

CPS Inverter Model Data Mapping Specification For 403X

Status	Communication Protocol
Applicable Models	25kW_208V Inverter

ABSTRACT

This document describes the Shanghai Chint Powr System(CPS) Inverter model specifcaton

Change history

Date	Version	Modification	Author
2021-10-24	V4.00	1.Add Standard – 27:ISO-NE	Jx
2021-8-18	V3.03	1.Add register (0x2B0A.0x2B0C.0x2B0D.0x2B24.0x2B25.0x2B26)	Zgl
2021-8-12	3.02	1. Delete the holding registers 0x2100, 0x2102, 0x2103, 0x2620, 0x2625 2. New regulation ieee1547_2003 and delete regulation ieee1547_2018	PHL
2021-7-5	3.01	1. The following register description has been modified:(0x8013 – 0x8018、0x8300、0x290C)	PHL
2021-2-5	3.00	1. Only the version number of the document (v2.04-- > v3.00) has been modified, but not in other places. Mainly for ECN archiving	PHL
2020-11-19	2.04	1. The fault code table is modified to open warn bit15 to external communication failure, which is displayed as warn0150	PHL
2020-11-18	2.03	1. Add new register (0x262C)RapidShutdownEnabBit	PHL
2020-11-16	2.02	1.Change register (0X831B) name to PwrOnOffSta	PHL
2020-11-5	2.01	1. Add new register (0x831B) on / off status bit	PHL
2020-9-10	2.00	1. Only the version number of the document (v1.09-- > v2.00) has been modified, but not in other places. Mainly for ECN archiving	PHL
2020-9-1	1.09	1. Replace all N / a and Na in the document with NULL (function unchanged) 2. The name of each group of holding register is modified, and each group number is mainly added	PHL
2020-8-20	1.08	1.Modify Registers the data type of the register (0X2507. 0X2508. 0X2509) from uint16 to int16 2.Modify Registers factor coefficient of register (0X2508. 0X2509) from 0 to -1 3. Add Registers (0X2B0B) LCDFW ChkSum	PHL

2020-8-13	1.07	1. Modify Registers (0X2629.0X251B.0X251C.0X251D) 2. Modify Registers (0X251D) value max	PHL
2020-7-7	1.06	1. Modify Input Registers Data Mapping 2	PHL
2020-6-28	1.05	1. Modify register(0X2209.0X220B) value max and value min	PHL
2020-6-24	1.04	1. Modify Input Registers Data Mapping 2 2. Modify Holding Registers Data Mapping(For Factory Testing Use Only)	PHL
2020-6-19	1.03	1. Modify register(0X2503) value max 2. .Add register(0X1066.0X253A.0X262D)	PHL
2020-6-4	1.02	1.Add register(0X0049~0X004D) 2. Modify register(0X8310.0X283C)	PHL
2020-6-3	1.01	1.Delete register for Korea(0X03E8~0X03FC.0X07D0~0X07D3) 2.Modifie some fault code strings (0x0035_bit11_bit12.0X0039_bit15.0X0034_bit1_bit9_bit10) 3.Delete some unusual regulations(0X290C) 4. Modify register(0X0000~0X0002.0x200E.0X230C~0X230F.0X251E.0X2520~0X2525.0X2823)	PHL
2020-5-16	1.00	This communication modified contains functions of 25kW_208V Inverter Add register: 0x2314 Modify register: 0x0000、0x2015、0x2017、0x2019、0x201C、0x290B、0x290C	LII

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⚠ ESSENTIAL COMPLIANCE INFORMATION

(1). In the CPS MODBUS protocol, implementations should leave unused or unsupported data points set to the “Not Implemented” value specified in the model mapping. The Not Implemented value for different data type has different value, here are the defined:

- 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 integer 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
bits	31---24		23---16	15---8
				7---0

64-bit integer Value

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

MODBUS Register	1		2	
byte	0		1	2
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
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String Value

Store 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.

1.0 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

2.0 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	CRC16	end
T1-T2-T3-T4	1Byte	1Byte	N	2Byte	T1-T2-T3-T4

1. Input Registers Data Mapping 1

1). (0X0000-0X004D) Input Registers Data Mapping

Modbus function code = 0x04

Start	End	Size	R/W	Name	Type	CPS Unit	Unit	Scale	Min	Max	Contents	Description
0x0000	0x0000	1	RO	Device	uint16	1	NUL	0	NUL	NUL	0x4034	0x4032:60kW inverter embedded with old MCU, 0x4034:60kW inverter embedded with new MCU, 0x403A: reserved
0x0001	0x0001	1	RO	LCDBoot/ARCVersion Reserved	uint16	1	NUL	0	0	0xFF	NUL	A manufacturer specific value that identifies the firmware version about MCUs in the inverter;The data format of FirmVer is 0xAABB-AA indicates LCD
0x0002	0x0002	1	RO	ARCStatus/PVinputConfig Reserved	uint16	1	NUL	0	0	1	NUL	The format of the register is 0xABCD; [A]: reserved; [B]: ARC enable status —0: disable; —1: enable; [C]: ARC dipswitch status —Value: 0~3(00-01-10-11) [D]: PV input configuration 0: Independent 1: Parallel
0x0003	0x0003	1	RO	RegNum	uint16	1	registers	0	NUL	NUL	NUL	1, Device is 0x4031 and 0x4032: Number of readable registers(R/W=RO) supported by this device, count from the register ProVer to the last input register, and one register consists of 16-bit. 2, Device is 0x4033:
0x0004	0x0004	1	RO	ProVer	uint16	0.01	NUL	-2	NUL	NUL	NUL	a value that identifies the latest supported communication protocol
0x0005	0x0005	1	RO	MinorVer	uint16	0.01	NUL	-2	NUL	NUL	NUL	A manufacturer specific value that identifies the minor version of this device;The data format of FirmVer is 0xAABB-AA indicates DSP firm
0x0006	0x0009	4	RO	SN	uint64	BCD	NUL	0	NUL	NUL	NUL	a manufacturer specific value that uniquely identifies this device within the manufacturer name space. Remark: Serial number is composed of 16 characters(8 bytes), the most significant 3 character is reserved only
0x000a	0x0013	10	RO	model	string(20)	1	NUL	0	NUL	NUL	NUL	a value that identifies the current device model serial descriptor, eg. SC20KTL
0x0014	0x0014	1	RO	RWRegSum	uint16	1	NUL	0	NUL	NUL	NUL	number of R/W registers supported by this device
0x0015	0x0015	1	RO	RWRegAdd	uint16	1	NUL	0	NUL	NUL	0x1000	R/W register start address offset
0x0016	0x0017	2	RO	TYield	uint32	1kW	Kwh	0	0	NUL	NUL	Total energy to grid

0x00 18	0x00 18	1	R	DYield	uint16	0.1kWh	Kwh	-1	0	NUL	NUL	The accumulated kWh of that day
0x00 19	0x00 19	1	R	Eff	uint16	0.1%	%	-3	0	100	NUL	Inverter efficiency. When reading this register is 0x1F40, representing Eff=0x1F40*0.001=0.01904
0x00 1A	0x00 1A	1	R	PF	int16	0.001	NUL	-3	NU	100	NUL	Power factor. When reading this register is 0x0320, representing PF=0.0320
0x00 1B	0x00 1B	1	R	Pmax	uint16	0.1kW	Kw	-1	NU	NUL	NUL	AC maximum active power of that day
0x00 1C	0x00 1C	1	R	RunT	uint16	0.1Min	Min	-1	NU	NUL	NUL	The cumulative time from the start feeding grid to the current
0x00 1D	0x00 1D	1	R	Pac	uint16	0.1kW	Kw	-1	NU	NUL	NUL	AC active power
0x00 1E	0x00 1E	1	R	Sac	uint16	0.1kVA	KVA	-1	NU	NUL	NUL	AC Apparent power
0x00 1F	0x00 1F	1	R	Uab	uint16	0.1V	V	-1	NU	NUL	NUL	Grid voltage Uab
0x00 20	0x00 20	1	R	Ubc	uint16	0.1V	V	-1	NU	NUL	NUL	Grid voltage Ubc
0x00 21	0x00 21	1	R	Uca	uint16	0.1V	V	-1	NU	NUL	NUL	Grid voltage Uca
0x00 22	0x00 22	1	R	Ia	uint16	0.1A	A	-1	NU	NUL	NUL	Grid A phase current
0x00 23	0x00 23	1	R	Ib	uint16	0.1A	A	-1	NU	NUL	NUL	Grid B phase current
0x00 24	0x00 24	1	R	Ic	uint16	0.1A	A	-1	NU	NUL	NUL	Grid C phase current
0x00 25	0x00 25	1	R	Upv1	uint16	0.1V	V	-1	NU	NUL	NUL	PV voltage
0x00 26	0x00 26	1	R	Ipv1	int16	0.1A	A	-1	NU	NUL	NUL	PV current
0x00 27	0x00 27	1	R	Upv2	uint16	0.1V	V	-1	NU	NUL	NUL	PV2 voltage
0x00 28	0x00 28	1	R	Ipv2	int16	0.1A	A	-1	NU	NUL	NUL	PV2 current
0x00 29	0x00 29	1	R	Upv3	uint16	0.1V	V	-1	NU	NUL	NUL	PV3 voltage
0x00 2A	0x00 2A	1	R	Ipv3	int16	0.1A	A	-1	NU	NUL	NUL	PV3 current
0x00 2B	0x00 2B	1	R	Freq	uint16	0.1Hz	Hz	-1	NU	NUL	NUL	Grid frequency
0x00 2C	0x00 2C	1	R	Tmod	int16	0.1C	C	-1	NU	NUL	NUL	Heatsink temperature
0x00 2D	0x00 2D	1	R	Tamb	int16	0.1C	C	-1	NU	NUL	NUL	Ambient temperature
0x00 2E	0x00 2E	1	R	Tcoil	int16	0.1C	C	-1	NU	NUL	NUL	Transformer temperature
0x00 2F	0x00 2F	1	R	Mode	uint16	1	NUL	0	NU	NUL	NUL	Inverter mode code, for detail see " Inverter Work Mode Description "
0x00 30	0x00 33	4	R	Time	uint64	BCD	NUL	0	NU	NUL	NUL	timestamp(yyyy-mm-dd-hh-mm-ss-NUL) of model, eg.0x201207161518100-2012-7-16-15:18:10
0x00 34	0x00 34	1	R	PFault	uint16	1	NUL	0	NU	NUL	NUL	permanent fault code of model,for detail see " Inverter Events Description "
0x00 35	0x00 35	1	R	Warn	uint16	1	NUL	0	NU	NUL	NUL	warn code of model,for detail see " Inverter Events Description "
0x00 36	0x00 36	1	R	Fault0	uint16	1	NUL	0	NU	NUL	NUL	fault code0 of model,for detail see " Inverter Events Description "
0x00 37	0x00 37	1	R	Fault1	uint16	1	NUL	0	NU	NUL	NUL	fault code1 of model,for detail see " Inverter Events Description "
0x00 38	0x00 38	1	R	Fault2	uint16	1	NUL	0	NU	NUL	NUL	fault code2 of model,for detail see " Inverter Events Description "
0x00 39	0x00 39	1	R	Fault3	uint16	1	NUL	0	NU	NUL	NUL	fault code3of model,for detail see " Inverter Events Description "
0x00 3A	0x00 3A	1	R	Fault4	uint16	1	NUL	0	NU	NUL	NUL	fault code4 of model,for detail see " Inverter Events Description "
0x00 3B	0x00 3B	1	R	Qac	int16	0.1kVA	KVA	-1	NU	NUL	NUL	AC ractive power

0x003C	0x003C	1	RO	PIDbox Enable	uint16	1	NUL	0	0	1	0:disable	Pid-box enable or disable
0x003D	0x003D	1	RO	PIDbox Voltage	uint16	1V	NUL	0	-500	500	PIDbox	Pid-box voltage value
0x003E	0x003E	1	RO	PIDbox Current	uint16	1mA	NUL	0	0	3000	PIDbox	Pid-box current value
0x003F	0x003F	1	RO	Reserved	NUL	NUL	NUL	NUL	NUL	NUL	NUL	Reserved
0x0040	0x0040	1	RO	Reserved	NUL	NUL	NUL	NUL	NUL	NUL	NUL	Reserved
0x0041	0x0041	1	RO	MajorVersion	uint16	NUL	NUL	NUL	NUL	NUL	NUL	A manufacturer specific value that identifies the major version of this device;The data format of FirmVer is 0xAABB. AA indicates DSP firmware
0x0042	0x0042	1	RO	PVdetection	uint16	NUL	NUL	NUL	0	16	NUL	If value is zero, this model doesn't have PV detection. Nonzero value means the number of input register from 0x0000 to 0x0003 and
0x0043	0x0043	1	RO	BusCapacitance	int16	1uF	uF	0	NUL	NUL	NUL	Bus capacitance
0x0044	0x0044	1	RO	AcCapacitance	int16	1uF	uF	0	NUL	NUL	NUL	AC capacitance
0x0045	0x0045	1	RO	Pdc	uint16	0.1kW	kW	-1	NUL	NUL	NUL	PV input total power
0x0046	0x0046	1	RO	MaxActivePower	uint16	NUL	%	NUL	100	110	NUL	Maximum active power
0x0047	0x0047	1	RO	MaxApparentPower	uint16	NUL	%	NUL	100	110	NUL	Maximum apparent power
0x0048	0x0048	1	RO	DspSecurityVer	uint16	NUL	NUL	NUL	NUL	NUL	NUL	DSP Security specification version number
0X0049	0X0049	1	RO	InverterState_1	uint16	NUL	NUL	NUL	NUL	NUL	NUL	Inverter operation status for Yi Bei power grid
0X004A	0X004A	1	RO	InverterStateInfo	uint16	NUL	NUL	NUL	NUL	NUL	NUL	Inverter status information for Yi Bei power grid
0X004B	0X004B	1	RO	IPFSet	int16	0.001	NUL	-3	-1000	800~1000	NUL	Pf settings
0X004C	0X004C	1	RO	RemoteSetPCMD	uint16	0.1%	NUL	0	0	1100	NUL	Remote active set point
0X004D	0X004D	1	RO	RemoteSetQCMD	int16	0.1%	NUL	0	-660	660	NUL	Remote reactive set point

