	0.1V/Bit
0554H	Backup current S	RO	Occupy 2 byte	short	0.01A/Bit
0555H	Backup voltage T	RO	Occupy 2 byte	unsigned short	0.1V/Bit
0556H	Backup current T	RO	Occupy 2 byte	short	0.01A/Bit
0557H	Backup voltage RS	RO	Occupy 2 byte	unsigned short	0.1V/Bit
0558H	Backup current RT	RO	Occupy 2 byte	unsigned short	0.1V/Bit
0559H	Backup voltage ST	RO	Occupy 2 byte	unsigned short	0.1V/Bit
055AH	Backup frequency	RO	Occupy 2 byte	unsigned short	0.01Hz/Bit
055BH 055CH	Backup power	RO	Occupy 4 byte	int	1W/Bit
055DH	Power limit state	RO	Occupy 2 byte	unsigned short	0-Disable 1-Enable
055EH 055FH	Inverter warning 1	RO	Occupy 4 byte	unsigned int	
0560H 0561H	Inverter warning 2	RO	Occupy 4 byte	unsigned int	
0562H 0563H	Inverter fault 1	RO	Occupy 4 byte	unsigned int	
0564H 0565H	Inverter fault 2	RO	Occupy 4 byte	unsigned int	
0566H 0567H	Inverter fault 3	RO	Occupy 4 byte	unsigned int	

0568H 0569H	Inverter fault 4	RO	Occupy 4 byte	unsigned int	
056AH	Set inv power	RO	Occupy 2 byte	short	
056BH	Set bat charge limit power	RO	Occupy 2 byte	short	
056CH	Set bat discharge limit power	RO	Occupy 2 byte	short	
056DH	Bat max charge power	RO	Occupy 2 byte	unsigned short	
056EH	Bat max discharge power	RO	Occupy 2 byte	unsigned short	
056FH	Inv rate ac charge power	RO	Occupy 2 byte	unsigned short	
0570H	Inv rate ac discharge power	RO	Occupy 2 byte	unsigned short	
0571H	Inv rate dc charge power	RO	Occupy 2 byte	unsigned short	
0572H	Inv rate dc discharge power	RO	Occupy 2 byte	unsigned short	
0573H	Set bat force charge en	RO	Occupy 2 byte	unsigned short	
0574H	Three unbalance en	RO	Occupy 2 byte	unsigned short	
0575H	Set inv power L1	RO	Occupy 2 byte	unsigned short	
0576H	Set inv power L2	RO	Occupy 2 byte	unsigned short	
0577H	Set inv power L3	RO	Occupy 2 byte	unsigned short	
0578H 0579H	Inverter warning 3	RO	Occupy 4 byte	unsigned int	Note33
057AH 057BH	Inverter warning 4	RO	Occupy 4 byte	unsigned int	

## Household Inverter info

Address Register	variable	Belong to R/W	Data format	Data Model	Remarks
Household Inverter info					
0640H~0644H	Inverter master software version	RO	Occupy 10byte	String(10)	
0645H~0649H	Inverter slave software version	RO	Occupy 10byte	String(10)	
064AH~0653H	Inverter SN	RO	Occupy 20byte	String(20)	
0654H~0658H	Inverter arm software version	RO	Occupy 10byte	String(10)	

## Household System(Only applicable to HHE MEC)

<b>Address Register</b>	<b>variable</b>	<b>Belong to R/W</b>	<b>Data format</b>	<b>Data Model</b>	<b>Remarks</b>
Household System(Only applicable to HHE MEC)					
06FAH	Restart Mode	WO	Occupy 2 byte	unsigned short	1: EMS 2: BMS
06FBH 06FCH	Battery capacity HHE	RO	Occupy 4 byte	unsigned short	0.001kWh/bit
06FDH	BAT SOC Display Minimum	R/W	Occupy 2 byte	unsigned short	0.4%
06FEH	BAT SOC Display Maximum	R/W	Occupy 2 byte	Unsigned short	0.4%
06FFH	BAT MOS Control	R/W	Occupy 2 byte	unsigned short	Bit0-7:open flag(0/1), Bit8-15:close flag(0/1)
0700H	Feed into grid percent	R/W	Occupy 2 byte	unsigned short	1%/bit
0701H 0702H	System fault	RO	Occupy 4 byte	unsigned int	<u>Note6</u>
0703H	System_time : (year)-(month)	R/W	Occupy 2 byte	unsigned short	Data format hex; 0xYYMM, example: Send 0x1109; year:0x11(2017) month:0x09(09);
0704H	System_time : (day)-(hour)	R/W	Occupy 2 byte	unsigned short	Data format hex; 0xDDHH, example: Send 0x1109; day:0x11(The 17 day) hour:0x09(09);
0705H	System_time : (minute)-(second)	R/W	Occupy 2 byte	unsigned short	Data format hex; 0xmmss, example: Send 0x1109; min:0x11(17) second:0x09(09);
0706H~ 070DH	EMS SN	RO	Occupy 16 byte	String(16)	

070EH	EMS DO0	WO	Occupy 2 byte	unsigned short	Bypass Control function
070FH	EMS DO1	WO	Occupy 2 byte	unsigned short	System fault output.
0710H	EMS DI0	RO	Occupy 2 byte	unsigned short	EPO, Battery MOS cut off.
0711H	EMS DI1	RO	Occupy 2 byte	unsigned short	Reserved
0712H	UPS Reserve Soc	R/W	Occupy 2 byte	unsigned short	0.1%/bit
0713H	Time discharge start time1	R/W	Occupy 2 byte	unsigned short	1h/bit
0714H	Time discharge stop time1	R/W	Occupy 2 byte	unsigned short	1h/bit
0715H	Time discharge start time2	R/W	Occupy 2 byte	unsigned short	1h/bit
0716H	Time discharge stop time2	R/W	Occupy 2 byte	unsigned short	1h/bit
0717H	Charge Cut Soc	R/W	Occupy 2 byte	unsigned short	0.1%/bit
0718H	Time charge start time1	R/W	Occupy 2 byte	unsigned short	1h/bit
0719H	Time charge stop time1	R/W	Occupy 2 byte	unsigned short	1h/bit
071AH	Time charge start time2	R/W	Occupy 2 byte	unsigned short	1h/bit
071BH	Time charge stop time2	R/W	Occupy 2 byte	unsigned short	1h/bit
071CH	System mode	R/W	Occupy 2 byte	unsigned short	1/bit
071DH	System laguage	R/W	Occupy 2 byte	unsigned short	1/bit
071EH	PV Capacity of pv inverter	R/W	Occupy 4 byte	unsigned int	1W/bit
071FH					
0720H	PV Inverter Totol PV Energy	R/W	Occupy 4 byte	unsigned int	0.1kWh/bit
0721H					
0722H	Dispatch Start	R/W	Occupy 2 byte	unsigned short	1:start; 0: stop
0723H	Dispatch Active power	R/W	Occupy 4 byte	int	1W/bit Offset:32000 charge:<32000 discharge:>32000
0724H					
0725H	Dispatch Reactive power	R/W	Occupy 4 byte	int	1var/bit Offset:32000
0726H					

					charge:<32000 discharge:>32000
0727H	Dispatch Mode	R/W	Occupy 2 byte	unsigned short	<u>Note7</u>
0728H	Dispatch SOC	R/W	Occupy 2 byte	unsigned short	0.4%/bit example: Send SOC=95,corresponding to the SOC of 38%.
0729H	EMS Version High	RO	Occupy 2 byte	unsigned short	
072AH	EMS Version Middle	RO	Occupy 2 byte	unsigned short	
072BH	EMS Version Low	RO	Occupy 2 byte	unsigned short	

## Household Echonet Config (Japan)

<b>Address Register</b>	<b>variable</b>	<b>Belong to R/W</b>	<b>Data format</b>	<b>Data Model</b>	<b>Remarks</b>
Household Echonet Config (Japan)					
072CH	User Mode	R/W	Occupy 2 byte	unsigned short	0: Green mode 1: Economic model 2: Secure mode
072DH	Battery Mode	R/W	Occupy 2 byte	unsigned short	0: Auto mode 1: Charge mode 2: Discharge mode 3: Standby mode
072EH	Set Battery Power	R/W	Occupy 2 byte	short	1W/bit Charge mode or Dis charge mode Set Battery Power
072FH	Set Inverter Output Power Percent	R/W	Occupy 2 byte	unsigned short	1%/bit Set Photovoltaic (pv) power percent
0730H	Echonet Enable	R/W	Occupy 2 byte	unsigned short	0:Disable 1:Enable
0731H	Set Fallback Power Limit Percent	R/W	Occupy 2 byte	unsigned short	1%/bit
0732H	Inverter Nominal Output Power	R	Occupy 2 byte	unsigned short	1W/bit
0733H	Echonet Comm Loss Time	R	Occupy 2 byte	unsigned short	1s/bit

