INVT SOLAR INVERTER MODBUS RTU PROTOCOL

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This document specifies the protocol requirements for external 485 communication of Inverter solar products, which is applicable to PV grid-tied inverter (single-phase/three phase: XG series) and hybrid inverter (single-phase：XD series)
The protocol frame refers to the Modbus protocol, and the actual number of primary reading and writing instruction registers is limited to less than or equal to 125;
The underlying format is fixed at: 9600, n, 8, 1, baud rate 9600, 8-bit data bits, no check
Connection mode: One master and multiple slave, star connection, each slave address is set by the keyboard in advance. At any time, the inverter supports an omnipotent address, so it can pass the omnipotent address Set the new address of the inverter (which must be connected one-to-one at this time), and limit the maximum number of slave addresses to 32.

Data Frame：

Slave Address	Function	Length of Data	CRC
1 byte	1 byte	N bytes, related to commands	2 bytes
0 ~ F7H, 0 is the broadcast address. (The broadcast address is used for communication without knowing the address of the inverter. After receiving the command of full address, the inverter can return the data without comparing with the local address. Broadcast address cannot be used in case of multiple communication)	03H: Read Data 10H: Writing Data Other: Invalid	/	Check range is all data from slave address to all data before CRC check

Function code table：

Code	Name	Meaning
0x03	Read register, query inverter information	Read Registers, single or multiple registers can be read
0x10	Write multiple registers, set inverter information	Write multiple registers

Read data format (03 function code)

Slave Address	Function	Data Field				CRC
1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	2 bytes
Register Address	03H	Starting Address Hi	Starting Address Lo	No.of Registers Hi	No.of Registers Lo	

When the host is sent successfully, slave returns:

Slave Address	Function	Length of Data	Data Field					CRC
1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	...	2 bytes
Register Address	03H	Byte Count	Data 1 Hi	Data 1 Lo	Data 2 Hi	Data 2 Lo	...	/

When host sending fails, slave returns:

Slave Address	Function	Error code	CRC
1 byte	1 byte	1 byte	2 bytes
Register Address	83H	See Error Codes Table	

Write data format (06 function code)

Host send: (correct is 06H, error is 0x86)

Slave Address	functional domain	Address Domain		Data Field		CRC
1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	2 bytes
Physical Address	06H	Address Hi	Address Lo	Data Hi	Data Lo	/

When the host is sent successfully, slave returns:：

Slave Address	functional domain	Data Field				CRC check
1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	2 bytes
Register Address	06H	Register Address Hi	Register Address Lo	Data Hi	Data Lo	/

When host sending fails, slave returns:

Slave Address	functional domain	Error code	CRC check
1 byte	1 byte	1 byte	2 bytes
Register Address	86H	See Error Codes Table	

Write data format (10 function code)

Host send: (correct 10H, error 0x90)

Slave Address	**Function**	**Data Field**		Data Length		**Data Field**					CRC
1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	...	2 bytes
Register Address	10H	Starting Address Hi	Starting Address Lo	No.of Registers Hi	No.of Registers Lo	Data 1 Hi	Data 1 Lo	Data 2 Hi	Data 2 Lo	...	/

When the host is sent successfully, slave returns:

Slave Address	**Function**	**Data Field**				CRC
1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	2 bytes
Register Address	10H	Starting Address Hi	Starting Address Lo	No.of Registers Hi	No.of Registers Lo	/

When host sending fails, slave returns:

Slave Address	Function	Error code	CRC
1 byte	1 byte	1 byte	2 bytes
Register Address	90H	See Error Codes Table	

Error Codes Table:

Code	Name	Meaning
0x02	Illegal data address	
0x0A+x	Illegal Value	illegal setting of xth register value
0x06	Slave device busy, Invalid command	

According to the value of 0x3068 register, reading different register address

Reading value	Model	Reading and Writing region(Address)	Only-read region(Address)
1	Hybrid inverter	0x3000-0x307D 0x3100-0x317D	0x3800-0x387D 0x387D-0x38FA 0x3900-0x397D
2	PACK Data	Reserved	Reserved
other	Grid-tied inverter	0x3000-0x307D	0x3800-0x387D

Appendix: Register Definition

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
0x3000	Rated power	1	R	0.1	kw	U16		1000 means 100kw 1100 represents 110kw
0x3001	Inverter serial number	16	R/W	1		U16	'0'~'9' 'a'~'z' 'A'~'Z'	ASCII Character Power-off save
0x3011	485 Protocol	1	R	1		U16		0: MODBUS Other: Retained (not used)
0x3012	485 Address Setting	1	R/W	1		U16	1-247	Address range:1~247 (Power off Save)
0x3013	485 Baud Rate Setting (U4)	1	R/W	1	bps	U16	0-1	0 means 9600bps 1 represents 115200bps
0x3014	Year-Month	1	R/W	1	Y-M	U16	Year:20-99 Month: 1 to 12	High 8 bit: year Low 8 bit: months
0x3015	Day-Hour	1	R/W	1	D-H	U16	Day:1~31 Hour:0~23	High 8 bit: day Low 8 bit: Hour
0x3016	Minute-Seconds	1	R/W	1	M-S	U16	Minute: 0 ~ 59 Seconds: 0 to 59	High 8 bit: min Low 8 bit: seconds
0x3017	Week	1	R	1	W	U16		Week
0x3018	Remote Shutdown	1	R/W	1		U16	0xAAAA：Shutdown 0x5555 ：Startup 0xBBBB: Shut down but don't cut off EPS	0xAAAA：Shutdown 0x5555：Startup 0xBBBB: Shut down but don't cut off EPS Other: No action
0x3019	Percent of Active Power Setting	1	R/W	0.1	%	U16	0-1000	100 means 10.0% 1000 means 100.0% (Power off Save)
0x301A	Setting of reactive power control mode	1	R/W	1		U16	0,1,2	Reactive power control mode: 0：Power Factor Control 1: Reactive power percentage control 2: QV curve control 3: Active power priority 4: Fixed/Default PF Curve 5: P-PF Curve (Power off Save)
0x301B	Power Factor Settings	1	R/W	0.001		S16	+800 ~ +1000 -800～-1000	+800～+1000：Range 0.8~1 -800~-1000:Range 0.8~1(Power off Save)
0x301C	Reactive Power Setting	1	R/W	0.1	%	S16	-660~+660	- 600 ~ + 600: Range -60% ~ 60% (Power off Save)
0x301D	Inverter LCD Language	1	R/W	1		U16	0	0：Chinese (Simplified) 1：English 2：Chinese (Traditional) 3：Italian 4：Korean 5：German (Power off Save)
0x301E	Grid Code+ Manufacturer Selection	1	R/W	1		U16	High 8 bit (Regulations)	**Hight 8 Order bit : Regulatory Information**

ADD	Data Content	NO.	R/ W	Multi-plier	Unit	Data type	Range	Remarks
							0-256(byte) Low 8 order-bit (manufactu rer) 0-256(byte)	0：CQC2013 1：SKYWORTH 2：EN50549 3：Brazil 4：Spain 5：Philippine 6：India 7：Belgium 8：EU EN50438 9：South-Africa NRS 10：Western Australia 11：Netherland 12：Thailand 13：Bangkok 14：China CQC2018 15：Greece 16：Norway 17：Korea 18：Germany 19：France 20：Ireland 21：Turkey 22：Taiwan 23：Italy 24：Slovakia 25：Romania 280V **Lower8 bits: Manufacturer selection** **0: INVT** 1：Skyworth Others: Reserved (Power off Save)
0x301F	Protection function shielding selection	1	R/W	1		U16	bit	**High 8 Bit: protective function shield** BIT0：Enable ISO protection BIT1: Enable GFCI protection BIT2：Enable DCI BIT3：Enable non-standard protection（25-70k） BIT4-7：Battery power (XD series) 0：1kw 1：2kw 2：3kw **Lower 8 bits: Application environment selection** BIT0-1：

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
								0:220V Grid standard 1:400V Grid standard 2:480V Grid standard 3:540V Grid standard (XG100-136kW) BIT2：Virtual N line enable BIT3-5： IGBT Module 0：Onsemi/Vincotech 1：Infineon Module 2：BYD Module BIT6：Photovoltaic panel configuration (single phase) Two MPPT： 0：20/20A 1：28/14A Three MPPT： 0：20/20/20A 1：28/14/14A BIT7：Reserved (Power off Save)
0x3020	Function selection	1	R/W	1		U16	bit	BIT0：Enable zero export function BIT1: Enable string Monitoring BIT2：Enable PID BIT3：Enable DC Lightning Protection Detection BIT4：Enable AC Lightning Protection Detection BIT5：Relay Check BIT6：IGBT Detection BIT7：Enable consistency protection (XG100-136Kw) BIT8：Enable zero export function of multiple inverters BIT9：AFCI Enable (XG100-136Kw) BIT10： (XG100-136Kw) Single MPPT Input 0：26A 1：30A (XG3-70Kw) N-PE Fault Check BIT11： XG100-136Kw represents SVG Enable (1:Enable；0：Disable) XD1-12KW represents XD

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
								Inverter Series（0：Single Machine；1：All-in-one Machine） BIT12： XG1-70KW represents Fast Autotest Enable Flag（Default 0 enabled） XD1-12KW represents Fan Type（0：Old Fan；1：New Fan） BIT13： XG1-70KW represents String quantity selection, 0:2 Strings, 1:3 Strings, Default is 0 BIT14-15：Reserved (Power off Save)
0x3021	Power setting	1	R/W	0.1	Kw	U16	10-1360	XG100-136kW 567 represents 56.7kw 1200 represents 120kw(Power off Save)
0x3022	Input Mode Settings	1	R/W	1		U16	0-2	Input Mode: 0: Input independent Mode 1: Input parallel mode 2: DC Source Mode (Aging mode) (Power off Save)
0x3023	Clear the power genaration	1	R/W	1		U16	0xAAAA	0xAAAA: Clear Other: No action
0x3024	Clear Correction Factor and Fault Log	1	R/W	1		U16	0xAAAA 0x5555	0xAAAA: Clear correction factor 0x5555: Clear Fault Log Other: No action
0x3025	Restore Factory Settings	1	R/W	1		U16		0xAAAA: Recovery Other: No action Restore Factory Values Clears all cumulative information and restores parameters to their default state
0x3026	Wide voltage level	1	R/W	1		U16	0-2	0: Default 1: 1.2 2: 1.25 Rated voltage of 400, selection 2 means 1.25 * 400 = 500V protection (power off save)
0x3027	Aging Correction Mode	1	R/W	1		U16	0-2	0: Normal mode 1: 30% calibration 2: 70% calibration
0x3028	PLC MAC Address	1	R/W			U16		MAC Address
0x3029	485_2 Address Setting	1	R/W	1		U16	1-247	Value range：1~247
0x302A	485_2 Baud Rate Setting	1	R/W	100	bps	U16	96,384,1152	384 represents 38400bps
0x302B	PV Start voltage	1	R/W	0.1	V	U16	XG3-70kW: 1000~6000 XG100-136kW: 2500-7000	1500 represents 150V

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
0x302C (XG3-70kW)	AC Start High Voltage	1	R/W	0.1	V	U16	590-6500	1000 represents 100V
0x302C (XG100-136kW)	AC Start High Voltage	1	R/W	0.1	V	U16	Set according to the application environment 220V: 1540-3400 400V: 2800-5200 480V: 3360-6240 540V: 3780-7020	1000 represents 100V
0x302D (XG3-70kW)	AC Start Low Voltage	1	R/W	0.1	V	U16	590-6500	4356 represents 435.6V
0x302D (XG100-136kW)	AC Start Low Voltage	1	R/W	0.1	V	U16	Set according to the application environment 220V: 1540-3400 400V: 2800-5200 480V: 3360-6240 540V: 3780-7020	4356 represents 435.6V
0x302E	AC Start High Frequency	1	R/W	0.01	Hz	U16	XG3-70kW: 4500-6800 XG100-136Kw: 4500-6600	4567 represents 45.67Hz
0x302F	AC Start Low Frequency	1	R/W	0.01	Hz	U16	XG3-70kW: 4500-6800 XG100-136Kw: 4500-6600	5200 represents 52Hz
0x3030	Startup Delay Time	1	R/W	1	S	U16	20~600s	
0x3031	Restart Delay Time	1	R/W	1	S	U16	0~1000s	
0x3032 (XG3-70kW)	AC under voltage 1	1	R/W	0.1	V	U16	590-6500	1000 represents 100V
0x3032 (XG100-136kW)	AC under voltage 1	1	R/W	0.1	V	U16	Set according to the application environment 220V: 1540-3400 400V: 2800-5200 480V: 3360-6240	1000 represents 100V

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
							540V: 3780-7020	
0x3033 (XG3-70kW)	AC over voltage 1	1	R/W	0.1	V	U16	590-6500	4356 represents 435.6V
0x3033 (XG100-136kW)	AC over voltage 1	1	R/W	0.1	V	U16	Application environment 220V: 1540-3400 400V: 2800-5200 480V: 3360-6240 540V: 3780-7020	4356 represents 435.6V
0x3034	AC under voltage 1 Time	1	R/W	20	ms	U16	1-30000	100 represents 2s
0x3035	AC Overvoltage 1 Time	1	R/W	20	ms	U16	1-30000	100 represents 2s
0x3036	AC under voltage 2	1	R/W	0.1	V	U16	XG3-70kW: 590-6500 XG100-136kW:980-7270	1000 represents 100V
0x3037	AC Overvoltage 2	1	R/W	0.1	V	U16	XG3-70kW: 590-6500 XG100-136kW:980-7270	4356 represents 435.6V
0x3038	AC under voltage 2 Time	1	R/W	20	ms	U16	1-30000	100 represents 2s
0x3039	AC Overvoltage 2 Time	1	R/W	20	ms	U16	1-30000	100 represents 2s
0x303A	AC Under-Frequency 1	1	R/W	0.01	Hz	U16	XG3-70kW: 4500-6800 XG100-136Kw: 4500-6600	4567 represents 45.67Hz
0x303B	AC Over-Frequency 1	1	R/W	0.01	Hz	U16	XG3-70kW: 4500-6800 XG100-136kW: 4500-6600	5200 represents 52Hz
0x303C	AC under-Frequency 1 Time	1	R/W	20	ms	U16	1-30000	100 represents 2s
0x303D	AC Over-frequency 1 time	1	R/W	20	ms	U16	1-30000	100 represents 2s
0x303E	AC Under-Frequency 2	1	R/W	0.01	Hz	U16	XG3-70kW: 4500-6800 XG100-136Kw: 4500-6600	4567 represents 45.67Hz
0x303F	AC Over-Frequency 2	1	R/W	0.01	Hz	U16	XG3-70kW: 4500-6800 XG100-136Kw: 4500-6600	5200 represents 52Hz
0x3040	AC Under-Frequency 2 Time	1	R/W	20	ms	U16	1-30000	100 represents 2s
0x3041	AC Over-frequency 2 time	1	R/W	20	ms	U16	1-30000	100 represents 2s

