CPS Inverter Model Data Mapping Specification For 403X

Status	Communication Protocol
Applicable Models	100kW_110kW_9Boost_1100V Inverter 136kW_110kW_12Boost_1100V Inverter 225kW_250kW_275kW_12Boost_1500V Inverter

ABSTRACT

This document describes the Shanghai Chint Power System(CPS) Inverter model specificaton

Change history

Date	Version	Modification	Author
2021.01.27	V1.08	1. Modify the description, the function remains unchanged(100kW_110kW_9Boost_1100V Inverter136kW_110kW_12Boost_1100V Inverter225kW_250kW_275kW_12Boost_1500V Inverter) 2.Modify the description, the function remains unchanged(0X290C)	Zgl
2021.01.19	V1.07	1. No modification, only corresponding to the version number of Chinese protocol version	Zgl
2020.12.09	V1.06	1. No modification, only corresponding to the version number of Chinese protocol version	Zgl
2020.12.03	V1.05	1. No modification, only corresponding to the version number of Chinese protocol version	Zgl
2020.11.24	V1.04	1.Modify register(0X8316)	Zgl
2020.11.04	V1.03	1.Modify register(0X8319~0X831A)	Zgl

2020.10.26	V1.02	1.Modify register(0X220B.0X2510)	Zgl
2020.10.16	V1.01	1.Add register(0X8319~0X831A)	Zgl
2020.10.12	V1.00	1. No modification(V0.25->V1.00), in order to archive the file	Zgl
2020.10.02	V0.25	1. No modification, only corresponding to the version number of Chinese protocol version	Zgl
2020.09.28	V0.24	1. No modification, only corresponding to the version number of Chinese protocol version	Zgl
2020.09.27	V0.23	1. Modify register(0x2520~0x2537) 2.Add register(0x253E)	Zgl
2020.09.15	V0.22	1. Modify register（0X2500.0X2511）	Zgl
2020.09.07	V0.21	1. No modification, only corresponding to the version number of Chinese protocol version	Zgl
2020.08.28	V0.20	1.Modify register describe, function unchanged(0x005F~0x0064. 0x2532~0x2537. 0x2641~0x2646. 0x823E~0x8243.0x8256~0x825B. 0x8404_bit15.0x8405_bit2)	Zgl
2020.08.27	V0.19	1.Modify register name(0X262F~0X263A) 2.Add register(0X263B~0X2646)	Zgl
2020.08.26	V0.18	1. Update register value, function unchanged (0X262F~0X263A)	Zgl
2020.08.21	V0.17	1. Add register (0X0067.0X262F~0X263A.0X8409) 2.Reserver register(0X262D.0X262E)	Zgl

2020.08.12	V0.16	1.Add register(0X2B1C) 2. Modify register (0X2507.0X2508.0X2509)	Zgl
2020.07.22	V0.15	1. No modification, only corresponding to the version number of Chinese protocol version	Zgl
2020.07.16	V0.14	1. Modify register unit(0X2200.0X2202.0X2217.0X2510.0X2511) 2.Modify register name(0X200C.0X200D.0X201B.0X201C.0X201E.0X201F.0X2020.0X2021. 0X250E.0X250F. 0X2601.0X2602)	Zgl
2020.07.09	V0.13	1. No modification, only corresponding to the version number of Chinese protocol version	Zgl
2020.07.05	V0.12	1. Modify register value(0X2608.0X2609)	Zgl
2020.07.03	V0.11	1. Modify register value(0x2015.0x2017.0x2019.0x201C. 0x220D. 0x2502.0x2508.0x2509.0x2513.0x251E.0x251F.0x2520~`0x2537 0x2608.0x2609.0x260B.0x261C) 2.Add register(0X8317.0x8318)	Zgl
2020.07.01	V0.10	1.Modify register value(0X2209.0X2501) 2. Modify register value(0X290B) 3.Add register(0X2B1B)	Zgl
2020.06.04	V0.09	1.Modify register value(0X2511)	Zgl
2020.04.23	V0.08	1.Modify add register (0X2B19.0X2B1A) 2.Modify register value（0X0000. 0X290B）	Zgl
2020.04.16	V0.07	1. Modify register” 250kW_12Boost_1500V Inverter” (0X0000.0X290B)	Zgl
2020.03.11	V0.06	1. Modify register “scale factor” (0X0046.0X0047) 2. Definition register（0X8313） 3. Modify register data type（0X2212.0X2214.0X2216） 4. Modify register read / write properties (0X2914) 5.Add register (0X2B18.0X2B19)	Zgl
2020.01.13	V0.05	1. No modification, only corresponding to the version number of Chinese protocol version	Zgl

2020.01.06	V0.04	1. Modify register name description, function unchanged(0x2216). 2. Define register name (0x2B0A. 0x2B0B)	Zgl
2019.12.19	V0.03	1. Modify register function definition (0X8208~0X820D.0X8244~0X825B)	Zgl
2019.12.11	V0.02	1.No modification, just modify the document version number (consistent with the Chinese version of the protocol version number)	Zgl
2019.12.04	V0.01	1.First edition(This version is changed based on the 125kW_1500V inverter communication protocol V4.02 version)	Zgl

INFORMATION THAT MUST BE OBSERVED

(1).Setting the data point to "unrealized"

In the CPS MODBUS protocol, data points that are not used or supported are set to "unrealized." The unrealized values of different data types correspond to the following:

Not Implemented for a int8 is 0x80.

Not Implemented for a uint8 is 0xFF.

Not Implemented for a int16 is 0x8000.

Not Implemented for a uint16 is 0xFFFF.

Not Implemented for a int32 is 0x80000000.

Not Implemented for a uint32 is 0xFFFFFFFF.

Not Implemented for a string is 0x00.

(2).CPS Units

Units and Scale Factors are defined by CPS Units. As an alternative to floating point format, values are represented by integer values with a signed scale factor applied. For example:

Start	End	Size	R/W	Name	Type	CPS Units	Contents	Description
0x001F	0x001F	1	RO	Uab	uint16	0.1V		Grid voltage Uab

The Uab unit is V, if current real-time value is Uab =389.5V, the value Uab in register

0x001F is 3895 decimal (0x0F37 hex). So 0.1V indicates that the Uint is V, and Scale factor was Magnified 10 times, so real-time value is 3895/10=389.5

(3).Scale Factor

As an alternative to floating point format, values are represented by integer values with a signed scaled factor applied. The scale factor explicitly shifts the decimal point to the left (negative value) or the right (positive value). Scale factors had been fixed and specified in the documentation of a value. Scale factor signed range:-10----10. For example:

Start	End	Size	R/W	Name	Type	Unit	Scale Factor	Description
0x001F	0x001F	1	RO	Uab	uint16	V	-1	Grid voltage Uab

The Uab unit is V, if current real-time value is Uab =389.5V, the value Uab in register 0x001F is 3895 decimal (0x0F37 hex).Scale Factor is -1, it explicitly shifts the decimal point to the left one bit, then real-time value is 389.5

(4).Data Encoding

The MODBUS specification is not explicit on how to encode numbers other than 16-bit integers. Differences do exist between one manufacturer's implementation and another's.

32-bit intege Value

Values are stored in big-endian order per the MODBUS specification and consist of a single register.

MODBUS Register	1		2	
byte	0	1	2	3
bits	31---24	23---16	15---8	7---0

64-bit intege Value

64-bit integers are stored using for registers in big-endian order.

MODBUS Register	1		2	
byte	0	1	2	3
bits	63---56	55---48	47---40	39---32

MODBUS Register	3		4	
byte	4	5	6	7
bits	31---24	23---16	15---8	7---0

String Value

Storing variable length string values in a fixed size register range, using a NULL(0 value) to terminate or pad the string. For example, up to 14 characters can be stored in 7 contiguous registers as follows:

MODBUS Register	1		2		3		4		5		6		7	
byte	0	1	2	3	4	5	6	7	8	9	10	11	12	13
character	S	C	1	0	0	K	T	L	/	C	N	0	0	0

Not_Implemented value:all registers filled with 0x0000.

(5).Basic register address is 0x0000.

Abbreviations

ADU	Application Data Unit
IP	Internet Protocol
MB	MODBUS
MBAP	MODBUS Application Protocol
PDU	Protocol Data Unit
TCP	Transport Control Protocol
CPS	Chint Power System
uint8	unsigned char
uint16	unsigned int
uint32	unsigned long
int8	signed char
int16	signed int
int32	signed long

Protocol Description

1. Protocol Type: Modbus RTU
2. Communication Port Parameters:

   BaudRate: optional DataBits: 8

   Parity: None StopBit: 1

   DTR: Disable RTS: Disable
3. Frame Format:

Start	Addr	Function Code	Data	CRC/LRC	End
	1Byte	1Byte	0~NByte	2Byte	
1 Char	2 Char	2 Char	0 ~ 2×N Char	2 Char	2 Char CR, LF

1. Input Registers Data Mapping 1

1). Input Registers Data Mapping

Modbus function code = 0x04

Start Addr	End Addr	Size	R/W	Name	Type	CPS Units	Unit	Scale factor	Min value	Max value	Contents	Description
0x0000	0x0000	1	RO	Device	uint16	1	N/A	0	N/A	N/A	N/A	This register value represents the type of device. 0x0000: Unknown 0x4038:136kW_110kW_12Boost (100kW_110kW_9Boost) inverter 0x4039: 250kW_225kW_275kW_12Boost inverter
0x0001	0x0001	1	RO	Reserve	uint16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x0002	0x0002	1	RO	Reserve	uint16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x0003	0x0003	1	RO	RegNum	uint16	1	N/A	0	N/A	N/A	N/A	This register represents the number of input registers that this version of the program can support, and one register consists of 16-bit.
0x0004	0x0004	1	RO	ProVer	uint16	0.01	N/A	-2	N/A	N/A	N/A	This register represents the latest version of the protocol.
0x0005	0x0005	1	RO	MinorVer	uint16	0.01	N/A	-2	N/A	N/A	N/A	This register represents the software version under this model. If the value of this register is 0xAABB, then AA represents the low byte of the software version of the DSP, and BB represents the low byte of the software version of the LCD. Remark: The register “MinorVer”is associated with the register” MajorVer”.

0x0006	0x0009	4	RO	SN	Uint64	BCD	N/A	0	N/A	N/A	N/A	The values of these four registers represent the serial number of the machine. Remark: Serial number is composed of 16 characters(8 bytes)，the most significant 3 characters is not used, only used the left 13 characters. Such as 0x0001010091114001, it represents the inverter serial number is 1010091114001
0x000a	0x0013	10	RO	model	String20	1	N/A	0	N/A	N/A	N/A	These 10 registers represent the model of the device. The value of the register is a character type, e.g. SCH125KTL-DO/US-600
0x0014	0x0014	1	RO	RWRegSum	uint16	1	N/A	0	N/A	N/A	N/A	number of R/W registers supported by this device
0x0015	0x0015	1	RO	RWRegAdd	uint16	1	N/A	0	N/A	N/A	0x1000	R/W register start address offset
0x0016	0x0017	2	RO	TYield	uint32	1kWh	kWh	0	N/A	N/A	N/A	Total energy to grid eg.0X01562318=22422296kWh, Register (addr 0X0016)=High 16 bit (data 0X0156) Register (addr 0X0017)=Low 16 bit (data 0X2318)
0x0018	0x0018	1	RO	DYield	uint16	0.1kWh	kWh	-1	N/A	N/A	N/A	The accumulated kWh of that day
0x0019	0x0019	1	RO	Eff	uint16	0.1%	%	-1	N/A	N/A	N/A	Inverter efficiency
0x001A	0x001A	1	RO	PF	int16	0.001	N/A	-3	N/A	N/A	N/A	Power factor
0x001B	0x001B	1	RO	Pmax	uint16	0.1kW	kW	-1	N/A	N/A	N/A	AC maximum active power of that day
0x001C	0x001C	1	RO	RunT	uint16	0.1Min	Min	-1	N/A	N/A	N/A	The cumulative time from the start feeding grid to the current in one day
0x001D	0x001D	1	RO	Pac	uint16	0.1kW	kW	-1	N/A	N/A	N/A	AC active power
0x001E	0x001E	1	RO	Sac	uint16	0.1kVA	kVA	-1	N/A	N/A	N/A	AC Apparent power
0x001F	0x001F	1	RO	Uab	uint16	0.1V	V	-1	N/A	N/A	N/A	Grid voltage Uab
0x0020	0x0020	1	RO	Ubc	uint16	0.1V	V	-1	N/A	N/A	N/A	Grid voltage Ubc
0x0021	0x0021	1	RO	Uca	uint16	0.1V	V	-1	N/A	N/A	N/A	Grid voltage Uca
0x0022	0x0022	1	RO	Ia	uint16	0.1A	A	-1	N/A	N/A	N/A	Grid A phase current
0x0023	0x0023	1	RO	Ib	uint16	0.1A	A	-1	N/A	N/A	N/A	Grid B phase current
0x0024	0x0024	1	RO	Ic	uint16	0.1A	A	-1	N/A	N/A	N/A	Grid C phase current

