GOODWE

Technical Information

GoodWe Modbus Protocol Hybrid

For Energy Storage Inverters

Updated on October 31, 2023

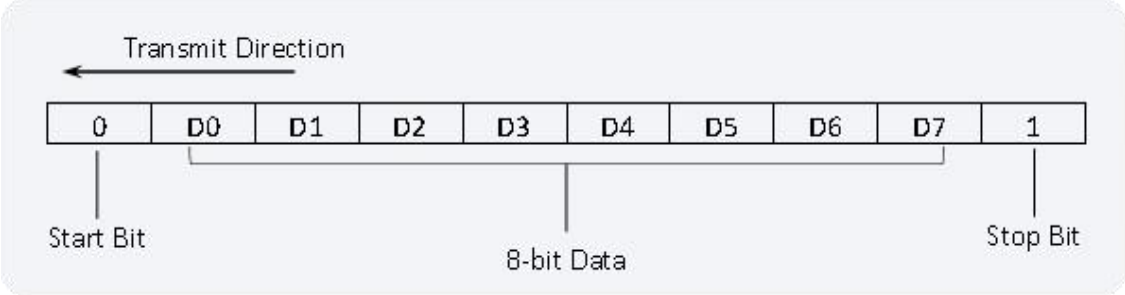
CHANGE RECORDS

Ver.	Date	Modification	Prepared by	Approved by
1	20221231		Morries	Eric
1.1	20231016	Add registers	Cindy	Eric

1. PROTOCOL DESCRIPTION

This is a map document of standard MODBUS RTU protocol for only GoodWe energy storage inverters compatible with HV
Inverter Address: Can be assigned from 1~247. 247 is factory default assignment.
Communication baud rate: The default baud rate is 9600 bps

Error Code Returned From Inverter Device:	**CRC Verification:**
02H: Register address fault or overflow of read register number 03H: Data error	CRC Verification formula：X16+X12+X5+1 CRC Verification code refer to No.10 Chapter.
Function code:	**Byte Format:**
03H:Reading 06H: writing single register 10H:writing multiple registers	Every byte consists of 1 start bit, 8-bit binary code and 1 stop bit, 10 bit in total. The byte transmit sequence is described as below. D0 is the lowest bit of data and D7 is the highest



Communication Data Format:

Data is transmitted as word or double word format.

Data Type	Amount of Register	Amount of Byte	Description
Byte Data	1	1	
Integer Data	1	2	Return at one time, from high bit to low bits
Long integer	2	4	Return in two parts, from high bit to low bits
Floating Point Data			

2. Data Frame Format

2.1 Read Register (Function Code: 03H)

2.1.1 Data Frame Format from Host PC

Data NO	Content	Sample	Description
1	Inverter Address	1	Communication address(1-247, Default 0XF7)
2	03H	03H	Function code
3	High byte of first register	00H	Address of register 0001H
4	Low byte of first register	01H	
5	Amount. of High bit Register	00H	Amount of register 02H
6	Amount. of Low bit Register	02H	
7	CRC16 Verification (high bit)	95H	CRC Code of verification
8	CRC16 Verification (low bit)	CBH	

2.1.2 Data Frame Format from Inverter (If Data Reading Successfully)

Data NO	Content	Description
1	Inverter Address	Communication address(1-247, default 0xF7)
2	03H	Function code
3	Amount of byte of data (2N)	Amount of byte of data
4	High byte of data of first register	High byte of first register
5	Low byte of data of first register	Low byte of first register
…	…	…
2N+2	High byte of data of the Nth register	High byte of the Nth register
2N+3	Low byte of data of the Nth register	Low byte of the Nth register
2N+4	High byte of CRC16 verification code	High byte of CRC verification code
2N+5	Low byte of CRC16 verification code	Low byte of CRC verification code

2.1.3 Data Frame Format from Inverter (Register Addr. or register number is wrong)

Data NO	Content	Description
1	Inverter Address	Communication Address (1-247)
2	83H	Function code
3	02H	Error Code
4	High byte of CRC16 verification code	CRC verification code
5	Low byte of CRC16 verification code	CRC verification code

2.2Set/Writing Register (Function code: 10H)

2.2.1 Data Frame Format from AP

Sr.	CODE	Sample	Description
1	Inverter Address	0xF7	Communication Address (1-247, default 0xF7)
2	10H	10H	Function Code
3	High byte of data of first register	00H	Address of register: 0000H
4	Low byte of data of first register	00H	
5	High byte of amount of registers	00H	Amount of registers: 01H
6	Low byte of amount of registers	01H	
7	Amount of bytes (N)	02H	No. of Register Bytes 02H
8	High byte of data	0AH	Data: 0AF0H
9	Low byte of data	F0H	
10	High byte of CRC16 verification code	A0H	CRC verification
11	Low byte of CRC16 verification code	B4H	

2.2.2Data Frame Format from Inverter (when OK)

Sr.	CODE	SAMPLE	EXPLANATION
1	Device Addr.	0xF7	Device communication address (1-247)
2	10H	10H	Function Code
3	High Bit of Start Register Addr.	00H	Register Address 0000H
4	Low Bit of Start Register Addr.	00H	
5	High Bit of Register No.	00H	Number of Register 01H
6	Low Bit of Register No.	01H	
7	CRC16 Verification (high bit)	01H	CRC Verification
8	CRC16 Verification (low bit)	C9H	

2.2.3Data Frame Format from Inverter (when data is faulty)

Sr.	CODE	EXPLANATION
1	Device Address	Device communication address (1-247)
2	90H	Function Code
3	03H	Error Code
4	CRC16 Verification (high bit)	CRC Verification
5	CRC16 Verification (low bit)	

2.2.4 Data Frame Format from Inverter (when address or amount of register is faulty)

Sr.	CODE	EXPLANATION
1	Device Address	Device communication address (1-247)
2	90H	Function Code
3	02H	Error Code
4	CRC16 Verification (high bit)	CRC Verification
5	CRC16 Verification (low bit)	

2.3 Writing single register (function code 06H)

2.3.1 Frame Format From Host Computer

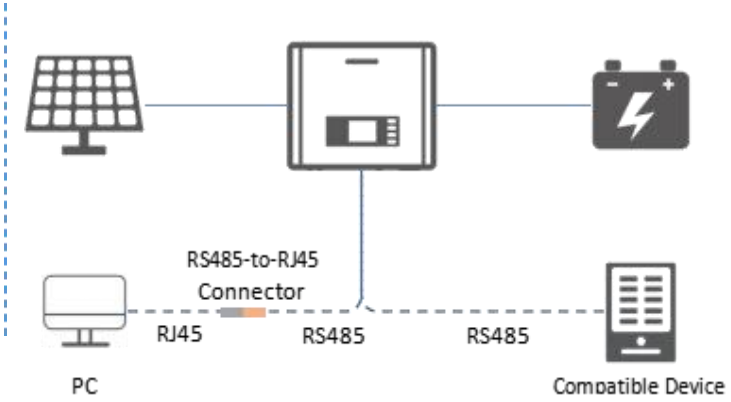
Sr.	CODE	SAMPLE	EXPLANATION
1	Device Addr.	1	Device communication address (1-247)
2	06H	06H	Function Code
3	High Bit of Start Register Addr.	00H	Register Address 0000H
4	Low Bit of Start Register Addr.	00H	
5	High Bit of Data	0AH	Data 0AF0H
6	Low Bit of Data	F0H	
7	CRC16 Verification (high bit)	8FH	CRC Verification
8	CRC16 Verification (low bit)	2EH	

2.3.2 Frame Format Return from Device (data writing successfully)

Sr.	CODE	SAMPLE	EXPLANATION
1	Device Addr.	1	Device communication address (1-247)
2	06H	06H	Function Code
3	High Bit of Start Register Addr.	00H	Register Address 0000H
4	Low Bit of Start Register Addr.	00H	
5	High Bit of Data	0AH	Data 0AF0H
6	Low Bit of Data	F0H	
7	CRC16 Verification (high bit)	8FH	CRC Verification
8	CRC16 Verification (low bit)	2EH	

3. System Wiring Instruction

This is the basic wiring and instructions before starting reading interactive log between GoodWe energy storage inverter and the



Position	EMS
1	485_A
2	485_B
3	485_A
4	NC
5	NC
6	485_B
7	NC
8	NC

Solar inverter must be powered up by DC or AC power before it can communicate successfully to the compatible device.

	#Address	English Name	Chinese Name	#R/W	#Type	#Size	#SF	#Units	Range	lash Sav	Note(English)	Note(Chinese)
Parallel System												
1	10400	Inverter Quantity	并机系统系统标记/并机系统机器数量	RO	U16	1	1	N/A			1：Single inverter system >1：Parallel system	设置的机器数量是1，即单机系统；机器数量大于1即并机系统
2	10401	Firmware Version_ARM	ARM软件版本号	RO	U16	1	1	N/A			Refer to 35020	参考寄存器 35020
3	10402	Firmware Version_DSP_Master	主DSP软件版本号	RO	U16	1	1	N/A			Refer to 35016	参考寄存器35016
4	10403	Firmware	副DSP软件版本号	RO	U16	1	1	N/A			Refer to 35017	参考寄存器35017
5	10404	Online Quantity	机器在线数量	RO	U16	1	1	N/A				
6	10405	APP Mode	EMS 工作模式	RO	U16	1	1	N/A			Refer to app mode 47000	参考寄存器 47000
7	10406	Safety Country	系统安规	RO	U16	1	1	N/A			Refer to 45244	参考寄存器 45244
8	10407	Work Mode	并机工作模式	RO	U16	1	1	N/A			workmode： waiting/Ongrid/battery mode/check/fault Refer to 35187	工作模式： waiting/Ongrid/battery mode/check/fault 参考 35187
9	10408	Meter comm status	电表通信状态	RO	U16	1	1	N/A			Refer to 36003	参考寄存器 36003
10	10409	BackUp Enable	backup功能开关状态	RO	U16	1	1	N/A			Refer to 45252	参考寄存器 45252
11	10410	Controller Status Code	控制状态码	RO	U16	1	1	N/A				用于主机控制DRED,RCR,一键关断等， 本地址为复用地址当DRED使能时为DRED状态码，RCR使能时为RCR状态码

12	10411	Reserved	预留	RO	U16	1	1	N/A				
13	10412	PV Total Power	PV总功率	RO	U32	2	1	W			Master DSP add up all PV power	由主dsp累加各路PV，arm直接读取
14	10414	Battery Total power	电池总功率	RO	S32	2	1	W			Refer to 35182-35183	参考寄存器 35182-35183
15	10416	Total Back-Up Load Power	Backup总功率	RO	S32	2	1	W			Refer to 35169-35170	参考寄存器 35169-35170
16	10418	Meter Power	电表功率	RO	S32	2	1	W			Refer to 36025-36026	参考寄存器 36025-36026
17	10420	Total Inverter Power	逆变总功率	RO	S32	2	1	W			Refer to 35137-35138	参考寄存器 35137-35138
18	10422	R Phase Inverter Power	R相逆变功率	RO	S32	2	1	W			Refer to 35124-35125	参考寄存器 35124-35125
19	10424	S Phase Inverter Power	S相逆变功率	RO	S32	2	1	W			Refer to 35129-35130	参考寄存器 35129-35130
20	10426	T Phase Inverter Power	T相逆变功率	RO	S32	2	1	W			Refer to 35134-35135	参考寄存器 35134-35135
21	10428	Backup Active Power-R	Back-Up负载端R相功率	RO	S32	2	1	W			Refer to 35149-35150	参考寄存器 35149-35150
22	10430	Backup Active Power-S	Back-Up负载端S相功率	RO	S32	2	1	W			Refer to 35155-35156	参考寄存器 35155-35156
23	10432	Backup Active Power-T	Back-Up负载端T相功率	RO	S32	2	1	W			Refer to 35161-35162	参考寄存器 35161-35162
24	10434	Meter Frequence	MeterFrequence	RO	U16	1	100	HZ			Refer to 36014	参考寄存器 36014
25	10435	Battery Mode	充放电模式	RO	U16	1	1	N/A			Refer to 35184	参考寄存器 35184
26	10436	Battery Voltage 1	电池电压1	RO	U16	1	10	V			Refer to 35180	参考寄存器 35180
27	10437	Battery Voltage 2	电池电压2	RO	U16	1	10	V			Refer to 35262	参考寄存器 35262
28	10438	Total Inverter Power	机器额定总功率	RO	U32	2	1	W			Refer to 35001	参考寄存器35001

1	10470	Meter Check Value	CT 检测结果	RO	U16	1	1	N/A			Refer to 47001	参考寄存器47001，可以使用同一变量
2	10471	Meter Connect Check Flag	CT检测使能状态	RO	U16	1	1	N/A			Refer to 47002	参考47002，可使用同一变量，10439只读，47002读写
3	10472	SOC	每台SOC	RO	U16	1	1	N/A				云板根据每台机器SOC计算平均值，获取每台寄存器37007
4	10473	Battery Capacity	电池容量	RO	U16	1	1	N/A				
5	10474	Battery Communication	电池通讯状态	RO	U16	1	1	N/A				
6	10476	Battery Charge Allow Kilowatt-Hour Sum	电池可充瓦时	RO	U32	2	1	W·H	[00xFFFFFFFF]	N		
7	10478	Battery Disharge Allow Kilowatt-Hour Sum	电池可放瓦时	RO	U32	2	1	W·H	[00xFFFFFFFF]	N		
8	10480	AbleBalanceFlag	可平衡标志位	RO	U16	1	1	N/A	[0,1]	N	0: Need to be averaged 1: No need to be averaged	0:不可进行均分 1：需要进行均分
9	10481	Meter Active Power R	电表R相有功功率	RO	S32	2	1	W			Refer to 36127	参考寄存器 36127
10	10483	Meter Active Power S	电表S相有功功率	RO	S32	2	1	W			Refer to 36129	参考寄存器 36129
11	10485	Meter Active Power T	电表T相有功功率	RO	S32	2	1	W			Refer to 36131	参考寄存器 36131

Evcharger												
1	10600	CP Voltage	CP电压	RO	U16	1	10	V				
2	10601	Leak Current	漏电流	RO	U16	1	1	mA				
3	10602	CP Status	CP状态	RO	U16	1	NA	NA			0 disconnected 1 connected 2 charging 3 fault	0 连接断开 1 已连接 2 充电中 3 故障
4	10603	Solar Power for Charge	太阳能充电	RO	U16	1	1	W				
5	10604	Battery Power for Charge	电池充电	RO	U16	1	1	W				
6	10605	Grid Power for Charge	电网充电	RO	U16	1	1	W				
7	10606	Current Charge Energy	当前充电量	RO	U16	1	10	kwh				
8	10607	Current Charge Time	当前充电时间	RO	U16	1	1	min				
9	10608	Charge Current	充电电流	RO	U16	1	10	A				
10	10609	EV Charger Status	电动汽车充电器状态	RO	U16	1	N/A	N/A			0 Initial state 1 Fault state 2 Standby state, no machine failure, waiting for external conditions to be met. 3 Running state 4 Shutdown (no fault, user-initiated shutdown) 5 Reservation status 6 Self-testing 7 Starting 8 The machine is ready to power on, but it still needs some time to really power on.	0 初始状态 1 故障状态 2 待机状态，机器无故障，等待外部 条件满足 3 运行状态 4 停机（没有故障，用户主动关机） 5 预约状态 6 自检中 7 启动中 8 机器做好开机准备，但还需要等待 一定时间才能真正开机

11	10610	EV Charger Error Message	电动汽车充电器故障信息	RO	U32	2	N/A	N/A				
12	10612	Charging Mode	充电模式	RO	U16	1	N/A	N/A				
13	10613	Max Charge Current	最大充电电流	RO	U16	1	1	A				
14	10614	Current Charge Power	当前充电电流	RO	U16	1	1	W				
15	10615	Total Charge Energy	总充电量	RO	U32	2	10	kwh				
16	10617	Total Charge Time	总充电时间	RO	U32	2	10	H				
17	10619	EV Ouput Voltage	EV端口电压	RO	U16	1	10	V				
18	10620	AC Input Voltage	AC输入电压	RO	U16	1	10	V				
19	10621	EV Communication lost flag	EV通讯丢失位	RO	U16	1	N/A	N/A			0: Com not loss 1: Com loss	0：通讯未丢失 1：通讯丢失
1	10669	GIT Version	软件版本	RO	U16	1	N/A	N/A				
2	10670	Software Version	软件版本	RO	U16	1	N/A	N/A				
3	10671	EV charger SN	电动车充电器序列	RO	STR	8	N/A	N/A				
4	10679	EV Charger Model Name	电动车充电器模型名称	RO	STR	16	N/A	N/A				
Evcharger Fault												
1	10700	Total Pages	总页数	RO	U16	1	N/A	N/A				
2	10701	Current Page	当前页	RO	U16	1	N/A	N/A			Auto-increment for each read Read page can be set via 20321 to prevent read failure	每读一次自动递增 可通过20321设置读取页，防止读取失败
3	10702	Error Time	故障时间	RO	U32	2	N/A	N/A			unixtime	unixtime

4	10704	Error Code H	高位故障代码	RO	U16	1	N/A	N/A			0 Over Temperature 1 Overload 2 Utility over-voltage 3 Utility undervoltage 4 Utility overcurrent 5 Utility overfrequency 6 Utility under-frequency 7 User shutdown 8 Emergency shutdown 9 Low temperature 10 Leakage current 11 low res ground fault 12 Bluetooth connection failure 13 lock rocker blocked 14 relay abnormal 15 Ground fault	0 过温 1 过载 2 市电过压 3 市电欠压 4 市电过流 5 市电过频 6 市电欠频 7 用户关机 8 紧急停机 9 温度过低 10 漏电流 11 低电阻接地故障 12 蓝牙连接故障 13 lock摇臂遇阻 14 relay异常 15 接地故障

5	10705	Error Code L	低位故障代码	RO	U16	1	N/A	N/A			0 Inverted phase 1 Abnormal leakage current circuit 2 Attitude detection 3 Bluetooth module matching fault 4 Range module matching fault 5 can communication abnormality 6 Meter communication failure 7 cp abnormality,cp below 2V 8 B-gun over-temperature 9 B-gun low temperature	0 反相 1 漏电流电路异常 2 姿态检测 3 蓝牙模块匹配故障 4 测距模块匹配故障 5 can 通讯异常 6 电表通信故障 7 cp异常 cp低于2V 8 B枪过温 9 B枪低温
6	10706	Error Information	故障信息	RO	U32	2	N/A	N/A				

7	10708	Error Code Count	故障代码计数	RO	U16	1	N/A	N/A				
8	10709	Check Sum	检测汇总	RO	U16	1	N/A	N/A				
9	10710	…	…	RO		48	N/A	N/A			Only 8 records are passed per page, one record occupies 8 registers	每页只传8条记录，一条记录占8个寄存器
10	10758	Error Time	故障时间	RO	U32	2	N/A	N/A			unixtime	unixtime
11	10760	Error Code H	高位故障代码	RO	U16	1	N/A	N/A				
12	10761	Error Code L	低位故障代码	RO	U16	1	N/A	N/A				
13	10762	Error Information	故障信息	RO	U32	2	N/A	N/A				
14	10764	Error Code Count	故障代码计数	RO	U16	1	N/A	N/A				
15	10765	Check Sum	检测汇总	RO	U16	1	N/A	N/A				
16	10766	Last Page	最后一页	RO	U16	1	N/A	N/A				
Evcharger Charging												
1	10800	Total Pages	总页数	RO	U16	1	N/A	N/A				
2	10801	Current Page	当前页数	RO	U16	1	N/A	N/A			Auto-increment for each read Read page can be set via 20321 to prevent read failure	每读一次自动递增 可通过20322设置读取页，防止读取失败
3	10802	Operation Time	运行时间	RO	U32	2	N/A	N/A			unixtime	unixtime
4	10804	Charging Mode	充电模式	RO	U16	1	N/A	N/A				

5	10805	Charging Status	放电模式	RO	U16	1	N/A	N/A			0:Charge start 1:Charge end	0:充电起始 1:充电结束
6	10806	Operation Information	运行信息	RO	U32	2	N/A	N/A			Display when charging is finished u16:Current charging time u16:Current charging power	充电结束时显示 u16:当前充电时长 u16:当前充电电能
7	10808	Operation Code Count	运行代码计数	RO	U16	1	N/A	N/A				
8	10809	Check Sum	检测汇总	RO	U16	1	N/A	N/A				
9	10810	…	…	RO	U16	48	N/A	N/A			Only 8 records are passed per page, one record occupies 8 registers	每页只传8条记录，一条记录占8个寄存器
10	10858	Operation Time	运行时间	RO	U32	2	N/A	N/A			unixtime	unixtime
11	10860	Charging Mode	充电模式	RO	U16	1	N/A	N/A				
12	10861	Charging Status	充电状态	RO	U16	1	N/A	N/A				
13	10862	Operation Information	运行信息	RO	U32	2	N/A	N/A				
14	10864	Operation Code Count	运行代码计数	RO	U16	1	N/A	N/A				
15	10865	Check Sum	检测汇总	RO	U16	1	N/A	N/A				
16	10866	Last Page	最后一页	RO	U16	1	N/A	N/A				

ABD												
1	10900	Grid Voltage RS	RS相电网电压	RO	U16	1	10	V				
2	10901	Grid Voltage R	R相电网电压	RO	U16	1	10	V				
3	10902	Grid Voltage S	S相电网电压	RO	U16	1	10	V				
4	10903	Grid Frequency	电网频率	RO	U16	1	100	Hz				
5	10904	Relay Status	延时状态	RO	U16	1	N/A	N/A				
6	10905	Error Message	故障信息	RO	U32	2	N/A	N/A			bit0 +12V detect fail bit1 relay fail bit2 Utility over-voltage bit3 Utility undervoltage bit4 Utility overfrequency bit5 Utility under-frequency bit6 communication fail	bit0 +12V异常 bit1 relay故障 bit2 市电过压 bit3 市电欠压 bit4 市电过频 bit5 市电欠频 bit6 通信丢失
7	10907	Inverter Voltage RS	RS相逆变电压	RO	U16	1	10	V				
8	10908	Inverter Voltage R	R相逆变电压	RO	U16	1	10	V				
9	10909	Inverter Voltage S	S相逆变电压	RO	U16	1	10	V				
10	10910	Inverter Frequency	逆变频率	RO	U16	1	100	Hz				
11	10911	Power Voltage	功率电压	RO	U16	1	N/A	V				
12	10912	Box Com Loss	Box通讯丢失位	RO	U16	1	N/A	N/A			0：Com not loss 1：Com loss	0：通讯未丢失 1：通讯丢失
13	10913	Stop Button Flag	停止按钮标志	RO	U16	1	N/A	N/A				
1	10980	Software Verion	软件版本	RO	U16	1	N/A	N/A				
2	10981	ABD SN	ABD序列号	RO	STR	8	N/A	N/A				
3	10989	ABD Model Name	ABD模型名称	RO	STR	16	N/A	N/A				
4	11005	git version	小版本	RO	U16	1	N/A	N/A				

EvCharger Setting												
1	20300	Start Time_1	开始时间_1	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y		
2	20301	End Time_1	结束时间_1	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y		
3	20302	Work Week_1	工作星期_1	RW	U16	1	N/A	N/A		Y		
4	20303	Parameter1_1	参数1_1	RW	U16	1	N/A	N/A		Y		
5	20304	Parameter1_2	参数1_2	RW	U16	1	N/A	N/A		Y		
6	20305	Start Time_2	开始时间_2	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y		
7	20306	End Time_2	结束时间_2	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y		
8	20307	Work Week_2	工作星期_2	RW	U16	1	N/A	N/A		Y		
9	20308	Parameter2_1	参数2_1	RW	U16	1	N/A	N/A		Y		
10	20309	Parameter2_2	参数2_2	RW	U16	1	N/A	N/A		Y		
11	20310	Start Time_3	开始时间_3	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y		
12	20311	End Time_3	结束时间_3	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y		
13	20312	Work Week_3	工作星期_3	RW	U16	1	N/A	N/A		Y		
14	20313	Parameter3_1	参数3_1	RW	U16	1	N/A	N/A		Y		
15	20314	Parameter3_2	参数3_2	RW	U16	1	N/A	N/A		Y		
16	20315	Start Time_4	开始时间_4	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y		
17	20316	End Time_4	结束时间_4	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y		
18	20317	Work Week_4	工作星期_4	RW	U16	1	N/A	N/A		Y		
19	20318	Parameter4_1	参数4_1	RW	U16	1	N/A	N/A		Y		
20	20319	Parameter4_2	参数4_2	RW	U16	1	N/A	N/A		Y		

21	20320	Charging Mode	充电模式	RW	U16	1	N/A	N/A		Y	0:Plug and Play 1:Appoint charging 2:PV charge only 3:Check 1 and 2 for default plug-and-charge	0:即插即充 1:预约充电 2:仅PV充电 3:复选1和2 默认即插即充
22	20321	Error Page Set	故障页设置	RW	U16	1	N/A	N/A		N		
23	20322	Log Page Set	日志页设置	RW	U16	1	N/A	N/A		N		
24	20323	Max Charge Current	最大充电电流	RW	U16	1	1	A		Y		
25	20324	Real-Time Clock_Year Month	实时时钟_年月	RW	U16	1	1	N/A		Y	High Byte Year/Low Byte Month:13-99/1-12	高字节年/低字节月:13-99/1-12
26	20325	Real-Time Clock_Day Hour	实时时钟_日时	RW	U16	1	1	N/A		Y	High Byte Day/Low Byte Hour:1-31/0-23	高字节日/低字节时:1-31/0-23
27	20326	Real-Time Clock_Minute Second	实时时钟_分秒	RW	U16	1	1	N/A		Y	High Byte minute/Low Byte Second:0-59/0-59	高字节分，低字节秒:0-59/0-59
33	20332	Off Grid Charge Enable	离网充电使能	RW	U16	1	1	N/A		Y	0: Disabled(default) 1: Enabled	0:失能 1:使能 默认0

	#Address	English Name	Chinese Name	#R/W	#Type	#Size	#SF	#Units	Range	Flash Save	Note(English)	Note(Chinese)
32000 - 32099 (Erro Message)												
1	32000	Utility Fault 1	电网端故障信息1	RO	U16	1	1					
2	32001	Utility Fault 2	电网端故障信息2	RO	U16	1	1				NA	NA
3	32002	System Fault 1	系统故障信息1	RO	U16	1	1				NA	NA
4	32003	System Fault 2	系统故障信息2	RO	U16	1	1				NA	NA
5	32004	Device Fault 1	设备故障信息1	RO	U16	1	1				NA	NA
6	32005	Device Fault 2	设备故障信息2	RO	U16	1	1				NA	NA
7	32006	DC Fault 1	DC侧故障信息	RO	U16	1	1				NA	NA
8	32007	PV Fault 1	PV侧故障信息1	RO	U16	1	1				NA	NA
9	32008	PV Fault 2	PV侧故障信息2	RO	U16	1	1				NA	NA
10	32009	BAT Fault 1	Bat侧故障信息	RO	U16	1	1				NA	NA
11	32010	BAT Fault 2	Bat侧故障信息	RO	U16	1	1				NA	NA
12	32011	BAT Fault 3	Bat侧故障信息	RO	U16	1	1				NA	NA
17	32016	Alarm 1	告警信息1	RO	U16	1	1				NA	NA
1	32026	wSolar Fault Summary	wSolar故障信息汇总	RO	U32	2	1				NA	NA
2	32028	wSolar Alarm Summary	wSolar警告信息汇总	RO	U32	2	1				NA	NA
3	32030	Grid Voltage Protection Subcode	电网电压保护子码	RO	U16	1	1				NA	NA
4	32031	Grid Frequency Protection Subcode	电网频率保护子码	RO	U16	1	1				NA	NA

5	32032	Internal Com Module	内部通讯模块子码	RO	U16	1	1				NA	NA
6	32033	Sensor Abnormal Subcode	传感器异常子码	RO	U16	1	1				NA	NA
7	32034	Relay Abnormal	继电器异常子码	RO	U16	1	1				NA	NA
8	32035	Internal Fun Fault Subcode	内部风扇故障子码	RO	U16	1	1				NA	NA
9	32036	External Fun Fault Subcode	外部风扇故障子码	RO	U16	1	1				NA	NA
10	32037	Temperature Fault Subcode	温度故障子码	RO	U16	1	1				NA	NA
11	32038	PV IGBT Short Circuit Fault Subcode	PV IGBT 短路故障子码	RO	U16	1	1				NA	NA
12	32039	PV IGBT Open Circuit Fault Subcode	PV IGBT开路故障子码	RO	U16	1	1				NA	NA
13	32040	PV HCT Fault Subcode	PV HCT故障子码	RO	U16	1	1				NA	NA
14	32041	PV Over Voltage	PV输入过压子码	RO	U16	1	1				NA	NA
15	32042	PV Continuous Hardware Overcurrent Subcode	PV硬件持续过流子码	RO	U16	1	1				NA	NA
16	32043	PV Continuous Software Overcurrent Subcode	PV软件持续过流子码	RO	U16	1	1				NA	NA

17	32044	FlyCap Software Overvoltage	飞跨电压软件过压子码	RO	U16	1	1				NA	NA
18	32045	FlyCap Hardware Overvoltage Subcode	飞跨电压硬件过压子码	RO	U16	1	1				NA	NA
19	32046	FlyCap Undervoltage Subcode	飞跨电压欠压子码	RO	U16	1	1				NA	NA
20	32047	FlyCap Precharge Abnormal Subcode	飞跨电容预充失败子码	RO	U16	1	1				NA	NA
21	32048	FlyCap Precharge Limit Subcode	飞跨电容无法预充子码	RO	U16	1	1				NA	NA
22	32049	String Overcurrent Fault Subcode Low	组串过流故障子码低位	RO	U16	1	1				NA	NA
23	32050	String Overcurrent Fault Subcode High	组串过流故障子码高位	RO	U16	1	1				NA	NA
24	32051	String Reversed Fault Subcode Low	组串反接故障子码低位	RO	U16	1	1				NA	NA
25	32052	String Reversed Fault Subcode High	组串反接故障子码高位	RO	U16	1	1				NA	NA
26	32053	Fuse Fault Subcode Low	熔丝故障子码低位	RO	U16	1	1				NA	NA

27	32054	Fuse Fault Subcode High	熔丝故障子码高位	RO	U16	1	1				NA	NA
28	32055	PV Hardware Single Overcurrent Subcode	PV硬件单次过流子码	RO	U16	1	1				NA	NA
29	32056	PV Software Single Overcurrent Subcode	PV软件单次过流子码	RO	U16	1	1				NA	NA
30	32057	PV Low Energy Subcode	PV能量低子码	RO	U16	1	1				NA	NA
31	32058	Model Recognition Fault Subcode	机种识别故障子码	RO	U16	1	1				NA	NA
32100 - 32119（Operation Message）												
1	32100	Device Status	设备状态	RO	U16	1	1				NA	NA
2	32101	Running Mark	运行标志1	RO	U16	1	1				NA	NA
3	32102	Running Mark	运行标志2	RO	U16	1	1				NA	NA
4	32103	Running Mark	运行标志3	RO	U16	1	1				NA	NA
5	32104	Running Mark	运行标志4	RO	U16	1	1				NA	NA
6	32105	Running Mark	运行标志5	RO	U16	1	1				NA	NA
7	32106	Running Mark	运行标志6	RO	U16	1	1				NA	NA
8	32107	Running Mark	运行标志7	RO	U16	1	1				NA	NA
9	32108	Running Mark	运行标志8	RO	U16	1	1				NA	NA
10	32109	Switch Status 1	功能开关状态1	RO	U16	1	1				NA	NA
11	32110	Switch Status 2	功能开关状态2	RO	U16	1	1				NA	NA
12	32111	Switch Status 3	功能开关状态3	RO	U16	1	1				NA	NA
13	32112	Switch Status 4	功能开关状态4	RO	U16	1	1				NA	NA
14	32113	Switch Status 5	功能开关状态5	RO	U16	1	1				NA	NA
15	32114	Switch Status 6	功能开关状态6	RO	U16	1	1				NA	NA

32200- 32219(ARM Fault Message)												
1	32200	External Device Protection Fault	外部设备保护故障	RO	U16	1	1				bit0：Arc Fault(Subcode)， bit1：DRED0 bit2：External Shutdown Signal bit3：Meter NG bit4：Meter Abnormal	bit0：拉弧故障（子码），bit1：DRED0 bit2：外部关断指令， bit3：硬防逆流电表NG bit4：异常电表
2	32201	Flash Fault	flash故障	RO	U16	1	1				bit0：Generation data storage failure, Parameter info, BAT info	bit0：发电量参数存储失败,参数信息，电池参数
3	32202	Reserved	预留	RO	U16	1	1					
4	32203	Com Fault 1	通讯故障1	RO	U16	1	1				dsp，box，ev，commodule，ble，meter，	dsp，box，ev，commodule，ble，meter，
5	32204	Com Fault 2	通讯故障2	RO	U16	1	1					
6	32205	Burning Abnormal	烧录异常	RO	U16	1	1				dsp，meter，afci，box，ev	dsp，meter，afci，box，ev
7	32206	Soft Reset	软复位	RO	U16	1	1				Watchdog，can com failure, function safe	看门狗，can通讯失败，功能安全
8	32207	Reserved 1	预留1	RO	U16	1	1					
9	32208	BMS1 Fault 1	BMS1故障1	RO	U16	1	1				Refer to Subcode list	详见子码列表
10	32209	BMS1 Fault 2	BMS1故障2	RO	U16	1	1				Refer to Subcode list	详见子码列表
11	32210	BMS2 Fault 1	BMS2故障1	RO	U16	1	1				Refer to Subcode list	详见子码列表
12	32211	BMS2 Fault 2	BMS2故障2	RO	U16	1	1				Refer to Subcode list	详见子码列表

1	32220	BAT1 Voltage Protection Subcode	电池1电压保护子码	RO	U16	1	1					
2	32221	BAT1 Current Protection Subcode	电池1电流保护子码	RO	U16	1	1					
3	32222	BAT1 Temperature Protection Subcode	电池1温度保护子码	RO	U16	1	1					
4	32223	BAT1 Unbalance Protection	电池1不均衡保护子码	RO	U16	1	1					
5	32224	BAT1 ISO Protection/Collecting Thread Subcode	电池1绝缘电阻保护/采集线子码	RO	U16	1	1					
6	32225	BAT1 Other Protection Subcode	电池1其他保护子码	RO	U16	1	1					
7	32226	AC System Protection Subcode	空调系统保护子码	RO	U16	1	1					
8	32227	BAT2 Voltage Protection Subcode	电池2电压保护子码	RO	U16	1	1					
9	32228	BAT2 Current Protection Subcode	电池2电流保护子码	RO	U16	1	1					
10	32229	BAT2 Temperature Protection Subcode	电池2温度保护子码	RO	U16	1	1					

11	32230	BAT2 Unbalance Protection	电池2不均衡保护子码	RO	U16	1	1					
12	32231	BAT2 ISO Protection/Collecting Thread Subcode	电池2绝缘电阻/采集线保护子码	RO	U16	1	1					
13	32232	BAT2 Other Protection Subcode	电池2其他保护子码	RO	U16	1	1					
14	32233	Reserved	预留	RO	U16	1	1					
15	32234	Arc Fault Subcode	拉弧故障子码	RO	U16	1	1				bit0-bit3 respectively express four	bit0-bit3 分别表示四路故障
16	32235	Function Safety Fault Subcode	功能安全故障子码	RO	U16	1	1					
17	32236	Burning Abnormal Failure	烧录异常失败子码	RO	U16	1	1					
18	32237	DCDC1 Fault Subcode	DCDC1故障子码	RO	U16	1	1					
19	32238	DCDC1 Alarm Subcode	DCDC1告警子码	RO	U16	1	1					
20	32239	DCDC2 Fault Subcode	DCDC2故障子码	RO	U16	1	1					
21	32240	DCDC2 Alarm Subcode	DCDC2告警子码	RO	U16	1	1					

PV Setting												
1	32950	MPPT Number	MPPT 路数	RO	U16	1	1	NA	[0 ,0]		Example：SDT G3 three-phase inverter Model name: DTG DTI DTK 8-15K: 1MPPT1PV 17-27K: 2MPPT3PV 30K: 2MPPT4PV Monitoring platform needs model name and power range to	譬如：SDT G3 三相机 三码: DTG DTI DTK 8-15K: 1MPPT1PV 17-27K: 2MPPT3PV 30K: 2MPPT4PV 监控平台判断路串需要每个机型的三码+功率端 来判断 该机型MPPT总
2	32951	MPPT1 String Number	MPPT1 组串路数	RO	U16	1	1	NA	[0 ,0]		String numbers for this MPPT	该MPPT支持的组串路数
3	32952	MPPT2 String Number	MPPT2 组串路数	RO	U16	1	1	NA	[0 ,0]		String numbers for this MPPT	该MPPT支持的组串路数
4	32953	MPPT3 String Number	MPPT3 组串路数	RO	U16	1	1	NA	[0 ,0]		String numbers for this MPPT	该MPPT支持的组串路数
5	32954	MPPT4 String Number	MPPT4 组串路数	RO	U16	1	1	NA	[0 ,0]		String numbers for this MPPT	该MPPT支持的组串路数
6	32955	MPPT5 String Number	MPPT5 组串路数	RO	U16	1	1	NA	[0 ,0]		String numbers for this MPPT	该MPPT支持的组串路数

