

Modbus Protocol for EG4 6000EX-48

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Item	Time	content	editor
1	2021.5.24	Add addr 595,Query machine model	Huangyong
2	2021.5.24	Add addr 632, Max. charging current selectable	Huangyong
3	2021.5.24	Query default value of changeable parameter	Huangyong
4	2021.6.1	Max. charging current(addr 593), Max. AC charging current(addr 594)	Huangyong

1. Enable/Disable item

Hex	Dec	Size	Content	Read	Write	type
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0x0002	2	bit15	Enable/disable silence buzzer or open buzzer	0: disable, 1: enable	7FFF:D/800 0:E	Read/Write
		bit14	Enable/Disable overload bypass function	0: disable, 1: enable	BFFF:D/400 0:E	Read/Write
		bit13	Enable/Disable LCD display escape to default page after 1min timeout	0: disable, 1: enable	DFFF:D/200 0:E	Read/Write
		bit12	Enable/Disable overload restart	0: disable, 1: enable	FFFF:D/1000 :E	Read/Write
		bit11	Enable/Disable over temperature restart	0: disable, 1: enable	F7FF:D/080 0:E	Read/Write
		bit10	Enable/Disable backlight on	0: disable, 1: enable	FBFF:D/040 0:E	Read/Write
		Bit9	Enable/Disable alarm on when primary source interrupt	0: disable, 1: enable	FDFD:D/020 0:E	Read/Write
		Bit8	Enable/Disable fault code record	0: disable, 1: enable	FEFF:D/0100 :E	Read/Write
		Bit7	Machine type, enable: Grid-Tie, disable: Off-Grid Tie	0: disable, 1: enable	FF7F:D/008 0:E	Read/Write
		Bit0	Set enable/disable machine supply power to the loads	0: disable, 1: enable	0000:D/000 1:E	Read/Write
0x0003	3	Bit15	Set changeable parameter restore to default value	0: disable, 1: enable	7FFF:D/800 0:E	Write Only
		Bit14	Set AC output frequency to be 50Hz	0: disable, 1: enable	BFFF:D/400 0:E	Write Only
		Bit13	Set AC output frequency to be 60Hz	0: disable, 1: enable	DFFF:D/200 0:E	Write Only
		Bit12	Clear the all the data of generated energy	0: disable, 1: enable	FFFF:D/1000 :E	Write Only

2. Working mode

0x00D0	208	1	working mode	Note1	Read Only
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3. Working status

0x01FE	510	1	Grid voltage	A: 0~9, unit: 0.1V	Read Only
0x01FF	511	1	Grid frequency	B: 0~9, unit: 0.1Hz	Read Only

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0x0200	512	1	AC output voltage	C: 0~9, unit: 0.1V	Read Only
0x0201	513	1	AC output frequency	D: 0~9, unit: 0.1Hz	Read Only
0x0202	514	2	AC output apparent power	E: 0~9, unit: VA	Read Only
0x0204	516	2	AC output active power	F: 0~9, unit: W	Read Only
0x0206	518	1	Output load percent	G: 0~9, unit: %	Read Only
0x0207	519	1	Battery voltage	H: 0~9, unit: 0.1V	Read Only
0x0208	520	1	Battery voltage from SCC	I: 0~9, unit: 0.1V	Read Only
0x0209	521	1	Battery voltage from SCC2	J: 0~9, unit: 0.1V	Read Only
0x020A	522	1	Battery discharge current	K: 0~9, unit: A	Read Only
0x020B	523	1	Battery charging current	L: 0~9, unit: A	Read Only
0x020C	524	1	Battery capacity	M: 0~9, unit: %	Read Only
0x020D	525	1	Inverter heat sink temperature	N: 0~9, unit: °C	Read Only
0x020E	526	1	MPPT1 charger temperature	O: 0~9, unit: °C	Read Only
0x020F	527	1	MPPT2 charger temperature	P: 0~9, unit: °C	Read Only
0x0210	528	2	PV1 Input power	Q: 0~9, unit: W	Read Only
0x0212	530	2	PV2 Input power	R: 0~9, unit: W	Read Only
0x0214	532	1	PV1 Input voltage	S: 0~9, unit: 0.1V	Read Only
0x0215	533	1	PV2 Input voltage	S: 0~9, unit: 0.1V	Read Only
0x0216	534	BIT15-BIT8	Setting value configuration state	0: Nothing changed, 1: Something changed	Read Only (ASCII)
		BIT7-BIT0	MPPT1 charger status	0: abnormal, 1: normal but not charged, 2: charging	Read Only (ASCII)
0x0217	535	BIT15-BIT8	MPPT2 charger status	0: abnormal, 1: normal but not charged, 2: charging	Read Only (ASCII)
		BIT7-BIT0	Load connection	0: disconnect, 1: connect	Read Only (ASCII)
0x0218	536	BIT15-BIT8	Battery power direction	0: do nothing, 1: charge, 2: discharge	Read Only (ASCII)
		BIT7-BIT0	DC/AC power direction	0: do nothing, 1: AC-DC, 2: DC-AC	Read Only (ASCII)
0x0219	537	BIT15-BIT8	Line power direction	0: do nothing, 1: input, 2: output	Read Only (ASCII)
		BIT7-BIT0	Local parallel ID	a: 0~(parallel number - 1)	Read Only (ASCII)

