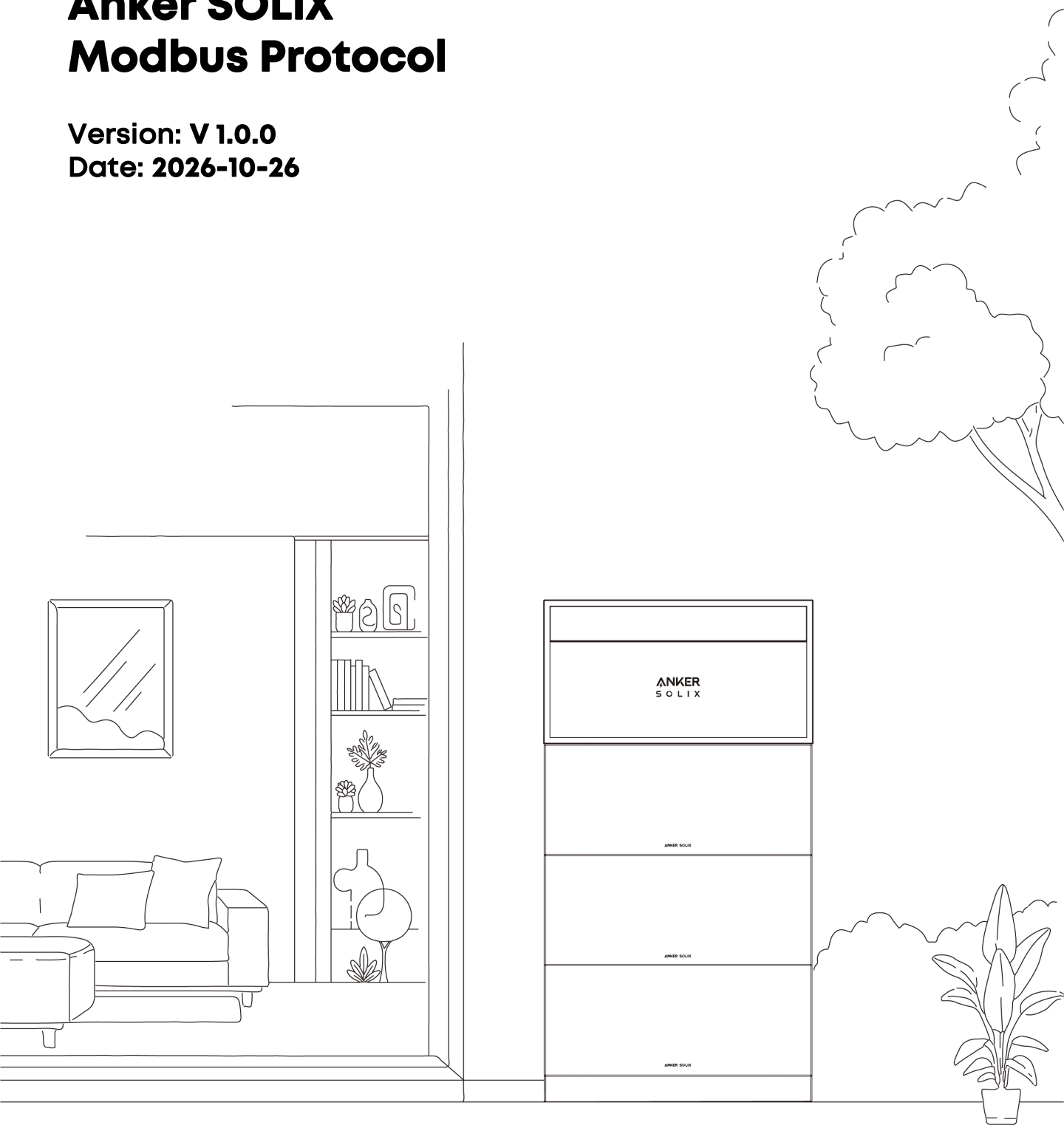
ANKER SOLIX

LIVE IN POWER

Anker SOLIX Modbus Protocol

Version: V 1.0.0
Date: 2026-10-26



Anker Innovations Ltd.

Revision History

Version	Updated Date	Updated Page	Revisions
V1.0.0	2026/10/26	All	Initial release

Introduction

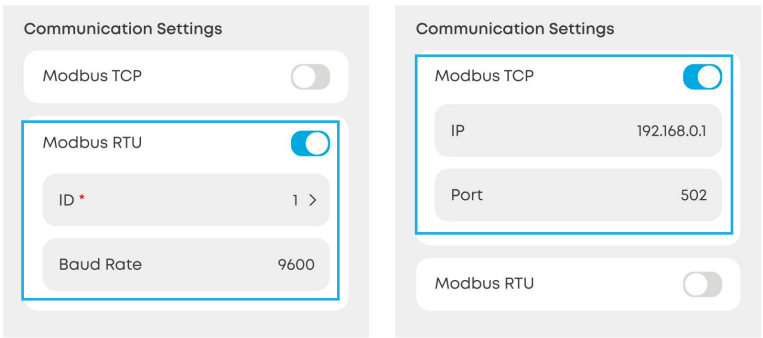
Support Devices:

- Anker SOLIX Solarbank Max AC
- Anker SOLIX Solarbank Max
- Anker SOLIX XE AC
- Anker SOLIX XE

Support Method:

1. Modbus RTU: RS485 Connection
2. Modbus TCP: Local network Connection.
   SOLIX device is the server, and the 3rd party device is the client.
   Default port: **502**

Please use Anker Power App or Anker SOLIX Professional App to the communication method.