7	32956	MPPT6 String Number	MPPT6 组串路数	RO	U16	1	1	NA	[0 ,0]		String numbers for this MPPT	该MPPT支持的组串路数
8	32957	MPPT7 String Number	MPPT7 组串路数	RO	U16	1	1	NA	[0 ,0]		String numbers for this MPPT	该MPPT支持的组串路数
9	32958	MPPT8 String Number	MPPT8 组串路数	RO	U16	1	1	NA	[0 ,0]		String numbers for this MPPT	该MPPT支持的组串路数
10	32959	MPPT9 String Number	MPPT9 组串路数	RO	U16	1	1	NA	[0 ,0]		String numbers for this MPPT	该MPPT支持的组串路数
11	32960	MPPT10 String Number	MPPT10 组串路数	RO	U16	1	1	NA	[0 ,0]		String numbers for this MPPT	该MPPT支持的组串路数
12	32961	MPPT11 String Number	MPPT11 组串路数	RO	U16	1	1	NA	[0 ,0]		String numbers for this MPPT	该MPPT支持的组串路数
13	32962	MPPT12 String Number	MPPT12 组串路数	RO	U16	1	1	NA	[0 ,0]		String numbers for this MPPT	该MPPT支持的组串路数
14	32963	MPPT13 String Number	MPPT13 组串路数	RO	U16	1	1	NA	[0 ,0]		String numbers for this MPPT	该MPPT支持的组串路数
15	32964	MPPT14 String Number	MPPT14 组串路数	RO	U16	1	1	NA	[0 ,0]		String numbers for this MPPT	该MPPT支持的组串路数
16	32965	MPPT15 String Number	MPPT15 组串路数	RO	U16	1	1	NA	[0 ,0]		String numbers for this MPPT	该MPPT支持的组串路数

	#Address	English Name	Chinese Name	#R/W	#Type	#Size	#SF	#Units	Range	Flash Save	Note(English)	Note(Chinese)
ETC/BTC Message												
1	33200	Firmware Version_DSP_DCDC1	DCDC1_DSP固件版本	RO	U16	1	N/A	N/A				
2	33201	Beta Version_DCDC1	DCDC1测试版	RO	U16	1	N/A	N/A				
3	33202	Firmware Version_DSP_MPPT1	MPPT1_DSP固件版本	RO	U16	1	N/A	N/A				
4	33203	Beta Version_MPPT1	MPPT1测试版	RO	U16	1	N/A	N/A				
5	33204	Firmware Version_DSP_ST	STS_DSP固件版本	RO	U16	1	N/A	N/A				
6	33205	Beta	STS测试版	RO	U16	1	N/A	N/A				
7	33206	Firmware Version_DSP2_Master	主控DSP2固件版本	RO	U16	1	N/A	N/A				
8	33207	Firmware Version_DSP2_Slave	从属DSP2固件版本	RO	U16	1	N/A	N/A				
9	33208	Beta Version_DSP2	DSP2测试版	RO	U16	1	N/A	N/A				
10	33209	Firmware Version_DSP_DCDC2	DCDC2_DSP固件版本	RO	U16	1	N/A	N/A				
11	33210	Beta Version_DCDC2	DCDC2测试版	RO	U16	1	N/A	N/A				
12	33211	Firmware Version_DSP_MPPT2	MPPT2_DSP固件版本	RO	U16	1	N/A	N/A				

13	33212	Beta Version_MPPT2	MPPT2测试版	RO	U16	1	N/A	N/A				
BTC/ETC Module Status												
1	33300	Module Online Status	模块上网状态	RO	U32	2	N/A	N/A				
2	33302	DCAC Fault Code	DCDC故障代码	RO	U32	2	N/A	N/A				
3	33304	DCAC Warning Code	DCAC警告代码	RO	U32	2	N/A	N/A				
4	33306	AC Check Ready State	AC检测准备状态	RO	U16	1	N/A	N/A				
5	33307	AC Check Result	AC检测结果	RO	U16	1	N/A	N/A				
6	33308	AC Fault State Clear	AC故障状态清除	RO	U16	1	N/A	N/A				
7	33309	AC Warning State Clear	AC警告状态清除	RO	U16	1	N/A	N/A				
8	33310	AC Grid State	AC电网状态	RO	U16	1	N/A	N/A				
9	33311	AC Synchronous IO State	AC同步IO口状态	RO	U16	1	N/A	N/A				
10	33312	AC Check Count State	AC检测计数状态	RO	U16	1	N/A	N/A				
11	33313	DCAC2 Fault	DCAC2故障代码	RO	U32	2	N/A	N/A				
12	33315	DCAC2 Warning Code	DCAC2警告代码	RO	U32	2	N/A	N/A				
13	33317	AC2 Check Ready State	AC2检测准备状态	RO	U16	1	N/A	N/A				
14	33318	AC2 Check	AC2检测结果	RO	U16	1	N/A	N/A				
15	33319	AC2 Fault State Clear	AC2故障状态清除	RO	U16	1	N/A	N/A				

16	33320	AC2 Warning State Clear	AC2警告状态清除	RO	U16	1	N/A	N/A				
17	33321	AC2 Grid State	AC2电网状态	RO	U16	1	N/A	N/A				
18	33322	AC2 Synchronous IO State	AC2同步IO状态	RO	U16	1	N/A	N/A				
19	33323	AC2 Check Count State	AC2检测计数状态	RO	U16	1	N/A	N/A				
20	33324	AC1 Input State	AC1输入状态	RO	U16	1	N/A	N/A				
21	33325	AC2 Input State	AC2输入状态	RO	U16	1	N/A	N/A				
22	33326	Reserved	预留	RO	U32	2	N/A	N/A				
23	33328	Reserved	预留	RO	U16	1	N/A	N/A				
24	33329	Reserved	预留	RO	U16	1	N/A	N/A				
25	33330	Reserved	预留	RO	U16	1	N/A	N/A				
26	33331	Reserved	预留	RO	U16	1	N/A	N/A				
27	33332	Reserved	预留	RO	U16	1	N/A	N/A				
28	33333	Reserved	预留	RO	U16	1	N/A	N/A				
29	33334	Reserved	预留	RO	U16	1	N/A	N/A				
30	33335	DCDC Fault Code	DCDC故障代码	RO	U32	2	N/A	N/A				
31	33337	DCDC Warning Code	DCDC警告代码	RO	U32	2	N/A	N/A				
32	33339	DC Check Ready State	DC检测准备状态	RO	U16	1	N/A	N/A				
33	33340	DC Check Result	DC检测结果	RO	U16	1	N/A	N/A				
34	33341	DC Fault State Clear	DC故障状态清除	RO	U16	1	N/A	N/A				
35	33342	DC Warning State Clear	DC警告状态清除	RO	U16	1	N/A	N/A				
36	33343	DC Input State	DC输入状态	RO	U16	1	N/A	N/A				
37	33344	DC Bus State	DC总线状态	RO	U16	1	N/A	N/A				
38	33345	DCDC2 Fault	DCDC2故障代码	RO	U32	2	N/A	N/A				

39	33347	DCDC2 Warning Code	DCDC2检测准备状态	RO	U32	2	N/A	N/A				
40	33349	DC2 Check Ready State	DC2检测准备状态	RO	U16	1	N/A	N/A				
41	33350	DC2 Check	DC2检测结果	RO	U16	1	N/A	N/A				
42	33351	DC2 Fault State Clear	DC2故障状态清除	RO	U16	1	N/A	N/A				
43	33352	DC2 Warning State Clear	DC2警告状态清除	RO	U16	1	N/A	N/A				
44	33353	DC2 Input State	DC2输入状态	RO	U16	1	N/A	N/A				
45	33354	DC2 Bus State	DC2总线状态	RO	U16	1	N/A	N/A				
46	33355	Reserved	预留	RO	U32	2	N/A	N/A				
47	33357	Reserved	预留	RO	U32	2	N/A	N/A				
48	33359	Reserved	预留	RO	U16	1	N/A	N/A				
49	33360	Reserved	预留	RO	U16	1	N/A	N/A				
50	33361	Reserved	预留	RO	U16	1	N/A	N/A				
51	33362	Reserved	预留	RO	U16	1	N/A	N/A				
52	33363	Reserved	预留	RO	U16	1	N/A	N/A				
53	33364	Reserved	预留	RO	U16	1	N/A	N/A				
54	33365	MPPT Fault Code	MPPT故障代码	RO	U32	2	N/A	N/A				
55	33367	MPPT Warning Code	MPPT警告代码	RO	U32	2	N/A	N/A				
56	33369	MPPT Check Ready State	MPPT检测准备状态	RO	U16	1	N/A	N/A				
57	33370	MPPT Check Result	MPPT检测结果	RO	U16	1	N/A	N/A				
58	33371	MPPT Fault State Clear	MPPT故障状态清除	RO	U16	1	N/A	N/A				
59	33372	MPPT Warning State Clear	MPPT警告状态清楚	RO	U16	1	N/A	N/A				
60	33373	MPPT Input State	MPPT输入状态	RO	U16	1	N/A	N/A				

61	33374	MPPT2 Fault	MPPT2故障代码	RO	U32	2	N/A	N/A				
62	33376	MPPT2 Warning Code	MPPT2警告代码	RO	U32	2	N/A	N/A				
63	33378	MPPT2 Check Ready State	MPPT2检测准备状态	RO	U16	1	N/A	N/A				
64	33379	MPPT2 Check Result	MPPT2检测结果	RO	U16	1	N/A	N/A				
65	33380	MPPT2 Fault State Clear	MPPT2故障状态清除	RO	U16	1	N/A	N/A				
66	33381	MPPT2 Warning State Clear	MPPT2警告状态清除	RO	U16	1	N/A	N/A				
67	33382	MPPT2 Input	MPPT2输入状态	RO	U16	1	N/A	N/A				
68	33383	Reserved	预留	RO	U32	2	N/A	N/A				
69	33385	Reserved	预留	RO	U32	2	N/A	N/A				
70	33387	Reserved	预留	RO	U16	1	N/A	N/A				
71	33388	Reserved	预留	RO	U16	1	N/A	N/A				
72	33389	Reserved	预留	RO	U16	1	N/A	N/A				
73	33390	Reserved	预留	RO	U16	1	N/A	N/A				
74	33391	Reserved	预留	RO	U16	1	N/A	N/A				
75	33392	STS Fault Code	STS故障代码	RO	U32	2	N/A	N/A				
76	33394	STS Warning	STS警告代码	RO	U32	2	N/A	N/A				
77	33396	Reserved	预留	RO	U32	2	N/A	N/A				
78	33398	Reserved	预留	RO	U32	2	N/A	N/A				
79	33400	EMS Check Ready State	EMS检测准备状态	RO	U16	1	N/A	N/A				
80	33401	EMS Fault State Clear	EMS故障状态清除	RO	U16	1	N/A	N/A				
81	33402	EMS Warning Message	EMS警告信息	RO	U16	2	N/A	N/A				
82	33404	uw Test1	uw测试1	RO	U16	1	N/A	N/A				
83	33405	uw Test2	uw测试2	RO	U16	1	N/A	N/A				

New registers for BTC/ETC												
1	33500	Hitsink Temperature-DCDC	DCDC散热器温度	RO	S16	1	10	℃			For BTC/ETC	BTC/ETC专用
2	33501	Hitsink Temperature-MPPT	MPPT散热器温度	RO	S16	1	10	℃				
3	33502	Hitsink Temperature-STS	STS散热器温度	RO	S16	1	10	℃				
4	33503	Hitsink Temperature-DCDC2	DCDC2散热器温度	RO	S16	1	10	℃				
5	33504	Hitsink Temperature-MPPT2	MPPT2散热器温度	RO	S16	1	10	℃				

D	#Address	English Name	Chinese Name	#R/W	#Type	#Size	#SF	#Units	Range	lash Sav	Note(English)	Note(Chinese)
Device Info												
2	35001	Rate Power	额定功率	RO	U16	1	1	N/A			Inverter rated power	逆变器额定功率
4	35003	Inverter SN	逆变器序列号	RO	STR	8	1	N/A			ASCII code,16 bytes.Read together, include OEM products.	ASCII码，16个字节。一起读，包括OEM产品。
5	35011	Model Name	模型名称	RO	STR	5	1	N/A			ASCII code, 10 bytes	ASCII码，10个字节
6	35016	Firmware Version_DSP_Master	主控DSP固件版本	RO	U16	1	N/A	N/A				
7	35017	Firmware Version_DSP_Slave	从属DSP固件版本	RO	U16	1	N/A	N/A				
8	35018	Beta Version_DSP_Master	主控DSP的SVN版本号	RO	U16	1	N/A	N/A				
9	35019	Firmware Version_ARM	ARM固件版本	RO	U16	1	N/A	N/A				
10	35020	Beta Version_ARM	ARM测试版(小版本号)	RO	U16	1	N/A	N/A				
15	35035	Firmware Version_DSP_DCDC	DCDC_DSP固件版本	RO	U16	1	N/A	N/A			Only For BTC.DCDC module firmware version	仅适用于BTC.DCDC模块固件版本
16	35036	Beta Version_DCDC	DCDC测试版	RO	U16	1	N/A	N/A			Only For BTC.DCDC module beta version	仅适用于BTC.DCDC模块测试版

17	35037	Firmware Version_DSP_MPPT	MPPT_DSP固件版本	RO	U16	1	N/A	N/A			Only For BTC.MPPT module firmware version	仅适用于BTC.MPPT模块固件版本
18	35038	Beta Version_MPPT	MPPT测试版	RO	U16	1	N/A	N/A			Only For BTC.MPPT module beta version	仅适用于BTC.MPPT模块测试版
19	35039	Firmware Version_DSP_STS	STS_DSP固件版本	RO	U16	1	N/A	N/A			Only For BTC.STS module firmware version	仅适用于BTC.STS模块固件版本
20	35040	Beta Version_STS	STS测试版	RO	U16	1	N/A	N/A			Only For BTC.STS module beta version	仅适用于BTC.STS模块测试版
23	35043	System control mode	系统控制模式	RO	U16	1	1	N/A			0: Deault 1:Power fast set, without step size adjustment	0：默认 1：功率快速给定，无步长调节
24	35044	Beta Version_DSP_Slave	从属DSP的	RO	U16	1	N/A	N/A				因为安规固定版本号导
1	35050	SIMCCID	SIMCCID	RO	STR	10	N/A	N/A			ID of GPRS/4G module	GPRS/4G模块的ID

Inverter Operation Data												
1	35100	Real-Time Clock_Year Month	实时时钟_年月	RO	U16	1	1	N/A			High Byte Year/Low Byte Month:13-99/1-12	高字节年/低字节月:13-99/1-12
2	35101	Real-Time Clock_Day Hour	实时时钟_日时	RO	U16	1	1	N/A			High Byte Day/Low Byte Hour:1-31/0-23	高字节日/低字节时:1-31/0-23
3	35102	Real-Time Clock_Minute Second	实时时钟_分秒	RO	U16	1	1	N/A			High Byte minute/Low Byte Second:0-59/0-59	高字节分，低字节秒:0-59/0-59
4	35103	PV1 Voltage	PV电压1	RO	U16	1	10	V				
5	35104	PV1 Current	PV电流1	RO	U16	1	10	A				
6	35105	PV1 Power	PV功率1	RO	U32	2	1	W			200ms Average	200ms平均值
7	35107	PV2 Voltage	PV电压2	RO	U16	1	10	V				
8	35108	PV2 Current	PV电流2	RO	U16	1	10	A				
9	35109	PV2 Power	PV功率2	RO	U32	2	1	W			200ms Average	200ms平均值
10	35111	PV3 Voltage	PV电压3	RO	U16	1	10	V				
11	35112	PV3 Current	PV电流3	RO	U16	1	10	A				
12	35113	PV3 Power	PV功率3	RO	U32	2	1	W			200ms Average	200ms平均值
13	35115	PV4 Voltage	PV电压4	RO	U16	1	10	V				
14	35116	PV4 Current	PV电流4	RO	U16	1	10	A				
15	35117	PV4 Power	PV功率4	RO	U32	2	1	W			200ms Average	200ms平均值
16	35119	PV Mode	PV模式	RO	U32	2	N/A	N/A			To check each MPPT mode,Table 8-3 & 8-4	检测每一个MPPT的模式，见表8-3&8-4

17	35121	R Phase Inverter Voltage	R相逆变电压	RO	U16	1	10	V				
18	35122	R Phase Inverter Current	R相逆变电流	RO	U16	1	10	A				
19	35123	R Phase Inverter Frequency	R相逆变频率	RO	U16	1	100	Hz				
20	35124	R Phase Inverter Power	R相逆变功率	RO	S32	2	1	W			Inverter Power 200ms Average	逆变功率200ms平均值
21	35126	S Phase Inverter Voltage	S相逆变电压	RO	U16	1	10	V				
22	35127	S Phase Inverter Current	S相逆变电流	RO	U16	1	10	A				
23	35128	S Phase Inverter Frequency	S相逆变频率	RO	U16	1	100	Hz				
24	35129	S Phase Inverter Power	S相逆变功率	RO	S32	2	1	W			Inverter Power 200ms Average	逆变功率200ms平均值
25	35131	T Phase Inverter Voltage	T相逆变电压	RO	U16	1	10	V				
26	35132	T Phase Inverter Current	T相逆变电流	RO	U16	1	10	A				
27	35133	T Phase Inverter Frequency	T相逆变频率	RO	U16	1	100	Hz				
28	35134	T Phase Inverter Power	T相逆变功率	RO	S32	2	1	W			Inverter Power 200ms Average	逆变功率200ms平均值
29	35136	Grid Mode	电网模式	RO	U16	1		N/A			Grid connection status,Refer to Table 8-10	电网连接状态，见表8-10

30	35137	Total Inverter Power	逆变器总功率	RO	S32	2	1	W			200ms Average	200ms平均值
31	35139	AC Active Power	AC有功功率	RO	S32	2	1	W			Total Active on Grid Power Of Inverter. (If meter connection ok, it is meter power.If meter connection fail, it is inverter on-grid port power)	逆变器并网端口的总有功功率。(如果电表连接正常，则为电表功率。如果电表连接失败，则为逆变器并网端口功率。)200ms平均值
32	35141	AC Reactive Power	AC无功功率	RO	S32	2	1	Var			Total Reactive Power Of Inverter	逆变器的总无功功率
33	35143	AC Apparent Power	AC视在功率	RO	S32	2	1	VA			Total Apparent Power Of Inverter	逆变器的总视在功率
34	35145	R Phase Load Voltage on Back-Up	Back-Up负载端R相电压	RO	U16	1	10	V			Use R phase data for 1-phase inverter	使用R相数据的单相逆变器
35	35146	R Phase Load Current of Back-Up	Back-Up负载端R相电流	RO	U16	1	10	A				
36	35147	R phase Load Frequency of Back-Up	Back-Up负载端R相频率	RO	U16	1	100	Hz				
37	35148	Load Mode_R	R相负载模式	RO	U16	1	N/A	N/A			Off means there is No voltage of Backup port. Also used for 1-p inverter.refer to Table 8-11	关闭则Back-up端口没有电压。且用于单相逆变器。见表8-11

38	35149	R Phase Load Power of Back-Up	Back-Up负载端R相功率	RO	S32	2	1	W			200ms Average	200ms平均值
39	35151	S Phase Load Voltage of Back-Up	Back-Up负载端S相电压	RO	U16	1	10	V				
40	35152	S Phase Load Current of Back-Up	Back-Up负载端S相电流	RO	U16	1	10	A				
41	35153	S Phase Load Frequency of Back-Up	Back-Up负载端S相频率	RO	U16	1	100	Hz				
42	35154	Load Mode_S	S相负载模式	RO	U16	1	N/A	N/A			not for 1-phase inverter,refer to Table 8-11	不用于单相逆变器，见表8-11
43	35155	S Phase Load Power of Back-Up	Back-Up负载端S相功率	RO	S32	2	1	W			200ms Average	200ms平均值
44	35157	T Phase Load Voltage of Back-Up	Back-Up负载端T相电压	RO	U16	1	10	V				
45	35158	T Phase Load Current of Back-Up	Back-Up负载端T相电流	RO	U16	1	10	A				
46	35159	T Phase Load Frequency of Back-Up	Back-Up负载端T相频率	RO	U16	1	100	Hz				

47	35160	Load Mode_T	T相负载模式	RO	U16	1	N/A	N/A			not for 1-phase inverter,refer to Table 8-11	不用于单相逆变器，见表8-11
48	35161	T Phase Load Power of Back-Up	Back-Up负载端T相功率	RO	S32	2	1	W			200ms Average	200ms平均值
49	35163	R Phase On-Grid Load Power	负载端R相功率	RO	S32	2	1	W			backup not included	不包括Back-up负载，200ms平均值
50	35165	S Phase On-Grid Load Power	负载端S相功率	RO	S32	2	1	W				
51	35167	T Phase On-Grid Load Power	负载端T相功率	RO	S32	2	1	W				
52	35169	Total Back-Up Load Power	Back-up端负载总功率	RO	S32	2	1	W				
53	35171	Total Load Power	负载总功率	RO	S32	2	1	W			Total Power of on-grid load(backup not included)	并网负载的总功率(不包括Back-up负载)
54	35173	Ups Load Percent	Ups负载百分比	RO	U16	1	100	%			BackupLoad Power/Rated power	Backup负载功率/额定功率
55	35174	Air Temperature	空气温度	RO	S16	1	10	℃			Inverter Internal Temperature	逆变器内部温度
56	35175	Model Temperature	模块温度	RO	S16	1	10	℃			Inverter Unit Temperature	逆变器单元温度
57	35176	Hitsink Temperature	散热器温度	RO	S16	1	10	℃			Inverter Heat Sink Temperature	逆变器散热器温度

58	35177	Function Bit Value	比特值函数	RO	U16	1	N/A	N/A				
59	35178	BUS Voltage	总线电压	RO	U16	1	10	V				
60	35179	NBUS Voltage	NBUS总线电压	RO	U16	1	10	V				
61	35180	Battery1 Voltage	电池组1电压	RO	U16	1	10	V			If BMS communication successfully, it is the voltage BMS send to inverter	如果BMS通信成功，则电压由BMS发送给逆变器。
62	35181	Battery1 Current	电池组1电流	RO	S16	1	10	A				
63	35182	Battery1 Power	电池组1功率	RO	S32	2	1	W			200ms Average	200ms平均值
64	35184	Battery1 Mode	电池组1模式	RO	U16	1	N/A	N/A			The charging and discharging status of the battery,Refer toTable 8-9	电池的充放电状态，见表8-9
65	35185	Warning Code	警告代码	RO	U16	1	N/A	N/A				
66	35186	Safety Country	安规国家	RO	U16	1	N/A	N/A			Refer to Table 8-21	见表8-21
67	35187	Work Mode	工作模式	RO	U16	1	N/A	N/A			Refer to Table 8-1	见表8-1
69	35189	Error Message	故障信息	RO	U32	2	N/A	N/A			Refer to Table 8-12	见表8-12
70	35191	PV Energy-Total	光伏发电总量	RO	U32	2	10	1KW.Hr			The total PV production energy from installation date	自安装之日起光伏发电总量
71	35193	PV Energy-Day	当日光伏发电量	RO	U32	2	10	1KW.Hr			Total PV production energy of the day	当日光伏发电量

73	35197	Hour-Total	总时长	RO	U32	2	1	H			Accumulated operation hours from installation date	自安装之日起累积的工作时数
74	35199	Energy-Day-Sell	当日卖电量	RO	U16	1	10	1KW.Hr			The accumulated exporting energy to grid of the day	当天逆变的输出电量
76	35202	Energy-Day-Buy	当日买电量	RO	U16	1	10	1KW.Hr			The accumulated energy imported from grid of the day	当天逆变的输入电量
77	35203	Energy-Total-Load	负载消耗总电量	RO	U32	2	10	1KW.Hr			From the installation date, not include backup load	自安装之日起，不包括backup负载
78	35205	Energy-Load-Day	当日负载消耗电量	RO	U16	1	10	1KW.Hr			Accumulated load consumption energy of the day, not include backup load	每天负载消耗的电量，不包括backup负载
79	35206	Energy-Battery Charge	电池充电总量	RO	U32	2	10	1KW.Hr			From the installation date, not include backup load	自安装之日起，不包括backup负载
80	35208	Energy-Charge-Day	当日电池充电量	RO	U16	1	10	1KW.Hr			Not from BMS	不来自BMS

81	35209	Energy-Battery Discharg	电池放电总量	RO	U32	2	10	1KW.Hr			From the installation date Not from BMS	自安装之日起，不来自BMS
82	35211	Energy-Discharg-Day	当日电池放电量	RO	U16	1	10	1KW.Hr			Not from BMS	不来自BMS
83	35212	Battery Strings	电池节数	RO	U16	1	N/A	N/A			number of battery modules	电池模块的数量
84	35213	CPLD Warning Code	CPLD警告代码	RO	U16	1	N/A	N/A			only for after-sales,Refer to Table 8-17	仅用于售后，见表8-17
88	35218	Diagnosis Status High	高位诊断状态	RO	U32	2	N/A	N/A			Refer to Table 8-13	见表8-13
89	35220	Diagnosis Status Low	低位诊断状态	RO	U32	2	N/A	N/A			Refer to Table 8-14	见表8-14
93	35225	EH Battery Function Active	EH电池功能激活	RO	U16	1	N/A	N/A			0: failure 1: Activated 2: Deactivated 3: Locked only for HER	0:失效 1:已激活 2:未激活 3:锁止 仅用于HER
94	35226	ARC Self Check Status	拉弧自检测状态	RO	U16	1	N/A	N/A			0: failure 1: Activated 2: Deactivated 3: Locked only for inverters with AFCI protection	0:未检测 1:正常 2:检测中 3:失败 仅用于带AFCI保护的逆变器
95	35227	Hitsink Temperature2	散热器温度2	RO	S16	1	10	℃			Inverter Heat Sink Temperature	逆变器散热器温度2

Inverter Operation Data												
1	35250	Safety Detailed Error Messag	安全详细故障信息	RO	U64	4	1	N/A			Detail information of grid failure,Refer to Table 8-30	电网相关详细故障告警，见表8-30
2	35254	nverter Detailed Error Messag	逆变器详细故障信息	RO	U64	4	1	N/A			Detail information of inverter failure,Refer to Table 8-31	逆变器保护相关详细故障报警，见表8-31
3	35258	verter Detailed Status Messa	逆变器详细状态信息	RO	U64	4	1	N/A			Refer to Table 8-32	见表8-32
9	35268	x Grid Frequency within 1min	每分钟最大电网频率	RO	U16	1	100	Hz				
10	35269	n Grid Frequency within 1min	每分钟最小电网频率	RO	U16	1	100	Hz				
11	35270	ax Grid Voltage within 1minute	每分钟R相电网最大电压	RO	U16	1	10	V				
12	35271	n Grid Voltage within 1minute	每分钟R相电网最小电压	RO	U16	1	10	V				
13	35272	ax Grid Voltage within 1minute	每分钟S相电网最大电压	RO	U16	1	10	V				
14	35273	n Grid Voltage within 1minute	每分钟S相电网最小电压	RO	U16	1	10	V				
15	35274	ax Grid Voltage within 1minute	每分钟T相电网最大电压	RO	U16	1	10	V				

16	35275	n Grid Voltage within 1minute	每分钟T相电网最小电压	RO	U16	1	10	V				
17	35276	k Backup Power within 1minu	每分钟R相Backup负载端最大频率	RO	U32	2	1	W				
18	35278	k Backup Power within 1minu	每分钟S相Backup负载端最大频率	RO	U32	2	1	W				
19	35280	k Backup Power within 1minu	每分钟T相Backup负载端最大频率	RO	U32	2	1	W				
20	35282	Backup Power within 1minute	每分钟Backup负载端最大功率	RO	U32	2	1	W				
21	35284	Grid Hvrt Event Times	电网高压穿越次数	RO	U16	1	1	N/A			clear after restart	重启后清零
22	35285	Grid Lvrt Event Times	电网低压穿越次数	RO	U16	1	1	N/A				
26	35292	Offline To Online Delay Secon	离网转并网等待时间	RO	U16	1	1	N/A				
27	35293	Grid Hvrt Status	电网高压穿越状态	RO	U16	1	1	N/A				
28	35294	Grid Lvrt Status	电网低压穿越状态	RO	U16	1	1	N/A				
29	35295	Safety National Category Flag	安规国家分类标志	RO	U16	1	1	N/A			1:Australian 2:North American	1:澳洲类 2:北美类
32	35298	Battery1 Sample Voltage	电池组1采样电压	RO	U16	1	10	V				

33	35299	Battery2 Sample Voltage	电池组2采样电压	RO	U16	1	10	V				
35	35301	PV Total Power	总PV功率	RO	U32	2	1	W				
36	35303	PV channel	PV路数	RO	U16	1	1	N/A				
37	35304	PV5 Voltage	PV电压5	RO	U16	1	10	V			String Voltage	和并网保持一致，代表组串电压
38	35305	PV5 Current	PV电流5	RO	U16	1	10	A			String Current	和并网保持一致，代表组串电流
39	35306	PV6 Voltage	PV电压6	RO	U16	1	10	V				
40	35307	PV6 Current	PV电流6	RO	U16	1	10	A				
41	35308	PV7 Voltage	PV电压7	RO	U16	1	10	V				
42	35309	PV7 Current	PV电流7	RO	U16	1	10	A				
43	35310	PV8 Voltage	PV电压8	RO	U16	1	10	V				
44	35311	PV8 Current	PV电流8	RO	U16	1	10	A				
45	35312	PV9 Voltage	PV电压9	RO	U16	1	10	V				
46	35313	PV9 Current	PV电流9	RO	U16	1	10	A				
47	35314	PV10 Voltage	PV电压10	RO	U16	1	10	V				
48	35315	PV10 Current	PV电流10	RO	U16	1	10	A				
49	35316	PV11 Voltage	PV电压11	RO	U16	1	10	V				
50	35317	PV11 Current	PV电流11	RO	U16	1	10	A				
51	35318	PV12 Voltage	PV电压12	RO	U16	1	10	V				
52	35319	PV12 Current	PV电流12	RO	U16	1	10	A				
43	35320	PV13 Voltage	PV电压13	RO	U16	1	10	V				
44	35321	PV13 Current	PV电流13	RO	U16	1	10	A				
45	35322	PV14 Voltage	PV电压14	RO	U16	1	10	V				
46	35323	PV14 Current	PV电流14	RO	U16	1	10	A				
47	35324	PV15 Voltage	PV电压15	RO	U16	1	10	V				
48	35325	PV15 Current	PV电流15	RO	U16	1	10	A				
49	35326	PV16 Voltage	PV电压16	RO	U16	1	10	V				
50	35327	PV16 Current	PV电流16	RO	U16	1	10	A				

51	35328	Warning Message	32bit警告信息	RO	U32	2	N/A	N/A			Warning information, bit mode, different from 35185. See the fault table for specific faults	警告信息，位模式，区别于35185，具体故障详见不同机型的故障表
52	35330	Grid10minAvgVoltR	电网R相10min平均电压	RO	U16	1	10	V				
53	35331	Grid10minAvgVoltS	电网S相10min平均电压	RO	U16	1	10	V				
54	35332	Grid10minAvgVoltT	电网T相10min平均电压	RO	U16	1	10	V				
55	35333	Error Message Extend	32bit故障信息扩展	RO	U32	2	N/A	N/A			Error information, bit mode, extend from 35189. See the fault table for specific faults	故障信息，位模式，扩展于35189，具体故障详见不同机型的故障表
57	35335	Warning Message Extend	32bit警告信息扩展	RO	U32	2	N/A	N/A			Warningr information, bit mode, extend from 35328. See the fault table for specific faults	警告信息，位模式，扩展于35328，具体故障详见不同机型的故障表
59	35337	MPPT Power 1	MPPT1功率	RO	U16	1	1	W			Pv_boost1 total power, not string power	为Pv_boost1路总功率，而非组串功率
60	35338	MPPT Power 2	MPPT2功率	RO	U16	1	1	W			Pv_boost2 total power, not string power	为Pv_boost2路总功率，而非组串功率

61	35339	MPPT Power 3	MPPT3功率	RO	U16	1	1	W			Pv_boost3 total power, not string power	为Pv_boost3路总功率，而非组串功率
62	35340	MPPT Power 4	MPPT4功率	RO	U16	1	1	W			Pv_boost4 total power, not string power	为Pv_boost4路总功率，而非组串功率
63	35341	MPPT Power 5	MPPT5功率	RO	U16	1	1	W			Pv_boost5 total power, not string power	为Pv_boost5路总功率，而非组串功率
64	35342	MPPT Power 6	MPPT6功率	RO	U16	1	1	W			Pv_boost6 total power, not string power	为Pv_boost6路总功率，而非组串功率
65	35343	MPPT Power 7	MPPT7功率	RO	U16	1	1	W			Pv_boost7 total power, not string power	为Pv_boost7路总功率，而非组串功率
66	35344	MPPT Power 8	MPPT8功率	RO	U16	1	1	W			Pv_boost8 total power, not string power	为Pv_boost8路总功率，而非组串功率
67	35345	MPPT Current 1	MPPT1电流	RO	U16	1	10	A				
68	35346	MPPT Current 2	MPPT2电流	RO	U16	1	10	A				
69	35347	MPPT Current 3	MPPT3电流	RO	U16	1	10	A				
70	35348	MPPT Current 4	MPPT4电流	RO	U16	1	10	A				
71	35349	MPPT Current 5	MPPT5电流	RO	U16	1	10	A				
72	35350	MPPT Current 6	MPPT6电流	RO	U16	1	10	A				
73	35351	MPPT Current 7	MPPT7电流	RO	U16	1	10	A				

74	35352	MPPT Current 8	MPPT8电流	RO	U16	1	10	A				
75	35353	Inventer Reactive Power R	逆变R相无功功率	RO	S32	2	1	VAR				
77	35355	Inventer Reactive Power S	逆变S相无功功率	RO	S32	2	1	VAR				
79	35357	Inventer Reactive Power T	逆变T相无功功率	RO	S32	2	1	VAR				
81	35359	Inventer Apparent Power R	逆变R相视在功率	RO	S32	2	1	VA				
83	35361	Inventer Apparent Power S	逆变S相视在功率	RO	S32	2	1	VA				
85	35363	Inventer Apparent Power T	逆变T相视在功率	RO	S32	2	1	VA				
87	35365	ISO Value	ISO检测值	RO	U16	1	10	KΩ				
88	35366	generator cumulative energy	发电机累计电能	RO	U32	2	10	1kw.h				
88	35368	BMS_Temperature	电池温度采集值	RO	S16	1	10	℃			DSP Reads BAT Temperature	DSP读取电池温度
106	35369	Generator operating mode	发电机工作模式	RO	U16	1	1	N/A			0:Grid mode 1:Generator mode	0：市电模式；1：发电机模式

New Registers for BTC												
1	35600	Hitsink Temperarure-DCDC	CDC散热器温度	RO	S16	1	10	℃			Only For BTC	仅用于BTC系列
2	35601	Hitsink Temperarure-MPPT	MPPT散热器温度	RO	S16	1	10	℃				
3	35602	Hitsink Temperarure-STS	STS散热器温度	RO	S16	1	10	℃				
External Data Collection												
1	36000	Communication Mode	通信代码	RO	U16	1	N/A	N/A			01:WIFI 02:GPRS 03:LAN e20 04:a21 WIFI mode of WIFIi+LAN 05:a21 LAN mode of WIFI+LAN module	01:WIFI 02:GPRS 03:LAN e20 04:a21 WIFI mode of WIFIi+LAN 05:a21 LAN mode of WIFI+LAN module
2	36001	RSSI	接收的信号强度指示	RO	U16	1	N/A	N/A			RSSI of wifi module	RSSI的WIFI模块
4	36003	Meter Connect Status	电表连接状态	RO	U16	1	N/A	N/A			1:connect correctly 2:connect reverse(CT) 4:connect incorrectly 0:not checked For example: 0X0124 means Phase connect incorrectly，Phase T connect reverse, Phase S connect correctly	1:连接正确 2:连接保留(CT) 4:连接不正确 8：CT和电压采样同时错相 0:未检测 例如：0X0124就是R相连接不正确，T相连接保留，S相连接正确

5	36004	Meter Communication Status	电表通讯状态	RO	U16	1	N/A	N/A			1:OK 0:NG	1:成功 0:失败
6	36005	Meter Active Power R	电表R相有功功率	RO	S16	1	1	W			If ARM Version>9,please refer to 36019~36041,which can be identified by the server	ARM09版后由36019~36041新地址替换，服务器端识别处理
7	36006	Meter Active Power S	电表S相有功功率	RO	S16	1	1	W				
8	36007	Meter Active Power T	电表T相有功功率	RO	S16	1	1	W				
9	36008	Meter Total Active Power	电表总有功功率	RO	S16	1	1	W				
10	36009	Meter Total Reactive Power	电表总无功功率	RO	S16	1	1	W				
11	36010	Meter Power Factor_R	电表R相功率因数	RO	S16	1	1000	N/A				
12	36011	Meter Power Factor_S	电表S相功率因数	RO	S16	1	1000	N/A				
13	36012	Meter Power Factor_T	电表T相功率因数	RO	S16	1	1000	N/A				
14	36013	Meter Power Factor	电表功率因数	RO	S16	1	1000	N/A				
15	36014	Meter Frequence	电表频率	RO	U16	1	100	N/A				
16	36015	Energy-Total-Sell	卖电总量	RO	float	2	N/A	N/A			Total Feed Energy To Grid. Read from meter	输给电网的总电量。读取自电表
17	36017	Energy-Total-Buy	买电总量	RO	float	2	N/A	N/A			Total Energy From Grid. Read from meter	来自电网的总电量。读取自电表