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4. Time information

0x0113	275	7	Time	ASCII(YYYYMMDDHHMMSS)	Read/Write
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5. Generated energy inquiry

0x0197	407	2	total generated energy	KW/h	Read Only
0x019B	411	2	generated energy of day	W/h	Read Only
0x019D	413	2	generated energy of month	W/h	Read Only
0x019F	415	2	generated energy of year	W/h	Read Only
0x01C0	448	5	The date of the hourly energy	ASCII	Write Only
0x01C5	453	4	The date of the daily energy	ASCII	Write Only
0x01C9	457	3	The date of the monthly energy	ASCII	Write Only
0x01CC	460	2	The date of the yearly energy	ASCII	Write Only

6. Fault information

0x021A	538	1	Fault code		Read Only
0x021B	539	Bit15	Line fail	0/1,0:normal,1:fail	Read Only
		Bit14	Output circuit short	0/1,0:normal,1:fail	Read Only
		Bit13	Inverter over temperature	0/1,0:normal,1:Over	Read Only
		Bit12	Fan lock	0/1,0:unlock,1:lock	Read Only
		Bit11	Battery voltage high	0/1,0:normal,1:Over	Read Only
		Bit10	Battery low	0/1,0:normal,1:Over	Read Only
		Bit9	Battery under	0/1,0:normal,1:Over	Read Only
		Bit8	Over load	0/1,0:normal,1:Over	Read Only
		Bit7	Eeprom fail	0/1,0:normal,1:fail	Read Only
		Bit6	Power limit	0/1,0:normal,1:Over	Read Only
		Bit5	PV1 voltage high	0/1,0:normal,1:Over	Read Only
Bit4	PV2 voltage high	0/1,0:normal,1:Over	Read Only		
Bit3	MPPT1 overload warning	0/1,0:normal,1:Over	Read Only		

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	Bit2	MPPT2 overload warning	0/1,0:normal,1:Over	Read Only
	Bit1	Battery too low to charge for SCC1	0/1,0:normal,1:Over	Read Only
	Bit0	Battery too low to charge for SCC2	0/1,0:normal,1:Over	Read Only

7. CPU information

0x0253	595	1	Query machine model	ASCII	Read only
0x03E0	992	1	Protocol ID Inquiry	ASCII	Read only
0x03E1	993	4	Main CPU Firmware version	ASCII	Read only

8. Battery information

0x021C	540	7	Max. charging current selectable value	A	Read Only
0x024A	586	7	Max. charging current selectable value2	A	Read Only
0x0278	632	4	Max. charging current selectable value3	A	Read Only
0x0223	547	7	Max. AC charging current selectable value	A	Read Only

9. PV model and rating information

0x03EB	575	11	Series number	ASCII	Read only
0x01E7	487	1	AC input rating voltage	0.1V	Read only
0x01E8	488	1	AC input rating current	0.1A	Read only
0x01E9	489	1	AC output rating voltage	0.1V	Read/Write
0x01EA	490	1	AC output rating frequency	0.1Hz	Read only
0x01EB	491	1	AC output rating current	0.1A	Read only
0x01EC	492	2	AC output rating apparent power	VA	Read only
0x01EE	494	2	AC output rating active power	W	Read only
0x01F0	496	1	Battery rating voltage	0.1V	Read only
0x01F1	497	1	Battery re-charge	0.1V	Read/Write