## Household System Info

<b>Address Register</b>	<b>variable</b>	<b>Belong to R/W</b>	<b>Data format</b>	<b>Data Model</b>	<b>Remarks</b>
Household System Info					
0740H	System_time : (year)-(month)	R/W	Occupy 2 byte	unsigned short	Data format hex; 0xYYMM, example: Send 0x1109; year:0x11(2017) month:0x09(09);
0741H	System_time : (day)-(hour)	R/W	Occupy 2 byte	unsigned short	Data format hex; 0xDDHH, example: Send 0x1109; day:0x11(The 17 day) hour:0x09(09);
0742H	System_time : (minute)-(second)	R/W	Occupy 2 byte	unsigned short	Data format hex; 0xmmss, example: Send 0x1109; min:0x11(17) second:0x09(09);
0743H~ 074AH	EMS SN	RO	Occupy 16 byte	String(16)	
074BH	EMS Version High	R	Occupy 2 byte	unsigned short	
074CH	EMS Version Middle	R	Occupy 2 byte	unsigned short	
074DH	EMS Version Low	R	Occupy 2 byte	unsigned short	
074EH	Protocol Version	RO	Occupy 2 byte	unsigned short	
074FH~ 0752H	EMS Version Low Suffix	RO	Occupy 8 byte	String(8)	
0753H~ 0758H	WIFI SN	RO	Occupy 12 byte		HEX->ASCII

## Household Additional agreements Config

Address Register	variable	Belong to R/W	Data format	Data Model	Remarks
Household Additional agreements Config					
07F0H	Sunspec Modbus	R/W	Occupy 2 byte	unsigned short	high byte: 0:Disable Sunspec Modbus 1: Enable Sunspec Modbus low byte; Device address (1~255)

## Household System Config

Address Register	variable	Belong to R/W	Data format	Data Model	Remarks
Household System Config					
0800H	MAX Feed into grid percent	R/W	Occupy 2 byte	unsigned short	1%/bit
0801H 0802H	PV Capacity Storage	R/W	Occupy 4 byte	unsigned int	1W/bit
0803H 0804H	PV Capacity of Grid Inverter	R/W	Occupy 4 byte	unsigned int	1W/bit
0805H	System mode	R/W	Occupy 2 byte	unsigned short	1: AC Mode 2: DC Mode 3: Hybird Mode
0806H	Meter CT Select	R/W	Occupy 2 byte	unsigned short	电表安装选项: 0:Grid&PV use CT; 1:Grid use CT、PV use Meter; 2:Grid use Meter、PV use CT; 3: Grid&PV use Meter;
0807H	Battery Ready	R/W	Occupy 2 byte	unsigned short	0: OFF 1: ON
0808H	IP Method	R/W	Occupy 2 byte	unsigned short	0: DHCP 1: STATIC
0809H 080AH	Local IP	R/W	Occupy 4 byte	unsigned short	0xC0, 0xA8, 0x01, 0x01 192.168.1.1
080BH 080CH	Subnet Mask	R/W	Occupy 4 byte	unsigned short	0xFF, 0xFF, 0xFF, 0x01 255.255.255.1
080DH 080EH	Gateway	R/W	Occupy 4 byte	unsigned short	0xC0, 0xA8, 0x01, 0x01 192.168.1.1
080FH	Modbus Address	R/W	Occupy 2 byte	unsigned short	<b>default 0x55</b>

0810H	Modbus Baud rate	R/W	Occupy 2 byte	unsigned short	0: 9600 1: 115200 (only for household) 2: 256000 (only for household) 3: 19200(only for industry)
0811H	Three phase unbalance mode enable	R/W	Occupy 2 byte	unsigned short	0 : Disable 1 : Enable

## Household Time period control

Address Register	variable	Belong to R/W	Data format	Data Model	Remarks
Household Time period control					
084FH	Time period control flag	R/W	Occupy 2 byte	unsigned short	0 : Disable Time period control 1: Enable Charge Time period control 2: Enable discharge Time period control 3: Enable Time period control
0850H	UPS Reserve Soc	R/W	Occupy 2 byte	unsigned short	0.1%/bit
0851H	Time discharge start time1 hours	R/W	Occupy 2 byte	unsigned short	1h/bit [0-23]
0852H	Time discharge stop time1 hours	R/W	Occupy 2 byte	unsigned short	1h/bit [0-23]
0853H	Time discharge start time2 hours	R/W	Occupy 2 byte	unsigned short	1h/bit [0-23]
0854H	Time discharge stop time2 hours	R/W	Occupy 2 byte	unsigned short	1h/bit [0-23]
0855H	Charge Cut Soc	R/W	Occupy 2 byte	unsigned short	0.1%/bit
0856H	Time charge start time1 hours	R/W	Occupy 2 byte	unsigned short	1h/bit [0-23]
0857H	Time charge stop time1 hours	R/W	Occupy 2 byte	unsigned short	1h/bit [0-23]
0858H	Time charge start time2 hours	R/W	Occupy 2 byte	unsigned short	1h/bit [0-23]
0859H	Time charge stop time2 hours	R/W	Occupy 2 byte	unsigned short	1h/bit [0-23]
085AH	Time discharge start time1 minutes	R/W	Occupy 2 byte	unsigned short	1min/bit [0-59]
085BH	Time discharge stop time1 minutes	R/W	Occupy 2 byte	unsigned short	1min/bit [0-59]
085CH	Time discharge start time2 minutes	R/W	Occupy 2 byte	unsigned short	1min/bit [0-59]
085DH	Time discharge stop time2 minutes	R/W	Occupy 2 byte	unsigned short	1min/bit [0-59]

085EH	Time charge start time1 minutes	R/W	Occupy 2 byte	unsigned short	1min/bit [0-59]
085FH	Time charge stop time1 minutes	R/W	Occupy 2 byte	unsigned short	1min/bit [0-59]
0860H	Time charge start time2 minutes	R/W	Occupy 2 byte	unsigned short	1min/bit [0-59]
0861H	Time charge stop time2 minutes	R/W	Occupy 2 byte	unsigned short	1min/bit [0-59]

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## Household Power Dispatch

Address Register	variable	Belong to R/W	Data format	Data Model	Remarks
Household Power Dispatch					
0880H	Power Dispatch Para1	R/W	Occupy 2 byte	unsigned short	<a href="#">Note29: Power Dispatch Tab1</a>
0881H 0882H	Power Dispatch Para2	R/W	Occupy 4byte	Int	
0883H 0884H	Power Dispatch Para3	R/W	Occupy 4byte	Int	
0885H	Power Dispatch Para4	R/W	Occupy 2 byte	unsigned short	
0886H	Power Dispatch Para5	R/W	Occupy 2 byte	unsigned short	<a href="#">Note29: Power Dispatch Tab2</a>
0887H 0888H	Power Dispatch Para6	R/W	Occupy 4 byte	unsigned int	
0889H	Power Dispatch Para7	R/W	Occupy 2 byte	unsigned short	
088AH	Power Dispatch Para8	R/W	Occupy 2 byte	unsigned short	

## Household Freq Dispatch

Address Register	variable	Belong to R/W	Data format	Data Model	Remarks
Household Freq Dispatch					
088FH	Freq Dispatch Flag	RO	Occupy 2 byte	unsigned short	0: Normal 1: Freq Dispatch
0890H	Freq Dispatch Power	RO	Occupy 2 byte	short	1W/bit
0891H	Freq Dispatch Frequency	RO	Occupy 2 byte	unsigned short	0.01Hz/bit
0892H	Freq Dispatch Para1	R/W	Occupy 2 byte	short	<u>Note30: Freq Dispatch</u>
0893H	Freq Dispatch Para2	R/W	Occupy 4 byte	unsigned int	
0894H					
0895H	Freq Dispatch Para3	R/W	Occupy 2 byte	short	
0896H	Freq Dispatch Para4	R/W	Occupy 2 byte	short	
0897H	Freq Dispatch Para5	R/W	Occupy 2 byte	short	
0898H	Freq Dispatch Para6	R/W	Occupy 2 byte	short	
0899H	Freq Dispatch Para7	R/W	Occupy 2 byte	short	
089AH	Freq Dispatch Para8	R/W	Occupy 2 byte	short	
089BH	Freq Dispatch Para9	R/W	Occupy 2 byte	short	
08A0H	Sa dispatch dercontrol	R/W	Occupy 2 byte	unsigned short	0:Disable 1:Enable
08A1H	Sa dispatch opmodenergize	R/W	Occupy 2 byte	unsigned short	0:Disable 1:Enable
08A2H	Sa dispatch opmodexplimw	R/W	Occupy 2 byte	unsigned short	W
08A3H	Sa dispatch opmodgenlimw	R/W	Occupy 2 byte	unsigned short	W
08A4H	Sa dispatch setgradw	R/W	Occupy 2 byte	unsigned short	0.01%/s
08A5H	Sa dispatch default opmudexplimw	R/W	Occupy 2 byte	unsigned short	W
08A6H	Sa dispatch default setgradw	R/W	Occupy 2 byte	unsigned short	0.01%/s