2). (0X1000-0X10FF) Power dispatching

Start	End	Size	R/W	Name	Type	CPS Unit	Unit	Scale	Min value	Max value	Content	Description
0x1000	0x1000	1	R/W	OnOff	uint16	1	NUL	0	0x5555	0xAAAA	0x5555/0xAAAA	device power on or off command, 0xAAAA power on, 0x5555 power off
0x1001	0x1001	1	R/W	PSet	uint16	0.1%	NUL	-3	0	1000	NUL	Remote electric dispatch Active Power setting value, range [0.0%,100.0%], E.g. 70.7%, then PSet =0x02c3
0x1002	0x1002	1	R/W	PFSet	int16	0.001	NUL	-3	-1000	8000	NUL	Remote electric dispatch Power factor Setting, Range [-1.000,-0.800]U[0.800, 1.000], E.g. 0.931, then PFSet =0x02c3
0x1003	0x1003	1	R/W	QSet	int16	0.1%	NUL	-1	-600	600	NUL	Remote electric dispatch Reactive Power setting value, range [-100.0%,100.0%], E.g. 70.7%, then QSet =0x02c3
0x1004	0x1007	4	R/W	TimeSet	uint64	BCD	NUL	0	NUL	NUL	NUL	System time setting, format as :yyyy-mm-dd-hh-mm-ss-NUL, eg.0x2012071615181000-0010-7-16-15-18-10
0x1047	0x1047	1	R/W	RemoteReactivePwModeSelect	uint16	1	NUL	0	NUL	NUL	NUL	The reactive mode of Remote dispatch 0: None 1: dispatch(remote control) 2:Q (local EEPROM set) 3:PF (local EEPROM set)
0x105B	0x105B	1	R/W	ClearARCFault	UINT16	1	NUL	0	NUL	NUL	NUL	W: only can write 0xbbbb; R: 0xbbbb = ARC clear successfully; 0xaaaa = ARC clear failurely; 0x5555 = clearing ARC.
0x1066	0x1066	1	R/W	LCDAntiRef lux	UINT16	1s	s	0	0	255	NUL	LCD anti countercurrent communication delay (Ghana project in Africa) A value of 0 disables

2. Holding Registers Data Mapping

Modbus function code = 0x03.0x06

1). (0X2000-0X20FF) Group 0 Grid Protection Parameters

Start	End	Size	R/W	Name	Type	CP S Unit	Unit	Scale	Min value	Max value	Content	Description
0x2000	0x2000	1	R/W	GridVoltMax1	uint16	0.01%	%	-2	10000	13500	NUL	The first maximum operational grid voltage
0x2001	0x2001	1	R/W	VoltMaxTripT1	uint16	0.01s	s	-2	0	65500	NUL	The first maximum grid voltage trip time
0x2002	0x2002	1	R/W	GridVoltMax2	uint16	0.01%	%	-2	10000	13500	NUL	The 2nd maximum operational grid voltage
0x2003	0x2003	1	R/W	VoltMaxTripT2	uint16	0.01s	s	-2	0	65500	NUL	The 2nd maximum grid voltage trip time
0x2004	0x2004	1	R/W	GridVoltMax3	uint16	0.01%	%	-2	10000	13500	NUL	The 3rd maximum operational grid voltage
0x2005	0x2005	1	R/W	VoltMaxTripT3	uint16	0.01s	s	-2	0	65500	NUL	The 3rd maximum grid voltage trip time
0x2006	0x2006	1	R/W	GridVoltMin1	uint16	0.01%	%	-2	3000	10000	NUL	The first minimum operational grid voltage
0x2007	0x2007	1	R/W	VoltMinTripT1	uint16	0.01s	s	-2	0	65500	NUL	The first minimum grid voltage trip time
0x2008	0x2008	1	R/W	GridVoltMin2	uint16	0.01%	%	-2	3000	10000	NUL	The 2nd minimum operational grid voltage
0x2009	0x2009	1	R/W	VoltMinTripT2	uint16	0.01s	s	-2	0	65500	NUL	The 2nd minimum grid voltage trip time
0x200A	0x200A	1	R/W	GridVoltMin3	uint16	0.01%	%	-2	3000	10000	NUL	The 3rd minimum operational grid voltage
0x200B	0x200B	1	R/W	VoltMinTripT3	uint16	0.01s	s	-2	0	65500	NUL	The 3rd minimum grid voltage trip time
0x200C	0x200C	1	R/W	VoltMax	uint16	0.01%	1%	-2	8000	13500	NUL	The upper limit grid voltage recovery
0x200D	0x200D	1	R/W	VoltMin	uint16	0.01%	%	-2	2000	10000	NUL	The lower limit grid voltage recovery
0x200E	0x200E	1	R/W	VoltRecoveryT VolRecoveryT	uint16	0.01s	s	-2	0	65500	NUL	The time of grid voltage recovery
0x200F	0x200F	1	R/W	GridFrqMax1	uint16	0.01Hz	Hz	-2	5000@50Hz 6000@60	5500@50Hz 6600@60	NUL	The first maximum operational grid frequency
0x2010	0x2010	1	R/W	FrqMaxTripT1	uint16	0.01s	s	-2	0	65500	NUL	The first maximum grid frequency trip time
0x2011	0x2011	1	R/W	GridFrqMax2	uint16	0.01Hz	Hz	-2	5000@50Hz 6000@60	5500@50Hz 6600@60	NUL	The 2nd maximum operational grid frequency
0x2012	0x2012	1	R/W	FrqMaxTripT2	uint16	0.01s	s	-2	0	65500	NUL	The 2nd maximum grid frequency trip time
0x2013	0x2013	1	R/W	GridFrqMax3	uint16	0.01Hz	Hz	-2	5000@50Hz 6000@60	5500@50Hz 6600@60	NUL	The 3rd maximum operational grid frequency
0x2014	0x2014	1	R/W	FrqMaxTripT3	uint16	0.01s	s	-2	0	65500	NUL	The 3rd maximum grid frequency trip time
0x2015	0x2015	1	R/W	GridFrqMin1	uint16	0.01Hz	Hz	-2	4000@50Hz 4800@60	5000@50Hz 6000@60	NUL	The first minimum operational grid frequency
0x2016	0x2016	1	R/W	FrqMinTripT1	uint16	0.01s	s	-2	0	65500	NUL	The first minimum grid frequency trip time

0x2017	0x2017	1	RW	GridFrqMin2	uint16	0.01 Hz	Hz	-2	4000 @50 Hz 4800 @50 Hz	5000 @50 Hz 6000 @50 Hz	NUL L	The 2nd minimum operational grid frequency
0x2018	0x2018	1	RW	FrqMinTripT2	uint16	0.01 s	s	-2	0	65500	NUL L	The 2nd minimum grid frequency trip time
0x2019	0x2019	1	RW	GridFrqMin3	uint16	0.01 Hz	Hz	-2	4000 @50 Hz 4800 @50 Hz	5000 @50 Hz 6000 @50 Hz	NUL L	The 3rd minimum operational grid frequency
0x201A	0x201A	1	RW	FrqMinTripT3	uint16	0.01 s	s	-2	0	65500	NUL L	The 3rd minimum grid frequency trip time
0x201B	0x201B	1	RW	FrqMax	uint16	0.01 Hz	Hz	-2	4500 @50 Hz 5500 @50 Hz	5400 @50 Hz 6600 @50 Hz	NUL L	The upper limit grid frequency recovery
0x201C	0x201C	1	RW	FrqMin	uint16	0.01 Hz	Hz	-2	4000 @50 Hz 5000 @50 Hz	4800 @50 Hz 6000 @50 Hz	NUL L	The lower limit grid frequency recovery
0x201D	0x201D	1	RW	FrqRecoveryT	uint16	0.01 s	s	-2	0	65500	NUL L	The time of grid frequency recovery
0x201E	0x201E	1	RW	VoltMax	uint16	0.01 %	%	-2	10000	13500	NUL L	The upper limit grid voltage of moving average filter
0x201F	0x201F	1	RW	MaxTripT	uint16	0.01 s	s	-2	0	65500	NUL L	The trip time of the upper limit grid voltage of moving average filter
0x2020	0x2020	1	RW	VoltMin	uint16	0.01 %	%	-2	8000	10000	NUL L	The lower limit grid voltage of moving average filter
0x2021	0x2021	1	RW	MinTripT	uint16	0.01 s	s	-2	0	65500	NUL L	The trip time of the lower limit grid voltage of moving average filter
0x2022	0x2022	1	RW	NULL	uint16	NUL L	NUL L	NUL L	NUL L	NUL L	NUL L	NULL
0x2023	0x2023	1	RW	GridVoltUnbalance	uint16	0.01 %	%	-2	1	10000	NUL L	Unbalance rate of grid voltage
0x2024	0x2024	1	RW	Phase-PETripVolt	uint16	0.01 %	%	-2	1	10000	NUL L	The trip voltage of Phase-PE
0x2025	0x2025	1	RW	Phase-PERcvVolt	uint16	0.01 %	%	-2	1	10000	NUL L	The recovery voltage of Phase-PE
0x2026	0x2026	1	RO	NA	uint16	NUL L	NUL L	NUL L	NUL L	NUL L	NUL L	
0x20FF	0x20FF	1	RO	AvaRegNumGP0	uint16	NUL L	NUL L	NUL L	NUL L	NUL L	NUL L	The available Register number in this group (this register is not

2). (0X2100-0X21FF) Group 1 Active Power Derating Parameters

Start	End	Size	R/W	Name	Type	CP S	Unit	Scale factor	Min value	Max value	Contents	Description
0x2	0x21	4	R/W	OvrVoltTrip	uint 16	0.01	%	-2	10000	13500	NUL L	The trigger voltage of OverVoltage derating
0x2	0x21	1	R/W	NULL	uint 16	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	NULL
0x2	0x21	4	R/W	OvrVoltSlop	uint 16	0.1 %	%	-4	0	1000	NUL L	Grid over-voltage derating slope (calculated slope according to 10% of rated voltage) f o r m u l a : $\frac{\Delta S}{\Delta V} \times (10\% \times V_N)$ ΔS Derating power
0x2	0x21	4	R/W	OvrVoltFilterT	uint 16	1s	s	0	1	99	NUL L	The filtering time of OverVoltage derating
0x2	0x21	1	R/W	OvrFrqMin	uint 16	0.01 Hz	Hz	-2	5000 @50 Hz 6000 @60	6000 @50 Hz 7200 @60	NUL L	The trigger frequency of OverFrequency derating
0x2	0x21	1	R/W	OvrFrqMax	uint 16	0.01 Hz	Hz	-2	5000 @50 Hz 6000 @60	6000 @50 Hz 7200 @60	NUL L	The end frequency or Rate of Overfrequency derating (Depends on the specific
0x2	0x21	1	R/W	OvrFrqSlop	uint 16	0.01	%	-2	1	10000	NUL L	The Rate of Overfrequency derating
0x2	0x21	1	R/W	RecoveryFrq	uint 16	0.01 Hz	Hz	-2	4900 @50 Hz 5880 @60	5500 @50 Hz 6600 @60	NUL L	The recovery frequency of OverFrequency derating
0x2	0x21	1	R/W	OvrFrqRecoveryT	uint 16	1s	s	0	0	1200	NUL L	The recovery time of OverFrequency derating
0x2	0x21	1	N/A	NULL	NUL L	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	NA
0x2	0x21	1	N/A	NULL	NUL L	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	NA
0x2	0x21	1	N/A	NULL	NUL L	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	NA
0x2	0x21	1	N/A	NULL	NUL L	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	NA
0x2	0x21	1	R/W	VirtualDamping	uint 16	0.001Ω	Ω	-3	0	5000	NUL L	Resonance damping coefficient
0x2	0x21	1	R/W	OperationOverVol	uint 16	0.01 %	%	-2	10000	13500	NUL L	Over Voltage Operate
0x2	0x21	1	N/A	NULL	uint 16	NUL L	NUL L	NU LL	0	1000	NUL L	NA
0x2	0x21	1	N/A	NULL	uint 16	NUL L	NUL L	NU LL	0	1000	NUL L	NA
0x2	0x21	1	R/W	VwCurveV1	uint 16	0.01 %	%	-2	10500	10900	NUL L	Grid overvoltage derating starting voltage V1
0x2	0x21	1	R/W	VwCurveP1	uint 16	0.1 %	%	-1	0	1000	NUL L	Grid overvoltage derating starting power P1
0x2	0x21	1	R/W	VwCurveV2	uint 16	0.01 %	%	-2	10600	11000	NUL L	Grid overvoltage derating end voltage V2
0x2	0x21	1	R/W	VwCurveP2	uint 16	0.1 %	%	-1	0	1000	NUL L	Grid overvoltage derating end power P2

0x2	0x21	1	R W	OpenLoopRespT	uint 16	0.1s	s	-1	5	900	NUL L	Open loop response time
0x2 116	0x21 FE	N U L	N U L	NULL	NUL L	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	NULL
0x2 1FF	0x21 FF	1	R O	NULL	NUL L	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	The available Register number in this group (this register is not