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
0x3042	LVRT Enable	1	R/W	1		U16	0-1	0: Prohibited, 1: Enable
0x3043	verfrequency reduction disable setting	1	R/W	1		U16	0-1	0: Prohibited, 1: Enable
0x3044	Over-frequency Derating Threshold Setting	1	R/W	0.01	Hz	U16	XG3-70kW: 4500-6800 XG100-136Kw: 4500-6600	Value range: 5020 ~ 5500 (50Hz standard) or 6020 ~ 6500 (60Hz standard) Meaning: 1. when the grid frequency reaches this frequency threshold, the current power of the inverter will be locked, and this power is Pfrozen 2. if the grid frequency exceeds this threshold, the power will be decreased by 40% Pfrozen/HZ
0x3045	QU curve Reactive Overvoltage End point Voltage Value (Setting the percentage will be considered later)	1	R/W	0.1	V	U16	XG3-70kW: 590-6500 XG100-136kW:980-7270	High voltage value V1 of QV curve: Value range: 2400-2800 Meaning: indicates that the grid phase voltage (LN) changes from 240V to V1, and the reactive power will gradually change from 0 to Q1
0x3046	QU curve Over -voltage Maximum Reactive (Positive) Percent	1	R/W	0.1	%	S16	-660~+660	QV curve high voltage reactive power percentage Q1: Value range: -600 ~ + 600 Meaning: it indicates that the mains phase voltage (LN) is higher than V1, and the reactive power remains Q1
0x3047	QU Curve reactive power undervoltage start voltage value (Setting the percentage will be considered later)	1	R/W	0.1	V	U16	XG3-70kW: 590-6500 XG100-136kW:980-7270	Low voltage value V2 of QU curve: Value range: 1500 -2200 Meaning: indicates that the grid phase voltage (LN) changes from 210V to V2, and the reactive power will gradually change from 0 to Q2
0x3048	Qu Curve under -voltage maximum reactive power (negative) percentage	1	R/W	0.1	%	S16	-660~+660	QV Curve Low Voltage Reactive Percent Q2: Value range: -600 ~ + 600 Meaning: it indicates that the mains phase voltage (LN) is lower than V2, and reactive power is maintained Q2
0x3049	Island Protection Enable	1	R/W	1		U16	0-1	0: Prohibited, 1: Enable
0x304A	Low voltage ride through enable	1	R/W	1	A	U16	0-1	
0x304B	Start I/V scan (Boost DSP)	1	R/W	1		U16		0xAAAA: On Other: No action
0x304C	Over-frequency derating variation slope	1	R/W	0.1	%	U16		Default 400, representing 40% Pn/Hz
0x304D	Start point of high voltage derating	1	R/W	0.1	V	U16		
0x304E	End point of high voltage derating	1	R/W	0.1	V	U16		
0x304F	Start point of low voltage derating	1	R/W	0.1	V	U16		

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
0x3050	End point of low voltage derating	1	R/W	0.1	V	U16		
0x3051	Power Control Voltage Percent	1	R/W	1	%	U16	XG3-70kW: reserve XG100-136kW:105-115	The default value is 108, which means 108%Un
0x3052	1.1 times overload enable	1	R/W	1		U16	0-1	0: Disable 1: Enabled
0x3053	QU curve reactive overvoltage starting voltage value	1	R/W	0.1	V	U16		
0x3054	QU curve reactive under voltage end voltage value	1	R/W	0.1	V	U16		
0x3055	Start Loading Slope	1	R/W	0.1	%	U16	XG3-70kW: 0-5000 XG Single Phase /100-136kW:0-1000	Loading percentage per minute
0x3056	Restart Loading Slope	1	R/W	0.1	%	U16	XG Single Phase ：0-1000	Loading percentage per minute
0x3057	Inverter lock	1	W			U16		Inverter remote lock, default shutdown password 0xAA55, unlock password 0x55AA (not for public use)
0x3058	Fan Speed Test Enable	1	R/W	1		U16	0-1	0: Disable 1: Enabled
0x3059	Software Functional Shielding and Enabling	1	R/W	1		U16		BIT0：Load Slope Enable BIT1：AC high voltage load limiting enable BIT2：NE fault detection Enable BIT3：LVRT function enable BIT4：Island Enable BIT5：50Hz/60Hz Logo BIT6：Over-frequency load reduction enable BIT7: Underfrequency loading enable BIT8：1.1 times overload enable BIT9：(reserve) 0：Select the CT ratio of the meter 1：0x3069 data is CT radio BIT10: Grid voltage feedforward filter enable (XG100-136kW) PU Curve（XG3-70kW） BIT11：Active power change slope BIT12：Reserve BIT13: Reactive power response time adjustment enable

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
								BIT14：High Voltage Ride Through Enable BIT15：Reserve
0x305A	Shutdown derating Slope	1	R/W	0.1	%	U16	XG3-70kW: 0-5000 XG100-136kW 无	Shutdown derating Slope
0x305B	Allowable backflow power	1	R/W	0.1	kw	U16		60 represents 6kw
0x305C	Restricted backflow method	1	R/W	1		U16		0: Limit total power in 3 phases, default 1: Limit single-phase power
0x305D	Failure Power	1	R/W	0.1	kw	U16		100 represents 10kw
0x305E	Anti-reflux failure time	1	R/W	1	S	U16	XG3-70kW: 1~100 XG100-136kW 0-100	Default 10s
0x305F	Fault recorder-Nth record		R/W	1		U16		
0x3060	Recorder - frequency division factor	1	R/W	1		U16		Default 1
0x3061	recorder -count	1	R/W	1		U16		Default 500，Max support 1000
0x3062	recorder –No.1	1	R/W	1		U16		
0x3063	recorder - No.2	1	R/W	1		U16		
0x3064	recorder - No.3	1	R/W	1		U16		
0x3065	recorder - No.4	1	R/W	1		U16		
0x3066	AFCI alarm threshold	1	R/W	1		U16	0-125	Default 120（XG3-70kW）
0x3067	AFCI flag bit clear	1	R/W	1		U16	0-1	Default 0 1：Clear arc alarm 2：Clear the arc self-test failure and restore the default after a few seconds
0x3068	Model Recognition	1	R/W	1		U16		1：Hybrid Inverter 2：Grid-tied Inverter 3：Off-grid Inverter
0x3069	CT Ratio	1	R/W			U16	0-5000	CT Ratio
0x306A	Number of inverters	1	R/W			U16		Number of inverters for zero export function system
0x306B	Zero export function meter	1	R/W			U16		0：CT（Default） 1：Standardel meter with zero export function of single inverter 2：DFUN(Pilot) meter with zero export function of single inverter 3：Eastron Meter 4：CHINT Meter 5：Eybond device with zero

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
								export function of multi-inverter (Gridbox2) 6：Solarman device with zero export function of multi- inverter (Anti-Rejection Box) 7：Astec meter 8：PLC device with zero export function of multi-inverter 9：AC coupling (When selecting on-grid inverter, meter power = active power) 10：Customization
0x306C	Max reflux value of multi inverter anti-reflux system	1	R/W	0.1	kw	U16	Set the value to less than 0	Max allowable reflux threshold for multi inverter anti-reflux system，generally it is set to 20% of total power of multi inverter system. Invalid logic
0x306D	Model of inverter device	16	R/W			U16	'0'~'9' 'a'~'z' 'A'~'Z'	ASCII characters (Power off Save)
0x307D	Auto Test Function	1	R/W			U16		0：Stop Auto Test function 1：Start Auto Test function
0x307E	AC overvoltage protection value of 10 minutes	1	R/W	0.1	V	U16	400-5000	1000 represents 100V
0x307F	Fixed PF onset time	1	R/W	0.1	V	U16		
0x3080	Under frequency loading start point	1	R/W	0.01	Hz	U16		
0x3081	Under frequency loading end point	1	R/W	0.01	Hz	U16		
0x3082	RS485_2 Communication	1	R/W	1	Hz	U16		0：Meter Communication 1：Remote monitor communication
0x3083	Overfrequency derating end value setting	1	R/W	0.01	Hz	U16	XG single phase: Default 50.0Hz Range 50.0-66.0Hz	Value range: 5020~5500 (50Hz standard) or 6020~6500 (60Hz standard) significance: 1. When the mains frequency is derated and reaches this frequency, the current power of the inverter will be locked, and this power is Pfrozen
0x3084	Active power slope	1	R/W	0.01	Pn/s	U16	33-66	Default 33
0x3085	Underfrequency increment starting frequency setting	1	R/W	0.01	Hz	U16	4900-4980	Default: 4980 means 49.80Hz
0x3086	Reactive power response time	1	R/W	1		U16	3-60	Default 3 (actual range is 10s-180s)
0x3087	Autonomous regulation of power coefficient	1	R/W	0.1	%	U16	1-1000	100 means 10.0% 1000 means 100.0% Default is 10% Meaning: End point of curve control

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
								(Taiwan AEC)
0x3088	Auto-control Power Factor	1	R/W	0.001		S16	800 ~ 1000	800 ~ 1000: Range 0.8~1 Default 0.9 Meaning: Curve control end poin(Taiwan AEC)
0x3089	Harmonic data request sending settings	1	R/W	1		U16		
0x308A	ISO（Insulation resistance detection）	1	R/W	1		U16	0-1	0：Disable, 1：Enable
0x308B	Insulation resistance protection value	1	R	1	KΩ	U16	5-999	Default：10kohm
0x308C	LVFRT Low Voltage Ride Through K-Factor	1	R/W	0.1		U16	0-100	Default:20
0x308D	LVFRT Low Voltage Ride Through K-Factor	1	R/W	0.1		U16	0-100	Default:20
0x308E	Single Inverter Export Limitting	1	R/W	1		U16	1	0：Disable, 1：Enable
0x308F	Multi-Inverter Export Limitting	1	R/W	1		U16	1	0：Disable, 1：Enable
0x3090	Fuse Detection	2	R/W	1		U32	0-1	0：Disable, 1：Enable 0x3090 Enable 1-16 strings 0x3091 Enable 17-32 strings
0x3092	Fuse detection starting current point	1	R/W	0.01	A	U16	10-1000	10 means 0.1A 1000 means 10A
0x3093	Fuse detection recovery current point	1	R/W	0.01	A	U16	10-1000	10 means 0.1A 1000 means 10A
0x3094	AC Under Voltage 3	1	R/W	0.1	V	U16	XG3-70kW: 590-6500 XG100-136kW:980-7270	1000 represents 100V
0x3095	AC Under Voltage 3 Time	1	R/W	20	ms	U16	1-30000	100 represents 2s
0x3096	Voltage starting point for power reduction	1	R/W	1	%	U16		The default value is 105, which means 105%Un
0x3097	Fuse breaking current value	1	R/W	0.01	A	U16	0-4000	10 represents 0.1A
0x3098	CT direction detection enable	1	R/W	1		U16	0-1	0 means disable CT direction detection 1 means enable CT direction detection After the after-sales staff ensures that the customer has correctly installed the CT, if the inverter still alarms W04-16, the prohibition detection function can be enabled. The default value is 0: Disable（XG100-136KW）
0x3099	Over-frequency load reduction power recovery point	1	R/W	0.01	Hz	U16	0-12500	Power recovery point after reaching the overfrequency end point
0x309A	MPPT1 Voltage Setting	1	R/W	0.1	V	U16	0-12500	The minimum voltage setting value is 1.14 times the maximum three-phase line voltage + 100V
0x309B	MPPT2 Voltage Setting	1	R/W	0.1	V	U16	0-12500	
0x309C	MPPT3 Voltage Setting	1	R/W	0.1	V	U16	0-12500	

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
0x309D	MPPT4 Voltage Setting	1	R/W	0.1	V	U16	0-12500	The setting can be successful when the safety regulation is selected as Norway and the fault state
0x309E	MPPT5 Voltage Setting	1	R/W	0.1	V	U16	0-12500	
0x309F	MPPT6 Voltage Setting	1	R/W	0.1	V	U16	0-12500	
0x30A0	MPPT7 Voltage Setting	1	R/W	0.1	V	U16	0-12500	
0x30A1	MPPT8 Voltage Setting	1	R/W	0.1	V	U16	0-12500	
0x30A2	MPPT9 Voltage Setting	1	R/W	0.1	V	U16	0-12500	
0x30A3	MPPT1 Current setting	1	R/W	0.1	V	U16	0-300	
0x30A4	MPPT2 Current setting	1	R/W	0.1	V	U16	0-300	
0x30A5	MPPT3 Current setting	1	R/W	0.1	V	U16	0-300	
0x30A6	MPPT4 Current setting	1	R/W	0.1	V	U16	0-300	
0x30A7	MPPT5 Current setting	1	R/W	0.1	V	U16	0-300	
0x30A8	MPPT6 Current setting	1	R/W	0.1	V	U16	0-300	
0x30A9	MPPT7 Current setting	1	R/W	0.1	V	U16	0-300	
0x30AA	MPPT8 Current setting	1	R/W	0.1	V	U16	0-300	
0x30AB	MPPT9 Current setting	1	R/W	0.1	V	U16	0-300	
0x30AC	Snow removal function enable setting	1	R/W	1		U16		BIT0 : MPPT1 Snow removal enable BIT1 : MPPT2 Snow removal enable BIT2 : MPPT3 Snow removal enable BIT3 : MPPT4 Snow removal enable BIT4 : MPPT5 Snow removal enable BIT5 : MPPT6 Snow removal enable BIT6 : MPPT7 Snow removal enable BIT7 : MPPT8 Snow removal enable BIT8 : MPPT9 Snow removal enable All default is enable。And need to set value of 0x30AE register ,select snow removal mode,the country selects Norway、it can be selected successfully when it's fault status
0x30AD	Snow removal setting	1	R/W	0.1	h	U16		

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
0x30AE	Snow removal mode setting	1	R/W	1		U16	0-2	0：Disable 1：Manual model 2：Automatical mode PS： For every PV, the default is enable,and when register value is 1 or 2,the snow removal function will be started. The country selects Norway、it can be selected successfully when it's fault status
0x30AF	Automatical snow removal start date	1	R/W	1		U16		High 8 bit: Month Low 8 bit: Day The country selects Norway、it can be selected successfully when it's fault status
0x30B0	Automatical snow removal time	1	R/W	1		U16		High 8 bit: Hour Low 8 bit: Minute The country selects Norway、it can be selected successfully when it's fault status
0x30B1	Active power setting percentage（PLC）	1	R/W	0.1	%	U16	0-1000	100 means 10.0% 1000 means 100.0% (Power off Save) Only applicable to multi-machine Anti-reflux function in PLC mode
0x30B2	Software debug value 1	/	/	/	/	U16		Send any value set by the upper computer to the DSP
0x30B3	Software debug value 2	/	/	/	/	U16		Send any value set by the upper computer to the DSP
0x30B4	Automatical snow removal end date	1	R/W	1		U16		High 8 bit: Month Low 8 bit: Day The country selects Norway、it can be selected successfully when it's fault status
0x30B5	Automatical snow removal end time	1	R/W	1		U16		High 8 bit: Hour Low 8 bit: Minute End hour setting must greater than start hour setting The country selects Norway、it can be selected successfully when it's fault status
0x30B6	Automatical snow removal interval	1	R/W	1	Day	U16	1-20	The country selects Norway、it can be selected successfully when it's fault status
0x30B7	DER-AVM Mode selection	1	R/W	1		U16	0-2	0：Normal mode 1：DER-AVM Control Mode 2：External Power Control Mode（Select this mode to change the grid output parameters）