0x0025	0x0025	1	RO	Umppt1	uint16	0.1V	V	-1	N/A	N/A	N/A	N/A
0x0026	0x0026	1	RO	Imppt1	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x0027	0x0027	1	RO	Umppt2	uint16	0.1V	V	-1	N/A	N/A	N/A	N/A
0x0028	0x0028	1	RO	Imppt3	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x0029	0x0029	1	RO	Umppt3	uint16	0.1V	V	-1	N/A	N/A	N/A	N/A
0x002A	0x002A	1	RO	Imppt3	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x002B	0x002B	1	RO	Freq	uint16	0.1Hz	Hz	-1	N/A	N/A	N/A	Grid frequency
0x002C	0x002C	1	RO	Tmod	int16	0.1C	C	-1	N/A	N/A	N/A	Heatsink temperature
0x002D	0x002D	1	RO	Tamb	int16	0.1C	C	-1	N/A	N/A	N/A	Ambient temperature
0x002E	0x002E	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x002F	0x002F	1	RO	Mode	uint16	N/A	N/A	0	N/A	N/A	N/A	0x8000: Fault 0x4000: Check 0x2000: Standby 0x1000: Running 0x0800: Derate
0x0030	0x0033	4	RO	Time	uint64	N/A	N/A	0	N/A	N/A	N/A	Error timestamp(yyyy-mm-dd-hh-mm-ss-N/A) ,eg.0X2012071615181000=2012-7-16 15:18:10
0x0034	0x0034	1	RO	PFault	uint16	N/A	N/A	0	N/A	N/A	N/A	permanent fautl code of model, for detail see " Inverter Events Descriptor"
0x0035	0x0035	1	RO	Warn	uint16	N/A	N/A	0	N/A	N/A	N/A	warn code of model, for detail see " Inverter Events Descriptor"
0x0036	0x0036	1	RO	Fault0	uint16	N/A	N/A	0	N/A	N/A	N/A	fautl code0 of model, for detail see " Inverter Events Descriptor
0x0037	0x0037	1	RO	Fault1	uint16	N/A	N/A	0	N/A	N/A	N/A	fautl code1 of model, for detail see " Inverter Events Descriptor l
0x0038	0x0038	1	RO	Fault2	uint16	N/A	N/A	0	N/A	N/A	N/A	fautl code2 of model, for detail see " Inverter Events Descriptor
0x0039	0x0039	1	RO	Fault3	uint16	N/A	N/A	0	N/A	N/A	N/A	fautl code3of model, for detail see " Inverter Events Descriptor
0x003A	0x003A	1	RO	Fault4	uint16	N/A	N/A	0	N/A	N/A	N/A	fautl code4 of model, for detail see " Inverter Events Descriptor

0x003B	0x003B	1	RO	Qac	int16	0.1kvar	kvar	-1	N/A	N/A	N/A	AC current reactive power
0x003C	0x003C	1	RO	Reserve	uint16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x003D	0x003D	1	RO	Reserve	uint16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x003E	0x003E	1	RO	Reserve	uint16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x003F	0x003F	1	RO	Reserve	uint16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x0040	0x0040	1	RO	Reserve	uint16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x0041	0x0041	1	RO	MajorVer	uint16	N/A	N/A	N/A	N/A	N/A	N/A	This register represents the software version under this model. If the value of this register is 0xAABB, then AA represents the high byte of the software version of the DSP, and BB represents the high byte of the software version of the LCD. Remark: The register “MinorVer”is associated with the register” MajorVer”.
0x0042	0x0042	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x0043	0x0043	1	RO	BusCapacitance	int16	1uF	uF	0	N/A	N/A	N/A	Bus capacitance
0x0044	0x0044	1	RO	AcCapacitance	int16	1uF	uF	0	N/A	N/A	N/A	AC capacitance
0x0045	0x0045	1	RO	Pdc	uint16	0.1kW	kW	-1	N/A	N/A	N/A	PV input total power
0x0046	0x0046	1	RO	PmaxLim	uint16	1kW	kW	0	N/A	N/A	N/A	Maximum active power
0x0047	0x0047	1	RO	SmaxLim	uint16	1kVA	kVA	0	N/A	N/A	N/A	Maximum apparent power
0x0048	0x0048	1	RO	DspSafetyVer	uint16	N/A	N/A	N/A	N/A	N/A	N/A	DSP Security specification version number
0x0049	0x0049	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x004A	0x004A	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x004B	0x004B	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x004C	0x004C	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x004D	0x004D	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x004E	0x004E	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x004F	0x004F	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x0050	0x0050	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

0x0051	0x0051	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x0052	0x0052	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x0053	0x0053	1	RO	Umppt4	uint16	0.1V	V	-1	N/A	N/A	N/A	N/A
0x0054	0x0054	1	RO	Imppt4	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x0055	0x0055	1	RO	Umppt5	uint16	0.1V	V	-1	N/A	N/A	N/A	N/A
0x0056	0x0056	1	RO	Imppt5	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x0057	0x0057	1	RO	Umppt6	uint16	0.1V	V	-1	N/A	N/A	N/A	N/A
0x0058	0x0058	1	RO	Imppt6	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x0059	0x0059	1	RO	Umppt7	uint16	0.1V	V	-1	N/A	N/A	N/A	N/A
0x005A	0x005A	1	RO	Imppt7	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x005B	0x005B	1	RO	Umppt8	uint16	0.1V	V	-1	N/A	N/A	N/A	N/A
0x005C	0x005C	1	RO	Imppt8	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x005D	0x005D	1	RO	Umppt9	uint16	0.1V	V	-1	N/A	N/A	N/A	N/A
0x005E	0x005E	1	RO	Imppt9	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x005F	0x005F	1	RO	Umppt10	uint16	0.1V	V	-1	N/A	N/A	N/A	@136kW_110kW_12Boost @250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x0060	0x0060	1	RO	Imppt10	int16	0.1A	A	-1	N/A	N/A	N/A	@136kW_110kW_12Boost @250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x0061	0x0061	1	RO	Umppt11	uint16	0.1V	V	-1	N/A	N/A	N/A	@136kW_110kW_12Boost @250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x0062	0x0062	1	RO	Imppt11	int16	0.1A	A	-1	N/A	N/A	N/A	@136kW_110kW_12Boost @250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x0063	0x0063	1	RO	Umppt12	uint16	0.1V	V	-1	N/A	N/A	N/A	@136kW_110kW_12Boost @250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x0064	0x0064	1	RO	Imppt12	int16	0.1A	A	-1	N/A	N/A	N/A	@136kW_110kW_12Boost @250kW_225kW_275kW_12Boost

				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x0065	0x0065	1	RO	Fault5	uint16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x0066	0x0066	1	RO	Fault6	uint16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x0067	0x0067	1	RO	Warn1	uint16	N/A	N/A	N/A	N/A	N/A	N/A	@136kW_110kW_12Boost. @100kW_110kW_9Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost

2. Holding Registers Data Mapping

Modbus function code = 0x03.0x06

1). Power dispatching

Start Addr	End Addr	Size	R/W	Name	Type	CPS Units	Uint	Scale factor	Min value	Max value	Contents	Description
0x1000	0x1000	1	RW	OnOff	uint16	1	N/A	0	0x5555	0xAAAA	N/A	device power on or off command, 0xAAAA: power on, 0x5555: power off
0x1001	0x1001	1	RW	PSet	uint16	0.1%	N/A	-1	0	1000	N/A	Remote electric dispatch Active Power setting value
0x1002	0x1002	1	RW	PFSet	int16	0.001	N/A	-3	-1000~ -800	800~ 1000	N/A	Remote electric dispatch Power factor Setting

0x1003	0x1003	1	RW	QSet	int16	0.1%	N/A	-1	-600	600	N/A	Remote electric dispatch Reactive Power setting value
0x1004	0x1007	4	RW	TimeSet	uint64	BCD	N/A	0	N/A	N/A	N/A	System time setting format as :yyyy-mm-dd-hh-mm-ss-NUL, eg.0x2012071615181000=2012-7-16 15:18:10
0x1008	0x1045	62	RW	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x1046	0x1046	1	RW	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x1047	0x1047	1	RW	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x1048	0x1059	17	RW	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x105A	0x105A	1	RW	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x105B	0x105B	1	RW	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

2). Grid Protection Parameters

Start	End	Size	R/W	Name	Type	CPS Units	Uint	Scale factor	Min value	Max value	Contents	Description
0x2000	0x2000	1	RW	GridVoltMax1	uint16	0.01%	%	-2	10000	13500	N/A	The first maximum operational grid voltage

0x2001	0x2001	1	RW	VoltMaxTripT1	uint16	0.01s	s	-2	0	65500	N/A	The first maximum grid voltage trip time
0x2002	0x2002	1	RW	GridVoltMax2	uint16	0.01%	%	-2	10000	13500	N/A	The 2nd maximum operational grid voltage
0x2003	0x2003	1	RW	VoltMaxTripT2	uint16	0.01s	s	-2	0	65500	N/A	The 2nd maximum grid voltage trip time
0x2004	0x2004	1	RW	GridVoltMax3	uint16	0.01%	%	-2	10000	13500	N/A	The 3rd maximum operational grid voltage
0x2005	0x2005	1	RW	VoltMaxTripT3	uint16	0.01s	s	-2	0	65500	N/A	The 3rd maximum grid voltage trip time
0x2006	0x2006	1	RW	GridVoltMin1	uint16	0.01%	%	-2	3000	10000	N/A	The first minimum operational grid voltage
0x2007	0x2007	1	RW	VoltMinTripT1	uint16	0.01s	s	-2	0	65500	N/A	The first minimum grid voltage trip time
0x2008	0x2008	1	RW	GridVoltMin2	uint16	0.01%	%	-2	3000	10000	N/A	The 2nd minimum operational grid voltage
0x2009	0x2009	1	RW	VoltMinTripT2	uint16	0.01s	s	-2	0	65500	N/A	The 2nd minimum grid voltage trip time
0x200A	0x200A	1	RW	GridVoltMin3	uint16	0.01%	%	-2	3000	10000	N/A	The 3rd minimum operational grid voltage
0x200B	0x200B	1	RW	VoltMinTripT3	uint16	0.01s	s	-2	0	65500	N/A	The 3rd minimum grid voltage trip time
0x200C	0x200C	1	RW	~~VoltMax~~ VoltMaxRecovery	uint16	0.01%	1%	-2	8000	13500	N/A	The upper limit grid voltage recovery
0x200D	0x200D	1	RW	~~VoltMin~~ VoltMinRecovery	uint16	0.01%	%	-2	2000	10000	N/A	The lower limit grid voltage recovery
0x200E	0x200E	1	RW	VoltRecoveryT	uint16	0.01s	s	-2	0	65500	N/A	The time of grid voltage recovery
0x200F	0x200F	1	RW	GridFrqMax1	uint16	0.01Hz	Hz	-2	5000@50Hz 6000@60Hz	5500@50Hz 6600@60Hz	N/A	The first maximum operational grid frequency
0x2010	0x2010	1	RW	FrqMaxTripT1	uint16	0.01s	s	-2	0	65500	N/A	The first maximum grid frequency trip time
0x2011	0x2011	1	RW	GridFrqMax2	uint16	0.01Hz	Hz	-2	5000@50Hz 6000@60Hz	5500@50Hz 6600@60Hz	N/A	The 2nd maximum operational grid frequency
0x2012	0x2012	1	RW	FrqMaxTripT2	uint16	0.01s	s	-2	0	65500	N/A	The 2nd maximum grid frequency trip time
0x2013	0x2013	1	RW	GridFrqMax3	uint16	0.01Hz	Hz	-2	5000@50Hz 6000@60Hz	5500@50Hz 6600@60Hz	N/A	The 3rd maximum operational grid frequency
0x2014	0x2014	1	RW	FrqMaxTripT3	uint16	0.01s	s	-2	0	65500	N/A	The 3rd maximum grid frequency trip time
0x2015	0x2015	1	RW	GridFrqMin1	uint16	0.01Hz	Hz	-2	4500@50Hz 5400@60Hz	5000@50Hz 6000@60Hz	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost The first minimum operational grid frequency

									4000@50Hz 4800@60Hz	5000@50Hz 6000@60Hz	N/A	@250kW_225kW_275kW_12Boost The first minimum operational grid frequency
0x2016	0x2016	1	RW	FrqMinTripT1	uint16	0.01s	s	-2	0	65500	N/A	The first minimum grid frequency trip time
0x2017	0x2017	1	RW	GridFrqMin2	uint16	0.01Hz	Hz	-2	4500@50Hz 5400@60Hz	5000@50Hz 6000@60Hz	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost The 2nd minimum operational grid frequency
									4000@50Hz 4800@60Hz	5000@50Hz 6000@60Hz	N/A	@250kW_225kW_275kW_12Boost The 2nd minimum operational grid frequency
0x2018	0x2018	1	RW	FrqMinTripT2	uint16	0.01s	s	-2	0	65500	N/A	The 2nd minimum grid frequency trip time
0x2019	0x2019	1	RW	GridFrqMin3	uint16	0.01Hz	Hz	-2	4500@50Hz 5400@60Hz	5000@50Hz 6000@60Hz	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost The 3rd minimum operational grid frequency
									4000@50Hz 4800@60Hz	5000@50Hz 6000@60Hz	N/A	@250kW_225kW_275kW_12Boost The 3rd minimum operational grid frequency
0x201A	0x201A	1	RW	FrqMinTripT3	uint16	0.01s	s	-2	0	65500	N/A	The 3rd minimum grid frequency trip time
0x201B	0x201B	1	RW	~~FrqMax~~ FrqMaxRecovery	uint16	0.01Hz	Hz	-2	4500@50Hz 5400@60Hz	5500@50Hz 6600@60Hz	N/A	The upper limit grid frequency recovery
0x201C	0x201C	1	RW	~~FrqMin~~ FrqMinRecovery	uint16	0.01Hz	Hz	-2	4500@50Hz 5400@60Hz	5000@50Hz 6000@60Hz	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost The lower limit grid frequency recovery
									4000@50Hz 4800@60Hz	5000@50Hz 6000@60Hz		@250kW_225kW_275kW_12Boost The lower limit grid frequency recovery
0x201D	0x201D	1	RW	FrqRecoveryT	uint16	0.01s	s	-2	0	65500	N/A	The time of grid frequency recovery
0x201E	0x201E	1	RW	~~VoltMax~~ VoltMaxMovAvg	uint16	0.01%	%	-2	10000	13500	N/A	The upper limit grid voltage of moving average filter
0x201F	0x201F	1	RW	~~MaxTripT~~ MaxTripVMovAvgT	uint16	0.01s	s	-2	0	65500	N/A	The trip time of the upper limit grid voltage of moving average filter
0x2020	0x2020	1	RW	~~VoltMin~~ VoltMinMovAvg	uint16	0.01%	%	-2	8000	10000	N/A	The lower limit grid voltage of moving average filter
0x2021	0x2021	1	RW	~~MinTripT~~ MinTripVMovAvgT	uint16	0.01s	s	-2	0	65500	N/A	The trip time of the lower limit grid voltage of moving average filter
0x2022	0x2022	1	N/A	Reserve	N/A	N/A	N/A	N/	N/A	N/A	N/A	N/A

