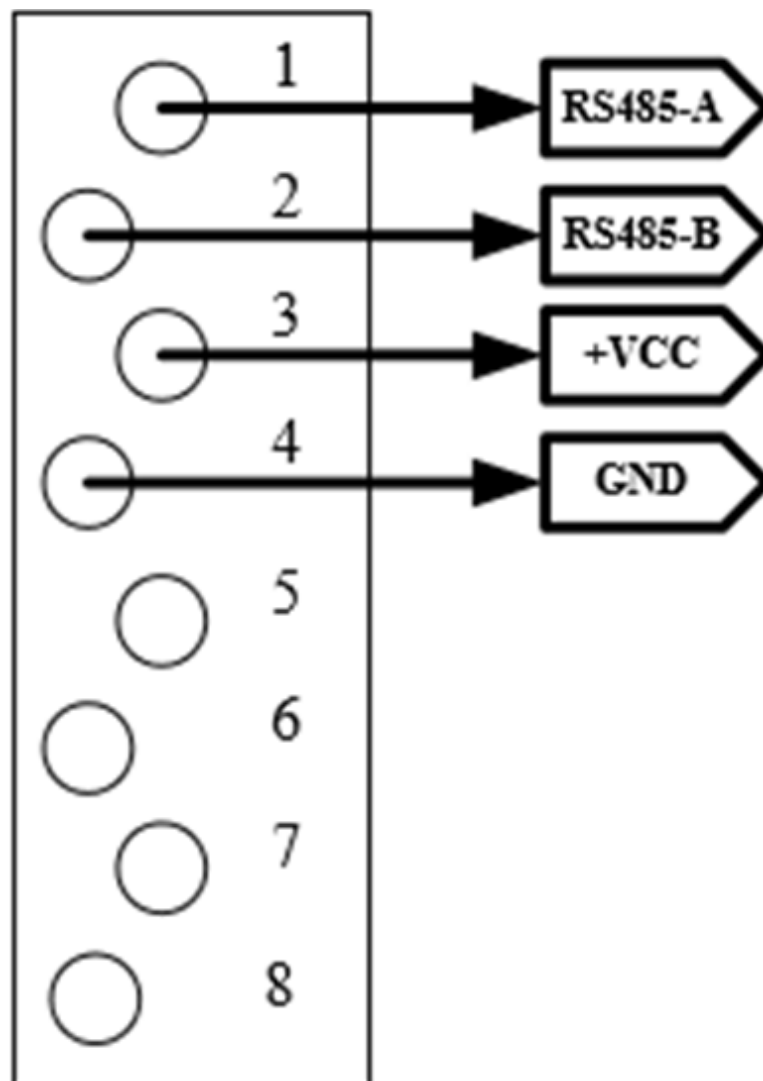


MPPT Solar Charge Controller Communication Protocol



Series port

Format: 8 data bits 1 stop bits no check bits

Baud rate: 9600bps

Communication format:

0x55 0xAA 0x01 0x00 0x00 0x00 0x00 0x00 【*****】 0x01 0x00

Frame header: 55 AA

address : 01

control code: 00

function code: 00

data length: 00 00

data: 【*****】

sum check: 01 00

For example:

send: 0x55 0xAA 0x01 0x00 0x00 0x00 0x00 0x00 0x01 0x00

return: 0x55 0xAA 0x01 0x00 0x00 0xxx 0xxx

send: 55 AA 01 00 02 00 02 00 00 01 02

return: 55 AA 01 00 00 00 25 02 D3 02 D3 01 9A 01 9A 06 03 02 6F 00 00 00 00 00
35 00 35 02 00 00 00 00 B3 00 00 04 03 03 00 00 00 00 03 00 05 AB

send: 55 AA 01 00 01 00 02 00 00 01 03

return: 55 AA 01 00 01 00 52 00 00 0C D8 00 00 00 00 00 00 00 00 00 00 07 BF 00
00 00 00 29 40 32 30 31 35 30 38 31 37 39 30 30 30 30 30 32 01 03 53 4D 4B 2D
53 43 46 2D 36 30 41 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 32 2E 30 00 17 70 00 8E 00 89 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0B 93