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			voltage		
0x01F2	498	1	Battery re-discharge voltage	0.1V	Read/Write
0x01F3	499	1	Battery under voltage	0.1V	Read/Write
0x01F4	500	1	Battery bulk voltage	0.1V	Read/Write
0x01F5	501	1	Battery float voltage	0.1V	Read/Write
0x01F6	502	1	Max AC charging current	A	Read only
0x01F7	503	1	Max charging current	A	Read only
0x01F8	504	BIT15-BIT8	Battery type	0: AGM, 1:Flooded, 2: User	Read/Write (ASCII)
		BIT7-BIT0	Input voltage range	0:Appliance, 1: UPS	Read/Write (ASCII)
0x01F9	505	BIT15-BIT8	Output source priority	0:Solar-Utility-Battery, 1:Solar-Battery-Utility	Read/Write (ASCII)
		BIT7-BIT0	Charger source priority	0: Solar first, 1:Solar and Utility 2: Only solar	Read only (ASCII)
0x01FA	506	BIT15-BIT8	Parallel max num	0~9	Read only (ASCII)
		BIT7-BIT0	Machine type	0:Off-grid Tie, 1: Grid-Tie	Read only (ASCII)
0x01FB	507	BIT15-BIT8	Topology	0:transformerless 1:transformer	Read only (ASCII)
		BIT7-BIT0	Output model setting	0:Single module 1:parallel output 2:Phase 1 of three phase output 3:Phase 2 of three phase output 4:Phase 3 of three phase output	Read only
0x01FC	508	BIT15-BIT8	Solar power priority	0:Battery-Load-Utility, 1:Load-Battery-Utility	Read/Write
		BIT7-BIT0	MPPT string	a: 0~9	Read only
0x01FD	509		Set Regulations State	00:101Vmodel 01:110Vmodel 02:120Vmodel	Read/Write

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10. Set Allow AC-charging duration /Off-Peak duration

0x0361	865	1	Start time for enable AC charger working	Note2	Read/Write
0x0363	867	1	Ending time for enable AC charger working		Read/Write

11. Set AC Output ON/Off Timer

0x0364	868	1	Start time for enable AC supply the load	Note3	Read/Write
0x0365	869	1	Ending time for enable AC supply the load		Read/Write

12. Parallel Information

0x022A	554	1	The ID of the parallel machine that needs to be read	0~(Parallel number - 1)	Read/Write
0x022B	555	Bit15	Parallel ID connection status	0: not existent 1: existent	Read only
		Bit0-7	Work mode		Read only
0x022C	556	1	Serial Number valid length		Read only
0x022D	557	10	Serial Number		Read only
0x0237	567	BIT15-BIT8	Charging source priority	0: Solar first, 1: Solar and Utility, 2: Only solar	Read only
0x0251	593	1	Max. charging current	A	Read only
0x0252	594	1	Max. AC charging current	A	Read only

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0x0238	568	BIT7- BIT0	Output model setting	0: Single module, 1: parallel output, 2: Phase 1 of three phase output, 3: Phase 2 of three phase output, 4: Phase 3 of three phase output	Read only
0x03B0	944	1	Fault code		Read only
0x03B1	945	1	Grid voltage	D: 0~9, unit: 0.1V	Read only
0x03B2	946	1	Grid frequency	E: 0~9, unit: 0.1Hz	Read only
0x03B3	947	1	AC output voltage	F: 0~9, unit: 0.1V	Read only
0x03B4	948	1	AC output frequency	G: 0~9, unit: 0.1Hz	Read only
0x03B5	949	2	AC output apparent power	H: 0~9, unit: VA	Read only
0x03B7	951	2	AC output active power	I: 0~9, unit: W	Read only
0x03B9	953	2	Total AC output apparent power	J: 0~9, unit: VA	Read only
0x03BB	955	2	Total AC output active power	K: 0~9, unit: W	Read only
0x03BD	957	1	Output load percent	L: 0~9, unit: %	Read only
0x03BE	958	1	Total output load percent	M: 0~9, unit: %	Read only
0x03BF	959	1	Battery voltage	N: 0~9, unit: 0.1V	Read only
0x03C0	960	1	Battery discharge current	O: 0~9, unit: A	Read only
0x03C1	961	1	Battery charging current	P: 0~9, unit: A	Read only
0x03C2	962	1	Total battery charging current	Q: 0~9, unit: A	Read only
0x03C3	963	1	Battery capacity	M: 0~9, unit: %	Read only
0x03C4	964	2	PV1 Input power	R: 0~9, unit: W	Read only
0x03C6	966	2	PV2 Input power	S: 0~9, unit: W	Read only
0x03C8	968	1	PV1 Input voltage	T: 0~9, unit: 0.1V	Read only
0x03C9	969	1	PV2 Input voltage	U: 0~9, unit: 0.1V	Read only