3). (0X2200-0X22FF) Group 2 Reactive Power Derating Parameters

Start	End	Size	R/W	Name	Type	CP S	Unit	Scale factor	Min value	Max value	Contents	Description
0x2	0x22	1	R/W	PFSetValue	uint16	0.001	NUL L	-3	-1000 ~ 800	800 ~ 1000	NUL L	Local Power Factor Setting
0x2	0x22	1	R/W	PFpCurveP1	uint16	0.1%	%	-1	0	1100	NUL L	Power of PF(P)Curve point 1
0x2	0x22	1	R/W	PFpCurvePF1	uint16	0.001	NUL L	-3	-1000 ~ 800	800 ~ 1000	NUL L	PF of PF(P)Curve point 1
0x2	0x22	1	R/W	PFpCurveP2	uint16	0.1%	%	-1	0	1100	NUL L	Power of PF(P)Curve point 2
0x2	0x22	1	R/W	PFpCurvePF2	uint16	0.001	NUL L	-3	-1000 ~ 800	800 ~ 1000	NUL L	PF of PF(P)Curve point 2
0x2	0x22	1	R/W	PFpCurveTriVoltage	uint16	0.01%	%	-2	10000	11000	NUL L	The trigger voltage of PF(P)Curve
0x2	0x22	1	R/W	PFpCurveUndoVoltage	uint16	0.01%	%	-2	9000	10000	NUL L	The end voltage of PF(P)Curve
0x2	0x22	1	R/W	QuCurveU1	uint16	0.01%	%	-2	10000	11000	NUL L	Voltage of Q(U)Curve point 1
0x2	0x22	1	R/W	QuCurveQ1	uint16	0.1%	%	-1	-660	660	NUL L	Reactive power of Q(U)Curve point 1
0x2	0x22	1	R/W	QuCurveU2	uint16	0.01%	%	-2	10100	12000	NUL L	Voltage of Q(U)Curve point 2
0x2	0x22	1	R/W	QuCurveQ2	uint16	0.1%	%	-1	-660	660	NUL L	Reactive power of Q(U)Curve point 2
0x2	0x22	1	R/W	QuCurveU1i	uint16	0.01%	%	-2	9000	10000	NUL L	Voltage of Q(U)Curve point 1i
0x2	0x22	1	R/W	QuCurveQ1i	uint16	0.1%	%	-1	-660	660	NUL L	Reactive power of Q(U)Curve point 1i
0x2	0x22	1	R/W	QuCurveU2i	uint16	0.01%	%	-2	8000	10000	NUL L	Voltage of Q(U)Curve point 2i
0x2	0x22	1	R/W	QuCurveQ2i	uint16	0.1%	%	-1	-660	660	NUL L	Reactive power of Q(U)Curve point 2i
0x2	0x22	1	R/W	QuCurveTriPower	uint16	0.1%	%	-1	50	1000	NUL L	The trigger power of Q(U)Curve
0x2	0x22	1	R/W	QuCurveUndoPower	uint16	0.1%	%	-1	50	1000	NUL L	The end power of Q(U)Curve
0x2	0x22FE	N/A	N/A	NULL	NUL L	NUL L	NUL L	NUL L	NUL L	NUL L	NUL L	NULL
0x2	0x22FF	1	R/O	NULL	NUL L	NUL L	NUL L	NUL L	NUL L	NUL L	NUL L	The available Register number in this group (this register is not)

4). (0X2300-0X23FF) Group 3 ARC Parameters

Star	End	Size	R/W	Name	Type	CP S Unit	Uint	Scale	Min valu	Max valu	Content	Description
0x2	0x23	1	R/W	Bandwidth1	uint 16	1K	K	0	0	100	NUL L	ArcFactoryB1
0x2	0x23	1	R/W	StartFrq1	uint 16	1K	K	0	0	100	NUL L	ArcFactoryI1
0x2	0x23	1	R/W	Proportion1	uint 16	1	1	0	0	1000	NUL L	ArcFactoryF1
0x2	0x23	1	R/W	Filter1	uint 16	1%	%	0	0	100	NUL L	ArcFactoryD1
0x2	0x23	1	R/W	Threshold1	uint 16	1dB	dB	0	0	2000	NUL L	ArcFactoryT1
0x2	0x23	1	R/W	SigPerApdLmt 1	uint 16	1dB	dB	0	0	100	NUL L	ArcFactoryC1
0x2	0x23	1	R/W	Bandwidth2	uint 16	1K	K	0	0	100	NUL L	ArcFactoryB2
0x2	0x23	1	R/W	StartFrq2	uint 16	1K	K	0	0	100	NUL L	ArcFactoryI2
0x2	0x23	1	R/W	Proportion2	uint 16	1	1	0	0	1000	NUL L	ArcFactoryF2
0x2	0x23	1	R/W	Filter2	uint 16	1%	%	0	0	100	NUL L	ArcFactoryD2
0x2	0x23	1	R/W	Threshold2	uint 16	1dB	dB	0	0	2000	NUL L	ArcFactoryT2
0x2	0x23	1	R/W	SigPerApdLmt 2	uint 16	1dB	dB	0	0	100	NUL L	ArcFactoryC2
0x2	0x23	1	R/W	Bandwidth1base	uint 16	1K	K	0	0	100	NUL L	Bandwidth1base
0x2	0x23	1	R/W	Bandwidth2base	uint 16	1K	K	0	0	100	NUL L	Bandwidth2base
0x2	0x23	1	R/W	Bandwidth1differ	uint 16	1K	K	0	0	100	NUL L	Bandwidth1differ
0x2	0x23	1	R/W	Bandwidth2differ	uint 16	1K	K	0	0	100	NUL L	Bandwidth2differ
0x2	0x23	1	N/A	NULL	NUL L	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	NA
0x2	0x23	1	N/A	NULL	NUL L	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	NA
0x2	0x23	1	N/A	NULL	NUL L	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	NA
0x2	0x23	1	N/A	NULL	NUL L	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	NA
0x2	0x23	1	R/W	ArcErrRecoveryT	uint 16	1S	S	0	5	600	NUL L	A R C error recoverv time
0x2	0x23FE	N/A	N/A	NULL	NUL L	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	NA
0x2	0x23FF	1	R/O	NULL	NUL L	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	The available Register number in this group (this register is not

5). (0X2400-0X24FF) Group 4 LVRT/HVRT

Star	End	Size	R/W	Name	Type	CPUS	Unit	Scale	Min value	Max value	Content	Description
0x2	0x24	1	R/W	LVRTVolt1	uint16	0.01%	%	-2	0	10000	NUL	LVRTVoltPara1
0x2	0x24	1	R/W	LVRTTime1	uint16	0.01s	S	-2	0	65500	NUL	LVRTTimePara1
0x2	0x24	1	R/W	LVRTVolt2	uint16	0.01%	%	-2	0	10000	NUL	LVRTVoltPara2
0x2	0x24	1	R/W	LVRTTime2	uint16	0.01s	S	-2	0	65500	NUL	LVRTTimePara2
0x2	0x24	1	R/W	LVRTVolt3	uint16	0.01%	%	-2	0	10000	NUL	LVRTVoltPara3
0x2	0x24	1	R/W	LVRTTime3	uint16	0.01s	S	-2	0	65500	NUL	LVRTTimePara3
0x2	0x24	1	R/W	LVRTVolt4	uint16	0.01%	%	-2	0	10000	NUL	LVRTVoltPara4
0x2	0x24	1	R/W	LVRTTime4	uint16	0.01s	S	-2	0	65500	NUL	LVRTTimePara4
0x2	0x24	1	R/W	LVRTVolt5	uint16	0.01%	%	-2	0	10000	NUL	LVRTVoltPara5
0x2	0x24	1	R/W	LVRTTime5	uint16	0.01s	S	-2	0	65500	NUL	LVRTTimePara5
0x2	0x24	1	R/W	LVRTVolt6	uint16	0.01%	%	-2	0	10000	NUL	LVRTVoltPara6
0x2	0x24	1	R/W	LVRTTime6	uint16	0.01s	S	-2	0	65500	NUL	LVRTTimePara6
0x2	0x24	1	R/W	LVRTVolt7	uint16	0.01%	%	-2	0	10000	NUL	LVRTVoltPara7
0x2	0x24	1	R/W	LVRTTime7	uint16	0.01s	S	-2	0	65500	NUL	LVRTTimePara7
0x2	0x24	1	R/W	LVRTVolt8	uint16	0.01%	%	-2	0	10000	NUL	LVRTVoltPara8
0x2	0x24	1	R/W	LVRTTime8	uint16	0.01s	S	-2	0	65500	NUL	LVRTTimePara8
0x2	0x24	1	R/W	HVRTVolt1	uint16	0.01%	%	-2	10000	13500	NUL	HVRTVoltPara1
0x2	0x24	1	R/W	HVRTTime1	uint16	0.01s	S	-2	0	65500	NUL	HVRTTimePara1
0x2	0x24	1	R/W	HVRTVolt2	uint16	0.01%	%	-2	10000	13500	NUL	HVRTVoltPara2
0x2	0x24	1	R/W	HVRTTime2	uint16	0.01s	S	-2	0	65500	NUL	HVRTTimePara2
0x2	0x24	1	R/W	HVRTVolt3	uint16	0.01%	%	-2	10000	13500	NUL	HVRTVoltPara3
0x2	0x24	1	R/W	HVRTTime3	uint16	0.01s	S	-2	0	65500	NUL	HVRTTimePara3
0x2	0x24	1	R/W	HVRTVolt4	uint16	0.01%	%	-2	10000	13500	NUL	HVRTVoltPara4
0x2	0x24	1	R/W	HVRTTime4	uint16	0.01s	S	-2	0	65500	NUL	HVRTTimePara4
0x2	0x24	1	R/W	HVRTVolt5	uint16	0.01%	%	-2	10000	13500	NUL	HVRTVoltPara5
0x2	0x24	1	R/W	HVRTTime5	uint16	0.01s	S	-2	0	65500	NUL	HVRTTimePara5
0x2	0x24	1	R/W	HVRTVolt6	uint16	0.01%	%	-2	10000	13500	NUL	HVRTVoltPara6
0x2	0x24	1	R/W	HVRTTime6	uint16	0.01s	S	-2	0	65500	NUL	HVRTTimePara6
0x2	0x24	1	R/W	HVRTVolt7	uint16	0.01%	%	-2	10000	13500	NUL	HVRTVoltPara7

0x2	0x24	1	R W	HVRTTime7	uint 16	0.01 s	S	-2	0	6550 0	NUL L	HVRTTimePara7
0x2	0x24	1	R W	HVRTVolt8	uint 16	0.01 %	%	-2	1000 0	1350 0	NUL L	HVRTVoltPara8
0x2	0x24	1	R W	HVRTTime8	uint 16	0.01 s	S	-2	0	6550 0	NUL L	HVRTTimePara8
0x2	0x24	1	N A	NA	NUL L	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	NA
0x2	0x24	1	N A	NA	NUL L	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	NA
0x2	0x24 FE	N A	N A	NA	NA	NA	NA	NA	NA	NA	NA	NA
0x2 4FF	0x24 FF	1	R O	NULL	NUL L	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	The available Register number in this group (this register is not

6). (0X2500-0X25FF) Group 5 Others Parameters

Star	End	Size	R/W	Name	Type	CP S Unit	Unit	Scale	Min value	Max value	Content	Description
0x2	0x25	1	R/W	PowerOnDelay	uint16	1s	s	0	1	1200	NUL	Startup delay time
0x2	0x25	1	R/W	PVStartupVolt	uint16	1V	V	0	300	400	NUL	PV start-up voltage
0x2502	0x2502	1	R/W	PVSlowStartPwDelta	uint16	0.01%	%	-2	1	1000	NUL	The output power should be slow increased due to the change of PV
0x2	0x25	1	R/W	ErrSoftStartP	uint16	0.01%	%	-2	1	10000	NUL	Power startup step after Grid Fault
0x2	0x25	1	R/W	NormSoftStop	uint16	0.01%	%	-2	1	10000	NUL	Normal power step in soft stop
0x2	0x25	1	R/W	NormSoftStart	uint16	0.01%	%	-2	1	10000	NUL	Normal power step in soft startup
0x2	0x25	1	R/W	NormDeratingStep	uint16	0.01%	%	-2	1	10000	NUL	Normal power derating step
0x2	0x25	1	R/W	StartUpMinTemp	uint16	0.1℃	℃	-1	-350	-200	NUL	The minimum startup temperature
0x2	0x25	1	R/W	FaultPowerT	uint16	0.1℃	℃	-1	0	9500	NUL	The trigger temperature of
0x2	0x25	1	R/W	FaultEnvT	uint16	0.1℃	℃	-1	0	830	NUL	The trigger temperature of
0x2	0x25	1	R/W	HVRTTripVolt	uint16	0.1	%	-1	1000	1350	NUL	The trigger voltage of HVRT
0x2	0x25	1	R/W	LVRTTripVolt	uint16	0.1	%	-1	700	1000	NUL	The trigger voltage of LVRT
0x2	0x25	1	R/W	LV RTPstReactiveI	uint16	0.1%	%	-1	0	3000	NUL	The coefficient of positive sequence
0x2	0x25	1	R/W	LVRTNegReactiveI	uint16	0.1%	%	-1	0	3000	NUL	The coefficient of negative sequence
0x2	0x25	1	R/W	Percentage	uint16	0.1%	%	-1	0	1100	NUL	Local electric dispatch Active
0x2	0x25	1	R/W	Percentage	uint16	0.1%	%	-1	-660	660	NUL	Local electric dispatch Reactive
0x2	0x25	1	R/W	ISOProtection	uint16	1KΩ	KΩ	0	1	2000	NUL	Minimum insulation resistance
0x2	0x25	1	R/W	GFCIStaticValue	uint16	1m	mA	0	100	1000	NUL	The threshold value of Leakage current
0x2	0x25	1	R/W	GFCIStaticT	uint16	0.01	s	-2	0	65500	NUL	The upper limit of Leakage current
0x2	0x25	1	R/W	GFCIDynProFactor	uint16	0.1	%	-1	0	2000	NUL	The upper limit of Leakage current
0x2	0x25	1	R/W	DCIProtection1	uint16	0.01	%	-2	10	500	NUL	maximum DCI value1
0x2	0x25	1	R/W	DCIProtectionT1	uint16	0.01	s	-2	0	12000	NUL	Trip time 1 of DCI value
0x2	0x25	1	R/W	DCIProtection2	uint16	1mA	A	-3	5	5000	NUL	maximum DCI value2
0x2	0x25	1	R/W	DCIProtectionT2	uint16	0.01s	s	-2	0	12000	NUL	Trip time 2 of DCI value
0x2	0x25	1	R/W	DuplicationControl	uint16	1%	%	0	0	100	NUL	Parameter of repetitive control
0x2	0x25	1	R/W	MPPTScanPeriod	uint16	10s	s	1	30	540	NUL	MPPTScan Cycle