								A				
0x2023	0x2023	1	RW	GridVoltUnbalance	uint16	0.01%	%	-2	1	1000	N/A	Unbalance rate of grid voltage
0x2024	0x2024	1	RW	Phase-PETripVolt	uint16	0.01%	%	-2	1	10000	N/A	The trip voltage of Phase-PE
0x2025	0x2025	1	RW	Phase-PERcvVolt	uint16	0.01%	%	-2	1	10000	N/A	The recovery voltage of Phase-PE

3). Active Power Derating Parameters

Start	End	Size	R/W	Name	Type	CPS Units	Uint	Scale factor	Min value	Max value	Contents	Description
~~0x2100~~	~~0x2100~~	~~1~~	~~RW~~	~~OvrVoltTrip~~	~~uint16~~	~~0.01%~~	~~%~~	~~-2~~	~~10000~~	~~13500~~	~~N/A~~	~~The trigger voltage of OverVoltage derating~~
~~0x2101~~	~~0x2101~~	~~1~~	~~N/A~~	~~Reserve~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~
~~0x2102~~	~~0x2102~~	~~1~~	~~RW~~	~~OvrVoltSlop~~	~~uint16~~	~~0.1%~~	~~%~~	~~-1~~	~~0~~	~~1000~~	~~N/A~~	~~The rate of OverVoltage derating.~~ ~~(calculate slope according to 10% of rated voltage)~~ ~~formula: $\frac{\Delta S}{\Delta V} \times (10\% \times V_N)$~~ ~~$\Delta S$ = reduced power change, for example, change 80%~~ ~~ΔV = The reduction is the amplitude of the grid voltage variation, such as the change of 100V.~~
~~0x2103~~	~~0x2103~~	~~1~~	~~RW~~	~~OvrVoltFilterT~~	~~uint16~~	~~1s~~	~~s~~	~~0~~	~~1~~	~~90~~	~~N/A~~	~~The filtering time of OverVoltage derating~~
0x2104	0x2104	1	RW	OvrFrqMin	uint16	0.01Hz	Hz	-2	5000@50Hz 6000@60Hz	6000@50Hz 7200@60Hz	N/A	The trigger frequency of OverFrequency derating

0x2105	0x2105	1	RW	OvrFrqMax	uint16	0.01Hz	Hz	-2	5000@50Hz 6000@60Hz	6000@50Hz 7200@60Hz	N/A	The end frequency or Rate of Overfrequency derating (Depends on the specific standard)
0x2106	0x2106	1	RW	OvrFrqSlop	uint16	0.01%	%	-2	1	10000	N/A	The Rate of Overfrequency derating.
0x2107	0x2107	1	RW	RecoveryFrq	uint16	0.01Hz	Hz	-2	4900@50Hz 5880@60Hz	5500@50Hz 6600@60Hz	N/A	The recovery frequency of OverFrequency derating
0x2108	0x2108	1	RW	OvrFrqRecoveryT	uint16	1s	s	0	0	1200	N/A	The recovery time of OverFrequency derating
0x2109	0x2109	1	N/A	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x210A	0x210A	1	N/A	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x210B	0x210B	1	N/A	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x210C	0x210C	1	N/A	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x210D	0x210D	1	N/A	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x210E	0x210E	1	RW	OperationOverVol	uint16	0.01%	%	-2	10000	13500	N/A	Operating overvoltage protection value
0x210F	0x210F	1	N/A	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x2110	0x2110	1	N/A	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x2111	0x2111	1	RW	VwCurveV1	uint16	0.01%	%	-2	10000	11000	N/A	Grid overvoltage derating starting voltage V1
0x2112	0x2112	1	RW	VwCurveP1	uint16	0.1%	%	-1	0	1100	N/A	Grid overvoltage derating starting power P1
0x2113	0x2113	1	RW	VwCurveV2	uint16	0.01%	%	-2	10000	11000	N/A	Grid overvoltage derating end voltage V2
0x2114	0x2114	1	RW	VwCurveP2	uint16	0.1%	%	-1	0	1100	N/A	Grid overvoltage derating end power P2
0x2115	0x2115	1	RW	OpenLoopRespT	uint16	0.1S	S	-1	5	900	N/A	Open loop response time

4). Reactive Power Derating Parameters

Start	End	Size	R/W	Name	Type	CPS Units	Uint	Scale factor	Min value	Max value	Contents	Description
0x2200	0x2200	1	RW	PFSetValue	int16	0.001	N/A	-3	-1000 ~ -800	800 ~ 1000	N/A	Local Power Factor Setting
0x2201	0x2201	1	RW	PFpCurveP1	uint16	0.1%	%	-1	0	1100	N/A	Power of PF(P)Curve point 1
0x2202	0x2202	1	RW	PFpCurvePF1	int16	0.001	N/A	-3	-1000 ~ -800	800 ~ 1000	N/A	PF of PF(P)Curve point 1
0x2203	0x2203	1	RW	PFpCurveP2	uint16	0.1%	%	-1	0	1100	N/A	Power of PF(P)Curve point 2
0x2204	0x2204	1	RW	PFpCurvePF2	int16	0.001		-3	-1000 ~ -800	800 ~ 1000	N/A	PF of PF(P)Curve point 2
0x2205	0x2205	1	RW	PFpCurveTriVolt	uint16	0.01%	%	-2	10000	11000	N/A	The trigger voltage of PF(P)Curve
0x2206	0x2206	1	RW	PFpCurveUndoVolt	uint16	0.01%	%	-2	9000	10000	N/A	The undo voltage of PF(P)Curve
0x2207	0x2207	1	RW	QuCurveU1	uint16	0.01%	%	-2	10000	11000	N/A	Voltage of Q(U)Curve point 1
0x2208	0x2208	1	RW	QuCurveQ1	int16	0.1%	%	-1	-660	660	N/A	Reactive power of Q(U)Curve point 1
0x2209	0x2209	1	RW	QuCurveU2	uint16	0.01%	%	-2	10000	11000	N/A	Voltage of Q(U)Curve point 2
0x220A	0x220A	1	RW	QuCurveQ2	int16	0.1%	%	-1	-660	660	N/A	Reactive power of Q(U)Curve point 2
0x220B	0x220B	1	RW	QuCurveU1i	uint16	0.01%	%	-2	9000	10000	N/A	Voltage of Q(U)Curve point 1i
0x220C	0x220C	1	RW	QuCurveQ1i	int16	0.1%	%	-1	-660	660	N/A	Reactive power of Q(U)Curve point 1i
0x220D	0x220D	1	RW	QuCurveU2i	uint16	0.01%	%	-2	8000	10000	N/A	Voltage of Q(U)Curve point 2i
0x220E	0x220E	1	RW	QuCurveQ2i	int16	0.1%	%	-1	-660	660	N/A	Reactive power of Q(U)Curve point 2i
0x220F	0x220F	1	RW	QuCurveTriPower	uint16	0.1%	%	-1	50	1000	N/A	The trigger power of Q(U)Curve
0x2210	0x2210	1	RW	QuCurveUndoPower	uint16	0.1%	%	-1	50	1000	N/A	The undo power of Q(U)Curve
0x2211	0x2211	1	RW	QpCurveP1	uint16	0.1%	%	-1	0	1100	N/A	Q(P)CurveP1

0x2212	0x2212	1	RW	QpCurveQ1	int16	0.1%	%	-1	-660	660	N/A	Q(P)CurveQ1
0x2213	0x2213	1	RW	QpCurveP2	uint16	0.1%	%	-1	0	1100	N/A	Q(P) CurveP2
0x2214	0x2214	1	RW	QpCurveQ2	int16	0.1%	%	-1	-660	660	N/A	Q(P) CurveQ2
0x2215	0x2215	1	RW	QpCurveP3	uint16	0.1%	%	-1	0	1100	N/A	Q(P) CurveP3
0x2216	0x2216	1	RW	QpCurveQ3	int16	0.1%	%	-1	-660	660	N/A	Q(P) CurveQ3
0x2217	0x2217	1	RW	QpCurveOpenLoopRespTime	uint16	0.1s	s	-1	0	900	N/A	Q(P) Curve open loop response time

5). ARC Parameters

The inverter has no Arc register

6). LVRT/HVRT

Start	End	Size	R/W	Name	Type	CPS Units	Unit	Scale factor	Min value	Max value	Contents	Description
0x2400	0x2400	1	RW	LVRTVolt1	uint16	0.01%	%	-2	0	10000	N/A	LVRTVoltPara1
0x2401	0x2401	1	RW	LVRTTime1	uint16	0.01s	S	-2	0	65500	N/A	LVRTTimePara1
0x2402	0x2402	1	RW	LVRTVolt2	uint16	0.01%	%	-2	0	10000	N/A	LVRTVoltPara2
0x2403	0x2403	1	RW	LVRTTime2	uint16	0.01s	S	-2	0	65500	N/A	LVRTTimePara2
0x2404	0x2404	1	RW	LVRTVolt3	uint16	0.01%	%	-2	0	10000	N/A	LVRTVoltPara3
0x2405	0x2405	1	RW	LVRTTime3	uint16	0.01s	S	-2	0	65500	N/A	LVRTTimePara3
0x2406	0x2406	1	RW	LVRTVolt4	uint16	0.01%	%	-2	0	10000	N/A	LVRTVoltPara4
0x2407	0x2407	1	RW	LVRTTime4	uint16	0.01s	S	-2	0	65500	N/A	LVRTTimePara4
0x2408	0x2408	1	RW	LVRTVolt5	uint16	0.01%	%	-2	0	10000	N/A	LVRTVoltPara5

0x2409	0x2409	1	RW	LVRTTime5	uint16	0.01s	S	-2	0	65500	N/A	LVRTTimePara5
0x240A	0x240A	1	RW	LVRTVolt6	uint16	0.01%	%	-2	0	10000	N/A	LVRTVoltPara6
0x240B	0x240B	1	RW	LVRTTime6	uint16	0.01s	S	-2	0	65500	N/A	LVRTTimePara6
0x240C	0x240C	1	RW	LVRTVolt7	uint16	0.01%	%	-2	0	10000	N/A	LVRTVoltPara7
0x240D	0x240D	1	RW	LVRTTime7	uint16	0.01s	S	-2	0	65500	N/A	LVRTTimePara7
0x240E	0x240E	1	RW	LVRTVolt8	uint16	0.01%	%	-2	0	10000	N/A	LVRTVoltPara8
0x240F	0x240F	1	RW	LVRTTime8	uint16	0.01s	S	-2	0	65500	N/A	LVRTTimePara8
0x2410	0x2410	1	RW	HVRTVolt1	uint16	0.01%	%	-2	10000	13500	N/A	HVRTVoltPara1
0x2411	0x2411	1	RW	HVRTTime1	uint16	0.01s	S	-2	0	65500	N/A	HVRTTimePara1
0x2412	0x2412	1	RW	HVRTVolt2	uint16	0.01%	%	-2	10000	13500	N/A	HVRTVoltPara2
0x2413	0x2413	1	RW	HVRTTime2	uint16	0.01s	S	-2	0	65500	N/A	HVRTTimePara2
0x2414	0x2414	1	RW	HVRTVolt3	uint16	0.01%	%	-2	10000	13500	N/A	HVRTVoltPara3
0x2415	0x2415	1	RW	HVRTTime3	uint16	0.01s	S	-2	0	65500	N/A	HVRTTimePara3
0x2416	0x2416	1	RW	HVRTVolt4	uint16	0.01%	%	-2	10000	13500	N/A	HVRTVoltPara4
0x2417	0x2417	1	RW	HVRTTime4	uint16	0.01s	S	-2	0	65500	N/A	HVRTTimePara4
0x2418	0x2418	1	RW	HVRTVolt5	uint16	0.01%	%	-2	10000	13500	N/A	HVRTVoltPara5
0x2419	0x2419	1	RW	HVRTTime5	uint16	0.01s	S	-2	0	65500	N/A	HVRTTimePara5
0x241A	0x241A	1	RW	HVRTVolt6	uint16	0.01%	%	-2	10000	13500	N/A	HVRTVoltPara6
0x241B	0x241B	1	RW	HVRTTime6	uint16	0.01s	S	-2	0	65500	N/A	HVRTTimePara6
0x241C	0x241C	1	RW	HVRTVolt7	uint16	0.01%	%	-2	10000	13500	N/A	HVRTVoltPara7
0x241D	0x241D	1	RW	HVRTTime7	uint16	0.01s	S	-2	0	65500	N/A	HVRTTimePara7
0x241E	0x241E	1	RW	HVRTVolt8	uint16	0.01%	%	-2	10000	13500	N/A	HVRTVoltPara8
0x241F	0x241F	1	RW	HVRTTime8	uint16	0.01s	S	-2	0	65500	N/A	HVRTTimePara8