send: 55 AA 01 00 02 00 02 00 00 01 04

return: 55 AA 01 00 02 00 23 80 DB 58 31 0E A0 49 C1 51 FC B7 56 33 D6 59 74
8A DB F4 E2 5A 01 80 BC 3D C7 F3 19 68 41 5F D6 F3 27 7B 13 46

send: 55 AA 01 00 03 00 02 00 00 01 05

return: 55 AA 01 00 03 00 3A 03 32 30 31 35 30 38 31 37 39 30 30 30 30 30 30 32
03 53 4D 4B 2D 53 43 46 2D 36 30 41 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 32 2E 30 00 D3 73 AE B9 0A 6B

send: 55 AA 01 00 06 00 03 15 06 17 01 3B

55 AA 01 00 06 00 04 00 00 01 12 01 1D

send: 55 AA 01 00 07 00 02 17 00 01 20

return: 55 AA 01 00 07 00 30 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 2D 00 91 00
00 00 00 00 01 F5

send: 55 AA 01 00 08 00 02 00 00 01 0A

return: 55 AA 01 00 08 00 08 15 06 17 09 21 0D 01 77

send: 55 AA 01 00 0C 00 01 04 01 12

return: 55 AA 01 05 00 00 01 50 01 56 发送接受 ACK

return: 55 AA 01 05 00 00 01 0A 01 10 发送不接受 NAK

Read:**Control code: 00****1.Function code: 00**

Measuring Channels	Unit	Description	Length	
datalen		Data length	2 Bytes	
PvVolt	0.1V	Pv voltage	2 Bytes	
			2 Bytes	Not applicable
			2 Bytes	Not applicable
Battery voltage	0.1V	Output voltage	2 Bytes	
Charging current	0.01A	Out current	2 Bytes	
Charging power	0.1W	Out power	2 Bytes	
Battery temperature	℃	Battery temperature	2 Bytes	
-----	℃		2 Bytes	
Inside temperature	℃	Buck2 temperature	2 Bytes	Not applicable
-----	℃	Environment Temperature	2 Bytes	内部温度
Operating mode		POWER_ON_MODE 00 START_CHECK_MODE 01 NORMAL_RUN_MODE 02 FAULT_MODE 03 UPDATE_MODE 04 SETPAR_MODE 05	1 Bytes	
-----	00	00	1Byte	
day power output	wh	00 00 00 00	4Byte	
Total power output	wh	00 00 00 00	4 Byte	
Charging mode		00 no charge 01 cc charge 02 cv charge 03 float charge 04 soft start mode	1 Byte	
Reserve mode		00 00	2 Byte	
Error information		Error message (see table2)	1 Bytes	
Resever mode		00 00 00 00	3 Byte	
Sum check		xx xx		

2. Function code: 01

Measuring Channels	Unit	Description	Length	
Data length			2 Bytes	
----			2 Bytes	Not applicable
----			2 Bytes	Not applicable
-----			2 Bytes	Not applicable
-----			2 Bytes	Not applicable
-----			2 Bytes	Not applicable
-----			2 Bytes	Not applicable
----			2 Bytes	Not applicable
----			2 Bytes	Not applicable

----			2 Bytes	Not applicable
----			2 Bytes	Not applicable
----			4 Bytes	Not applicable
SerialNum	ASCII	Serial number	16Bytes	
MachineAddress		Machine address	1 Bytes	
BatteryType		Battery type	1 Bytes	
MachineModel	ASCII	Machine model	32Byte	
Firmware	ASCII		4Byte	
Max Charge Current	0.01A		2 Byte	
Buck Charge Voltage	0.1V		2 Byte	
Float Charge Voltage	0.1V		2 Byte	

3.Function code: 03

Measuring Channels	Unit	Description	Length	
Date Len			2Byte	
Machine Type		(01:charge 02: invert 03:combo)	1Byte	
SerialNum		Serial number	16Bytes	
BatteryType		04:Lithium 05: GEL 06:AGM 07:SEALED 08:FLOODED 09:User Def	1 Bytes	
Machine Mode		ASCII	32 Byte	
MAIN Fireware		ASCII	4Byte	
SLAVE Fireware		ASCII	4Byte	
First power Rcode date		Year month day hour minute second	6Byte	