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
0x30B8	Large inverter model settings	1	R/W	1		U16	0-2	0: Modular inverter 100-136K model 1: Single tube 100-150K model 2: Single tube 75-110K model Restoring to factory settings does not change values
Energy Storage Battery Area								
0x3100	Float charge current limit	1	R/W	0.1	A	U16		When the battery current is lower than this value, it enters floating charge mode
0x3101	Battery capacity	1	R/W	0.1	Ah	U16		
0x3102	Lead-acid battery low voltage	1	R/W	0.1	V	U16		
0x3103	Clear the battery low voltage error voltage point	1	R/W	0.1	V	U16		
0x3104	Stop discharge voltage (lead-acid battery)	1	R/W	0.1	V	U16		No discharge below this value
0x3105	Lithium battery stop discharge voltage	1	R/W	0.1	V	U16		No discharge below this value
0x3106	Lithium battery stop charging voltage	1	R/W	0.1	V	U16		No charge bigger than this value
0x3107	Stop charging voltage (lead-acid battery)	1	R/W	0.1	V	U16		No charge bigger than this value
0x3108	Battery discharge temperature lower limit	1	R/W	0.1	℃	S16	-40~140	
0x3109	Battery discharge temperature up limit	1	R/W	0.1	℃	S16	-40~140	
0x310A	Battery charging temperature lower limit	1	R/W	0.1	℃	S16	-40~140	
0x310B	Battery charging temperature up limit	1	R/W	0.1	℃	S16	-40~140	
0x310C	Discharge under-frequency load reduction time	1	R/W	1	S	U16	0-20	
0x310D	Number of batteries in series	1	R/W	1		U16		
0x310E	Number of batteries in parallel	1	R/W	1		U16		
0x310F	Reserve	1	R/W	1		U16		
0x3110	CT calibration enable	1	R/W	1		U16		0：Disable 1：Enable
0x3111	Priority Configuration	1	R/W	1		U16	Forced charging /Forced discharging /Load priority /Battery priority /Grid priority	0: Load priority 1: Battery priority 2: Grid priority
0x3112	Pre-aging test command	1	R/W	1		U16	0-0x32	0: Normal operation mode 0x20: Discharge power is 100% of rated power 0x21: Discharge power is 30% of rated power 0x22: Discharge power is

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
								70% of rated power 0x30: Charging power is 100% of rated power 0x31：Charging power is 30% of rated power 0x32: Charging power is 70% of rated power
0x3113	Reserve							
0x3114	EPS Function Enable	1	R/W	1		U16	0-1	0：Disable 1：Enable
0x3115	EPS Output voltage	1	R/W	0.1	V	U16	0-2500	
0x3116	EPS Output frequency	1	R/W	1	Hz	U16	0-1	0：50Hz 1：60Hz
0x3117	Discharge power percentage (time period 1)	1	R/W	1	%	U16	0-100	Grid priority, discharge power limitation
0x3118	Stop SOC during discharge	1	R/W	1	%	U16	0-100	Grid priority, stop SOC when discharging
0x3119	Grid priority start time 1	1	R/W	1	H-M	U16	Hours: 0~23 Minutes: 0~59	
0x311A	Grid priority stop time 1	1	R/W	1	H-M	U16	Hours: 0~23 Minutes: 0~59	
0x311B	Grid priority enable bit 1	1	R/W	1		U16	0-1	0：Disable 1：Enable
0x311C	Grid priority start time 2	1	R/W	1	H-M	U16	Hours: 0~23 Minutes: 0~59	
0x311D	Grid priority stop time 2	1	R/W	1	H-M	U16	Hours: 0~23 Minutes: 0~59	
0x311E	Grid priority enable bit 2	1	R/W	1		U16	0-1	0：Disable 1：Enable
0x311F	Grid priority start time 3	1	R/W	1	H-M	U16	Hours: 0~23 Minutes: 0~59	
0x3120	Grid priority stop time 3	1	R/W	1	H-M	U16	Hours: 0~23 Minutes: 0~59	
0x3121	Grid priority enable bit 3	1	R/W	1		U16	0-1	0：Disable 1：Enable
0x3122	Charging power percentage (time period 1)	1	R/W	1	%	U16	0-100	Battery priority, charging power limit
0x3123	Stop SOC when charging	1	R/W	1	%	U16	0-100	Battery priority, stop SOC when charging
0x3124	AC charging enable	1	R/W	1		U16	0-1	0：Disable 1：Enable
0x3125	Battery priority start time 1	1	R/W	1	H-M	U16	Hours: 0~23 Minutes: 0~59	
0x3126	Battery priority stop time 1	1	R/W	1	H-M	U16	Hours: 0~23 Minutes: 0~59	
0x3127	Battery priority enable bit 1	1	R/W	1		U16	0-1	0：Disable 1：Enable

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
0x3128	Battery priority start time 2	1	R/W	1	H-M	U16	Hours: 0~23 Minutes: 0~59	
0x3129	Battery priority stop time 2	1	R/W	1	H-M	U16	Hours: 0~23 Minutes: 0~59	
0x312A	Battery priority enable bit 2	1	R/W	1		U16	0-1	0：Disable 1：Enable
0x312B	Battery priority start time 3	1	R/W	1	H-M	U16	Hours: 0~23 Minutes: 0~59	
0x312C	Battery priority stop time 3	1	R/W	1	H-M	U16	Hours: 0~23 Minutes: 0~59	
0x312D	Battery priority enable bit 3	1	R/W	1		U16	0-1	0：Disable 1：Enable
0x312E	Load priority start time 1	1	R/W	1	H-M	U16	Hours: 0~23 Minutes: 0~59	
0x312F	Load priority stop time 1	1	R/W	1	H-M	U16	Hours: 0~23 Minutes: 0~59	
0x3130	Load priority enable bit 1	1	R/W	1		U16	0-1	0：Disable 1：Enable
0x3131	Load priority start time 2	1	R/W	1	H-M	U16	Hours: 0~23 Minutes: 0~59	
0x3132	Load priority stop time 2	1	R/W	1	H-M	U16	Hours: 0~23 Minutes: 0~59	
0x3133	Load priority enable bit 2	1	R/W	1		U16	0-1	0：Disable 1：Enable
0x3134	Load priority start time 3	1	R/W	1	H-M	U16	Hours: 0~23 Minutes: 0~59	
0x3135	Load priority stop time 3	1	R/W	1	H-M	U16	Hours: 0~23 Minutes: 0~59	
0x3136	Load priority enable bit 3	1	R/W	1		U16	0-1	0：Disable 1：Enable
0x3137	Maximum battery charging current	1	R/W	0.1	A	U16	0-1000	
0x3138	Maximum battery discharge current	1	R/W	0.1	A	U16	0-1000	
0x3139	Battery Type	1	R/W	1		U16	0-1	0: Lead-acid battery 1: Lithium battery
0x313A	Battery manufacturers	1	R/W	1		U16	1-100	1：ATL battery 2：Pylontech battery 3：Vestwoods battery 4：Topband battery 5：Sunwoda battery 6：HanChu battery 7：INVT battery 8：Lithium Valley battery 9：Dongci battery

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
								10：Goldencell battery 11：GSL battery 12：Chisage battery 13：UTICA battery 14：Dyness battery
0x313B	Battery rated power	1	R/W	0.1	kW	U16		100 means 10kW 80 means 8kW
0x313C	Battery discharge depth DOD	1	R/W	1	%	U16	0-100	
0x313D	Battery wake-up enable	1	R/W			U16	0-1	0: Disable 1: Enable The value will be automatically cleared after five minutes of enabling
0x313E	N-PE Relay Enable	1	R/W	1	1	U16	0-1	0: Disable 1: Enable
0x313F	EMS Set battery charge and discharge power	1	R/W	0.1	kW	S16	-120~120	120 means 12kW -120 means -12kW
0x3140	EMS Set battery charge and discharge power mode to enable	1	R/W	1	1	U16	0-1	0: Disable 1: Enable
0x3141	Charging power percentage limit (time period 2)	1	R/W	1	%	U16	0-100	
0x3142	Charging power percentage limit (time period 3)	1	R/W	1	%	U16	0-100	
0x3143	Discharge power percentage limit (time period 2)	1	R/W	1	%	U16	0-100	
0x3144	Discharge power percentage limit (time period 3)	1	R/W	1	%	U16	0-100	
0x3145	Real-time input and output power of the battery	2	R/W	0.1	W	S32		+ is charging power, - is discharging power
0x3147	Real-time input and output power at AC end	2	R/W	0.1	W	S32		+ is charging power, - is discharging power
0x3149	AC and DC power input effective switch	1	R/W	1	1	U16	0-1	0: AC input is valid 1: DC input is valid
0x314A	Mode Control	1	R/W	1	1	U16	0-1	0: Self-use mode 1: EMS control mode
0x3150	Diesel generator mode	1	R/W	1	1	U16	0-2	0: Disable diesel generator 1: Diesel generator mode 2: Smart Load mode
0x3151	Diesel generator rated voltage	1	R/W	1	1	U16		Diesel generator rated power
0x3152	Diesel generator connection method	1	R/W	1	1	U16		Diesel generator connection method 0: Connect to the diesel generator port 1: Connect to the grid end to simulate the grid
0x3153	Diesel generator output power percentage	1	R/W	1	1	U16	0~100	Diesel generator output power percentage, technically based on diesel generator rated power
0x3154	Diesel generator start SOC (lithium battery)	1	R/W	1	1	U16	0-100	When the SOC reaches this value, the diesel generator is started to charge the battery.
0x3155	Diesel generator shut down SOC (lithium battery)	1	R/W	1	1	U16	0-100	When the SOC reaches this level, the diesel generator stops charging.

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
0x3156	Diesel generator shutdown voltage (lead-acid battery)	1			V		40-60	When this voltage is reached, the diesel generator is started to charge the battery.
0x3157	Diesel generator shutdown voltage (lead-acid battery)	1			V		40-60	When the voltage reaches this level, the diesel generator stops charging.
0x3158	Smart load PV power percentage	1	R/W	1	W		0~100	In smart load mode, turn on the PV power of the smart load
0x3159	Smart Load Battery SOC	1	R/W	1			0~100	In smart load mode, turn on the battery SOC of the smart load
0x315A	Diesel generator current power	1	R	1	W	U16		
0x315B	Diesel generator current voltage	1	R	1	V	U16		
0x315C	Diesel generator current	1	R	1	A	U16		
0x315D	Current frequency of diesel generator	1	R	1	HZ	U16		
0x315E	Load priority charging power percentage	1	RW	1		U16	0~100	
0x315F	Load priority discharge power percentage	1	RW	1		U16	0~100	
0x3160	Load priority charging stop SOC	1	RW	1		U16	0~100	
0x3161	Load priority discharge stop SOC	1	RW	1		U16	0~100	
0x3162	CT reverse direction	1	RW	1		U16	0-1	0: Disable 1: Enable
0x3163	Battery 2 float charge current limit	1	R/W	0.1	A	U16		When the battery current is lower than this value, it enters floating charge mode
0x3164	Battery 2 capacity	1	R/W	0.1	Ah	U16		
0x3165	Lead-acid battery 2 low voltage	1	R/W	0.1	V	U16		
0x3166	Clear the battery 2 low voltage error voltage point	1	R/W	0.1	V	U16		
0x3167	Battery 2 discharge temperature lower limit	1	R/W	0.1	℃	S16	-40~140	
0x3168	Battery 2 discharge temperature upper limit	1	R/W	0.1	℃	S16	-40~140	
0x3169	Battery 2 charging temperature lower limit	1	R/W	0.1	℃	S16	-40~140	
0x316A	Battery 2 charging temperature upper limit	1	R/W	0.1	℃	S16	-40~140	
0x316B	Battery 2 discharge under-frequency load reduction time	1	R/W	1	S	U16	0-20	
0x316C	Number of batteries in series	1	R/W	1		U16		
0x316D	Number of batteries 2 in parallel	1	R/W	1		U16		
0x316E	Stop SOC at discharge 2	1	R/W	1	%	U16	0-100	Grid priority, stop SOC when discharging
0x316F	Stop SOC when battery 2 is charging	1	R/W	1	%	U16	0-100	Battery priority, stop SOC when charging
0x3170	Battery 2 maximum charging current	1	R/W	0.1	A	U16	0-1000	
0x3171	Battery 2 maximum discharge current	1	R/W	0.1	A	U16	0-1000	
0x3172	Battery 2 Type	1	R/W	1		U16	0-1	0: Lead-acid battery 1: Lithium battery

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
0x3173	Battery 2 Manufacturer	1	R/W	1		U16	1-100	1：ATL battery 2：Pylontech battery 3：Vestwoods battery 4：Topband battery 5：Sunwoda battery 6：HanChu battery 7：INVT battery 8：Lithium Valley battery 9：Dongci battery 10：Goldencell battery 11：GSL battery 12：Dyness battery
0x3174	Battery 2 rated power	1	R/W	0.1	kW	U16		100 means 10kW 80 means 8kW
0x3175	Battery 2 discharge depth DOD	1	R/W	1	%	U16	0-100	
0x3176	Battery 2 wake-up enable	1	R/W			U16	0-1	0: Disable 1: Enable The value will be automatically cleared after five minutes of enabling
0x3177	Stop discharge voltage (lead-acid battery 2)	1	R/W	0.1	V	U16		No discharge below this value
0x3178	Lithium battery 2 stop discharge voltage	1	R/W	0.1	V	U16		No discharge below this value
0x3179	Lithium battery 2 stop charging voltage	1	R/W	0.1	V	U16		No charge bigger than this value
0x317A	Stop charging voltage (lead-acid battery 2)	1	R/W	0.1	V	U16		No charge bigger than this value
0x317B	Battery 2 charge level for the day	1	R	0.1	kWh	U16		Unit: kWh
0x317C	Total charge of battery 2 (upper 16 bits)	1	R	0.1	kWh	U16		Unit: kWh
0x317D	Total charge of battery 2 (lower 16 bits)	1	R	0.1	kWh	U16		Unit: kWh
0x317E	Battery 2 discharge capacity for the day	1	R	0.1	kWh	U16		Unit: kWh
0x317F	Total discharge capacity of battery 2 (upper 16 bits)	1	R	0.1	kWh	U16		Unit: kWh
0x3180	Total discharge capacity of battery 2 (lower 16 bits)	1	R	0.1	kWh	U16		Unit: kWh
0x3181	Battery summary of the day's charge	1	R	0.1	kWh	U16		Unit: kWh Total of multiple battery packs
0x3182	Battery total charge (upper 16 bits)	1	R	0.1	kWh	U16		Unit: kWh Total of multiple battery packs
0x3183	Battery total charge (lower 16 bits)	1	R	0.1	kWh	U16		Unit: kWh Total of multiple battery packs
0x3184	Battery summary of the day's discharge	1	R	0.1	kWh	U16		Unit: kWh Total of multiple battery packs
0x3185	Battery total discharge capacity (upper 16 bits)	1	R	0.1	kWh	U16		Unit: kWh Total of multiple battery packs
0x3186	Battery discharge summary (lower 16 bits)	1	R	0.1	kWh	U16		Unit: kWh Total of multiple battery packs
0x3187	47-2 Battery charging warning shield	1	RW	1		U16	0-1	0: Enable warning 1: Disable warning
0x3188	Set the CAN communication address of Lithium Valley command	1	RW	1		U16		
0x3189	Set Lithium Valley command CAN	1	RW	1		U16		