0x2	0x051A	1	R W	CheckSumGroup 1_6	uint 16	0	0	0	0	0	NUL L	CeckSum from group 1 to group 6 is EEPROM
0x2	0x251B	1	R W	PhaseLoseCoeff ZigZagProtection	uint	0.1	%	0	5	300	NUL	PhaseLoseCoeff
0x2	0x25	1	R	PhaseLoseRcvC oeff ZigzagProtecti on	uint	0.1	%	0	5	300	NUL	PhaseLoseRcvCoef
0x2	0x2551D	1	R W	PhaseLoseVUnb alance ZigzagVoltBalanc e	uint 16	0.01 %	%	-2	1	1000 0	NUL L	PhaseLose Voltage Unbalance
0x2	0x2551E	1	R W	ReactiveStep ReactivePower Step	uint 16	0.01 %	%	-2	1	6000 0	NUL L	Reactive Step
0x2	0x25	1	R	PVSlowStartSt ep	uint 16	0.01	%	-2	1	1000 0	NUL L	PVSlowStartStep
0x2	0x25500	1	R W	OptiVoltMinM ppt1 MinVol	uint 16	0.1	V	-1	2000	1500 0	NUL L	OptiVoltMinMppt1
0x2	0x25504	1	R W	OptiVoltMaxM ppt1 MaxVol	uint 16	0.1	V	-1	2000	1500 0	NUL L	OptiVoltMaxMppt1
0x2	0x25508	1	R W	OptiVoltMinM ppt2 MinVol	uint 16	0.1	V	-1	2000	1500 0	NUL L	OptiVoltMinMppt2
0x2	0x2550C	1	R W	OptiVoltMaxM ppt2 MaxVol	uint 16	0.1	V	-1	2000	1500 0	NUL L	OptiVoltMaxMppt2
0x2	0x25510	1	R W	OptiVoltMinM ppt3 MinVol	uint 16	0.1	V	-1	2000	1500 0	NUL L	OptiVoltMinMppt3
0x2	0x25514	1	R W	OptiVoltMaxM ppt3 MaxVol	uint 16	0.1	V	-1	2000	1500 0	NUL L	OptiVoltMaxMppt3
0x2	0x2553A	1	R W	AntiRefluxComT hreshold	uint 16	0.01 s	s	-2	50	6000	0.5s	Ghana project in Africa
0x2	0x25526	N U L L	N U L L	Reserved	uint 16	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	Reserved
0x2	0x255FF	1	R O	NULL	uint 16	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	The available Register number in this group (this register is not

7). (0X2600-0X26FF) Group 6 Enable/disable control Parameters

Star	End	Size	R/W	Name	Type	CP S	Unit	Scale	Min value	Max value	Content	Description
0x2	0x26	1	R/W	CtrParaGroup	uint 16	0	NULL	0	0	4	NULL	The enabled control parameters group.
0x2601	0x2601	1	R/W	CtrMode	uint 16	0	NULL	0	0	5	NULL	The control mode of reactive power 0: Disable dispatch mode. 1: Remote dispatch mode. 2: Local control ,by Q
0x2602	0x2602	1	R/W	CtrMode	uint 16	0	NULL	0	0	2	NULL	The control mode of active power 0: Disable dispatch mode.
0x2603	0x2603	1	R/W	MPPTScanEn	uint 16	0	NULL	1	0	1	NULL	MPPT scan enable/disable control 0: Disable 1: Enable
0x2604	0x2604	1	R/W	ARCEnable	uint 16	0	NULL	1	0	1	NULL	Arc detection enable/disable control 0: Disable 1: Enable
0x2605	0x2605	1	N/A	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NA
0x2606	0x2606	1	N/A	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NA
0x2607	0x2607	1	R/W	Island Protect	uint 16	0	0	1	0	1	NULL	Island enable/disable control 0: Disable 1: Enable
0x2608	0x2608	1	R/W	LVRTModeSetting	uint 16	0	0	1	0	2	NULL	0: Disable 1: Enable, no reactive power output 2: Enable, reactive
0x2609	0x2609	1	R/W	HVRTModeSetting	uint 16	0	0	1	0	2	NULL	0: Disable 1: Enable, no reactive power output 2: Enable, reactive
0x260A	0x260A	1	R/W	NormSoftStopPEN	uint 16	0	0	1	0	1	NULL	soft stop enable/disable control
0x260B	0x260B	1	R/W	PID Check Settings	uint 16	0	0	1	0	1	NULL	PID Checking enable/disable control
0x260C	0x260C	1	R/W	GridVoltMax1En	uint 16	0	0	1	0	1	NULL	Over grid voltage triggering enable/disable control 0: Disable 1: Enable
0x260D	0x260D	1	R/W	GridVoltMax2En	uint 16	0	0	1	0	1	NULL	Over grid voltage triggering enable/disable control 0: Disable 1: Enable

0x2 60E	0x26 0E	1	R W	GridVoltMax3En	uint 16	0	0	1	0	1	NUL L	Over grid voltage triggering enable/ disable control 0: Disable 1: Enable
0x2 60F	0x26 0F	1	R W	GridVoltMin1En	uint 16	0	0	1	0	1	NUL L	Under grid voltage triggering enable/ disable control 0: Disable 1: Enable
0x2 610	0x26 10	1	R W	GridVoltMin2En	uint 16	0	0	1	0	1	NUL L	Under grid voltage triggering enable/ disable control 0: Disable 1: Enable
0x2 611	0x26 11	1	R W	GridVoltMin3En	uint 16	0	0	1	0	1	NUL L	Under grid voltage triggering enable/ disable control 0: Disable 1: Enable
0x2 612	0x26 12	1	R W	GridFrqMax1En	uint 16	0	0	1	0	1	NUL L	Over grid frequency triggering enable/ disable control 0: Disable 1: Enable
0x2 613	0x26 13	1	R W	GridFrqMax2En	uint 16	0	0	1	0	1	NUL L	Over grid frequency triggering enable/ disable control 0: Disable 1: Enable
0x2 614	0x26 14	1	R W	GridFrqMax3En	uint 16	0	0	1	0	1	NUL L	Over grid frequency triggering enable/ disable control 0: Disable 1: Enable
0x2 615	0x26 15	1	R W	GridFrqMin1En	uint 16	0	0	1	0	1	NUL L	Under grid frequency triggering enable/disable control 0: Disable 1: Enable
0x2 616	0x26 16	1	R W	GridFrqMin2En	uint 16	0	0	1	0	1	NUL L	Under grid frequency triggering enable/disable control 0: Disable 1: Enable
0x2 617	0x26 17	1	R W	GridFrqMin3En	uint 16	0	0	1	0	1	NUL L	Under grid frequency triggering enable/disable control 0: Disable 1: Enable
0x2 618	0x26 18	1	R W	VoltMaxMovAvg En	uint 16	0	0	1	0	1	NUL L	Enable/disable control of limiting the upper of moving average filter 0: Disable 1: Enable
0x2 619	0x26 19	1	R W	VoltMinMovAvgE n	uint 16	0	0	1	0	1	NUL L	Enable/disable control of limiting the lower of moving average filter 0: Disable 1: Enable
0x2 61A	0x26 1A	1	R W	GFCIStaticEn	uint 16	0	0	1	0	1	NUL L	GFCI static detection enable/ disable control 0: Disable 1: Enable
0x2 61C	0x26 1C	1	R W	GFCIDynProEn	uint 16	0	0	1	0	1	NUL L	GFCI dynamic detection enable/ disable control 0: Disable 1: Enable
0x2 61D	0x26 1D	1	R W	OvrFrqDeratingM ode	uint 16	0	0	1	0	1	NUL L	Over frequency derating enable/ disable control 0: Disable 1: Enable
0x2 61D	0x26 1D	1	R W	DCIProtection1E n	uint 16	0	0	1	0	1	NUL L	DCI protection1 enable/disable control 0: Disable 1: Enable

0x261E	0x261E	1	RW	DCIProtection2En	uint16	0	0	1	0	1	NUL	DCI protection2 enable/disable control 0: Disable 1: Enable
0x261F	0x261F	1	RW	GridVoltUnbalanceEn	uint16	0	0	1	0	1	NUL	Unbalance rate of grid voltage detection enable/disable control 0: Disable 1: Enable
0x2620	0x2620	1	RW	UFDerEn	uint16	0	0	1	0	1	NUL	Under frequency derating enable/disable control 0: Disable 1: Enable
0x2621	0x2621	1	RW	OvrVoltDerEn	uint16	0	0	1	0	1	NUL	Grid voltage derating enable/disable control 0: Disable 1: Enable
0x2622	0x2622	1	RW	PVSlowStartSEN (HECO)	uint16	0	0	1	0	1	NUL	soft startup function after power saltation 0: Disable 1: Enable
0x2623	0x2623	1	RW	ISOProtectionEn	uint16	0	0	1	0	1	NUL	ISO detection enable/disable control 0: Disable 1: Enable
0x2624	0x2624	1	RW	FAN Detect	uint16	0	0	1	0	1	NUL	Fan detection enable/disable control 0: Disable 1: Enable
0x2625	0x2625	1	RW	ACSPDDetectEnSet	uint16	0	0	1	0	1	NUL	AC SPD detection enable/disable control 0: Disable 1: Enable
0x2626	0x2626	1	RW	OperationOverVoltageEn	uint16	0	0	1	0	1	NUL	Operating overvoltage enable/disable control 0: Disable 1: Enable
0x2627	0x2627	1	RW	ActivePowerOver	uint16	0	0	0	0	1	NUL	Active overpower enable setting
0x2628	0x2628	1	RW	ReactivePowerOver	uint16	0	0	0	0	1	NUL	Reactive over-power enable setting
0x2629	0x2629	1	RW	PhaseLoseCoeff Enable ZigzagEN	uint16	0	0	0	0	3	NUL	PhaseLose protection enable 0: Disable 1: Enable before the grid connection 2: Always enabled 3: Enhanced
0x262A	0x262A	1	RW	Phase-PEEnable	uint16	0	0	0	0	1	NUL	Phase-PE enable/disable control 0: Disable
0x262C	0x262C	1	RW	RapidShutdownEnableBit	uint16	0	0	0	0	1	NUL	RapidShutdownEnableBit 0: Disable

0x262D	0x262D	1	RW	AntiRefluxEnable	uint 16	0	0	0	0	1	NUL L	DSP anti counterflow enable (Ghana project in Africa)
0x26EF	0x26EF	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0x26F0	0x26F0	1	RO	AvaRegNumGP6	uint 16	0	0	0	NUL L	NUL L	NUL L	The available Register number in this group (this register is not
0x26F1	0x26F1	1	RO	GP6RegAttriBitmask	NUL L	NUL L	NUL L	NULL	NUL L	NUL L	NUL L	Bit0: The access type of register "0x0000"
					NUL L	NUL L	NUL L	NULL	NUL L	NUL L	NUL L	Bit1: The access type of register "0x0001"
					NUL L	NUL L	NUL L	NULL	NUL L	NUL L	NUL L	Bit2: The access type of register "0x0002"
					NUL L	NUL L	NUL L	NULL	NUL L	NUL L	NUL L	Bit3~Bit15: The access type of
.....			RO	ditto	NUL L	NUL L	NUL L	NULL	NUL L	NUL L	NUL L	NULL
0x26FF	0x26FF	1	RO	ditto	NUL L	NUL L	NUL L	NULL	NUL L	NUL L	NUL L	NULL

8). (0X2700-0X27FF) Group 7 Control Command

Star	End	Size	R/W	Name	Type	CP S Unit	Uint	Scale	Min valu	Max valu	Content	Description
0x2700	0x2700	1	R/W	PowerOnOff	uint16	NUL	NUL	0	NUL	NUL	NUL	Power on or power off device command, 0x5555 power on, 0x7777 power off
0x2701	0x2701	1	R/W	ForceRestart	uint16	NUL	NUL	0	NUL	NUL	NUL	Device force restart command, valid value is 0x5555
0x2702	0x2702	1	R/W	FactoryDefaults	uint16	NUL	NUL	0	NUL	NUL	NUL	Device factory reset command, valid value is 0x5555
0x2703	0x2703	1	R/W	AutoTest(CEI)	uint16	NUL	NUL	0	NUL	NUL	NUL	Device auto test command, valid value is 0x5555
0x2704	0x2704	1	R/W	MPPTScan	uint16	NUL	NUL	0	NUL	NUL	NUL	MPPT scan command, valid value is 0x5555
0x2705	0x2705	1	R/W	ARCDetect	uint16	NUL	NUL	0	NUL	NUL	NUL	Arc Detection command, valid value is 0x5555
0x2706	0x2706	1	R/W	ARCClear	uint16	NUL	NUL	0	NUL	NUL	NUL	Clear Arc alarm, valid value is 0x5555
0x2707	0x2707	1	R/W	PFSetValue Remote	uint16	0.001	NUL	-3	-1000~0	800~1000	NUL	Remote electric dispatch Power Factor setting value
0x2708	0x2708	1	R/W	PSetPercent Remote	uint16	0.1%	NUL	0	0	1100	NUL	Remote electric dispatch Active Power setting value
0x2709	0x2709	1	R/W	QSetPercent Remote	uint16	0.1%	NUL	0	-660	660	NUL	Remote electric dispatch Reactive Power setting value
0x270A	0x270A	1	R/W	FreqLv2PrtEn(CEI)	uint16	1	NUL	1	0	1	NUL	The 2nd frequency protection enable/disable control (CEI standard)
0x270E	0x270E	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0x277F	0x277F	1	RO	NULL	NUL	NUL	NUL	NUL	NUL	NUL	NUL	The available Register number in this group (this register is not used)

9). (0X2800-0X28FF) Group 8 Calibration

Start	End	Size	R/W	Name	Type	CP S	Unit	Scale	Min	Max value	Contents	Description
0x28	0x2	1	RW	BUS N correction coefficient	Uint16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	BUS N offset	Uint16	NA	NULL	NULL	0	2000	NULL	NULL
0x28	0x2	1	RW	BUS P correction coefficient	Uint16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	BUS P offset	Uint16	NA	NULL	NULL	0	2000	NULL	NULL
0x28	0x2	1	RW	GFCI correction coefficient	Uint16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	GFCI offset	Uint16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	R phase inverter current	Uint16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	R phase inverter current offset	Uint16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	S phase inverter current	Uint16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	S phase inverter current offset	Uint16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	T phase inverter current	Uint16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	T phase inverter current offset	Uint16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	R phase voltage correction	Uint16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	R phase voltage offset	Uint16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	S phase voltage correction	Uint16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	S phase voltage offset	Uint16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	T phase voltage correction	Uint16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	T phase voltage offset	Uint16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	R phase inverter voltage	Uint16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	R phase inverter voltage offset	Uint16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	S phase inverter voltage	Uint16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	S phase inverter voltage offset	Uint16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	T phase inverter voltage	Uint16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	T phase inverter voltage offset	Uint16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	R phase DCI current correction	Uint16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	R phase DCI current offset	Uint16	0.0	%	-2	80	12000	NULL	NULL