7). Others Parameters

Start	End	Size	R/W	Name	Type	CPS Units	Uint	Scale factor	Min value	Max value	Contents	Description
0x2500	0x2500	1	RW	PowerOnDelay	uint16	1s	s	0	0	1200	N/A	Startup delay time
0x2501	0x2501	1	RW	PVStartupVolt	uint16	1V	V	0	200	400	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost PV start-up voltage
									500	700	N/A	@250kW_225kW_275kW_12Boost PV start-up voltage
0x2502	0x2502	1	RW	PVSlowStartPwDelta	uint16	0.01%	%	-2	1	1000	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost
									1	10000	N/A	@250kW_225kW_275kW_12Boost
0x2503	0x2503	1	RW	ErrSoftStartP	uint16	0.01%	%	-2	1	10000	N/A	Power startup step after Grid Fault
0x2504	0x2504	1	RW	NormSoftStopP	uint16	0.01%	%	-2	1	10000	N/A	Normal power step in soft stop
0x2505	0x2505	1	RW	NormSoftStartP	uint16	0.01%	%	-2	1	10000	N/A	Normal power step in soft startup
0x2506	0x2506	1	RW	NormDeratingStep	uint16	0.01%	%	-2	1	10000	N/A	Normal power derating step
0x2507	0x2507	1	RW	StartUpMinTemp	~~uint16~~ int16	0.1℃	℃	~~0~~ -1	-350	-200	N/A	The minimum startup temperature
0x2508	0x2508	1	RO	FaultPowerT	~~uint16~~ int16	0.1℃	℃	~~0~~ -1	N/A	N/A	N/A	The trigger temperature of module
0x2509	0x2509	1	RO	FaultEnvT	~~uint16~~ int16	0.1℃	℃	~~0~~ -1	N/A	N/A	N/A	The trigger temperature of enviroment
0x250A	0x250A	1	RW	HVRTTripVolt	uint16	0.1%	%	-1	1000	1350	N/A	The trigger voltage of HVRT
0x250B	0x250B	1	RW	LVRTTripVolt	uint16	0.1%	%	-1	700	1000	N/A	The trigger voltage of LVRT
0x250C	0x250C	1	RW	LVRTPstReactiveI	uint16	0.1%	%	-1	0	3000	N/A	The coefficient of positive sequence reactive current
0x250D	0x250D	1	RW	LVRTNegReactiveI	uint16	0.1%	%	-1	0	3000	N/A	The coefficient of negtive sequence reactive current

0x250E	0x250E	1	RW	~~Percentage~~ PSetPercentLocal	uint16	0.1%	%	-1	0	1100	N/A	Local electric dispatch Active Power setting value
0x250F	0x250F	1	RW	~~Percentage~~ QSetPercentLocal	uint16	0.1%	%	-1	-660	660	N/A	Local electric dispatch Reactive Power setting value
0x2510	0x2510	1	RW	ISOProtection	uint16	1kΩ	kΩ	0	1	2000	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost Minimum insulation resistance
									1	5000	N/A	@250kW_225kW_275kW_12Boost Minimum insulation resistance
0x2511	0x2511	1	RW	GFCIStaticValue	uint16	0.001A	A	-3	100	3000	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost The threshold value of Leakage current
									100	5000	N/A	@250kW_225kW_275kW_12Boost The threshold value of Leakage current
0x2512	0x2512	1	RW	GFCIStaticT	uint16	0.01s	s	-2	0	65500	N/A	The upper limit of Leakage current
0x2513	0x2513	1	RW	GFCIDynProFactor	uint16	0.1%	%	-1	0	2000	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost The upper limit of Leakage current
									0	5000	N/A	@250kW_225kW_275kW_12Boost The upper limit of Leakage current
0x2514	0x2514	1	RW	DCIProtection1	uint16	0.01%	%	-2	10	500	N/A	maximun DCI value1
0x2515	0x2515	1	RW	DCIProtectionT1	uint16	0.01s	s	-2	0	12000	N/A	Trip time 1 of DCI value
0x2516	0x2516	1	RW	DCIProtection2	uint16	1mA	mA	0	5	5000	N/A	maximun DCI value2
0x2517	0x2517	1	RW	DCIProtectionT2	uint16	0.01s	s	-2	0	12000	N/A	Trip time 2 of DCI value
0x2518	0x2518	1	RW	DuplicationControl	uint16	1%	%	0	0	100	N/A	Parameter of repetitive control
0x2519	0x2519	1	RW	MPPTScanPeriod	uint16	10s	s	1	30	540	N/A	MPPTScan Cycle
0x251A	0x251A	1	RO	CheckSumGroup1_6	Hex	N/A	N/A	N/A	N/A	N/A	N/A	CheckSum from group 1 to group 6 in EEPROM
~~0x251B~~	~~0x251B~~	~~1~~	~~RW~~	~~VirtualDamping~~	~~uint16~~	~~0.001 Ω~~	~~Ω~~	~~-3~~	~~0~~	~~5000~~	~~N/A~~	~~Resonance damping coefficient~~
0x251C	0x251C	1	RW	PhaseLoseRcvCoeff	uint16	0.1%	%	0	5	300	N/A	PhaseLoseRcvCoeff
0x251D	0x251D	1	RW	PhaseLoseVUnbalance	uint16	0.01%	%	-2	1	1000	N/A	PhaseLose Voltage Unbalance
0x251E	0x251E	1	RW	ReactivePowerStep	uint16	0.01%	%	-2	1	60000	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost
									1	65535	N/A	@250kW_225kW_275kW_12Boost

0x251F	0x251F	1	RW	PVSlowStartStep	uint16	0.01%	%	-2	1	10000	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost
									1	1000	N/A	@250kW_225kW_275kW_12Boost
0x2520	0x2520	1	RW	OptiVoltMinMppt1	uint16	0.1V	V	-1	2000	15000	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost
									5000	14500	N/A	@250kW_225kW_275kW_12Boost
0x2521	0x2521	1	RW	OptiVoltMaxMppt1	uint16	0.1V	V	-1	2000	15000	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost
									5000	14500	N/A	@250kW_225kW_275kW_12Boost
0x2522	0x2522	1	RW	OptiVoltMinMppt2	uint16	0.1V	V	-1	2000	15000	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost
									5000	14500	N/A	@250kW_225kW_275kW_12Boost
0x2523	0x2523	1	RW	OptiVoltMaxMppt2	uint16	0.1V	V	-1	2000	15000	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost
									5000	14500	N/A	@250kW_225kW_275kW_12Boost
0x2524	0x2524	1	RW	OptiVoltMinMppt3	uint16	0.1V	V	-1	2000	15000	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost
									5000	14500	N/A	@250kW_225kW_275kW_12Boost
0x2525	0x2525	1	RW	OptiVoltMaxMppt3	uint16	0.1V	V	-1	2000	15000	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost
									5000	14500	N/A	@250kW_225kW_275kW_12Boost
0x2526	0x2526	1	RW	OptiVoltMinMppt4	uint16	0.1V	V	-1	2000	15000	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost
									5000	14500	N/A	@250kW_225kW_275kW_12Boost
0x2527	0x2527	1	RW	OptiVoltMaxMppt4	uint16	0.1V	V	-1	2000	15000	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost
									5000	14500	N/A	@250kW_225kW_275kW_12Boost
0x2528	0x2528	1	RW	OptiVoltMinMppt5	uint16	0.1V	V	-1	2000	15000	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost
									5000	14500	N/A	@250kW_225kW_275kW_12Boost
0x2529	0x2529	1	RW	OptiVoltMaxMppt5	uint16	0.1V	V	-1	2000	15000	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost
									5000	14500	N/A	@250kW_225kW_275kW_12Boost
0x252A	0x252A	1	RW	OptiVoltMinMppt6	uint16	0.1V	V	-1	2000	15000	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost
									5000	14500	N/A	@250kW_225kW_275kW_12Boost
0x252B	0x252B	1	RW	OptiVoltMaxMppt6	uint16	0.1V	V	-1	2000	15000	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost
									5000	14500	N/A	@250kW_225kW_275kW_12Boost
0x252C	0x252C	1	RW	OptiVoltMinMppt7	uint16	0.1V	V	-1	2000	15000	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost
									5000	14500	N/A	@250kW_225kW_275kW_12Boost
0x252D	0x252D	1	RW	OptiVoltMaxMppt7	uint16	0.1V	V	-1	2000	15000	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost
									5000	14500	N/A	@250kW_225kW_275kW_12Boost
0x252E	0x252E	1	RW	OptiVoltMinMppt8	uint16	0.1V	V	-1	2000	15000	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost

									5000	14500	N/A	@250kW_225kW_275kW_12Boost
0x252F	0x252F	1	RW	OptiVoltMaxMppt8	uint16	0.1V	V	-1	2000	15000	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost
									5000	14500	N/A	@250kW_225kW_275kW_12Boost
0x2530	0x2530	1	RW	OptiVoltMinMppt9	uint16	0.1V	V	-1	2000	15000	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost
									5000	14500	N/A	@250kW_225kW_275kW_12Boost
0x2531	0x2531	1	RW	OptiVoltMaxMppt9	uint16	0.1V	V	-1	2000	15000	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost
									5000	14500	N/A	@250kW_225kW_275kW_12Boost
0x2532	0x2532	1	RW	OptiVoltMinMppt10	uint16	0.1V	V	-1	2000	15000	N/A	@136kW_110kW_12Boost.
									5000	14500	N/A	@250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x2533	0x2533	1	RW	OptiVoltMaxMppt10	uint16	0.1V	V	-1	2000	15000	N/A	@136kW_110kW_12Boost.
									5000	14500	N/A	@250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x2534	0x2534	1	RW	OptiVoltMinMppt11	uint16	0.1V	V	-1	2000	15000	N/A	@136kW_110kW_12Boost.
									5000	14500	N/A	@250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x2535	0x2535	1	RW	OptiVoltMaxMppt11	uint16	0.1V	V	-1	2000	15000	N/A	@136kW_110kW_12Boost.
									5000	14500	N/A	@250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x2536	0x2536	1	RW	OptiVoltMinMppt12	uint16	0.1V	V	-1	2000	15000	N/A	@136kW_110kW_12Boost.
									5000	14500	N/A	@250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x2537	0x2537	1	RW	OptiVoltMaxMppt12	uint16	0.1V	V	-1	2000	15000	N/A	@136kW_110kW_12Boost.
									5000	14500	N/A	@250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x2538	0x2538	1	RW	PhaseLoseCoeff	uint16	0.1%	%	-1	5	300	N/A	PhaseLoseCoeff
0x2539	0x2539	1	RW	VirtualDamping	uint16	0.001Ω	Ω	-3	0	5000	N/A	Resonance damping coefficient
0x253A	0x253A	1	RW	Reserver	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x253B	0x253B	1	RW	Reserver	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

0x253C	0x253C	1	RW	Reserver	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x253D	0x253D	1	RW	Reserver	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x253E	0x253E	1	RW	HVRTReactiveI	uint16	0.1%	%	-1	0	3000	N/A	The reactive current coefficient of HVRT

8). Enable/disable control Parameters

Start	End	Size	R/W	Name	Type	CPS Units	Uint	Scale factor	Min value	Max value	Contents	Description
0x2600	0x2600	1	RW	CtrParaGroup	uint16	N/A	N/A	N/A	0	4	N/A	The enabled control parameters group. 0.Article 5 groups, control parameter setting of inverter loop 1：Article 1 groups, control parameter setting of inverter loop 2：Article 2 groups, control parameter setting of inverter loop 3：Article 3 groups, control parameter setting of inverter loop 4：Article 4 groups, control parameter setting of inverter loop
0x2601	0x2601	1	RW	~~CtrMode~~ CtrModeReactivePw	uint16	N/A	N/A	N/A	0	6	N/A	The control mode of reactive power 0: Disable dispatch mode. 1: Remote dispatch mode. 2: Local control ,by Q 3: Local control ,by PF 4: PF(P)curve 5: Q(U) curve 6: Q(P)Curve
0x2602	0x2602	1	RW	~~CtrMode~~ CtrModeActivePw	uint16	N/A	N/A	N/A	0	2	N/A	The control mode of active power 0: Disable dispatch mode. 1: Remote dispatch mode. 2: Local control.
0x2603	0x2603	1	RW	MPPTScanEn	uint16	N/A	N/A	N/A	0	1	N/A	MPPT scan enable/disable control 0: Disable