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
	communication content byte 0 1							
0x318A	Set Lithium Valley command CAN communication content byte 2 3	1	RW	1		U16		
0x318B	Set Lithium Valley command CAN communication content byte 4 5	1	RW	1		U16		
0x318C	Set Lithium Valley command CAN communication content byte 6 7	1	RW	1		U16		
0x318D	Send custom CAN commands	1	W	1		U16	Any value trigger	
0x318E	Clear custom CAN commands	1	W	1		U16	Any value trigger	
0x318F	EMS Send fault level	1		1		U16		0: No fault 1: Level 1 fault 2: Level 2 fault 3: Level 3 fault Note: The command cycle is 400ms~500ms
0x3190	Read battery reply byte: 1 0	1	R	1				
0x3191	Read the battery reply byte: 3 2	1	R	1				
0x3192	Read the battery reply byte: 5 4	1	R	1				
0x3193	Read the battery reply byte: 7 6	1	R	1				
0x3194	Current reply frame number	1	R	1				
0x3195	Read the total battery frame number	1	R	1				
0x3196	UK DNO function activated	1	w	1	1	U16		0：Disable 1：Enable
0x3197	Lithium Valley Battery Query: Minimum battery cell voltage and number	1	R	1		U16		0-7BIT：Voltage 8-15BIT：Number
0x3198	Lithium Valley Battery Query: Maximum battery cell voltage and number	1	R	1		U16		0-7BIT：Voltage 8-15BIT：Number
0x3199	Lithium Valley Battery Query: Maximum battery cell temperature and number	1	R	1		U16		0-7BIT：Temperature 8-15BIT：Number
0x319A	Lithium Valley Battery Query: Minimum battery cell temperature and number	1	R	1		U16		0-7BIT：Temperature 8-15BIT：Number
0x319B	Number of cells in a string		R	1		U16		BIT 0: Data
0x319C	Battery interface parallel port enable	1	R/W			U16	0-1	0: Disable 1: Enable
0x319D	New energy flow diagram logo for energy storage inverter	1	R/W			U16	0-1	0：Old version 1：Display New version
0x3200	As master/slave	1	R/W			U16	0-1	1: As a master 2: As a slave

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
Read-only Area								
0x3800	Software version identifier (high 16 bits)	1	R	1	1	U16	'0'~'9' 'a'~'z' 'A'~'Z'	**ASCII Code**
0x3801	Software version identifier (lower 16 bits)	1	R	1	1	U16	'0'~'9' 'a'~'z' 'A'~'Z'	**ASCII Code**
0x3802	Software version number 1	1	R	1	1	U16	1-9999	Main DSP version number Units + Tens: Test version Thousands + Hundreds: Official version
0x3803	Software version number 2	1	R	1	1	U16	1-9999	Auxiliary DSP version number Units + Tens: Test version Thousands + Hundreds: Official version
0x3804	Software version number 3	1	R	1	1	U16	1-9999	CPLD Version number Units + Tens: Test version Thousands + Hundreds: Official version
0x3805	Software version number 4	1	R	1	1	U16	1-9999	ARM Version number Units + Tens: Test version Thousands + Hundreds: Official version
0x3806	Inverter working status	1	R	1	0-3	U16	0-3	Inverter working mode: 0: Initialization 1: Wait 2: On-grid 3: Fault 4: Burning Program 5: Off-grid 6: Bypass 7: PID repair 8: PID inhibition 9: Snow removal mode 10:SVG mode
0x3807	Main alarm code	1	R	1	1	U16		Reference: XG and XD Series Alarm and Fault Codes
0x3808	Sub-alarm code	1	R	1	1	U16		
0x3809	Main fault code	1	R	1	1	U16		
0x380A	Sub-fault code	1	R	1	1	U16		
0x380B	Alarm bit	2	R	1	1	U32		
0x380D	Fault bit	2	R	1	1	U32		
0x380F	PBUS voltage	1	R	0.1	V	U16		
0x3810	NBUS voltage	1	R	0.1	V	U16		
0x3811	RS Grid line voltage	1	R	0.1	V	U16		
0x3812	ST Grid line voltage	1	R	0.1	V	U16		

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
0x3813	TR Grid line voltage	1	R	0.1	V	U16		
0x3814	R Grid Phase voltage	1	R	0.1	V	U16		
0x3815	S Grid Phase voltage	1	R	0.1	V	U16		
0x3816	T Grid Phase voltage	1	R	0.1	V	U16		
0x3817	R phase grid-connected current	1	R	0.01	A	S16		
0x3818	S phase grid-connected current	1	R	0.01	A	S16		
0x3819	T phase grid-connected current	1	R	0.01	A	S16		
0x381A	RS Grid frequency	1	R	0.01	Hz	U16		
0x381B	Countdown to grid connection	1	R	1	S	U16		
0x381C	Load power	1	R	0.1	kW	U16		
0x381D	Active Power	2	R	0.1	W	S32		
0x381F	Reactive power	2	R	0.1	VAR	S32		
0x3821	Power Factor	1	R	0.001	1	S16		800 means 0.8 -800 means -0.8
0x3822	INV module R temperature	1	R	0.1	℃	S16	-400~1400	Represents -40℃~140℃
0x3823	INV module S temperature	1	R	0.1	℃	S16	-400~1400	Represents -40℃~140℃
0x3824	INV module T temperature	1	R	0.1	℃	S16	-400~1400	Represents -40℃~140℃
0x3825	Ambient temperature	1	R	0.1	℃	S16	-400~1400	Represents -40℃~140℃
0x3826	Radiator temperature	1	R	0.1	℃	S16	-400~1400	Represents -40℃~140℃
0x3827	Meter power	2	R	0.1	W	S32		
0x3829	Leakage Current	1	R	0.1	mA	S16		
0x382A	Derating power	2	R	0.1	W	U32		
0x382C	Derating Mode	1	R	1		U16		XG3-70kW: 0：No derating 1：High voltage derating 2：BST High temperature derating 3：Inverter derating 4：Ambient temperature derating 5：Power setting derating 6：Reset MPPT derating 7：Reactive power derating 8：Loading slope derating 9：AC High voltage derating 10：ATE Adjust derating 11: Single inverter Anti-reflux derating 12：Mutli-inverter Anti-

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
								reflux derating 13：Over frequency derating XG100-136kW: 0：No derating 1：Ambient temperature derating 2：Over frequency derating 3：Reactive power derating 4：User set active power derating 5：Loading slope derating 6：Fan derating 7：Wave-by-wave current limiting derating 8：Anti-reflux derating 9：Low voltage ride through derating 10：Reset MPPT derating 11： 12：BUS voltage is too high to be derated 13：
0x382D	Power generation time (high 16 bits)	1	R	0.5	s	U16		
0x382E	Power generation time (lower 16 bits)	1	R	0.5	s	U16		
0x382F	Power generation on the day	1	R	0.1	kWh	U16		
0x3830	Total power generation (high 16 bits)	1	R	0.1	kWh	U16		Unit: kWh
0x3831	Total power generation (lower 16 bits)	1	R	0.1	kWh	U16		Unit: kWh
0x3832	R Phase DCI	1	R	0.1	mA	S16		
0x3833	S Phase DCI	1	R	0.1	mA	S16		
0x3834	T Phase DCI	1	R	0.1	mA	S16		
0x3835	DC insulation resistance	1	R	1	KΩ	U16		
0x3836	PV1 Input voltage	1	R	0.1	V	U16		XG100KTR (Pmax = 100kW) XG110KTR (Pmax = 110kW)
0x3837	PV1 Input Current	1	R	0.01	A	S16		
0x3838	PV2 Input voltage	1	R	0.1	V	U16		
0x3839	PV2 Input Current	1	R	0.01	A	S16		
0x383A	PV3 Input voltage	1	R	0.1	V	U16		
0x383B	PV3 Input Current	1	R	0.01	A	S16		
0x383C	PV4 Input voltage	1	R	0.1	V	U16		
0x383D	PV4 Input Current	1	R	0.01	A	S16		
0x383E	PV5 Input voltage	1	R	0.1	V	U16		

ADD	Data Content	NO.	R/ W	Multi-plier	Unit	Data type	Range	Remarks
0x383F	PV5 Input Current	1	R	0.01	A	S16		
0x3840	PV6 Input voltage	1	R	0.1	V	U16		
0x3841	PV6 Input Current	1	R	0.01	A	S16		
0x3842	PV7 Input voltage	1	R	0.1	V	U16		
0x3843	PV7 Input Current	1	R	0.01	A	S16		
0x3844	PV8 Input voltage	1	R	0.1	V	U16		
0x3845	PV8 Input Current	1	R	0.01	A	S16		
0x3846	PV9 Input voltage	1	R	0.1	V	U16		
0x3847	PV9 Input Current	1	R	0.01	A	S16		
0x3848	PV10 Input voltage	1	R	0.1	V	U16		
0x3849	PV10 Input Current	1	R	0.01	A	S16		
0x384A	PV11 Input voltage	1	R	0.1	V	U16		
0x384B	PV11 Input Current	1	R	0.01	A	S16		
0x384C	PV12 Input voltage	1	R	0.1	V	U16		
0x384D	PV12 Input Current	1	R	0.01	A	S16		
0x384E	String 1 current	1	R	0.01	A	S16		
0x384F	String 3 current	1	R	0.01	A	S16		
0x3850	String 5 current	1	R	0.01	A	S16		
0x3851	String 7 current	1	R	0.01	A	S16		
0x3852	String 9 current	1	R	0.01	A	S16		
0x3853	String 11 current	1	R	0.01	A	S16		
0x3854	String 13 current	1	R	0.01	A	S16		
0x3855	String 15 current	1	R	0.01	A	S16		
0x3856	String 17 current	1	R	0.01	A	S16		
0x3857	String 19 current	1	R	0.01	A	S16		
0x3858	String 21 current	1	R	0.01	A	S16		
0x3859	String 23 current	1	R	0.01	A	S16		
0x385A	I/V Scan Status	1	R	1	%d	U16		High 8 bits: 00- Scan Ready 01-DSP Scan 02- data storage Low 8 bits: Progress Percentage (0-100)
0x385B	BT DSP debugging information 1	1	R	1		U16		
0x385C	BT DSP debugging information 2	1	R	1		U16		

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
0x385D	BT DSP debugging information 3	1	R	1		U16		
0x385E	BT DSP debugging information 4	1	R	1		U16		
0x385F	BT DSP debugging information 5	1	R	1		U16		
0x3860	BT DSP debugging information 6	1	R	1		U16		
0x3861	BT DSP debugging information 7	1	R	1		U16		
0x3862	BT DSP debugging information 8	1	R	1		U16		
0x3863	INV DSP debugging information 1	1	R	1		U16		
0x3864	INV DSP debugging information 2	1	R	1		U16		
0x3865	INV DSP debugging information 3	1	R	1		U16		
0x3866	INV DSP debugging information 4	1	R	1		U16		
0x3867	INV DSP debugging information 5	1	R	1		U16		
0x3868	INV DSP debugging information 6	1	R	1		U16		
0x3869	INV DSP debugging information 7	1	R	1		U16		
0x386A	INV DSP debugging information 8	1	R	1		U16		
0x386B	ARM debugging information 1	1	R	1		U16		
0x386C	ARM debugging information 2	1	R	1		U16		
0x386D	ARM debugging information 3	1	R	1		U16		
0x386E	ARM debugging information 4	1	R	1		U16		
0x386F	ARM debugging information 5	1	R	1		U16		
0x3870	ARM debugging information 6	1	R	1		U16		
0x3871	ARM debugging information 7	1	R	1		U16		
0x3872	The machine's internal hardware is abnormal	1	R	1		U16		BIT0：External FLASH abnormality BIT1：Read EEPROM abnormality BIT2：Writing EEPROM abnormality BIT3：GFCI self-test failure BIT4-15：Reserve
0x3873	String 2 current	1	R	0.01	A	S16	String 2 current	
0x3874	String 4 current	1	R	0.01	A	S16	String 4 current	
0x3875	String 6 current	1	R	0.01	A	S16	String 6 current	
0x3876	String 8 current	1	R	0.01	A	S16	String 8 current	
0x3877	String 10 current	1	R	0.01	A	S16	String 10 current	
0x3878	String 12 current	1	R	0.01	A	S16	String 12 current	

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
0x3879	String 14 current	1	R	0.01	A	S16	String 14 current	
0x387A	String 16 current	1	R	0.01	A	S16	String 16 current	
0x387B	String 18 current	1	R	0.01	A	S16	String 18 current	
0x387C	String 20 current	1	R	0.01	A	S16	String 20 current	
0x387D	String 22 current	1	R	0.01	A	S16	String 22 current	
0x387E	String 24 current	1	R	0.01	A	S16	String 24 current	
0x387F	Large Inverter Active Power (Pact)	2	R	0.1	W	S32		Manufacturer's special data (100-136kW)
0x3881	Inverter Model	1	R	1		U16		
0x3882	Machine efficiency	1	R	0.1	%	U16	1~1000	Default 0 (Skyworth requirement)
0x3883	RTC state	1	R	1		U16		1：RTC Configuration successful 0：RTC Configuration failed
0x3884	Meter communication quality	1	R	0.1	%	U16		
0x3885	AFCI's highest strength in history 1	1	R			U16		High 8 bits: the highest historical strength of string 2 Low 8 bits: the highest historical strength of string 1
0x3886	AFCI's highest strength in history 2	1	R			U16		High 8 bits: the highest historical strength of string 8 Low 8 bits: the highest historical strength of string 7
0x3887	AFCI's highest strength in history 3	1	R			U16		High 8 bits: the highest historical strength of string 4 Low 8 bits: the highest historical strength of string 3
0x3888	AFCI's highest strength in history 4	1	R			U16		High 8 bits: the highest historical strength of string 10 Low 8 bits: the highest historical strength of string 9
0x3889	AFCI's highest strength in history 5	1	R			U16		High 8 bits: the highest historical strength of string 6 Low 8 bits: the highest historical strength of string 5
0x388A	AFCI's highest strength in history 6	1	R			U16		High 8 bits: the highest historical strength of string 12 Low 8 bits: the highest historical strength of string 11
0x388B	AFCI's highest strength in history 7	1	R			U16		High 8 bits: the highest historical strength of string 14