0x28	0x2	1	RW	S phase DCI current correction	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	S phase DCI current offset	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	T phase DCI current correction	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	T phase DCI current offset	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	Ambient temperature correction	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	Ambient temperature offset	Uint 16	NA	NULL	NULL	0	2000	NULL	NULL
0x28	0x2	1	RW	Module temperature correction	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	Module temperature offset	Uint 16	NA	NULL	NULL	0	2000	NULL	NULL
0x28	0x2	1	RW	ISO voltage correction factor	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	ISO voltage offset	Uint 16	NA	NULL	NULL	80	12000	NULL	NULL
0x28	0x2	1	RW	PV0 voltage correction factor	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	PV0 voltage offset	Uint 16	NA	NULL	NULL	0	2000	NULL	NULL
0x28	0x2	1	RW	PV1 voltage correction factor	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	PV1 voltage offset	Uint 16	NA	NULL	NULL	0	2000	NULL	NULL
0x28	0x2	1	RW	PV2 voltage correction factor	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	PV2 voltage offset	Uint 16	NA	NULL	NULL	0	2000	NULL	NULL
0x28	0x2	1	RW	PV0 current correction factor 1	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	PV0 current offset 1	Uint 16	NA	NULL	NULL	50	9000	NULL	NULL
0x28	0x2	1	RW	PV0 current correction factor 2	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	PV0 current offset 2	Uint 16	NA	NULL	NULL	50	9000	NULL	NULL
0x28	0x2	1	RW	PV1 current correction factor 3	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	PV1 current offset 3	Uint 16	NA	NULL	NULL	50	9000	NULL	NULL
0x28	0x2	1	RW	PV1 current correction factor 4	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	PV1 current offset 4	Uint 16	NA	NULL	NULL	50	9000	NULL	NULL
0x28	0x2	1	RW	PV2 current correction factor 5	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	PV2 current offset 5	Uint 16	NA	NULL	NULL	50	9000	NULL	NULL
0x28	0x2	1	RW	PV2 current correction factor 6	Uint 16	0.0	%	-2	80	12000	NULL	NULL

0x28	0x2	1	RW	PV2 current offset 6	Uint 16	NA	NULL	NULL	50	9000	NULL	NULL
0x28	0x2	1	RW	VN-PE voltage coefficient	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	VN-PE voltage offset	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x2838	0x2838	1	RW	The equivalent capacitance C value in LC filter	Uint 16	0.1%	%	-1	600	12000	NULL	NULL
0x2839	0x2839	1	RW	Minimum 2 multiplication active	Uint 16	0.01	NULL	-2	-100	+10000	NULL	NULL
0x283A	0x283A	1	RW	Minimum 2 multiplication active calibration	Uint 16	0.1	NULL	-1	-10000	+10000	NULL	NULL
0x283B	0x283B	1	RW	Open up the reservation calibration	Uint 16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x283C	0x283C	1	RW	Open up the reservation calibration parameters Open up the reservation	Uint 16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x283D	0x283D	1	RW	Open up the reservation calibration	Uint 16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x283E	0x283E	1	RW	Open up the reservation calibration	Uint 16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x283F	0x283F	1	RW	Open up the reservation calibration	Uint 16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x2840	0x2840	1	RW	Open up the reservation calibration	Uint 16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x28	0x2	1	R	Calibration area	Uint 16	NULL	NULL	NULL	NULL	NULL	NULL	NULL

10). (0X2900-0X29FF) Group 9 Inverter Basic Information

Star	End	Size	R/W	Name	Type	CP S	Unit	Scale	Min valu	Max valu	Content	Description
0x2900	0x2900	1	R/O	MachineVersion	BCD	NUL	NUL	NU	NUL	NUL	NUL	Machine Version
0x2901	0x2901	1	R/O	DSPFW Version	BCD	NUL	NUL	NU	NUL	NUL	NUL	DSP Firmware Version
0x2902	0x2902	1	R/O	DSPFW ChkSum	Hex	NUL	NUL	NU	NUL	NUL	NUL	DSP Firmware Code CheckSum
0x2903	0x2903	1	R/O	BootFWVersion	BCD	NUL	NUL	NU	NUL	NUL	NUL	Boot Loader Firmware Version
0x2904	0x2904	1	R/O	BootFWCodeChkSum	Hex	NUL	NUL	NU	NUL	NUL	NUL	Boot Loader Firmware Code CheckSum
0x2905	0x2905	1	R/O	CPLDVersion	BCD	NUL	NUL	NU	NUL	NUL	NUL	CPLD Version
0x2906	0x2906	1	R/W	SN20~17	BCD	NUL	NUL	NU	NUL	NUL	NUL	Serial number , as BCD code
0x2907	0x2907	1	R/W	SN16~13	BCD	NUL	NUL	NU	NUL	NUL	NUL	
0x2908	0x2908	1	R/W	SN12~9	BCD	NUL	NUL	NU	NUL	NUL	NUL	
0x2909	0x2909	1	R/W	SN8~5	BCD	NUL	NUL	NU	NUL	NUL	NUL	
0x290A	0x290A	1	R/W	SN4~1	BCD	NUL	NUL	NU	NUL	NUL	NUL	
0x290B	0x290B	1	R/O	ProductCode	Hex	1	NUL	0	NUL	NUL	NUL	Product Code ,
0x290C	0x290C	1	R/W	GridConnectionRule	Hex	NUL	NUL	NU	NUL	NUL	NUL	Standard setting , see Standard Description
0x290D	0x290D	1	R/W	NeutralLineSetting	Hex	NUL	NUL	NU	NUL	NUL	NUL	Neutral Line 0 x 5 A 5 A : connected to N line
0x290E	0x290E	1	R/W	PVInputMode	Hex	NUL	NUL	NU	NUL	NUL	NUL	PV Link Status 0 x 5 A 5 A : independent connection
0x290F	0x290F	1	R/O	DSP Safety Firmware Code CheckSum	Hex	NUL	NUL	NU	0	0xFF	NUL	NULL
0x2910	0x2910	1	R/O	minimCU Firmware	BCD	NUL	NUL	NU	NUL	NUL	NUL	NULL
0x2911	0x2911	1	R/O	This field CheckSum	Hex	NUL	NUL	NU	NUL	NUL	NUL	NULL
0x2912	0x2912	1	R/O	DspSafetyVer	Hex	NUL	NUL	NU	NUL	NUL	NUL	DSP Security specification
0x29FE	0x29FE	1	NUL	NULL	NUL	NUL	NUL	NU	NUL	NUL	NUL	NULL

11). (0X2A00-0X2AFF) Group 10 Auto Test Instruction

12). (0X2B00-0X2B0B) Group 11 LcdLess Basic Parameters

Start	End	Size	R/W	Name	Type	CP S Unit	Unit	Scale	Min val	Max val	Content	Description
0x2	0x2	1	R	Reserve	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x2	0x2	1	R	Reserve	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x2 B02	0x2 B05	4	R W	TimeSet	uint16	NULL	NULL	NULL	NULL	NULL	NULL	timestamp(yyyy-mm-dd-hh-mm-ss-NULL) of model 0, eg. "2012071615181000"
0x2 B06	0x2 B06	1	R W	ModbusAddr	uint16	NULL	NULL	NULL	1	128	NULL	The Rs485 interface of LcdLess (for third party monitoring, for example:
0x2 B07	0x2 B07	1	R W	BaudRate	uint16	NULL	NULL	NULL	NULL	NULL	NULL	The Rs485 interface of LcdLess (for third party monitoring, for example: Ethernetcard). 0x0001=2400 0x0002=4800
0x2 B08	0x2 B08	1	R W	ComPaswd	uint16	NULL	NULL	NULL	NULL	NULL	NULL	Lcdless-Common password For example, the password for mobile App input is 1234, that is, the hexadecimal 0x1234
0x2 B09	0x2 B09	1	N U R	Reserve	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x2	0x2	1	R O	LcdlessBootFwChkCode	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x2	0x2	1	R O	LcdlessAppFwChkCode	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x2 B0C	0x2 B0C	1	R O	LcdBootVer	uint16	NULL	NULL	NULL	NULL	NULL	NULL	For example, when the register number is 0x1004
0x2 B0D	0x2 B0D	1	R O	LcdAppVer	uint16	NULL	NULL	NULL	NULL	NULL	NULL	For example, when the register number is 0x1004
0x2 B0E	0x2 B0E	N U R	N U R	Reserve	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x2 B24	0x2 B24	1	R O	FuncIvCve	uint16	NULL	NULL	NULL	NULL	NULL	NULL	0X0001= NoConfig 0X0002=HaveConfig
0x2 B25	0x2 B25	1	R O	FuncAutMdsAdr	uint16	NULL	NULL	NULL	NULL	NULL	NULL	0X0001= NoConfig 0X0002=HaveConfig
0x2 B26	0x2 B26	1	R O	FuncFaultWave	uint16	NULL	NULL	NULL	NULL	NULL	NULL	0X0001= NoConfig 0X0002=HaveConfig

3.Input Registers Data Mapping 2

Modbus function code = 0x04

1). Power grid state information data area.

Star	End	Size	R/W	Name	Type	CP S Units	Unit	Scale	Min valu	Max valu	Content	Description
0x8000	0x8000	1	R	Uab	uint16	0.1 V	V	-1	NUL L	NUL L	NUL L	NULL
0x8001	0x8001	1	R	Ubc	uint16	0.1 V	V	-1	NUL L	NUL L	NUL L	NULL
0x8002	0x8002	1	R	Uca	uint16	0.1 V	V	-1	NUL L	NUL L	NUL L	NULL
0x8003	0x8003	1	R	Ua	uint16	0.1 V	V	-1	NUL L	NUL L	NUL L	NULL
0x8004	0x8004	1	R	Ub	uint16	0.1 V	V	-1	NUL L	NUL L	NUL L	NULL
0x8005	0x8005	1	R	Uc	uint16	0.1 V	V	-1	NUL L	NUL L	NUL L	NULL
0x8006	0x8006	1	R	A phase grid frequency	uint16	0.1 Hz	HZ	-1	NUL L	NUL L	NUL L	NULL
0x8007	0x8007	1	R	B phase grid frequency	uint16	0.1 Hz	HZ	-1	NUL L	NUL L	NUL L	NULL
0x8008	0x8008	1	R	C phase grid frequency	uint16	0.1 Hz	HZ	-1	NUL L	NUL L	NUL L	NULL
0x8009	0x8009	1	R	Power grid phase sequence	uint16	0: NA, 1: Positive, 2: Negative	NUL L	NU LL	NUL L	NUL L	NUL L	NULL
0x800A	0x800A	1	R	Unbalance degree of power network voltage	uint16	0.1 %	%	-1	NUL L	NUL L	NUL L	NULL
0x800B	0x800B	1	R	Power system frequency	uint16	0.1 Hz	HZ	-1	NUL L	NUL L	NUL L	NULL
0x800C	0x800C	1	R	Voltage between N line and PE ground of power grid	uint16	1V	V	1	NUL L	NUL L	NUL L	NPEVolt
0x800D	0x800D	1	R	MCU detection of R phase current in power grid	uint16	1A	A	1	NUL L	NUL L	NUL L	NULL
0x800E	0x800E	1	R	MCU detection of S phase current in power grid	uint16	1A	A	1	NUL L	NUL L	NUL L	NULL
0x800F	0x800F	1	R	MCU detection of T phase current in power grid	uint16	1A	A	1	0	0xFF FF	NUL L	NULL
0x8010	0x8010	1	R	MCU detection of R phase voltage in power grid	uint16	1V	V	1	NUL L	NUL L	NUL L	NULL
0x8011	0x8011	1	R	MCU detection of S phase voltage in power grid	uint16	1V	V	1	NUL L	NUL L	NUL L	NULL
0x8012	0x8012	1	R	MCU detection of T phase voltage in power grid	uint16	1V	V	1	NUL L	NUL L	NUL L	NULL
0x8013	0x8013	1	R	Voltage harmonics(L1)	uint16	0.01 %	%	-2	NUL L	NUL L	NUL L	Voltage harmonics(L1)
0x8014	0x8014	1	R	Voltage harmonics(L2)	uint16	0.01 %	%	-2	NUL L	NUL L	NUL L	Voltage harmonics(L2)
0x8015	0x8015	1	R	Voltage harmonics(L3)	uint16	0.01 %	%	-2	NUL L	NUL L	NUL L	Voltage harmonics(L3)

0x8016	0x8016	1	R	Current harmonics(L1)	uint16	0.01%	%	-2	NUL	NUL	NUL	Current harmonics(L1)
0x8017	0x8017	1	R	Current harmonics(L2)	uint16	0.01%	%	-2	NUL	NUL	NUL	Current harmonics(L2)
0x8018	0x8018	1	R	Current harmonics(L3)	uint16	0.01%	%	-2	NUL	NUL	NUL	Current harmonics(L3)
0x8019 ~ 0x80FF	0x8019 ~ 0x80FF	1	R	Reserved area of power grid state information	uint16	NUL	NUL	NULL	NUL	NUL	NUL	NULL
0x80FF	0x80FF	1	R	The number of registers in this zone (temporarily reserved)	uint16	Hex	Hex	NULL	NUL	NUL	NUL	NULL

2). Inverter output status information data area.