18	36019	Meter Active Power R	电表R相有功功率	RO	S32	2	1	W			the address of ARM Version>9	ARM09版后的地址
19	36021	Meter Active Power S	电表S相有功功率	RO	S32	2	1	W				
20	36023	Meter Active Power T	电表T相有功功率	RO	S32	2	1	W				
21	36025	Meter Total Active Power	电表总有功功率	RO	S32	2	1	W				
22	36027	Meter Reactive Power R	电表R相无功功率	RO	S32	2	1	W				
23	36029	Meter Reactive Power S	电表S相无功功率	RO	S32	2	1	W				
24	36031	Meter Reactive Power T	电表T相无功功率	RO	S32	2	1	W				
25	36033	Meter Total Reactive Power	电表总无功功率	RO	S32	2	1	W				
26	36035	Meter Apparent Power R	电表R相视在功率	RO	S32	2	1	W				
27	36037	Meter Apparent Power S	电表S相视在功率	RO	S32	2	1	W				
28	36039	Meter Apparent Power T	电表T相视在功率	RO	S32	2	1	W				
29	36041	Meter Total Apparent Power	电表总视在功率	RO	S32	2	1	W				

30	36043	Meter Type	电表类型	RO	U16	1	1	N/A			Only for GoodWe Smart Meter(0:Single phase 1:3P3W 2:3P4W 3:HomeKit 4:GM1000D)	仅用于固德威智能电表(0:单相 1: 三相三线 2:三相四线 3:HomeKit 4:GM1000D)
31	36044	Meter Software Version	电表软件版本	RO	U16	1	1	N/A			Only for GoodWe Smart Meter	仅用于固德威智能电表
32	36045	Meter CT2 Active Power	电表CT2有功功率	RO	S32	2	1	W			Only for AC Couple inverter.Detect PV inverter power	仅用于逆变器AC耦合。检测PV逆变器功率
33	36047	CT2-Energy-Total-Sell	CT2总卖电量	RO	U32	2	100	1KW.Hr				
34	36049	CT2-Energy-Total-Buy	CT2总买电量	RO	U32	2	100	1KW.Hr				
35	36051	MTCT2 Status	MTCT2状态	RO	U16	1	1	N/A				
36	36052	Meter Voltage R	R相电表电压	RO	U16	1	10	V				
37	36053	Meter Voltage S	S相电表电压	RO	U16	1	10	V				
38	36054	Meter Voltage T	T相电表电压	RO	U16	1	10	V				
39	36055	Meter Current R	R相电表电流	RO	U16	1	10	A				

40	36056	Meter Current S	S相电表电流	RO	U16	1	10	A				
41	36057	Meter Current T	T相电表电流	RO	U16	1	10	A				
43	36065	ARC fault channel	拉弧故障通道	RO	U16	1	1	N/A				
44	36066	Parallel Communication Status	并机通讯状态	RO	U16	1	1	N/A			Bit0（Communication status between SEC1000S and inverters. ）--0:NG 1:Success Bit1（Communication status between parallel inverters. ）--0:NG 1:Success	Bit0（在SEC1000S和逆变器之间通讯状态）0:失败 1:成功 Bit1（逆变器并机通讯状态）0:失败 1:成功
45	36067	ARC Software Version	电弧故障分段器软件版本	RO	U16	1	1	N/A			AFCI Version	电弧故障分段器版本

54	36092	Active Energy Total Sell_R	R相总有功电量(卖电)	RO	U64	4	100	1KW.Hr			745、753	ARM745、753平台专用
55	36096	Active Energy Total Sell_S	S相总有功电量(卖电)	RO	U64	4	100	1KW.Hr				
56	36100	Active Energy Total Sell_T	T相总有功电量(卖电)	RO	U64	4	100	1KW.Hr				
57	36104	Active Energy Total Sell_Total	总有功电量(卖电)	RO	U64	4	100	1KW.Hr				
58	36108	Active Energy Total Buy_R	R相总有功电量(买电)	RO	U64	4	100	1KW.Hr				
59	36112	Active Energy Total Buy_S	S相总有功电量(买电)	RO	U64	4	100	1KW.Hr				
60	36116	Active Energy Total Buy_T	T相总有功电量(买电)	RO	U64	4	100	1KW.Hr				
61	36120	Active Energy Total Buy_Total	总有功电量(买电)	RO	U64	4	100	1KW.Hr				
62	36124	Real-Time Clock_Year Month	实时时钟_年月	RO	U16	1	1	N/A			High Byte Year/Low Byte Month:13-99/1-12	高字节年/低字节月:13-99/1-12
63	36125	Real-Time Clock_Day Hour	实时时钟_日时	RO	U16	1	1	N/A			High Byte Day/Low Byte Hour:1-31/0-23	高字节日/低字节时:1-31/0-23
64	36126	Real-Time Clock_Minute Second	实时时钟_分秒	RO	U16	1	1	N/A			High Byte minute/Low Byte Second:0-59/0-59	高字节分，低字节秒:0-59/0-59

65	36127	Meter Active Power R	电表R相有功功率	RO	S32	2	1	W				用于第二路计量芯片数据
66	36129	Meter Active Power S	电表S相有功功率	RO	S32	2	1	W				
67	36131	Meter Active Power T	电表T相有功功率	RO	S32	2	1	W				
68	36133	Meter Total Active Power	电表总有功功率	RO	S32	2	1	W				
69	36135	Active Energy Total Sell_R	R相总有功电量(卖电)	RO	U64	4	100	1KW.Hr			745、753	ARM745、753平台专用，用于第二路计量数据
70	36139	Active Energy Total Sell_S	S相总有功电量(卖电)	RO	U64	4	100	1KW.Hr				
71	36143	Active Energy Total Sell_T	T相总有功电量(卖电)	RO	U64	4	100	1KW.Hr				
72	36147	Active Energy Total Sell_Total	总有功电量(卖电)	RO	U64	4	100	1KW.Hr				
73	36151	Active Energy Total Buy_R	R相总有功电量(买电)	RO	U64	4	100	1KW.Hr				
74	36155	Active Energy Total Buy_S	S相总有功电量(买电)	RO	U64	4	100	1KW.Hr				
75	36159	Active Energy Total Buy_T	T相总有功电量(买电)	RO	U64	4	100	1KW.Hr				
76	36163	Active Energy Total Buy_Total	总有功电量(买电)	RO	U64	4	100	1KW.Hr				

81	36171	SAPN FeedPower State 1	SAPN防逆流计划组1状态	RO	U16	1	1	N/A				
82	36172	SAPN FeedPower State 2	SAPN防逆流计划组2状态	RO	U16	1	1	N/A				
83	36173	SAPN FeedPower State 3	SAPN防逆流计划组3状态	RO	U16	1	1	N/A				
84	36174	SAPN FeedPower State 4	SAPN防逆流计划组4状态	RO	U16	1	1	N/A				
85	36175	SAPN FeedPower State 5	SAPN防逆流计划组5状态	RO	U16	1	1	N/A				
86	36176	SAPN FeedPower State 6	SAPN防逆流计划组6状态	RO	U16	1	1	N/A				
87	36177	SAPN FeedPower State 7	SAPN防逆流计划组7状态	RO	U16	1	1	N/A				
88	36178	SAPN FeedPower State 8	SAPN防逆流计划组8状态	RO	U16	1	1	N/A				
89	36179	SAPN FeedPower State 9	SAPN防逆流计划组9状态	RO	U16	1	1	N/A				
90	36180	SAPN FeedPower State 10	SAPN防逆流计划组10状态	RO	U16	1	1	N/A				
91	36181	SAPN FeedPower State 11	SAPN防逆流计划组11状态	RO	U16	1	1	N/A				

92	36182	SAPN FeedPower State 12	SAPN防逆流计划组12状态	RO	U16	1	1	N/A		
93	36183	SAPN FeedPower State 13	SAPN防逆流计划组13状态	RO	U16	1	1	N/A		
94	36184	SAPN FeedPower State 14	SAPN防逆流计划组14状态	RO	U16	1	1	N/A		
95	36185	SAPN FeedPower State 15	SAPN防逆流计划组15状态	RO	U16	1	1	N/A		
96	36186	SAPN FeedPower State 16	SAPN防逆流计划组16状态	RO	U16	1	1	N/A		
97	36187	SAPN FeedPower State 17	SAPN防逆流计划组17状态	RO	U16	1	1	N/A		
98	36188	SAPN FeedPower State 18	SAPN防逆流计划组18状态	RO	U16	1	1	N/A		
99	36189	SAPN FeedPower State 19	SAPN防逆流计划组19状态	RO	U16	1	1	N/A		
100	36190	SAPN FeedPower State 20	SAPN防逆流计划组20状态	RO	U16	1	1	N/A		
101	36191	SAPN FeedPower State 21	SAPN防逆流计划组21状态	RO	U16	1	1	N/A		
102	36192	SAPN FeedPower State 22	SAPN防逆流计划组22状态	RO	U16	1	1	N/A		

unexecuted：0 running：1 execution is completed：2	未执行：0 执行中：1 执行完成：2

103	36193	SAPN FeedPower State 23	SAPN防逆流计划组23状态	RO	U16	1	1	N/A				
104	36194	SAPN FeedPower State 24	SAPN防逆流计划组24状态	RO	U16	1	1	N/A				
105	36195	SAPN FeedPower Limit	SAPN实时防逆流设定值	RO	S32	2	1	W				
106	36197	Generator operating mode	发电机工作模式	RW	U16	1	1	N/A			0:Grid mode 1: Generator mode	0：市电模式；1：发电机模式
107	36198	Communication Module software version	通讯模块软件版本	RO	STR	10	1	N/A		N		

BMS Operation Data												
1	37000	DRM Status	DRM状态	RO	U16	1	N/A	N/A			DRED only for Australia	仅用于澳洲的命令响应设备
3	37002	BMS Status	BMS状态	RO	U16	1	N/A	N/A				
4	37003	BMS Package Temperature	BMS电池包温度	RO	U16	1	10	℃				
5	37004	Max BMS Charge Current	BMS最大充电电流	RO	U16	1	1	A				
6	37005	Max BMS Discharge Current	BMS最大放电电流	RO	U16	1	1	A				
7	37006	BMS Error Code Low	BMS低位故障代码	RO	U16	1	N/A	N/A				
8	37007	SOC	电池剩余电量百分比	RO	U16	1	1	%			Capacity of BAT1	第1组电池容量
9	37008	BMS SOH	电池健康度	RO	U16	1	1	%			BMS SOH	BMS电池健康度

10	37009	BMS Battery Strings	BMS电池节数	RO	U16	1	N/A	N/A				
11	37010	BMS Warning Code Low	BMS低位警告代码	RO	U16	1	N/A	N/A				
12	37011	Battery Protocol	电池协议	RO	U16	1	N/A	N/A				
13	37012	BMS Error Code High	BMS高位故障代码	RO	U16	1	N/A	N/A				
14	37013	BMS Warning Code High	BMS高位警告代码	RO	U16	1	N/A	N/A				
15	37014	BMS Software Version	BMS软件版本	RO	U16	1	1	N/A				
16	37015	Battery Hardware Version	电池固件版本	RO	U16	1	1	N/A				
17	37016	Maximum Cell Temperature ID	最大电池温度ID	RO	U16	1	1	N/A			Battery module ID(1Byte) + Battery sample point(1Byte)	电池模块ID(1Byte) + 电池采样点(1Byte)
18	37017	Minimum Cell Temperature ID	最小电池温度ID	RO	U16	1	1	N/A				
19	37018	Maximum Cell Voltage ID	最大电池电压ID	RO	U16	1	1	N/A				
20	37019	Minimum Cell Voltage ID	最小电池电压ID	RO	U16	1	1	N/A				
21	37020	Maximum Cell Temperature	最大电池温度	RO	U16	1	10	℃				
22	37021	Minimum Cell Temperature	最小电池温度	RO	U16	1	10	℃				

23	37022	Maximum Cell Voltage	最大电池电压	RO	U16	1	1	mV				
24	37023	Minimum Cell Voltage	最小电池电压	RO	U16	1	1	mV				
25	37024	BMS1 Pass Infomation1	BMS1透传信息1	RO	U16	1	N/A	N/A			(GW BAT only)BAT system running status 0x00：Init 0x04：Sleep 0x01：Idle 0x05：Shutdown 0x02：Standby 0x06：Fault 0x03：Run 0x07：Update	（仅自研电池）电池系统运行状态 0x00：Init 初始化 0x04：Sleep 休眠 0x01：Idle 空闲 0x05：Shutdown 关机 0x02：Standby 准备就 0x06：Fault 故障 0x03：Run 运行 0x07：Update 升级
26	37025	BMS1 Pass Infomation2	BMS1透传信息2	RO	U16	1	N/A	N/A			Fault slave group number	故障从簇编号
27	37026	BMS1 Pass Infomation3	BMS1透传信息3	RO	U16	1	N/A	N/A			Fault slave group alarm（0x24f data1-2）	故障从簇告警（0x24f data1-2）
28	37027	BMS1 Pass Infomation4	BMS1透传信息4	RO	U16	1	N/A	N/A			Fault slave group code high（0x24f data4-5）	故障从簇故障码高（0x24f data4-5）
29	37028	BMS1 Pass Infomation5	BMS1透传信息5	RO	U16	1	N/A	N/A			Fault slave group code low（0x24f data6-7）	故障从簇故障码低（0x24f data6-7）
30	37029	BMS1 Pass Infomation6	BMS1透传信息6	RO	U16	1	N/A	N/A				
31	37030	BMS1 Pass Infomation7	BMS1透传信息7	RO	U16	1	N/A	N/A				

32	37031	BMS1 Pass Infomation8	BMS1透传信息8	RO	U16	1	N/A	N/A				
33	37032	BMS1 Pass Infomation9	BMS1透传信息9	RO	U16	1	N/A	N/A				
34	37033	BMS1 Pass Infomation10	BMS1透传信息10	RO	U16	1	N/A	N/A				
35	37034	BMS1 Pass Infomation11	BMS1透传信息11	RO	U16	1	N/A	N/A				
36	37035	BMS1 Pass Infomation12	BMS1透传信息12	RO	U16	1	N/A	N/A				
37	37036	BMS1 Pass Infomation13	BMS1透传信息13	RO	U16	1	N/A	N/A				
38	37037	BMS1 Pass Infomation14	BMS1透传信息14	RO	U16	1	N/A	N/A				
39	37038	BMS1 Pass Infomation15	BMS1透传信息15	RO	U16	1	N/A	N/A				
40	37039	BMS1 Pass Infomation16	BMS1透传信息16	RO	U16	1	N/A	N/A				
41	37040	BMS1 Pass Infomation17	BMS1透传信息17	RO	U16	1	N/A	N/A				
42	37041	BMS1 Pass Infomation18	BMS1透传信息18	RO	U16	1	N/A	N/A				

43	37042	BMS1 Pass Infomation19	BMS1透传信息19	RO	U16	1	N/A	N/A				
44	37043	BMS1 Pass Infomation20	BMS1透传信息20	RO	U16	1	N/A	N/A				
45	37044	BMS1 Pass Infomation21	BMS1透传信息21	RO	U16	1	N/A	N/A				
46	37045	BMS1 Pass Infomation22	BMS1透传信息22	RO	U16	1	N/A	N/A				
47	37046	BMS1 Pass Infomation23	BMS1透传信息23	RO	U16	1	N/A	N/A				
48	37047	BMS1 Pass Infomation24	BMS1透传信息24	RO	U16	1	N/A	N/A				
49	37048	BMS1 Pass Infomation25	BMS1透传信息25	RO	U16	1	N/A	N/A				
50	37049	BMS1 Pass Infomation26	BMS1透传信息26	RO	U16	1	N/A	N/A				
51	37050	BMS1 Pass Infomation27	BMS1透传信息27	RO	U16	1	N/A	N/A				
52	37051	BMS1 Pass Infomation28	BMS1透传信息28	RO	U16	1	N/A	N/A				
53	37052	BMS1 Pass Infomation29	BMS1透传信息29	RO	U16	1	N/A	N/A				

54	37053	BMS1 Pass Infomation30	BMS1透传信息30	RO	U16	1	N/A	N/A				
55	37054	BMS1 Pass Infomation31	BMS1透传信息31	RO	U16	1	N/A	N/A				
56	37055	BMS1 Pass Infomation32	BMS1透传信息32	RO	U16	1	N/A	N/A				
57	37056	Battery Total Charge Energy	电池总充电能量	RO	U32	2	10	kwh				
58	37058	Battery Total Discharge Energy	电池总放电能量	RO	U32	2	10	kwh				
59	37060	battery SN	电池1 SN	RO	STR	16	N/A	N/A				
60	37076	BMS1 Rated Capacity	BMS1 额定容量	RO	U16	1	100	kwh				
61	37077	BMS1 Cluster NUM	BMS1 簇数	RO	U16	1	N/A	N/A				
62	37078	BMS1 Register Cluster number+BMS1 Online Cluster number	BMS1注册簇+功率在线簇数	RO	U16	1	N/A	N/A				

BMS AC Data												
1	37150	Air conditioner status	空调系统运行状态	RO	U16	1	NA	N/A			0x00：Shutdown 0x01：Blowing 0x02：Cooling 0x03：Warming 0x04：Arefaction 0xFFFF： Unsupport	0x00：Shutdown 关机 0x01：Blowing 送风 0x02：Cooling 制冷 0x03：Warming 加热 0x04：Arefaction除湿 0xFFFF： Unsupport
2	37151	Coil temperature	盘管温度(出风温度）	RO	U16	1	10	℃				
3	37152	Condensing temperature	冷凝温度	RO	U16	1	10	℃				
4	37153	Room temperature	柜内温度	RO	U16	1	10	℃				
5	37154	Room RH	柜内湿度	RO	U16	1	1	%				
6	37155	AC Voltage	交流电压	RO	U16	1	10	V				
7	37156	Frost temperature	容霜温度	RO	U16	1	10	℃				
8	37157	Internal Fan Speed	内风机转速	RO	U16	1	1	r/min				
9	37158	External Fan Speed	外风机转速	RO	U16	1	1	r/min				

BMS2 Operation Data												
1	39000	BMS2 Status	BMS2状态	RO	U16	1	N/A	N/A				
2	39001	BMS2 Package Temperature	BMS2电池包温度	RO	U16	1	10	℃				
3	39002	Max BMS2 Charge Current	BMS2充电最大电流	RO	U16	1	1	A				
4	39003	Max BMS2 Discharge Current	BMS2放电最大电流	RO	U16	1	1	A				
5	39004	BMS2 Error Code Low	BMS2低位故障代码	RO	U16	1	N/A	N/A				
6	39005	BMS2 SOC	BMS2电池剩余电量百分比	RO	U16	1	1	%				
7	39006	BMS2 SOH	BMS2电池健康度	RO	U16	1	1	%				
8	39007	BMS2 Battery Strings	BMS2电池节数	RO	U16	1	N/A	N/A				
9	39008	BMS2 Warning Code Low	BMS2低位警告代码	RO	U16	1	N/A	N/A				
10	39009	Battery Protocol	电池协议	RO	U16	1	N/A	N/A				
11	39010	BMS2 Error Code High	BMS2高位故障代码	RO	U16	1	N/A	N/A				
12	39011	BMS2 Warning Code High	BMS2高位警告代码	RO	U16	1	N/A	N/A				
13	39012	BMS2 Software Version	BMS2软件版本	RO	U16	1	1	N/A				

14	39013	Battery2 Hardware Version	电池组2固件版本	RO	U16	1	1	N/A				
15	39014	BMS2 Maximum Cell Temperature ID	BMS2最大电池温度ID	RO	U16	1	1	N/A			Battery module ID(1Byte) + Battery sample point(1Byte)	电池模块ID(1Byte) + 电池采样点(1Byte)
16	39015	BMS2 Minimum Cell Temperature ID	BMS2最小电池温度ID	RO	U16	1	1	N/A				
17	39016	BMS2 Maximum Cell Voltage ID	BMS2最大电池电压ID	RO	U16	1	1	N/A			Battery module ID(1Byte) + Battery number(1Byte)	电池模块ID(1Byte) + 电池编号(1Byte)
18	39017	BMS2 Minimum Cell Voltage ID	BMS2最小电池电压ID	RO	U16	1	1	N/A				
19	39018	BMS2 Maximum Cell Temperature	BMS2最大电池温度	RO	U16	1	10	℃				
20	39019	BMS2 Minimum Cell Temperature	BMS2最小电池温度	RO	U16	1	10	℃				
21	39020	BMS2 Maximum Cell Voltage	BMS2最大电池电压	RO	U16	1	1	mV				
22	39021	BMS2 Minimum Cell Voltage	BMS2最小电池电压	RO	U16	1	1	mV				

23	39022	BMS2 Pass Infomation1	BMS2 透传信息1	RO	U16	1	N/A	N/A			(GW BAT only)BAT system running status 0x00：Init 0x04：Sleep 0x01：Idle 0x05：Shutdown 0x02：Standby 0x06：Fault 0x03：Run 0x07：Update	（仅自研电池）电池系统运行状态 0x00：Init 初始化 0x04：Sleep 休眠 0x01：Idle 空闲 0x05：Shutdown 关机 0x02：Standby 准备就 0x06：Fault 故障 0x03：Run 运行 0x07：Update 升级
24	39023	BMS2 Pass Infomation2	BMS2 透传信息2	RO	U16	1	N/A	N/A			Fault slave group number	故障从簇编号
25	39024	BMS2 Pass Infomation3	BMS2 透传信息3	RO	U16	1	N/A	N/A			Fault slave group alarm（0x24f data1-2）	故障从簇告警（0x24f data1-2）
26	39025	BMS2 Pass Infomation4	BMS2 透传信息4	RO	U16	1	N/A	N/A			Fault slave group code high（0x24f data4-5）	故障从簇故障码高（0x24f data4-5）
27	39026	BMS2 Pass Infomation5	BMS2 透传信息5	RO	U16	1	N/A	N/A			Fault slave group code low（0x24f data6-7）	故障从簇故障码低（0x24f data6-7）
28	39027	BMS2 Pass Infomation6	BMS2 透传信息6	RO	U16	1	N/A	N/A				
29	39028	BMS2 Pass Infomation7	BMS2 透传信息7	RO	U16	1	N/A	N/A				
30	39029	BMS2 Pass Infomation8	BMS2 透传信息8	RO	U16	1	N/A	N/A				
31	39030	BMS2 Pass Infomation9	BMS2 透传信息9	RO	U16	1	N/A	N/A				
32	39031	BMS2 Pass Infomation10	BMS2 透传信息10	RO	U16	1	N/A	N/A				

33	39032	BMS2 Pass Infomation11	BMS2 透传信息11	RO	U16	1	N/A	N/A				
34	39033	BMS2 Pass Infomation12	BMS2 透传信息12	RO	U16	1	N/A	N/A				
35	39034	BMS2 Pass Infomation13	BMS2 透传信息13	RO	U16	1	N/A	N/A				
36	39035	BMS2 Pass Infomation14	BMS2 透传信息14	RO	U16	1	N/A	N/A				
37	39036	BMS2 Pass Infomation15	BMS2 透传信息15	RO	U16	1	N/A	N/A				
38	39037	BMS2 Pass Infomation16	BMS2 透传信息16	RO	U16	1	N/A	N/A				
39	39038	BMS2 Pass Infomation17	BMS2 透传信息17	RO	U16	1	N/A	N/A				
40	39039	BMS2 Pass Infomation18	BMS2 透传信息18	RO	U16	1	N/A	N/A				
41	39040	BMS2 Pass Infomation19	BMS2 透传信息19	RO	U16	1	N/A	N/A				
42	39041	BMS2 Pass Infomation20	BMS2 透传信息20	RO	U16	1	N/A	N/A				
43	39042	BMS2 Pass Infomation21	BMS2 透传信息21	RO	U16	1	N/A	N/A				
44	39043	BMS2 Pass Infomation22	BMS2 透传信息22	RO	U16	1	N/A	N/A				
45	39044	BMS2 Pass Infomation23	BMS2 透传信息23	RO	U16	1	N/A	N/A				
46	39045	BMS2 Pass Infomation24	BMS2 透传信息24	RO	U16	1	N/A	N/A				
47	39046	BMS2 Pass Infomation25	BMS2 透传信息25	RO	U16	1	N/A	N/A				
48	39047	BMS2 Pass Infomation26	BMS2 透传信息26	RO	U16	1	N/A	N/A				
49	39048	BMS2 Pass Infomation27	BMS2 透传信息27	RO	U16	1	N/A	N/A				

50	39049	BMS2 Pass Infomation28	BMS2 透传信息28	RO	U16	1	N/A	N/A				
51	39050	BMS2 Pass Infomation29	BMS2 透传信息29	RO	U16	1	N/A	N/A				
52	39051	BMS2 Pass Infomation30	BMS2 透传信息30	RO	U16	1	N/A	N/A				
53	39052	BMS2 Pass Infomation31	BMS2 透传信息31	RO	U16	1	N/A	N/A				
54	39053	BMS2 Pass Infomation32	BMS2 透传信息32	RO	U16	1	N/A	N/A				
55	39054	Battery Total Charge Energy	电池总充电能量	RO	U32	2	10	kwh				
56	39056	Battery Total Discharge Energy	电池总放电能量	RO	U32	2	10	kwh				
57	39058	battery SN	电池2 SN	RO	STR	16	N/A	N/A				
58	39074	BMS2 Rated Capacity	BMS2 额定容量	RO	U16	1	100	kwh				
59	39075	BMS2 Cluster NUM	BMS2 簇数	RO	U16	1	N/A	N/A				
60	39076	BMS2 Register Cluster number+BMS2 Online Cluster number	BMS2注册簇+功率在线簇数	RO	U16	1	N/A	N/A				

LG HV BAT Log												
1	39499	LG battery type	LG电池类型	RO	U16	1	1	N/A			0: LV BAT 1:HV BAT	0：为低压电池　1：为高压电池
2	39500	LG Wakeup Data analyze Flag	LG电池唤醒数据解析标志	RO	U16	1	1	N/A				
3	39501	LG Running Data analyze Flag	LG电池运行舒据解析标志	RO	U16	1	1	N/A				
4	39502	LG Fault Data analyze Flag	LG电池故障数据解析标志	RO	U16	1	1	N/A				
1	39503	BMS1 Battery state	BMS1电池状态	RO	U16	1	1	N/A				
2	39504	BMS1 DC Bus voltage	BMS1 DC BUS电压	RO	U16	1	10	V				
3	39505	BMS1 Real-time power	BMS1 实时功率	RO	S16	1	1	W				
4	39506	BMS1 Full pack energy available	BMS1 全包可用能量	RO	U16	1	1	Wh				
5	39507	BMS1 Energy remaining	BMS1 剩余能量	RO	U16	1	1	Wh				
6	39508	BMS1 Lifetime energy charged	BMS1 终生充电能量	RO	U32	2	1	Wh				
8	39510	BMS1 Lifetime energy discharged	BMS1 终生放电能量	RO	U32	2	1	Wh				

10	39512	BMS1 Pack max available charge power	BMS1包最大可用充电功率	RO	U16	1	1	W				
11	39513	BMS1 Pack max available discharge power	BMS1包最大可用放电功率	RO	U16	1	1	W				
12	39514	BMS1 Battery voltage (BPI)	BMS1 电池电压	RO	U16	1	10	V				
13	39515	BMS1 Battery current (BPI)	BMS1电池电流	RO	S16	1	10	A				
14	39516	BMS1 Battery max temperature	BMS1电池最高温度	RO	S16	1	10	°C				
15	39517	BMS1 Battery min temperature	BMS1电池最低温度	RO	S16	1	10	°C				
16	39518	BMS1 DC Bus current	BMS1 DC BUS电流	RO	S16	1	10	A				
17	39519	BMS1 State of charge (SOC)	BMS1充电状态	RO	U16	1	10	%				
18	39520	BMS1 State of health (SOH)	BMS1健康状态	RO	U16	1	10	%				
19	39521	BMS1 Charge current limit (BPI)	BMS1充电电流限制	RO	U16	1	10	A				
20	39522	BMS1 Discharge current limit (BPI)	BMS1放电电流限制	RO	U16	1	10	A				
21	39523	BMS1 CB status	BMS1 CB状态	RO	U16	1	1	N/A				
22	39524	BMS1 Battery diagnosis result	BMS1电池诊断结果	RO	U16	1	1	N/A				

1	39550	BMS2 Battery state	BMS2电池状态	RO	U16	1	1	N/A				
2	39551	BMS2 DC Bus voltage	BMS2 DC BUS电压	RO	U16	1	10	V				
3	39552	BMS2 Real-time power	BMS2 实时功率	RO	S16	1	1	W				
4	39553	BMS2 Full pack energy available	BMS2 全包可用能量	RO	U16	1	1	Wh				
5	39554	BMS2 Energy remaining	BMS2 剩余能量	RO	U16	1	1	Wh				
6	39555	BMS2 Lifetime energy charged	BMS2 终生充电能量	RO	U32	2	1	Wh				
8	39557	BMS2 Lifetime energy discharged	BMS2 终生放电能量	RO	U32	2	1	Wh				
10	39559	BMS2 Pack max available charge power	BMS2包最大可用充电功率	RO	U16	1	1	W				
11	39560	BMS2 Pack max available discharge power	BMS2包最大可用放电功率	RO	U16	1	1	W				
12	39561	BMS2 Battery voltage (BPI)	BMS2 电池电压	RO	U16	1	10	V				
13	39562	BMS2 Battery current (BPI)	BMS2电池电流	RO	S16	1	10	A				
14	39563	BMS2 Battery max temperature	BMS2电池最高温度	RO	S16	1	10	°C				
15	39564	BMS2 Battery min temperature	BMS2电池最低温度	RO	S16	1	10	°C				

16	39565	BMS2 DC Bus current	BMS2 DC BUS电流	RO	S16	1	10	A				
17	39566	BMS2 State of charge (SOC)	BMS2充电状态	RO	U16	1	10	%				
18	39567	BMS2 State of health (SOH)	BMS2健康状态	RO	U16	1	10	%				
19	39568	BMS2 Charge current limit (BPI)	BMS2充电电流限制	RO	U16	1	10	A				
20	39569	BMS2 Discharge current limit (BPI)	BMS2放电电流限制	RO	U16	1	10	A				
21	39570	BMS2 CB status	BMS2 CB状态	RO	U16	1	1	N/A				
22	39571	BMS2 Battery diagnosis result	BMS2电池诊断结果	RO	U16	1	1	N/A				
1	39600	BMS1 Protocol version number	BMS1协议版本号	RO	U16	1	1	N/A				
2	39601	BMS1 Battery serial number	BMS1电池SN号	RO	U32	2	1	N/A				
4	39603	BMS1 DC/DC FW version1	BMS1 DC/DC固件版本1	RO	U16	1	1	N/A				
5	39604	BMS1 DC/DC FW version2	BMS1 DC/DC固件版本2	RO	U16	1	1	N/A				
6	39605	BMS1 FW version	BMS1 固件版本	RO	U32	2	1	N/A				
8	39607	BMS1 Inverter type	BMS1 逆变器类型	RO	U16	1	1	N/A				
9	39608	BMS1 Nameplate energy	BMS1 标称能量	RO	U16	1	1	Wh				

1	39630	BMS2 Protocol version number	BMS2协议版本号	RO	U16	1	1	N/A				
2	39631	BMS2 Battery serial number	BMS2电池SN号	RO	U32	2	1	N/A				
4	39633	BMS2 DC/DC FW version1	BMS2 DC/DC固件版本1	RO	U16	1	1	N/A				
5	39634	BMS2 DC/DC FW version2	BMS2 DC/DC固件版本2	RO	U16	1	1	N/A				
6	39635	BMS2 FW version	BMS2 固件版本	RO	U32	2	1	N/A				
8	39637	BMS2 Inverter type	BMS2 逆变器类型	RO	U16	1	1	N/A				
9	39638	BMS2 Nameplate energy	BMS2标称能量	RO	U16	1	1	Wh				
1	39660	BMS1 Fault 0 Count	BMS1故障0计数	RO	U16	1	1	N/A				
2	39661	BMS1 Fault 0 BMS heartbeat	BMS1故障 0 BMS 心跳	RO	U32	2	1	N/A				
4	39663	BMS1 Fault 0 ID	BMS1故障0 ID	RO	U16	1	1	N/A				
5	39664	BMS1 Fault 0 Battery internal voltage	BMS1故障0电池内部电压	RO	U16	1	100	V				
6	39665	BMS1 Fault 0 Battery internal current	BMS1故障0电池内部电流	RO	S16	1	10	A				

7	39666	BMS1 Fault 0 Battery external voltage	BMS1故障0电池外部电压	RO	U16	1	10	V				
8	39667	BMS1 Fault 0 Battery external current	BMS1故障0电池外部电流	RO	S16	1	10	A				
9	39668	BMS1 Fault 0 Battery maximum temperature	BMS1故障0电池最大温度	RO	S16	1	10	°C				
10	39669	BMS1 Fault 0 BMS internal check	BMS1故障0 BMS内部检查	RO	U16	1	1	N/A				
11	39670	BMS1 Fault 1 Count	BMS1故障1计数	RO	U16	1	1	N/A				
12	39671	BMS1 Fault 1 BMS heartbeat	BMS1故障1BMS 心跳	RO	U32	2	1	N/A				
14	39673	BMS1 Fault 1 ID	BMS1故障1 ID	RO	U16	1	1	N/A				
15	39674	BMS1 Fault 1 Battery internal voltage	BMS1故障1电池内部电压	RO	U16	1	100	V				
16	39675	BMS1 Fault 1 Battery internal current	BMS1故障1电池内部电流	RO	S16	1	10	A				
17	39676	BMS1 Fault 1 Battery external voltage	BMS1故障1电池外部电压	RO	U16	1	10	V				
18	39677	BMS1 Fault 1 Battery external current	BMS1故障1电池外部电流	RO	S16	1	10	A				
19	39678	BMS1 Fault 1 Battery maximum temperature	BMS1故障1电池最大温度	RO	S16	1	10	°C				

20	39679	BMS1 Fault 1 BMS internal check	BMS1故障1 BMS内部检查	RO	U16	1	1	N/A				
21	39680	BMS1 Fault 2 Count	BMS1故障2计数	RO	U16	1	1	N/A				
22	39681	BMS1 Fault 2 BMS heartbeat	BMS2故障 2 BMS心跳	RO	U32	2	1	N/A				
24	39683	BMS1 Fault 2 ID	BMS1故障2 ID	RO	U16	1	1	N/A				
25	39684	BMS1 Fault 2 Battery internal voltage	BMS1故障2电池内部电压	RO	U16	1	100	V				
26	39685	BMS1 Fault 2 Battery internal current	BMS1故障2电池内部电流	RO	S16	1	10	A				
27	39686	BMS1 Fault 2 Battery external voltage	BMS1故障2电池外部电压	RO	U16	1	10	V				
28	39687	BMS1 Fault 2 Battery external current	BMS1故障2电池外部电流	RO	S16	1	10	A				
29	39688	BMS1 Fault 2 Battery maximum temperature	BMS1故障2电池最大温度	RO	S16	1	10	°C				
30	39689	BMS1 Fault 2 BMS internal check	BMS1故障2BMS内部检查	RO	U16	1	1	N/A				
31	39690	BMS1 Fault 3 Count	BMS1故障3计数	RO	U16	1	1	N/A				
32	39691	BMS1 Fault 3 BMS heartbeat	BMS1故障 3 BMS心跳	RO	U32	2	1	N/A				
34	39693	BMS1 Fault 3 ID	BMS1故障3 ID	RO	U16	1	1	N/A				

35	39694	BMS1 Fault 3 Battery internal voltage	BMS1故障3电池内部电压	RO	U16	1	100	V				
36	39695	BMS1 Fault 3 Battery internal current	BMS1故障3电池内部电流	RO	S16	1	10	A				
37	39696	BMS1 Fault 3 Battery external voltage	BMS1故障3电池外部电压	RO	U16	1	10	V				
38	39697	BMS1 Fault 3 Battery external current	BMS1故障3电池外部电流	RO	S16	1	10	A				
39	39698	BMS1 Fault 3 Battery maximum temperature	BMS1故障3电池最大温度	RO	S16	1	10	°C				
40	39699	BMS1 Fault 3 BMS internal check	BMS1故障3 BMS内部检查	RO	U16	1	1	N/A				
41	39700	BMS1 Fault 4 Count	BMS1故障4计数	RO	U16	1	1	N/A				
42	39701	BMS1 Fault 4 BMS heartbeat	BMS1故障4BMS 心跳	RO	U32	2	1	N/A				
44	39703	BMS1 Fault 4 ID	BMS1故障4 ID	RO	U16	1	1	N/A				
45	39704	BMS1 Fault 4 Battery internal voltage	BMS1故障4电池内部电压	RO	U16	1	100	V				
46	39705	BMS1 Fault 4 Battery internal current	BMS1故障4电池内部电流	RO	S16	1	10	A				
47	39706	BMS1 Fault 4 Battery external voltage	BMS1故障4电池外部电压	RO	U16	1	10	V				