ADD	Data Content	NO.	R/ W	Multi- plier	Unit	Data type	Range	Remarks
								Low 8 bits: the highest historical strength of string 13
0x388C	AFCI's highest strength in history 8	1	R			U16		High 8 bits: the highest historical strength of string 18 Low 8 bits: the highest historical strength of string 17
0x388D	AFCI's highest strength in history 9	1	R			U16		High 8 bits: the highest historical strength of string 16 Low 8 bits: the highest historical strength of string 15
0x388E	AFCI's highest strength in history 10	1	R			U16		High 8 bits: the highest historical strength of string 20 Low 8 bits: the highest historical strength of string 19
0x388F	Reserve							
0x3890	Reserve							
0x3891	CT Current	1	R	0.01	A	S16		CT Current
0x3892	Load power consumption on the day	1	R	0.1	kWh	U16		Unit: kWh
0x3893	Total power consumption of load (high 16 bits)	1	R	0.1	kWh	U16		Unit: kWh
0x3894	Total power consumption of the load (low 16 bits)	1	R	0.1	kWh	U16		Unit: kWh
0x3895	Grid connection volume on the day	1	R	0.1	kWh	U16		Unit: kWh
0x3896	Total grid-connected capacity (high 16 bits)	1	R	0.1	kWh	U16		Unit: kWh
0x3897	Total grid-connected capacity (low 16 bits)	1	R	0.1	kWh	U16		Unit: kWh
0x3898	Electricity purchased on the day	1	R	0.1	kWh	U16		Unit: kWh
0x3899	Total purchased electricity (high 16 bits)	1	R	0.1	kWh	U16		Unit: kWh
0x389A	Total purchased electricity (low 16 bits)	1	R	0.1	kWh	U16		Unit: kWh
0x389B	Battery charge capacity for the day	1	R	0.1	kWh	U16		Unit: kWh
0x389C	Total battery charge (high 16 bits)	1	R	0.1	kWh	U16		Unit: kWh
0x389D	Total battery charge (low 16 bits)	1	R	0.1	kWh	U16		Unit: kWh
0x389E	Battery discharge capacity for the day	1	R	0.1	kWh	U16		Unit: kWh
0x389F	Total battery discharge (high 16 bits)	1	R	0.1	kWh	U16		Unit: kWh
0x38A0	Total battery discharge (low 16 bits)	1	R	0.1	kWh	U16		Unit: kWh
0x38A1	Auto Test Steps	1	R	1		U16		1: MaxVac (S1) (R) 2: MaxVac (S1) (S) 3: MaxVac (S1) (T) 4: MinVac (S1) (R) 5: MinVac (S1) (S) 6: MinVac (S1) (T) 7: MaxFac (S1)

ADD	Data Content	NO.	R/ W	Multi-plier	Unit	Data type	Range	Remarks
								8: MinFac (S1) 9: MaxVac (S2) (R) 10: MaxVac (S2) (S) 11: MaxVac (S2) (T) 12: MinVac (S2) (R) 13: MinVac (S2) (S) 14: MinVac (S2) (T) 15: MaxFac (S2) 16: MinFac (S2)
0x38A2	Auto Test State	1	R	1		U16		0：Test awaiting 1：Testing in progress 2：Test single item successful 3：Test single item failed 4：Test failure 5：Test passed
0x38A3	Auto Test Voltage test value	1	R	0.1V	V	U16		1: MaxVac (S1) (R) 2: MaxVac (S1) (S) 3: MaxVac (S1) (T) 4: MinVac (S1) (R) 5: MinVac (S1) (S) 6: MinVac (S1) (T) 9: MaxVac (S2) (R) 10: MaxVac (S2) (S) 11: MaxVac (S2) (T) 12: MinVac (S2) (R) 13: MinVac (S2) (S) 14: MinVac (S2) (T)
0x38A4	Auto Test Single item result	1	R	1		U16		Bit0： 0：MaxVac (S1)(R) Fail 1：MaxVac (S1)(R) Success Bit1： 0：MaxVac (S1) (S) Fail 1：MaxVac (S1) (S) Success Bit2： 0：MaxVac (S1) (T) Fail 1：MaxVac (S1) (T) Success Bit3： 0：MinVac (S1) (R) Fail 1：MinVac (S1) (R) Success Bit4： 0：MinVac (S1) (S) Fail 1：MinVac (S1) (S) Success Bit5： 0：MinVac (S1) (T) Fail 1：MinVac (S1) (T) Success Bit6： 0：MaxFac (S1) Fail 1：MaxFac (S1) Success Bit7： 0：MinFac (S1) Fail 1：MinFac (S1) Success

ADD	Data Content	NO.	R/ W	Multi-plier	Unit	Data type	Range	Remarks
								Bit8: 0: MaxVac (S2) (R) Fail 1: MaxVac (S2) (R) Success Bit9: 0: MaxVac (S2) (S) Fail 1: MaxVac (S2) (S) Success Bit10: 0: MaxVac (S2) (T) Fail 1: MaxVac (S2) (T) Success Bit11: 0: MinVac (S2) (R) Fail 1: MinVac (S2) (R) Success Bit12: 0: MinVac (S2) (S) Fail 1: MinVac (S2) (S) Success Bit13: 0: MinVac (S2) (T) Fail 1: MinVac (S2) (T) Success Bit14: 0: MaxFac (S2) Fail 1: MaxFac (S2) Success Bit15: 0: MinFac (S2) Fail 1: MinFac (S2) Success
0x38A5	MaxVac (S1)(R) Trigger	1	R	0.1	V	U16	1000-5000	1000 represents 100V
0x38A6	MaxVac (S1)(R) Trigger Time	1	R	20	ms	U16	0-5000	100 represents 2s
0x38A7	MaxVac (S2) (R) Trigger	1	R	0.1	V	U16	1000-5000	1000 represents 100V
0x38A8	MaxVac (S2) (R) Trigger Time	1	R	20	ms	U16	0-5000	100 represents 2s
0x38A9	MinVac (S1) (R) Trigger	1	R	0.1	V	U16	1000-5000	1000 represents 100V
0x38AA	MinVac (S1) (R) Trigger Time	1	R	20	ms	U16	0-5000	100 represents 2s
0x38AB	MinVac (S2) (R) Trigger	1	R	0.1	V	U16	1000-5000	1000 represents 100V
0x38AC	MinVac (S2) (R) Trigger Time	1	R	20	ms	U16	0-5000	100 represents 2s
0x38AD	MaxFac (S1)Trigger	1	R	0.01	Hz	U16	4500-6500	4567 represents 45.67Hz
0x38AE	MaxFac(S1)Trigger Time	1	R	20	ms	U16	0-5000	100 represents 2s
0x38AF	MinFac (S1) Trigger	1	R	0.01	Hz	U16	4500-6500	4567 represents 45.67Hz
0x38B0	MinFac (S1)Trigger Time	1	R	20	ms	U16	0-5000	100 represents 2s
0x38B1	MaxFac (S2)Trigger	1	R	0.01	Hz	U16	4500-6500	4567 represents 45.67Hz
0x38B2	MaxFac(S2)Trigger Time	1	R	20	ms	U16	0-5000	100 represents 2s
0x38B3	MinFac (S2) Trigger	1	R	0.01	Hz	U16	4500-6500	4567 represents 45.67Hz

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
0x38B4	MinFac (S2)Trigger Time	1	R	20	ms	U16	0-5000	100 represents 2s
0x38B5	Auto Test Frequency test value	1	R	0.01H	Hz	U16		7: MaxFac (S1) 8: MinFac (S1) 15: MaxFac (S2) 16: MinFac (S2)
0x38B6	MaxVac(S1)(S) Trigger	1	R	0.1	V	U16	1000-5000	
0x38B7	MaxVac(S1)(S) Trigger Time	1	R	20	ms	U16	0-5000	
0x38B8	MaxVac(S1)(T) Trigger	1	R	0.1	V	U16	1000-5000	
0x38B9	MaxVac(S1)(T) Trigger Time	1	R	20	ms	U16	0-5000	
0x38BA	MinVac(S1)(S) Trigger	1	R	0.1	V	U16	1000-5000	
0x38BB	MinVac(S1)(S) Trigger Time	1	R	20	ms	U16	0-5000	
0x38BC	MinVac(S1)(T) Trigger	1	R	0.1	V	U16	1000-5000	
0x38BD	MinVac(S1)(T) Trigger Time	1	R	20	ms	U16	0-5000	
0x38BE	MaxVac(S2)(S) Trigger	1	R	0.1	V	U16	1000-5000	
0x38BF	MaxVac(S2)(S) Trigger Time	1	R	20	ms	U16	0-5000	
0x38C0	MaxVac(S2)(T) Trigger	1	R	0.1	V	U16	1000-5000	
0x38C1	MaxVac(S2)(T) Trigger Time	1	R	20	ms	U16	0-5000	
0x38C2	MinVac(S2)(S) Trigger	1	R	0.1	V	U16	1000-5000	
0x38C3	MinVac(S2)(S) Trigger Time	1	R	20	ms	U16	0-5000	
0x38C4	MinVac(S2)(T) Trigger	1	R	0.1	V	U16	1000-5000	
0x38C5	MinVac(S2)(T) Trigger Time	1	R	20	ms	U16	0-5000	
0x38C6	R phase meter power	2	R	0.1	W	S32		
0x38C8	S phase meter power	2	R	0.1	W	S32		
0x38CA	T phase meter power	2	R	0.1	W	S32		
0x38CC	Daily peak power	2	R	1	W	U32		
0x38CE	Fuse detection alarm	2	R	1		U32	0-1	0: No alarm, 1: Alarm 0x38CE represents 1-16 String alarm bit 0x38CF enable 17-32 String alarm bit
0x38D0	Date + Time	4	R	1		U64		Stores the total number of milliseconds since 1970-01-01:0:0:0 (GMT+0)
0x38D4	Real-time input and output power at AC side	2	R	0.1	W	S32		+ is charging power, - is discharging power
0x38D6	PV Total power generation	2	R	0.01	kWh	U32		Unit: kWh
0x38D8	Total purchased electricity	2	R	0.01	kWh	U32		Unit: kWh

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
0x38DA	Total battery discharge	2	R	0.01	kWh	U32		Unit: kWh
0x38DC	R phase electric meter 2 power	2	R	0.1	W	S32		
0x38DE	S phase electric meter 2 power	2	R	0.1	W	S32		
0x38E0	T phase electric meter 2 power	2	R	0.1	W	S32		
0x38E2	电表 2 功率	2	R	0.1	W	S32		
0x38E4	PV Total Power （New version of energy flow diagram）	2	R	1	W	U32		Unit: W
0x38E6	Load Power（New version of energy flow diagram）	2	R	1	W	U32		Unit: W
Energy storage information read-only area								
0x3900	System fault bit 0	1	R	1	1	U16		Energy storage fault bit 0
0x3901	System fault bit 1	1	R	1	1	U16		Energy storage fault bit 1
0x3902	System fault bit 2	1	R	1	1	U16		Energy storage fault bit 2
0x3903	System fault bit 3	1	R	1	1	U16		Energy storage fault bit 3
0x3904	System fault bit 4	1	R	1	1	U16		Energy storage fault bit 4
0x3905	System fault bit 5	1	R	1	1	U16		Energy storage fault bit 5
0x3906	System fault bit 6	1	R	1	1	U16		Energy storage fault bit 6
0x3907	System fault bit 7	1	R	1	1	U16		Energy storage fault bit 7
0x3908	Battery power	2	R	0.1	W	S32		+ is charging power, - is discharging power
0x390A	Battery voltage	1	R	0.1	V	U16		Battery voltage
0x390B	Battery Current	1	R	0.1	A	S16		Battery Current
0x390C	Active power flowing to user R phase	2	R	0.1	W	S32		
0x390E	Active power flowing to user S phase	2	R	0.1	W	S32		
0x3910	Active power flowing to user T phase	2	R	0.1	W	S32		
0x3912	Total active power flowing to users	2	R	0.1	W	S32		
0x3914	Active power flowing to the grid R phase	2	R	0.1	W	S32		
0x3916	Active power flowing to the grid S phase	2	R	0.1	W	S32		
0x3918	Active power flowing to the grid T phase	2	R	0.1	W	S32		
0x391A	Total active power flowing to the grid	2	R	0.1	W	S32		
0x391C	Local load R phase active power	2	R	0.1	W	S32		
0x391E	Local load S phase active power	2	R	0.1	W	S32		
0x3920	Local load T phase active power	2	R	0.1	W	S32		
0x3922	Local load total active power	2	R	0.1	W	S32		

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
0x3924	Battery charging and discharging status	1	R			U16		0: Neither charging nor discharging 1: Charging 2: Discharging
0x3925	Bus voltage 2	1	R	0.1	V	U16		LLC side voltage
0x3926	EPS frequency	1	R	0.01	Hz	U16		
0x3927	EPS R Phase output voltage	1	R	0.1	V	U16		
0x3928	EPS R Phase output current	1	R	0.01	A	U16		
0x3929	EPS R Phase output power	2	R	0.1	W	S32		
0x392B	EPS S Phase output voltage	1	R	0.1	V	U16		
0x392C	EPS S Phase output current	1	R	0.01	A	U16		
0x392D	EPS S Phase output power	2	R	0.1	W	S32		
0x392F	EPS T Phase output voltage	1	R	0.1	V	U16		
0x3930	EPS T output current	1	R	0.01	A	U16		
0x3931	EPS T Phase output power	2	R	0.1	W	S32		
0x3933	EPS Total Power	2	R	0.1	W	S32		
BMS information read-only area								
0x3935	SW Version	1	R					H8：software main version L8：software Subversion
0x3936	HW Version	1	R					H8：hardware main version L8：hardware Sub version
0x3937	CHG CV voltage	1	R	0.1	V	U16		Recommended charging voltage, PCS cannot exceed this value
0x3938	DSG Cut voltage	1	R	0.1	V	U16		Discharge end voltage, PCS cannot exceed this value
0x3939	MAX charge current	1	R	0.1	A	U16		Maximum charging current, PCS cannot exceed this value
0x393A	MAX discharge current	1	R	0.1	A	U16		Maximum discharge current, PCS cannot exceed this value
0x393B	SOC	1	R	1	%	0-100		Battery SOC
0x393C	SOH	1	R	1	%	0-100		Battery SOH
0x393D	CHG Disable	1	R	1		0-1		Battery pack charging prohibition sign; 1: Prohibit charging 0: Allow charging
0x393E	DSG Disable	1	R	1		0-1		Battery pack discharging prohibition sign; 1: Prohibit discharging 0: Allow discharging
0x393F	Module status byte1	1	R	1				0: Normal 1: Prompt 2: Warning 3: Fault
0x3940	warning status	1	R	1				H8：warning status byte1 L8：warning status byte2