4.Function:05: SENT: 0x55 0xaa 0x01 00 05 00 02Year month Sum1 Sum2 (read Year month output power)

Measuring Channels	Unit	Description	Length	
Date Len			2 Byte	
Year			1Byte	
month			1Byte	
RETURN DATA EXAMPLE: 0x55 0xaa 0x01 00 05 00 04 ** ** ** ** Sum1 Sum2				
Power			4Byte	

5.Function 06: sent: 0x55 0xaa 0x01 00 06 00 03 Year month day Sum1 Sum2 (read Year month day output power)

Measuring Channels	Unit	Description	Length	
Date Len			3 Byte	
Year			1Byte	
month			1Byte	
day			1Byte	
RETURN DATA EXAMPLE: 0x55 0xaa 0x01 00 06 00 04 ** ** Sum1 Sum2				
Power			4Byte	

6.Function 07: sent: 0x55 0xaa 0x01 00 07 00 02 day hour Sum1 Sum2 (read day hour output power)

Measuring Channels	Unit	Description	Length	
Date Len			2 Byte	
day			1Byte	

hour		00	1Byte	
RETURN DATA EXAMPLE: 0x55 0xaa 0x01 00 07 00 30 ** ** Sum1 Sum2				
Power			2 Byte	0-23 H

7.Function code:08

Measuring Channels	Unit	Description	Length	
Date Len			2 Byte	
Year			1Byte	
month			1Byte	
day			1 Bytes	
hour			1Byte	
minute			1Byte	
second			1Byte	

Write:

Control code: 01

Control code	Function code	Name	Unit	Length	
01	00	----		Not applicable	
	01	----		Not applicable	
	02	----		Not applicable	
	03	----		Not applicable	
	04	----		Not applicable	
	05	----		Not applicable	
	06	----		Not applicable	
	07	----		Not applicable	
	08	----		Not applicable	
	09	----		Not applicable	
	0A	----		Not applicable	
	0B	MachineAddress		1byte	
	0C	BatteryType 04:Lithium 05: GEL 06:AGM 07:SEALED 08:FLOODED 09:User Def		1 byte	1 byte
	0D	Total power(Clear Total power)	0		1 byte
0E	Max Charge Current	0.1A		2 byte	
0F	Buck charge voltage	0.1V		2 Byte	
10	Float charge voltage	0.1V		2 Byte	
	11	Year/month/day/hour/minute /second		6 Byte	
	2D	Load off battery voltage	0.1V	2 Byte	
	2E	Load ON Mode		1 Byte	
	2F	Load OFF Mode		1 Byte	

Control Code: 02 'Execute'

Control code	Function	description
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	code	
0x02	00	
	09	
	0A	

Control Code: 61 'Read' (Only for TCP)

Measuring Channels	Unit	Description	Length	
Datalen		Data length	2 Bytes	5 6
Local IP Address			4	
Mask IP			4	
Gate IP			4	
Local TCP Port			2	
Local UDP Port			2	
TCP Severice IP			4	
TCP Severice Port			2	
UDP Severice IP			4	
UDP Severice Port			2	
Mac Address			6	

Control Code: 62 'Write'(Only for TCP)

Control Code	Function Code	Description	Length	
0x62	1	Local IP Address	4	
	2	Mask IP	4	
	3	Gate IP	4	
	4	Local TCP Port	2	
	5	TCP Severice IP	4	
	6	TCP Severice Port	2	
	7	UDP Severice IP	4	
	8	UDP Severice Port	2	
	9	Mac Address	6	
	10	Local UDP Port	2	

[*label2]

	Error message	Description	
1	InUvp	Input voltage low	PV 过压
2	InOvp	Input voltage high	PV 低压
5	OutUvp	Output voltage low	电池低压
6	OutOvp	Output voltage high	电池过压
8	OutShort	Output circuit short	输出短路