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## Household AUX

<b>Address Register</b>	<b>variable</b>	<b>Belong to R/W</b>	<b>Data format</b>	<b>Data Model</b>	<b>Remarks</b>
Household AUX					
08B0H	EMS DO0	WO	Occupy 2 byte	unsigned short	Bypass Control function(only for household)
08B1H	EMS DO1	WO	Occupy 2 byte	unsigned short	System fault output. (only for household)
08B2H	EMS DO2	WO	Occupy 2 byte	unsigned short	YK_pcs_epo(only for industry)
08B3H	EMS DO3	WO	Occupy 2 byte	unsigned short	YK_switch_brake_open(only for industry)
08B4H	EMS DO4	WO	Occupy 2 byte	unsigned short	YK_switch_brake_close(only for industry)
08B5H	EMS DO5	WO	Occupy 2 byte	unsigned short	YK_dg_on_off_control(only for industry)
08B6H	EMS DO6	WO	Occupy 2 byte	unsigned short	YK_bms_fault_feedback(only for industry)
08B7H	EMS DO7	WO	Occupy 2 byte	unsigned short	DO-8(only for industry)
08B8H	EMS DO8	WO	Occupy 2 byte	unsigned short	
08B9H	EMS DO9	WO	Occupy 2 byte	unsigned short	
08BAH	EMS DO10	WO	Occupy 2 byte	unsigned short	
08BBH	EMS DO11	WO	Occupy 2 byte	unsigned short	
08BCH	EMS DO12	WO	Occupy 2 byte	unsigned short	
08BDH	EMS DO13	WO	Occupy 2 byte	unsigned short	
08BEH	EMS DO14	WO	Occupy 2 byte	unsigned short	
08BFH	EMS DO15	WO	Occupy 2 byte	unsigned short	

08C0H	EMS DI0	RO	Occupy 2 byte	unsigned short	EPO, Battery MOS cut off. (only for household)
08C1H	EMS DI1	RO	Occupy 2 byte	unsigned short	Reserved(only for household)
08C2H	EMS DI2	RO	Occupy 2 byte	unsigned short	
08C3H	EMS DI3	RO	Occupy 2 byte	unsigned short	YX_fire_fault(only for industry)
08C4H	EMS DI4	RO	Occupy 2 byte	unsigned short	YX_gas_blow_out(o nly for industry)
08C5H	EMS DI5	RO	Occupy 2 byte	unsigned short	YX_fire_system_fau lt(only for industry)
08C6H	EMS DI6	RO	Occupy 2 byte	unsigned short	YX_pcs_epo(only for industry)
08C7H	EMS DI7	RO	Occupy 2 byte	unsigned short	YX_spd_signal(only for industry)
08C8H	EMS DI8	RO	Occupy 2 byte	unsigned short	YX_water_signal(onl y for industry)
08C9H	EMS DI9	RO	Occupy 2 byte	unsigned short	YX_door_signal(onl y for industry)
08CAH	EMS DI10	RO	Occupy 2 byte	unsigned short	YX_shunt_trip_feed back(only for industry)
08CBH	EMS DI11	RO	Occupy 2 byte	unsigned short	
08CCH	EMS DI12	RO	Occupy 2 byte	unsigned short	
08CDH	EMS DI13	RO	Occupy 2 byte	unsigned short	
08CEH	EMS DI14	RO	Occupy 2 byte	unsigned short	YX_system_epo(onl y for industry)
08CFH	EMS DI15	RO	Occupy 2 byte	unsigned short	

## Household System Running Data

Address Register	variable	Belong to R/W	Data format	Data Model	Remarks
Household System Running Data					
08D0H 08D1H	PV Inverter Energy	RO	Occupy 4 byte	unsigned int	0.1kWh/bit
08D2H 08D3H	The system total PV energy	RO	Occupy 4 byte	unsigned int	0.1kWh/bit
08D4H 08D5H	System fault	RO	Occupy 4 byte	unsigned int	<a href="#">Note6</a>

## Household Safety TEST

<b>Address Register</b>	<b>variable</b>	<b>Belong to R/W</b>	<b>Data format</b>	<b>Data Model</b>	<b>Remarks</b>
<b>Household Safety TEST</b>					
0FF0H	Ems version safiy	RO	Occupy 4 byte	unsigned int	
1000H	Grid_Regulation	R/W	Occupy 2 byte	unsigned short	<a href="#">Note8</a>
1001H	Safety Test Enable	R/W	Occupy 2 byte	unsigned short	Safety Test Enable 0 : Disable 1 : Enable
1002H 1003H	Safety Mode Enable	R/W	Occupy 4 byte	unsigned int	<a href="#">Note9</a>
1004H	Starting_slope_en	R/W	Occupy 2 byte	unsigned short	1:Disable 2:Enable
1005H	Phase state	R/W	Occupy 2 byte	unsigned short	0: advance 1: phase lag
1006H	PF Value	R/W	Occupy 2 byte	short	0.01
1007H	Volt-WATT Starting	R/W	Occupy 2 byte	unsigned short	0.1V
1008H	Volt-WATT Stop	R/W	Occupy 2 byte	unsigned short	0.1V
1009H	Set Battery Power	R/W	Occupy 2 byte	short	1W/bit Set Battery Power
100AH	Set Inverter power	R/W	Occupy 2 byte	unsigned short	1W/bit Set the inverter output power
100BH	Ovp	R/W	Occupy 2 byte	unsigned short	0.1V
100CH	OvpT	R/W	Occupy 2 byte	unsigned short	1ms
100DH	Ovp10	R/W	Occupy 2 byte	unsigned short	0.1V
100EH	Ovp10T	R/W	Occupy 2 byte	unsigned short	1s
100FH	Uvp	R/W	Occupy 2 byte	unsigned short	0.1V
1010H	UvpT	R/W	Occupy 2 byte	unsigned short	1ms
1011H	Uvp2	R/W	Occupy 2 byte	unsigned short	0.1V

1012H	Uvp2T	R/W	Occupy 2 byte	unsigned short	1ms
1013H	Ofp	R/W	Occupy 2 byte	unsigned short	0.01Hz
1014H	OfpT	R/W	Occupy 2 byte	unsigned short	1ms
1015H	Ofp2	R/W	Occupy 2 byte	unsigned short	0.01Hz
1016H	Ofp2T	R/W	Occupy 2 byte	unsigned short	1ms
1017H	Ufp	R/W	Occupy 2 byte	unsigned short	0.01Hz
1018H	UfpT	R/W	Occupy 2 byte	unsigned short	1ms
1019H	Ufp2	R/W	Occupy 2 byte	unsigned short	0.01Hz
101AH	Ufp2T	R/W	Occupy 2 byte	unsigned short	1ms
101BH	Ovp2	R/W	Occupy 2 byte	unsigned short	1ms
101CH	Ovp2T	R/W	Occupy 2 byte	unsigned short	1ms
101DH	Ovp3	R/W	Occupy 2 byte	unsigned short	1ms
101EH	Ovp3T	R/W	Occupy 2 byte	unsigned short	1ms
101FH	Uvp3	R/W	Occupy 2 byte	unsigned short	1ms
1020H	Uvp3T	R/W	Occupy 2 byte	unsigned short	1ms
1021H	Ofp3	R/W	Occupy 2 byte	unsigned short	1ms
1022H	Ofp3T	R/W	Occupy 2 byte	unsigned short	1ms
1023H	Upf3	R/W	Occupy 2 byte	unsigned short	1ms
1024H	Upf3T	R/W	Occupy 2 byte	unsigned short	1ms
1025H	Ov restore	R/W	Occupy 2 byte	unsigned short	0.1V
1026H	Uv restore	R/W	Occupy 2 byte	unsigned short	0.1V