Star	End	Size	R/W	Name	Type	CP S Unit	Uint	Scale	Min valu	Max valu	Conte	Description
0x8100	0x8100	1	R	A phase current	uint16	0.1 A	A	-1	NUL	NUL	NUL	NULL
0x8101	0x8101	1	R	B phase current	uint16	0.1 A	A	-1	NUL	NUL	NUL	NULL
0x8102	0x8102	1	R	C phase current	uint16	0.1 A	A	-1	NUL	NUL	NUL	NULL
0x8103	0x8103	1	R	Active power of A phase	uint16	0.1 KW	KW	-1	NUL	NUL	NUL	NULL
0x8104	0x8104	1	R	Active power of B phase	uint16	0.1 KW	KW	-1	NUL	NUL	NUL	NULL
0x8105	0x8105	1	R	Active power of C phase	uint16	0.1 KW	KW	-1	NUL	NUL	NUL	NULL
0x8106	0x8106	1	R	3 phase total active power	uint16	0.1 KW	KW	-1	NUL	NUL	NUL	NULL
0x8107	0x8107	1	R	Reactive power of A phase	int16	0.1 KVA	KVar	-1	NUL	NUL	NUL	NULL
0x8108	0x8108	1	R	Reactive power of B phase	int16	0.1 KVA	KVar	-1	NUL	NUL	NUL	NULL
0x8109	0x8109	1	R	Reactive power of C phase	int16	0.1 KVA	KVar	-1	NUL	NUL	NUL	NULL
0x810A	0x810A	1	R	3 phase total reactive power	int16	0.1 KVA	KVar	-1	NUL	NUL	NUL	NULL
0x810B	0x810B	1	R	A phase power factor	uint16	0.01	1	-2	NUL	NUL	NUL	NULL
0x810C	0x810C	1	R	B phase power factor	uint16	0.01	1	-2	NUL	NUL	NUL	NULL
0x810D	0x810D	1	R	C phase power factor	uint16	0.01	1	-2	NUL	NUL	NUL	NULL
0x810E	0x810E	1	R	Three phase power factor	int16	0.01	1	-2	NUL	NUL	NUL	NULL
0x810F	0x810F	1	R	Inverting A phase voltage	uint16	0.1 V	V	-1	NUL	NUL	NUL	NULL
0x8110	0x8110	1	R	Inverting B phase voltage	uint16	0.1 V	V	-1	NUL	NUL	NUL	NULL
0x8111	0x8111	1	R	Inverting C phase voltage	uint16	0.1 V	V	-1	NUL	NUL	NUL	NULL
0x8112	0x8112	1	R	P Ref	uint16	0.1 %	%	-1	NUL	NUL	NUL	P Ref
0x8113	0x8113	1	R	Q Ref	int16	0.1 %	%	-1	NUL	NUL	NUL	if the value that LCD get from DSP is 0xaaaa, LCD don't display this
0x8114	0x8114	1	R	PF Ref	NUL	0.001	1	-3	NUL	NUL	NUL	PF Ref
0x8115 ~ 0x8104	0x8115 ~ 0x8104	1	R	Reserved area of inverter output state information	NUL	NUL	NUL	NUL	NUL	NUL	NUL	NULL
0x81FF	0x81FF	1	R	The number of registers in this zone (temporarily not used)	NUL	Hex	Hex	NUL	NUL	NUL	NUL	NULL

3). Inverter (PV) input state information data area.

Star	End	Size	R/W	Name	Type	CP S Unit	Unit	Scale	Min valu	Max valu	Conte	Description
0x8200	0x8200	1	R	Pv Link Type	uint16	Parallel / independent	Parallel / independent	NULL	NULL	NULL	NULL	NULL
0x8201	0x8201	1	R	DC total input power	uint16	0.1 KW	KW	-1	NULL	NULL	NULL	NULL
0x8202	0x8202	1	R	PV voltage1	uint16	0.1 V	V	-1	NULL	NULL	NULL	NULL
0x8203	0x8203	1	R	PV current 1	int16	0.1A	A	-1	NULL	NULL	NULL	NULL
0x8204	0x8204	1	R	PV voltage 2	uint16	0.1 V	V	-1	NULL	NULL	NULL	NULL
0x8205	0x8205	1	R	PV current 2	int16	0.1A	A	-1	NULL	NULL	NULL	NULL
0x8206	0x8206	1	R	PV voltage 3	uint16	0.1 V	V	-1	NULL	NULL	NULL	NULL
0x8207	0x8207	1	R	PV current 3	int16	0.1A	A	-1	NULL	NULL	NULL	NULL
0x8208	0x8208	1	R	Boost1 Current	uint16	0.1A	A	-1	NULL	NULL	NULL	NULL
0x8209	0x8209	1	R	Boost2 Current	uint16	0.1A	A	-1	NULL	NULL	NULL	NULL
0x820A	0x820A	1	R	Boost3 Current	uint16	0.1A	A	-1	NULL	NULL	NULL	NULL
0x820B	0x820B	1	R	Boost4 Current	uint16	0.1A	A	-1	NULL	NULL	NULL	NULL
0x820C	0x820C	1	R	Boost5 Current	uint16	0.1A	A	-1	NULL	NULL	NULL	NULL
0x820D	0x820D	1	R	Boost6 Current	uint16	0.1A	A	-1	NULL	NULL	NULL	NULL
0x820E	0x820E	1	R	PV1 MPPT Current	uint16	0.1A	A	-1	NULL	NULL	NULL	NULL
0x820F	0x820F	1	R	PV2 MPPT2 Current	uint16	0.1A	A	-1	0	0xFF	NULL	NULL
0x8210	0x8210	1	R	PV3 MPPT Current	uint16	0.1A	A	-1	NULL	NULL	NULL	NULL
0x8211	0x8211	1	R	First line PV voltage curve 1-25 data	uint16	1V	V	1	NULL	NULL	NULL	25 16-bit data
0x8212	0x8212	1	R	First line PV voltage curve 26-50 data	uint16	1V	V	1	NULL	NULL	NULL	25 16-bit data
0x8213	0x8213	1	R	First line PV voltage curve 51-75 data	uint16	1V	V	1	NULL	NULL	NULL	25 16-bit data
0x8214	0x8214	1	R	First line PV voltage curve 76-100 data	uint16	1V	V	1	NULL	NULL	NULL	25 16-bit data
0x8215	0x8215	1	R	First line PV current curve 1-25 data	uint16	0.1 A	A	-1	NULL	NULL	NULL	25 16-bit data
0x8216	0x8216	1	R	First line PV current curve 26-50 data	uint16	0.1 A	A	-1	NULL	NULL	NULL	25 16-bit data
0x8217	0x8217	1	R	First line PV current curve 51-75 data	uint16	0.1 A	A	-1	NULL	NULL	NULL	25 16-bit data
0x8218	0x8218	1	R	First line PV current curve 76-100 data	uint16	0.1 A	A	-1	NULL	NULL	NULL	25 16-bit data
0x8219	0x8219	1	R	Second line PV voltage curve 1-25 data	uint16	1V	V	1	NULL	NULL	NULL	25 16-bit data
0x821A	0x821A	1	R	Second line PV voltage curve 26-50 data	uint16	1V	V	1	NULL	NULL	NULL	25 16-bit data
0x821B	0x821B	1	R	Second line PV voltage curve 51-75 data	uint16	1V	V	1	NULL	NULL	NULL	25 16-bit data
0x821C	0x821C	1	R	Second line PV voltage curve 76-100 data	uint16	1V	V	1	NULL	NULL	NULL	25 16-bit data
0x821D	0x821D	1	R	Second line PV current curve 1-25 data	uint16	0.1 A	A	-1	NULL	NULL	NULL	25 16-bit data

0x821E	0x821E	1	R	Second line PV current curve 26-50 data	uint 16	0.1 A	A	-1	NUL L	NUL L	NUL L	25 16-bit data
0x821F	0x821F	1	R	Second line PV current curve 51-75 data	uint 16	0.1 A	A	-1	NUL L	NUL L	NUL L	25 16-bit data
0x8220	0x8220	1	R	Second line PV current curve 76-100 data	uint 16	0.1 A	A	-1	NUL L	NUL L	NUL L	25 16-bit data
0x8221	0x8221	1	R	Third line PV voltage curve 1-25 data	uint 16	1V	V	1	NUL L	NUL L	NUL L	25 16-bit data
0x8222	0x8222	1	R	Third line PV voltage curve 26-50 data	uint 16	1V	V	1	NUL L	NUL L	NUL L	25 16-bit data
0x8223	0x8223	1	R	Third line PV voltage curve 51-75 data	uint 16	1V	V	1	NUL L	NUL L	NUL L	25 16-bit data
0x8224	0x8224	1	R	Third line PV voltage curve 76-100 data	uint 16	1V	V	1	NUL L	NUL L	NUL L	25 16-bit data
0x8225	0x8225	1	R	Third line PV current curve 1-25 data	uint 16	0.1 A	A	-1	NUL L	NUL L	NUL L	25 16-bit data
0x8226	0x8226	1	R	Third line PV current curve 26-50 data	uint 16	0.1 A	A	-1	NUL L	NUL L	NUL L	25 16-bit data
0x8227	0x8227	1	R	Third line PV current curve 51-75 data	uint 16	0.1 A	A	-1	NUL L	NUL L	NUL L	25 16-bit data
0x8228	0x8228	1	R	Third line PV current curve 76-100 data	uint 16	0.1 A	A	-1	NUL L	NUL L	NUL L	25 16-bit data
0x8229	0x8229	1	R	The first PV IV curve reads the data and completes the	uint 16	NUL L	NUL L	NULL	NUL L	NUL L	NUL L	The value of 3 means read completion
0x822A	0x822A	1	R	The second PV IV curve reads the data and completes the	uint 16	NUL L	NUL L	NULL	0	0xFF FF	NUL L	The value of 3 means read completion
0x822B	0x822B	1	R	The third PV IV curve reads the data and completes the	uint 16	NUL L	NUL L	NULL	NUL L	NUL L	NUL L	The value of 3 means read completion
0x822C	0x822C	1	R	The first road mppt scans the maximum power point voltage	uint 16	0.1kw	KW	-1	NUL L	NUL L	NUL L	NULL
0x822D	0x822D	1	R	The first road mppt scans the maximum power point voltage	uint 16	1V	V	1	NUL L	NUL L	NUL L	NULL
0x822E	0x822E	1	R	The second road mppt scans the maximum power point voltage	uint 16	0.1kw	KW	-1	NUL L	NUL L	NUL L	NULL
0x822F	0x822F	1	R	The second road mppt scans the maximum power point voltage	uint 16	1V	V	1	NUL L	NUL L	NUL L	NULL
0x8230	0x8230	1	R	The third road mppt scans the maximum power point voltage	uint 16	0.1kw	KW	-1	NUL L	NUL L	NUL L	NULL
0x8231	0x8231	1	R	The third road mppt scans the maximum power point voltage	uint 16	1V	V	1	NUL L	NUL L	NUL L	NULL
0x8232 ~ 0x82FF	0x8232 ~ 0x82FF	1	R	"PV input status information" reserved area	NUL L	NUL L	NUL L	NULL	NUL L	NUL L	NUL L	NULL
0x82FF	0x82FF	1	R	The number of this area register (temporarily not used)	NUL L	Hex	Hex	NULL	NUL L	NUL L	NUL L	NULL

4). Internal state information data area of inverter

Star	End	Size	R/W	Name	Type	CP S Unit	Unit	Scale	Min value	Max value	Content	Description
0x8300	0x8300	1	R	Inverter operating mode	uint16	NUL	NUL	NULL	NUL	NUL	NUL	Refer to the table below
0x8301	0x8301	1	R	LCD switch machine command execution status	uint16	NUL	NUL	NULL	NUL	NUL	NUL	If the LCD does not send a switch machine command, the result is 0xFFFF
0x8302	0x8302	1	R	Module temperature	int16	0.1°C	°C	-1	NUL	NUL	NUL	NULL
0x8303	0x8303	1	R	Internal temperature	uint16	0.1°C	°C	-1	NUL	NUL	NUL	NULL
0x8304	0x8304	1	R	Insulation resistance detection	uint16	1KΩ	KΩ	1	NUL	NUL	NUL	NULL
0x8305	0x8305	1	R	Leakage current detection value (CEC)	uint16	1mA	mA	1	NUL	NUL	NUL	NULL
0x8306	0x8306	1	R	A phase DC component (DC)	uint16	1mA	mA	1	NUL	NUL	NUL	NULL
0x8307	0x8307	1	R	B phase DC component (DC)	uint16	1mA	mA	1	NUL	NUL	NUL	NULL
0x8308	0x8308	1	R	C phase DC component (DC)	uint16	1mA	mA	1	NUL	NUL	NUL	NULL
0x8309	0x8309	1	R	Positive bus voltage	uint16	1V	V	1	NUL	NUL	NUL	NULL
0x830A	0x830A	1	R	Negative bus voltage	uint16	1V	V	1	NUL	NUL	NUL	NULL
0x830B	0x830B	1	R	Positive and negative bus voltage	uint16	1V	V	1	NUL	NUL	NUL	NULL
0x830C	0x830C	1	R	Start countdown	uint16	0.1s	s	-1	NUL	NUL	NUL	NULL
0x830D	0x830D	1	R	ISO sampling circuit detection voltage	uint16	1V	V	1	NUL	NUL	NUL	NULL
0x830E	0x830E	1	R	Bus capacitance	uint16	1uF	uF	1	NUL	NUL	NUL	NULL
0x830F	0x830F	1	R	AC capacitance	uint16	1uF	uF	1	0	0xFF	NUL	NULL
0x8310	0x8310	1	NU	Permanent Abolition	uint16	NUL	NUL	NULL	NUL	NUL	NUL	NULL
0x8311	0x8311	1	NU	NULL	NUL	NUL	NUL	NULL	NUL	NUL	NUL	NULL
0x8312	0x8312	1	NU	NULL	NUL	NUL	NUL	NULL	NUL	NUL	NUL	NULL
0x8313	0x8313	1	NU	NULL	NUL	NUL	NUL	NULL	NUL	NUL	NUL	NULL
0x8314	0x8314	1	R	DeratingState	uint16	NUL	NUL	NULL	NUL	NUL	NUL	0: No derating 1: Self derating (For example: Over temperature derating) 2: Power limit derating (For example: Over current derating)
0x8315	0x8315	1	NU	NULL	NUL	NUL	NUL	NULL	NUL	NUL	NUL	NULL
0x8316	0x8316	1	NU	NULL	NUL	NUL	NUL	NULL	NUL	NUL	NUL	NULL
0x8317	0x8317	1	NU	NULL	NUL	NUL	NUL	NULL	NUL	NUL	NUL	NULL
0x8318	0x8318	1	NU	NULL	NUL	NUL	NUL	NULL	NUL	NUL	NUL	NULL
0x8319	0x8319	1	NU	NULL	NUL	NUL	NUL	NULL	NUL	NUL	NUL	NULL