												1: Enable
~~0x2604~~	~~0x2604~~	~~1~~	~~RW~~	~~ARCEnable~~	~~uint16~~	~~N/A~~	~~N/A~~	~~N/A~~	~~0~~	~~1~~	~~N/A~~	~~Arc detection enable/disable control~~ ~~0: Disable~~ ~~1: Enable~~
~~0x2605~~	~~0x2605~~	~~1~~	~~RW~~	~~ArcParaGroup~~	~~uint16~~	~~N/A~~	~~N/A~~	~~N/A~~	~~0~~	~~3~~	~~N/A~~	~~Set parameters group of arc detection~~ ~~0:Reserver~~ ~~1:Reserver~~ ~~2:Reserver~~ ~~3:Reserver~~
~~0x2606~~	~~0x2606~~	~~1~~	~~RW~~	~~VpvStartUpSetEn~~	~~uint16~~	~~N/A~~	~~N/A~~	~~N/A~~	~~0~~	~~1~~	~~N/A~~	~~PV voltage at start up adjusting enable/disable control~~ ~~0: Disable~~ ~~1: Enable~~
0x2607	0x2607	1	RW	Island Protect	uint16	N/A	N/A	N/A	0	1	N/A	Island enable/disable control 0: Disable 1: Enable
0x2608	0x2608	1	RW	LVRTModeSetting	uint16	N/A	N/A	N/A	0	3	N/A	0: Disable 1: Enable, no reactive power output 2:Enable, reactive power output 3:Enable,active power output
0x2609	0x2609	1	RW	HVRTModeSetting	uint16	N/A	N/A	N/A	0	3	N/A	0: Disable 1: Enable, no reactive power output 2:Enable, reactive power output 3:Enable, active power output
0x260A	0x260A	1	RW	NormSoftStopPEn	uint16	N/A	N/A	N/A	0	1	N/A	soft stop enable/disable control 0: Disable 1: Enable
0x260B	0x260B	1	RW	PID Check Settings	uint16	N/A	N/A	N/A	0	1	N/A	0:No external connection PID-Box 1:Have external connectionPID-Box
0x260C	0x260C	1	RW	GridVoltMax1En	uint16	N/A	N/A	N/A	0	1	N/A	Over grid voltage triggering enable/disable control

												0: Disable 1: Enable
0x260D	0x260D	1	RW	GridVoltMax2En	uint16	N/A	N/A	N/A	0	1	N/A	Over grid voltage triggering enable/disable control 0: Disable 1: Enable
0x260E	0x260E	1	RW	GridVoltMax3En	uint16	N/A	N/A	N/A	0	1	N/A	Over grid voltage triggering enable/disable control 0: Disable 1: Enable
0x260F	0x260F	1	RW	GridVoltMin1En	uint16	N/A	N/A	N/A	0	1	N/A	Under grid voltage triggering enable/disable control 0: Disable 1: Enable
0x2610	0x2610	1	RW	GridVoltMin2En	uint16	N/A	N/A	N/A	0	1	N/A	Under grid voltage triggering enable/disable control 0: Disable 1: Enable
0x2611	0x2611	1	RW	GridVoltMin3En	uint16	N/A	N/A	N/A	0	1	N/A	Under grid voltage triggering enable/disable control 0: Disable 1: Enable
0x2612	0x2612	1	RW	GridFrqMax1En	uint16	N/A	N/A	N/A	0	1	N/A	Over grid frequency triggering enable/disable control 0: Disable 1: Enable
0x2613	0x2613	1	RW	GridFrqMax2En	uint16	N/A	N/A	N/A	0	1	N/A	Over grid frequency triggering enable/disable control 0: Disable 1: Enable
0x2614	0x2614	1	RW	GridFrqMax3En	uint16	N/A	N/A	N/A	0	1	N/A	Over grid frequency triggering enable/disable control 0: Disable 1: Enable
0x2615	0x2615	1	RW	GridFrqMin1En	uint16	N/A	N/A	N/A	0	1	N/A	Under grid frequency triggering enable/disable control 0: Disable 1: Enable
0x2616	0x2616	1	RW	GridFrqMin2En	uint16	N/A	N/A	N/A	0	1	N/A	Under grid frequency triggering enable/disable control 0: Disable

												1: Enable
0x2617	0x2617	1	RW	GridFrqMin3En	uint16	N/A	N/A	N/A	0	1	N/A	Under grid frequency triggering enable/disable control 0: Disable 1: Enable
0x2618	0x2618	1	RW	VoltMaxMovAvgEn	uint16	N/A	N/A	N/A	0	1	N/A	Enable/disable control of limiting the upper of moving average filter 0: Disable 1: Enable
0x2619	0x2619	1	RW	VoltMinMovAvgEn	uint16	N/A	N/A	N/A	0	1	N/A	Enable/disable control of limiting the lower of moving average filter 0: Disable 1: Enable
0x261A	0x261A	1	RW	GFCIStaticEn	uint16	N/A	N/A	N/A	0	1	N/A	GFCI static detection enable/disable control 0: Disable 1: Enable
0x261B	0x261B	1	RW	GFCIDynProEn	uint16	N/A	N/A	N/A	0	1	N/A	GFCI dynamic detection enable/disable control
0x261C	0x261C	1	RW	OvrFrqDeratingMode	uint16	N/A	N/A	N/A	0	1	N/A	Over frequency derating enable/disable control 0: Disable 1:Enable
0x261D	0x261D	1	RW	DCIProtection1En	uint16	N/A	N/A	N/A	0	1	N/A	DCI protection1 enable/disable control 0: Disable 1: Enable
0x261E	0x261E	1	RW	DCIProtection2En	uint16	N/A	N/A	N/A	0	1	N/A	DCI protection2 enable/disable control 0: Disable 1: Enable
0x261F	0x261F	1	RW	GridVoltUnbalanceEn	uint16	N/A	N/A	N/A	0	1	N/A	Unbalance rate of grid voltage detection enable/disable control 0: Disable 1: Enable
0x2620	0x2620	1	RW	UFDerEn	uint16	N/A	N/A	N/A	0	1	N/A	Under frequency derating enable/disable control 0: Disable 1: Enable

0x2621	0x2621	1	RW	OvrVoltDerEn	uint16	N/A	N/A	N/A	0	1	N/A	Grid voltage derating enable/disable control 0: Disable 1: Enable
0x2622	0x2622	1	RW	PVSlowStartSEn	uint16	N/A	N/A	N/A	0	1	N/A	soft startup function after power saltation 0: Disable 1: Enable
0x2623	0x2623	1	RW	ISOProtectionEn	uint16	N/A	N/A	N/A	0	1	N/A	ISO detection enable/disable control 0: Disable 1: Enable
0x2624	0x2624	1	RW	FANDetect	uint16	N/A	N/A	N/A	0	1	N/A	Fan detection enable/disable control 0: Disable 1: Enable
0x2625	0x2625	1	RW	ACSPDDetectEnSet	uint16	N/A	N/A	N/A	0	1	N/A	The AC SPD test enables settings 0: Disable 1: Enable
0x2626	0x2626	1	RW	OperationOverVolEn	uint16	N/A	N/A	N/A	0	1	N/A	Operating overvoltage detection enables setting 0: Disable 1: Enable
0x2627	0x2627	1	RW	ActivePowerOver	uint16	N/A	N/A	N/A	0	1	N/A	Active power over matching enables control 0: Disable 1: Enable
0x2628	0x2628	1	RW	ReactivePowerOver	uint16	N/A	N/A	N/A	0	1	N/A	Reactive power over matching enables control 0: Disable 1: Enable
0x2629	0x2629	1	RW	PhaseLoseCoeffEnable	uint16	0	0	0	0	3	N/A	PhaseLose protection enable 0: Disable 1: Enable before the grid connection 2: Always enabled 3: Always enabled and associated voltage imbalance assisted protection
0x262A	0x262A	1	RW	Phase-PEEnable	uint16	0	0	0	0	1	N/A	0: Disable

												1: Enable
0x262B	0x262B	1	RW	MPPTRangEnable	uint16	0	0	0	0	1	N/A	0: Disable 1: Enable
0x262C	0x262C	1	RW	RapidShutdownEnabBit	uint16	0	0	0	0	1	N/A	0: Disable 1: Enable
~~0x262D~~	~~0x262D~~	~~1~~	~~RW~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~
~~0x262E~~	~~0x262E~~	~~1~~	~~RW~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~
0x262F	0x262F	1	RW	~~Mppt1FuseCheckEn~~ PV1FuseCheckEn	uint16	N/A	N/A	N/A	0	1	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost 0: Disable 1: Enable
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
0x2630	0x2630	1	RW	~~Mppt2FuseCheckEn~~ PV2FuseCheckEn	uint16	N/A	N/A	N/A	0	1	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost 0: Disable 1: Enable
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
0x2631	0x2631	1	RW	~~Mppt3FuseCheckEn~~ PV3FuseCheckEn	uint16	N/A	N/A	N/A	0	1	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost 0: Disable 1: Enable
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
0x2632	0x2632	1	RW	~~Mppt4FuseCheckEn~~ PV4FuseCheckEn	uint16	N/A	N/A	N/A	0	1	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost 0: Disable 1: Enable
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
0x2633	0x2633	1	RW	~~Mppt5FuseCheckEn~~ PV5FuseCheckEn	uint16	N/A	N/A	N/A	0	1	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost 0: Disable 1: Enable
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
0x2634	0x2634	1	RW	~~Mppt6FuseCheckEn~~	uint16	N/A	N/A	N/A	0	1	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost

				PV6FuseCheckEn								0: Disable 1: Enable
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
0x2635	0x2635	1	RW	~~Mppt7FuseCheckEn~~ PV7FuseCheckEn	uint16	N/A	N/A	N/A	0	1	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost 0: Disable 1: Enable
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
0x2636	0x2636	1	RW	~~Mppt8FuseCheckEn~~ PV8FuseCheckEn	uint16	N/A	N/A	N/A	0	1	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost 0: Disable 1: Enable
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
0x2637	0x2637	1	RW	~~Mppt9FuseCheckEn~~ PV9FuseCheckEn	uint16	N/A	N/A	N/A	0	1	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost 0: Disable 1: Enable
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
0x2638	0x2638	1	RW	~~Mppt10FuseCheckEn~~ PV10FuseCheckEn	uint16	N/A	N/A	N/A	0	1	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost 0: Disable 1: Enable
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
0x2639	0x2639	1	RW	~~Mppt11FuseCheckEn~~ PV11FuseCheckEn	uint16	N/A	N/A	N/A	0	1	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost 0: Disable 1: Enable
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
0x263A	0x263A	1	RW	~~Mppt12FuseCheckEn~~ PV12FuseCheckEn	uint16	N/A	N/A	N/A	0	1	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost 0: Disable 1: Enable
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
0x263B	0x263B	1	RW	PV13FuseCheckEn	uint16	N/A	N/A	N/A	0	1	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost

												0: Disable 1: Enable
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
0x263C	0x263C	1	RW	PV14FuseCheckEn	uint16	N/A	N/A	N/A	0	1	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost 0: Disable 1: Enable
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
0x263D	0x263D	1	RW	PV15FuseCheckEn	uint16	N/A	N/A	N/A	0	1	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost 0: Disable 1: Enable
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
0x263E	0x263E	1	RW	PV16FuseCheckEn	uint16	N/A	N/A	N/A	0	1	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost 0: Disable 1: Enable
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
0x263F	0x263F	1	RW	PV17FuseCheckEn	uint16	N/A	N/A	N/A	0	1	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost 0: Disable 1: Enable
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
0x2640	0x2640	1	RW	PV18FuseCheckEn	uint16	N/A	N/A	N/A	0	1	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost 0: Disable 1: Enable
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
0x2641	0x2641	1	RW	PV19FuseCheckEn	uint16	N/A	N/A	N/A	0	1	N/A	@136kW_110kW_12Boost 0: Disable 1: Enable
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost

0x2642	0x2642	1	RW	PV20FuseCheckEn	uint16	N/A	N/A	N/A	0	1	N/A	@136kW_110kW_12Boost 0: Disable 1: Enable
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x2643	0x2643	1	RW	PV21FuseCheckEn	uint16	N/A	N/A	N/A	0	1	N/A	@136kW_110kW_12Boost 0: Disable 1: Enable
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x2644	0x2644	1	RW	PV22FuseCheckEn	uint16	N/A	N/A	N/A	0	1	N/A	@136kW_110kW_12Boost 0: Disable 1: Enable
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x2645	0x2645	1	RW	PV23FuseCheckEn	uint16	N/A	N/A	N/A	0	1	N/A	@136kW_110kW_12Boost 0: Disable 1: Enable
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x2646	0x2646	1	RW	PV24FuseCheckEn	uint16	N/A	N/A	N/A	0	1	N/A	@136kW_110kW_12Boost 0: Disable 1: Enable
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost

9). Control Command

Start	End	Size	R/W	Name	Type	CPS Units	Uint	Scale factor	Min value	Max value	Contents	Description
0x2700	0x2700	1	RW	PowerOnOff	uint16	N/A	N/A	N/A	N/A	N/A	N/A	Write command Power On：0x5555 Power Off：0x7777
0x2701	0x2701	1	RW	ForceRestart	uint16	N/A	N/A	N/A	N/A	N/A	N/A	Write command：0x5AAA Execution progress Process：0x65A5 Success：0x5555 Failure：0x7777
0x2702	0x2702	1	RW	FactoryDefaults	uint16	N/A	N/A	N/A	N/A	N/A	N/A	Write command：0x5AAA Execution progress Process：0x65A5 Success：0x5555 Failure：0x7777
0x2703	0x2703	1	RW	AutoTest(CEI)	uint16	N/A	N/A	N/A	N/A	N/A	N/A	Write command：0x5AAA Execution progress Process：0x65A5 Success：0x5555 Failure：0x7777
0x2704	0x2704	1	RW	MPPTScan	uint16	N/A	N/A	N/A	N/A	N/A	N/A	Write command：0x5AAA Execution progress Process：0x65A5 Success：0x5555 Failure：0x7777
~~0x2705~~	~~0x2705~~	~~1~~	~~RW~~	~~ARCDetect~~	~~uint16~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~Write command：0x5AAA~~ ~~Execution progress~~