1027H	Of restore	R/W	Occupy 2 byte	unsigned short	0.1HZ
1028H	Uf restore	R/W	Occupy 2 byte	unsigned short	0.1V
1029H	Reactive percentage	R/W	Occupy 2 byte	unsigned short	1%
102AH	Rev machine rate	R/W	Occupy 2 byte	unsigned short	0.1%pn/Min
102BH	Regulation Rate	R/W	Occupy 2 byte	unsigned short	0.1%pn/Min
102CH	Grid waiting	R/W	Occupy 2 byte	unsigned short	1S
102DH	P V mode V1	R/W	Occupy 2 byte	unsigned short	0.1%Un
102EH	P V mode P1	R/W	Occupy 2 byte	unsigned short	0.1%Pn
102FH	P V mode V2	R/W	Occupy 2 byte	unsigned short	0.1%Un
1030H	P V mode P2	R/W	Occupy 2 byte	unsigned short	0.1%Pn
1031H	P V mode V3	R/W	Occupy 2 byte	unsigned short	0.1%Un
1032H	P V mode P3	R/W	Occupy 2 byte	unsigned short	0.1%Pn
1033H	P V mode vin	R/W	Occupy 2 byte	unsigned short	V
1034H	P V mode down load flag	R/W	Occupy 2 byte	unsigned short	
1035H	P V mode response time	R/W	Occupy 2 byte	unsigned short	0.1S
1036H	Q V mode V1	R/W	Occupy 2 byte	unsigned short	0.1%Un
1037H	Q V mode Q1	R/W	Occupy 2 byte	unsigned short	0.1%Qn
1038H	Q V mode V2	R/W	Occupy 2 byte	unsigned short	0.1%Un
1039H	Q V mode Q2	R/W	Occupy 2 byte	unsigned short	0.1%Qn
103AH	Q V mode V3	R/W	Occupy 2 byte	unsigned short	0.1%Un
103BH	Q V mode Q3	R/W	Occupy 2 byte	unsigned short	0.1%Qn
103CH	Q V mode V4	R/W	Occupy 2 byte	unsigned short	0.1%Un

103DH	Q V mode Q4	R/W	Occupy 2 byte	unsigned short	0.1%Qn
103EH	Q V mode pin	R/W	Occupy 2 byte	unsigned short	0.1%Pn
103FH	Q V mode pout	R/W	Occupy 2 byte	unsigned short	0.1%Pn
1040H	Q V mode k	R/W	Occupy 2 byte	unsigned short	0.1
1041H	Q V mode response time	R/W	Occupy 2 byte	unsigned short	0.1S
1042H	S PF mode P1	R/W	Occupy 2 byte	unsigned short	1%
1043H	S PF mode F1	R/W	Occupy 2 byte	unsigned short	1%
1044H	S PF mode P2	R/W	Occupy 2 byte	unsigned short	1%
1045H	S PF mode F2	R/W	Occupy 2 byte	unsigned short	1%
1046H	S PF mode P3	R/W	Occupy 2 byte	unsigned short	1%
1047H	S PF mode F3	R/W	Occupy 2 byte	unsigned short	1%
1048H	S PF mode Vin	R/W	Occupy 2 byte	unsigned short	0.1%
1049H	S PF mode Vout	R/W	Occupy 2 byte	unsigned short	0.1%
104AH	PF mode	R/W	Occupy 2 byte	unsigned short	
104BH	P F of derating rate	R/W	Occupy 2 byte	unsigned short	0.1%
104CH	P F uf derating rate	R/W	Occupy 2 byte	unsigned short	0.1%
104DH	P F of derating in delay	R/W	Occupy 2 byte	unsigned short	0.01s
104EH	P F uf derating in delay	R/W	Occupy 2 byte	unsigned short	0.01s
104FH	P F of derating out delay	R/W	Occupy 2 byte	unsigned short	0.01s
1050H	P F uf derating out delay	R/W	Occupy 2 byte	unsigned short	0.01s
1051H	P F of derating out f1	R/W	Occupy 2 byte	unsigned short	0.01HZ
1052H	P F of derating in f2	R/W	Occupy 2 byte	unsigned short	0.01HZ

1053H	P F of derating cut f3	R/W	Occupy 2 byte	unsigned short	0.01HZ
1054H	P F uf derating out f3	R/W	Occupy 2 byte	unsigned short	0.01HZ
1055H	P F uf derating in f2	R/W	Occupy 2 byte	unsigned short	0.01HZ
1056H	P F uf derating cut f1	R/W	Occupy 2 byte	unsigned short	0.01HZ
1057H	Ofp down load zero crossing freq	R/W	Occupy 2 byte	unsigned short	0.01HZ
1058H	Ufp down load zero crossing freq	R/W	Occupy 2 byte	unsigned short	0.01HZ
1059H	High low cross	R/W	Occupy 2 byte	unsigned short	0:Disable ~0:Enable
105AH	Software limit	R/W	Occupy 2 byte	unsigned short	0:Disable ~0:Enable
105BH	Power limit	R/W	Occupy 2 byte	unsigned short	0:Disable ~0:Enable

## Household ATE TEST

<b>Address Register</b>	<b>variable</b>	<b>Belong to R/W</b>	<b>Data format</b>	<b>Data Model</b>	<b>Remarks</b>
<b>Household ATE TEST</b>					
1100H	Reset Mode	WO	Occupy 2 byte	unsigned short	0: None 1: Energy Reset 2: Meter Reset 4: Factory Reset 7: Restart PCS 8: Restart EMS
1101H~1108H	EMS SN	R/W	Occupy 16 byte	String(16)	
1109H	EMS MAC byte1-2	R/W	Occupy 2 byte	unsigned short	EMS MAC :HEX 0x70B3=0x70,0xB3
110AH	EMS MAC byte3-4	R/W	Occupy 2 byte	unsigned short	EMS MAC : HEX 0xD57A=0xD5,0x7A
110BH	EMS MAC byte5-6	R/W	Occupy 2 byte	unsigned short	EMS MAC : HEX 0x2C11=0x2C,0x11
110CH	Pointing to the server	R/W	Occupy 2 byte	unsigned short	0: Formal Server 1: RD test 2: Production test 3: Encryption 4: OEM ZOE 5: OEM ZOE test
110DH	Network type	R/W	Occupy 2 byte	unsigned short	
110EH	System laguage	R/W	Occupy 2 byte	unsigned short	0:English 1: German
110FH	Inverter supplier	R/W	Occupy 2 byte	unsigned short	0:INVERTER_NULL, 1:KELONG_TYPE, 2:SET_TYPE, 3:GINLONG_TYPE, 4:BYTE_WATT_TYPE, 5:GOODWE_TYPE, 6:INOVNACE_TYPE
1110H	Single Board Test Enable	WO	Occupy 2 byte	unsigned short	1:Enable
1111H	Single Board Test Result	RO	Occupy 4 byte	unsigned int	

1113H	OEM Flag	R/W	Occupy 2 byte	unsigned short	0:AlphaESS 1:ZOE 2:HHE 3:DIGIEN 4:SUNPOWER
1114H	ATE Mode Flag	R/W	Occupy 2 byte	unsigned short	0:Disenable 1:Enable
1115H	Restart DSP	WO	Occupy 2 byte	unsigned short	0:Disenable 1:Enable
1116H	Set N N Short	R/W	Occupy 2 byte	unsigned short	0:Disenable 1:Enable
1117H	Reset Inverter	WO	Occupy 2 byte	unsigned short	0:Disenable 1:Enable
1118H	Disenable Passthrough	R/W	Occupy 2 byte	unsigned short	1:Disenable
1119H	Inverter_SUB	RO	Occupy 2 byte	unsigned short	<a href="#">Note31</a>
111AH	EMS BOOT Version High	RO	Occupy 2 byte	unsigned short	
111BH	EMS BOOT Version Middle	RO	Occupy 2 byte	unsigned short	
111CH	EMS BOOT Version Low	RO	Occupy 2 byte	unsigned short	

## Household CT calibration

<b>Address Register</b>	<b>variable</b>	<b>Belong to R/W</b>	<b>Data format</b>	<b>Data Model</b>	<b>Remarks</b>
Household CT calibration					
11B7H	Sampling curve enable	R/W	Occupy 2byte	unsigned short	
11B8H	Grid Freq	RO	Occupy 2byte	unsigned short	0.01HZ/Bit
11B9H	Grid voltage	RO	Occupy 2byte	unsigned short	0.1V/Bit
11BAH	Grid CT Current	RO	Occupy 2byte	short	0.1A/Bit
11BBH	PV CT Current	RO	Occupy 2byte	short	0.1A/Bit
11BCH	Grid CT Power	RO	Occupy 2byte	short	1W/Bit
11BDH	PV CT Power	RO	Occupy 2byte	short	1W/Bit
11BEH	Volt calibration point1	R/W	Occupy 2byte	unsigned short	0.01V/Bit
11BFH	Volt calibration coef1	R/W	Occupy 2byte	short	0.0001/Bit
11C0H	Volt calibration offset1	R/W	Occupy 2byte	short	0.01V/Bit
11C1H	Volt calibration point2	R/W	Occupy 2byte	unsigned short	0.01V/Bit
11C2H	Volt calibration coef2	R/W	Occupy 2byte	short	0.0001/Bit
11C3H	Volt calibration offset2	R/W	Occupy 2byte	short	0.01V/Bit
11C4H	Grid current calibration point1	R/W	Occupy 2byte	unsigned short	0.1A/Bit
11C5H	Grid current calibration coef1	R/W	Occupy 2byte	short	0.0001/Bit
11C6H	Grid current calibration offset1	R/W	Occupy 2byte	short	0.1A/Bit
11C7H	Grid current calibration point2	R/W	Occupy 2byte	unsigned short	0.1A/Bit
11C8H	Grid current calibration coef2	R/W	Occupy 2byte	short	0.0001/Bit
11C9H	Grid current calibration offset2	R/W	Occupy 2byte	short	0.1A/Bit