0x831A	0x831A	1	NUL	NULL	NUL	NUL	NUL	NULL	NUL	NUL	NUL	NULL
0x831B	0x831B	1	NUL	PwrOnOffSta	uint 16	NUL	NUL	NULL	NUL	NUL	NUL	PwrOnOffSta 1: Power on 0: Power off
0x8317 ~ 0x8318	0x8317 ~ 0x8318	1	R	"Inverter internal status information" reserved area	NUL	NUL	NUL	NULL	NUL	NUL	NUL	NULL
0x83FF	0x83FF	1	R	The number of this area register (temporarily not used)	NUL	NUL	NUL	NULL	NUL	NUL	NUL	NULL

5). Inverter fault state information data area

Star	End	Size	R/W	Name	Type	CP S Unit	Uint	Scale	Min valu	Max valu	Content	Description
0x8400	0x8400	1	R	Internal warning failure	uint 16	HEX	HEX	NULL	NUL	NUL	NUL	Bit analysis, see the table.
0x8401	0x8401	1	R	Internal recoverable	uint 16			NULL	NUL	NUL	NUL	
0x8402	0x8402	1	R	Internal recoverable	uint 16			NULL	NUL	NUL	NUL	
0x8403	0x8403	1	R	Internal recoverable	uint 16			NULL	NUL	NUL	NUL	
0x8404	0x8404	1	R	Internal recoverable	uint 16			NULL	NUL	NUL	NUL	
0x8405	0x8405	1	R	Internal recoverable	uint 16			NULL	NUL	NUL	NUL	
0x8406	0x8406	1	R	Internal permanent	uint 16			NULL	NUL	NUL	NUL	
0x8407 ~ 0x8408	0x8407 ~ 0x8408	1	R	"Inverter fault status information" reserved area	NUL	1mA	mA	NULL	NUL	NUL	NUL	NULL
0x84FF	0x84FF	1	R	The number of this area register (temporarily not used)	NUL	1mA	mA	NULL	NUL	NUL	NUL	NULL

6). Fault resolution information data area

Star	End	Size	R/W	Name	Type	CP S	Unit	Scale	Min value	Max value	Content	Description	
0x8500	0x8500	1	R	Alarm resolution message number 1	uint16	NUL	NUL	NULL	NUL	NUL	NUL	Note: When the fault occurs, in order to be able to read the operation information with the fault response, therefore, in the event of failure, must match the operation of the fault information stored, and then passed to the LCD, in order to facilitate the scene analysis of the cause of the malfunction:	
0x8501	0x8501	1	R	Alarm resolution message data 1	int16	NUL	NUL	NULL	NUL	NUL	NUL		
0x8502	0x8502	1	R	Alarm resolution message number 2	uint16	NUL	NUL	NULL	NUL	NUL	NUL		
0x8503	0x8503	1	R	Alarm resolution message data 2	int16	NUL	NUL	NULL	NUL	NUL	NUL		
0x8504	0x8504	1	R	Alarm resolution message number 3	uint16	NUL	NUL	NULL	NUL	NUL	NUL		
0x8505	0x8505	1	R	Alarm resolution message data 3	int16	NUL	NUL	NULL	NUL	NUL	NUL		
0x8506	0x8506	1	R	Alarm resolution message number 4	uint16	NUL	NUL	NULL	NUL	NUL	NUL		
0x8507	0x8507	1	R	Alarm resolution message data 4	int16	NUL	NUL	NULL	NUL	NUL	NUL		
0x8508	0x8508	1	R	Alarm resolution message number 5	uint16	NUL	NUL	NULL	NUL	NUL	NUL		
0x8509	0x8509	1	R	Alarm resolution message data 5	int16	NUL	NUL	NULL	NUL	NUL	NUL		
0x850A	0x850A	1	R	Alarm resolution message number 6	uint16	NUL	NUL	NULL	NUL	NUL	NUL		
0x850B	0x850B	1	R	Alarm resolution message data 6	int16	NUL	NUL	NULL	NUL	NUL	NUL		
0x850C	0x850C	1	R	Alarm resolution message number 7	uint16	NUL	NUL	NULL	NUL	NUL	NUL		NULL
0x850D	0x850D	1	R	Alarm resolution message data 7	int16	NUL	NUL	NULL	NUL	NUL	NUL		NULL
0x850E	0x850E	1	R	Alarm resolution message number 8	uint16	NUL	NUL	NULL	NUL	NUL	NUL	NULL	
0x850F	0x850F	1	R	Alarm resolution message data 8	int16	NUL	NUL	NULL	NUL	NUL	NUL	NULL	
0x8510	0x8510	1	R	Alarm resolution message number 9	uint16	NUL	NUL	NULL	NUL	NUL	NUL	NULL	
0x8511	0x8511	1	R	Alarm resolution message data 9	int16	NUL	NUL	NULL	NUL	NUL	NUL	NULL	
0x8512	0x8512	1	R	Alarm resolution message number 10	uint16	NUL	NUL	NULL	NUL	NUL	NUL	NULL	
0x8513	0x8513	1	R	Alarm resolution message data 10	int16	NUL	NUL	NULL	NUL	NUL	NUL	NULL	
0x8514	0x8514	1	R	Recover fault resolution information	uint16	NUL	NUL	NULL	NUL	NUL	NUL	NULL	
0x8515	0x8515	1	R	Recover fault resolution information data	int16	NUL	NUL	NULL	NUL	NUL	NUL	NULL	
0x8516	0x8516	1	R	Recover fault resolution information	uint16	NUL	NUL	NULL	NUL	NUL	NUL	NULL	
0x8517	0x8517	1	R	Recover fault resolution information data	int16	NUL	NUL	NULL	NUL	NUL	NUL	NULL	
0x8518	0x8518	1	R	Recover fault resolution information	uint16	NUL	NUL	NULL	NUL	NUL	NUL	NULL	
0x8519	0x8519	1	R	Recover fault resolution information data	int16	NUL	NUL	NULL	NUL	NUL	NUL	NULL	

0x8535	0x8535	1	R	Permanent fault resolution information data	int16	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	NULL
0x8536	0x8536	1	R	Permanent fault resolution information	uint16	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	NULL
0x8537	0x8537	1	R	Permanent fault resolution information data	int16	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	NULL
0x8538	0x8538	1	R	Permanent fault resolution information	uint16	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	NULL
0x8539	0x8539	1	R	Permanent fault resolution information data	int16	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	NULL
0x853A	0x853A	1	R	Permanent fault resolution information	uint16	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	NULL
0x853B	0x853B	1	R	Permanent fault resolution information data	int16	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	NULL
0x853C ~ 0x85FF	0x853C ~ 0x85FF	1	R	"Fault resolution information" reservation area	NUL L	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	NULL
0x85FF	0x85FF	1	R	The number of this area register (temporarily not used)	NUL L	NUL L	NUL L	NU LL	NUL L	NUL L	NUL L	NULL

7). Factory production test data area

Star	End	Size	R/W	Name	Type	CP S Unit	Scale	Min value	Max value	Content	Description
0x8600	0x8600	1	R	Boost1 Current ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x8601	0x8601	1	R	Boost2 Current ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x8602	0x8602	1	R	Boost3 Current ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x8603	0x8603	1	R	Boost4 Current ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x8604	0x8604	1	R	Boost5 Current ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x8605	0x8605	1	R	Boost6 Current ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x8606	0x8606	1	R	PV1 Voltage ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x8607	0x8607	1	R	PV2 Voltage ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x8608	0x8608	1	R	PV3 Voltage ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x8609	0x8609	1	R	Bus+ Voltage ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x860A	0x860A	1	R	Bus- Voltage ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x860B	0x860B	1	R	Grid_R Voltage ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x860C	0x860C	1	R	Grid_S Voltage ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x860D	0x860D	1	R	Grid_T Voltage ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x860E	0x860E	1	R	Inv_R Voltage ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x860F	0x860F	1	R	Inv_S Voltage ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x8610	0x8610	1	R	Inv_T Voltage ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x8611	0x8611	1	R	Inv_R Current ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x8612	0x8612	1	R	Inv_S Current ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x8613	0x8613	1	R	Inv_T Current ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x8614	0x8614	1	R	Inv_DCI_R ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x8615	0x8615	1	R	Inv_DCI_S ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x8616	0x8616	1	R	Inv_DCI_T ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x8617	0x8617	1	R	GFCI ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x8618	0x8618	1	R	ISO ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x8619	0x8619	1	R	NPEVOLT ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL
0x861A	0x861A	1	R	Fault protection pin status (first group)	NULL	Hex	Hex	NULL	NULL	NULL	Corresponds to the status of 16 input pins 1: High, 0: Low The assignment of specific Bit and DSP is as follows
0x861B	0x861B	1	R	Fault protection pin status (second group)	NULL	Hex	Hex	NULL	NULL	NULL	Corresponds to the status of 16 input pins 1: High, 0: Low The assignment of specific Bit and DSP

0x861C	0x861C	1	R	Normal input pin status (first group)	NUL L	Hex	Hex	NULL	NUL L	NUL L	NUL L	Corresponds to the status of 16 input pins 1: High, 0: Low The assignment of specific Bit and DSP
0x861D	0x861D	1	R	Common input pin status (second group)	NUL L	Hex	Hex	NULL	NUL L	NUL L	NUL L	Corresponds to the status of 16 input pins 1: High, 0: Low The assignment of specific Bit and DSP
0x861E	0x861E	1	R	PV1_MPPT_Volt	uint 16	Hex	Hex	NULL	NUL L	NUL L	NUL L	NULL
0x861F	0x861F	1	R	PV2_MPPT_Volt	uint 16	Hex	Hex	NULL	NUL L	NUL L	NUL L	NULL
0x8620	0x8620	1	R	PV3_MPPT_Volt	uint 16	Hex	Hex	NULL	NUL L	NUL L	NUL L	NULL
0x8621	0x8621	1	R	PV1_Volt_Reference	uint 16	Hex	Hex	NULL	NUL L	NUL L	NUL L	NULL
0x8622	0x8622	1	R	PV2_Volt_Reference	uint 16	Hex	Hex	NULL	NUL L	NUL L	NUL L	NULL
0x8623	0x8623	1	R	PV3_Volt_Reference	uint 16	Hex	Hex	NULL	NUL L	NUL L	NUL L	NULL
0x8624	0x8624	1	R	PV1_Curr_Reference	uint 16	Hex	Hex	NULL	NUL L	NUL L	NUL L	NULL
0x8625	0x8625	1	R	PV2_Curr_Reference	uint 16	Hex	Hex	NULL	NUL L	NUL L	NUL L	NULL
0x8626	0x8626	1	R	PV3_Curr_Reference	uint 16	Hex	Hex	NULL	NUL L	NUL L	NUL L	NULL
0x8627	0x8627	1	R	BUS_Volt_Standard	uint 16	Hex	Hex	NULL	NUL L	NUL L	NUL L	NULL
0x8628	0x8628	1	R	BUS_Volt_Actual	uint 16	Hex	Hex	NULL	NUL L	NUL L	NUL L	NULL
0x8629	0x8629	1	R	MPPT1_Current 的ADC	uint 16	Hex	Hex	NULL	NUL L	NUL L	NUL L	NULL
0x862A	0x862A	1	R	MPPT2_Current 的ADC	uint 16	Hex	Hex	NULL	NUL L	NUL L	NUL L	NULL
0x862B	0x862B	1	R	MPPT3_Current 的ADC	uint 16	Hex	Hex	NULL	NUL L	NUL L	NUL L	NULL
0x862C ~ 0x862F	0x862C ~ 0x862F	1	R	"Factory production test data" reserved	NUL L	NUL L	NUL L	NULL	NUL L	NUL L	NUL L	NULL
0x86FF	0x86FF	1	R	The number of this area register (temporarily not used)	NUL L	NUL L	NUL L	NULL	NUL L	NUL L	NUL L	NULL

Fault protection pin state analysis table 9-3

Status word	Status bit	Pin function description	State definition	Remarks
Fault protection Protect the pin status 1 (0x861A)	Bit0	Inverter current single-cycle block signal pin state	1: High(Fail), 0: Low	NULL
	Bit1	Inverter current Overcurrent protection signal pin status (Tz)	1: High(Fail), 0: Low	NULL
	Bit2	Boost Current Single-Cycle Blocking Signal Pin Status	1: High(Fail), 0: Low	NULL
	Bit3	Boost current overcurrent protection signal pin state (Tz)	1: High(Fail), 0: Low	NULL
	Bit4	Bus voltage Single cycle block the signal's pin state	1: High(Fail), 0: Low	NULL
	Bit5	Bus Overvoltage protection signal pin status (Tz)	1: High(Fail), 0: Low	NULL
	Bit6	The pin status of the IGBT fault signal (Tz)	1: High(Fail), 0: Low	NULL
	Bit7	NA	NULL	NULL
	Bit8	NA	NULL	NULL
	Bit9	NA	NULL	NULL
	Bit10	NA	NULL	NULL
	Bit11	NA	NULL	NULL
	Bit12	NA	NULL	NULL
	Bit13	NA	NULL	NULL
	Bit14	NA	NULL	NULL
	Bit15	NA	NULL	NULL
Fault protection Protect the pin status 2 (0x861B) (Reserved for subsequent expansion)	Bit0	NA	NULL	NULL
	Bit1	NA	NULL	NULL
	Bit2	NA	NULL	NULL
	Bit3	NA	NULL	NULL
	Bit4	NA	NULL	NULL
	Bit5	NA	NULL	NULL
	Bit6	NA	NULL	NULL
	Bit7	NA	NULL	NULL
	Bit8	NA	NULL	NULL
	Bit9	NA	NULL	NULL
	Bit10	NA	NULL	NULL
	Bit11	NA	NULL	NULL