												~~Process：0x65A5~~ ~~Success：0x5555~~ ~~Failure：0x7777~~
~~0x2706~~	~~0x2706~~	~~1~~	~~RW~~	~~ARCClear~~	~~uint16~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~Write command：0x5AAA~~ ~~Execution progress~~ ~~Process：0x65A5~~ ~~Success：0x5555~~ ~~Failure：0x7777~~
0x2707	0x2707	1	RW	PFSetValueRemote	int16	0.001	N/A	N/A	-1000 ~ -800	800~ 1000	N/A	Remote electric dispatch Power Factor setting value
0x2708	0x2708	1	RW	PSetPercentRemote	uint16	0.1%	N/A	N/A	0	1100	N/A	Remote electric dispatch Active Power setting value
0x2709	0x2709	1	RW	QSetPercentRemote	int16	0.1%	N/A	N/A	-660	660	N/A	Remote electric dispatch Reactive Power setting value
0x270A	0x270A	1	RW	FreqLv2PrtEn(CEI)	uint16	N/A	N/A	N/A	N/A	N/A	N/A	0x5555：Enable 0x7777：Disable

10). Inverter Basic Information

Start	End	Size	R/W	Name	Type	CPS Units	Uint	Scale factor	Min value	Max value	Contents	Description
0x2900	0x2900	1	RO	MachineVersion	BCD	N/A	N/A	N/A	N/A	N/A	N/A	Machine Version
0x2901	0x2901	1	RO	DSPFWVersion	BCD	N/A	N/A	N/A	N/A	N/A	N/A	DSP App Firmware Version
0x2902	0x2902	1	RO	DSPFWChkSum	uint16	N/A	N/A	N/A	N/A	N/A	N/A	DSP App Firmware Code CheckSum
0x2903	0x2903	1	RO	BootFWVersion	BCD	N/A	N/A	N/A	N/A	N/A	N/A	DSP Boot Loader Firmware Version
0x2904	0x2904	1	RO	BootFWCodeChkSum	uint16	N/A	N/A	N/A	N/A	N/A	N/A	DSP Boot Loader Firmware Code CheckSum
0x2905	0x2905	1	RO	CPLDVersion	BCD	N/A	N/A	N/A	N/A	N/A	N/A	CPLD Version

0x2906	0x2906	1	RW	SN20~17	BCD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x2907	0x2907	1	RW	SN16~13	BCD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x2908	0x2908	1	RW	SN12~9	BCD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x2909	0x2909	1	RW	SN8~5	BCD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x290A	0x290A	1	RW	SN4~1	BCD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x290B	0x290B	1	RO	ProductCode	BCD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x290C	0x290C	1	RW	GridConnectionRule	uint16	N/A	N/A	N/A	N/A	N/A	N/A	Grid Connection Rule
0x290D	0x290D	1	RW	NeutralLineSetting	uint16	N/A	N/A	N/A	N/A	N/A	N/A	Neutral Line Setting 0x5A5A：connected to N line 0xA5A5：not connected to N line
0x290E	0x290E	1	RW	PVInputMode	uint16	N/A	N/A	N/A	N/A	N/A	N/A	PV Input Mode 0x5A5A: independent connection 0xA5A5: parallel connection
0x290F	0x290F	1	RO	DSPSafetyFirmwareCodeCheckSum	uint16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x2910	0x2910	1	RO	miniMCUFirmwareVersion	BCD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x2911	0x2911	1	RO	ThisfieldCheckSum	uint16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x2912	0x2912	1	RO	DspSafetyVer	uint16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
~~0x2913~~	~~0x2913~~	~~1~~	~~RW~~	~~LogoType~~	~~uint16~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~
0x2914	0x2914	1	RO	OptnPvDectBrd	uint16	N/A	N/A	N/A	N/A	N/A	N/A	Optional PV string detection board 0: NoConfig 1: HaveConfig

11). LcdLess Basic Parameters

Start Addr	End Addr	Size	R/W	Name	Type	CPS Units	Uint	Scale factor	Min value	Max value	Contents	Description

0x2B00	0x2B00	1	RW	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x2B01	0x2B01	1	RW	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x2B02	0x2B05	4	RW	TimeSet	uint16	N/A	N/A	N/A	N/A	N/A	N/A	timestamp(yyyy-mm-dd-hh-mm-ss-N/A) of model 0,eg."2012071615181000"=2012-7-16 15:18:10
0x2B06	0x2B06	1	RW	ModbusAddr	uint16	N/A	N/A	N/A	1	128	N/A	The Rs485 interface of LcdLess (for third party monitoring, for example: Ethernetcard). Modbus RTU protocol, device address
0x2B07	0x2B07	1	RW	BaudRate	uint16	N/A	N/A	N/A	N/A	N/A	N/A	The Rs485 interface of LcdLess (for third party monitoring, for example: Ethernetcard). 0x0001=2400 0x0002=4800 0x0003=9600 0x0004=19200
0x2B08	0x2B08	1	RW	ComPaswd	uint16	N/A	N/A	N/A	N/A	N/A	N/A	Lcdless Common password For example, the password for mobile App input is 1234, that is, the hexadecimal data 1234= 0X1234. That is, the value =0X1234 of the register at this time
0x2B09	0x2B09	1	N/A	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x2B0A	0x2B0A	1	RO	LcdlessBootFwChkCode	uint16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x2B0B	0x2B0B	1	RO	LcdlessAppFwChkCode	uint16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x2B0C	0x2B0C	1	RO	LcdlessBootVer	uint16	N/A	N/A	N/A	N/A	N/A	N/A	For example, when the register number is =0X1234, it means Ver=12.34.
0x2B0D	0x2B0D	1	RO	LcdlessAppVer	uint16	N/A	N/A	N/A	N/A	N/A	N/A	For example, when the register number is =0X1234, it means Ver=12.34.

0x2B0E	0x2B0E	1	WO	ClearFutRunLog	uint16	N/A	N/A	N/A	N/A	N/A	N/A	0XA1A1= Clear all history fault records. 0XA2A2= Clear all history run records.
0x2B0F	0x2B0F	1	WO	ClearYield	uint16	N/A	N/A	N/A	N/A	N/A	N/A	0x5858=Clear all power generation data((including "total / year / month / day / hour / base, power generation, that is, register address 0X2B34-0X2B3F data" & "per hour / day / month" power generation histogram, all data ")
0x2B10	0x2B10	1	WO	RestoreComBrd	uint16	N/A	N/A	N/A	N/A	N/A	N/A	0xDEFA= Only restore all the parameters of the communication board to the default value Notes: the communication board is the Lcdless board. Recovery of the communication board parameters, that is, only the "Lcdless board external Eeprom, external Flash, Rtcbkp (special case: RTC timestamp not restored) and other storage data" all restore to the default value. These values have nothing to do with the Dsp board.
0x2B11	0x2B11	1	WO	ClearFutWaveOrIV	uint16	N/A	N/A	N/A	N/A	N/A	N/A	0xA301= clears all historical IV curve records. 0xC1C1="General Fault Wave" clear "Hand Stop"record 0xC2C2="General Fault Wave" clear "Auto Cycle "record 0xC3C3="General Fault Wave" clear "Auto Fault Trigger/Auto Level Trigger "record 0xB1B1="Fault Detailed Information Notes" clear "Warn"record

												0xB2B2="Fault Detailed Information Notes" clear " PFault "record 0xB3B3="Fault Detailed Information Notes" clear " Fault "record 0xA1A1="Arc Fault Wave " clear trigger mode record 0xA2A2="Arc Fault Wave " clear Cycle mode record
0x2B12	0x2B12	1	WR	ScanIVCure	uint16	N/A	N/A	N/A	N/A	N/A	N/A	IV curve scanning Write: 0xA801= begins to perform IV curve scanning Read: 0xB101= Scan IV curve is in progress 0xB102= Scan IV curve is finish 0xB103= Scan IV curve is faile
~~0x2B13~~	~~0x2B13~~	~~1~~	~~RO~~	~~ComStateInvtEth~~	~~uint16~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~" between inverter and Ethernetcard " communication state~~ ~~Purpose: mobile App displays the state of communication between inverter and Ethernetcard.~~ ~~0X0001 = communication anomaly~~ ~~0X0002 = communication normal~~
~~0x2B14~~	~~0x2B14~~	~~1~~	~~RO~~	~~PwrModeComBrd~~	~~uint16~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~Power supply mode detection of Ledless board~~ ~~0XF1DC= ('DC PV board' and 'AC power grid' supply Ledless at the same time) or (only 'DC PV battery board' supply Ledless power, 'AC power grid' does not supply Ledless power supply)~~ ~~0XF2AC= only "AC grid" to Ledless power~~

												~~supply, "DC PV battery board" does not give Lcdless power supply.~~
0x2B15	0x2B15	1	WO	RestChipComBrd	uint16	N/A	N/A	N/A	N/A	N/A	N/A	0XAE57= restart Lcdless board McuChip
~~0x2B16~~	~~0x2B16~~	~~1~~	~~RO~~	~~PwrStateDsp~~	~~uint16~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~Dsp board (Dsp chip) power supply state:~~ ~~0XD15A=DSP board has no power supply.~~ ~~0XD25B = Dsp, plate power is starting, or Dsp plate is not powered at this time.~~ ~~0XD35C= The power of Dsp board has been powered, that is, communication between Dsp and Lcdless is successful or timeout.~~
~~0x2B17~~	~~0x2B17~~	~~1~~	~~WR~~	~~ArcFutRdCycIntv~~	~~uint16~~	~~1Min~~	~~Min~~	~~0~~	~~4~~	~~60~~	~~N/A~~	~~"Arc Fault Wave" setting the cycle to read data time intervals~~ ~~The default value = 30Min~~
0x2B18	0x2B18	1	WO	DryContOutput	uint16	N/A	N/A	N/A	N/A	N/A	N/A	Dry contact output 0X0D01= Off(default) 0X0D02=On
0x2B19	0x2B19	1	RO	DryContInput1	uint16	N/A	N/A	N/A	N/A	N/A	N/A	Dry contact input1 0X0101 = Off1（default） 0X0102 = On1
0x2B1A	0x2B1A	1	RO	DryContInput2	uint16	N/A	N/A	N/A	N/A	N/A	N/A	Dry contact input2 0X0201 = Off2（default） 0X0202 = On2
0x2B1B	0x2B1B	1	RO	LogoSel	uint16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x2B1C	0x2B1C	1	WR	IapDspNoDerate	uint16	N/A	N/A	N/A	N/A	N/A	N/A	0XEA01=Disable 0XDC02=Enable

3.Input Registers Data Mapping 2

Modbus function code = 0x04

1). Grid Status Information Data Area

Start Addr	End Addr	Size	R/W	Name	Type	CPS Units	Uint	Scale factor	Min value	Max value	Contents	Description
0x8000	0x8000	1	RO	Uab	int16	0.1 V	V	-1	N/A	N/A	N/A	Line voltage
0x8001	0x8001	1	RO	Ubc	int16	0.1 V	V	-1	N/A	N/A	N/A	Line voltage
0x8002	0x8002	1	RO	Uca	int16	0.1 V	V	-1	N/A	N/A	N/A	Line voltage
0x8003	0x8003	1	RO	Ua	int16	0.1 V	V	-1	N/A	N/A	N/A	A Phase voltage
0x8004	0x8004	1	RO	Ub	int16	0.1 V	V	-1	N/A	N/A	N/A	B Phase voltage
0x8005	0x8005	1	RO	Uc	int16	0.1 V	V	-1	N/A	N/A	N/A	C Phase voltage
0x8006	0x8006	1	RO	FreqA	int16	0.1Hz	Hz	-1	N/A	N/A	N/A	A phase grid frequency
0x8007	0x8007	1	RO	FreqB	int16	0.1Hz	Hz	-1	N/A	N/A	N/A	B phase grid frequency
0x8008	0x8008	1	RO	FreqC	int16	0.1Hz	Hz	-1	N/A	N/A	N/A	C phase grid frequency
0x8009	0x8009	1	RO	GridPhaseSequence	int16	N/A	N/A	N/A	N/A	N/A	N/A	Grid phase sequence 0=NA, 1=positive, 2=negative
0x800A	0x800A	1	RO	GridVoltUnbalance	int16	0.1%	%	-1	N/A	N/A	N/A	GridVolUnbalanceDegree
0x800B	0x800B	1	RO	FreqT	int16	0.1Hz	Hz	-1	N/A	N/A	N/A	Grid system frequency
0x800C	0x800C	1	RO	NPEVolt	int16	1V	V	0	N/A	N/A	N/A	Voltage between N line of the power grid and PE ground