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0x03CA	970	BIT15- BIT8	MPPT1 charger status	0: abnormal, 1: normal but not charged, 2: charging	Read only
		BIT7- BIT0	MPPT2 charger status	0: abnormal, 1: normal but not charged, 2: charging	Read only
0x03CB	971	BIT15- BIT8	Load connection	0: disconnect, 1: connect	Read only
		BIT7- BIT0	Battery power direction	0: do nothing, 1: charge, 2: discharge	Read only
0x03CC	972	BIT15- BIT8	DC/AC power direction	0: do nothing, 1: AC-DC, 2: DC-AC	Read only
		BIT7- BIT0	Line power direction	0: do nothing, 1: input, 2: output	Read only

13. Setting Information

0x0239	569	1	The ID of the parallel machine that needs to be set	0~(Parallel number - 1)	Read/Write
0x023A	570	1	Set battery maximum charge current	A	Write only
0x023B	571	1	Set battery maximum AC charge current	A	Write only
0x023C	572	1	Set charging source priority	0: Solar first, 1: Solar and Utility, 2: Only solar	Write only
0x023D	573	1	Set output model	0: Single module, 1: parallel output, 2: Phase 1 of three phase output, 3: Phase 2 of three phase output, 4: Phase 3 of three phase output	Write only
0x022C	556	1	Serial Number valid length		Read/Write
0x022D	557	10	Serial Number		Read/Write

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14 .Query default value of changeable parameter

Note: **H** means High 8bit, **L** means Low 8bit

0x038E	910	1	AC output voltage	0~9, unit: 0.1V	Read only
0x038F	911	1	AC output frequency	0~9, unit: 0.1Hz	Read only
0x0398	920 L	Low 8	AC input voltage range	0: Appliance, 1: UPS	Read only
0x0391	913	1	Battery Under voltage	0~9, unit: 0.1V	Read only
0x0392	914	1	Charging float voltage	0~9, unit: 0.1V	Read only
0x0393	915	1	Charging bulk voltage	0~9, unit: 0.1V	Read only
0x0394	916	1	Battery default re-charge voltage	0~9, unit: 0.1V	Read only
0x0395	917	1	Battery re-discharge voltage	0~9, unit: 0.1V	Read only
0x0396	918	1	Max charging current	0~9, unit: A	Read only
0x0397	919	1	Max AC charging current	0~9, unit: A	Read only
0x0398	920 H	High 8	Battery type	0: AGM, 1: Flooded, 2: User	Read only
0x0399	921H	High 8	Output source priority	0: Solar-Utility-Battery, 1: Solar-Battery-Utility	Read only
	921L	Low 8	Charger source priority	0: Solar first, 1: Solar and Utility, 2: Only solar	Read only
0x039A	922H	High 8	Solar power priority	0: Battery-Load-Utility, 1: Load-Battery-Utility	Read only
	922L	low 8	Machine type	0: Off-grid Tie, 1: Grid-Tie	Read only
0x039B	923H	High 8	Output model setting	0: Single module, 1:parallel output, 2: Phase 1 of three phase output, 3: Phase 2 of three phase output, 4: Phase 3 of three phase output	Read only
	923L	Bit7	Enable/disable silence buzzer or open buzzer	0: disable, 1: enable	Read only
		Bit6	Enable/Disable overload restart	0: disable, 1: enable	Read only
		Bit5	Enable/Disable over temperature restart	0: disable, 1: enable	Read only
		Bit4	Enable/Disable LCD backlight on	0: disable, 1: enable	Read only
		Bit3	Enable/Disable alarm on when primary source interrupt	0: disable, 1: enable	Read only
		Bit2	Enable/Disable fault code record	0: disable, 1: enable	Read only

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	Bit1	Enable/Disable overload bypass	0: disable, 1: enable	Read only
	Bit0	Enable/Disable LCD display escape to default page after 1min timeout	0: disable, 1: enable	Read only

Note

1.Note1

Address	Value	Remarks
0x00D0H	00	Power on mode
	01	Standby mode
	02	Bypass mode
	03	Battery mode
	04	Fault mode
	05	Hybrid mode(Line mode, Grid mode)
	06	Charge mode

2. Note2

Address	Value	Remarks
0x0361H	HHMM	For :1420 Means Start time for enable AC charger working is 14:20
0x0362H	HHMM	For :1534 Means Ending time for enable AC charger working is 15:34

3.Note3

Address	Value	Remarks
0x0363H	HHMM	For :1420 Start time for enable AC supply the load is 14:20

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0x0364H	HHMM	For :1534 Ending time for enable AC supply the load is 15:34
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Application example

1. Silence buzzer Enable or Disable

Look for Enable silence buzzer, It in table address 0x0002 bit15. Then you may write 0x8000 to 0x0002 to Enable silence buzzer or write 0x7FFF to 0x0002 to disable silence buzzer.