48	39707	BMS1 Fault 4 Battery external current	BMS1故障4电池外部电流	RO	S16	1	10	A				
49	39708	BMS1 Fault 4 Battery maximum temperature	BMS1故障4电池最大温度	RO	S16	1	10	°C				
50	39709	BMS1 Fault 4 BMS internal check	BMS1故障4 BMS内部检查	RO	U16	1	1	N/A				
51	39710	BMS1 Fault 5 Count	BMS1故障5计数	RO	U16	1	1	N/A				
52	39711	BMS1 Fault 5 BMS heartbeat	BMS1故障5 BMS 心跳	RO	U32	2	1	N/A				
54	39713	BMS1 Fault 5 ID	BMS1故障5 ID	RO	U16	1	1	N/A				
55	39714	BMS1 Fault 5 Battery internal voltage	BMS1故障5电池内部电压	RO	U16	1	100	V				
56	39715	BMS1 Fault 5 Battery internal current	BMS1故障5电池内部电流	RO	S16	1	10	A				
57	39716	BMS1 Fault 5 Battery external voltage	BMS1故障5电池外部电压	RO	U16	1	10	V				
58	39717	BMS1 Fault 5 Battery external current	BMS1故障5电池外部电流	RO	S16	1	10	A				
59	39718	BMS1 Fault 5 Battery maximum temperature	BMS1故障5电池最大温度	RO	S16	1	10	°C				
60	39719	BMS1 Fault 5 BMS internal check	BMS1故障5BMS内部检查	RO	U16	1	1	N/A				

61	39720	BMS1 Fault 6 Count	BMS1故障6计数	RO	U16	1	1	N/A				
62	39721	BMS1 Fault 6 BMS heartbeat	BMS1故障6BMS心跳	RO	U32	2	1	N/A				
64	39723	BMS1 Fault 6 ID	BMS1故障6 ID	RO	U16	1	1	N/A				
65	39724	BMS1 Fault 6 Battery internal voltage	BMS1故障6电池内部电压	RO	U16	1	100	V				
66	39725	BMS1 Fault 6 Battery internal current	BMS1故障6电池内部电流	RO	S16	1	10	A				
67	39726	BMS1 Fault 6 Battery external voltage	BMS1故障6电池外部电压	RO	U16	1	10	V				
68	39727	BMS1 Fault 6 Battery external current	BMS1故障6电池外部电流	RO	S16	1	10	A				
69	39728	BMS1 Fault 6 Battery maximum temperature	BMS1故障6电池最大温度	RO	S16	1	10	°C				
70	39729	BMS1 Fault 6 BMS internal check	BMS1故障6 BMS内部检查	RO	U16	1	1	N/A				
71	39730	BMS1 Fault 7 Count	BMS1故障7计数	RO	U16	1	1	N/A				
72	39731	BMS1 Fault 7 BMS heartbeat	BMS1故障7 BMS1 心跳	RO	U32	2	1	N/A				
74	39733	BMS1 Fault 7 ID	BMS1故障7 ID	RO	U16	1	1	N/A				

75	39734	BMS1 Fault 7 Battery internal voltage	BMS1故障7电池内部电压	RO	U16	1	100	V				
76	39735	BMS1 Fault 7 Battery internal current	BMS1故障7电池内部电流	RO	S16	1	10	A				
77	39736	BMS1 Fault 7 Battery external voltage	BMS1故障7电池外部电压	RO	U16	1	10	V				
78	39737	BMS1 Fault 7 Battery external current	BMS1故障7电池外部电流	RO	S16	1	10	A				
79	39738	BMS1 Fault 7 Battery maximum temperature	BMS1故障7电池最大温度	RO	S16	1	10	°C				
80	39739	BMS1 Fault 7 BMS internal check	BMS1故障7 BMS内部检查	RO	U16	1	1	N/A				
1	39760	BMS2 Fault 0 Count	BMS2故障0计数	RO	U16	1	1	N/A				
2	39761	BMS2 Fault 0 BMS heartbeat	BMS2故障 0 BMS 心跳	RO	U32	2	1	N/A				
4	39763	BMS2 Fault 0 ID	BMS2故障0 ID	RO	U16	1	1	N/A				
5	39764	BMS2 Fault 0 Battery internal voltage	BMS2故障0电池内部电压	RO	U16	1	100	V				
6	39765	BMS2 Fault 0 Battery internal current	BMS2故障0电池内部电流	RO	S16	1	10	A				

7	39766	BMS2 Fault 0 Battery external voltage	BMS2故障0电池外部电压	RO	U16	1	10	V				
8	39767	BMS2 Fault 0 Battery external current	BMS2故障0电池外部电流	RO	S16	1	10	A				
9	39768	BMS2 Fault 0 Battery maximum temperature	BMS2故障0电池最大温度	RO	S16	1	10	°C				
10	39769	BMS2 Fault 0 BMS internal check	BMS2故障0 BMS内部检查	RO	U16	1	1	N/A				
11	39770	BMS2 Fault 1 Count	BMS2故障1计数	RO	U16	1	1	N/A				
12	39771	BMS2 Fault 1 BMS heartbeat	BMS2故障1BMS 心跳	RO	U32	2	1	N/A				
14	39773	BMS2 Fault 1 ID	BMS2故障1 ID	RO	U16	1	1	N/A				
15	39774	BMS2 Fault 1 Battery internal voltage	BMS2故障1电池内部电压	RO	U16	1	100	V				
16	39775	BMS2 Fault 1 Battery internal current	BMS2故障1电池内部电流	RO	S16	1	10	A				
17	39776	BMS2 Fault 1 Battery external voltage	BMS2故障1电池外部电压	RO	U16	1	10	V				
18	39777	BMS2 Fault 1 Battery external current	BMS2故障1电池外部电流	RO	S16	1	10	A				
19	39778	BMS2 Fault 1 Battery maximum temperature	BMS2故障1电池最大温度	RO	S16	1	10	°C				

20	39779	BMS2 Fault 1 BMS internal check	BMS2故障1 BMS内部检查	RO	U16	1	1	N/A				
21	39780	BMS2 Fault 2 Count	BMS2故障2计数	RO	U16	1	1	N/A				
22	39781	BMS2 Fault 2 BMS heartbeat	BMS2故障 2 BMS心跳	RO	U32	2	1	N/A				
24	39783	BMS2 Fault 2 ID	BMS2故障2 ID	RO	U16	1	1	N/A				
25	39784	BMS2 Fault 2 Battery internal voltage	BMS2故障2电池内部电压	RO	U16	1	100	V				
26	39785	BMS2 Fault 2 Battery internal current	BMS2故障2电池内部电流	RO	S16	1	10	A				
27	39786	BMS2 Fault 2 Battery external voltage	BMS2故障2电池外部电压	RO	U16	1	10	V				
28	39787	BMS2 Fault 2 Battery external current	BMS2故障2电池外部电流	RO	S16	1	10	A				
29	39788	BMS2 Fault 2 Battery maximum temperature	BMS2故障2电池最大温度	RO	S16	1	10	°C				
30	39789	BMS2 Fault 2 BMS internal check	BMS2故障2BMS内部检查	RO	U16	1	1	N/A				
31	39790	BMS2 Fault 3 Count	BMS2故障3计数	RO	U16	1	1	N/A				
32	39791	BMS2 Fault 3 BMS heartbeat	BMS2故障 3 BMS心跳	RO	U32	2	1	N/A				
34	39793	BMS2 Fault 3 ID	BMS2故障3 ID	RO	U16	1	1	N/A				

35	39794	BMS2 Fault 3 Battery internal voltage	BMS2故障3电池内部电压	RO	U16	1	100	V				
36	39795	BMS2 Fault 3 Battery internal current	BMS2故障3电池内部电流	RO	S16	1	10	A				
37	39796	BMS2 Fault 3 Battery external voltage	BMS2故障3电池外部电压	RO	U16	1	10	V				
38	39797	BMS2 Fault 3 Battery external current	BMS2故障3电池外部电流	RO	S16	1	10	A				
39	39798	BMS2 Fault 3 Battery maximum temperature	BMS2故障3电池最大温度	RO	S16	1	10	°C				
40	39799	BMS2 Fault 3 BMS internal check	BMS2故障3 BMS内部检查	RO	U16	1	1	N/A				
41	39800	BMS2 Fault 4 Count	BMS2故障4计数	RO	U16	1	1	N/A				
42	39801	BMS2 Fault 4 BMS heartbeat	BMS2故障4BMS 心跳	RO	U32	2	1	N/A				
44	39803	BMS2 Fault 4 ID	BMS2故障4 ID	RO	U16	1	1	N/A				
45	39804	BMS2 Fault 4 Battery internal voltage	BMS2故障4电池内部电压	RO	U16	1	100	V				
46	39805	BMS2 Fault 4 Battery internal current	BMS2故障4电池内部电流	RO	S16	1	10	A				
47	39806	BMS2 Fault 4 Battery external voltage	BMS2故障4电池外部电压	RO	U16	1	10	V				

48	39807	BMS2 Fault 4 Battery external current	BMS2故障4电池外部电流	RO	S16	1	10	A				
49	39808	BMS2 Fault 4 Battery maximum temperature	BMS2故障4电池最大温度	RO	S16	1	10	°C				
50	39809	BMS2 Fault 4 BMS internal check	BMS2故障4 BMS内部检查	RO	U16	1	1	N/A				
51	39810	BMS2 Fault 5 Count	BMS2故障5计数	RO	U16	1	1	N/A				
52	39811	BMS2 Fault 5 BMS heartbeat	BMS2故障5 BMS 心跳	RO	U32	2	1	N/A				
54	39813	BMS2 Fault 5 ID	BMS2故障5 ID	RO	U16	1	1	N/A				
55	39814	BMS2 Fault 5 Battery internal voltage	BMS2故障5电池内部电压	RO	U16	1	100	V				
56	39815	BMS2 Fault 5 Battery internal current	BMS2故障5电池内部电流	RO	S16	1	10	A				
57	39816	BMS2 Fault 5 Battery external voltage	BMS2故障5电池外部电压	RO	U16	1	10	V				
58	39817	BMS2 Fault 5 Battery external current	BMS2故障5电池外部电流	RO	S16	1	10	A				
59	39818	BMS2 Fault 5 Battery maximum temperature	BMS2故障5电池最大温度	RO	S16	1	10	°C				
60	39819	BMS2 Fault 5 BMS internal check	BMS2故障5BMS内部检查	RO	U16	1	1	N/A				

61	39820	BMS2 Fault 6 Count	BMS2故障6计数	RO	U16	1	1	N/A				
62	39821	BMS2 Fault 6 BMS heartbeat	BMS2故障6BMS心跳	RO	U32	2	1	N/A				
64	39823	BMS2 Fault 6 ID	BMS2故障6 ID	RO	U16	1	1	N/A				
65	39824	BMS2 Fault 6 Battery internal voltage	BMS2故障6电池内部电压	RO	U16	1	100	V				
66	39825	BMS2 Fault 6 Battery internal current	BMS2故障6电池内部电流	RO	S16	1	10	A				
67	39826	BMS2 Fault 6 Battery external voltage	BMS2故障6电池外部电压	RO	U16	1	10	V				
68	39827	BMS2 Fault 6 Battery external current	BMS2故障6电池外部电流	RO	S16	1	10	A				
69	39828	BMS2 Fault 6 Battery maximum temperature	BMS2故障6电池最大温度	RO	S16	1	10	°C				
70	39829	BMS2 Fault 6 BMS internal check	BMS2故障6 BMS内部检查	RO	U16	1	1	N/A				
71	39830	BMS2 Fault 7 Count	BMS2故障7计数	RO	U16	1	1	N/A				
72	39831	BMS2 Fault 7 BMS heartbeat	BMS2故障7 BMS1 心跳	RO	U32	2	1	N/A				
74	39833	BMS2 Fault 7 ID	BMS2故障7 ID	RO	U16	1	1	N/A				

75	39834	BMS2 Fault 7 Battery internal voltage	BMS2故障7电池内部电压	RO	U16	1	100	V				
76	39835	BMS2 Fault 7 Battery internal current	BMS2故障7电池内部电流	RO	S16	1	10	A				
77	39836	BMS2 Fault 7 Battery external voltage	BMS2故障7电池外部电压	RO	U16	1	10	V				
78	39837	BMS2 Fault 7 Battery external current	BMS2故障7电池外部电流	RO	S16	1	10	A				
79	39838	BMS2 Fault 7 Battery maximum temperature	BMS2故障7电池最大温度	RO	S16	1	10	°C				
80	39839	BMS2 Fault 7 BMS internal check	BMS2故障7 BMS内部检查	RO	U16	1	1	N/A				

LG LV Data Log												
1	39870	Maximum charging voltage	最大充电电压	RO	U16	1	10	V				
2	39871	Maximum charging current	最大充电电流	RO	U16	1	10	A				
3	39872	Maximum Discharging current	最大放电电流	RO	U16	1	10	A				
4	39873	Batttery Voltage	电池电压	RO	U16	1	10	V				
5	39874	Batttery Current	电池电流	RO	S16	1	10	A				
6	39875	Batttery Temperature	电池温度	RO	U16	1	10	°C				
7	39876	Cell Voltage #1	电芯1电压	RO	U16	1	1000	V				
8	39877	Cell Voltage #2	电芯2电压	RO	U16	1	1000	V				
9	39878	Cell Voltage #3	电芯3电压	RO	U16	1	1000	V				
10	39879	Cell Voltage #4	电芯4电压	RO	U16	1	1000	V				
11	39880	Cell Voltage #5	电芯5电压	RO	U16	1	1000	V				
12	39881	Cell Voltage #6	电芯6电压	RO	U16	1	1000	V				

13	39882	Cell Voltage #7	电芯7电压	RO	U16	1	1000	V				
14	39883	Cell Voltage #8	电芯8电压	RO	U16	1	1000	V				
15	39884	Cell Voltage #9	电芯9电压	RO	U16	1	1000	V				
16	39885	Cell Voltage #10	电芯10电压	RO	U16	1	1000	V				
17	39886	Cell Voltage #11	电芯11电压	RO	U16	1	1000	V				
18	39887	Cell Voltage #12	电芯12电压	RO	U16	1	1000	V				
19	39888	Cell Voltage #13	电芯13电压	RO	U16	1	1000	V				
20	39889	Cell Voltage #14	电芯14电压	RO	U16	1	1000	V				
21	39890	BMS Serial Number	电池序列号	RO	U32	2	1	N/A				
23	39892	BMS SW Version	电池软件版本号	RO	U16	1	1	N/A				
24	39893	Battery series	电池系列	RO	U16	1	1	N/A				
25	39894	BMS Warning	电池告警信息	RO	U32	2	1	N/A			Refer to 8-14	释义见8-14
27	39896	BMS Alarm	电池故障信息	RO	U32	2	1	N/A			Refer to 8-14	释义见8-14
29	39898	SOC	电池剩余电量百分比	RO	U16	1	1	%			Capacity of BAT	
30	39899	BMS SOH	电池健康度	RO	U16	1	1	%			BMS SOH	BMS电池健康度

#Address		English Name	Chinese Name	#R/W	#Type	#Size	#SF	#Units	Range	Flash Save	Note(English)	Note(Chinese)
OEM Data												
1	40000	OEM SN	OEM设备序列号	RW	STR	8	1	N/A		Y	read and write inverter serial No. ASCII,16 bytes	读写逆变器串行编号 ASCII码，16个字节
2	40008	EMS Check Status	EMS自检状态	RO	U16	1	1	N/A		N	to read inverter operation status 0:checking 1:Normal 2:Fault	读取逆变器运行状态 0：检测中；1：正常； 2：故障
3	40009	FPCurve_SafetyStatus	频率曲线状态	RO	U16	1	1	N/A		N		
4	40010	FPCurve_SafetyPower	频率曲线限载功率	RO	S32	2	1	W		N		
1	42000	EMS Power Mode	能量管理模式	RW	U16	1	N/A	N/A		N	For BTC/ETC	BTC/ETC使用
2	42001	EMS Power Set	能量管理功率设置	RW	U32	2	N/A	N/A		N		
3	42003	Feed Power Enable	防逆流开关	RW	U16	1	N/A	N/A	[0,1]	Y	0:Disable 1:Enable Used together with register 42004	0:禁止 1:使能 和寄存器42004一起使用，BTC/ETC使用

4	42004	Feed Power Allowable On Grid Power	防逆流允许并网功率	RW	S32	2	N/A	W	[-50000,50000]	Y	as FeedPowerEnable is set as 1, then use this register to set the max export power allowed,For BTC/ETC If the maximum AC power of the energy storage machine is greater than 30K or when the machine is combined, the anti-counter-current power is set using this register	将防逆流开关设置为1，然后使用该寄存器设置允许的最大输出功率，BTC/ETC使用 储能机单机最大AC功率大于30K或并机时，防逆流功率设置值使用该寄存器
5	42006	3 Phase Feed Power Enable	三相防逆流开关	RW	S32	1	N/A	N/A	[0,1]	Y	For BTC/ETC	BTC/ETC使用
6	42007	R Phase Feed Power Parameter	R相防逆流功率	RW	S32	2	N/A	W	[-20000,20000]	Y		
7	42009	S Phase Feed Power Parameter	S相防逆流功率	RW	S32	2	N/A	W	[-20000,20000]	Y		
8	42011	T Phase Feed Power Parameter	T相防逆流功率	RW	S32	2	N/A	W	[-20000,20000]	Y		

ETC Parameter												
2	42101	Remote Comm Loss Time	远程通讯异常时间	RW	U16	1	1	S	[0,65536]	Y	Config Remote Communication Loss Time 0: Disable Remote communication loss detection feature	配置远程通讯异常时间 0：禁止远程通讯异常检测功能
ETC Parameter												
1	42200	STS Module Installed	STS模块安装	RW	U16	1	1	N/A	[0,1]	Y	Config installation of STS module 0:STS module not installed 1:STS module installed	配置STS模块是否安装 0:STS模块未安装 1:STS模式安装

#Address		English Name	Chinese Name	#R/W	#Type	#Size	#SF	#Units	Range	Flash Save	Note(English)	Note(Chinese)
Com Setting												
12	45127	Modbus Address	Modbus地址	RW	U16	1	1	N/A	[0,247]	Y	The deFault is 247. if multiple inverters are connected to the same controller, addr of each inverter must be different and 247 should not be used for any inverter	默认值为247。如果多台逆变器连接在同一个控制器上，每台逆变器的地址必须不同，且任何一台逆变器不能使用247
14	45132	485 Modbus Baudrate	485 Modbus波特率	RW	U32	2	1	N/A	[1,5]||[9600,115200]	Y	When the value is between 1 and 5, 1:9600; 2:19200; 3:38400; 4:57600; 5:115200 if set wrong, EMS communicaiton fails	当值在1到5之间时,1:9600; 2:19200; 3:38400; 4:57600; 5:115200 若果设置错误，则EMS通讯失败
17	45153	Modbus Protocol Type	modbus协议类型	RW	STR	1	1	N/A		Y	“0”goodwe “1” sunspec	“0”固德威 “1” SUNSPEC
Function Setting												
1	45200	RTC Setting	设备RTC时间	RW	U16	1	1	N/A	[13,99]-[1,12]	N	High Byte:Year/Low Byte:Month	高字节:年/低字节:月
2	45201	RTC Setting	设备RTC时间	RW	U16	1	1	N/A	[1,31]-[0,23]	N	High Byte:Day/Low Byte:Hour	高字节:日/低字节:时
3	45202	RTC Setting	设备RTC时间	RW	U16	1	1	N/A	[0,59]-[0,59]	N	High Byte:Minute/Low Byte:Second	高字节:分/低字节:秒
6	45216	Restore Factory Setting	恢复出厂设置	WO	U16	1	1	N/A	[1]	N	Choose "Warehouse" safety code first and then Set "1" to factory settings	先选择“Warehouse”安全码，然后将“1”设置为出厂设置
7	45217	Clear Data	清除数据	WO	U16	1	1	N/A	[1]	N	Reset inverter accumulated data like E-total, E-day, error log running data etc.	复位逆变器累计数据如E-total、E-day、错误日志运行数据等。

10	45220	Restart	重启	WO	U16	1	1	N/A	[1]	N	Inverter will recheck and reconnect to utility again. Inverter does not shutdown.	逆变器将再次检查并重新连接到实用程序。逆变器不停机
12	45222	PV Energy-Total	PV 总电量	RW	U32	2	10	1KW.Hr		Y	To read or write the total PV production energy from the installation date.	读取或写入自安装日起的光伏总发电量
13	45224	PV Energy-Day	PV 日电量	RW	U32	2	10	1KW.Hr		Y	To read or write the total PV production energy of the day.	读取或写入每天的光伏发电量
14	45226	Energy-Total-Sell	总卖电量	RW	U32	2	10	1KW.Hr		Y	To read or write the accumulated exporting energy to Grid from the installation date.	读取或写入自安装之日起累计输至电网的电量
15	45228	Hour-Total	累计工作时间	RW	U32	2	1	H		Y	To read or write the accumulated operation hours from the installation date.	读取或写入自安装之日起累计工作时间
16	45230	Energy-Day-Sell	日卖电量	RW	U16	1	10	1KW.Hr		Y	To read or write the accumulated exporting energy to Grid of the day.	读取或写入自每天输至电网的电量
17	45231	Energy-Total-Buy	总买电量	RW	U32	2	10	1KW.Hr		Y	To read or write the accumulated energy imported from Grid from the installation date.	读取或写入自安装之日起累计从电网输入的电量
18	45233	Energy-Day-Buy	日买电量	RW	U16	1	10	1KW.Hr		Y	To read or write the accumulated energy imported from Grid of the day.	读取或写入每天从电网输入的电量
19	45234	Energy-Total-Load	总负载电量	RW	U32	2	10	1KW.Hr		Y	To read or write the accumulated load consumption energy from the installation date, not include backup load.	读取或写入自安装之日起累计的负载消耗电量，不包括backup负载。

20	45236	Energy-Load-Day	日负载电量	RW	U16	1	10	1KW.Hr		Y	To read or write the accumulated load consumption energy of the day Not include backup loads.	读取或写入每天的负载消耗电量 ，不包括backup负载。
21	45237	Energy-Battery Charge	总电池充电量	RW	U32	2	10	1KW.Hr		Y	To read or write the accumulated energy charged to Battery from the installation date,not from BMS.	读取或写入从安装之日起累计向电池充电的电量，不是从BMS
22	45239	Energy-Charge-Day	日电池充电量	RW	U16	1	10	1KW.Hr		Y	To read or write the accumulated energy charged to Battery of the day,not from BMS.	读取或写入每天向电池充电的电量，不是从BMS
23	45240	Energy-Battery Discharge	总电池放电量	RW	U32	2	10	1KW.Hr		Y	To read or write the accumulated energy Battery discharged, from the installation date,not from BMS.	读取或写入从安装之日起累计向电池放电的电量，不是从BMS
24	45242	Energy-Discharge-Day	日电池放电量	RW	U16	1	10	1KW.Hr		Y	To read or write the accumulated energy Battery discharged, of the day,not from BMS.	读取或写入每天向电池放电的电量，不是从BMS
26	45244	Safety Country	安规国家	RW	U16	1	1	N/A	[0,65535]	N	To set safety code for inverter or read the preset safety code for the inverter.	设置逆变器安全码或读取预设的逆变器安全码
27	45245	ISO Limit	ISO限值	RW	U16	1	1	10kΩ	[0,1000]	Y	deFault 100kΩ, to read or set Isolation protection threshold for the inverter	默认100kΩ，读取或设置逆变器的“隔离保护阈值”
28	45246	LVRT Enable	低电压穿越使能	RW	U16	1	1	N/A	[0,1]	Y	as deFault is deactivated, set "1" to activate LVRT functtion, Set "2" to activate HVRT The same as 45499	默认激活，设置“1”为开启LVRT功能，设置“2”为开启HVRT功能 和45499一样
32	45250	PV Start Voltage	PV 启动电压	RW	U16	1	10	V	[1800,8500]	Y	To write or read the start up PV Voltage of the inverter.Please refer to the user manual.	写入或读取逆变器的启动PV电压。请参考使用手册

33	45251	Enable MPPT4 Shadow	阴影扫描使能	RW	U16	1	1	N/A	[0,1]	Y	as deFault is deactivated, set "1" to activate "Shadow Scan" functtion	默认禁用，设置"1"激活"阴影扫描" 功能
34	45252	BackUp Enable	backup使能	RW	U16	1	1	N/A	[0,1]	Y	as deFault is activated, set "0" to deactivate "Backup" functtion	默认激活，设置“0”禁用“Backup”功能
35	45253	Auto Start Backup	backup自启动	RW	U16	1	1	N/A	[0,1]	Y	Off-Grid Auto startup, as deFault is deactivated, set "1" to activate "Shadow Scan" functtion.	离网自动启动，默认激活，设置“1”激活“阴影扫描”功能
36	45254	Grid Wave Check	电网波形检测	RW	U16	1	1	N/A	[0,2]	Y	Default: 0	默认为"0"
37	45255	Rapid Cut Off	快速切断	RW	U16	1	1	N/A		N	Reapid shutdown,to cut Grid connection, System turn to off-Grid operation.	快速关闭，切换电网连接系统至离网运行。
38	45256	Backup Start Delay	backup启动延时	RW	U16	1	1	N/A		N	Default: 1500 (30s)	默认1500(30s)
39	45257	UPS Standard Voltage Type	不间断电源标准电压类型	RW	U16	1	N/A	N/A	[0,3]	Y	0:208V, 1:20V, 2:240V, 3:230V	0:208V, 1:220V, 2:240V, 3:230V
45	45263	Derate Rate(VDE)	安规降额	RW	U16	1	N/A	N/A	[0,100]	Y	decrease the load,only can set 70, only for German	降载70%,只能设置70,且仅用于德国
46	45264	Three Phase Unbalanced Output	三相不平衡输出	RW	U16	1	N/A	N/A	[0,1]	Y	this function is deactivated as deFault, set "1" to activate. After activated, All power needs to be turned off and restarted	该功能默认禁用,设置"1"激活。激活后, 所有的电源都需要关闭并重新启动
48	45266	High Impedance Mode	高阻抗模式	RW	U16	1	N/A	N/A		Y	For weak Grid area	用于弱电区域
53	45271	ARC Self Check	拉弧自检	WO	U16	1	N/A	1	[1450]	N	only for inverters with AFCI function	仅用于带电弧分段保护功能的逆变器
54	45272	ARC Fault Remove	拉弧故障手动清除	WO	U16	1	N/A	1	[1290]	N		
57	45275	ISO Check Mode	ISO检测模式	RW	U16	1	N/A	1	[0,1]	Y	0:Normal mode 1:cancel ISO test when offGrid to onGrid	0:常规模式 1:当离网转并网时取消ISO测试
58	45276	Off Grid To On Grid Delay	离网转并网延迟	RW	U16	1	N/A	sec	[10,7200]	Y	The delay time when Grid is available	电网可用时的延时时间
59	45277	Off Grid Under Voltage Protect Ccoefficient	离网输出欠压保护系数	RW	U16	1	N/A	%	[50,90]	Y	If set 80%, when offGrid output Voltage less than 230*80%=184V, inverter will have the error.DeFault setting is 80%.	如果设置为80%，当离网输出电压小于230*80%=184V,逆变器会发生故障。默认设置为80%。

60	45278	Battery Mode PV Charge Enable	PV给电池模式充电使能	RW	U16	1	1	1	[0,1]	Y	When offGrid and the Battery SOC is low, PV charge the Battery first.	当离网和电池剩余电量过低, PV优先给电池充电
61	45279	DCV Check Coefficient	离网DCV检测系数	RW	U16	1	N/A	N/A	[1,20]	Y	Default: 1	默认设置为1
62	45280	Force MircoGrid Run	微网强制启动充电	RW	U16	1	N/A	N/A	[0,1]	Y	Only for MircoGrid Function inverter	仅用于具有微网功能的逆变器 0:常规模式 1:无视电池DOD，进入微网充电
63	45281	Battery PreCharge Function	电池预充电功能	RW	U16	1	N/A	1	[0，1]	Y	For configuring whether the Battery comes with a pre-charge function	用于配置电池是否自带预充电功能
68	45286	GL Operation Mode Control Duration	GL工作模式控制有效时长	RW	U16	1	N/A	sec	[0,65535]	Y		
70	45288	PE Relay Switch	接地继电器开关	RW	U16	1	N/A	N/A	[0,1]	Y	1 close 0 open	1:闭合 0:断开
71	45289	GFCI fault remove	GFCI故障手动清除	WO	U16	1	N/A	N/A	[0，0x050A]	N		写入0x050A清除GFCI故障
73	45291	PV Connect Mode	PV 接入模式设置	RW	U16	1	N/A	N/A	[0，255]	N	PV Connect Mode，Set 0 for each MPPT，Set 1 for 12,34MPPT,Set 2 for 1MPPT	PV接入模式，设置0，4路单独MPPT，设置12路并联MPPT，34路并联MPPT，设置2，4
74	45292	GFCI Disable Check	GFCI禁止检测	RW	U16	1	N/A	N/A	[0,1]	Y	0:Normal mode 1:cancel GFCI check	0:常规模式 1:产线校正站并网不进行GFCI检
75	45293	SPD enable	防雷报警使能	RW	U16	1	N/A	N/A	[0,1]	Y		1：使能防雷报警功能
76	45294	Force MircoGrid Frequence Adjust	强制启动微网频率控制	RW	U16	1	N/A	N/A	[0，1]	Y	Only for MircoGrid Function inverter	仅用于具有微网功能的逆变器
77	45295	Shadow scan cycle setting	阴影扫描周期设定	RW	U16	1	N/A	Min	[5，300]	Y		

78	45296	PV only UPS Auto En	单独PV供电离网自启动使能	RW	U16	1	N/A	N/A	[0,1]	Y	1:Enable	1：使能单PV供电离网自启动使能
79	45297	Ac Phase Order Self-Adaption	AC相序自适应开关	RW	U16	1	N/A	N/A	[0,1]	Y	1:Enable	1：使能AC相序自适应开关
80	45298	AFCI Fault Reconnect Time	AFCI故障自动重连时间	RW	U16	1	N/A	s	[10,3600]	Y	Default: 300s	设置AFCI故障出现后故障自动清除的时间（默认300s）
81	45299	AFCI Fault Reconnect Count Limit	AFCI故障重连次数限制(单日)	RW	U16	1	N/A	N/A	[0,1000]	Y	Default: 5 times	设置单日内允许自动清除AFCI故障的最大次数（默认5次）
82	45300	Port multiplexing mode	端口复用模式选择	RW	U16	1	1	N/A	[0,2]	Y	ESC Port multiplexing mode (default: 0) 0: generator mode 1: Large load mode 2: indicates the normal BACKUP mode	ESC端口复用模式（默认为0） 0：发电机模式 1：大负载模式 2：普通BACKUP模式
83	45301	PV charge enable	PV充电使能	RW	U16	1	1	N/A	[0,1]	Y		
84	45302	Battery SPS SW_TurnOff Enable	电池sps软件关机使能	RW	U16	1	1	N/A	[0,1]	Y	ES G2	ESG2/ES Uniq适用
85	45303	Battery SPS TurnOff Value	电池sps关机点	RW	U16	1	10	V	[300,480]	Y	ES G2	ESG3/ES Uniq适用
86	45304	PX Curve Enable	PX曲线开关	RW	U16	1	1	N/A	[0,1]	Y	Three-phase inverter	三相机适用
87	45305	PX Curve Voltage Value	PX电压设定阈值	RW	U16	1	10	V	[2300, 3000]	Y	Three-phase inverter	三相机适用

DSP BAT setting												
1	45350	Lead Battery Capacity	电池容量	RW	U16	1	1	AH	[25,2000]	Y		
2	45351	Battery Strings	电池节数	RW	U16	1	1	N/A	[4,12]	Y		
3	45352	Battery Charge Volaget Max	电池最大充电电压	RW	U16	1	10	V	[400,7200]	Y	these registers is to set the protection Parameters on Battery charge/discharge operation ON INVERTER SIDE. The real operation will still follow Battery BMSlimitations (or registers 47900~47916) if it is not out of the range. Eg. Set BattChargeCurrMax (45353) as 25A, but Battery BMSlimit the max charge Current as 20A, then the Battery charge at max 20A. but if Battery BMSlimit max charge Current as 50A, then the real charge Current of the Battery will exceed 25A.	这些寄存器在逆变器侧电池充电/放电运行处设置保护参数。如果没有超出范围，实际运行仍将遵循电池BMS限制(或寄存器47900~47916)。 例如：设置电池最大充电电流(45353)为25A,但电池BMS限制最大充电电流为20A,电池会以最大20A进行充电。但如果电池BMS将最大充电电流限制为50A，那么电池的实际充电电流将超过25A。
4	45353	Battery Charge Current Max	电池最大充电电流	RW	U16	1	10	A	[0,3000]	Y		
5	45354	Battery Voltage Under Min	电池电压下限	RW	U16	1	10	V	[0,5760]	Y		
6	45355	Battery Discharge Current Max	电池最大放电电流	RW	U16	1	10	A	[0,3000]	Y		
7	45356	Battery SOC Under	电池剩余电量下限	RW	U16	1	1	%	[0,100]	Y		
8	45357	Battery Offline Voltage Under Min	电池离网电压下限	RW	U16	1	10	V	[0,5760]	Y		
9	45358	Battery Offline SOC Under Min	电池离网剩余电量下限	RW	U16	1	N/A	%	[0,100]	Y		

40	45389	Separate Battery Mode	电池接入方式	RW	U16	1	1	N/A	[0,1]	Y		
Safety Parameter Setting												
1	45400	Grid Voltage High S1	过压触发一阶值	RW	U16	1	10	V	[600,3000]	Y		
2	45401	Grid Voltage High S1 Time	过压触发一阶跳脱时间	RW	U16	1	1	periods	[1,65535]	Y		
3	45402	Grid Voltage Low S1	欠压触发一阶值	RW	U16	1	10	V	[600,3000]	Y		
4	45403	Grid Voltage Low S1 Time	欠压触发一阶跳脱时间	RW	U16	1	1	periods	[1,65535]	Y		
5	45404	Grid Voltage High S2	过压触发二阶值	RW	U16	1	10	V	[600,3000]	Y		
6	45405	Grid Voltage High S2 Time	过压触发二阶跳脱时间	RW	U16	1	1	periods	[1,65535]	Y		
7	45406	Grid Voltage Low S2	欠压触发二阶值	RW	U16	1	10	V	[600,3000]	Y		
8	45407	Grid Voltage Low S2 Time	欠压触发二阶跳脱时间	RW	U16	1	1	periods	[1,65535]	Y		
9	45408	Grid Voltage Quality	10min过压触发值	RW	U16	1	10	V	[600,3000]	Y		
10	45409	Grid Frequency High S1	过频触发一阶值	RW	U16	1	100	Hz	[3000,8000]	Y		
11	45410	Grid Frequency High S1 Time	过频触发一阶跳脱时间	RW	U16	1	1	periods	[1,65535]	Y		
12	45411	Grid Frequency Low S1	欠频触发一阶值	RW	U16	1	100	Hz	[3000,8000]	Y		
13	45412	Grid Frequency Low S1 Time	欠频触发一阶跳脱时间	RW	U16	1	1	periods	[1,65635]	Y		
14	45413	Grid Frequency High S2	过频触发二阶值	RW	U16	1	100	Hz	[3000,8000]	Y		
15	45414	Grid Frequency High S2 Time	过频触发二阶跳脱时间	RW	U16	1	1	periods	[1,65635]	Y		
16	45415	Grid Frequency Low S2	欠频触发二阶值	RW	U16	1	100	Hz	[3000,8000]	Y		

17	45416	Grid Frequency Low S2 Time	欠频触发二阶跳脱时间	RW	U16	1	1	periods	[1,65635]	Y		
18	45417	Grid Voltage High	连接电压上限	RW	U16	1	10	V	[600,3000]	Y		
19	45418	Grid Voltage Low	连接电压下限	RW	U16	1	10	V	[600,3000]	Y		
20	45419	Grid Frequency High	连接频率上限	RW	U16	1	100	Hz	[3000,8000]	Y		
21	45420	Grid Frequency Low	连接频率下限	RW	U16	1	100	Hz	[3000,8000]	Y		
22	45421	Waiting Time of On	并网等待时间	RW	U16	1	1	s	[1,1200]	Y		
23	45422	Grid Voltage Recover High of Fault Condition	故障条件连接电压上限	RW	U16	1	10	V	[600,3000]	Y		
24	45423	Grid Voltage Recover Low High of Fault Condition	故障条件连接电压下限	RW	U16	1	10	V	[600,3000]	Y		
25	45424	Grid Frequency Recover High High of Fault Condition	故障条件连接频率上限	RW	U16	1	100	Hz	[3000,8000]	Y		
26	45425	Grid Frequency Recover Low High of Fault Condition	故障条件连接频率下限	RW	U16	1	100	Hz	[3000,8000]	Y		
27	45426	Waiting Time of On Grid of Voltage Fault	电压故障条件并网等待时间	RW	U16	1	1	s	[1,1200]	Y		
28	45427	Waiting Time of On Grid of Frequency Fault Condition	频率故障条件并网等待时间	RW	U16	1	1	s	[1,1200]	Y		
29	45428	On Grid Power Slope	并网功率斜率	RW	U16	1	1	s	[0,1200]	Y		
30	45429	On Grid Power Slope of Fault Condition	故障条件并网功率斜率	RW	U16	1	1	s	[0,1200]	Y		
31	45430	Power Decrease Slope	功率减少斜率	RW	U16	1	100	N/A	[0,1200]	Y		
32	45431	On Grid Protect Switch	并网保护开关	RW	U16	1	1	N/A	[0,1]	Y		
33	45432	On Grid Slope Switch	并网斜率开关	RW	U16	1	1	N/A	[0,1]	Y		
34	45433	Enable Curve	cos φ (P)曲线	RW	U16	1	1	N/A	[0,1]	Y		
35	45434	A Point Power	A点功率	RW	S16	1	1	‰	[-1000, 1000]	Y		