0x800D	0x800D	1	RO	IaMcu	uint16	1A	A	0	N/A	N/A	N/A	MCU detected power grid R phase current
0x800E	0x800E	1	RO	IbMcu	uint16	1A	A	0	N/A	N/A	N/A	MCU detected power grid S phase current
0x800F	0x800F	1	RO	IcMcu	uint16	1A	A	0	N/A	N/A	N/A	MCU detected power grid T phase current
0x8010	0x8010	1	RO	UaMcu	uint16	1V	V	0	N/A	N/A	N/A	MCU detected power grid R phase voltage
0x8011	0x8011	1	RO	UbMcu	uint16	1V	V	0	N/A	N/A	N/A	MCU detected power grid S phase voltage
0x8012	0x8012	1	RO	UcMcu	uint16	1V	V	0	N/A	N/A	N/A	MCU detected power grid T phase voltage
0x8013	0x8013	1	RO	Voltage harmonics(L1)	uint16	0.01%	%	-2	N/A	N/A	N/A	N/A
0x8014	0x8014	1	RO	Voltage harmonics(L2)	uint16	0.01%	%	-2	N/A	N/A	N/A	N/A
0x8015	0x8015	1	RO	Voltage harmonics(L3)	uint16	0.01%	%	-2	N/A	N/A	N/A	N/A
0x8016	0x8016	1	RO	Current harmonics(L1)	uint16	0.01%	%	-2	N/A	N/A	N/A	N/A
0x8017	0x8017	1	RO	Current harmonics(L2)	uint16	0.01%	%	-2	N/A	N/A	N/A	N/A
0x8018	0x8018	1	RO	Current harmonics(L3)	uint16	0.01%	%	-2	N/A	N/A	N/A	N/A

2). Inverter Output Status Information Data Area

Start Addr	End Addr	Size	R/W	Name	Type	CPS Units	Uint	Scale factor	Min value	Max value	Contents	Description
0x8100	0x8100	1	RO	Ia	int16	0.1A	A	-1	N/A	N/A	N/A	Phase current
0x8101	0x8101	1	RO	Ib	int16	0.1A	A	-1	N/A	N/A	N/A	Phase current
0x8102	0x8102	1	RO	Ic	int16	0.1A	A	-1	N/A	N/A	N/A	Phase current
0x8103	0x8103	1	RO	PacA	int16	0.1kW	kW	-1	N/A	N/A	N/A	A Phase active power
0x8104	0x8104	1	RO	PacB	int16	0.1kW	kW	-1	N/A	N/A	N/A	B Phase active power
0x8105	0x8105	1	RO	PacC	int16	0.1kW	kW	-1	N/A	N/A	N/A	C Phase active power
0x8106	0x8106	1	RO	PacT	int16	0.1kW	kW	-1	N/A	N/A	N/A	3-Phase total active power
0x8107	0x8107	1	RO	QacA	int16	0.1kVar	kvar	-1	N/A	N/A	N/A	A Phase reactive power

0x8108	0x8108	1	RO	QacB	int16	0.1kVar	kvar	-1	N/A	N/A	N/A	B Phase reactive power
0x8109	0x8109	1	RO	QacC	int16	0.1kVar	kvar	-1	N/A	N/A	N/A	C Phase reactive power
0x810A	0x810A	1	RO	QacT	int16	0.1kVar	kvar	-1	N/A	N/A	N/A	3-Phase total reactive power
0x810B	0x810B	1	RO	PFa	int16	0.01	N/A	-2	N/A	N/A	N/A	A Phase power factor
0x810C	0x810C	1	RO	PFb	int16	0.01	N/A	-2	N/A	N/A	N/A	B Phase power factor
0x810D	0x810D	1	RO	PFc	int16	0.01	N/A	-2	N/A	N/A	N/A	C Phase power factor
0x810E	0x810E	1	RO	PFt	int16	0.01	N/A	-2	N/A	N/A	N/A	3-Phase power factor
0x810F	0x810F	1	RO	UinvA	int16	0.1V	V	-1	N/A	N/A	N/A	A Phase inverter voltage
0x8110	0x8110	1	RO	UinvB	int16	0.1V	V	-1	N/A	N/A	N/A	B Phase inverter voltage
0x8111	0x8111	1	RO	UinvC	int16	0.1V	V	-1	N/A	N/A	N/A	C Phase inverter voltage
0x8112	0x8112	1	RO	P Ref	int16	0.1%	%	-1	N/A	N/A	N/A	Active adjustment
0x8113	0x8113	1	RO	Q Ref	int16	0.1%	%	-1	N/A	N/A	N/A	Reactive power regulation
0x8114	0x8114	1	RO	PF Ref	int16	0.001	N/A	-3	N/A	N/A	N/A	PF adjustment

3). Inverter PV Input Status Information Data Area

Start Addr	End Addr	Size	R/W	Name	Type	CPS Units	Uint	Scale factor	Min value	Max value	Contents	Description
0x8200	0x8200	1	RO	PVInputMode	uint16	N/A	N/A	N/A	N/A	N/A	N/A	0=not detected 1=Parallel 2=Independent
0x8201	0x8201	1	RO	Pdc	int16	0.1kW	kW	-1	N/A	N/A	N/A	DC total input power
0x8202	0x8202	1	RO	Umppt1	int16	0.1V	V	-1	N/A	N/A	N/A	N/A
0x8203	0x8203	1	RO	Imppt1	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x8204	0x8204	1	RO	Umppt2	int16	0.1V	V	-1	N/A	N/A	N/A	N/A

0x8205	0x8205	1	RO	Imppt2	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x8206	0x8206	1	RO	Umppt3	int16	0.1V	V	-1	N/A	N/A	N/A	N/A
0x8207	0x8207	1	RO	Imppt3	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
~~0x8208~~	~~0x8208~~	~~1~~	~~RO~~	~~Reserve~~	~~int16~~	~~0.1A~~	~~A~~	~~-1~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~
~~0x8209~~	~~0x8209~~	~~1~~	~~RO~~	~~Reserve~~	~~int16~~	~~0.1A~~	~~A~~	~~-1~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~
~~0x820A~~	~~0x820A~~	~~1~~	~~RO~~	~~Reserve~~	~~int16~~	~~0.1A~~	~~A~~	~~-1~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~
~~0x820B~~	~~0x820B~~	~~1~~	~~RO~~	~~Reserve~~	~~int16~~	~~0.1A~~	~~A~~	~~-1~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~
~~0x820C~~	~~0x820C~~	~~1~~	~~RO~~	~~Reserve~~	~~int16~~	~~0.1A~~	~~A~~	~~-1~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~
~~0x820D~~	~~0x820D~~	~~1~~	~~RO~~	~~Reserve~~	~~int16~~	~~0.1A~~	~~A~~	~~-1~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~
~~0x820E~~	~~0x820E~~	~~1~~	~~RO~~	~~Reserve~~	~~int16~~	~~0.1A~~	~~0.1A~~	~~-1~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~
~~0x820F~~	~~0x820F~~	~~1~~	~~RO~~	~~Reserve~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~
~~0x8210~~	~~0x8210~~	~~1~~	~~RO~~	~~Reserve~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~
0x8211	0x8211	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8212	0x8212	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8213	0x8213	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8214	0x8214	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8215	0x8215	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8216	0x8216	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8217	0x8217	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8218	0x8218	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8219	0x8219	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x821A	0x821A	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x821B	0x821B	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x821C	0x821C	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x821D	0x821D	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

0x821E	0x821E	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x821F	0x821F	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8220	0x8220	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8221	0x8221	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8222	0x8222	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8223	0x8223	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8224	0x8224	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8225	0x8225	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8226	0x8226	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8227	0x8227	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8228	0x8228	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8229	0x8229	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x822A	0x822A	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x822B	0x822B	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x822C	0x822C	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x822D	0x822D	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x822E	0x822E	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x822F	0x822F	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8230	0x8230	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8231	0x8231	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8232	0x8232	1	RO	Umppt4	uint16	0.1V	V	-1	N/A	N/A	N/A	N/A
0x8233	0x8233	1	RO	Imppt4	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x8234	0x8234	1	RO	Umppt5	uint16	0.1V	V	-1	N/A	N/A	N/A	N/A
0x8235	0x8235	1	RO	Imppt5	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x8236	0x8236	1	RO	Umppt6	uint16	0.1V	V	-1	N/A	N/A	N/A	N/A

0x8237	0x8237	1	RO	Imppt6	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x8238	0x8238	1	RO	Umppt7	uint16	0.1V	V	-1	N/A	N/A	N/A	N/A
0x8239	0x8239	1	RO	Imppt7	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x823A	0x823A	1	RO	Umppt8	uint16	0.1V	V	-1	N/A	N/A	N/A	N/A
0x823B	0x823B	1	RO	Imppt8	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x823C	0x823C	1	RO	Umppt9	uint16	0.1V	V	-1	N/A	N/A	N/A	N/A
0x823D	0x823D	1	RO	Imppt9	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x823E	0x823E	1	RO	Umppt10	uint16	0.1V	V	-1	N/A	N/A	N/A	@136kW_110kW_12Boost @250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x823F	0x823F	1	RO	Imppt10	int16	0.1A	A	-1	N/A	N/A	N/A	@136kW_110kW_12Boost @250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x8240	0x8240	1	RO	Umppt11	uint16	0.1V	V	-1	N/A	N/A	N/A	@136kW_110kW_12Boost @250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x8241	0x8241	1	RO	Imppt11	int16	0.1A	A	-1	N/A	N/A	N/A	@136kW_110kW_12Boost @250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x8242	0x8242	1	RO	Umppt12	uint16	0.1V	V	-1	N/A	N/A	N/A	@136kW_110kW_12Boost @250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x8243	0x8243	1	RO	Imppt12	int16	0.1A	A	-1	N/A	N/A	N/A	@136kW_110kW_12Boost @250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x8244	0x8244	1	RO	Ipv1	int16	0.1A	A	-1	N/A	N/A	N/A	N/A

0x8245	0x8245	1	RO	Ipv2	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x8246	0x8246	1	RO	Ipv3	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x8247	0x8247	1	RO	Ipv4	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x8248	0x8248	1	RO	Ipv5	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x8249	0x8249	1	RO	Ipv6	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x824A	0x824A	1	RO	Ipv7	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x824B	0x824B	1	RO	Ipv8	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x824C	0x824C	1	RO	Ipv9	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x824D	0x824D	1	RO	Ipv10	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x824E	0x824E	1	RO	Ipv11	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x824F	0x824F	1	RO	Ipv12	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x8250	0x8250	1	RO	Ipv13	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x8251	0x8251	1	RO	Ipv14	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x8252	0x8252	1	RO	Ipv15	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x8253	0x8253	1	RO	Ipv16	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x8254	0x8254	1	RO	Ipv17	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x8255	0x8255	1	RO	Ipv18	int16	0.1A	A	-1	N/A	N/A	N/A	N/A
0x8256	0x8256	1	RO	Ipv19	int16	0.1A	A	-1	N/A	N/A	N/A	@136kW_110kW_12Boost @250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x8257	0x8257	1	RO	Ipv20	int16	0.1A	A	-1	N/A	N/A	N/A	@136kW_110kW_12Boost @250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x8258	0x8258	1	RO	Ipv21	int16	0.1A	A	-1	N/A	N/A	N/A	@136kW_110kW_12Boost @250kW_225kW_275kW_12Boost

				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x8259	0x8259	1	RO	Ipv22	int16	0.1A	A	-1	N/A	N/A	N/A	@136kW_110kW_12Boost @250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x825A	0x825A	1	RO	Ipv23	int16	0.1A	A	-1	N/A	N/A	N/A	@136kW_110kW_12Boost @250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost
0x825B	0x825B	1	RO	Ipv24	int16	0.1A	A	-1	N/A	N/A	N/A	@136kW_110kW_12Boost @250kW_225kW_275kW_12Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@100kW_110kW_9Boost

4). Inverter Internal Status Information Data Area

Start Addr	End Addr	Size	R/W	Name	Type	CPS Units	Uint	Scale factor	Min value	Max value	Contents	Description
0x8300	0x8300	1	RO	Mode	uint16	N/A	N/A	N/A	N/A	N/A	N/A	Inverter operating mode bit0 = Poweron = 1, Otherwise = 0; bit1 = InverterRun = 1, Otherwise = 0; bit2 = GridOk = 1, Otherwise = 0; bit3 = Derate = 1, Otherwise = 0; bit4 = Temperature low Cannot Start = 1, Otherwise = 0; bit5 = PV Volt high Cannot Start = 1, Otherwise = 0; bit6 = PV Volt low Cannot Start = 1, Otherwise = 0; bit7 = PV Power Checking = 1, Otherwise = 0; bit8 = Reserve; bit9 = Reserve; bit10 = Reserve; bit11 = Reserve;