For example:

[XX 10 00 02 00 01 02 80 00 CRCL CRCH]Mean: Enable silence buzzer.

[XX 10 00 02 00 01 02 7F FF CRCL CRCH]Mean: Disable silence buzzer.

Inquire the result of execute, you may read the follow address 0x0002 bit15.

For example:

[XX 03 00 02 00 01 CRCL CRCH]

[XX 03 02 80 00 CRCL CRCH]Mean: Execute success.

[XX 03 02 00 00 CRCL CRCH]Mean: Execute fail.

2. Remote turn on

Look for “Set enable/disable machine supply power to the loads” in address 0x0002 bit 11. Then you may write 0x0001 to 0x0002.

For example:

[XX 10 00 02 00 01 02 00 01 CRCL CRCH] Remote turn on.

Inquire the execution result. You may read 0x0002 bit0.

[XX 03 00 02 00 01 CRCL CRCH] to inquire the results of command.

3. Setting changeable parameter restore to default value

Look for “Set changeable parameter restore to default value”, then write 0x8000 to 0x0003. If execute success then set 0x0003 bit15 to 1;

For example:

[XX 10 00 03 00 01 02 80 00 CRCL CRCH] Set changeable parameter restore to default value.

[XX 03 00 03 00 01 CRCL CRCH] to inquire the results of command.

4. Get Grid voltage

Look for Grid voltage in address 0x01FE, when read 0x01FE to get input voltage and its units is 0.1V

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For example:

PC:[XX 03 01 FE 00 01 CRCL CRH]

DEVICE:[XX 03 02 00 E6 CRCL CRCH]

Mean: HEX [0x00E6] to DEC[230] .Gridvoltage:230V.

5. Setting Parameter item

Set charging source priority, You want to set charging source priority for Solar and Utility. Before set charging source priority, the ID of the parallel machine that needs to be set. For example: write 0x0000 to 0x0239,then write 0x0001 to 0x023C.

For example:

PC:[XX 10 02 39 00 01 02 00 00 CRCL CRCH]. Mean: Parallel number:0.

PC:[XX 10 02 3C 00 01 02 00 01 CRCL CRCH].

Mean: Set charging source priority for Solar and Utility.

6. Read the history error

When you want to read the error which fault id is 1. Then write 0x0001 to 0x021A.

For example:

PC:[XX 10 02 1A 00 01 02 00 01 CRCL CRCH]

Mean: Set The fault ID for 1 that mean you want read the error information of ID 1.

After that action please wait one second. Then you can read the error information of this fault ID from the address of 0x021B.

For example:

PC:[XX 03 02 1B 00 01 CRCL CRH]

DEVICE:[XX 03 02 80 00 CRCL CRCH]

Mean: Line fail.

If DEVICE:[XX 03 02 20 00 CRCL CRCH]

Mean: Inverter over temperature.

If DEVICE:[XX 03 02 10 00 CRCL CRCH]

Mean: Fan lock.

7. Read the energy generated of the history

When you want to read the energy of the 2011 years . Then write 0x32 0x30 0x31 0x31 to 0x01CC.

For example:

PC:[XX 10 01 CC 00 02 04 32 30 31 31 CRCL CRCH]

Mean: Set 0x01CC for 2011 that mean you want read the energy of 2011.

After that action please wait one second. Then you can read the energy of this year from the address of 0x019F.

For example:

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PC:[XX 03 01 9F 00 02 CRCL CRCH]

DEVICE:[XX 03 04 00 00 75 30 CRCL CRCH]

Mean: HEX [0x00007530]to DEC[30000] energy is 30000W

If DEVICE:[XX 03 04 FF FF FF FF CRCL CRCH]

Mean: HEX [0xFFFFFFFF] means read failed. Please write operate again.

If DEVICE:[XX 03 04 FE FF FF FF CRCL CRCH]

Mean: HEX [0xFEFFFFFF] means now is reading. Please wait.