36	45435	A Point cos φ	A点cos φ值	RW	S16	1	1	N/A	[-100, 100]	Y		
37	45436	B Point Power	B点功率	RW	S16	1	1	‰	[-1000, 1000]	Y		
38	45437	B Point cos φ	B点cos φ值	RW	S16	1	1	N/A	[-100, 100]	Y		
39	45438	C Point Power	C点功率	RW	S16	1	1	‰	[-1000, 1000]	Y		
40	45439	C Point cos φ	C点cos φ值	RW	S16	1	1	N/A	[-100, 100]	Y		
41	45440	Lock In Curve Voltage	进入曲线电压	RW	U16	1	10	V	[600, 3000]	Y		
42	45441	Lock Out Curve Voltage	退出曲线电压	RW	U16	1	10	V	[600, 3000]	Y		
43	45442	Lock Out Curve Power	退出曲线功率	RW	S16	1	1	‰	[-1000, 1000]	Y		
44	45443	Over Frequency Decrese Load Curve	过频降载曲线	RW	U16	1	1	N/A	[0,1]	Y	bit0: 0:off,1:on bit1:response mode 1:fstop,0: slope	bit0: 0:关闭,1:打开 bit1:响应模式 1:fstop, 0:斜坡
45	45444	Ffrozen-Discharge (Frequency of Pm)	放电模式过频点	RW	U16	1	100	Hz	[3000,8000]	Y		
46	45445	Ffrozen-Charge (Frequency of Pm)	充电模式欠频点	RW	U16	1	100	Hz	[3000,8000]	Y		
47	45446	fstop-Discharge	放电模式过频终点	RW	U16	1	100	Hz	[3000,8000]	Y		
48	45447	fstop-Charge	充电模式欠频终点	RW	U16	1	100	Hz	[3000,8000]	Y		
49	45448	Over Frequency Recovery Waiting Time	过频恢复等待时间	RW	U16	1	100	s	[0,1200]	Y		
50	45449	Recovery Frequency1	恢复频率上限	RW	U16	1	100	Hz	[3000,8000]	Y		
51	45450	Recovery Frequency2	恢复频率下限	RW	U16	1	100	Hz	[3000,8000]	Y		
52	45451	Over Frequency Recovery Slope	过频恢复斜率	RW	U16	1	1	N/A	[0,1200]	Y		

53	45452	Frequency Power Curve Configuration	频率功率曲线配置寄存器	RW	U16	1	1	N/A	[0,65535]	Y		
54	45453	Over Frequency Decrease Load Slope	过频降载斜率	RW	S16	1	1	‰/Hz	[-1000, 1000]	Y		
55	45454	Over Frequency Increase Load Slope	欠频加载斜率	RW	S16	1	1	‰/Hz	[-1000, 1000]	Y		
56	45455	Over Frequency Recover Rate	过频恢复速率	RW	S16	1	1	‰/Min	[-1000, 2000]	Y		
57	45456	QU Curve	QU曲线	RW	U16	1	1	N/A	[0,1]	Y		
58	45457	Lock In Curve Power	进入曲线功率	RW	S16	1	1	‰	[-1000, 1000]	Y		
59	45458	Lock Out Curve Power	退出曲线功率	RW	S16	1	1	‰	[-1000, 1000]	Y		
60	45459	V1 Voltage	V1电压值	RW	U16	1	10	V	[600, 3000]	Y		
61	45460	V1 Value (var % Rated VA)	V1无功值	RW	S16	1	1	‰	[-1000, 1000]	Y		
62	45461	V2 Voltage	V2电压值	RW	U16	1	10	V	[600, 3000]	Y		
63	45462	V2 Value (var % Rated VA)	V2无功值	RW	S16	1	1	‰	[-1000, 1000]	Y		
64	45463	V3 Voltage	V3电压值	RW	U16	1	10	V	[600, 3000]	Y		
65	45464	V3 Value (var % rated VA)	V3无功值	RW	S16	1	1	‰	[-1000, 1000]	Y		
66	45465	V4 Voltage	V4电压值	RW	U16	1	10	V	[600, 3000]	Y		
67	45466	V4 Value (var % rated VA)	V4无功值	RW	S16	1	1	‰	[-1000, 1000]	Y		
68	45467	K Value	K值	RW	U16	1	1	N/A	[0,65535]	Y		
69	45468	Filter Time Constant	滤波时间常数	RW	U16	1	1	N/A	[0,4096]	Y		
70	45469	Miscellanea	杂项	RW	U16	1	1	N/A	[0,65535]	Y		
71	45470	Rated Voltage(Korea)	额定电压(韩国)	RW	U16	1	1	N/A	[0,65535]	Y		
72	45471	Response Time(Korea)	响应时间(韩国)	RW	U16	1	1	N/A	[0,65535]	Y		
73	45472	PU Curve	PU曲线	RW	U16	1	1	N/A	[0,1]	Y		
74	45473	Power Change Rate	功率变化速率	RW	U16	1	1	s	[0,1200]	Y		
75	45474	V1 Voltage	V1电压值	RW	U16	1	10	V	[600,3000]	Y		

76	45475	V1 Value ((P/Pn)%)	V1有功值	RW	S16	1	1	‰	[-1000,1000]	Y		
77	45476	V2 Voltage	V2电压值	RW	U16	1	10	V	[600,3000]	Y		
78	45477	V2 Value ((P/Pn)%)	V2有功值	RW	S16	1	1	‰	[-1000,1000]	Y		
79	45478	V3 Voltage	V3电压值	RW	U16	1	10	V	[600,3000]	Y		
80	45479	V3 Value ((P/Pn)%)	V3有功值	RW	S16	1	1	‰	[-1000,1000]	Y		
81	45480	V4 Voltage	V4电压值	RW	U16	1	10	V	[600,3000]	Y		
82	45481	V4 Value ((P/Pn)%)	V4有功值	RW	S16	1	1	‰	[-1000,1000]	Y		
83	45482	Fixed Power Factor	固定功率因数	RW	U16	1	1	N/A	[0,20]||[80,100]	Y	80=0.8Pf , 20= -0.8Pf	80=0.8Pf , 20= -0.8Pf
84	45483	Fixed Reactive Power	固定无功功率	RW	S16	1	1	‰	[-600, 600]	Y	Set the percentage of rated power of the inverter	设置逆变器额定功率百分比
85	45484	Fixed Active Power	固定有功功率	RW	U16	1	1	‰	[0, 1000]	Y		
86	45485	Grid Limit By Voltage Start Voltage	电网限制按电压启动电压	RW	U16	1	1	N/A	[0,65535]	Y	Only for Japan	仅用于日本
87	45486	Grid Limit By Voltage Start Percent	按电压启动百分比的电网限制	RW	U16	1	1	N/A	[0,65535]	Y		
88	45487	Grid Limit By Voltage Slope	按电压启动斜率的电网限制	RW	U16	1	1	N/A	[0,65535]	Y		
92	45491	All Power Curve Disable	禁用所有功率曲线	RW	U16	1	1	N/A	[0,1]	Y	this must be turned off to do Meter test . "1" means Off	进行仪表测试时必须关闭，"1"为关闭

93	45492	R Phase Fixed Active Power	R相固定有功功率	RW	U16	1	1	‰	[0,1000]	Y	If it is 1-phase inverter, then use only R phase. Unbalance output function must be turned on to set different values for R/S/T phases.	如果是单相逆变器则只用R相。必须打开不平衡输出功能，以便为R/S/T相设置不同的值。
94	45493	S Phase Fixed Active Power	S相固定有功功率	RW	U16	1	1	‰	[0,1000]	Y		
95	45494	T Phase Fixed Active Power	T相固定有功功率	RW	U16	1	1	‰	[0,1000]	Y		
96	45495	Grid Voltage High S3	过压触发三阶值	RW	U16	1	10	V	[2200,2992]	Y	Only for countries where it needs 3-stage Grid Voltage protection, Eg. Czech Republic.	仅适用于需要3级电网电压保护的国家，如捷克共和国。
97	45496	Grid Voltage High S3 Time	过压触发三阶跳脱时间	RW	U16	1	1	periods	[1,65535]	Y		
98	45497	Grid Voltage Low S3	欠压触发三阶值	RW	U16	1	10	V	[33,220]	Y		
99	45498	Grid Voltage Low S3 Time	欠压触发三阶跳脱时间	RW	U16	1	1	periods	[1,65535]	Y		
100	45499	Zvrt Configuration	高低穿寄存器	RW	U16	1	1	N/A	[0,3]	Y	0:Disable 1:Only Lvrt 2:Only Hvrt 3: Both Lvrt&Hvrt	0:关闭 1:仅打开低穿 2:仅打开高穿 3:高低穿都打开
101	45500	Lvrt Start Voltage	低穿起点电压	RW	U16	1	10	V	[0,2300]	Y		
102	45501	Lvrt End Voltage	低穿终点电压	RW	U16	1	10	V	[0,2300]	Y		
103	45502	Lvrt Start Trip Time	低穿起点跳脱时间	RW	U16	1	1	periods	[1,65535]	Y		
104	45503	Lvrt End Trip Time	低穿终点跳脱时间	RW	U16	1	1	periods	[1,65535]	Y		
105	45504	Lvrt Trip Limit Voltage	低穿跳脱阈值	RW	U16	1	10	V	[0,2300]	Y		
106	45505	Hvrt Start Voltage	高穿起点电压	RW	U16	1	10	V	[1000,3000]	Y		
107	45506	Hvrt End Voltage	高穿终点电压	RW	U16	1	10	V	[1000,3000]	Y		
108	45507	Hvrt Start Trip Time	高穿起点跳脱时间	RW	U16	1	1	periods	[1,65535]	Y		
109	45508	Hvrt End Trip Time	高穿终点跳脱时间	RW	U16	1	1	periods	[1,65535]	Y		

110	45509	Hvrt Trip Limit Voltage	高穿跳脱阈值	RW	U16	1	10	V	[2300,3000]	Y		
111	45510	PF Time Constant	PF滤波时间常数	RW	U16	1	1	N/A	[0, 4096]	Y		
112	45511	Power Frequency Filter Time Constant	频率曲线滤波时间常数	RW	U16	1	NA	N/A	[0, 4096]	Y		
113	45512	PU Curve Filter Time Constant	PU曲线滤波时间常数	RW	U16	1	1	N/A	[0, 4096]	Y	0:Disable 1:Only Lvrt 2:Only Hvrt 3: Both Lvrt&Hvrt	0:关闭 1:仅打开低穿 2:仅打开高穿 3:高低穿都打开
114	45513	D Point Power	D点功率	RW	S16	1	1	‰	[-1000, 1000]	Y		
115	45514	D Point cosφ	D点cos φ值	RW	S16	1	1	N/A	[-100, 100]	Y		
116	45515	Under Frequency Recovery Waiting Time	欠频恢复等待时间	RW	U16	1	1	s	[0,1200]	Y		
117	45516	Under Frequency Recovery Slope	欠频恢复斜率	RW	U16	1	1	s	[0,1200]	Y		
118	45517	Under Frequency Power Rate	欠频恢复速率	RW	U16	1	1	‰/Min	[-1000, 2000]	Y		
119	45518	On Grid Charging Power Slope	并网充电功率斜率	RW	U16	1	1	s	[0,1200]	Y		
120	45519	On Grid Charging Power Slope of Fault	故障条件并网充电功率斜率	RW	U16	1	1	s	[0,1200]	Y		
121	45520	Under Frequency Stop Charging Frequency	欠频停止充电频率	RW	U16	1	100	Hz	[3000,8000]	Y		
122	45521	Over Frequency Stop Charging Frequency	过频停止放电频率	RW	U16	1	100	Hz	[3000,8000]	Y		
123	45522	Over/Under Frequency Two Step Flag	过/欠频曲线两段标志	RW	U16	1	1	N/A	[0,1]	Y		
124	45523	Frequency Extension Function Bit	频率曲线拓展功能标志位	RW	U16	1	1	N/A	[0,2]	Y	Holu special requirements: 0:No effect 1:Enable only over frequency curve 2:Enable only under frequency curve	Holu特殊需求: 0:无作用 1:仅使能过频曲线 2:仅使能欠频曲线
125	45524	Protect parameter uint	安规PF设置方式	RW	U16	1	1	N/A	[0,2]	Y	1：Setting method is -0.8~+0.8 Not 1：Setting method is 1-20、80-100	1：正负0.8的设置方式 非1：1-20、80-100的设置方式

1	45526	PQ Curve Enable	PQ曲线使能	RW	U16	1	1	N/A	[0,1]	Y		
2	45527	Point1 Active Power	P1点有功功率	RW	S16	1	1	‰	[-1000,1000]	Y		
3	45528	Point1 Reactive Power	P1点无功功率	RW	S16	1	1	‰	[-1000,1000]	Y		
4	45529	Point2 Active Power	P2点有功功率	RW	S16	1	1	‰	[-1000,1000]	Y		
5	45530	Point2 Reactive Power	P2点无功功率	RW	S16	1	1	‰	[-1000,1000]	Y		
6	45531	Point3 Active Power	P3点有功功率	RW	S16	1	1	‰	[-1000,1000]	Y		
7	45532	Point3 Reactive Power	P3点无功功率	RW	S16	1	1	‰	[-1000,1000]	Y		
8	45533	Point4 Active Power	P4点有功功率	RW	S16	1	1	‰	[-1000,1000]	Y		
9	45534	Point4 Reactive Power	P4点无功功率	RW	S16	1	1	‰	[-1000,1000]	Y		
10	45535	Point5 Active Power	P5点有功功率	RW	S16	1	1	‰	[-1000,1000]	Y		
11	45536	Point5 Reactive Power	P5点无功功率	RW	S16	1	1	‰	[-1000,1000]	Y		
12	45537	Point6 Active Power	P6点有功功率	RW	S16	1	1	‰	[-1000,1000]	Y		

13	45538	Point6 Reactive Power	P6点无功功率	RW	S16	1	1	‰	[-1000,1000]	Y		
14	45539	Fixed Power Factor Flag	固定PF使能标志	RW	U16	1	1	N/A	[0,1]	Y	1547-1 Communication Requirements	1547-1通讯需求
15	45540	Power Factor	固定PF功率因数	RW	U16	1	100	N/A	[0,1000]	Y		
16	45541	Fixed PF Power Factor Over\Under	固定PF功率因数超前\滞后	RW	U16	1	1	N/A	[0,1]	Y	1：Lead；0：Lag	1：超前；0：滞后
17	45542	Fixed Q Power Flag	固定Q使能标志	RW	U16	1	1	N/A	[0,1]	Y		
18	45543	Fixed P Power Flag	固定P使能标志	RW	U16	1	1	N/A	[0,1]	Y		
19	45544	QU Reference Voltage Adjust Flag	QU基准电压校准标志位	RW	U16	1	1	N/A	[0,1]	Y		
20	45545	QU Reference Voltage Adjust Time	QU基准电压校调节时间	RW	U16	1	1	s	[300,5000]	Y		
21	45546	QU Reference Voltage Adjust Value	QU基准电压校准值	RW	U16	1	10	V	[2000,2560]	Y		
22	45547	Frequency Droop Dead Beat	功率频率曲线过频死区	RW	U16	1	100	Hz	[0,200]	Y		
23	45548	Frequency Droop Dead Beat	功率频率曲线欠频死区	RW	U16	1	100	Hz	[0,200]	Y		
24	45549	Power Frequency Curve Slope of Over Frequency and	功率频率曲线过频降载斜率	RW	U16	1	100	Hz/‰	[200,500]	Y		
25	45550	Power Frequency Curve Slope of Over Frequency and	功率频率曲线过频加载斜率	RW	U16	1	100	Hz/‰	[200,500]	Y		
26	45551	Power Frequency Curve Reponse Time	功率频率曲线响应时间	RW	U16	1	100	s	[0,10]	Y		

27	45552	FCAS Ready Enable	FCAS准备使能	RW	U16	1	1	N/A	[0,1]	Y	FCAS Function Requirements	FCAS功能需求
28	45553	Under Frequency Start	欠频起始点	RW	U16	1	100	Hz	[3000,8000]	Y		
29	45554	Over Frequency Start	过频起始点	RW	U16	1	100	Hz	[3000,8000]	Y		
30	45555	Under Frequency End	欠频终点	RW	U16	1	100	Hz	[3000,8000]	Y		
31	45556	Over Frequency End	过频终点	RW	U16	1	100	Hz	[3000,8000]	Y		
32	45557	Frequency Response Resolution Ratio	频率响应分辨率	RW	U16	1	100	Hz	[1,1000]	Y		
33	45558	Min Discharge SOC	放电最小剩余电量	RW	U16	1	1	%	[0，100]	Y		
34	45559	Max Charge SOC	充电最大剩余电量	RW	U16	1	1	%	[0，100]	Y		
35	45560	Discharge Duration	放电持续时间	RW	U16	1	1	sec	[0,65535]	Y		
36	45561	Discharge Max Power Delta	放电最大功率偏移量	RW	U16	1	1	W	0-4600	Y		
37	45562	Charge Duration	充电持续时间	RW	U16	1	1	sec	[0,65535]	Y		
38	45563	Charge Max Power	充电最大功率偏移量	RW	U16	1	1	W	0-4600	Y		
39	45564	Battery Power Charge/Discharge Enable	充放电使能	RW	U16	1	1	N/A	[0,1]	Y		
40	45565	Battery Charge Limit	电池充电功率上限	RW	U16	1	1	W	0-4600	Y		
41	45566	Battery Discharge Limit	电池放电功率上限	RW	U16	1	1	W	0-4600	Y		
42	45567	Inverter AC Input/Output Limit	逆变器买卖电上限	RW	U16	1	1	W	0-4600	Y		

43	45568	Fixed Q Filter Time Constant	定无功响应滤波时间常数	RW	U16	1	10	s	[0,60000]	Y		
44	45569	uwFrtK_Value	中压低穿无功K值	RW	U16	1	N/A	N/A	0-10	Y		
45	45570	Fixed Q Over\Under	固定无功超前\滞后	RW	U16	1	1	N/A	[0,1]	Y	1：Lead；0：Lag	1：超前；0：滞后
46	45571	QU curve operation mode	QU曲线模式	RW	U16	1	1	N/A	[0,1]	Y	0：Basic Mode 1：Slope Mode	0：基础模式；1：斜率模式
47	45572	QU curve Slope1	V1点对应斜率	RW	S16	1	10	%Qmax/1%Vn	[-2000,2000]	Y		
48	45573	QU curve Slope2	V4点对应斜率	RW	S16	1	10	%Qmax/1%Vn	[-2000,2000]	Y		
49	45574	QU curve Volt Dead	电压死区宽度	RW	U16	1	10	%Vn	[0,100]	Y		
52	45577	AS477 Parameters	安规状态标志位	RW	U16	1	1	N/A	[0,65535]	Y	Japanese safety Parameters, corresponding to the old version 0x056D (1:on 0:off) Bit14:Effective power Bit13:Reverse power prevention Bit12:OVR detection function Bit11:EMS Loss Check Bit10:Enable manual recovery Bit9:Reactive power oscillation suppression Bit8:Voltage imbalance detection Bit7:FRT. Bit6:Passive islanding Bit5:Active anti-islanding Bit4:Step reactive power injection Bit3:Frequency feedback reactive power injection Bit2:Reserved Bit1:Reserved Bit0:Invalid power	日本安规参数，对应旧版0x056D (1:on 0:off) Bit14:有效电力 Bit13:逆电力防止 Bit12:OVR检出机能 Bit11:EMS Loss Check Bit10:开启手动恢复 Bit9:无功震荡抑制 Bit8:电压不平衡检测 Bit7:FRT； Bit6:被动孤岛 Bit5:主动式反孤岛 Bit4:步进无功注入 Bit3:频率反馈无功注入 Bit2:保留 Bit1:保留 Bit0:无效电力
53	45578	Voltage Rise Suppression V1	电压上升抑制V1	RW	U16	1	10	N/A	[0,65535]	Y	Japanese safety Parameters, corresponding to the old version 0x0591	日本安规参数，对应旧版0x0591

54	45579	Voltage Rise Suppression Limit Power	电压上升抑制功率	RW	U16	1	1	N/A	[0,65535]	Y	Japanese safety Parameters, corresponding to the old version 0x0592	日本安规参数，对应旧版0x0592
55	45580	Anti-Island(Passive) Angle	被动孤岛检测阈值	RW	U16	1	1	N/A	[0,65535]	Y	Japanese safety Parameters, corresponding to the old version 0x0593	日本安规参数，对应旧版0x0593
56	45581	Volt Rise Suppression V2	电压上升抑制V2	RW	U16	1	10	N/A	[0,65535]	Y	Japanese safety Parameters, corresponding to the old version 0x0594	日本安规参数，对应旧版0x0594
57	45582	Anti-Island Status	主动孤岛状态设置	RW	U16	1	1	N/A	[0,65535]	Y	Japanese safety Parameters, corresponding to the old version 0x7150 0:regular 1:standby	日本安规参数，对应旧版0x7150 0:常规 1:备用
58	45583	On Grid Waiting Manual Recover Set	并网等待手动恢复	RW	U16	1	1	N/A	[0,65535]	Y	Japanese safety Parameters, corresponding to the old version 0x7151 Bit0:Recovery manually	日本安规参数，对应旧版0x7151 Bit0:手动恢复
59	45584	Frequency Feedback Inject Effciency	频率反馈注入效率	RW	U16	1	1	N/A	[0,65535]	Y	Japanese safety Parameters, corresponding to the old version 0x7152 0.25p.u/0.001Hz	日本安规参数，对应旧版0x7152 0.25p.u/0.001Hz
60	45585	Action Signal Pin Setting	动作信号引脚设置	RW	U16	1	1	N/A	[0,65535]	Y	Japanese safety Parameters, corresponding to the old version 0x7153 0:MODE0 1:MODE1 2:MODE2	日本安规参数，对应旧版0x7153 0:模式0 1:模式 1 2:模式2
61	45586	Output Control Time Set	出力制御时间设置	RW	S16	1	1	min	[0,10]	Y	Japanese safety Parameters 0:Disable 5-10:5min-10min	日本安规参数 0:取消线性增加/减少功率 5-10：5min-10min
62	45587	Output Control Power Set	出力制御功率设置	RW	S16	1	1	‰	[0,1000]	Y	Japanese safety Parameters	日本安规参数
63	45588	Number of Standby Transfer Set	待机转移次数设置	RW	U16	1	1	N/A	[0,65535]	Y	Japanese safety Parameters	日本安规参数
64	45589	Recovery Cycle Setting When the Number of Standby Transfer is Less Than 2	待机转移次数小于等于2时的回复周期设置	RW	U16	1	1	periods	[0,65535]	Y	Japanese safety Parameters	日本安规参数

65	45590	Recovery Cycle Setting When the Number of Standby Transfer is Less Than 3	待机转移次数等于3时的回复周期设置	RW	U16	1	1	periods	[0,65535]	Y	Japanese safety Parameters	日本安规参数
66	45591	Lost Communication Flag	通信丢失标志位	RW	U16	1	1	N/A	[0,65535]	Y	Japanese safety Parameters	日本安规参数
67	45592	Frequency Feedback Reactive Power Infection Standard Unit	频率反馈无功注入标幺值	RW	U16	1	1	0.0001p.u	[0,2500]	Y	Japanese safety Parameters	日本安规参数
68	45593	Upper limit of the generator operating voltage range	发电机工作电压范围上限	RW	U16	1	1	V	[80, 280]	Y	default 280v	默认280v
69	45594	Lower limit of the generator operating voltage range	发电机工作电压范围下限	RW	U16	1	1	V	[80, 280]	Y	default 180v	默认180v
70	45595	Upper limit of the generator operating frequency range	发电机工作频率范围上限	RW	U16	1	100	HZ	[4000, 6000]	Y	default 550	默认5500
71	45596	Lower limit of the generator operating frequency range	发电机工作频率范围下限	RW	U16	1	100	HZ	[4000, 6000]	Y	default 450	默认4500
72	45597	Delay before load	投载前延时间	RW	U16	1	1	S	[10, 300]	Y	default 10s	默认10s
73	45598	Generator safety trip	安规跳脱时间	RW	U16	1	1	S	[1,65535]	Y	Generator's Safety Parameter	发电机安规参数
74	45599	reserved	预留			1						
75	45600	uwPFUCurveFlag	PFU曲线使能	RW	U16	1	1	N/A	[0 1]	Y	default 0	默认0
76	45601	uwPFUV1Volt	V1点电压	RW	U16	1	10	V	[600 3000]	Y	default 2162	默认2162
77	45602	wPFUCurvePointAPf	A点功率因数	RW	S16	1	100	N/A	[-100 100]	Y	default 90	默认90
78	45603	uwPFUV2Volt	V2点电压	RW	U16	1	10	V	[600 3000]	Y	default 2231	默认2231
79	45604	wPFUCurvePointBPf	B点功率因数	RW	S16	1	100	N/A	[-100 100]	Y	default 100	默认100
80	45605	uwPFUV3Volt	V3点电压	RW	U16	1	10	V	[600 3000]	Y	default 2415	默认2415
81	45606	wPFUCurvePointCPf	C点功率因数	RW	S16	1	100	N/A	[-100 100]	Y	default 100	默认100

82	45607	uwPFUV4Volt	V4点电压	RW	U16	1	10	V	[600 3000]	Y	default 2484	默认2484
83	45608	wPFUCurvePointDPf	D点功率因数	RW	S16	1	100	N/A	[-100 100]	Y	default -90	默认-90
84	45609	wPFUTimeConstant	PFU曲线离散系数	RW	U16	1	10	s	[0,60000]	Y	default 0	默认0
85	45610	wPFULockInPower	进入曲线有功功率	RW	S16	1	10	%Pn	[-1000 1000]	Y	default 200	默认200
86	45611	wPFULockOutPower	退出曲线有功功率	RW	S16	1	10	%Pn	[-1000 1000]	Y	default 100	默认100
87	45612	Output power control setting	出力制御功率设置	RW	U16	1	1	W	[0,65533]	Y	Japanese safety Parameters	日本安规参数
88	45613	FIT contract type	FIT 模式 类型	RW	U16	1	1	N/A	[0,1]	Y	Japanese safety Parameters	日本安规参数
89	45614	Conversion coefficient	转换系数	RW	U16	1	1	N/A	[0,100]	Y	Japanese safety Parameters	日本安规参数
90	45615	Output power restraint status	出力制御状态	RW	U16	1	1	N/A	[65,69]	Y	Japanese safety Parameters	日本安规参数
91	45616	System interconnection status	系统互联状态	RW	U16	1	1	N/A	[0,3]	N	Japanese safety Parameters	日本安规参数
92	45617	reserved				1						
93	45618	reserved				1						
94	45619	reserved				1						
95	45620	cos φ P Mode	cos φ P曲线模式	RW	U16	1	1	N/A	[0,65535]	Y	0：Basic Mode 1：Slope Mode	0：基础模式 1：斜率模式
96	45621	reserved				1						
97	45622	QP Curve Mode	QP功能模式	RW	U16	1	1	N/A	[0,65535]	Y	0：Basic Mode 1：Slope Mode	0：基础模式 1：斜率模式
98	45623	QP Curve Slope1	QP曲线P1对应斜率	RW	S16	1	10	Qmax/10 %Pn	[-2000,2000]	Y		
99	45624	QP Curve Slope2	QP曲线P4对应斜率	RW	S16	1	10	Qmax/10 %Pn	[-2000,2000]	Y		
100	45625	Int QP Curve Grid Volt	QP曲线检入电压	RW	U16	1	10	%Vn	[500,1500]	Y		
101	45626	Out QP Curve Grid Volt	QP曲线检出电压	RW	U16	1	10	%Vn	[500,1500]	Y		
102	45627	QP Enter the curve condition enabling	QP曲线进入条件使能开关	RW	U16	1	1	N/A	[0,1]	Y	0：OFF 1：ON	0：关闭 1：打开

103	45628	QP Curve Rective Power Refer	QP无功功率参考值	RW	U16	1	1	N/A	[0,4]	Y	0：Pn Rated Power 1：Ps Apparent Power 2：Po Current Power 3：Pm Max Power 4：Qm Max Reactive Power	0：Pn 额定功率 1：Ps 视在功率 2：Po 当前功率 3：Pm 最大功率 4：Qm 最大无功
104	45629	SoftWareVersionbySaftyCountry	软件版本号	RW	U32	2	1	N/A	[0,0xFFFFFFFF]	Y	From high bit to Low bit：Master DSP、Slave DSP、ARM、Reserved	由高位到低位：主DSP版本、副DSP版本、arm版本、预留
106	45631	Reserved	预留			1						
107	45632	Reserved	预留			1						
108	45633	Reserved	预留			1						
109	45634	Reserved	预留			1						
110	45635	Reserved	预留			1						
111	45636	Reserved	预留			1						
112	45637	Reserved	预留			1						
113	45638	Reserved	预留			1						
114	45639	Reserved	预留			1						
115	45640	Reserved	预留			1						
116	45641	Reserved	预留			1						
117	45642	Reserved	预留			1						
118	45643	Reserved	预留			1						
119	45644	Reserved	预留			1						
120	45645	Reserved	预留			1						
121	45646	Reserved	预留			1						

122	45647	Grid Frequency High S3	过频触发三阶值	RW	U16	1	100	Hz	[3000,8000]	Y		
123	45648	Grid Frequency Low S3	欠频触发三阶值	RW	U16	1	100	Hz	[3000,8000]	Y		
124	45649	Grid Frequency High S4	过频触发四阶值	RW	U16	1	100	Hz	[3000,8000]	Y		
125	45650	Grid Frequency Low S4	欠频触发四阶值	RW	U16	1	100	Hz	[3000,8000]	Y		
1	45651	VFmsEnFlag	安规时间支持ms设置标志	RO	U16	1	1	N/A	[0,1]	Y		
2	45652	Undervoltage trigger first order value(0.1%)	欠压触发一阶值(0.1%)	RW	U16	1	10	%Vn	[150,1000]	Y		
3	45653	Undervoltage trigger first-order trip time	欠压触发一阶跳脱时间	RW	U32	2	1	ms	[10,7200000]	Y		
5	45655	Overvoltage trigger first order value(0.1%)	过压触发一阶值(0.1%)	RW	U16	1	10	%Vn	[800,1400]	Y		
6	45656	Overvoltage trigger first-order trip time	过压触发一阶跳脱时间	RW	U32	2	1	ms	[10,7200000]	Y		
8	45658	Undervoltage trigger second order value(0.1%)	欠压触发二阶值(0.1%)	RW	U16	1	10	%Vn	[150,1000]	Y		
9	45659	Undervoltage trigger second-order trip time	欠压触发二阶跳脱时间	RW	U32	2	1	ms	[10,7200000]	Y		
11	45661	Overvoltage trigger second order value(0.1%)	过压触发二阶值(0.1%)	RW	U16	1	10	%Vn	[800,1400]	Y		

12	45662	Overvoltage trigger second-order trip time	过压触发二阶跳脱时间	RW	U32	2	1	ms	[10,7200000]	Y		
14	45664	Undervoltage trigger third order value(0.1%)	欠压触发三阶值(0.1%)	RW	U16	1	10	%Vn	[150,1000]	Y	0(Default): Not being used If 0, data will not be displayed.	不使用默认值为0； APP读取如果为0,则不
15	45665	Undervoltage trigger third-order trip time	欠压触发三阶跳脱时间	RW	U32	2	1	ms	[10,7200000]	Y		
17	45667	Overvoltage trigger third order value(0.1%)	过压触发三阶值(0.1%)	RW	U16	1	10	%Vn	[800,1400]	Y		
18	45668	Overvoltage trigger third-order trip time	过压触发三阶跳脱时间	RW	U32	2	1	ms	[10,7200000]	Y		
20	45670	Undervoltage trigger forth order value(0.1%)	欠压触发四阶值(0.1%)	RW	U16	1	10	%Vn	[150,1000]	Y		
21	45671	Undervoltage trigger forth-order trip time	欠压触发四阶跳脱时间	RW	U32	2	1	ms	[10,7200000]	Y		
23	45673	Overvoltage trigger forth order value(0.1%)	过压触发四阶值(0.1%)	RW	U16	1	10	%Vn	[800,1400]	Y		
24	45674	Overvoltage trigger forth-order trip time	过压触发四阶跳脱时间	RW	U32	2	1	ms	[10,7200000]	Y		
26	45676	Underfrequence trigger first-order trip time	欠频触发一阶跳脱时间	RW	U32	2	1	ms	[10,7200000]	Y		
28	45678	Overfrequence trigger first-order trip time	过频触发一阶跳脱时间	RW	U32	2	1	ms	[10,7200000]	Y		
30	45680	Underfrequence trigger second-order trip time	欠频触发二阶跳脱时间	RW	U32	2	1	ms	[10,7200000]	Y		
32	45682	Overfrequence trigger second-order trip time	过频触发二阶跳脱时间	RW	U32	2	1	ms	[10,7200000]	Y		
34	45684	Underfrequence trigger third-order trip time	欠频触发三阶跳脱时间	RW	U32	2	1	ms	[10,7200000]	Y		

36	45686	Overfrequence trigger third-order trip time	过频触发三阶跳脱时间	RW	U32	2	1	ms	[10,7200000]	Y		
38	45688	Underfrequence trigger forth-order trip time	欠频触发四阶跳脱时间	RW	U32	2	1	ms	[10,7200000]	Y		
40	45690	Overfrequence trigger forth-order trip time	过频触发四阶跳脱时间	RW	U32	2	1	ms	[10,7200000]	Y		
42	45692	10min overvoltage trigger value (0.1%)	10min过压触发值(0.1%)	RW	U16	1	10	%Vn	[800,1400]	Y		
43	45693	10min trigger trip time	10min过压跳脱时间	RW	U32	2	1	ms	[10,7200000]	Y		
45	45695	QU Reference Voltage Regulation Time	QU曲线响应时间参数	RW	U16	1	10	s	[0,60000]	Y		
46	45696	PU Curve OutPut Regulation Time	PU曲线响应时间参数	RW	U16	1	10	s	[0,60000]	Y		
47	45697	cos φ(P) curve response time	cos φ(P)曲线响应时间参数	RW	U16	1	10	s	[0,60000]	Y		
48	45698	PQ Reactive power variation filter	PQ曲线响应时间参数	RW	U16	1	10	s	[0,60000]	Y		
49	45699	Power Frequency Filter Time Constant	频率曲线滤波时间常数	RW	U16	1	10	s	[0,60000]	Y		

QU Curve												
50	45700	QU curve ref	QU曲线功率基准	RW	U16	1	1	N/A	[0,3]	Y	0：Pn Rated Power 1：Ps Apparent Power 2：Po Current Power 3：Pm Max Power	0：Pn 额定功率 1：Ps 视在功率 2：Po 当前功率 3：Pm 最大功率
51	45701	QU Voltage1(0.1%)	V1电压值(0.1%)	RW	U16	1	10	%Vn	[0,1400]	Y		
52	45702	QU Voltage2(0.1%)	V2电压值(0.1%)	RW	U16	1	10	%Vn	[0,1400]	Y		
53	45703	QU Voltage3(0.1%)	V3电压值(0.1%)	RW	U16	1	10	%Vn	[0,1400]	Y		
54	45704	QU Voltage4(0.1%)	V4电压值(0.1%)	RW	U16	1	10	%Vn	[0,1400]	Y		
55	45705	QU reference voltage value	QU基准电压值	RW	U16	1	10	%Vn	[800,1200]	Y		
56	45706	QU Reference Voltage Autoscale Enable	QU基准电压自动调节使能	RW	U16	1	1	N/A	[0,1]	Y		
57	45707	QU curve response slope	QU曲线响应无功变化斜率	RW	U16	1	10	%Pn/s	[0,65000]	Y		
58	45708	QU curve output regulation mode	QU曲线输出响应方式	RW	U16	1	1	N/A	[0,2]	Y	0：OFF 1：Slope Response 2：Low-pass filter Response	0：关闭 1：斜率响应 2：低通滤波模式响应
59	45709	QU Enter the curve condition enabling	QU曲线进入条件使能开关	RW	U16	1	1	N/A	[0,1]	Y	0：OFF 1：ON	0：关闭 1：打开
60	45710	reserved				1						
61	45711	reserved				1						
62	45712	reserved				1						
63	45713	reserved				1						