Status word	Status bit	Pin function description	State definition	Remarks
	Bit12	NA	NULL	NULL
	Bit13	NA	NULL	NULL
	Bit14	NA	NULL	NULL
	Bit15	NA	NULL	NULL

General input pin state analysis table 9-4

Status word	Status bit	Pin function description	State definition	Remarks
Normal input pin status 1 (0x861C)	Bit0	DC SPD status	1: High, 0: Low	NULL
	Bit1	AC MOV status	1: High, 0: Low	NULL
	Bit2	AC SPD status	1: High, 0: Low	NULL
	Bit3	IntFan status	1: High, 0: Low	NULL
	Bit4	ExtFan status	1: High, 0: Low	NULL
	Bit5	DrvRDY protection	1: High, 0: Low	NULL
	Bit6	NA	NULL	Unused bits, DSP software is forced to zero
	Bit7	NA	NULL	NULL
	Bit8	NA	NULL	NULL
	Bit9	NA	NULL	NULL
	Bit10	NA	NULL	NULL
	Bit11	NA	NULL	NULL
	Bit12	NA	NULL	NULL
	Bit13	NA	NULL	NULL
	Bit14	NA	NULL	NULL
Normal input pin status 2 (0x861D) (Reserved for subsequent)	Bit0	NA	NULL	NULL
	Bit1	NA	NULL	NULL
	Bit2	NA	NULL	NULL
	Bit3	NA	NULL	NULL
	Bit4	NA	NULL	NULL
	Bit5	NA	NULL	NULL
	Bit6	NA	NULL	NULL
	Bit7	NA	NULL	NULL
	Bit8	NA	NULL	NULL

Status word	Status bit	Pin function description	State definition	Remarks
subsequent expansion)	Bit9	NA	NULL	NULL
	Bit10	NA	NULL	NULL
	Bit11	NA	NULL	NULL
	Bit12	NA	NULL	NULL
	Bit13	NA	NULL	NULL
	Bit14	NA	NULL	NULL
	Bit15	NA	NULL	NULL

4. Inverter Events Descriptor

When one bit is set to "1", it indicates that the representative of the fault is occurring, and if the bit is set to "0", it indicates that the representative of the fault has not occurred.

Fault Code of CPS 50kW&60kW&70kW

Register	Storage data	LCD show(English)	Fault description
0x0035	Warn	Bit15	External communication failed Warn0150
		Bit14	Reserved NULL
		Bit13	PVStrErr PVStrErr
		Bit12	Pid Box communication fail Pid Box CommErr PidBoxCommErr
		Bit11	Pid Box fail Pid Box Err PidoxErr
		Bit10	AC side MOV is abnormal Warn0100
		Bit9	Reserved NULL
		Bit8	Reserved NULL
		Bit7	AC side lightning arrester is abnormal Warn0070
		Bit6	Reserved NULL
		Bit5	Temperature sensor is abnormal Warn0050
		Bit4	DC side lightning protection device Warn0040
		Bit3	Eeprom problem Warn0030
		Bit2	Internal communication failed CommErr
		Bit1	Internal fan alarm IntFanErr
		Bit0	External fan alarm ExtFanErr
		Bit15	Inverter current bias Protect0010
		Bit14	Over-temperature protection TempOver
		Bit13	Grid relay protection Protect0020
		Bi12	Out of phase GridV.OutLim
		Bit11	Grid frequency is low GridF.OutLim

0x0036	Fault0	Bit10	Grid frequency is high	GridF.OutLim
		Bit9	High inverter current	Protect0030
		Bit8	Grid phase voltage overrun	GridV.OutLim
		Bit7	Power line voltage exceeds the limit	GridV.OutLim
		Bit6	PV1 high current	Protect0040
		Bit5	Reserved	NULL
		Bit4	Inverter soft start overtime	Protect0050
		Bit3	Bus soft start overtime	Protect0060
		Bit2	Bus voltage difference is high	Protect0070
		Bit1	Reserved	NULL
		Bit0	Bus voltage and high	Protect0090
0x0037	Fault1	Bit15	Leakage current sensor is abnormal	Protect0100
		Bit14	Bus hardware overvoltage	Protect0110
		Bit13	Reserved	NULL
		Bit12	Power module protection	Protect0120
		Bit11	Inverter current imbalance	Protect0130
		Bit10	Reserved	NULL
		Bit9	Grid voltage is unbalanced	GridV.OutLim
		Bit8	Inverter hardware overcurrent	Protect0140
		Bit7	MCU protection	Protect0150
		Bit6	Reserved	NULL
		Bit5	Abnormal frequency selection	Protect0160
		Bit4	Leakage current is too high	GFCIErr
		Bit3	Insulation resistance is too low	IsolationErr
		Bit2	DCI current is too high	Protect0170
Bit1	DCI current bias	Protect0180		
Bit0	Reserved	NULL		
0x0038	Fault2	Bit15	Reserved	NULL
		Bit14	Reserved	NULL
		Bit13	Reserved	NULL
		Bit12	PV3 voltage is too high	PV3VoltOver
		Bit11	PV3 input reverse	PV3Reverse
		Bit10	PV1 voltage is too high	PV1VoltOver
		Bit9	PV1 input is reversed	PV1Reverse
		Bit8	Reserved	NULL
		Bit7	Power inverter open-loop self-test	Protect0230
		Bit6	PV source input is abnormal	Protect0260
		Bit5	PV2 voltage is too high	PV2VoltOver
		Bit4	PV2 input overcurrent	Protect0240
		Bit3	PV2 input is reversed	PV2Reverse
		Bit2	Reserved	NULL
Bit1	Internal hardware error	Protect0210		

		Bit0	Reserved	NULL
0x0039	Fault3	Bit15	ARC protection	ARC Protect ARCProtect
		Bit14	Reserved	NULL
		Bit13	Hardware driver power supply is	Protect0330
		Bit12	Reserved	NULL
		Bit11	Reserved	NULL
		Bit10	Reserved	NULL
		Bit9	Reserved	NULL
		Bit8	Reserved	NULL
		Bit7	Reserved	NULL
		Bit6	Reserved	NULL
		Bit5	Reserved	NULL
		Bit4	Reserved	NULL
		Bit3	Reserved	NULL
		Bit2	Reserved	NULL
		Bit1	Reserved	NULL
Bit0	Reserved	NULL		
0x003A	Fault4	Bit15	Phase-to-ground voltage anomaly protection	Protect0470
		Bit14	Reserved	NULL
		Bit13	Reserved	NULL
		Bit12	Reserved	NULL
		Bit11	Reserved	NULL
		Bit10	CPLD clock is abnormal	Protect0520
		Bit9	CPLD program version is abnormal	Protect0530
		Bit8	Abnormal product model	Protect0540
		Bit7	Bst hardware overcurrent	Protect0550
		Bit6	Control board voltage is low 3.3V	Protect0560
		Bit5	Capture PLL lock exception	Protect0570
		Bit4	PV3 input overcurrent	Protect0580
		Bit3	Battery overboard	Protect0590
		Bit2	Arc board failure	Arcboard Err
		Bit1	Steady-state GFCI protection	Protect0610
Bit0	Control board voltage is low 5V	Protect0620		
		Bit15	Control board voltage and drive	Fault0160
		Bit14	Open-loop self-test failed failure	Fault0150
		Bit13	Internal hardware failure	Fault0140
		Bit12	Permanent power module failure	Fault0010
		Bit11	Bus hardware overvoltage fault	Fault0020
		Bit10	Reserved	NULL Fault0030

0x0034	PFault	Bit9	Reserved	NULL Fault0040
		Bit8	Inverter hardware overcurrent fault	Fault0050
		Bit7	CPLD clock is faulty	Fault0060
		Bit6	DCI is too high	Fault0070
		Bit5	Bst Hardware overcurrent fault	Fault0080
		Bit4	Steady-state GFCI failure	Fault0090
		Bit3	Relay failure	Fault0100
		Bit2	Bus high failure	Fault0110
		Bit1	Reserved	NULL Fault0120
		Bit0	Bus and high fault	Fault0130

5. Standard Descriptor

CPS Standard Descriptor

StandardValue	Corresponding regulation
0	NONE
10	IEEE1547_2014
19	CA Rule 21
20	HECO-HM
21	HECO-ML
27	ISO-NE
30	IEEE1547_2003

Attention: Parameters below are for factory testing use only !

Note: The following is only used for factory testing, please do not operate!

6.Holding Registers Data Mapping(For Factory Testing Use Only)

Use the 03 function code to read, Use 0x06 or 0x10 function code to write.

Holding Registers Data Mapping(For Factory Testing Use Only)

1).Calibration

Start	End	Size	R/W	Name	Type	CP S	Unit	Scale	Min	Max	Value	Contents	Description
0x28	0x2	1	RW	BUS N correction coefficient	Uint16	0.0	%	-2	80	12000	NULL	NULL	NULL
0x28	0x2	1	RW	BUS N offset	Uint16	NA	NULL	NULL	0	2000	NULL	NULL	NULL
0x28	0x2	1	RW	BUS P correction coefficient	Uint16	0.0	%	-2	80	12000	NULL	NULL	NULL
0x28	0x2	1	RW	BUS P offset	Uint16	NA	NULL	NULL	0	2000	NULL	NULL	NULL
0x28	0x2	1	RW	GFCI correction coefficient	Uint16	0.0	%	-2	80	12000	NULL	NULL	NULL
0x28	0x2	1	RW	GFCI offset	Uint16	0.0	%	-2	80	12000	NULL	NULL	NULL
0x28	0x2	1	RW	R phase inverter current	Uint16	0.0	%	-2	80	12000	NULL	NULL	NULL
0x28	0x2	1	RW	R phase inverter current offset	Uint16	0.0	%	-2	80	12000	NULL	NULL	NULL
0x28	0x2	1	RW	S phase inverter current	Uint16	0.0	%	-2	80	12000	NULL	NULL	NULL
0x28	0x2	1	RW	S phase inverter current offset	Uint16	0.0	%	-2	80	12000	NULL	NULL	NULL
0x28	0x2	1	RW	T phase inverter current	Uint16	0.0	%	-2	80	12000	NULL	NULL	NULL
0x28	0x2	1	RW	T phase inverter current offset	Uint16	0.0	%	-2	80	12000	NULL	NULL	NULL
0x28	0x2	1	RW	R phase voltage	Uint16	0.0	%	-2	80	12000	NULL	NULL	NULL
0x28	0x2	1	RW	R phase voltage offset	Uint16	0.0	%	-2	80	12000	NULL	NULL	NULL
0x28	0x2	1	RW	S phase voltage	Uint16	0.0	%	-2	80	12000	NULL	NULL	NULL
0x28	0x2	1	RW	S phase voltage offset	Uint16	0.0	%	-2	80	12000	NULL	NULL	NULL
0x28	0x2	1	RW	T phase voltage	Uint16	0.0	%	-2	80	12000	NULL	NULL	NULL
0x28	0x2	1	RW	T phase voltage offset	Uint16	0.0	%	-2	80	12000	NULL	NULL	NULL
0x28	0x2	1	RW	R phase inverter voltage	Uint16	0.0	%	-2	80	12000	NULL	NULL	NULL
0x28	0x2	1	RW	R phase inverter voltage offset	Uint16	0.0	%	-2	80	12000	NULL	NULL	NULL
0x28	0x2	1	RW	S phase inverter voltage	Uint16	0.0	%	-2	80	12000	NULL	NULL	NULL
0x28	0x2	1	RW	S phase inverter voltage offset	Uint16	0.0	%	-2	80	12000	NULL	NULL	NULL
0x28	0x2	1	RW	T phase inverter voltage	Uint16	0.0	%	-2	80	12000	NULL	NULL	NULL
0x28	0x2	1	RW	T phase inverter voltage offset	Uint16	0.0	%	-2	80	12000	NULL	NULL	NULL
0x28	0x2	1	RW	R phase DCI current	Uint16	0.0	%	-2	80	12000	NULL	NULL	NULL
0x28	0x2	1	RW	R phase DCI current offset	Uint16	0.0	%	-2	80	12000	NULL	NULL	NULL

0x28	0x2	1	RW	S phase DCI current correction	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	S phase DCI current offset	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	T phase DCI current correction	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	T phase DCI current offset	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	Ambient temperature correction	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	Ambient temperature offset	Uint 16	NA	NULL	NULL	0	2000	NULL	NULL
0x28	0x2	1	RW	Module temperature correction	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	Module temperature offset	Uint 16	NA	NULL	NULL	0	2000	NULL	NULL
0x28	0x2	1	RW	ISO voltage correction factor	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	ISO voltage offset	Uint 16	NA	NULL	NULL	80	12000	NULL	NULL
0x28	0x2	1	RW	PV0 voltage correction factor	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	PV0 voltage offset	Uint 16	NA	NULL	NULL	0	2000	NULL	NULL
0x28	0x2	1	RW	PV1 voltage correction factor	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	PV1 voltage offset	Uint 16	NA	NULL	NULL	0	2000	NULL	NULL
0x28	0x2	1	RW	PV2 voltage correction factor	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	PV2 voltage offset	Uint 16	NA	NULL	NULL	0	2000	NULL	NULL
0x28	0x2	1	RW	PV0 current correction factor 1	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	PV0 current offset 1	Uint 16	NA	NULL	NULL	50	9000	NULL	NULL
0x28	0x2	1	RW	PV0 current correction factor 2	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	PV0 current offset 2	Uint 16	NA	NULL	NULL	50	9000	NULL	NULL
0x28	0x2	1	RW	PV1 current correction factor 3	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	PV1 current offset 3	Uint 16	NA	NULL	NULL	50	9000	NULL	NULL
0x28	0x2	1	RW	PV1 current correction factor 4	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	PV1 current offset 4	Uint 16	NA	NULL	NULL	50	9000	NULL	NULL
0x28	0x2	1	RW	PV2 current correction factor 5	Uint 16	0.0	%	-2	80	12000	NULL	NULL
0x28	0x2	1	RW	PV2 current offset 5	Uint 16	NA	NULL	NULL	50	9000	NULL	NULL
0x28	0x2	1	RW	PV2 current correction factor 6	Uint 16	0.0	%	-2	80	12000	NULL	NULL