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
0x3941	alarm status	1	R	1				H8：alarm status byte1 L8：alarm status byte2
0x3942	fault status1	1	R	1				H8：fault status byte1 L8：fault status byte2
0x3943	fault status 2	1	R	1				H8：fault status byte3 L8：fault status byte4
0x3944	Max cell voltage	1	R	1	mV	0-5000		
0x3945	Min cell voltage	1	R	1	mV	0-5000		
0x3946	Max cell temperature	1	R	0.1	℃	-400-1500		
0x3947	Min cell temperature	1	R	0.1	℃	-400-11500		
0x3948	Max cell voltage ID	1	R					
0x3949	Min cell voltage ID	1	R					
0x394A	Max cell temperature ID	1	R					
0x394B	Min cell temperature ID	1	R					
0X394C	BMS Communication Status	1	R			0-1		Battery BMS communication status: 0: BMS communication abnormal 1: BMS communication normal
0x394D	Battery Temperature	1	R	0.1	℃	U16		
0x394E	Battery Name	8	R			U16	‘0’~’9’ ‘a’~’z’ ‘A’~’Z’	ASCII character set, first one is in front
0x3956	Battery charging cycle	1	R	1	1	U16		BMSCharge and discharge times statistics
0x3957	Battery 1 voltage sampled by DSP	1	R	0.1	V	U16		Battery 1 voltage
0x3969	Total battery current	1	R	0.1	A	S16		Total battery current
0x3970	Battery 2 power	2	R	0.1	W	S32		+ is charging power, - is discharging power, battery 2
0x3972	Battery 2 voltage	1	R	0.1	V	U16		Battery 2 voltage
0x3973	Battery 2 Current	1	R	0.1	A	S16		Battery 2 Current
0x3974	Battery 2 charging and discharging status	1	R			U16		0: Neither charging nor discharging 1: Charging 2: Discharging
0x3975	Battery 2 voltage sampled by DSP	1	R	0.1	V	U16		Battery 2 voltage
0x3976	Battery 2 SW Version	1	R					H8：software main version L8：software Subversion
0x3977	Battery 2 HW Version	1	R					H8：hardware main version L8：hardware Sub version
0x3978	Battery 2 CHG CV voltage	1	R	0.1	V	U16		Recommended charging voltage, PCS cannot exceed this value
0x3979	Battery 2 DSG Cut voltage	1	R	0.1	V	U16		Discharge end voltage, PCS cannot exceed this value

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
0x397A	Battery 2 MAX charge current	1	R	0.1	A	U16		Maximum charging current, PCS cannot exceed this value
0x397B	Battery 2 MAX discharge current	1	R	0.1	A	U16		Maximum discharge current, PCS cannot exceed this value
0x397C	Battery 2 SOC	1	R	1	%	0-100		Battery SOC
0x397D	Battery 2 SOH	1	R	1	%	0-100		Battery SOH
0x397E	Battery 2 CHG Disable	1	R	1		0-1		Battery pack charging prohibition sign; 1: Prohibit charging 0: Allow charging
0x397F	Battery 2 DSG Disable	1	R	1		0-1		Battery pack discharge prohibition sign; 1: Prohibit discharging 0: Allow discharging
0x3980	Battery 2 warning status	1	R	1				H8：warning status byte1 L8：warning status byte2
0x3981	Battery 2 alarm status	1	R	1				H8：alarm status byte1 L8：alarm status byte2
0x3982	Battery 2 fault status1	1	R	1				H8：fault status byte1 L8：fault status byte2
0x3983	Battery 2 fault status 2	1	R	1				H8：fault status byte3 L8：fault status byte4
0x3984	Battery 2 Max cell voltage	1	R	1	mV	0-5000		
0x3985	Battery 2 Min cell voltage	1	R	1	mV	0-5000		
0x3986	Battery 2 Max cell temperature	1	R	0.1	℃	-400-1500		
0x3987	Battery 2 Min cell temperature	1	R	0.1	℃	-400-11500		
0x3988	Battery 2 Max cell voltage ID	1	R					
0x3989	Battery 2 Min cell voltage ID	1	R					
0x398A	Battery 2 Max cell temperature ID	1	R					
0x398B	Battery 2 Min cell temperature ID	1	R					
0x398C	BMS2 Communication Status	1	R			0-1		Battery BMS communication status: 0: BMS communication abnormal 1: BMS communication normal
0x398D	Battery2 Temperature	1	R	0.1	℃	U16		
0x398E	Battery2 Name	8	R			U16	‘0’~’9’ ‘a’~’z’ ‘A’~’Z’	ASCII character set, first one is in front
0x3998	Battery 2 charging cycle	1	R	1	1	U16		BMS charge and discharge times statistics
0x3999	System setting enable bit	1	R	1	1	U16		Bit0: Battery discharge enable Bit1: Battery forced discharge enable Bit2: Battery charge enable Bit3: Battery forced charge enable Bit4: EPS function enable

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
								Bit5: SP load limit enable Bit6: AC charge enable Bit7: PV load limit enable Bit8: Inverter load limit enable
For internal debugging only, not open to the public Modified on July 19, 2021, 0x3A00-0x3AFF is defined as the readable and writable area; 0x3B00-0x3BFF is defined as the readable area								
0x3A00	Backlight time setting	1	R/W	1	s	U16		
0x3B00	Phase lock status	1	R	1		U16		
0x3B01	PV1Power	1	R	1	0.1W	U16	PV1Power	
0x3B02	PV2Power	1	R	1	0.1W	U16	PV2Power	
0x3B03	PV3Power	1	R	1	0.1W	U16	PV3Power	
0x3B04	PV4Power	1	R	1	0.1W	U16	Pv4Power	
0x3B05	PV5Power	1	R	1	0.1W	U16	Pv5Power	
0x3B06	PV6Power	1	R	1	0.1W	U16	Pv6Power	
0x3B07	PV7Power	1	R	1	0.1W	U16	Pv7Power	
0x3B08	PV8Power	1	R	1	0.1W	U16	Pv8Power	
0x3B09	PV9Power	1	R	1	0.1W	U16	Pv9Power	
0x3B0A	PV10Power	1	R	1	0.1W	U16	Pv10Power	
0x3B0B	PV11Power	1	R	1	0.1W	U16	Pv11Power	
0x3B0C	PV12Power	1	R	1	0.1W	U16	Pv12Power	
0x3B0D	BusFaultValue	1	R	0.1	V	U16	Bus overvoltage protection point	
0x3B0E	BusUnbalanceValue	1	R	0.1	V	U16	Bus unbalance protection value	
0x3B0F	PV Current Over	1	R	0.01	A	U16	PV software overcurrent protection point	
0x3B10	AC Current Over	1	R	0.01	A	U16	AC software overcurrent protection point	
0x3B11	GFCI RMS Over	1	R	1	mA	U16	Leakage current effective value protection value	
0x3B12	GFCI30mA Delta	1	R	1	mA	U16	30mA leakage current sudden	

ADD	Data Content	NO.	R/ W	Multi-plier	Unit	Data type	Range	Remarks
							change protection value	
0x3B13	GFCI60mA Delta	1	R	1	mA	U16	60mA leakage current sudden change protection value	
0x3B14	GFCI150mA Delta	1	R	1	mA	U16	150mA leakage current sudden change protection value	
0x3B15	FanFaultValue	1	R	1	Turn	U16	Fan speed low fault value	
0x3B16	TemProtectValue	1	R	0.1	℃	U16	Module temperature protection value	
0x3B17	AmbientProtectValue	1	R	0.1	℃	U16	Ambient temperature protection value	
0x3B18	TemLoadLimitValue	1	R	0.1	℃	U16	Module temperature derating value	
0x3B19	AmbientLoadLimitValue	1	R	0.1	℃	U16	Ambient temperature derating value	
0x3B1A	ISO ProtectValue	1	R	1	KΩ	U16	Insulation resistance protection value	
0x3B1B	DCI Set Value	1	R	1	mA	U16	DCI control target value	
0x3B1C	FanSpeed1	1	R	1	Turn	U16	Fan speed 1	
0x3B1D	FanSpeed2	1	R	1	Turn	U16	Fan speed 2	
0x3B1E	FanSpeed3	1	R	1	Turn	U16	Fan speed 3	
0x3B1F	FanSpeed4	1	R	1	Turn	U16	Fan speed 4	
0x3B20	FanSpeed5	1	R	1	Turn	U16	Fan speed 5	
0x3B21	FanSpeed6	1	R	1	Turn	U16	Fan speed 6	
0x3B22	FanSpeed7	1	R	1	Turn	U16	Fan speed 7	
0x3B23	FanSpeed8	1	R	1	Turn	U16	Fan speed 8	
0x3B24	R voltage correction factor							R phase voltage correction factor
0x3B25	S voltage correction factor							S phase voltage correction factor
0x3B26	T voltage correction factor							T phase voltage correction factor

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
0x3B27	AFCI_1_1 Arc intensity	1	R			U16		String 2 Arc intensity
0x3B28	AFCI_1_2 Arc intensity	1	R			U16		String 1 Arc intensity
0x3B29	AFCI_1_3 Arc intensity	1	R			U16		String 8 Arc intensity
0x3B2A	AFCI_1_4 Arc intensity	1	R			U16		String 7 Arc intensity
0x3B2B	AFCI_2_1 Arc intensity	1	R			U16		String 4 Arc intensity
0x3B2C	AFCI_2_2 Arc intensity	1	R			U16		String 3 Arc intensity
0x3B2D	AFCI_2_3 Arc intensity	1	R			U16		String 10 Arc intensity
0x3B2E	AFCI_2_4 Arc intensity	1	R			U16		String 9 Arc intensity
0x3B2F	AFCI_3_1 Arc intensity	1	R			U16		String 6 Arc intensity
0x3B30	AFCI_3_2 Arc intensity	1	R			U16		String 5 Arc intensity
0x3B31	AFCI_3_3 Arc intensity	1	R			U16		String 12 Arc intensity
0x3B32	AFCI_3_4 Arc intensity	1	R			U16		String 11 Arc intensity
0x3B33	AFCI_4_1 Arc intensity	1	R			U16		String 14 Arc intensity
0x3B34	AFCI_4_2 Arc intensity	1	R			U16		String 13 Arc intensity
0x3B35	AFCI_4_3 Arc intensity	1	R			U16		String 18 Arc intensity
0x3B36	AFCI_4_4 Arc intensity	1	R			U16		String 17 Arc intensity
0x3B37	AFCI_5_1 Arc intensity	1	R			U16		String 16 Arc intensity
0x3B38	AFCI_5_2 Arc intensity	1	R			U16		String 15 Arc intensity
0x3B39	AFCI_5_3 Arc intensity	1	R			U16		String 20 Arc intensity
0x3B3A	AFCI_5_4 Arc intensity	1	R			U16		String 19 Arc intensity
HuaGong Project								
0x3B3B	Harmonic_U2p	1	R	0.01	V	S16		2 times positive sequence harmonic voltage effective value
0x3B3C	Harmonic_U2n	1	R	0.01	V	S16		2 times negative sequence harmonic voltage effective value
0x3B3D	Harmonic_U3p	1	R	0.01	V	S16		3 times positive sequence harmonic voltage effective value
0x3B3E	Harmonic_U3n	1	R	0.01	V	S16		3 times negative sequence harmonic voltage effective value
0x3B3F	Harmonic_U5p	1	R	0.01	V	S16		5 times positive sequence harmonic voltage effective value
0x3B40	Harmonic_U5n	1	R	0.01	V	S16		5 times negative sequence harmonic voltage effective value
0x3B41	Harmonic_U7p	1	R	0.01	V	S16		7 times positive sequence harmonic voltage effective value
0x3B42	Harmonic_U7n	1	R	0.01	V	S16		7 times negative sequence harmonic voltage effective

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
								value
0x3B43	Harmonic_U11p	1	R	0.01	V	S16		11 times positive sequence harmonic voltage effective value
0x3B44	Harmonic_U11n	1	R	0.01	V	S16		11 times negative sequence harmonic voltage effective value
0x3B45	Harmonic_U13p	1	R	0.01	V	S16		13 times positive sequence harmonic voltage effective value
0x3B46	Harmonic_U13n	1	R	0.01	V	S16		13 times negative sequence harmonic voltage effective value
0x3B47	Harmonic_U17p	1	R	0.01	V	S16		17 times positive sequence harmonic voltage effective value
0x3B48	Harmonic_U17n	1	R	0.01	V	S16		17 times negative sequence harmonic voltage effective value
0x3B49	Harmonic_U19p	1	R	0.01	V	S16		19 times positive sequence harmonic voltage effective value
0x3B4A	Harmonic_U19n	1	R	0.01	V	S16		19 times negative sequence harmonic voltage effective value
0x3B4B	Harmonic_U3o	1	R	0.01	V	S16		3 times zero-sequence harmonic voltage effective value
0x3B4C	THD_UA	1	R	0.01	%	U16		A phase harmonic voltage total distortion rate
0x3B4D	THD_UB	1	R	0.01	%	U16		B phase harmonic voltage total distortion rate
0x3B4E	THD_UC	1	R	0.01	%	U16		C phase harmonic voltage total distortion rate
Reserve								
Reserve								
0x3B51	Harmonic_I2p	1	R	0.01	A	S16		2 times positive sequence harmonic current effective value
0x3B52	Harmonic_I2n	1	R	0.01	A	S16		2 times negative sequence harmonic current effective value
0x3B53	Harmonic_I3p	1	R	0.01	A	S16		3 times positive sequence harmonic current effective value
0x3B54	Harmonic_I3n	1	R	0.01	A	S16		3 times negative sequence harmonic current effective value
0x3B55	Harmonic_I5p	1	R	0.01	A	S16		5 times positive sequence harmonic current effective value
0x3B56	Harmonic_I5n	1	R	0.01	A	S16		5 times negative sequence harmonic current effective value
0x3B57	Harmonic_I7p	1	R	0.01	A	S16		7 times positive sequence harmonic current effective value
0x3B58	Harmonic_I7n	1	R	0.01	A	S16		7 times negative sequence harmonic current effective value
0x3B59	Harmonic_I11p	1	R	0.01	A	S16		11 times positive sequence harmonic current effective