Others												
64	45714	Normal condition upper limit of connection voltage(0.1%)	启机并网电压下限	RW	U16	1	10	%Vn	[150,1000]	Y		
65	45715	Normal condition lowerer limit of connection	启机并网电压上限	RW	U16	1	10	%Vn	[800,1400]	Y		
66	45716	Fault condition upper limit of connection	重连并网电压下限	RW	U16	1	10	%Vn	[150,1000]	Y		
67	45717	Fault condition lowerer limit of connection voltage	重连并网电压上限	RW	U16	1	10	%Vn	[800,1400]	Y		
68	45718	reserved				2						
PU Curve												
70	45720	PU Voltage1(0.1%)	V1电压值(0.1%)	RW	U16	1	10	%Vn	[0,1400]	Y		
71	45721	PU Voltage2(0.1%)	V2电压值(0.1%)	RW	U16	1	10	%Vn	[0,1400]	Y		
72	45722	PU Voltage3(0.1%)	V3电压值(0.1%)	RW	U16	1	10	%Vn	[0,1400]	Y		
73	45723	PU Voltage4(0.1%)	V4电压值(0.1%)	RW	U16	1	10	%Vn	[0,1400]	Y		
74	45724	PU Curve OutPut Regulation Mode	PU曲线输出响应模式	RW	U16	1	1	N/A	[0,2]	Y	0：OFF 1：Slope Response 2：Low-pass filter Response	0：关闭 1：斜率响应 2：低通滤波模式响应
75	45725	Slope of PU Curve power slope	PU曲线输出功率变化速率	RW	U16	1	10	%Pn/s	[0,65000]	Y		
76	45726	PU Curve operation mode	PU曲线模式	RW	U16	1	1	N/A	[0,65535]	Y		
77	45727	reserved				1						
78	45728	reserved				4						

cosφ P Curve												
83	45733	voltage ofEnter the curve (0.1%)	进入曲线电压(0.1%)	RW	U16	1	10	%Vn	[0,1400]	Y		
84	45734	voltage of quit the curve(0.1%)	退出曲线电压(0.1%)	RW	U16	1	10	%Vn	[0,1400]	Y		
85	45735	cos φ(P) curve response Slope	cosφ(P)曲线输出响应斜率	RW	U16	1	10	%Pn/s	[0,65000]	Y		
86	45736	cos φ(P) curve response Model	cosφ(P)曲线响应时间方式	RW	U16	1	1	N/A	[0,2]	Y	0：OFF 1：Slope Response 2：Low-pass filter Response	0：关闭 1：斜率响应 2：低通滤波模式响应
87	45737	cos φ A(pf,0.001)	A点cos φ值(pf,0.001)	RW	S16	1	1000	N/A	[-1000,-800] [800,1000]	Y		
88	45738	cos φ B(pf,0.001)	B点cos φ值(pf,0.001)	RW	S16	1	1000	N/A	[-1000,-800] [800,1000]	Y		
89	45739	cos φ C(pf,0.001)	C点cos φ值(pf,0.001)	RW	S16	1	1000	N/A	[-1000,-800] [800,1000]	Y		
90	45740	cos φ D(pf,0.001)	D点cos φ值(pf,0.001)	RW	S16	1	1000	N/A	[-1000,-800] [800,1000]	Y		
91	45741	Power E(0.1%)	E点功率(0.1%)	RW	S16	1	10	%Pn	[0,1100]	Y		
92	45742	cos φ E(pf,0.001)	E点cos φ值(pf,0.001)	RW	S16	1	1000	N/A	[-1000,-800] [800,1000]	Y		
93	45743	cos φ(P) Enter the curve condition	cos ϕ P曲线进入条件使能开关	RW	U16	1	1	N/A	[0,1]	Y		
94	45744	reserved				1						
95	45745	reserved				1						

96	45746	reserved				1						
97	45747	reserved				4						
Frequency Curve												
101	45751	P(F) Curve Eable	FP曲线过频使能位	RW	U16	1	1	N/A	[0,1]		0：OFF 1：ON	0：关闭 1：打开
102	45752	P(F) Curve Mode	FP曲线过频模式	RO	U16	1	1	N/A	[0,2]	Y	0：slop mode 1：stop mode 2：Stop_V mode(AU)	0：slop模式 1：stop模式 2：Stop_V模式 (储能澳洲模式)
103	45753	P(F) Curve Transition Mode	FP曲线过频过渡模式	RW	U16	1	1	N/A	[0,1]	Y	0：OFF 1：ON	0：关闭 1：打开
104	45754	silence time	进入过频曲线静默时间	RW	U16	1	10	s	[0,10000]	Y		
105	45755	OF dereating power benchmark	过频降载功率基准	RW	U16	1	1	N/A	[0,3]	Y	0：Pn Rated Power 1：Ps Apparent Power 2：Po Current Power 3：Pm Max Power	0：Pn 额定功率 1：Ps 视在功率 2：Po 当前功率 3：Pm 最大功率
106	45756	P(F) power slope (Slope)	过频曲线斜率	RW	U16	1	10	%Px/Hz	[0,10000]			
107	45757	Hysteresis eable	过频降载滞回开关	RW	U16	1	1	N/A	[0,1]	Y	0：OFF 1：ON	0：关闭 1：打开
108	45758	Hysteresis frequency Point	过频降载滞回频率	RW	U16	1	100	Hz	[5000,6500]	Y		
109	45759	Deactivation observation time	停用观察时间	RW	U16	1	10	s	[0,10000]	Y		
110	45760	Power response mode	功率响应方式	RW	U16	1	1	N/A	[0,2]	Y	0：OFF 1：Slope Response 2：Low-pass filter Response	0：关闭 1：斜率响应 2：低通滤波模式响应
111	45761	Recover power slope	过频曲线功率恢复速率	RW	U16	1	10	%Pn/min	[0,65000]	Y		
112	45762	Into the power point	进入功率点	RW	U16	1	10	%Pn	[0,1100]	Y		

113	45763	Upper Threshold frequency	上限阈值频率	RW	U16	1	100	Hz	[5000,6500]	Y		
114	45764	Output power lower	输出功率下限	RW	U16	1	10	%Pn	[0,1100]	Y		
115	45765	uwOFRecoverPwrRef	过频降载恢复功率参考	RW	U16	1	1	N/A	[0,4]	Y	0：Pn Rated Power 1：Ps Apparent Power 2：Po Current Power 3：Pm Max Power 4: Pd Power Difference	0: Pn 额定功率 1: Ps 视在功率 2: Po 当前功率 3: Pm 最大功率 4: Pd 功率差值
116	45766	Response slope	过频降载响应斜率	RW	U16	1	10	%Pn/min	[0,65000]	Y		
117	45767	Overfrequency curve Charge Enable	过频降载允许充电使能	RW	U16	1	1	N/A	[0,1]	Y		
118	45768	reserved				1						
119	45769	Overfrequency Pcmax flag	过频降载终点Pcmax标志	RW	U16	1	1	N/A	[0,1]	Y		
120	45770	Frequency-Watt curve overfrequency dead	功率频率曲线过频死区	RW	U16	1	100	Hz	[0,200]	Y		
121	45771	Over frequency quit Point	过频退出点	RW	U16	1	100	Hz	[5000,6500]	Y		
122	45772	reserved				1						
123	45773	reserved				1						
124	45774	reserved				1						
125	45775	reserved				1						
1	45776	Under frequency Point	FP曲线欠频使能位	RW	U16	1	1	N/A	[0,1]	Y	0：OFF 1：ON	0: 关闭 1: 打开
2	45777	FP UF curve transition mode	FP曲线欠频模式	RO	U16	1	1	N/A	[0,2]	Y	0：slop mode 1：stop mode 2：Stop_V mode(AU)	0: slop模式 1: stop模式 2: Stop_V模式（储能澳洲模式）
3	45778	silence time	进入欠频加载静默时间	RW	U16	1	10	s	[0,10000]	Y		
4	45779	Power reference (Slope)	欠频加载功率基准	RW	U16	1	1	N/A	[0,4]	Y	0：Pn Rated Power 1：Ps Apparent Power 2：Po Current Power 3：Pm Max Power 4：Pd Power Difference	0: Pn 额定功率 1: Ps 视在功率 2: Po 当前功率 3: Pm 最大功率 4: Pd 功率差值

5	45780	P(F) power slope (Slope)	欠频功率斜率	RW	U16	1	10	%Px/Hz	[0,10000]	Y		
6	45781	Hysteresis eable	欠频加载滞回开关	RW	U16	1	1	N/A	[0,1]	Y		
7	45782	Hysteresis frequency Point	欠频加载滞回频率	RW	U16	1	100	Hz	[4500,6000]	Y		
8	45783	Deactivation observation time	退出欠频曲线静默时间	RW	U16	1	10	s	[0,10000]	Y		
9	45784	Power response mode	功率响应方式	RW	U16	1	1	N/A	[0,2]	Y	0：OFF 1：Slope Response 2：Low-pass filter Response	0：关闭 1：斜率响应 2：低通滤波模式响应
10	45785	Recover power slope	恢复功率斜率	RW	U16	1	10	%Pn/min	[0,65000]	Y		
11	45786	Into the power point	进入功率点	RW	U16	1	10	%Pn	[0,1100]	Y		
12	45787	Lower Threshold frequency	下限阈值频率	RW	U16	1	100	Hz	[4500,6000]	Y		
13	45788	Output power upper	输出功率上限	RW	U16	1	10	%Pn	[0,1100]	Y		
14	45789	Recover power reference	恢复功率参考	RW	U16	1	1	N/A	[0,4]	Y	0：Pn Rated Power 1：Ps Apparent Power 2：Po Current Power 3：Pm Max Power 4：Pd Power Difference	0：Pn 额定功率 1：Ps 视在功率 2：Po 当前功率 3：Pm 最大功率 4：Pd 功率差值
15	45790	Response slope	响应斜率	RW	U16	1	10	%Pn/min	[0,65000]	Y		
16	45791	UF curve Charge	欠频加载允许放电使能	RW	U16	1	1	N/A	[0,1]	Y		
17	45792	reserved				1						
18	45793	UF Psmax flag	欠频加载终点Psmax标志	RW	U16	1	1	N/A	[0,1]	Y		
19	45794	Frequency-Watt curve underfrequency dead zone	功率频率曲线欠频死区	RW	U16	1	100	Hz	[0,200]	Y		
20	45795	Under frequency quit Point	欠频退出点	RW	U16	1	100	Hz	[4500,6000]	Y		
21	45796	reserved				1						
22	45797	reserved				1						
23	45798	reserved				1						
24	45799	reserved				1						
25	45800	Generate enable	起机使能位	RW	U16	1	1	N/A	[0,1]	Y		
26	45801	Reconnect enable	重连使能位	RW	U16	1	1	N/A	[0,1]	Y		
27	45802	Decrease enable	降载使能位	RW	U16	1	1	N/A	[0,1]	Y		

28	45803	reserved				1						
29	45804	reserved				1						
30	45805	reserved				1						
31	45806	reserved				1						
32	45807	reserved				1						
33	45808	reserved				4					45817-45822	45817-45822
QP Curve												
38	45813	QP Reactive power variation filter	QP曲线输出响应斜率	RW	U16	1	10	%Pn/s	[0,65000]	Y		
39	45814	QP Reactive output Model	QP曲线输出响应方式	RW	U16	1	1	N/A	[0,2]	Y	0：OFF 1：Slope Response 2：Low Filter Mode Response	0：关闭 1：斜率响应 2：低通滤波模式响应
40	45815	reserved				1						
41	45816	reserved				1						
42	45817	reserved				1						
43	45818	reserved				1						
44	45819	reserved				1						
45	45820	reserved				1						
HVRT&HVRT												
46	45821	Fault ride-through processing volume mode selection	故障穿越加工量模式选择	RW	U16	1	1	N/A	[0,2]	Y	0: Fundamental positive sequence component Ud 1: Phase voltage reconstruction 2: Line voltage reconstruction	0：基波正序分量Ud 1: 相电压重构 2：线电压重构
47	45822	Fault ride through variation machining mode enable	△高低穿模式使能	RW	U16	1	1	N/A	[0,1]	Y	0：OFF 1：ON	0：关闭 1：打开
48	45823	Variation Threshold	△高低穿判断阈值	RW	U16	1	10	%Vn	[0,1000]	Y		
49	45824	Reactive Current Injection Mode	无功电流注入模式	RW	U16	1	1	N/A	[0,1]	Y	0: Absolute injection 1: relative injection	0：绝对注入 1：相对注入
50	45825	Current distribution mode	电流分配模式	RW	U16	1	1	N/A	[0,2]	Y	0: Reactive power priority 1: Active power priority 2: Constant current mode	0：无功优先 1：有功优先 2: 恒电流模式
51	45826	Ride through end active power recover Model	穿越结束有功恢复模式	RW	U16	1	1	N/A	[0,2]	Y	0：OFF 1：Slope Response 2：Low Filter Mode Response	0：关闭 1：斜率响应 2：低通滤波模式响应

52	45827	Ride through end active power recover	穿越结束有功恢复速率	RW	U16	1	10	%In/s	[0,65000]	Y		
53	45828	Ride through end reactive power recover Model	穿越结束无功恢复模式	RW	U16	1	1	N/A	[0,2]	Y	0：OFF 1：Slope Response 2：Low Filter Mode Response	0：关闭 1：斜率响应 2：低通滤波模式响应
54	45829	Ride through end reactive power recover speed	穿越结束无功恢复速率	RW	U16	1	10	%In/s	[0,65000]	Y		
55	45830	VRT grid voltage protection shield	VRT时电网电压保护屏蔽	RW	U16	1	1	N/A	[0,1]	Y		
56	45831	continuous ZVRT enable	连续高低穿使能位	RW	U16	1	1	N/A	[0,1]	Y	0：OFF 1：ON	0：关闭 1：打开
57	45832	enter VRT silence time	高低穿进入静默时间	RW	U16	1	1	10ms	[0,65500]	Y		
58	45833	exit VRT silence time	高低穿退出静默时间	RW	U16	1	1	10ms	[0,65500]	Y		
59	45834	Active power recovery slope at the end of high and low wear (first-order low-pass filtering)	穿越结束有功恢复一阶低通滤波	RW	U32	2	1	ms	[0,36000000]	Y		
61	45836	Reactive power recovery slope at the end of high and low wear (first-order low-	穿越结束无功恢复一阶低通滤波	RW	U32	2	1	ms	[0,36000000]	Y		
63	45838	LVRT enable	低穿使能位	RW	U16	1	1	N/A	[0,1]	Y	0：OFF 1：ON	0：关闭 1：打开
64	45839	The judgment threshold of entering	进入低穿的判断阈值	RW	U16	1	10	%Vn	[0,1000]	Y		
65	45840	The judgment threshold of quiting	退出低穿的判断阈值	RW	U16	1	10	%Vn	[0,1000]	Y		
66	45841	LVRT computational benchmark	低穿电压变化量计算基准电压	RW	U16	1	10	%Vn	[0,1000]	Y		
67	45842	LVRT positive active power current adjust enable	低穿正序有功电流调节使能位	RW	U16	1	1	N/A	[0,1]	Y	0：OFF 1：ON	0：关闭 1：打开
68	45843	LVRT positive reactive power current adjust enable	低穿正序无功电流调节使能位	RW	U16	1	1	N/A	[0,1]	Y	0：OFF 1：ON	0：关闭 1：打开

69	45844	LVRT negative active power current adjust enable	低穿负序无功电流调节使能位	RW	U16	1	1	N/A	[0,1]	Y	0：OFF 1：ON	0：关闭 1：打开
70	45845	LVRT active power current limit percent	低穿有功电流限幅百分比	RW	U16	1	10	%/In	[0,1100]	Y		
71	45846	LVRT positive sequence reactive K	低穿正序无功K值	RW	U16	1	100	N/A	[0,1000]	Y		
72	45847	LVRT Positive sequence reactive power static error	低穿正序无功静差偏移量	RW	S16	1	10	%/In	[-1000,1000]	Y		
73	45848	LVRT positive reactive power current limit percent	低穿正序无功电流限幅百分比	RW	U16	1	10	%/In	[0,1100]	Y		
74	45849	LVRT negative sequence reactive K	低穿负序无功K值	RW	U16	1	100	N/A	[0,1000]	Y		
75	45850	LVRT negative sequence reactive power static error	低穿负序无功静差偏移量	RW	S16	1	10	%/In	[-1000,1000]	Y		
76	45851	LVRT negative reactive power current limit percent	低穿负序无功电流限幅百分比	RW	U16	1	10	%/In	[0,1100]	Y		
77	45852	LVRT null-current mode enable	低穿零电流模式使能位	RW	U16	1	1	N/A	[0,1]	Y	0：OFF 1：ON	0：关闭 1：打开

78	45853	LVRT null-current mode enter voltage	低穿零电流模式进入电压阈值	RW	U16	1	10	%/Vn	[0,1000]	Y		
79	45854	LVRT depth 1	低穿深度1	RW	U16	1	10	%Vn	[0,1000]	Y		
80	45855	maintenance time 1	维持时间1	RW	U16	1	1	10ms	[0,65000]	Y		
81	45856	LVRT depth 2	低穿深度2	RW	U16	1	10	%Vn	[0,1000]	Y		
82	45857	maintenance time 2	维持时间2	RW	U16	1	1	10ms	[0,65000]	Y		
83	45858	LVRT depth 3	低穿深度3	RW	U16	1	10	%Vn	[0,1000]	Y		
84	45859	maintenance time 3	维持时间3	RW	U16	1	1	10ms	[0,65000]	Y		
85	45860	LVRT depth 4	低穿深度4	RW	U16	1	10	%Vn	[0,1000]	Y		
86	45861	maintenance time 4	维持时间4	RW	U16	1	1	10ms	[0,65000]	Y		
87	45862	LVRT depth 5	低穿深度5	RW	U16	1	10	%Vn	[0,1000]	Y		
88	45863	maintenance time 5	维持时间5	RW	U16	1	1	10ms	[0,65000]	Y		
89	45864	LVRT depth 6	低穿深度6	RW	U16	1	10	%Vn	[0,1000]	Y		
90	45865	maintenance time 6	维持时间6	RW	U16	1	1	10ms	[0,65000]	Y		
91	45866	LVRT depth 7	低穿深度7	RW	U16	1	10	%Vn	[0,1000]	Y		
92	45867	maintenance time 7	维持时间7	RW	U16	1	1	10ms	[0,65000]	Y		
93	45868	reserved				3						
96	45871	HVRT enable	高穿使能位	RW	U16	1	1	N/A	[0,1]	Y	0：OFF 1：ON	0：关闭 1：打开
97	45872	The judgment threshold of entering	进入高穿的判断阈值	RW	U16	1	10	%Vn	[1000,1400]	Y		
98	45873	The judgment threshold of quiting	退出高穿的判断阈值	RW	U16	1	10	%Vn	[1000,1400]	Y		
99	45874	HVRT computational benchmark	高穿电压变化量计算基准	RW	U16	1	10	%Vn	[1000,1200]	Y		
100	45875	HVRT positive active power adjust enable	高穿正序有功调节使能	RW	U16	1	1	N/A	[0,1]	Y	0：OFF 1：ON	0：关闭 1：打开

101	45876	HVRT positive reactive power adjust enable	高穿正序无功调节使能	RW	U16	1	1	N/A	[0,1]	Y	0：OFF 1：ON	0：关闭 1：打开
102	45877	HVRT negative reactive power adjust	高穿负序无功调节使能	RW	U16	1	1	N/A	[0,1]	Y	0：OFF 1：ON	0：关闭 1：打开
103	45878	HVRT active power current limit percent	高穿有功电流限制百分比	RW	U16	1	10	%In	[0,1100]	Y		
104	45879	HVRT positive sequence reactive K	高穿正序无功K值	RW	U16	1	100	N/A	[0,1000]	Y		
105	45880	HVRT Positive sequence reactive power static error	高穿正序无功静差偏移量	RW	S16	1	10	%/In	[-1000,1000]	Y		
106	45881	HVRT positive reactive power current limit percent	高穿正序无功电流限制百分比	RW	U16	1	10	%In	[0,1100]	Y		
107	45882	HVRT negative sequence reactive K value	高穿负序无功K值	RW	U16	1	100	N/A	[0,1000]	Y		
108	45883	HVRT negative sequence reactive power static error	高穿负序无功静差偏移量	RW	S16	1	10	%/In	[-1000,1000]	Y		
109	45884	HVRT negative reactive power current limit percent	高穿负序无功电流限制百分比	RW	U16	1	10	%In	[0,1100]	Y		

110	45885	HVRT null-current mode enable	高穿零电流模式使能	RW	U16	1	1	N/A	[0,1]	Y	0：OFF 1：ON	0：关闭 1：打开
111	45886	HVRT null-current mode enter voltage	高穿零电流模式进入电压阈值	RW	U16	1	10	%Vn	[1000,1400]	Y		
112	45887	HVRT depth 1	高穿深度1	RW	U16	1	10	%Vn	[1000,1400]	Y		
113	45888	maintenance time 1	维持时间1	RW	U16	1	1	10ms	[0,65000]	Y		
114	45889	HVRT depth 2	高穿深度2	RW	U16	1	10	%Vn	[1000,1400]	Y		
115	45890	maintenance time 2	维持时间2	RW	U16	1	1	10ms	[0,65000]	Y		
116	45891	HVRT depth 3	高穿深度3	RW	U16	1	10	%Vn	[1000,1400]	Y		
117	45892	maintenance time 3	维持时间3	RW	U16	1	1	10ms	[0,65000]	Y		
118	45893	HVRT depth 4	高穿深度4	RW	U16	1	10	%Vn	[1000,1400]	Y		
119	45894	maintenance time 4	维持时间4	RW	U16	1	1	10ms	[0,65000]	Y		
120	45895	HVRT depth 5	高穿深度5	RW	U16	1	10	%Vn	[1000,1400]	Y		
121	45896	maintenance time 5	维持时间5	RW	U16	1	1	10ms	[0,65000]	Y		
122	45897	HVRT depth 6	高穿深度6	RW	U16	1	10	%Vn	[1000,1400]	Y		
123	45898	maintenance time 6	维持时间6	RW	U16	1	1	10ms	[0,65000]	Y		
124	45899	HVRT depth 7	高穿深度7	RW	U16	1	10	%Vn	[1000,1400]	Y		
125	45900	maintenance time 7	维持时间7	RW	U16	1	1	10ms	[0,65000]	Y		
1	45901	FRT Enable	频率穿越使能位	RW	U16	1	1	N/A	[0,1]	Y		
2	45902	FRT UF1	一阶欠频穿越频率点_UF1	RW	U16	1	100	Hz	[4500,6000]	Y		
3	45903	FRT UT1	一阶欠频穿越时间_UT1	RW	U32	2	1	ms	[20,7200000]	Y		
5	45905	FRT UF2	二阶欠频穿越频率点_UF2	RW	U16	1	100	Hz	[4500,6000]	Y		

6	45906	FRT UT2	二阶欠频穿越时间_UT2	RW	U32	2	1	ms	[20,7200000]	Y		
8	45908	FRT UF3	三阶欠频穿越频率点_UF3	RW	U16	1	100	Hz	[4500,6000]	Y		
9	45909	FRT UT3	三阶欠频穿越时间_UT3	RW	U32	2	1	ms	[20,7200000]	Y		
11	45911	FRT OF1	一阶过频穿越频率点_OF1	RW	U16	1	100	Hz	[5000,6500]	Y		
12	45912	FRT OT1	一阶过频穿越时间_OT1	RW	U32	2	1	ms	[20,7200000]	Y		
14	45914	FRT OF2	二阶过频穿越频率点_OF2	RW	U16	1	100	Hz	[5000,6500]	Y		
15	45915	FRT OT2	二阶过频穿越时间_OT2	RW	U32	2	1	ms	[20,7200000]	Y		
17	45917	FRT OF3	三阶过频穿越频率点_OF3	RW	U16	1	100	Hz	[5000,6500]	Y		
18	45918	FRT OT3	三阶过频穿越时间_OT3	RW	U32	2	1	ms	[20,7200000]	Y		
Optional Function												
4	46903	External fan selection	外部风扇选配	WO	U16	1	N/A	1	[0,1]	Y		
5	46904	AC output overload selection	AC输出过载选配	WO	U16	1	N/A	1	[0,2]	Y	0：Not overload 1：Overload for some countries 2：All overload	0：不过载 1：部分国家过载 2：全部过载

ARM Setting												
1	47000	App Work Mode Index	APP工作模式索引	RW	U16	1	N/A	N/A		Y	The same function as that for Operation Mode on PV Master App 0:selfuse mode 1:off gird mode 2:backup mode 3:economic mode 4:peakshaving 5:Advanced self-use	和在PV主程序上运行模式的功能相同 0:自发自用 1:离网模式 2:备用模式 3:经济模式 4:调峰 5:高级自发自用
2	47001	Meter Check Value	电表检测结果	RO	U16	1	N/A	N/A	[0, 60000]	N	1: Correct connection 2: Connection reserved (CT) 4: Incorrect connection 8: Wrong phase for CT and voltage sampling 0: Not detected For example: 0X0124 means R phase connection is incorrect, the T phase connection is retained, and the S phase connection is correct.	1:连接正确 2:连接保留(CT) 4:连接不正确 8：CT和电压采样同时错相 0:未检测 例如：0X0124就是R相连接不正确，T相连接保留，S相连接正确
3	47002	Meter Connect Check Flag	电表检测使能	RW	U16	1	N/A	N/A	[0,2]	N	to read the Meter Test status 0:Not open test/end test 1:Being test 2:Wait for test	读电表检测状态 0:未开启检测/检测结束 1:正在检测 2:等待检测
6	47005	Log Data Enable	断点续传使能位	RW	U16	1	N/A	N/A	[0,1]	Y	Breakpoint Resume for Data transfering. Activated as deFault, time interval 5 minutes.	断点恢复数据传输。默认激活，时间间隔5分钟
7	47006	Data Send Interval	数据传输间隔	RW	U16	1	N/A	*5s	[0,256]	Y	Time interval for data send to cloud or EMS,deFault is 1 minute.	数据发送到云或EMS的时间间隔，默认为1分钟

8	47007	DRED command	命令响应设备指令	RW	U16	1	N/A	N/A	[0,255]	N	DRED0:0x00FF DRED1:0x0001 DRED2:0x0002 DRED3:0x0004 DRED4:0x0008 DRED5:0x0010 DRED6:0x0020 DRED7:0x0040 DRED8:0x0080 Only for Australia, Refer to Table 8-22	DRED0:0x00FF DRED1:0x0001 DRED2:0x0002 DRED3:0x0004 DRED4:0x0008 DRED5:0x0010 DRED6:0x0020 DRED7:0x0040 DRED8:0x0080 仅用于澳大利亚,见表8-22
10	47009	WiFi or Lan Switch	wifi或lan模式	WO	U16	1	N/A	N/A	[4,5]	Y	4:wifi 5:lan For wifi+Lan module, to switch to LAN or WiFi communicaiton mode	4:wifi 5:lan wifi+Lan模块，切换到LAN或WiFi通信模式。
13	47012	Led Blink Time	Led灯闪烁时间	RW	U16	1	N/A	s		Y		
14	47013	WiFi Led State	wifi指示灯状态	RW	U16	1	N/A	N/A	[1,5]	N	1:off 2:on 3:flash1x 4:flash2x 5:flash4x	1:关闭 2:打开 3:flash1x 4:flash2x
15	47014	Communication Led State	通信灯状态	RW	U16	1	N/A	N/A	[1,5]	N		
16	47015	Meter CT1 Reverse Enable	电表CT1预留使能	RW	U16	1	N/A	N/A	[1,5]	Y	1:on 0:off ony for single phase Smart meter	1:打开 0:关闭 仅用于单相智能电表
17	47016	Error Log Read Page	故障记录读取页	RW	U16	1	N/A	N/A	[0,255]	N		
18	47017	Modbus TCP Without Internet	ModbusTCP 不联网应用	RW	U16	1	N/A	N/A	[0,255]	Y	1:on 0:off If not connect to Internet, please set 1.	1:打开 0:关闭 如果不能联网，就设置1
19	47018	Backup Led	backup Led指示灯	RW	U16	1	N/A	N/A	[1,5]	N	1:off 2:on 3:flash1x 4:flash2x 5:flash4x	1:关闭 2:打开 3:flash1x 4:flash2x
20	47019	Grid Led	电网指示灯	RW	U16	1	N/A	N/A	[1,5]	N		
21	47020	SOC Led 1	剩余电量指示灯1	RW	U16	1	N/A	N/A	[1,5]	N		
22	47021	SOC Led 2	剩余电量指示灯2	RW	U16	1	N/A	N/A	[1,5]	N		
23	47022	SOC Led 3	剩余电量指示灯3	RW	U16	1	N/A	N/A	[1,5]	N		
24	47023	SOC Led 4	剩余电量指示灯4	RW	U16	1	N/A	N/A	[1,5]	N		
25	47024	Battery Led	电池指示灯	RW	U16	1	N/A	N/A	[1,5]	N		
26	47025	System Led	系统指示灯	RW	U16	1	N/A	N/A	[1,5]	N		
27	47026	Fault Led	故障指示灯	RW	U16	1	N/A	N/A	[1,5]	N		

28	47027	Energy Led	能量指示灯	RW	U16	1	N/A	N/A	[1,5]	N		
29	47028	Led External Control	Led灯外部控制	RW	U16	1	N/A	N/A	[42343]	N	0xA567	0xA567
30	47029	Reversed	预留	RO	STR	4	N/A	N/A		N		
36	47038	Off Grid Set Save	离网设置存储	RW	U16	1	1	N/A	[0,1]	Y	1 Enable, After restart the inverter, setting saved	1使能，重启逆变器后，保存设置
38	47040	WIFI Modbus TCP Enable	使能modbusTCP功能	RW	U16	1	1	N/A	[0,1]	Y		
43	47117	API Remote TimeOut Enable	API超时判断使能	RW	U16	1	1	N/A	[0,1]	N		
44	47118	API time out	API超时时间	RW	U16	1	1	min	[1,60]	Y		
45	47119	Pahse Sequence	组三相的相序	RW	U16	1	1	N/A	[0,3]	Y	0：Invalid 1：Phase R 2：Phase S 3：Phase T	0：无效 1：R相 2：S相 3：T相
22	47464	Extern Meter Enable Flag	外置电表使能标志	RW	U16	1	1	N/A	[0,1]	Y	0(Default): Internal Meter 1: External Meter	0：内置电表，1：外置电表，默认0
ARM BMS&EMS parameter												
6	47505	Manufacturer Code	制造商类型	RW	U16	1	N/A	N/A		Y	If using EMS, must set to "2"	如果使用EMS模式，必须设置"2"
10	47509	Feed Power Enable	防逆流开关	RW	U16	1	N/A	N/A	[0,1]	Y	1:total power anti-counter Current Use FeedPowerEnable (47509) to activate export power limit function. And EMSPowerSet (47510) to set the max allowed export power to Grid. The 42004-42005 register is used to set the maximum allowable output power to the power grid when the AC power of a single inverter is greater than 30K or when the inverter is in parallel	1:总功率防逆流 使用防逆流开关(47509)激活导出功率限制功能。使用EMS功率设置(47510)来设置输给电网的最大允许输出功率 逆变器单机AC功率大于30K或并机时使用42004-42005寄存器设置输给电网的最大允许输出功率

11	47510	Feed Power Parameter	防逆流允许并网功率	RW	S16	1	N/A	N/A	[0,10000]	Y		
12	47511	EMS Power Mode	能量管理模式	RW	U16	1	N/A	N/A		N		
13	47512	EMS Power Set	能量管理功率设置	RW	U16	1	N/A	N/A	[0,10000]	N		
15	47514	Battery Protocol	电池协议	RW	U16	1	N/A	N/A	[0,511]	Y	Refer to 8-33	见表8-33
16	47515	Start Time_1	启动时间_1	RW	U16	1	N/A	N/A	[0,23]-[0,59]	Y	hh:mm	hh:mm
17	47516	End Time_1	结束时间_1	RW	U16	1	N/A	N/A	[0,23]-[0,59]	Y		
18	47517	Bat Power Percent_1	电池功率百分比_1	RW	S16	1	N/A	%	[-100,100]	Y		
19	47518	Work Week_1	工作周_1	RW	U16	1	N/A	N/A		Y	High byte FF means enable, low byte 0~6bit means Sunday~Saturday a whole week	高字节FF表示使能，低字节0~6bit表示周日~周六一整个星期
20	47519	Start Time_2	启动时间_2	RW	U16	1	N/A	N/A	[0,23]-[0,59]	Y	hh:mm	hh:mm
21	47520	End Time_2	结束时间_2	RW	U16	1	N/A	N/A	[0,23]-[0,59]	Y		
22	47521	Battery Power	电池功率百分比_2	RW	S16	1	N/A	%	[-100,100]	Y		
23	47522	Work Week_2	工作周_2	RW	U16	1	N/A	N/A		Y	High byte FF means enable, low byte 0~6bit means Sunday~Saturday a whole week	高字节FF表示使能，低字节0~6bit表示周日~周六一整个星期
24	47523	Start Time_3	启动时间_3	RW	U16	1	N/A	N/A	[0,23]-[0,59]	Y	hh:mm	hh:mm
25	47524	End Time_3	结束时间_3	RW	U16	1	N/A	N/A	[0,23]-[0,59]	Y		

26	47525	Battery Power	电池功率百分比_3	RW	S16	1	N/A	%	[-100,100]	Y		
27	47526	Work Week_3	工作周_3	RW	U16	1	N/A	N/A		Y	High byte FF means enable, low byte 0~6bit means Sunday~Saturday a whole week	高字节FF表示使能，低字节0~6bit表示周日~周六一整个星期
28	47527	Start Time_4	启动时间_4	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y	hh:mm	hh:mm
29	47528	End Time_4	结束时间_4	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y		
30	47529	Battery Power	电池功率百分比_4	RW	S16	1	N/A	%	[-100,100]	Y		
31	47530	Work Week_4	工作周_4	RW	U16	1	N/A	N/A		Y	High byte FF means enable, low byte 0~6bit means Sunday~Saturday a whole week	高字节FF表示使能，低字节0~6bit表示周日~周六一整个星期
32	47531	Start Charge SOC	强充起始剩余电量	RW	U16	1	10	%		Y	To set the SOC Level to start/stop Battery force charge. (this is not the command from BMS, but the protection on inverter side. Eg. StartchgSOC (47531) is set as 5%, but the Battery BMSgives a force charge signal at SOC 6%, then Battery will start force charge at 6% SOC; if BMSdoes not send force charge command at 5% SOC, then Battery will still start force charge at 5% SOC.) Note: the deFault setting is 5% SOC to start and 10% to stop. force charge power is 1000W from PV or Grid as well.	"设置SOC水平来启动/停止电池强制充电。 (这不是BMS的指令，而是对逆变器侧的保护。例如，StartchgSOC(47531)设置为5%，但电池BMS在SOC为6%时发出强制充电信号，那么电池将在SOC为6%时开始强制充电;如果BMS没有在SOC为5%时发出强制充电指令，那么电池仍将在SOC为5%时开始强制充电。) 注意：默认设置是SOC为5%时开始，10%停止。强行充电的功率是

33	47532	Stop Charge SOC	强充停止剩余电量	RW	U16	1	10	%		Y		
34	47533	Clear ECO Time	清除电池时间设置使能位	WO	U16	1	N/A	N/A		N	to clear all economical mode settings (47515~47530)， enter Self-Use Mode	清除所有的经济模式设置(47515~47530)，进入自发自用模式化
40	47539	Wifi Reset	复位wifi模块	WO	U16	1	N/A	N/A	[0,1]	N		
42	47541	Wifi Reload	wifi模块恢复出厂	WO	U16	1	N/A	N/A	[0,1]	N		
43	47542	Peak Shaving Power Limit	削峰功率限制	RW	U32	2	N/A	W		Y	to set the threshold of importing power, where peak-shaving acts. Eg. If set peak-shaving power as 20kW, then Battery will only discharge when imported power from Grid exceed 20kW to make sure the importing power keeps below 20kW	设定输入功率的阈值，在该值下削峰。例如，如果设定削峰功率为20kW，则只有当从电网输入的功率超过20kW时，电池才会放电，以确保输入的功率保持在20kW以下。
44	47544	Peak Shaving SOC	削峰电池剩余电量	RW	U16	1	N/A	%		Y	to set the mimum Battery SOC reserved to respind peak-shaving use only.	设置最小电池SOC，预留给重塑峰值使用。
45	47545	Fast Charge Enable	快速充电使能	RW	U16	1	N/A	1	[0,3]	N	0: Disable 1:Enable	0: 禁用 1:使能
46	47546	Fast Charge Stop SOC	快速充电SOC上限	RW	U16	1	N/A	1	[0,100]	N		
47	47547	Start Time_1	启动时间_1	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y	hh:mm	hh:mm
48	47548	End Time_1	结束时间_1	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y		