												bit12 = Running = 1, Otherwise = 0; bit13 = Standby = 1, Otherwise = 0; bit14 = Checking = 1, Otherwise = 0; bit15 = Fault = 1, Otherwise = 0;
0x8301	0x8301	1	RO	PowerOnOffSta	uint16	N/A	N/A	N/A	N/A	N/A	N/A	LCD Power OnOff command execution status feedback
0x8302	0x8302	1	RO	Tmod	int16	0.1℃	℃	-1	N/A	N/A	N/A	Module temperature
0x8303	0x8303	1	RO	Tinter	int16	0.1℃	℃	-1	N/A	N/A	N/A	Internal temperature
0x8304	0x8304	1	RO	ISO	int16	1kΩ	kΩ	0	N/A	N/A	N/A	Insulation resistance detection value
0x8305	0x8305	1	RO	GFCI	int16	1mA	mA	0	N/A	N/A	N/A	Leakage current detection value
0x8306	0x8306	1	RO	DCIA	int16	1mA	mA	0	N/A	N/A	N/A	A phase DC component
0x8307	0x8307	1	RO	DCIB	int16	1mA	mA	0	N/A	N/A	N/A	B phase DC component
0x8308	0x8308	1	RO	DCIC	int16	1mA	mA	0	N/A	N/A	N/A	C phase DC component
0x8309	0x8309	1	RO	UbusPst	int16	1V	V	0	N/A	N/A	N/A	Positive Bus Voltage
0x830A	0x830A	1	RO	UbusNgt	int16	1V	V	0	N/A	N/A	N/A	Negative Bus Voltage
0x830B	0x830B	1	RO	UbusPstNgt	int16	1V	V	0	N/A	N/A	N/A	Positive and negative bus voltage
0x830C	0x830C	1	RO	CntDwPwrOn	int16	1S	S	0	N/A	N/A	N/A	Power on count down
0x830D	0x830D	1	RO	UsampIso	int16	1V	V	0	N/A	N/A	N/A	ISO sampling circuit detection voltage
0x830E	0x830E	1	RO	BusCapacitance	int16	1uF	uF	0	N/A	N/A	N/A	Bus capacitance
0x830F	0x830F	1	RO	AcCapacitance	int16	1uF	uF	0	N/A	N/A	N/A	AC capacitance
~~0x8310~~	~~0x8310~~	~~1~~	~~RO~~	~~EnvrTemprt2~~	~~int16~~	~~0.1℃~~	~~℃~~	~~-1~~	~~N/A~~	~~N/A~~	~~N/A~~	~~Environmental temperature 2~~
~~0x8311~~	~~0x8311~~	~~1~~	~~RO~~	~~RlyTemprt~~	~~int16~~	~~0.1℃~~	~~℃~~	~~-1~~	~~N/A~~	~~N/A~~	~~N/A~~	~~Rly board temperature~~
~~0x8312~~	~~0x8312~~	~~1~~	~~RO~~	~~PwrTemprt~~	~~int16~~	~~0.1℃~~	~~℃~~	~~-1~~	~~N/A~~	~~N/A~~	~~N/A~~	~~Power board temperature~~
0x8313	0x8313	1	RO	BoostTemprt	int16	0.1℃	℃	-1	N/A	N/A	N/A	N/A
0x8314	0x8314	1	RO	Reserve	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
~~0x8315~~	~~0x8315~~	~~1~~	~~RO~~	~~EnvrTemprt2~~	~~int16~~	~~0.1℃~~	~~℃~~	~~-1~~	~~N/A~~	~~N/A~~	~~N/A~~	~~Environmental temperature 2~~
0x8316	0x8316	1	RO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost

				ExtEnvrTemprt	int16	0.1℃	℃	-1	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost External environmental temperature
0x8317	0x8317	1	RO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost
				McuRelayTemprt	int16	0.1℃	℃	-1	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
0x8318	0x8318	1	RO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost
				McuEnvrTemprt	int16	0.1℃	℃	-1	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost
0x8319	0x8319	1	RO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost
				InvCtrlSta1	uint16	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost

5). Inverter Fault Status Information Data Area

Start Addr	End Addr	Size	R/W	Name	Type	CPS Units	Uint	Scale factor	Min value	Max value	Contents	Description
0x8400	0x8400	1	RO	Warn	uint16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8401	0x8401	1	RO	Fault0	uint16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8402	0x8402	1	RO	Fault1	uint16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8403	0x8403	1	RO	Fault2	uint16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8404	0x8404	1	RO	Fault3	uint16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8405	0x8405	1	RO	Fault4	uint16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8406	0x8406	1	RO	PFault	uint16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8407	0x8407	1	RO	Fault 5	uint16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8408	0x8408	1	RO	Fault 6	uint16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0x8409	0x8409	1	RO	Warn1	uint16	N/A	N/A	N/A	N/A	N/A	N/A	@136kW_110kW_12Boost.@100kW_110kW_9Boost
				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	@250kW_225kW_275kW_12Boost

5.1).Warn

Register address	Storing data		Fault analysis	LCD English display
0x8400	Warn	Bit15	Reserved	Warn0150
		Bit14	Reserved	Warn0140
		Bit13	Reserved	Warn0130
		Bit12	Reserved	Warn0120
		Bit11	Reserved	Warn0110
		Bit10	Reserved	Warn0100
		Bit9	Compatible	Warn0090
		Bit8	Compatible	Warn0080
		Bit7	Reserved	Warn0070
		Bit6	Compatible	Warn0060
		Bit5	Temperature sensor anomaly	Warn0050
		Bit4	DC/AC side lightning protection exception	Warn0040
		Bit3	EEPROM fault	Warn0030
		Bit2	Failure of internal communication between lcdless board and Dsp board	CommErr
		Bit1	Internal fan alarm	IntFanErr
		Bit0	External fan alarm	ExtFanErr

5.2).Fault0

Register address	Storing data		Fault analysis	LCD English display
0x8401	Fault0	Bit15	Inverter current bias	Protect0010
		Bit14	Over temperature protection	TempOver
		Bit13	Grid connected relay protection	Protect0020
		Bit12	Out of phase	GridV.OutLim
		Bit11	Low frequency of power grid	GridF.OutLim
		Bit10	High frequency of power grid	GridF.OutLim
		Bit9	High inverter current	Protect0030

		Bit8	Grid phase voltage over limit	GridV.OutLim
		Bit7	Grid line voltage over limit	GridV.OutLim
		Bit6	MPPT1CurrHighErr	Protect0040
		Bit5	Compatible	N/A
		Bit4	Inverter Soft start time out	Protect0050
		Bit3	Bus Soft start time out	Protect0060
		Bit2	BUS difference is high	Protect0070
		Bit1	Compatible	Protect0080
		Bit0	BUS sum high	Protect0090

5.3).Fault1

Register address	Storing data		Fault analysis	LCD English display
0x8402	Fault1	Bit15	Leakage current sensor fault	Protect0100
		Bit14	Bus hardware over voltage	Protect0110
		Bit13	Compatible	N/A
		Bit12	Power module protection	Protect0120
		Bit11	Inverter current imbalance	Protect0130
		Bit10	Compatible	N/A
		Bit9	Unbalanced grid voltage	GridV.OutLim
		Bit8	inverter hardware over current	Protect0140
		Bit7	MCU Protect	Protect0150
		Bit6	Compatible	N/A
		Bit5	Frequency selective anomaly	Protect0160
		Bit4	Leakage current is too high	GFCIErr
		Bit3	Insulation impedance is too low	IsolationErr
		Bit2	DCI High current	Protect0170
		Bit1	DCI current bias	Protect0180
		Bit0	Inverter voltage bias	Protect0190

5.4).Fault2

Register address	Storing data		Fault analysis	LCD English display
0x8403	Fault2	Bit15	Compatible	N/A
		Bit14	Compatible	Protect0290
		Bit13	Compatible	Protect0300
		Bit12	MPPT3VolHigh	MPPT3VolHigh
		Bit11	MPPT3RevConnect	MPPT3RevConnect
		Bit10	MPPT1VolHigh	MPPT1VolHigh
		Bit9	MPPT1RevConnect	MPPT1RevConnect
		Bit8	Reserver	PVAbnormalLink
		Bit7	RunInvAhd	Protect0230
		Bit6	PV abnormal connection failure	Protect0260
		Bit5	MPPT2VolHigh	MPPT2VolHigh
		Bit4	MPPT2CurrHighErr	Protect0240
		Bit3	MPPT2RevConnect	MPPT2RevConnect
		Bit2	PV and Inverter Power Difference Faults	Protect0220
		Bit1	Internal hardware exception	Protect0210
		Bit0	Compatible	Protect0200

5.5).Fault3

Register address	Storing data		Fault analysis	LCD English display
0x8404	Fault3	Bit15	~~ARC protection~~ Reserved	~~ARC Protect~~ Reserved
		Bit14	Compatible	Protect0320
		Bit13	Hardware driver power exception	Protect0330
		Bit12	Compatible	Protect0340
		Bit11	Compatible	Protect0350
		Bit10	Compatible	Protect0360
		Bit9	Compatible	Protect0370

		Bit8	Compatible	Protect0380
		Bit7	Compatible	Protect0390
		Bit6	Compatible	Protect0400
		Bit5	Compatible	Protect0410
		Bit4	Compatible	Protect0420
		Bit3	Compatible	Protect0430
		Bit2	Compatible	Protect0440
		Bit1	Compatible	Protect0450
		Bit0	Compatible	Protect0460

5.6).Fault4

Register address	Storing data		Fault analysis	LCD English display
0x8405	Fault4	Bit15	Reserved	Protect0470
		Bit14	Reserved	Protect0480
		Bit13	Reserved	Protect0490
		Bit12	Reserved	Protect0500
		Bit11	Reserved	Protect0510
		Bit10	CPLD clock exception	Protect0520
		Bit9	CPLD program version exception	Protect0530
		Bit8	Product model exception	Protect0540
		Bit7	Bst Hardware overcurrent	Protect0550
		Bit6	Control board 3.3V voltage low	Protect0560
		Bit5	Capture phase locked loop check exception	Protect0570
		Bit4	MPPT3 Input Overcurrent	Protect0580
		Bit3	Battery plate super match	Protect0590
		Bit2	~~Arc board fault~~ Reserved	~~Arcboard Err~~ Reserved
		Bit1	Steady state GFCI protection	Protect0610
		Bit0	HardwarePro	Protect0620

5.7).PFault

Register address	Storing data		Fault analysis	LCD English display
0x8406	PFault	Bit15	Control board voltage and drive power failure	Fault0160
		Bit14	Open loop self detection failure	Fault0150
		Bit13	Internal hardware failure	Fault0140
		Bit12	Permanent fault of power module	Fault0010
		Bit11	Bus hardware overvoltage fault	Fault0020
		Bit10	Compatible	Fault0030
		Bit9	Compatible	Fault0040
		Bit8	Inverter hardware overcurrent fault	Fault0050
		Bit7	CPLD clock failure	Fault0060
		Bit6	N/A	Fault0070
		Bit5	Bst hardware overcurrent fault	Fault0080
		Bit4	Steady state GFCI fault	Fault0090
		Bit3	Relay fault	Fault0100
		Bit2	Bus differential high fault	Fault0110
		Bit1	Compatible	Fault0120
		Bit0	Bus sum high fault	Fault0130

5.8) Fault5

Register address	Storing data		Fault analysis	LCD English display
0x8407	Fault5	Bit15	MPPT9VolHigh	MPPT9VolHigh
		Bit14	MPPT8CurrHighErr	MPPT8CurrHighErr
		Bit13	MPPT8RevConnect	MPPT8RevConnect
		Bit12	MPPT8VolHigh	MPPT8VolHigh
		Bit11	MPPT7CurrHighErr	MPPT7CurrHighErr
		Bit10	MPPT7RevConnect	MPPT7RevConnect

		Bit9	MPPT7VolHigh	MPPT7VolHigh
		Bit8	MPPT6CurrHighErr	MPPT6CurrHighErr
		Bit7	MPPT6RevConnect	MPPT6RevConnect
		Bit6	MPPT6VolHigh	MPPT6VolHigh
		Bit5	MPPT5CurrHighErr	MPPT5CurrHighErr
		Bit4	MPPT5RevConnect	MPPT5RevConnect
		Bit3	MPPT5VolHigh	MPPT5VolHigh
		Bit2	MPPT4CurrHighErr	MPPT4CurrHighErr
		Bit1	MPPT4RevConnect	MPPT4RevConnect
		Bit0	MPPT4VolHigh	MPPT4VolHigh

5.9) Fault6

Register address	Storing data		Fault analysis	LCD English display
0x8408	Fault6	Bit15	Reserved	Reserved
		Bit14	Reserved	Reserved
		Bit13	Reserved	Reserved
		Bit12	Reserved	Reserved
		Bit11	Reserved	Reserved
		Bit10	MPPT12CurrHighErr	MPPT12CurrHighErr
		Bit9	MPPT12RevConnect	MPPT12RevConnect
		Bit8	MPPT12VolHigh	MPPT12VolHigh
		Bit7	MPPT11CurrHighErr	MPPT11CurrHighErr
		Bit6	MPPT11RevConnect	MPPT11RevConnect
		Bit5	MPPT11VolHigh	MPPT11VolHigh
		Bit4	MPPT10CurrHighErr	MPPT10CurrHighErr
		Bit3	MPPT10RevConnect	MPPT10RevConnect
		Bit2	MPPT10VolHigh	MPPT10VolHigh
		Bit1	MPPT9CurrHighErr	MPPT9CurrHighErr
		Bit0	MPPT9RevConnect	MPPT9RevConnect

5.10) Warn1

Register address	Storing data		Fault analysis	LCD English display
0x8409	Warn1	Bit15	Reserved	Reserved
		Bit14	Reserved	Reserved
		Bit13	Reserved	Reserved
		Bit12	Reserved	Reserved
		Bit11	MPPT12FuseWarn	MPPT12FuseWarn
		Bit10	MPPT11FuseWarn	MPPT11FuseWarn
		Bit9	MPPT10FuseWarn	MPPT10FuseWarn
		Bit8	MPPT9FuseWarn	MPPT9FuseWarn
		Bit7	MPPT8FuseWarn	MPPT8FuseWarn
		Bit6	MPPT7FuseWarn	MPPT7FuseWarn
		Bit5	MPPT6FuseWarn	MPPT6FuseWarn
		Bit4	MPPT5FuseWarn	MPPT5FuseWarn
		Bit3	MPPT4FuseWarn	MPPT4FuseWarn
		Bit2	MPPT3FuseWarn	MPPT3FuseWarn
		Bit1	MPPT2FuseWarn	MPPT2FuseWarn
		Bit0	MPPT1FuseWarn	MPPT1FuseWarn