11CAH	Grid current calibration point3	R/W	Occupy 2byte	unsigned short	0.1A/Bit
11CBH	Grid current calibration coef3	R/W	Occupy 2byte	short	0.0001/Bit
11CCH	Grid current calibration offset3	R/W	Occupy 2byte	short	0.1A/Bit
11CDH	Grid current calibration point4	R/W	Occupy 2byte	unsigned short	0.1A/Bit
11CEH	Grid current calibration coef4	R/W	Occupy 2byte	short	0.0001/Bit
11CFH	Grid current calibration offset4	R/W	Occupy 2byte	short	0.1A/Bit
11D0H	Grid current calibration point5	R/W	Occupy 2byte	unsigned short	0.1A/Bit
11D1H	Grid current calibration coef5	R/W	Occupy 2byte	short	0.0001/Bit
11D2H	Grid current calibration offset5	R/W	Occupy 2byte	short	0.1A/Bit
11D3H	Grid power calibration point1	R/W	Occupy 2byte	unsigned short	1W/Bit
11D4H	Grid power calibration coef1	R/W	Occupy 2byte	short	0.0001/Bit
11D5H	Grid power calibration offset1	R/W	Occupy 2byte	short	1W/Bit
11D6H	Grid power calibration point2	R/W	Occupy 2byte	unsigned short	1W/Bit
11D7H	Grid power calibration coef2	R/W	Occupy 2byte	short	0.0001/Bit
11D8H	Grid power calibration offset2	R/W	Occupy 2byte	short	1W/Bit
11D9H	Grid power calibration point3	R/W	Occupy 2byte	unsigned short	1W/Bit
11DAH	Grid power calibration coef3	R/W	Occupy 2byte	short	0.0001/Bit
11DBH	Grid power calibration offset3	R/W	Occupy 2byte	short	1W/Bit
11DCH	Grid power calibration point4	R/W	Occupy 2byte	unsigned short	1W/Bit
11DDH	Grid power calibration coef4	R/W	Occupy 2byte	short	0.0001/Bit
11DEH	Grid power calibration offset4	R/W	Occupy 2byte	short	1W/Bit

11DFH	Grid power calibration point5	R/W	Occupy 2byte	unsigned short	1W/Bit
11E0H	Grid power calibration coef5	R/W	Occupy 2byte	short	0.0001/Bit
11E1H	Grid power calibration offset	R/W	Occupy 2byte	short	1W/Bit
11E2H	PV current calibration point1	R/W	Occupy 2byte	unsigned short	0.1A/Bit
11E3H	PV current calibration coef1	R/W	Occupy 2byte	short	0.0001/Bit
11E4H	PV current calibration offset1	R/W	Occupy 2byte	short	0.1A/Bit
11E5H	PV current calibration point2	R/W	Occupy 2byte	unsigned short	0.1A/Bit
11E6H	PV current calibration coef2	R/W	Occupy 2byte	short	0.0001/Bit
11E7H	PV current calibration offset2	R/W	Occupy 2byte	short	0.1A/Bit
11E8H	PV current calibration point3	R/W	Occupy 2byte	unsigned short	0.1A/Bit
11E9H	PV current calibration coef3	R/W	Occupy 2byte	short	0.0001/Bit
11EAH	PV current calibration offset3	R/W	Occupy 2byte	short	0.1A/Bit
11EBH	PV current calibration point4	R/W	Occupy 2byte	unsigned short	0.1A/Bit
11ECH	PV current calibration coef4	R/W	Occupy 2byte	short	0.0001/Bit
11EDH	PV current calibration offset4	R/W	Occupy 2byte	short	0.1A/Bit
11EEH	PV current calibration point5	R/W	Occupy 2byte	unsigned short	0.1A/Bit
11EFH	PV current calibration coef5	R/W	Occupy 2byte	short	0.0001/Bit
11F0H	PV current calibration offset5	R/W	Occupy 2byte	short	0.1A/Bit
11F1H	PV power calibration point1	R/W	Occupy 2byte	unsigned short	1W/Bit
11F2H	PV power calibration coef1	R/W	Occupy 2byte	short	0.0001/Bit
11F3H	PV power calibration offset1	R/W	Occupy 2byte	short	1W/Bit
11F4H	PV power calibration point2	R/W	Occupy 2byte	unsigned short	1W/Bit

11F5H	PV power calibration coef2	R/W	Occupy 2byte	short	0.0001/Bit
11F6H	PV power calibration offset2	R/W	Occupy 2byte	short	1W/Bit
11F7H	PV power calibration point3	R/W	Occupy 2byte	unsigned short	1W/Bit
11F8H	PV power calibration coef3	R/W	Occupy 2byte	short	0.0001/Bit
11F9H	PV power calibration offset3	R/W	Occupy 2byte	short	1W/Bit
11FAH	PV power calibration point4	R/W	Occupy 2byte	unsigned short	1W/Bit
11FBH	PV power calibration coef4	R/W	Occupy 2byte	short	0.0001/Bit
11FCH	PV power calibration offset4	R/W	Occupy 2byte	short	1W/Bit
11FDH	PV power calibration point5	R/W	Occupy 2byte	unsigned short	1W/Bit
11FEH	PV power calibration coef5	R/W	Occupy 2byte	short	0.0001/Bit
11FFH	PV power calibration offset5	R/W	Occupy 2byte	short	1W/Bit

## Household EMS Debug

Address Register	variable	Belong to R/W	Data format	Data Model	Remarks
<b>Household EMS Debug</b>					
1200H~ 1227H	Debug	RO			

## Household System SOC Calibration

<b>Address Register</b>	<b>variable</b>	<b>Belong to R/W</b>	<b>Data format</b>	<b>Data Model</b>	<b>Remarks</b>
<b>Household System SOC Calibration</b>					
1900H	System SOC Calibration Enable	R/W	Occupy 2byte	unsigned short	0:Disable 1:Enable
1901H	System SOC Calibration Set	R/W	Occupy 2byte	unsigned short	0:Stop 1:Start
1902H	System SOC Calibration Cycle	R/W	Occupy 2byte	unsigned short	0: non-Cycle 1:Cycle
1903H	System SOC Calibration Cycle Days	R/W	Occupy 2byte	unsigned short	1day (Range:1~30 days Default value: 7days)
1904H~1905H	System SOC Calibration Time-Year	R/W	Occupy 4byte	unsigned short	2024year
1906H	System SOC Calibration Time-Month	R/W	Occupy 2byte	unsigned short	Range:1~12month
1907H	System SOC Calibration Time-Day	R/W	Occupy 2byte	unsigned short	Range:1~31day
1908H~1909H	System SOC Calibration Time-Minute	R/W	Occupy 4byte	unsigned short	Range:0~1440minutes

## Household System Custom Config

<b>Address Register</b>	<b>variable</b>	<b>Belong to R/W</b>	<b>Data format</b>	<b>Data Model</b>	<b>Remarks</b>
<b>Household System Custom Config</b>					
2000H	System Custom Config Reset	WO	Occupy 2byte	unsigned short	Send 0x0912
2001H	Display Custom Enable	R/W	Occupy 2byte	unsigned short	0:Disable 1:Enable
2002H	Display Custom Type	R/W	Occupy 2byte	unsigned short	0:NONE 1:LCD_CHARACTER 2:LED_LAMP_STRIP 3:LED_BICOLOR 4:LED_LAMP_PANEL 5:LCD_PARAGRAPH
2003H	Inverter Custom Enable	R/W	Occupy 2byte	unsigned short	0:Disable 1:Enable
2004H~2014H	Inverter Custom Modle	R/W	Occupy 32byte	String(32)	
2015H	Login Info Custom Enable	R/W	Occupy 2byte	unsigned short	0:Disable 1:Enable
2016H~2026H	Login Info Custom CompanyName	R/W	Occupy 32byte	String(32)	
2027H~2037H	Login Info Custom Password	R/W	Occupy 32byte	String(32)	
2038H	Ethernet Custom Enable	R/W	Occupy 2byte	unsigned short	0:Disable 1:Enable
2039H	Ethernet Encryption Enable	R/W	Occupy 2byte	unsigned short	0:Disable 1:Enable
203AH~205AH	Ethernet Custom Point	R/W	Occupy 64byte	String(64)	
205BH	Ethernet Custom Port1	R/W	Occupy 2byte	unsigned short	
205CH	Ethernet Custom Port2	R/W	Occupy 2byte	unsigned short	
205DH	Ethernet Custom Encryption Port1	R/W	Occupy 2byte	unsigned short	
205EH	Ethernet Custom Encryption Port2	R/W	Occupy 2byte	unsigned short	