49	47549	Work Week_1	工作周_1	RW	U16	1	N/A	N/A		Y	Table 8-34	
50	47550	Parameter1_1	参数1_1	RW	U16	1	1/NA/100/100/1	%/N/A/KW/KW/N/A/%/‰	[-100,100]/NA/[0,10000]/[0,50000]/[0,100]/[-1000,1000]	Y	0xFF:Battery power percentage 0xFE:N/A 0xFD:Rated Power 0xF9:Battery power permillage	0xFF:电池功率百分比 0xFE:N/A 0xFD:额定功率 0xF9:电池功率千分比
51	47551	Parameter1_2	参数1_2	RW	U16	1	1/NA/1/1	%/N/A/min/%	[0,100]/NA/[0,1440]/[0,100]	Y	0xFF:Economy mode charging SOC limit 0xFE:N/A 0xFD:Minimum operating time	0xFF:经济模式充电SOC上限 0xFE:N/A 0xFD:最小工作时间
52	47552	Parameter1_3	参数1_3	RW	U16	1	N/A	N/A		Y	0xFF:each month	0xFF:每月
53	47553	Start Time_2	启动时间_2	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y	hh:mm	hh:mm
54	47554	End Time_2	结束时间_2	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y		
55	47555	Work Week_2	工作周_2	RW	U16	1	N/A	N/A		Y	Table 8-34	
56	47556	Parameter2_1	参数2_1	RW	U16	1	1/NA/100/100/1	%/N/A/KW/KW/N/A/%/‰	[-100,100]/NA/[0,10000]/[0,50000]/[0,100]/[-1000,1000]	Y	0xFF:Battery power percentage 0xFE:N/A 0xFD:Rated Power 0xF9:Battery power permillage	0xFF:电池功率百分比 0xFE:N/A 0xFD:额定功率 0xF9:电池功率千分比
57	47557	Parameter2_2	参数2_2	RW	U16	1	1/NA/1/1	%/N/A/min/%	[0,100]/NA/[0,1440]/[0,100]	Y	0xFF:Economy mode charging SOC limit 0xFE:N/A 0xFD:Minimum operating time	0xFF:经济模式充电SOC上限 0xFE:N/A 0xFD:最小工作时间
58	47558	Parameter2_3	参数2_3	RW	U16	1	N/A	N/A		Y	0xFF:each month	0xFF:每月
59	47559	Start Time_3	启动时间_3	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y	hh:mm	hh:mm
60	47560	End Time_3	结束时间_3	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y		
61	47561	Work Week_3	工作周_3	RW	U16	1	N/A	N/A		Y	Table 8-34	

62	47562	Parameter3_1	参数3_1	RW	U16	1	1/NA/100/100/1	%/N/A/KW/KW/N/A/%/‰	[-100,100]/NA/[0,10000]/[0,50000]/[0,100]/[-1000,1000]	Y	0xFF:Battery power percentage 0xFE:N/A 0xFD:Rated Power 0xF9:Battery power permillage	0xFF:电池功率百分比 0xFE:N/A 0xFD:额定功率 0xF9:电池功率千分比
63	47563	Parameter3_2	参数3_2	RW	U16	1	1/NA/1/1	%/N/A/min/%	[0,100]/NA/[0,1440]/[0,100]	Y	0xFF:Economy mode charging SOC limit 0xFE:N/A 0xFD:Minimum operating time	0xFF:经济模式充电SOC上限 0xFE:N/A 0xFD:最小工作时间
64	47564	Parameter3_3	参数3_3	RW	U16	1	N/A	N/A		Y	0xFF:each month	0xFF:每月
65	47565	Start Time_4	启动时间_4	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y	hh:mm	hh:mm
66	47566	End Time_4	结束时间_4	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y		
67	47567	Work Week_4	工作周_4	RW	U16	1	N/A	N/A		Y	Table 8-34	
68	47568	Parameter4_1	参数4_1	RW	U16	1	1/NA/100/100/1	%/N/A/KW/KW/N/A/%/‰	[-100,100]/NA/[0,10000]/[0,50000]/[0,100]/[-1000,1000]	Y	0xFF:Battery power percentage 0xFE:N/A 0xFD:Rated Power 0xF9:Battery power permillage	0xFF:电池功率百分比 0xFE:N/A 0xFD:额定功率 0xF9:电池功率千分比
69	47569	Parameter4_2	参数4_2	RW	U16	1	1/NA/1/1	%/N/A/min/%	[0,100]/NA/[0,1440]/[0,100]	Y	0xFF:Economy mode charging SOC limit 0xFE:N/A 0xFD:Minimum operating time	0xFF:经济模式充电SOC上限 0xFE:N/A 0xFD:最小工作时间
70	47570	Parameter4_3	参数4_3	RW	U16	1	N/A	N/A		Y	0xFF:each month	0xFF:每月
71	47571	Start Time_5	启动时间_5	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y	hh:mm	hh:mm
72	47572	End Time_5	结束时间_5	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y		
73	47573	Work Week_5	工作周_5	RW	U16	1	N/A	N/A		Y	Table 8-34	

74	47574	Parameter5_1	参数5_1	RW	U16	1	1/NA/100/100/1	%/N/A/KW/KW/N/A/%/‰	[-100,100]/NA/[0,10000]/[0,50000]/[0,100]/[-1000,1000]	Y	0xFF:Battery power percentage 0xFE:N/A 0xFD:Rated Power 0xF9:Battery power permillage	0xFF:电池功率百分比 0xFE:N/A 0xFD:额定功率 0xF9:电池功率千分比
75	47575	Parameter5_2	参数5_2	RW	U16	1	1/NA/1/1	%/N/A/min/%	[0,100]/NA/[0,1440]/[0,100]	Y	0xFF:Economy mode charging SOC limit 0xFE:N/A 0xFD:Minimum operating time	0xFF:经济模式充电SOC上限 0xFE:N/A 0xFD:最小工作时间
76	47576	Parameter5_3	参数5_3	RW	U16	1	N/A	N/A		Y	0xFF:each month	0xFF:每月
77	47577	Start Time_6	启动时间_6	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y	hh:mm	hh:mm
78	47578	End Time_6	结束时间_6	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y		
79	47579	Work Week_6	工作周_6	RW	U16	1	N/A	N/A		Y	Table 8-34	
80	47580	Parameter6_1	参数6_1	RW	U16	1	1/NA/100/100/1	%/N/A/KW/KW/N/A/%/‰	[-100,100]/NA/[0,10000]/[0,50000]/[0,100]/[-1000,1000]	Y	0xFF:Battery power percentage 0xFE:N/A 0xFD:Rated Power 0xF9:Battery power permillage	0xFF:电池功率百分比 0xFE:N/A 0xFD:额定功率 0xF9:电池功率千分比
81	47581	Parameter6_2	参数6_2	RW	U16	1	1/NA/1/1	%/N/A/min/%	[0,100]/NA/[0,1440]/[0,100]	Y	0xFF:Economy mode charging SOC limit 0xFE:N/A 0xFD:Minimum operating time	0xFF:经济模式充电SOC上限 0xFE:N/A 0xFD:最小工作时间
82	47582	Parameter6_3	参数6_3	RW	U16	1	N/A	N/A		Y	0xFF:each month	0xFF:每月
83	47583	Start Time_7	启动时间_7	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y	hh:mm	hh:mm
84	47584	End Time_7	结束时间_7	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y		
85	47585	Work Week_7	工作周_7	RW	U16	1	N/A	N/A		Y	Table 8-34	

86	47586	Parameter7_1	参数7_1	RW	U16	1	1/NA/100/100/1	%/N/A/KW/KW/N/A/%/‰	[-100,100]/NA/[0,10000]/[0,50000]/[0,100]/[-1000,1000]	Y	0xFF:Battery power percentage 0xFE:N/A 0xFD:Rated Power 0xF9:Battery power permillage	0xFF:电池功率百分比 0xFE:N/A 0xFD:额定功率 0xF9:电池功率千分比
87	47587	Parameter7_2	参数7_2	RW	U16	1	1/NA/1/1	%/N/A/min/%	[0,100]/NA/[0,1440]/[0,100]	Y	0xFF:Economy mode charging SOC limit 0xFE:N/A 0xFD:Minimum operating time	0xFF:经济模式充电SOC上限 0xFE:N/A 0xFD:最小工作时间
88	47588	Parameter7_3	参数7_3	RW	U16	1	N/A	N/A		Y	0xFF:each month	0xFF:每月
89	47589	Start Time_8	启动时间_8	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y	hh:mm	hh:mm
90	47590	End Time_8	结束时间_8	RW	U16	1	N/A	N/A	[0,23],[0,59]	Y		
91	47591	Work Week_8	工作周_8	RW	U16	1	N/A	N/A		Y	Table 8-35	
92	47592	Parameter8_1	参数8_1	RW	U16	1	1/NA/100/100/1	%/N/A/KW/KW/N/A/‰	[-100,100]/NA/[0,10000]/[0,50000]/[0,1000]	Y	0xFC:Peak shaving power limit 0xFA:Limit permillage	0xFC:削峰功率限制 0xFA:限制千分比
93	47593	Parameter8_2	参数8_2	RW	U16	1	1/NA/1/1	%/N/A/min/%	[0,100]/NA/[0,1440]/[0,100]	Y	0xFC:Peak charging SOC 0xFA:H-byte smart mode L-byte max SOC	0xFC:峰值充电SOC 0xFA: max SOC
94	47594	Parameter8_3	参数8_3	RW	U16	1	N/A	N/A		Y	0xFA:each month	0xFA:每月
95	47595	Load Regulation Index	负载规范索引	RW	U16	1	N/A	N/A	[0,3]	Y	0:Disable 1:switching mode 2:Time manage mode 3:off-Grid load mode Only for inverter with ARM version >18 To select Load control mode	0:关闭 1:开关模式 2:时间管理模式 3:离网负载模式 仅用于ARM芯片高于18版本的逆变器，用于选择负载控制模
96	47596	Load Switch Status	负载切换状态	RW	U16	1	N/A	N/A	[0,1]	N	Only for inverter with ARM version >18, to read the load control status	仅用于ARM芯片高于18版本的逆变器，用于读取负载控制状态

97	47597	Backup Switch SOC Min	Backup切换最小剩余电量	RW	U16	1	N/A	N/A	[0,100]	Y	For load control function, if the controlLed load on Backup side, use this to switch the load off when Battery reaches the SOC set here	对于负载控制功能，如果被控制的负载在Backup侧，当电池达到设定的SOC时，使用此功能来关闭负载。
99	47599	Hardware Feed Power Disable	硬防逆流	RW	U16	1	N/A	N/A	[0,1]	Y		
100	47600	PCS Powersave Mode	PCS功率节约模式	RW	U16	1	N/A	N/A	[0,1]	Y	When enabLed,discharge mode turn to wait when the SPI Battery disables discharge	使能后，SPI电池禁止放电时，放电模式下转wait
101	47601	Old Meter Protocol	旧电表协议	RW	U16	1	N/A	N/A	[0,1]	Y		
102	47602	DOD Holding Enable	DOD保持使能	RW	U16	1	N/A	N/A	[0,1]	Y		
104	47604	Load Regulation or Generator Flag	负载安规或发电机标志	RW	U16	1	N/A	N/A		Y	Dry node function configuration, deFault load control, version≥ 18 0:generator 1:load safety	干节点功能配置，默认负载控制，18版本以上 0:发电机 1:负载安规
105	47605	Backup Mode Enable	backup模式使能	RW	U16	1	N/A	N/A	1Enable	Y		
106	47606	Max Charge Power from Gird	来自电网的最大充电功率	RW	U16	1	N/A	‰	[0,1000]	Y		
107	47607	Reserved	预留	RW	U32	2	N/A	N/A		N		
108	47609	Smart Charging Mode Enable	智能充电模式使能	RW	U16	1	N/A	N/A	1Enable	Y		
109	47610	Reserved	预留	RW	U32	2	N/A	N/A		N		
110	47612	ECO Mode Enable	经济模式使能	RW	U16	1	N/A	N/A		Y		
111	47613	PV sell first	PV卖电优先	RW	U16	1	N/A	N/A		Y		
112	47614	Bat FeedPower offset	耦合机电池防逆流偏移	RW	U16	1	1	W		Y		
113	47615	Battery Current Coff	电池电流系数	RW	U16	1	1	%	[0,100]	Y		
113	47616	Parallel Strong Charge Power permillage	并簇强充可调功率千分比	RW	U16	1	1	‰	[0,1000]	Y		
15	47618	Battery2 Protocol	电池2协议	RW	U16	1	N/A	N/A	[0,511]	Y	Refer to 8-33	见表8-33
115	47619	Feed Power Start Time_1	防逆流起始时间1	RW	U32	2	N/A	S		N		
116	47621	Feed Power limit_1	防逆流限值1	RW	S32	2	N/A	W		N		
117	47623	Feed Power Period_1	防逆流持续时间1	RW	U16	1	N/A	S		N		
118	47624	Feed Power Start Time_2	防逆流起始时间2	RW	U32	2	N/A	S		N		
119	47626	Feed Power limit_2	防逆流限值2	RW	S32	2	N/A	W		N		

120	47628	Feed Power Period_2	防逆流持续时间2	RW	U16	1	N/A	S		N		
121	47629	Feed Power Start Time_3	防逆流起始时间3	RW	U32	2	N/A	S		N		
122	47631	Feed Power limit_3	防逆流限值3	RW	S32	2	N/A	W		N		
123	47633	Feed Power Period_3	防逆流持续时间3	RW	U16	1	N/A	S		N		
124	47634	Feed Power Start Time_4	防逆流起始时间4	RW	U32	2	N/A	S		N		
125	47636	Feed Power limit_4	防逆流限值4	RW	S32	2	N/A	W		N		
126	47638	Feed Power Period_4	防逆流持续时间4	RW	U16	1	N/A	S		N		
127	47639	Feed Power Start Time_5	防逆流起始时间5	RW	U32	2	N/A	S		N		
128	47641	Feed Power limit_5	防逆流限值5	RW	S32	2	N/A	W		N		
129	47643	Feed Power Period_5	防逆流持续时间5	RW	U16	1	N/A	S		N		
130	47644	Feed Power Start Time_6	防逆流起始时间6	RW	U32	2	N/A	S		N		
131	47646	Feed Power limit_6	防逆流限值6	RW	S32	2	N/A	W		N		
132	47648	Feed Power Period_6	防逆流持续时间6	RW	U16	1	N/A	S		N		
133	47649	Feed Power Start Time_7	防逆流起始时间7	RW	U32	2	N/A	S		N		
134	47651	Feed Power limit_7	防逆流限值7	RW	S32	2	N/A	W		N		
135	47653	Feed Power Period_7	防逆流持续时间7	RW	U16	1	N/A	S		N		
136	47654	Feed Power Start Time_8	防逆流起始时间8	RW	U32	2	N/A	S		N		
137	47656	Feed Power limit_8	防逆流限值8	RW	S32	2	N/A	W		N		
138	47658	Feed Power Period_8	防逆流持续时间8	RW	U16	1	N/A	S		N		
139	47659	Feed Power Start Time_9	防逆流起始时间9	RW	U32	2	N/A	S		N		
140	47661	Feed Power limit_9	防逆流限值9	RW	S32	2	N/A	W		N		
141	47663	Feed Power Period_9	防逆流持续时间9	RW	U16	1	N/A	S		N		
142	47664	Feed Power Start Time_10	防逆流起始时间10	RW	U32	2	N/A	S		N		
143	47666	Feed Power limit_10	防逆流限值10	RW	S32	2	N/A	W		N		
144	47668	Feed Power Period_10	防逆流持续时间10	RW	U16	1	N/A	S		N		
145	47669	Feed Power Start Time_11	防逆流起始时间11	RW	U32	2	N/A	S		N		
146	47671	Feed Power limit_11	防逆流限值11	RW	S32	2	N/A	W		N		
147	47673	Feed Power Period_11	防逆流持续时间11	RW	U16	1	N/A	S		N		

148	47674	Feed Power Start Time_12	防逆流起始时间12	RW	U32	2	N/A	S		N		
149	47676	Feed Power limit_12	防逆流限值12	RW	S32	2	N/A	W		N		
150	47678	Feed Power Period_12	防逆流持续时间12	RW	U16	1	N/A	S		N		
151	47679	Feed Power Start Time_13	防逆流起始时间13	RW	U32	2	N/A	S		N		
152	47681	Feed Power limit_13	防逆流限值13	RW	S32	2	N/A	W		N		
153	47683	Feed Power Period_13	防逆流持续时间13	RW	U16	1	N/A	S		N		
154	47684	Feed Power Start Time_14	防逆流起始时间14	RW	U32	2	N/A	S		N		
155	47686	Feed Power limit_14	防逆流限值14	RW	S32	2	N/A	W		N		
156	47688	Feed Power Period_14	防逆流持续时间14	RW	U16	1	N/A	S		N		
157	47689	Feed Power Start Time_15	防逆流起始时间15	RW	U32	2	N/A	S		N		
158	47691	Feed Power limit_15	防逆流限值15	RW	S32	2	N/A	W		N		
159	47693	Feed Power Period_15	防逆流持续时间15	RW	U16	1	N/A	S		N		
160	47694	Feed Power Start Time_16	防逆流起始时间16	RW	U32	2	N/A	S		N		
161	47696	Feed Power limit_16	防逆流限值16	RW	S32	2	N/A	W		N		
162	47698	Feed Power Period_16	防逆流持续时间16	RW	U16	1	N/A	S		N		
163	47699	Feed Power Start Time_17	防逆流起始时间17	RW	U32	2	N/A	S		N		
164	47701	Feed Power limit_17	防逆流限值17	RW	S32	2	N/A	W		N		
165	47703	Feed Power Period_17	防逆流持续时间17	RW	U16	1	N/A	S		N		
166	47704	Feed Power Start Time_18	防逆流起始时间18	RW	U32	2	N/A	S		N		
167	47706	Feed Power limit_18	防逆流限值18	RW	S32	2	N/A	W		N		
168	47708	Feed Power Period_18	防逆流持续时间18	RW	U16	1	N/A	S		N		
169	47709	Feed Power Start Time_19	防逆流起始时间19	RW	U32	2	N/A	S		N		
170	47711	Feed Power limit_19	防逆流限值19	RW	S32	2	N/A	W		N		
171	47713	Feed Power Period_19	防逆流持续时间19	RW	U16	1	N/A	S		N		
172	47714	Feed Power Start Time_20	防逆流起始时间20	RW	U32	2	N/A	S		N		
173	47716	Feed Power limit_20	防逆流限值20	RW	S32	2	N/A	W		N		
174	47718	Feed Power Period_20	防逆流持续时间20	RW	U16	1	N/A	S		N		
175	47719	Feed Power Start Time_21	防逆流起始时间21	RW	U32	2	N/A	S		N		

176	47721	Feed Power limit_21	防逆流限值21	RW	S32	2	N/A	W		N		
177	47723	Feed Power Period_21	防逆流持续时间21	RW	U16	1	N/A	S		N		
178	47724	Feed Power Start Time_22	防逆流起始时间22	RW	U32	2	N/A	S		N		
179	47726	Feed Power limit_22	防逆流限值22	RW	S32	2	N/A	W		N		
180	47728	Feed Power Period_22	防逆流持续时间22	RW	U16	1	N/A	S		N		
181	47729	Feed Power Start Time_23	防逆流起始时间23	RW	U32	2	N/A	S		N		
182	47731	Feed Power limit_23	防逆流限值23	RW	S32	2	N/A	W		N		
183	47733	Feed Power Period_23	防逆流持续时间23	RW	U16	1	N/A	S		N		
184	47734	Feed Power Start Time_24	防逆流起始时间24	RW	U32	2	N/A	S		N		
185	47736	Feed Power limit_24	防逆流限值24	RW	S32	2	N/A	W		N		
186	47738	Feed Power Period_24	防逆流持续时间24	RW	U16	1	N/A	S		N		
187	47739	SAPN UP Rate	输入输出上升斜率	RW	U16	1	100	%Pn/min		Y		
188	47740	SAPN Down Rate	输入输出下降斜率	RW	U16	1	100	%Pn/min		Y		
189	47741	SAPN Feed Power Preset	SAPN预设防逆流	RW	S32	2	N/A	W		Y		
190	47743	Single Battery Paral Enable	单电池并机使能位	RW	U16	1	N/A	N/A		Y		
191	47744	Battery Busbar Mode	电池汇流排接入模式使能位	RW	U16	1	N/A	N/A		Y		
192	47745	Generator start mode selection	发电机启动方式选择	RW	U16	1	N/A	N/A		Y	0：Automatic，1：Manual，2(Default): Without Generator	0：自动，1：手动，2：未安装发电机，默
193	47746	One-click enable	一键启动使能	RW	U16	1	N/A	N/A		Y	0：Disabled，1：Enabled	0：Disabled，1：
194	47747	Generator charge to the battery permillage	发电机给电池充电额定功率千分比	RW	U16	1	1	‰	[0,1000]	Y	0：Disabled，Other:Rated charging power permillage	0：Disabled，其它：额定充电功率千分比
195	47748	reserved	预留			1						

196	47749	Week1	工作周1	RW	U16	1	N/A	N/A		Y	Higher 8 bits are flag bits, 0xFF: enabled, 0x00: disabled, 0x55: not set bit0-Sunday bit1-Monday bit2-Tuesday bit3-Wednesday bit4-Thuesday bit5-Friday bit6-Saturday	高8位为标志位，0xFF：使能，0x00：未使能，0x55：未设置 bit0-Sunday bit1-Monday bit2-Tuesday bit3-Wednesday bit4-Thuesday bit5-Friday bit6-Saturday
197	47750	Prohibit the start time of work1	禁止工作起始时间1	RW	U16	1	N/A	N/A	[0,23]-[0,59]	Y	Start time	时间段1开始时刻
198	47751	Prohibit work end time1	禁止工作结束时间1	RW	U16	1	N/A	N/A	[0,23]-[0,59]	Y	End time	时间段1结束时刻
199	47752	Week2	工作周2	RW	U16	1	N/A	N/A		Y	高8位为标志位，0xFF：使能，0x00：未使能，0x55：未设置 bit0-Sunday bit1-Monday bit2-Tuesday bit3-Wednesday bit4-Thuesday bit5-Friday bit6-Saturday	高8位为标志位，0xFF：使能，0x00：未使能，0x55：未设置 bit0-Sunday bit1-Monday bit2-Tuesday bit3-Wednesday bit4-Thuesday bit5-Friday bit6-Saturday
200	47753	Prohibit the start time of work2	禁止工作起始时间2	RW	U16	1	N/A	N/A	[0,23]-[0,59]	Y	Start time	时间段2开始时刻
201	47754	Prohibit work end time2	禁止工作结束时间2	RW	U16	1	N/A	N/A	[0,23]-[0,59]	Y	End time	时间段2结束时刻
202	47755	reserved	预留			1						
203	47756	open soC or open voltage	开启SOC或开启电压	RW	U16	1	1	N/A	[20, 90]%、[40, 55]V	Y	SOC 40% by default; The default voltage corresponds to the battery type	SOC默认40%；电压默认值与电池类型相对应
204	47757	close soC or close voltage	关闭SOC或关闭电压	RW	U16	1	1	N/A	[40, 95]%、[45, 60]V	Y	SOC 90% by default; The default voltage corresponds to the battery type	SOC默认90%；电压默认值与电池类型相对应

205	47758	Generator run time	发电机运行时间	RW	U16	1	10	h	[0, 240]	Y	Generator max operating time, default 8h	发电机最大运行时间，默认8h
206	47759	Generator rated power	发电机额定功率	RW	U16	1	100	KW		Y		
207	47760	reserved	预留			1						
208	47761	reserved	预留			1						
209	47762	reserved	预留			1						
210	47763	SAPN Enable	SAPN使能标志	RW	U16	1	1	N/A	[0, 1]	Y	SPAN, 1:ON，0: OFF	SPAN功能开关，1为开，0为关
211	47764	lead_Acid Battery Float Charge Voltage	铅酸电池浮充电压	RW	U16	1	10	v	[0,65535]	Y		
212	47765	lead_Acid Battery Absorp Charge	铅酸电池恒充电压	RW	U16	1	10	v	[0,65535]	Y		
213	47766	lead_Acid Battery Equal Charge Voltage	铅酸电池均充电压	RW	U16	1	10	v	[0,65535]	Y		
214	47767	lead_Acid Battery InterRes	铅酸电池内阻	RW	U16	1	1	mΩ	[0,255]	Y		
215	47768	lead_Acid Battery Equal Charge Enable	铅酸电池均充使能	RW	U16	1	1	N/A	[0,1]	Y	0:OFF，1：ON	0:关闭，1：使能
216	47769	lead_Acid Battery Charge Coefficient	铅酸电池充电系数	RW	U16	1	100	%	[0,100]	Y		
217	47770	lead_Acid Battery Max Float Charge Current	铅酸电池浮充最大电流	RW	U16	1	10	A	[0,100]	Y	Max current of lead-acid battery during floating charge	铅酸电池浮充阶段最大电流
218	47771	lead_Acid Battery Equal Charge cycle	铅酸电池均充周期	RW	U16	1	1	day	[0,365]	Y		
219	47772	lead_Acid Battery Current To Float ChrgSts	铅酸电池进入浮充阶段电流闽值	RW	U16	1	10	A	[0,255]	Y		
220	47773	lead_Acid BattleTempcCompensation	铅酸电池温度影响系数	RW	S16	1	1	‰	[-200,200]	Y		
221	47774	lead_Acid BattleToFloatStsTime	铅酸电池进入浮充时间阙值	RW	U16	1	1	S	[0,65535)	Y		

ARM BMS Passthrough												
1	47900	BMS Version	BMS版本	RW	U16	1	N/A	N/A		N		
2	47901	Battery Strings	电池串2	RW	U16	1	N/A	N/A		N		
3	47902	Max BMS Battery Charge Voltage	BMS电池最大充电电压	RW	U16	1	N/A	V		N	Real-time max charge voltage limit for BAT BMS	电池BMS的实时最大充电电压限制
4	47903	Max BMS Battery Charge Current	BMS电池最大充电电流	RW	U16	1	N/A	A		N	Real-time max charge current limit for BAT BMS	电池BMS的实时最大充电电流限制
5	47904	Min BMS Battery Discharge Voltage	BMS电池最小放电电压	RW	U16	1	N/A	V		N	Real-time min charge voltage limit for BAT BMS	电池BMS的实时最小放电电压限制
6	47905	Min BMS Battery Discharge Current	BMS电池最小放电电流	RW	U16	1	N/A	A		N	Real-time min charge current limit for BAT BMS	电池BMS的实时最小放电电流限制
7	47906	BMS Battery Voltage	BMS电池电压	RW	U16	1	N/A	V		N	Real-time BAT voltage(BMS Detection)	实时电池电压(电池BMS检测)
8	47907	BMS Battery Current	BMS电池电流	RW	U16	1	N/A	A		N	Real-time BAT current(BMS Detection)	实时电池充放电电流(电池BMS检测)
9	47908	BMS Battery SOC	BMS电池剩余电量百分比	RW	U16	1	N/A	%		N		
10	47909	BMS Battery SOH	BMS电池健康度	RW	U16	1	N/A	N/A		N		
11	47910	BMS Battery Temperature	BMS电池温度	RW	U16	1	10	℃		N		
12	47911	BMS Warning Code	BMS警告代码	RW	U32	2	N/A	N/A		N		
13	47913	BMS Alarm Code	BMS报警代码	RW	U32	2	N/A	N/A		N		
14	47915	BMS Status	BMS状态	RW	U16	1	N/A	N/A		N		
15	47916	BMS Communication Loss Disable	BMS通信损失禁用	RW	U16	1	N/A	N/A		N		
16	47917	BMS Battery String Rate Voltage	BMS电池串额定电压	RW	U16	1	10	V	[200,2000]	N		
17	47918	BMS Version2	BMS版本2	RW	U16	1	N/A	N/A		N		
18	47919	Battery Strings2	电池串2	RW	U16	1	N/A	N/A		N		

19	47920	Max BMS Battery2 Charge Voltage	BMS电池2最大充电电压	RW	U16	1	N/A	V		N		
20	47921	Max BMS Battery2 Charge Current	BMS电池2最大充电电流	RW	U16	1	N/A	A		N		
21	47922	Min BMS Battery2 Discharge Voltage	BMS电池2最小放电电压	RW	U16	1	N/A	V		N		
22	47923	Min BMS Battery2 Discharge Current	BMS电池2最小放电电流	RW	U16	1	N/A	A		N		
23	47924	BMS Battery2 Voltage	BMS2电池电压	RW	U16	1	N/A	V		N		
24	47925	BMS Battery2 Current	BMS2电池电流	RW	U16	1	N/A	A		N		
25	47926	BMS Battery2 SOC	BMS电池2剩余电量百分比	RW	U16	1	N/A	%		N		
26	47927	BMS Battery2 SOH	BMS2电池健康度	RW	U16	1	N/A	N/A		N		
27	47928	BMS Battery2 Temperature	BMS2电池温度	RW	U16	1	10	℃		N		
28	47929	BMS2 Warning Code	BMS2警告代码	RW	U32	2	N/A	N/A		N		
29	47931	BMS2 Alarm Code	BMS2报警代码	RW	U32	2	N/A	N/A		N		
30	47933	BMS2 Status	BMS2状态	RW	U16	1	N/A	N/A		N		
31	47934	BMS2 Communication Loss Disable	BMS2通信损失禁用	RW	U16	1	N/A	N/A		N		
32	47935	BMS Battery String2 RateVoltage	BMS电池串2额定电压	RW	U16	1	10	V	[200,2000]	N		
33	47936	Max BMS Battery Discharge Current	离网放电BMS限流值	RW	U16	1	10	A		N		
34	47937	Max BMS Battery Discharge Current Offline2	离网放电BMS限流值2	RW	U16	1	10	A		N		

	#Address	English Name	Chinese Name	#R/W	#Type	#Size	#SF	#Units	Range	Flash Save	Note(English)	Note(Chinese)
Self-check Parameter												
1	50000	Self check Support Flag	设备自检支持标识	RO	U16	1	N/A	N/A			1：Support Self-check	1：表示支持设备自检
2	50001	Self check Function Version	设备自检支持功能版本	RO	U16	1	N/A	N/A			First version is 0	起始版本0
3	50002	Self check Function1	设备自检支持功能清单1	RO	U16	1	N/A	N/A			Bit0：PV1, Bit1：PV2, Bit2：PV3, Bit3：PV4, Bit4：PV5, Bit5：PV6, Bit6：PV7, Bit7：PV8, Bit8：BAT1, Bit9：BAT2, Bit10：BAT3, Bit11：BAT4, Bit12：Grid, Bit13：Backup output, Bit14：Meter configuration and com, Bit15：CT	Bit0：PV1, Bit1：PV2, Bit2：PV3, Bit3：PV4, Bit4：PV5, Bit5：PV6, Bit6：PV7, Bit7：PV8, Bit8：电池1, Bit9：电池2, Bit10：电池3, Bit11：电池4,
4	50003	Self check Function2	设备自检支持功能清单2	RO	U16	1	N/A	N/A			Reserved	预留
5	50004	Self check Function3	设备自检支持功能清单3	RO	U16	1	N/A	N/A			Reserved	预留

6	50005	Self check Function4	设备自检支持功能清单4	RO	U16	1	N/A	N/A			Reserved	预留
7	50006	Self check Function5	设备自检支持功能清单5	RO	U16	1	N/A	N/A			Reserved	预留
8	50007	Self check Function6	设备自检支持功能清单6	RO	U16	1	N/A	N/A			Reserved	预留
9	50008	Self check Function7	设备自检支持功能清单7	RO	U16	1	N/A	N/A			Reserved	预留
10	50009	Self check Function8	设备自检支持功能清单8	RO	U16	1	N/A	N/A			Reserved	预留
11	50010	PV1 Connect Status	PV1连接状态	RO	U16	1	N/A	N/A			0：Disconnected， 1：Connected， 2：Overvoltage， 3：Reversed	0：未连接， 1：正常接入， 2：接入过压， 3：极性反接
12	50011	PV1 Voltage	PV1电压	RO	S16	1	10	V				
13	50012	PV1 Current	PV1电流	RO	S16	1	10	A				
14	50013	PV2 Connect Status	PV2连接状态	RO	U16	1	N/A	N/A			0：Disconnected， 1：Connected， 2：Overvoltage， 3：Reversed	0：未连接， 1：正常接入， 2：接入过压， 3：极性反接
15	50014	PV2 Voltage	PV2电压	RO	S16	1	10	V				

16	50015	PV2 Current	PV2电流	RO	S16	1	10	A				
17	50016	PV3 Connect Status	PV3连接状态	RO	U16	1	N/A	N/A			0：Disconnected， 1：Connected， 2：Overvoltage， 3：Reversed	0：未连接， 1：正常接入， 2：接入过压， 3：极性反接
18	50017	PV3 Voltage	PV3电压	RO	S16	1	10	V				
19	50018	PV3 Current	PV3电流	RO	S16	1	10	A				
20	50019	PV4 Connect Status	PV4连接状态	RO	U16	1	N/A	N/A			0：Disconnected， 1：Connected， 2：Overvoltage， 3：Reversed	0：未连接， 1：正常接入， 2：接入过压， 3：极性反接
21	50020	PV4 Voltage	PV4电压	RO	S16	1	10	V				
22	50021	PV4 Current	PV4电流	RO	S16	1	10	A				
23	50022	PV5 Connect Status	PV5连接状态	RO	U16	1	N/A	N/A			0：Disconnected， 1：Connected， 2：Overvoltage， 3：Reversed	0：未连接， 1：正常接入， 2：接入过压， 3：极性反接
24	50023	PV5 Voltage	PV5电压	RO	S16	1	10	V				
25	50024	PV5 Current	PV5电流	RO	S16	1	10	A				
26	50025	PV6 Connect Status	PV6连接状态	RO	U16	1	N/A	N/A			0：Disconnected， 1：Connected， 2：Overvoltage， 3：Reversed	0：未连接， 1：正常接入， 2：接入过压， 3：极性反接

27	50026	PV6 Voltage	PV6电压	RO	S16	1	10	V				
28	50027	PV6 Current	PV6电流	RO	S16	1	10	A				
29	50028	PV7 Connect Status	PV7连接状态	RO	U16	1	N/A	N/A			0：Disconnected， 1：Connected， 2：Overvoltage， 3：Reversed	0：未连接， 1：正常接入， 2：接入过压， 3：极性反接
30	50029	PV7 Voltage	PV7电压	RO	S16	1	10	V				
31	50030	PV7 Current	PV7电流	RO	S16	1	10	A				
32	50031	PV8 Connect Status	PV8连接状态	RO	U16	1	N/A	N/A			0：Disconnected， 1：Connected， 2：Overvoltage， 3：Reversed	0：未连接， 1：正常接入， 2：接入过压， 3：极性反接
33	50032	PV8 Voltage	PV8电压	RO	S16	1	10	V				
34	50033	PV8 Current	PV8电流	RO	S16	1	10	A				
35	50034	Battery1 Connect Status	电池1连接状态	RO	U16	1	N/A	N/A			0：Disconnected， 1：Connected， 2：Overvoltage， 3：Reversed	0：未连接， 1：正常接入， 2：接入过压， 3：极性反接
36	50035	Battery1 Communication	电池1通讯状态	RO	U16	1	N/A	N/A			0：Com loss， 1：Com normal	0：通讯丢失， 1：通讯正常
37	50036	Battery1 Voltage	电池1电压	RO	S16	1	10	V				

38	50037	Battery1 Current	电池1电流	RO	S16	1	10	A				
39	50038	Battery1 Type Index	电池1型号索引	RO	U16	1	N/A	N/A			Fefer to BAT parameter	参照电池参数表
40	50039	Battery1 Protocol	电池1协议码	RO	U16	1	N/A	N/A			Fefer to BAT parameter	参照电池参数表
41	50040	Battery1 Strings	电池节数	RO	U16	1	N/A	N/A				
42	50041	Battery1 SOC	电池1剩余电量	RO	U16	1	10	%				
43	50042	Battery1 SOH	电池1健康度	RO	U16	1	10	%				
44	50043	Battery2 Connect Status	电池2连接状态	RO	U16	1	N/A	N/A			0：Disconnected， 1：Connected， 2：Overvoltage， 3：Reversed	0：未连接， 1：正常接入， 2：接入过压， 3：极性反接
45	50044	Battery2 Communication	电池2通讯状态	RO	U16	1	N/A	N/A			0：Com loss， 1：Com normal	0：通讯丢失， 1：通讯正常
46	50045	Battery2 Voltage	电池2电压	RO	S16	1	10	V				
47	50046	Battery2 Current	电池2电流	RO	S16	1	10	A				
48	50047	Battery2 Type Index	电池2型号索引	RO	U16	1	N/A	N/A			Fefer to BAT parameter	参照电池参数表
49	50048	Battery2 Protocol	电池2协议码	RO	U16	1	N/A	N/A			Fefer to BAT parameter	参照电池参数表
50	50049	Battery2 Strings	电池2节数	RO	U16	1	N/A	N/A				
51	50050	Battery2 SOC	电池2剩余电量	RO	U16	1	10	%				