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
								value
0x3B5A	Harmonic_I11n	1	R	0.01	A	S16		11 times negative sequence harmonic current effective value
0x3B5B	Harmonic_I13p	1	R	0.01	A	S16		13 times positive sequence harmonic current effective value
0x3B5C	Harmonic_I13n	1	R	0.01	A	S16		13 times negative sequence harmonic current effective value
0x3B5D	Harmonic_I17p	1	R	0.01	A	S16		17 times positive sequence harmonic current effective value
0x3B5E	Harmonic_I17n	1	R	0.01	A	S16		17 times negative sequence harmonic current effective value
0x3B5F	Harmonic_I19p	1	R	0.01	A	S16		19 times positive sequence harmonic current effective value
0x3B60	Harmonic_I19n	1	R	0.01	A	S16		19 times negative sequence harmonic current effective value
0x3B61	Harmonic_I3o	1	R	0.01	A	S16		3 times zero-sequence harmonic current effective value
0x3B62	THD_IA	1	R	0.01	%	U16		Total harmonic current distortion rate of phase A
0x3B63	THD_IB	1	R	0.01	%	U16		Total harmonic current distortion rate of phase B
0x3B64	THD_IC	1	R	0.01	%	U16		Total harmonic current distortion rate of phase C
Reserve								
Reserve								
0x3B67	Harmonic_Watt2p	1	R	1	W	S16		2 times positive sequence harmonic power effective value
0x3B68	Harmonic_Watt2n	1	R	1	W	S16		2 times negative sequence harmonic power effective value
0x3B69	Harmonic_Watt3p	1	R	1	W	S16		3 times positive sequence harmonic power effective value
0x3B6A	Harmonic_Watt3n	1	R	1	W	S16		3 times negative sequence harmonic power effective value
0x3B6B	Harmonic_Watt5p	1	R	1	W	S16		5 times positive sequence harmonic power effective value
0x3B6C	Harmonic_Watt5n	1	R	1	W	S16		5 times negative sequence harmonic power effective value
0x3B6D	Harmonic_Watt7p	1	R	1	W	S16		7 times positive sequence harmonic power effective value
0x3B6E	Harmonic_Watt7n	1	R	1	W	S16		7 times negative sequence harmonic power effective value
0x3B6F	Harmonic_Watt11p	1	R	1	W	S16		11 times positive sequence harmonic power effective value
0x3B70	Harmonic_Watt11n	1	R	1	W	S16		11 times negative sequence harmonic power effective

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
								value
0x3B71	Harmonic_Watt13p	1	R	1	W	S16		13 times positive sequence harmonic power effective value
0x3B72	Harmonic_Watt13n	1	R	1	W	S16		13 times negative sequence harmonic power effective value
0x3B73	Harmonic_Watt17p	1	R	1	W	S16		17 times positive sequence harmonic power effective value
0x3B74	Harmonic_Watt17n	1	R	1	W	S16		17 times negative sequence harmonic power effective value
0x3B75	Harmonic_Watt19p	1	R	1	W	S16		19 times positive sequence harmonic power effective value
0x3B76	Harmonic_Watt19n	1	R	1	W	S16		19 times negative sequence harmonic power effective value
0x3B77	Harmonic_Watt3o	1	R	1	W	S16		3 times zero-sequence harmonic power effective value
Snow removal project								
0x3B78	PV1 Snow removal status	1	R	1		S16		
0x3B79	PV1 Snow removal time	1	R	0.1	h	S16		
0x3B7A	PV2 Snow removal status	1	R	1		S16		
0x3B7B	PV2 Snow removal time	1	R	0.1	h	S16		
0x3B7C	PV3 Snow removal status	1	R	1		S16		
0x3B7D	PV3 Snow removal time	1	R	0.1	h	S16		
0x3B7E	PV4 Snow removal status	1	R	1		S16		
0x3B7F	PV4 Snow removal time	1	R	0.1	h	S16		
0x3B80	PV5 Snow removal status	1	R	1		S16		
0x3B81	PV5 Snow removal time	1	R	0.1	h	S16		
0x3B82	PV6 Snow removal status	1	R	1		S16		
0x3B83	PV6 Snow removal time	1	R	0.1	h	S16		
0x3B84	PV7 Snow removal status	1	R	1		S16		
0x3B85	PV7 Snow removal time	1	R	0.1	h	S16		
0x3B86	PV8 Snow removal status	1	R	1		S16		
0x3B87	PV8 Snow removal time	1	R	0.1	h	S16		
0x3B88	PV9 Snow removal status	1	R	1		S16		
0x3B89	PV9 Snow removal time	1	R	0.1	h	S16		
0x3B8A	PV1 Snow removal current	1	R	0.01	A	S16		
0x3B8B	PV1 Snow removal power	1	R	0.1	W	S16		

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
0x3B8C	PV2 Snow removal current	1	R	0.01	A	S16		
0x3B8D	PV2 Snow removal power	1	R	0.1	W	S16		
0x3B8E	PV3 Snow removal current	1	R	0.01	A	S16		
0x3B8F	PV3 Snow removal power	1	R	0.1	W	S16		
0x3B90	PV4 Snow removal current	1	R	0.01	A	S16		
0x3B91	PV4 Snow removal power	1	R	0.1	W	S16		
0x3B92	PV5 Snow removal current	1	R	0.01	A	S16		
0x3B93	PV5 Snow removal power	1	R	0.1	W	S16		
0x3B94	PV6 Snow removal current	1	R	0.01	A	S16		
0x3B95	PV6 Snow removal power	1	R	0.1	W	S16		
0x3B96	PV7 Snow removal current	1	R	0.01	A	S16		
0x3B97	PV7 Snow removal power	1	R	0.1	W	S16		
0x3B98	PV8 Snow removal current	1	R	0.01	A	S16		
0x3B99	PV8 Snow removal power	1	R	0.1	W	S16		
0x3B9A	PV9 Snow removal current	1	R	0.01	A	S16		
0x3B9B	PV9 Snow removal power	1	R	0.1	W	S16		
0x3B9C	PV1 Snow removal voltage	1	R	0.1	V	U16		
0x3B9D	PV2 Snow removal voltage	1	R	0.1	V	U16		
0x3B9E	PV3 Snow removal voltage	1	R	0.1	V	U16		
0x3B9F	PV4 Snow removal voltage	1	R	0.1	V	U16		
0x3BA0	PV5 Snow removal voltage	1	R	0.1	V	U16		
0x3BA1	PV6 Snow removal voltage	1	R	0.1	V	U16		
0x3BA2	PV7 Snow removal voltage	1	R	0.1	V	U16		
0x3BA3	PV8 Snow removal voltage	1	R	0.1	V	U16		
0x3BA4	PV9 Snow removal voltage	1	R	0.1	V	U16		
0x3BA5	Next snow removal date	1	R	0.1	V	U16		High 8 bit: Month Low 8 bit:Day

0x4000-0x47CF

Fault explanation: Format of every fault： Year-month-day-hour-minute-second-fault main code + fault word code (warning main code + 0xA0, warning word code), a total of 500 records

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
0x4000	First failure year and month	1	R	1		U16		High: year Low: month
0x4001	First failure day and hour	1	R	1		U16		High: day Low: hour
0x4002	First failure minute and second	1	R	1		U16		High: minutes Low: seconds
0x4003	The first fault warning code	1	R	1		U16		High: fault main code (warning main code + 0xA0) Low: fault subcode (warning subcode)
……								
IV Scan Data Register Segment （0x4FFD）IV scan time - year and month (year: 20~99 month: 1~12), high 8 bits: year; low 8 bits: month （0x4FFE）IV scanning time - day and hour, high 8 bits: day; low 8 bits: hour （0x4FFF）IV scan time - minutes and seconds, high 8 bits: minutes; low 8 bits: seconds （0x5000~0x50EF：1st road PV）（0x50F0~0x51DF：2nd Road PV）（0x51E0~0x52CF：3rd Road PV） （0x52D0~0x53BF：4th Road PV）（0x53C0~0x54AF：5th Road PV）（0x54B0~0x559F：6th Road PV） （0x55A0~0x568F：7th Road PV）（0x5690~0x577F：8th Road PV）（0x5780~0x586F：9th Road PV） （0x5870~0x595F：10th Road PV）（0x5960~0x5A4F：11th Road PV）（0x5A50~0x5B3F：12th Road PV）								
0x4FFD	IV scan year and month	1	R	1		U16		High: year Low: month
0x4FFE	IV scan day and hour	1	R	1		U16		High: day Low: hour
0x4FFF	IV scan minute and second	1	R	1		U16		High: minutes Low: seconds
0x5000	PV1 voltage point 1	1	R	0.1	%.1fV	U16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x5001	PV1 current point 1	1	R	0.01	%.2fA	S16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x5002	PV1 voltage point 2	1	R	0.1	%.1fV	U16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x5003	PV1 current point 2	1	R	0.01	%.2fA	S16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
……								
0x50F0	PV2 voltage point 1	1	R	0.1	%.1fV	U16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x50F1	PV2 current point 1	1	R	0.01	%.2fA	S16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x50F2	PV2 voltage point 2	1	R	0.1	%.1fV	U16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x50F3	PV2 current point 2	1	R	0.01	%.2fA	S16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data

ADD	Data Content	NO.	R/ W	Multi- plier	Unit	Data type	Range	Remarks
……								
0x51E0	PV3 voltage point 1	1	R	0.1	%.1fV	U16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x51E1	PV3 current point 1	1	R	0.01	%.2fA	S16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x51E2	PV3 voltage point 2	1	R	0.1	%.1fV	U16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x51E3	PV3 current point 2	1	R	0.01	%.2fA	S16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
……								
0x52D0	PV4 voltage point 1	1	R	0.1	%.1fV	U16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x52D1	PV4 current point 1	1	R	0.01	%.2fA	S16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x52D2	PV4 voltage point 2	1	R	0.1	%.1fV	U16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x52D3	PV4 current point 2	1	R	0.01	%.2fA	S16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
……								
0x53C0	PV5 voltage point 1	1	R	0.1	%.1fV	U16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x53C1	PV5 current point 1	1	R	0.01	%.2fA	S16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x53C2	PV5 voltage point 2	1	R	0.1	%.1fV	U16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x53C3	PV5 current point 2	1	R	0.01	%.2fA	S16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
……								
0x54B0	PV6 voltage point 1	1	R	0.1	%.1fV	U16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x54B1	PV6 current point 1	1	R	0.01	%.2fA	S16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x54B2	PV6 voltage point 2	1	R	0.1	%.1fV	U16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x54B3	PV6 current point 2	1	R	0.01	%.2fA	S16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
……								
0x55A0	PV7 voltage point 1	1	R	0.1	%.1fV	U16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x55A1	PV7 current point 1	1	R	0.01	%.2fA	S16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
0x55A2	PV7 voltage point 2	1	R	0.1	%.1fV	U16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x55A3	PV7 current point 2	1	R	0.01	%.2fA	S16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
……								
0x5690	PV8 voltage point 1	1	R	0.1	%.1fV	U16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x5691	PV8 current point 1	1	R	0.01	%.2fA	S16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x5692	PV8 voltage point 2	1	R	0.1	%.1fV	U16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x5693	PV8 current point 2	1	R	0.01	%.2fA	S16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
……								
0x5780	PV9 voltage point 1	1	R	0.1	%.1fV	U16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x5781	PV9 current point 1	1	R	0.01	%.2fA	S16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x5782	PV9 voltage point 2	1	R	0.1	%.1fV	U16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x5783	PV9 current point 2	1	R	0.01	%.2fA	S16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
……								
0x5870	PV10 voltage point 1	1	R	0.1	%.1fV	U16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x5871	PV10 current point 1	1	R	0.01	%.2fA	S16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x5872	PV10 voltage point 2	1	R	0.1	%.1fV	U16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x5873	PV10 current point 2	1	R	0.01	%.2fA	S16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
……								
0x5960	PV11 voltage point 1	1	R	0.1	%.1fV	U16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x5961	PV11 current point 1	1	R	0.01	%.2fA	S16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x5962	PV11 voltage point 2	1	R	0.1	%.1fV	U16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x5963	PV11 current point 2	1	R	0.01	%.2fA	S16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
……								

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
0x5A50	PV12 voltage point 1	1	R	0.1	%.1fV	U16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x5A51	PV12 current point 1	1	R	0.01	%.2fA	S16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x5A52	PV12 voltage point 2	1	R	0.1	%.1fV	U16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x5A53	PV12 current point 2	1	R	0.01	%.2fA	S16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
……								
0x5B3E	PV12 voltage point 100	1	R	0.1	%.1fV	U16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x5B3F	PV12 current point 100	1	R	0.01	%.2fA	S16		I/V scan parameters, when the register value is 0xFFFF, it represents invalid data
0x5B40	Keep to 0x5FFB							
Real-time recording waveform data register segment （0x5FFC） Real-time recording waveform time - year and month (year: 20~99 month: 1~12), high 8 bits: year; low 8 bits: month （0x5FFD） Real-time recording waveform time - day and hour, high 8 bits: day; low 8 bits: hour （0x5FFE） Real-time recording time - minutes and seconds, high 8 bits: minutes; low 8 bits: seconds （0x5FFF） Fault trigger flag （0x6000~0x63FF）: Channel 1 waveform points （0x6400~0x67FF）: Channel 2 waveform points （0x6800~0x6BFF）: Channel 3 waveform points （0x6C00~0x6FFF）: Channel 4 waveform points								
0x5FFC	Year-Month	1	R	1	Y-M	U16	Year:20~99 Month:1~12	High 8 bits: year Low 8 bits: month
0x5FFD	Day-Hour	1	R	1	D-H	U16	Day:1~31 Hour:0~23	High 8 bits: day Low 8 bits: hour
0x5FFE	Minute-Second	1	R	1	M-S	U16	Minute:0~59 Second:0~59	High 8 bits: minutes Low 8 bits: seconds
0x5FFF	Fault trigger flag	1	R	1		U16		Fault trigger flag Bit0：BusVolt Protection Bit1：INV Hardware OCP Bit2：BOOST Hardware OCP Bit3：Undervoltage software protection
0x6000	Channel ① Waveform point 0	1	R	1		S16		
0x6001	Channel ① Waveform point 2	1	R	1		S16		
0x6002	Channel ① Waveform point 3	1	R	1		S16		
…		1	R	1		S16		
0x61F4	Channel ① Waveform point 499	1	R	1		S16		

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
…	….							Keep the points and reserve 1000 points for later use
0x6400	Channel ② Waveform point 0	1	R	1		S16		
0x6401	Channel ② Waveform point 1	1	R	1		S16		
0x6402	Channel ② Waveform point 2	1	R	1		S16		
…		1	R	1		S16		
0x65F4	Channel ② Waveform point 499	1	R	1		S16		
…	….							Keep the points and reserve 1000 points for later use
0x6800	Channel ③ Waveform point 0	1	R	1		S16		
0x6801	Channel ③ Waveform point 1	1	R	1		S16		
0x6802	Channel ③ Waveform point 2	1	R	1		S16		
…		1	R	1		S16		
0x69F4	Channel ③ Waveform point 499	1	R	1		S16		
…	….							Keep the points and reserve 1000 points for later use
0x6C00	Channel ④ Waveform point 0	1	R	1		S16		
0x6C01	Channel ④ Waveform point 1	1	R	1		S16		
0x6C02	Channel ④ Waveform point 2	1	R	1		S16		
…		1	R	1		S16		
0x6DF4	Channel ④ Waveform point 499	1	R	1		S16		
…	….							Keep the points and reserve 1000 points for later use
Fault recording waveform data register segment （0x7FFC）Fault recording waveform time - year and month (year: 20~99 month: 1~12), high 8 bits: year; low 8 bits: month （0x7FFD）Fault recording waveform time - day and hour, high 8 bits: day; low 8 bits: hour （0x7FFE）Fault recording waveform time - minutes and seconds, high 8 bits: minutes; low 8 bits: seconds （0x7FFF）Fault trigger flag （0x8000~0x83FF）: Channel 1 waveform points （0x8400~0x87FF）: Channel 2 waveform points （0x8800~0x8BFF）: Channel 3 waveform points （0x8C00~0x8FFF）: Channel 4 waveform points								
0x7FFC	Year-Month	1	R	1	Y-M	U16	Year:20~99 Month:1~12	High 8 bits: year Low 8 bits: month
0x7FFD	Day-Hour	1	R	1	D-H	U16	Day:1~31 Hour:0~23	High 8 bits: day Low 8 bits: hour
0x7FFE	Minute-Second	1	R	1	M-S	U16	Minute:0~59 Second:0~59	High 8 bits: minutes Low 8 bits: seconds