## HouseHold AUX Auto

<b>Address Register</b>	<b>variable</b>	<b>Belong to R/W</b>	<b>Data format</b>	<b>Data Model</b>	<b>Remarks</b>
<b>HouseHold AUX (Auto)</b>					
2200H	AUX Channel1 Enable	R/W	Occupy 2 byte	unsigned short	0 : Disable 1 : Enable
2201H	AUX Control Mode1	R/W	Occupy 2 byte	unsigned short	1 : On 2 : Off 3 : Auto
2202H	AUX Start Time1A	R/W	Occupy 2 byte	unsigned short	1h
2203H	AUX End Time1A	R/W	Occupy 2 byte	unsigned short	1h
2204H	AUX Start Time1B	R/W	Occupy 2 byte	unsigned short	1h
2205H	AUX Start Time1B	R/W	Occupy 2 byte	unsigned short	1h
2206H	AUX Enable1 bits every day of the week	R/W	Occupy 2 byte	unsigned short	Enable bits every day of the week (1 Byte, bit0~bit6 corresponds to Monday to Sunday)
2207H	AUX Charge SOC1	R/W	Occupy 2 byte	unsigned short	1%
2208H	AUX Charge Mode1	R/W	Occupy 2 byte	unsigned short	1:SOC minimum ( $\geq$ ) 2:SOC maximum ( $\leq$ ) 3:disable
2209H	AUX UPS1 Enable	R/W	Occupy 2 byte	unsigned short	0 : Disable 1 : Enable
220AH	AUX SwitchOn1 Value High	R/W	Occupy 2 byte	unsigned short	1W
220BH	AUX SwitchOn1 Value Low	R/W	Occupy 2 byte	unsigned short	1W
220CH	AUX SwitchOff1 Value High	R/W	Occupy 2 byte	unsigned short	1W
220DH	AUX SwitchOff1 Value Low	R/W	Occupy 2 byte	unsigned short	1W
220EH	AUX Delay time1 before the action	R/W	Occupy 2 byte	unsigned short	1ms
220FH	AUX Delay time1 after provisioning	R/W	Occupy 2 byte	unsigned short	1ms
2210H	AUX Delay time1 after shutdown	R/W	Occupy 2 byte	unsigned short	1ms

2211H	AUX Channel2 Enable	R/W	Occupy 2 byte	unsigned short	0 : Disable 1 : Enable
2212H	AUX Control Mode2	R/W	Occupy 2 byte	unsigned short	1 : On 2 : Off 3 : Auto
2213H	AUX Start Time2A	R/W	Occupy 2 byte	unsigned short	1h
2214H	AUX End Time2A	R/W	Occupy 2 byte	unsigned short	1h
2215H	AUX Start Time2B	R/W	Occupy 2 byte	unsigned short	1h
2216H	AUX End Time2B	R/W	Occupy 2 byte	unsigned short	1h
2217H	AUX Enable2 bits every day of the week	R/W	Occupy 2 byte	unsigned short	Enable bits every day of the week (1 Byte, bit0~bit6 corresponds to Monday to Sunday)
2218H	AUX Charge SOC2	R/W	Occupy 2 byte	unsigned short	1%
2219H	AUX Charge Mode2	R/W	Occupy 2 byte	unsigned short	1:SOC minimum ( $\geq$ ) 2:SOC maximum ( $\leq$ ) 3:disable
221AH	AUX UPS2 Enable	R/W	Occupy 2 byte	unsigned short	0 : Disable 1 : Enable
221BH	AUX SwitchOn2 Value High	R/W	Occupy 2 byte	unsigned short	1W
221CH	AUX SwitchOn2 Value Low	R/W	Occupy 2 byte	unsigned short	1W
221DH	AUX SwitchOff2 Value High	R/W	Occupy 2 byte	unsigned short	1W
221EH	AUX SwitchOff2 Value Low	R/W	Occupy 2 byte	unsigned short	1W
221FH	AUX Delay time2 before the action	R/W	Occupy 2 byte	unsigned short	1ms
2220H	AUX Delay time2 after provisioning	R/W	Occupy 2 byte	unsigned short	1ms
2221H	AUX Delay time2 after shutdown	R/W	Occupy 2 byte	unsigned short	1ms

## HouseHold Generator

<b>Address Register</b>	<b>variable</b>	<b>Belong to R/W</b>	<b>Data format</b>	<b>Data Model</b>	<b>Remarks</b>
<b>HouseHold Generator</b>					
2250H	GC Generator Enable	R/W	Occupy 2 byte	unsigned short	0 : Disable 1 : Enable
2251H	GC Generator Mode	R/W	Occupy 2 byte	unsigned short	Auto start-stop mode. (default: 1) 1:SOC; 2:Time; 4:Manual mode;
2252H	GC SOC Start	R/W	Occupy 2 byte	unsigned short	1% (Range:10%~100%, Default value: 22%)
2253H	GC SOC End	R/W	Occupy 2 byte	unsigned short	1% (Range:10%~100% Default value: 22%)
2254H	GC Time Start	R/W	Occupy 2 byte	unsigned short	1h(default value: 0)
2255H	GC Time End	R/W	Occupy 2 byte	unsigned short	1h(default value: 0)
2256H	GC Output Mode	R/W	Occupy 2 byte	unsigned short	1: Battery charging power mode, 2: Generator rated power mode, (default value: 1)
2257H	GC Charge Power High	R/W	Occupy 2 byte	unsigned short	1W, (range:0~10000kW, default value: 0)
2258H	GC Charge Power Low	R/W	Occupy 2 byte	unsigned short	1W, (range:0~10000kW, default value: 0)
2259H	GC Rated Power High	R/W	Occupy 2 byte	unsigned short	1W, (range:0~10000kW, default value: 0)
225AH	GC Rated Power Low	R/W	Occupy 2 byte	unsigned short	1W, (range:0~10000kW, default value: 0)
225BH	GCRatePercent	R/W	Occupy 2 byte	unsigned short	1%, (Range: 0%~100%, Default value: 80%)
225CH	GC ATS Enable	R/W	Occupy 2 byte	unsigned short	0 : Disable 1 : Enable

225DH	GC Controller Enable	R/W	Occupy 2 byte	unsigned short	0 : Disable 1 : Enable
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Alpha-ESS

## HouseHold PVChanger

<b>Address Register</b>	<b>variable</b>	<b>Belong to R/W</b>	<b>Data format</b>	<b>Data Model</b>	<b>Remarks</b>
<b>HouseHold PVChanger Config</b>					
2300H	PVChanger Mode	R/W	Occupy 2 byte	unsigned short	0 : Single 1 : Follow 2 : Host
<b>HouseHold PVChanger networking</b>					
2310H		R/W	Occupy 2 byte	unsigned short	
<b>HouseHold PVChanger Control instruction</b>					
2340H	Battery State	R/W	Occupy 2 byte	unsigned short	Bit0~1: Comm 0: unconnected 1: connected Bit2~5: Mode 0: standby 1: work Bit6: Dischg Relay 0: off 1: on Bit7: Charge Relay 0: off 1: on Bit8~9: Upgrade 0: Not upgraded 1: Upgrading
2341H	Battery SOC	R/W	Occupy 2 byte	unsigned short	0.1%
2342H	Battery Volt	R/W	Occupy 2 byte	unsigned short	0.1V
2343H	Battery Current	R/W	Occupy 2 byte	short	0.1A
2344H 2345H	Battery Power	R/W	Occupy 4 byte	int	1W
2346H 2347H	Battery Max Charge Power	R/W	Occupy 4 byte	short	1W
2348H 2349H	Battery Max Discharge Power	R/W	Occupy 4 byte	unsigned short	1W
234AH	Battery Charge Cut-off Volt	R/W	Occupy 2 byte	unsigned short	0.1V
234BH	Battery Max Charge Current	R/W	Occupy 2 byte	unsigned short	0.1A