52	50051	Battery2 SOH	电池2健康度	RO	U16	1	10	%				
53	50052	Battery3 Connect Status	电池3连接状态	RO	U16	1	N/A	N/A			0：Disconnected， 1：Connected， 2：Overvoltage， 3：Reversed	0：未连接， 1：正常接入， 2：接入过压， 3：极性反接
54	50053	Battery3 Communication	电池3通讯状态	RO	U16	1	N/A	N/A			0：Com loss， 1：Com normal	0：通讯丢失， 1：通讯正常
55	50054	Battery3 Voltage	电池3电压	RO	S16	1	10	V				
56	50055	Battery3 Current	电池3电流	RO	S16	1	10	A				
57	50056	Battery3 Type Index	电池3型号索引	RO	U16	1	N/A	N/A			Fefer to BAT parameter	参照电池参数表
58	50057	Battery3 Protocol	电池3协议码	RO	U16	1	N/A	N/A			Fefer to BAT parameter	参照电池参数表
59	50058	Battery3 Strings	电池3节数	RO	U16	1	N/A	N/A				
60	50059	Battery3 SOC	电池3剩余电量	RO	U16	1	10	%				
61	50060	Battery3 SOH	电池3健康度	RO	U16	1	10	%				
62	50061	Battery4 Connect Status	电池4连接状态	RO	U16	1	N/A	N/A			0：Disconnected， 1：Connected， 2：Overvoltage， 3：Reversed	0：未连接， 1：正常接入， 2：接入过压， 3：极性反接
63	50062	Battery4 Communication	电池4通讯状态	RO	U16	1	N/A	N/A			0：Com loss， 1：Com normal	0：通讯丢失， 1：通讯正常
64	50063	Battery4 Voltage	电池4电压	RO	S16	1	10	V				
65	50064	Battery4 Current	电池4电流	RO	S16	1	10	A				

66	50065	Battery4 Type Index	电池4型号索引	RO	U16	1	N/A	N/A			Fefer to BAT parameter	参照电池参数表
67	50066	Battery4 Protocol	电池4协议码	RO	U16	1	N/A	N/A			Fefer to BAT parameter	参照电池参数表
68	50067	Battery4 Strings	电池4节数	RO	U16	1	N/A	N/A				
69	50068	Battery4 SOC	电池4剩余电量	RO	U16	1	10	%				
70	50069	Battery4 SOH	电池4健康度	RO	U16	1	10	%				
71	50070	Grid Connect Status	电网连接状态	RO	U16	1	N/A	N/A			0：Disconnetced， 1：Grid normal， 2：Phase Sequence Fault， 3：Phase Fault， 4：Grid Voltage Frequency Fault	0：未连接， 1：电网OK， 2：电网相序故障， 3：电网相角故障， 4：电网电压频率故障
72	50071	Device AC type	设备AC端口类型	RO	U16	1	N/A	N/A			0：Single-phase， 1 ：Split-phase， 2：Three-phase, Four-wire，3：Three-phase, Three-wire	0：单相， 1 ：两相， 2：三相四线，3：三相三线
73	50072	Main Safety	主安规代码	RO	U16	1	N/A	N/A			Master safety code. Refer to safety parameter table	主安规代码，参照安规参数表
74	50073	Slave Safety Code	子安规代码	RO	U16	1	N/A	N/A				
75	50074	Grid Voltage L1	电网电压L1	RO	U16	1	10	V				
76	50075	Grid Voltage L2	电网电压L2	RO	U16	1	10	V				

77	50076	Grid Voltage L3	电网电压L3	RO	U16	1	10	V				
78	50077	Grid Frequency L1	电网频率L1	RO	U16	1	100	Hz				
79	50078	Grid Frequency L2	电网频率L2	RO	U16	1	100	Hz				
80	50079	Grid Frequency L3	电网频率L3	RO	U16	1	100	Hz				
81	50080	Grid Reserved1	电网预留1	RO	U16	1	N/A	N/A			Reserved for Safety country	预留补充安规功能开关
82	50081	Grid Reserved2	电网预留2	RO	U16	1	N/A	N/A				
83	50082	Backup Enable	backup开关	RO	U16	1	N/A	N/A			0：ON， 1：OFF	0：关闭， 1：打开
84	50083	Wave Check Mode	波形检测模式	RO	U16	1	N/A	N/A			0：Full-wave， 1：Half-wave，2：OFF	0：全波检测， 1：半波检测， 2：关闭
85	50084	Backup Voltage L1	Backup电压L1	RO	U16	1	10	V				
86	50085	Backup Voltage L2	Backup电压L2	RO	U16	1	10	V				
87	50086	Backup Voltage L3	Backup电压L3	RO	U16	1	10	V				
88	50087	Backup Frequency L1	Backup频率L1	RO	U16	1	100	Hz				
89	50088	Backup Frequency L2	Backup频率L2	RO	U16	1	100	Hz				

90	50089	Backup Frequency L3	Backup频率 L3	RO	U16	1	100	Hz				
91	50090	Meter Type	电表类型	RO	U16	1	N/A	N/A			0x00FF：Unknow 0x00FE：Acrel Meter 0x0505：4CTs Meter 0x0001：Goodwe Single-phase Meter 0x0002：Goodwe Three-phase Three-wire Meter 0x0003：Goodwe Three-phase Four-wire Meter 0x0004：Goodwe 2CTs Meter 0x0005：Split-phase Meter Below is internal CT type： 0x8001：Three-phase Three-wire CT 0x8002：Three-phase Four-wire CT 0x8003：Single-phase One-wire CT 0x8004：Three-phase Two-	0x00FF：未知 0x00FE：安科瑞电表 0x0505：北美4CT电表 0x0001：goodwe单相电表 0x0002：goodwe三相三线电表 0x0003：goodwe三相四线电表 0x0004：goodwe双CT电表 0x0005：北美两相电表 以下为内置CT的类型定义（最高位表示内置CT）： 0x8001：三相三线CT 0x8002：三相四线CT 0x8003：一相一线CT 0x8004：三相两线CT
92	50091	Meter Internal/External	电表内置/外置	RO	U16	1	N/A	N/A			0：Internal，　1：External	0：内置，　1：外置
93	50092	Int Meter Communication	内置电表通讯状态	RO	U16	1	N/A	N/A			0：Com loss，　1：Com normal	0：通讯丢失，　1：通讯OK

94	50093	CT Self Check Status	是否具备CT自检条件	RO	U16	1	N/A	N/A			0：Yes， 1：No	0：不具备， 1：具备
95	50094	Ext Meter Communication	外置电表通讯状态	RO	U16	1	N/A	N/A			0：Com loss， 1：Com normal	0：通讯丢失， 1：通讯OK
Self-check Parameter												
1	50200	Internal fan1 duty set	内置风扇1转速标定	RW	U16	1	100	%	[0,100]		Percentage of Max fan speed	转速标定为最大转速的百分比
2	50201	External fan1 duty set	外部风扇1转速标定	RW	U16	1	100	%	[0,100]		Percentage of Max fan speed	转速标定为最大转速的百分比
3	50202	Internal fan1 speed feed	内部风扇1转速反馈	RO	U16	1	1	rad/min	[0,65535]			
4	50203	External fan1 speed feed	外部风扇1转速反馈	RO	U16	1	1	rad/min	[0,65535]			
4	50204	Reserved	此处预留寄存器用于更多的风扇测试	RO	U16	16	1	rad/min	[0,65535]		Reserved	预留

Table 8-1 Work Mode

Mode	Code	Description
Wait	0x00	cut off all the connection to Inverter
On-Grid	0x01	PV intputs to Inverter, Inverter outputs to Grid
Off-Grid	0x02	PV inputs to Inverter(1st),Battery inputs to Inverter(2nd),Inverter work as AC source
Fault	0x03	Fault ,fault mode, something is in fault mode
Flash	0x04	Inverter upgrade
Check	0x05	Power on self-check of inverter

Table 8-2 Error Message

Bit NO	Error message	Description
Bit31	Internal Communication Failure	Communication between microcontrollers is failure
Bit30	EEPROM R/W Failure	EEPROM cannot be read or written
Bit29	Fac Failure	The grid frequency is out of tolerable range
Bit28	DSP communication failure	Communication between ARM and DSP is failure
Bit27	PhaseAngleFailure	Phase angle out of range (110°~140°)
Bit26	TBD	NA
Bit25	Relay Check Failure	Relay check is failure
Bit24	TBD	NA

Bit23	Vac Consistency Failure	Different value between Master and Slave for grid voltage
Bit22	Fac Consistency Failure	Different value between Master and Slave for grid frequency
Bit21	TBD	NA
Bit20	Back-Up Over Load	NA
Bit19	DC Injection High	The DC injection to grid is too high
Bit18	Isolation Failure	Isolation resistance of PV-plant too low
Bit17	Vac Failure	Grid voltage out of tolerable range
Bit16	External Fan Failure	The external fan failure
Bit15	PV Over Voltage	Pv input voltage is over the tolerable maximum value
Bit14	Utility Phase Failure	Utility Phase Failure
Bit13	Over Temperature	Temperature is too high
Bit12	InternalFan Failure	The fan in case failure
Bit11	DC Bus High	Dc bus is too high
Bit10	Ground I Failure	Ground current is too high
Bit9	Utility Loss	Utility is unavailable
Bit8	AC HCT Failure	AC HCT check failure 3 times
Bit7	Relay Device Failure	Relay check failure 3 times
Bit6	GFCI Device Failure	GFCI check failure 3 times
Bit5	TBD	NA
Bit4	GFCI Consistency	Different GFCI values on Master &Slave
Bit3	DCI Consistency	Different DCI value on Master and Slave
Bit2	TBD	NA
Bit1	AC HCT Check Failure	The output current sensor is abnormal
Bit0	GFCI Device Check	The GFCI detecting circuit is abnormal

Table 8-3 PV Mode

Byte	Description
0	PV1 mode, refer to table 8-4
1	PV2mode, refer to table 8-4
2	PV3 mode, refer to table 8-4
3	PV4 mode, refer to table 8-4

Table 8-4 PV Mode Code

Mode Code	Description
0x00	NO PV, inverter disconnects to PV
0x01	Standby, PV does not output power
0x02	Work, PV output power

Table 8-7 BMS Alarm Code

Bit31	Bit30	Bit29	Bit28	Bit27
Reserved	Reserved	Reserved	Reserved	Reserved
Bit15	Bit14	Bit13	Bit12	Bit11
Charging over-voltage3	Discharge	Cell High	Communication failure2	Charging circuit Failure
Bit7	Bit6	Bit5	Bit4	Bit3
DC bus fault	Precharge fault	Discharging	Charging overcurrent2	Cell Low temperature2

Table 8-8 BMS Warning Code

Bit31~Bit15	Bit14	Bit13	Bit12	Bit11
Reserved				System High temperature
Bit7	Bit6	Bit5	Bit4	Bit3
System Reboot	communication	Discharge over-	Charge over-current1	Cell Low temperature1

Table 8-9 Battery Status

Mode Code	Description
0x00	No Battery, or battery disconnected
0x01	Standby, no discharging or charging
0x02	Discharging
0x03	Charging

Table 8-10 Grid Status

Mode Code	Description
0x00	Loss, inverter disconnects to Grid
0x01	OK, inverter connects to Grid
0x02	Fault, something is wrong

Table 8-11 Backup Status

Mode Code	Description
0x00	ON, inverter connects to Load
0x01	OFF, inverter disconnects to Load

Table 8-12 Operation Mode

Mode Code	Description
0x01	Cut off all the connection to Inverter(wait mode)
0x02	PV intputs to Inverter, Inverter outputs to Grid(online mode)
0x04	PV inputs to Inverter(First),Battery inputs to Inverter(Second),Inverter work as AC source(battery mode)
0x10	Fault, fault mode, something is in fault mode(fault mode)

Table 8-13 Diagnostic Status

Code	Diagnose Info	Expalantion
0x0000000	Battery Precharge Relay Off	Battery Precharge Relay Off
0x0000000	ByPass Relay Stick	Bypass relay is sticking
0x2000000	External Stop Mode Enable	DRED or ESD stop the inverter
0x4000000	Battery Offgrid DOD	Battery SOC less than Offgrid DOD
0x8000000	Battery SOC Adjust Enable	Only for BYD, adjust the SOC

Table 8-14 Diagnostic Status

Bit	Diagnose Info	Explanation	Type
0	BatteryVoltLow	1:Battery not discharge caused by low battery voltage	Affect discharge
1	BatterySOCLow	1:Battery not discharge caused by low SOC	
2	BatterySOCInBack	1:Battery SOC not recover to allow-discharge level	
3	BMSDischargeDisable	1:BMS not allow discharge	
4	DischargeTimeOn	Discharge time is set, 1: On, 0: OFF	
5	ChargeTimeOn	Charge time is set, 1: On, 0: OFF	
6	DischargeDriveOn	1:Discharge driver is turned on	
7	BMSDischgCurrentLow	1:BMS discharge current limit is too low	
8	DischargeCurrentLow	1:Discharge current limit is too low (from App)	
9	MeterCommLoss	1:Smart Meter communication failure	
10	MeterConnectReverse	1:Smart Meter connection reversed	
11	SelfUseLoadLight	1:Low load power, cannot activate battery discharge	
12	EMSDischargeIZero	1:Discharge current limit 0A from EMS	
13	DischargeBUSHigh	1:Battery not discharge caused by over high PV voltage	
14	BatteryDisconnect	1:Battery disconnected	Affect charging
15	BatteryOvercharge	1:Battery overcharged	
16	BMSOverTemperature	1:Lithium battery over temperature	
17	BMSOvercharge	1:Lithium battery overcharged or an individual cell voltage is higher	
18	BMSChargeDisable	1:BMS does not allow charge	
19	SelfUseOff	1:Self-use mode turned off	Affect
20	SOCDeltaOverRange	1:SOC Jumps abnormally	Other
21	BatterySelfDischarge	1:Battery discharge at low current for long time, continuously over 30% of battery	
22	OffgridSOCLow	1:SOC is low under off-grid statues	
23	GridWaveUnstable	1:Grid wave is bad, switch to back-up mode frequently	
24	FeedPowerLimit	1:Export power limit is set	
25	PFValueSet	1:PF value is set	
26	RealPowerLimit	1:Active power value is set	

28	SOCProtectOff	1:SOC protect Off	

Table 8-15 DRM Status

Value	DRMx	Description
0	DRM0	Operate the disconnection device
1	DRM1	Do not consume power
2	DRM2	Do not consume at more than 50% of rated power
3	DRM3	Do not consume at more than 75% of rated power and source reactive power if capable
4	DRM4	Increase power consumption(Subjects to constraints from other active DRMs)
5	DRM5	Do not generate power
6	DRM6	Do not generate at more than 50% of rated power
7	DRM7	Do not generate at more than 50% of rated power and sink reactive power if capable
8	DRM8	Increase power generation(Subjects to constraints from other active DRMs)
0xFF	No command	Disable

Table 8-16 EMS Power Mode

Application scenarios	MODE	COMMAND		PV	Grid	Battery
		EMSPowerMode	EMSPowerSet	Power priority (Green is the control object)		
System shutdown	Stopped	0x00FF	NA			
	Note :Stop working and switch to wait mode					
Self-use	Auto	0x0001	NA			
	Note: PBattery =PInv - Pmeter – Ppv (Discharge/Charge)					
	The battery power is controlled by the meter power when the meter communication is normal.					
Control the battery to keep charging	Charge-PV	0x0002	Xmax [2]	High	Low [1]	Energy In
	Note :PBattery =Xmax + PV (Charge)					
	Xmax is to allow the power to be taken from the grid, and PV power is preferred. When set to 0, only PV power is used.					
Control the battery to keep discharging	Dischg+PV	0x0003	Xmax	High	Energy Out	Low
	Note : PBattery = Xmax (Discharge)					
	Xmax is the allowable discharge power of the battery. When the power fed into the grid is limited, PV power will be used					
The inverter is used as a unit for power grid energy scheduling	Import-AC	0x0004	Xset [3]	Low	High	Energy In
	Note :PBattery = Xset + PV (Charge)					
	Xset refers to the power purchased from the power grid. The power purchased from the grid is preferred. If the PV power					
	Export-AC	0x0005	Xset	High	Energy Out	Low
	Note : PBattery = Xset (Discharge)					
	Xset is to sell power to the grid. PV power is preferred. When PV energy is insufficient, the battery will discharge.PV					

Off-grid reservation mode	Conserve	0x0006	NA	
	Note : PBattery = PV (Charge)			
	In on-grid mode, the battery is continuously charged, and only PV power (AC Couple model takes 10% of the rated power			

Off-Grid Mode	Off-Grid	0x0007	NA			
	Note : PBattery =Pbackup – Ppv (Charge/Discharge)					
	Forced off-grid operation (Disconnect from grid)					

No battery mode for hybrid inverter	Battery standby	0x0008	NA			
	Note : PBattery =0 (Standby)					
	The battery does not charge and discharge					

Regional energy management	Buy Power	0x0009	Xset	Low	High	Energy In/Out
	Note :PBattery = PInv – (Pmeter + Xset)– Ppv (Charge/Discharge)					
	When the meter communication is normal, the power purchased from the power grid is controlled as Xset. When the PV					
	Sell Power	0x000A	Xset	High	Energy Out	Low
	Note : PBattery = PInv – (Pmeter – Xset) – Ppv (Charge/Discharge)					
	When the communication of electricity meter is normal, the power sold from the power grid is controlled as Xset, PV					

Force the battery to work at set power value	Charge-BAT	0x000B	Xset	High	Low	Energy In
	Note : PBattery = Xset (Charge)					
	Xset is the charging power of the battery. PV power is preferred. When PV power is insufficient, it will buy power from the					
	Discharge-BAT	0x000C	Xset	Low	Energy In	High
	Note : PBattery = Xset (Discharge)					
	Xset is the discharge power of the battery, and the battery discharge has priority. If the PV power is too large, MPPT will					

Note:

[1] for low-priority energy sources, when the battery charging power is limited or the rated output power of the inverter is limited, the load shall be

[2] Xmax represents the upper limit of the power control value, and the actual power will be adjusted according to the working condition.

[3] Xset represents the target value of power control, and the actual power must reach the set value.

Table 8-17 CPLD Warning Code

VALUE	Error message
1	PV1 Over Current HW
2	PV2 Over Current HW
3	Battery Over Current HW
4	Bus Over Voltage HW
5	R InvOverCurr HW
6	S InvOverCurr HW
7	T InvOverCurr HW
8	BatRelayFail

Table 8-18 Power Factor

Data	Description
1	0.99 lagging
2	0.98 lagging
3	0.97 lagging
4	0.96 lagging
5	0.95 lagging
6	0.94 lagging
7	0.93 lagging
8	0.92 lagging
9	0.91 lagging
10	0.90 lagging
11	0.89 lagging
12	0.88 lagging
13	0.87 lagging

14	0.86 lagging
15	0.85 lagging
16	0.84 lagging
17	0.83 lagging
18	0.82 lagging
19	0.81 lagging
20	0.80 lagging
80	0.80 leading
81	0.81 leading
82	0.82 leading
83	0.83 leading
84	0.84 leading
85	0.85 leading
86	0.86 leading
87	0.87 leading
88	0.88 leading
89	0.89 leading
90	0.90 leading
91	0.91 leading
92	0.92 leading
93	0.93 leading
94	0.94 leading
95	0.95 leading
96	0.96 leading
97	0.97 leading
98	0.98 leading
99	0.99 leading
100	1

Table 8-20 Weekly schedule

	Bit NO	Definition
High byte	Bit15~8	0xFF :enable
		0x00 : disable
Low byte	Bit7	NA
	Bit6	Saturday
	Bit5	Friday
	Bit4	Thursday
	Bit3	Wednesday
	Bit2	Tuesday
	Bit1	Monday
	Bit0	Sunday

Table 8-21

Code	Description	Grid connection standards
0x00	Italy	ENEL (Un: 230Vac)
0x01	Czech	EN50438(CZ) (Un: 230Vac)
0x02	Germany	VDE-AR-N 4105(Un: 230Vac)
0x03	Spain	RD1699(Un: 230Vac)
0x04	GreeceMainland	EN50438(GR) (Un: 230Vac)
0x05	Danmark	EN50438(DK)
0x06	Belgium	C10/C11(Un: 230Vac)
0x07	Romania	(Un: 230Vac)
0x08	G98	G83/2 G59/3 (Un: 230Vac)
0x09	Australia	AS/NZS 4777.2
0x0A	France	VDE0126
0x0B	China	NB-T
0x0C	60Hz Grid Default	CSA
0x0D	Poland	EN50438

0x0E	South Africa	(Un: 230Vac)
0x0F	AustraliaL	AS/NZS 4777.2
0x10	Brazil	(Un: 220Vac)
0x11	Thailand MEA	MEA
0x12	Thailand PEA	PEA
0x13	Mauritius	(Un: 230Vac)
0x14	Holland	EN50438
0x15	G99	Northern Ireland
0x16	ChinaHigher	NB-T
0x17	French 50Hz	(Un: 230Vac)
0x18	French 60Hz	(Un: 230Vac)
0x19	Australia Ergon	AS/NZS 4777.2
0x1A	Australia Energex	AS/NZS 4777.2
0x1B	Holland 16/20A	EN50438
0x1C	Korea	(Un: 220Vac)
0x1D	China Station	NB-T
0x1E	Austria	(Un: 230Vac)
0x1F	India	IEC61727
0x20	50Hz Grid Default	Default
0x21	Warehouse	Warehouse
0x22	Philippines	Philippines
0x23	Ireland	EN50438 Ireland
0x24	Taiwan	(Un: 230Vac)
0x25	Bulgaria	EN50438
0x26	Barbados	(Un: 230Vac)
0x27	ChinaHighest	NB-T
0x28	G99 reserve	G59/3 (Un: 230Vac)
0x29	Sweden	EN50438 (Un: 230Vac)
0x2A	Chile	BISI 4.0 (Un: 220Vac)

0x2B	Brazil LV	(Un: 220Vac)
0x2C	NewZealand	AS/NZS 4777.2
0x2D	IEEE1547 208Vac	IEEE1547 (Un: 120/208Vac)
0x2E	IEEE1547 220Vac	IEEE1547 (Un: 127/220Vac)
0x2F	IEEE1547 240Vac	IEEE1547 (Un: 138.6/240Vac)
0x30	60Hz LV Default	60Hz LV Default
0x31	50Hz LV Default	50Hz LV Default
0x32	Australia Western	AS/NZS 4777.2
0x33	Australia MicroGrid	AS/NZS 4777.2
0x34	JP_50Hz	JP_50Hz
0x35	JP_60Hz	JP_60Hz
0x36	India Higher	IEC61727 (Un: 230Vac))
0x37	DEWA LV	DEWA (Un:230Vac)
0x38	DEWA MV	DEWA (Un:230Vac)
0x39	Slovakia	EN50438(SV) (Un: 230Vac)
0X3A	GreenGrid	AS/NZS 4777.2
0x3B	Hungary	(Un: 230Vac)
0x3C	SriLanka	(Un: 230Vac)
0x3D	SpainIslands	RD1699 (Un: 230Vac)
0x3E	Ergon30K	(Un: 230Vac)
0x3F	Energe30K	(Un: 230Vac)
0x40	IEEE1547_230VAC	IEEE1547 (Un: 230/400Vac)
0x41	IEC61727_60Hz	IEC61727 (Un: 230Vac)
0x42	Switzerland	VDE-AR-N 4105 (Un: 230Vac)

0x43	CEI_016	CEI-016 (Un: 230Vac)
0x44	Australia Horizon	AS/NZS 4777.2
0x45	Cyprus	(Un: 230Vac)
0x46	Australia SAPN	AS/NZS 4777.2
0x47	Australia Ausgrid	AS/NZS 4777.2
0x48	Australia Essential	AS/NZS 4777.2
0x49	Australia	AS/NZS 4777.2
0x4A	China Hongkong	
0x4B	Poland MV	
0x4C	Holland MV	
0x4D	Sweden MV	
0x4E	VDE4110	
0x4F	Germany	
0x50	Spain MV	
0x51	Australia Endeavour	
0x52	Argentina	
0x53	AustralianB	
0x54	AustralianC	

Table 8-22

DRED0	DRED1	DRED2	DRED3	DRED4
0x00FF	0x0001	0x0002	0x0004	0x0008

Table 8-30

Bit NO	Grid detailed fault	Description
Bit0	GridZeroLossErr	电网停电/Power outage
Bit1	GridVoltLowErrSt1	电网欠压一级故障/Grid undervoltage first level failure
Bit2	GridVoltLowErrSt2	电网欠压二级故障/Grid undervoltage second level fault
Bit3	GridVoltLowErrSt3	电网欠压三级故障/Grid undervoltage third level fault
Bit4	GridVoltHighErrSt1	电网过压一级故障/Grid overvoltage first level failure
Bit5	GridVoltHighErrSt2	电网过压二级故障/Grid overvoltage second level fault
Bit6	GridVoltHighErrSt3	电网过压三级故障/Grid overvoltage third level fault
Bit7	Grid10minAvgVoltErr	电网平均电压高故障/Grid average voltage high fault
Bit8	GridFreqLowErrSt1	电网欠频一级故障/Grid underfrequency first level failure
Bit9	GridFreqLowErrSt2	电网欠频二级故障/Grid underfrequency second level fault
Bit10	GridIslandFreqLowErr	孤岛保护欠频故障/Islanding protection underfrequency fault
Bit11	GridFreqHighErrSt1	电网过频一级故障/Grid overfrequency first level failure
Bit12	GridFreqHighErrSt2	电网过频二级故障/Grid overfrequency second level fault
Bit13	GridIslandFreqHighErr	孤岛保护过频故障/Islanding protection overfrequency fault
Bit14	GridFreqShiftChkErr	电网频移故障/Grid frequency shift fault
Bit15	GridWaveCheckErr	电网波形检测故障/Grid waveform check fault
Bit16	GridLLVoltErrFlag	电网线电压故障标志/Grid line voltage fault flag
Bit17	GridLvrtErr	电网低电压穿越故障/Grid low voltage ride-through fault
Bit18	GridHvrtErr	电网高电压穿越故障/Grid high voltage ride-through fault
Bit19	GridVoltSampOverErr	电网电压超出采样上限/ Grid voltage exceeds the upper sampling limit
Bit20	GridConnVoltHighErr	电网连接电压高/Grid connection voltage high
Bit21	GridConnVoltLowErr	电网连接电压低/Grid connection voltage low
Bit22	GridConnFreqHighErr	电网连接频率高/Grid connection Frequency high
Bit23	GridConnFreqLowErr	电网连接频率低/Grid connection Frequency low
Bit...		
Bit63		

Table 8-31

Bit NO	Inverter detailed error	Description
Bit0	BattLLCHardOCErr	LLC硬件过流/LLC hardware overcurrent
Bit1	BattBoostHardOCErr	电池boost硬件过流/Battery boost hardware overcurrent
Bit2	BattBoostSoftOCErr	电池boost软件过流/ Battery boost software overcurrent
Bit3	BattBMSFaultErr	电池BMS故障/Battery BMS fault
Bit4	BattBMSDischgDisErr	电池BMS禁止放电/Battery BMS discharge disable
Bit5	BattCurrRmsOCErr	电池电流有效值过流/Battery current rms overcurrent
Bit6	OffgridBmsCurrLimitErr	离网模式超出BMS限流/Off-grid mode exceeds BMS current limit
Bit7	BusSoftStartFailedErr	Bus电压软启动失败/Bus voltage soft start failed
Bit8	BusVoltTooLowErr	Bus电压过低/Bus voltage is too low
Bit9	BusSampVoltTooHigh	Bus采样电压过高/ Bus voltage is too High
Bit10	InvHardOCErr	逆变硬件过流/Inverter hardware overcurrent
Bit11	InvCurrSoftOCErr	逆变软件过流/Inverter software overcurrent
Bit12	PvBoostHardOCErr	PV boost硬件过流/PV boost hardware overcurrent
Bit13	PvBoostSoftOCErr	PV boost软件过流/PV boost software overcurrent
Bit14	GridBackflowErr	电网倒灌/Grid backflow
Bit15	OffgridBattVoltLowErr	离网电池电压低/Off-grid mode battery voltage is low
Bit16	OffgridUpsVoltHighErr	离网AC电压过高/Off-grid mode AC voltage is too low
Bit17	OffgridUpsVoltLowErr	离网AC电压过低/ Off-grid mode AC voltage is too high
Bit18	UpsOverLoadErr	Backup overload
Bit19	OffGridZeroLossErr	离网过零错误/OffGridZero Error
Bit20	PowerFastRetrackErr	功率快速重追错误/Power fast retrack Error
Bit21	BypassRelaySwErr	Backup旁路继电器切换错误/Bypass Relay Switch Error
Bit22	LoadRelaySwErr	Backup负载继电器闭合错误/Backup load Relay switch Error
Bit23		
Bit...		
Bit63		

Table 8-32

Bit NO	Inverter detailed	Description
Bit0	SafetyOverFreqCurveF	进入过频曲线/Over-frequency curve running
Bit1	SafetyUnderFreqCurve	进入欠频曲线/Under frequency curve running
Bit2	SafetyFreqRecoCurve	频率曲线退出恢复中/Frequency curve exiting recovery
Bit3	SafetyPUCurveOVFlag	进入PU过压曲线/PU overvoltage curve running
Bit4	SafetyPUCurveUVFlag	进入PU欠压曲线/PU undervoltage curve running
Bit5	SafetyQUCurveFlag	进入QU曲线/QU curve running
Bit6	SafetyPFCurveFlag	进入PF曲线/PF curve running
Bit7	FixedPFSettingFlag	固定PF已设定/Fixed PF is set
Bit8	FixedQSettingFlag	固定无功已设定/Fixed reactive power is set
Bit9	InvOverTempFlag	机器过温降载/Inverter over-temp. derating curve operation
Bit10	DREDSellPowerLimitFl	澳洲DRED卖电/Australian DRED electricity sale status
Bit11	DREDBuyPowerLimitFl	澳洲DRED买电/Australian DRED purchase status
Bit12	ActivePowerSettingFla	有功功率限制已设定/Active power limit is set
Bit13	GeDratePowerFlag	德国70%降额打开70% derating (Germany) has been opened
Bit14	AutoTestEnableFlag	CEI021 selftest running
Bit15	GridVoltSt1DrateFlag	一级电压保护前降载/Inverter first level overvoltage derate
Bit16	ForceOffGridFlag	外部强制离网标志/Force OffGrid Flag
Bit17	ForceStopModeFlag	外部强制停机标志/Force StopMode Flag
Bit18	OffGridMpptChgUpsOff	离网充电关backup输出标志/PV charge,Off backup output Flag
Bit19	SafetyQUCurveOVFlag	QU曲线过压状态/QUCurveOverVoltageFlag
Bit20	SafetyQUCurveUVFlag	QU曲线欠压状态/QUCurveUnderVoltageFlag
Bit...		

Table 8-33

Battery manufacture	Battery series	Code	comments
GoodWe	SECU-S/LX S-H/LX F-H	0x122	
PYLONTECH	Powercube H1/Force H1/Force	0x101	
BYD	BYD-Box H	0x102	
BYD	BYD-Box Premium HVS	0x106	
BYD	BYD-Box Premium HVM/HVL	0x105	
LG	RESU_HV_Type-R	0x104	
OLOID	LBS	0x11E	
DYNESS	Tower	0x11E	
Soluna	HV BATTERY	0x11E	
EMS Use	EMS Battery	0x11F	Used when there is no direct communication between inverter and battery

Table 8-34

H-byte	Not set	0x55
	ECO mode	0xFF-Enable
		0x00-Disable
	Dry contact load mode	0xFE-Enable
		0x01-Disable
	Dry contact smart load mode	0xFD-Enable
		0x02-Disable
	peakshaving function	0xFC-Enable
		0x03-Disable
	Back-up mode	0xFB-Enable
		0x04-Disable
L-byte	Day select	bit0-Sunday
		bit1-Monday
		bit2-Tuesday
		bit3-Wednesday
		bit4-Thuesday
		bit5-Friday
		bit6-Saturday

```
const INT8U auchCRCHi[] = {0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41, 0x01, 0xC0, 0x80, 0x41, 0x00, 0xC1, 0x81, 0x40,

0x01, 0xC0, 0x80, 0x41, 0x00, 0xC1, 0x81, 0x40, 0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41,
0x01, 0xC0, 0x80, 0x41, 0x00, 0xC1, 0x81, 0x40, 0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41,
0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41, 0x01, 0xC0, 0x80, 0x41, 0x00, 0xC1, 0x81, 0x40,
0x01, 0xC0, 0x80, 0x41, 0x00, 0xC1, 0x81, 0x40, 0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41,
0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41, 0x01, 0xC0, 0x80, 0x41, 0x00, 0xC1, 0x81, 0x40,
0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41, 0x01, 0xC0, 0x80, 0x41, 0x00, 0xC1, 0x81, 0x40,
0x01, 0xC0, 0x80, 0x41, 0x00, 0xC1, 0x81, 0x40, 0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41,
0x01, 0xC0, 0x80, 0x41, 0x00, 0xC1, 0x81, 0x40, 0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41,
0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41, 0x01, 0xC0, 0x80, 0x41, 0x00, 0xC1, 0x81, 0x40,
0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41, 0x01, 0xC0, 0x80, 0x41, 0x00, 0xC1, 0x81, 0x40,
0x01, 0xC0, 0x80, 0x41, 0x00, 0xC1, 0x81, 0x40, 0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41,
0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41, 0x01, 0xC0, 0x80, 0x41, 0x00, 0xC1, 0x81, 0x40,
0x01, 0xC0, 0x80, 0x41, 0x00, 0xC1, 0x81, 0x40, 0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41,
0x01, 0xC0, 0x80, 0x41, 0x00, 0xC1, 0x81, 0x40, 0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41,
0x00, 0xC1, 0x81, 0x40, 0x01, 0xC0, 0x80, 0x41, 0x01, 0xC0, 0x80, 0x41, 0x00, 0xC1, 0x81, 0x40
};
const INT8U auchCRCLo[] = { 0x00, 0xC0, 0xC1, 0x01, 0xC3, 0x03, 0x02, 0xC2, 0xC6, 0x06, 0x07, 0xC7, 0x05, 0xC5, 0xC4,
0x04,

0xCC, 0x0C, 0x0D, 0xCD, 0x0F, 0xCF, 0xCE, 0x0E, 0x0A, 0xCA, 0xCB, 0x0B, 0xC9, 0x09, 0x08, 0xC8, 0xD8, 0x18, 0x19, 0xD9,
0x1B, 0xDB, 0xDA, 0x1A, 0x1E, 0xDE, 0xDF, 0x1F, 0xDD, 0x1D, 0x1C, 0xDC, 0x14, 0xD4, 0xD5, 0x15, 0xD7, 0x17, 0x16, 0xD6,
0xD2, 0x12, 0x13, 0xD3, 0x11, 0xD1, 0xD0, 0x10, 0xF0, 0x30, 0x31, 0xF1, 0x33, 0xF3, 0xF2, 0x32, 0x36, 0xF6, 0xF7, 0x37,
0xF5, 0x35, 0x34, 0xF4, 0x3C, 0xFC, 0xFD, 0x3D, 0xFF, 0x3F, 0x3E, 0xFE, 0xFA, 0x3A, 0x3B, 0xFB, 0x39, 0xF9, 0xF8, 0x38,
0x28, 0xE8, 0xE9, 0x29, 0xEB, 0x2B, 0x2A, 0xEA, 0xEE, 0x2E, 0x2F, 0xEF, 0x2D, 0xED, 0xEC, 0x2C, 0xE4, 0x24, 0x25, 0xE5,
0x27, 0xE7, 0xE6, 0x26, 0x22, 0xE2, 0xE3, 0x23, 0xE1, 0x21, 0x20, 0xE0, 0xA0, 0x60, 0x61, 0xA1, 0x63, 0xA3, 0xA2, 0x62,
0x66, 0xA6, 0xA7, 0x67, 0xA5, 0x65, 0x64, 0xA4, 0x6C, 0xAC, 0xAD, 0x6D, 0xAF, 0x6F, 0x6E, 0xAE, 0xAA, 0x6A, 0x6B, 0xAB,
0x69, 0xA9, 0xA8, 0x68,
```

```
0x78, 0xB8, 0xB9, 0x79, 0xBB, 0x7B, 0x7A, 0xBA, 0xBE, 0x7E, 0x7F, 0xBF, 0x7D, 0xBD, 0xBC, 0x7C, 0xB4, 0x74, 0x75, 0xB5,
0x77, 0xB7, 0xB6, 0x76, 0x72, 0xB2, 0xB3, 0x73, 0xB1, 0x71, 0x70, 0xB0, 0x50, 0x90, 0x91, 0x51, 0x93, 0x53, 0x52, 0x92,
0x96, 0x56, 0x57, 0x97, 0x55, 0x95, 0x94, 0x54, 0x9C, 0x5C, 0x5D, 0x9D, 0x5F, 0x9F, 0x9E, 0x5E, 0x5A, 0x9A, 0x9B, 0x5B,
0x99, 0x59, 0x58, 0x98, 0x88, 0x48, 0x49, 0x89, 0x4B, 0x8B, 0x8A, 0x4A, 0x4E, 0x8E, 0x8F, 0x4F, 0x8D, 0x4D, 0x4C, 0x8C,
0x44, 0x84, 0x85, 0x45, 0x87, 0x47, 0x46, 0x86, 0x82, 0x42, 0x43, 0x83, 0x41, 0x81, 0x80, 0x40

};

INT16U sCRC16(INT8U *puchMsg, INT16U usDataLen)
{
INT8U uchCRCHi = 0xFF ;
INT8U uchCRCLo = 0xFF ;
INT8U uIndex ;
while (usDataLen--)
{
uIndex = uchCRCHi ^ *puchMsg++ ;
uchCRCHi = uchCRCLo ^ auchCRCHi[uIndex] ;
uchCRCLo = auchCRCLo[uIndex] ;
}
return ((INT16U)uchCRCHi << 8 | uchCRCLo) ;
}
```