ADD	Data Content	NO.	R/ W	Multi-plier	Unit	Data type	Range	Remarks
0x7FFF	Fault trigger flag	1	R	1		U16		Fault trigger flag Bit0：BusVolt Protection Bit1：INV Hardware OCP Bit2：BOOST Hardware OCP Bit3：Undervoltage software protection
0x8000	Channel ① Waveform point 0	1	R	1		S16		
0x8001	Channel ① Waveform point 1	1	R	1		S16		
0x8002	Channel ① Waveform point 2	1	R	1		S16		
…		1	R	1		S16		
0x81F4	Channel ① Waveform point 499	1	R	1		S16		
…	….							Keep the points and reserve 1000 points for later use
0x8400	Channel ② Waveform point 0	1	R	1		S16		
0x8400	Channel ② Waveform point 1	1	R	1		S16		
0x8400	Channel ② Waveform point 2	1	R	1		S16		
…		1	R	1		S16		
0x85F4	Channel ② Waveform point 499	1	R	1		S16		
…	….							Keep the points and reserve 1000 points for later use
0x8800	Channel ③ Waveform point 0	1	R	1		S16		
0x8801	Channel ③ Waveform point 1	1	R	1		S16		
0x8802	Channel ③ Waveform point 2	1	R	1		S16		
…		1	R	1		S16		
0x89F4	Channel ③ Waveform point 499	1	R	1		S16		
…	….							Keep the points and reserve 1000 points for later use
0x8C00	Channel ④ Waveform point 0	1	R	1		S16		
0x8C00	Channel ④ Waveform point 1	1	R	1		S16		
0x8C00	Channel ④ Waveform point 2	1	R	1		S16		
…		1	R	1		S16		
0x8DF4	Channel ④ Waveform point 499	1	R	1		S16		
…	….							Keep the points and reserve 1000 points for later use

ADD	Data Content	NO.	R/W	Multi-plier	Unit	Data type	Range	Remarks
0x8FE8	Channel ④ Waveform point 999							

* XG and XD Series Fault Codes 11-29

XG New Series Grid Inverter and XD Energy storage Inverter Fault Code Definition

NO	Fault type	Main fault code	Fault subcode	Fault information	Display information
1	PV voltage failure	01	01	PV reverse direction connection	01-01
			02	PV voltage too high	01-02
			03	PV panel short circuit	01-03
			04	PV1 short circuit (XD7-10KW)	01-04
			05	PV2 short circuit (XD7-10KW)	01-05
			06	PV 1 reverse direction connection（XD7-10KW)	01-06
			07	PV2 reverse direction connection（XD7-10KW)	01-07
2	BUS voltage error	03	01	BUS voltage low	03-01
			02	BUS voltage high	03-02
			03	BUS voltage unbalance	03-03
			04	Hardware bus overvoltage	03-04
3	Overcurrent fault	05	01	Inverter hardware overcurrent	05-01
			02	Inverter software overcurrent	05-02
			03	BOOST hardware overcurrent	05-03
			04	BOOST software overcurrent	05-04
			05	Auxiliary source hardware TZ failure	05-05
			06	Bus hardware TZ overvoltage	05-06
			07	Hardware TZ fault on LLC side	05-07
			08	Buck-Boost Software Overcurrent	05-08
4	Abnormal temperature failure	06	01	Inverter temperature abnormality	06-01
			02	BOOST abnormality	06-02
			03	Radiator abnormality	06-03

			04	Abnormal environment	06-04
			05	Buck-Boost Temperature Abnormality	06-05
			06	NTC Open Circuit	06-06
5	Insulation detection fault	07	01	Insulation detection fault	07-01
6	Drive failure	08	01	Drive failure	08-01
7	Communication failure	09	01	Main DSP receiving ARM communication failure	09-01
			02	ARM receives main DSP communication failure	09-02
			03	The slave DSP receives the ARM communication failure	09-03
			04	ARM receiving sub-DSP communication failure	09-04
			05	Master-slave chip communication failure-master chip failure	09-05
			06	Master-slave chip communication failure - slave chip failure	09-06
			07	DSP and AFCI communication failure	09-07
8	Leakage current fault	10	01	High static leakage current	10-01
			02	30mA Saltation failure	10-02
			03	60mA Saltation failure	10-03
			04	150mA Saltation failure	10-04
9	Relay failure	11	01	Relay open circuit	11-01
			02	Relay short circuit	11-02
10	Internal fan failure	12	01	Both internal fans failed	12-01
11	DCI failure	14	01	R Phase DCI failure	14-01
			02	S Phase DCI failure	14-02
			03	T Phase DCI failure	14-03
12	PID failure	15	01	PID bus voltage high	15-01
13	Consistency fault	19	01	AC voltage detection inconsistent	19-01
			02	BUS voltage detection inconsistent	19-02
			03	ISO voltage detection inconsistent	19-03
			04	PV voltage detection inconsistent	19-04
			05	GFCI inconsistent	19-05
			06	Bus voltage sampling abnormality	19-06
			07	PV current sampling abnormality	19-07
			01	Mains undervoltage level 1	31-01

14	Mains supply voltage failure	31	02	Mains overvoltage level 1	31-02
			03	No mains voltage	31-03
			04	Mains undervoltage level 2	31-04
			05	Mains overvoltage level 2	31-05
			06	Mains start undervoltage	31-06
			07	Mains start overvoltage	31-07
			08	Interrupt instantaneous overvoltage	31-08
			09	Island overvoltage	31-09
			10	Grid voltage oscillation	31-10
			11	Mains undervoltage level 3	31-11
			12	Grid voltage phase lock fault	31-12
15	Mains frequency failure	33	01	Mains under-frequency level 1	33-01
			02	Mains overfrequency level 1	33-02
			03	Mains under-frequency level 2	33-03
			04	Mains overfrequency level 2	33-04
			05	Mains start underfrequency	33-05
			06	Mains start-up over-frequency	33-06
			07	Frequency self-test failed	33-07
16	Model identification failure	36	01	Large inverter model identification failure	36-01
17	Remote shutdown	37	01	Remote shutdown command	37-01
			02	Under maintenance	37-02
18	AFCI Fault	38	01	String 1 fault	38-01
			02	String 2 fault	38-02
			03	String 3 fault	38-03
			04	String 4 fault	38-04
			05	String 5 fault	38-05
			06	String 6 fault	38-06
			07	String 7 fault	38-07
			08	String 8 fault	38-08
			09	String 9 fault	38-09
			10	String 10 fault	38-10
			11	String 11 fault	38-11
			12	String 12 fault	38-12
			13	String 13 fault	38-13
			14	String 14 fault	38-14
			15	String 15 fault	38-15
			16	String 16 fault	38-16
			17	String 17 fault	38-17

			18	String 18 fault	38-18
			19	String 19 fault	38-19
			20	String 20 fault	38-20
19	AFCI Self-check failure	39	01	String 1 self-check fault	39-01
			02	String 2 self-check fault	39-02
			03	String 3 self-check fault	39-03
			04	String 4 self-check fault	39-04
			05	String 5 self-check fault	39-05
			06	String 6 self-check fault	39-06
			07	String 7 self-check fault	39-07
			08	String 8 self-check fault	39-08
			09	String 9 self-check fault	39-09
			10	String 10 self-check fault	39-10
			11	String 11 self-check fault	39-11
			12	String 12 self-check fault	39-12
			13	String 13 self-check fault	39-13
			14	String 14 self-check fault	39-14
			15	String 15 self-check fault	39-15
			16	String 16 self-check fault	39-16
			17	String 17 self-check fault	39-17
			18	String 18 self-check fault	39-18
			19	String 19 self-check fault	39-19
			20	String 20 self-check fault	39-20
20	Parallel system failure	40	1	Multiple host failure	40-1
			2	Parallel CAN communication failure	40-2
			3	Host lost fault	40-3
			4	Synchronous zero-crossing fault	40-4
21	AutoTest failure	41	01	Automatic test failure	41-01
22	N-PE failure	42	01	N-PE abnormal voltage fault	42-01
23	Leakage current self-check fault	43	01	Leakage current sensor failure	43-01
24	String detection fault	44	01	String failure	44-01
25	Auxiliary power failure	45	01	Auxiliary power outage	45-01
Main fault code: 1-45 is used for on-grid inverters, 46-64 is used for energy storage inverters					
26	EPS short circuit failure	46	01	EPS short circuit failure	46-01

27	Battery failure	47	1	Battery charging temperature low level 1 fault	47-01
			2	Battery charging temperature high level 1 fault	47-02
			3	Battery discharge temperature low level 1 fault	47-03
			4	Battery discharge temperature high level 1 fault	47-04
			5	Single cell voltage difference is large, level 1 fault	47-05
			6	Large temperature difference between cells, level 1 fault	47-06
			7	Battery power is too low fault	47-07
			8	Battery health is too low level 1 fault	47-08
			9	Single cell voltage low level 1 fault	47-09
			10	Single cell voltage high level 1 fault	47-10
			11	Battery charging current high level 1 fault	47-11
			12	Battery discharge current high level 1 fault	47-12
			13	Battery charging power high level 1 fault	47-13
			14	Battery discharge power high level 1 fault	47-14
			15	Battery total voltage low level 1 fault	47-15
			16	Battery total voltage high level 1 fault	47-16
28	Battery Error 1	48	1	Battery discharge temperature low level 2 fault	48-01
			2	Battery discharge temperature high level 2 fault	48-02
			3	Single cell voltage difference is large, level 2 fault	48-03
			4	Large temperature difference between cells, level 2 fault	48-04
			5	Internal communication failure	48-05
			6	External communication failure	48-06
			7	Precharge failure fault	48-07
			8	Parallel failure	48-08
			9	Single cell voltage low level 2 fault	48-09
			10	Single cell voltage high level 2 fault	48-10
			11	Battery charging current high level 2 fault	48-11
			12	Battery charging power high level 2 fault	48-12

			13	Battery discharge current high level 2 fault	48-13
			14	Battery discharge power high level 2 fault	48-14
			15	Battery charging temperature low level 2 fault	48-15
			16	Battery charging temperature high level 2 fault	48-16
29	Battery Error 2	49	1	Battery voltage is too low	49-01
			2	Single cell voltage difference is large, level 3 fault	49-02
			3	Single cell voltage high level 3 fault	49-03
			4	Single cell temperature is too high	49-04
			5	Charger voltage high fault	49-05
			6	Battery health is too low level 2 fault	49-06
			7	Battery total voltage low level 2 fault	49-07
			8	Battery total voltage high level 2 fault	49-08
			9	BMS hardware failure	49-09
			10	ACTORAdjoin failure	49-10
			11	Short circuit fault	49-11
			12	AFE and MCU communication failure	49-12
			13	Eeprom and MCU communication failure	49-13
			14	ACTOR driver failure	49-14
			15	Fuse failure	49-15
			16	Internal Fault	49-16

XG New Series Grid Inverter Warning Code Definition

No	Fault type	Main fault code	Fault subcode	Fault information	Display information
1	Fan speed low	01	01	Fan 1	01-01
			02	Fan 2	01-02
			03	Fan 3	01-03
			04	Fan 4	01-04
			05	Fan 5	01-05
			06	Fan 6	01-06
			07	Internal fan 1	01-07
			08	Internal fan 2	01-08
			09	Fan 9	01-09
			10	Fan 10	01-10
			11	Fan speed low	01-11
2		02	01	DC Lightning protector	02-01

	Lightning protector		02	AC Lightning protector	02-02
3	String current	03	01	String 1	03-01
			02	String 2	03-02
			03	String 3	03-03
			04	String 4	03-04
			05	String 5	03-05
			06	String 6	03-06
			07	String 7	03-07
			08	String 8	03-08
			09	String 9	03-09
			10	String 10	03-10
			11	String 11	03-11
			12	String 12	03-12
			13	String 13	03-13
			14	String 14	03-14
			15	String 15	03-15
			16	String 16	03-16
			17	String 17	03-17
			18	String 18	03-18
			19	String 19	03-19
			20	String 20	03-20
			21	String 21	03-21
			22	String 22	03-22
			23	String 23	03-23
			24	String 24	03-24
4	Anti-reflux meter communication	04	01	A Phase electric meter abnormal warning	04-01
			02	B Phase electric meter abnormal warning	04-02
			04	C Phase electric meter abnormal warning	04-04
			08	Meter communication abnormality warning	04-08
			16	CT wiring abnormality warning	04-16
			32	Yada meter identification abnormality	04-32
5	Grid out of range alarm	05	00	Grid out of range alarm	05-00

6	PV short circuit alarm	06	01	PV1 short circuit alarm	06-01
			02	PV2 short circuit alarm	06-02
7	EPS overload alarm	07	1	EPS power exceeds 1.5 times	07-01
			2	EPS power exceeds 1.2 times	07-02
			3	EPS power exceeds 1.1 times	07-03
			4	EPS current exceeds 1.5 times	07-04
			5	EPS current exceeds 1.2 times	07-05
			6	EPS current exceeds 1.1 times	07-06
8	Fuse abnormality alarm	08	1	Fuse abnormality alarm	08-01
9	AC coupling mode	09	1	Meter 1 communication abnormality alarm	09-01
			2	Meter 2 communication abnormality alarm	09-02
			3	Meter 1 and Meter 2 communication abnormality alarm	09-03
Main alarm code: 1-45 is used for on-grid inverters, 46-64 is used for energy storage inverters					
8	Battery Full	46	01	Battery Full	46-01
9	Battery voltage too low	47	01	The battery needs to be charged	47-01
			02	The battery can only be charged	47-02
10	Battery alarm	48	1	Low temperature alarm during battery charging	48-01
			2	High temperature alarm during battery charging	48-02
			3	Low temperature alarm during battery discharging	48-03
			4	High temperature alarm during battery discharging	48-04

			5	Alarm for large cell voltage difference	48-05
			6	Alarm for large temperature difference between cells	48-06
			7	Battery power low alarm	48-07
			8	Battery health is too low alarm	48-08
			9	Single cell low voltage alarm	48-09
			10	Single cell high voltage alarm	48-10
			11	Battery charging current high alarm	48-11
			12	Battery discharge current high alarm	48-12
			13	Battery charging power high alarm	48-13
			14	Battery discharge power high alarm	48-14
			15	Low total battery voltage alarm	48-15
			16	High total battery voltage alarm	48-16
			17	Abnormal battery status	48-17