234CH	Battery Discharge Cut-off Volt	R/W	Occupy 2 byte	unsigned short	0.1V
234DH	Battery Max Discharge Current	R/W	Occupy 2 byte	unsigned short	0.1A
234EH	Battery Type	R/W	Occupy 2 byte	unsigned short	Byte0 Series 0: None 1: Parallel 2: Series Byte1 Model number
234FH	Battery Rated Volt	R/W	Occupy 2 byte	unsigned short	1V

# Annex

**Note1:** Battery status

Value	Description	
	Charge	Discharge
0	0	0
1	0	1
256	1	0
257	1	1
512	2	0
513	2	1

**Note2:** Battery relay status

Value	Description
0	Charge discharge relays are disconnected
1	Only discharge relay is closed
2	Only charge relay is closed
3	Charge and discharge relays are closed

**Note3:** Battery type

Battery_ID	Battery product model
2	M4860
3	M48100
13	48112-P
16	Smile5-BAT
24	M4856-P
27	Smile-BAT-10.3P
30	Smile-BAT-10.1P
33	Smile-BAT-5.8P
34	Smile-BAT5-JP
35	Smile-BAT-13.7P

**Note4:** battery fault

Fault code	Description		
	Platform	EMS2.5	EMS3.5/EMS3.6
Bit 0			Temperature sensor error

Bit 1		Mos error
Bit 2	Cell Temp Differ	Circuit breaker open
Bit 3	Balancer Fault	Dial switching mode inconsistence
Bit 4	Charge Over Current	Slave battery communication lost
Bit 5	Balancer Mos Fault	Sn missing
Bit 6	Discharge Over Current	Master battery communication lost
Bit 7	Pole Over Temp	Firmware versions inconsistence
Bit 8	Cell Over Volt	Multi master error
Bit 9	Cell Volt Differ	Mos high temperature
Bit 10	Discharge Low Temp	Insulation fault
Bit 11		Total pressure abnormal
Bit 12	Cell Low Volt	Mos feedback failure
Bit 13	ISO Comm Fault	Prefilled failure
Bit 14	LMU SN Repeat	17823 communication failure
Bit 15		17841 communication failure
Bit 16	IR Fault	Mos temperature sensor error
Bit 17	LMU Comm Fault	
Bit 18	Cell Over Temp	
Bit 19	BMU Comm Fault	
Bit 20		
Bit 21	Charge Low Temp	
Bit 22		
Bit 23	Volt Detect Fault	
Bit 24	Wire Harness Fault	
Bit 25		
Bit 26	Relay Fault	
Bit 27	LMU ID Repeat	
Bit 28	LMU ID Discontinuous	
Bit 29	Current Sensor Fault	
Bit 30		
Bit 31	Temp Sensor Fault	

#### Note5: Inverter work mode

Value	Description
0	Wait Mode
1	Online Mode
2	UPS Mode
3	Bypass Mode
4	Fault Mode
5	DC Mode
6	SelfTest Mode
7	Check Mode

8	Update Master Mode
9	Update Slave Mode
10	Update ARM Mode

Note6: System fault

Alarm code	Description		
	Platform	EM2.5/EMS3.5/EMS3.6	AE
Bit 0	Network_Card_Fault		
Bit 1	Rtc_Fault		
Bit 2	EEprom_Fault		
Bit 3	INV_Comms_Error		
Bit 4	Grid_Meter_Lost		
Bit 5	PV_Meter_Lost	Meter Not Set	
Bit 6	BMS_Lost		
Bit 7	UPS_Battery_Volt_Low	SD not inserted or SD write error	
Bit 8	Backup_Overload		
Bit 9	INV_Slave_Lost		
Bit 10	INV_Master_Lost		
Bit 11	Parallel_Comm_Error		
Bit 12	Parallel_Mode_Differ		
Bit 13	Flash_Fault		
Bit 14	SDRAM error		
Bit 15	Extension CAN error		
Bit 16	inv type not specified		
Bit 17			
Bit 18		DG_PV_Conflict	
Bit 19		PV_INV_Fault:n	
Bit 20		AirConFault	
Bit 21			
Bit 22			
Bit 23		GC_Fault	
Bit 24			
Bit 25		OverCurr	
Bit 26		PcsModeFault	
Bit 27		BatEnergyLow	
Bit 28			
Bit 29			
Bit 30			
Bit 31			

**Note7: Dispatch Mode**

Mode value	Description
1	Battery only charges from PV;
2	State of Charge control;
3	Load Following;
4	Maximise Output;
5	Normal Mode;
6	Optimise Consumption;
7	Maximise Consumption
8	ECO Mode
9	FCAS Mode
10	PV Power Setting

**Note8: Grid\_Regulation**

Safety code	Grid_Regulation	
	AL	AE
0	VDE0126-50Hz	
1	VDE4105/11.18	
2	AS4777.2	
3	G83_2	
4	C10/C11	
5	TOR Erzeuger	
6	EN50549-NL	
7	EN50549-DK	
8	CEB	
9	CEI-021	
10	NRS097-2-1	
11	EN50549-GR	
12	UTE_C15_712	
13	IEC61727	
14	G59_3	
15	RD1699	
16	G99	
17		
18	VDE0126-60Hz	
19	AS4777.2-SA	
20	G98	
21	EN50549-CZ	
22	PEA	
23	MEA	
24	BISI	

25	JET-GR Series	
26		
27		
28	50Hz Default	
29	60Hz Default	
30	WAREHOUSE	
31	AS4777.2-NZ	
32	Korea	
33	G98/G99-IE	
34	NC Rfg	
35	UL 1741	
36	UL1741-Rule 21	
37	UL1741-Hawaiian	
38	EN50549	

**Note9: Safety Mode Enable**

<b>Bit NO</b>	<b>Name</b>	<b>Description</b>
Bit0	Volt-WATT Mode	Volt-watt response mode
Bit1	Volt-VAR Mode	Volt-var response mode
Bit2	Volt-Freq Mode	Volt-Freq response mode
Bit3	Power Factor Curve Mode	Fixed power factor mode
Bit4	Volt-WATT when Charging Mode	Characteristic power factor curve for $\cos \phi$ (P)
Bit5	Reactive power mode	Reactive power control mode
Bit6		
Bit7		
Bit8		
Bit9		
Bit10		
Bit11		
Bit12		
Bit13		
Bit14		
Bit15		

**Note26: Household Inverter fault code(Only for EMS3.5/EMS3.6)**

<b>Code Bit</b>	<b>Inverter Fault1</b>	<b>Inverter Fault2</b>
Bit 0	Grid_OVP	bat2_discharge_ocp
Bit 1	Grid_UVP	bat1_hw_ocp
Bit 2	Grid_OFP	bat2_hw_ocp
Bit 3	Grid_UFP	inv_otp

Bit 4	phase_locked_fault	inv_ovp
Bit 5	bus_ovp1	inv_uvp
Bit 6	bus_ovp2	output_dc_over_current
Bit 7	insulation_fault	inv_ocp
Bit 8	gfci_fault	inv_hw_ocp
Bit 9	gfci_test_fault	output_dc_over_voltage
Bit 10	grid_relay_fault	output_short
Bit 11	over_temperature	output_overload
Bit 12	pv_reverse	apu_uvp
Bit 13	bat_reverse	bat_relay_fault
Bit 14	m_s_com_fault	dc_input_disturbance
Bit 15	display_com_fault	grid_disturbance
Bit 16	chip1_upgrade_fault	grid_unbalance
Bit 17	mppt1_ovp	freq_jitter
Bit 18	mppt1_sw_ocp	grid_overcurrent
Bit 19	mppt1_hw_ocp	grid_current_track_fault
Bit 20	mppt1_otp	backup_ovp
Bit 21	mppt2_ovp	dc_bus_unbalancevolt
Bit 22	mppt2_sw_ocp	dc_bus_undervolt
Bit 23	mppt2_hw_ocp	dc_bus_unbalancevolt2
Bit 24	mppt2_otp	igbt_over_current
Bit 25	bat_ovp	grid_disturbance2
Bit 26	bat_uvp	afci_check_protect
Bit 27	battery_lose	grid_current_sampling_abnormal
Bit 28	bat_otp	dsp_selfcheck
Bit 29	bat1_charge_ocp	grid_short_time_over_current
Bit 30	bat1_discharge_ocp	bat_overvolt_hardware_fault
Bit 31	bat2_charge_ocp	zero_ground_fault

Note27: Household Inverter fault extend code(Only for EMS3.5/EMS3.6)

Code Bit	Inverter Extend Fault1	Inverter Extend Fault2
Bit 0	ac_hct_check_failure	pv2_ct
Bit 1	dci_consistency_failure	bat1_ct
Bit 2	gfci_consistency_failure	bat2_ct
Bit 3	relay_device_failure	bypass_rly
Bit 4	ac_hct_failure	load_rly
Bit 5	gournd_i_failure	npe_rly
Bit 6	utility_phase_failure	dci
Bit 7	utility_loss	watchdog
Bit 8	internal_fan_failure	inv_open_loop
Bit 9	fac_consistency_failure	sw_consistency
Bit 10	vac_consistency_failure	n_n_reverse_lost

Bit 11	phase_angle_failure	ini_fault
Bit 12	dsp_communication_failure	dsp_b_fault
Bit 13	eeprom_rw_failure	inverter_circuit_abnormal
Bit 14	vac_failure	boost_circuit_abnormal
Bit 15	fac_failure	data_storage_error
Bit 16	external_fan_failure	para_can
Bit 17	afci_device_failure	para_synsignal_wrong
Bit 18	bus_soft_timeout	para_sw_diff
Bit 19	dc_bus_short	para_module_wrong
Bit 20	inv_soft_timeout	para_negative_power
Bit 21	grid_load_reverse	para_multi_master
Bit 22	lpe_reverse	para_turnon_wrong
Bit 23	ems_sci	hw_ver_diff
Bit 24	ems_can	bus_unbalance
Bit 25	sps_12v_ref	inv_line_short
Bit 26	1p5v_ref	
Bit 27	0p5v_ref	
Bit 28	ntc_loss	
Bit 29	inv_hct	
Bit 30	load_ct	
Bit 31	pv1_ct	

#### Note28: Battery warning

Warning code	Description		
	Platform	EMS2.5	EMS3.5/EMS3.6
Bit 0			Temperature imbalance
Bit 1			Over temperature
Bit 2			Discharge low temperature
Bit 3			Charge low temperature
Bit 4			Discharge over current
Bit 5			Charge over current
Bit 6			Cell over voltage
Bit 7			Cell low voltage
Bit 8			sw_inconsistence
Bit 9			mos_temperature_sensor_error
Bit 10			soc_inconsistence
Bit 11			bms_sci_lost
Bit 12			bms_fan_err
Bit 13			
Bit 14			
Bit 15			
Bit 16			

Bit 17		
Bit 18		
Bit 19		
Bit 20		
Bit 21		
Bit 22		
Bit 23		
Bit 24		
Bit 25		
Bit 26		
Bit 27		
Bit 28		
Bit 29		
Bit 30		
Bit 31		

Note29: Power Dispatch parameter list

Tab1: Power Dispatch parameter list: Para1, Para2, Para3, Para4, Para5					
Mode	Para1	Para2	Para3	Para4	Para5
Battery only charges from PV	Dispatch Start 1: Start 0: Exit	Feed power (W)	0	1	0
State of Charge control		Battery control power (W)		2	CutoffSOC(1%)*2.5
Load Following		Battery power limit (W)		3	
Maximise Output		0		4	
Normal Mode		Battery power limit(W)		5	
Optimise Consumption		0		6	
Maximise Consumption		0		7	
ECO Mode		Battery charging limit(W)		8	
No Battery Charge		0		19	
BurnIn Mode		Charging cutoff SOC(1%)	Discharge cutoff SOC(1%)	20	
OSW Battery only charges from PV		Feed power (W)	0	21	
OSW State of Charge control		Battery control power (W)		22	CutoffSOC(1%)*2.5
OSW Load Following		Battery power limit (W)		23	
OSW No Battery Charge		0		25	0

<b>Tab2: Power Dispatch parameter list: Para4, Para6, Para7, Para8</b>				
Mode	Para4	Para6	Para7	Para8
Battery only charges from PV	1			
State of Charge control	2			
Load Following	3			
Maximise Output	4			
Normal Mode	5			
Optimise Consumption	6			
Maximise Consumption	7			
ECO Mode	8			
No Battery Charge	19			
BurnIn Mode	20			
OSW Battery only charges from PV	21			
OSW State of Charge control	22			
OSW Load Following	23			
OSW No Battery Charge	25			

**Note30: Freq Dispatch parameter list**

Freq Dispatch parameter list: Para1, Para2, Para3, Para4									
Mode	Para1	Para2	Para3	Para4	Para5	Para6	Para7	Para8	Para9
FCAS Step			9	DB	SB	/	/	/	/
FCAS Droop			10						
FFR Primary			11						
FFR Secondary			12						
FFR High			13						
FFR Step Test1	Dispatch Start 1: Start 0: Exit	Dispatch Time: 1S/Bit	14	Battery charging limit(W)	LDB	HDB	LSB	HSB	Battery discharge limit(W)
FFR Step Test2			15						
FFR Response Test1			16						
FFR Response Test2			17						
FFR Live Test			18						

OSW FCAS Step			24	/	LDB	HDB	LSB	HSB	/
FAST_FCAS Step			26	DB	SB	/	/	/	/
FAST_FCAS Droop			27	Battery charging limit(W)	LDB	HDB	LSB	HSB	Battery discharge limit(W)

Note31: INVERTER\_SUB(Only for EMS3.5/EMS3.6)

Code NUM	Inverter sub	Code NUM	Inverter sub
0	SUB_NULL		
1	SUB_S3		
2	SUB_B3		
3	SUB_T3		
4	SUB_S5		
5	SUB_JPS5		
6	SUB_B5		
7	SUB_T5		
8	SUB_S6		
9	SUB_B6		
10	SUB_T6		
11	SUB_SP7_6		
12	SUB_SP9_6		
13	SUB_T10		
14	SUB_SPB7_6		
15	SUB_SPB9_6		
16	SUB_S3_6		
17	SUB_S4_6		
18	SUB_B3_6		
19	SUB_T15		
20	SUB_T20		
21	SUB_S8		


**Note32: Household Inverter Warn code(Only for EMS3.5/EMS3.6)**

<b>Code Bit</b>	<b>Inverter warning1</b>	<b>Inverter warning2</b>
Bit 0	bat_over_voltage_alarm	inv_volt_low_alarm
Bit 1	bat_under_voltage_alarm	inv_over_curr_sw_alarm
Bit 2	output_overload_alarm	inv_over_curr_hw_alarm
Bit 3	abnormal_temperature_sensor	bst_over_curr_sw_alarm
Bit 4	dc_power_alarm	bst_over_curr_hw_alarm
Bit 5	battery_stops_running_alarm	buck_bst_over_curr_sw_alarm
Bit 6	over_temperature_alarm	buck_bst_over_curr_hw_alarm
Bit 7	pv_volt_high_alarm	bus_under
Bit 8	bat_open_alarm	no_pv_input_alarm
Bit 9	bat_reversr_alarm	input_power_limit_alarm
Bit 10	bus_over_alarm	output_power_limit_alarm
Bit 11	grid_loss_alarm	reduce_pby_over_freq_alarm
Bit 12	grid_volt_alarm	reduce_pby_over_volt_alarm
Bit 13	grid_freq_alarm	reduce_pby_over_temp_alarm
Bit 14	10min_grid_volt_alarm	hvrt_alarm
Bit 15	grid_volt_inst_over	lvrt_alarm
Bit 16	pe_loss_alarm	ntc_fail_alarm
Bit 17	ln_reverse	grid_waveform_abnormal_alarm
Bit 18	low_temper_alarm	eps_capacitance_decrease
Bit 19	gfci_alarm	para_alarm
Bit 20	iso_alarm	para_error_location
Bit 21	dci_alarm	para_avg_overload
Bit 22	dcv_alarm	para_module_addr_same
Bit 23	island_alarm	para_online_enter_fail
Bit 24	fan_abnormal_alarm	para_unbalance_power
Bit 25	n_loss_alarm	para_turnon_inconsistent
Bit 26	ems_sci_alarm	grid_backup_n_lost
Bit 27	ems_can_alarm	bat_num_abnormal
Bit 28	flashid_alarm	grid_phase_order_fault
Bit 29	read_flash_alarm	dcv_sample_abnormal
Bit 30	write_flash_alarm	blackbox_flash_fault
Bit 31	machine_type_alarm	rtc_fault

Note33: Household Inverter Warn code(Only for EMS3.5/EMS3.6)

Code Bit	Inverter warning 3	Inverter warning 4
Bit 0	ems_bms_lost	
Bit 1	busunbalance	
Bit 2	pvreverse	
Bit 3	gridvoltCrestFactorhigh	
Bit 4		
Bit 5		
Bit 6		
Bit 7		
Bit 8		
Bit 9		
Bit 10		
Bit 11		
Bit 12		
Bit 13		
Bit 14		
Bit 15		
Bit 16		
Bit 17		
Bit 18		
Bit 19		
Bit 20		
Bit 21		
Bit 22		
Bit 23		
Bit 24		
Bit 25		
Bit 26		
Bit 27		
Bit 28		
Bit 29		
Bit 30		
Bit 31		