For Modbus RTU, the 'ID' is the address of RS485, can be set.

For Modbus TCP, the 'IP' is the IP address of current device, the 3rd party device can use this IP address to connect with Anker SOLIX device.

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Description

Modbus RTU

Protocol Format			
Address (1 byte)	Function code (1 byte)	Data (0-252 byte)	CRC16 (2 byte)

Fuciton Code

Function Code	Description	Remarks
0x03	Read Holding Registers, supporting both single and sequential read operations of multiple register addresses.	Read ‘RW‘ register
0x04	Read Input Registers, supporting both single and sequential read operations of multiple register addresses.	Read ’RO‘ register
0x06	Write signla register.	
0x10	Write Multiple Registers, with support for sequential write operations.	

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0x03/0x04 Read Register Format

Send（3rd party device）		
Data Field	**Length**	**Description**
Address	1 byte	Client Address
Function Code	1 byte	0x03/0x04
Register Address	2 byte	Register Start Address
Number of Register	2 byte	
CRC16	2 byte	
Return（Anker SOLIX Device）		
Data Field	**Length**	**Description**
Address	1 byte	Client Address
Function Code	1 byte	0x03/0x04
Byte Count	1 byte	2*N(Quantity of Registers to Read)
Register Vaule	2*N bytes	Values
CRC16	2 byte	
Error Code		
Data Field	**Length**	**Description**
Address	1 byte	Client Address
Function Code	1 byte	0x83/0x84
Error Code	1 byte	0x01: Illegal Function 0x02: Illegal Data Value 0x03: Illegal Register Address 0x04: CRC Error
CRC16	2 byte	

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0x06 Write Signal Register Format

Send（3rd party device）		
Data Field	**Length**	**Description**
Address	1 byte	Client Address
Function Code	1 byte	0x03/0x04
Register Address	2 byte	Register Address
Register Value	2 byte	
CRC16	2 byte	
Return（Anker SOLIX Device）		
Data Field	**Length**	**Description**
Address	1 byte	Client Address
Function Code	1 byte	0x06
Byte Count	1 byte	Register Address
Register Vaule	2*N bytes	value
CRC16	2 byte	
Error Code		
Data Field	**Length**	**Description**
Address	1 byte	Client Address
Function Code	1 byte	0x83/0x84
Error Code	1 byte	0x01: Illegal Function 0x02: Illegal Data Value 0x03: Illegal Register Address 0x04: CRC Error
CRC16	2 byte	

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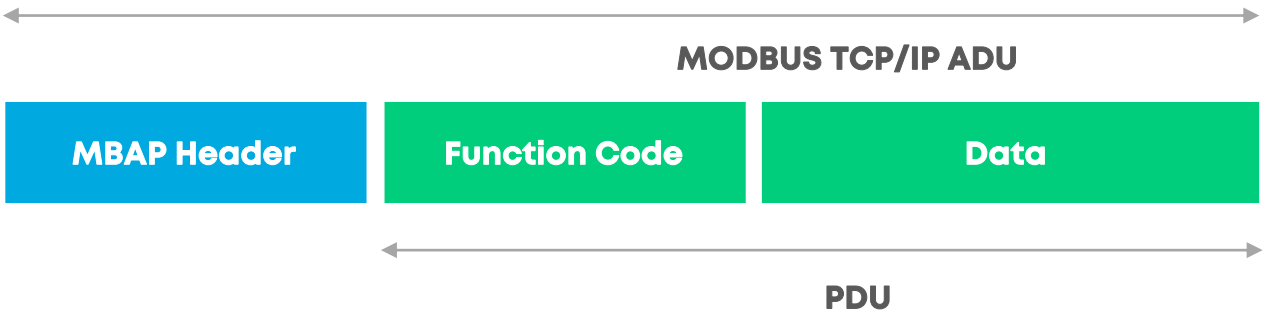
0x10 Write Multiple Register Format

Send（3rd party device）		
Data Field	**Length**	**Description**
Address	1 byte	Client Address
Function Code	1 byte	0x10
Register Address	2 byte	Register Start Address
Number of Register	1 byte	
Value	2 byte	value
CRC16	2 byte	
Return（Anker SOLIX Device）		
Data Field	**Length**	**Description**
Address	1 byte	Client Address
Function Code	1 byte	0x10
Register Address	2 byte	Register Start Address
Number	2 byte	N
CRC16	2 byte	
Error Code		
Data Field	**Length**	**Description**
Address	1 byte	Client Address
Function Code	1 byte	0x83/0x84
Error Code	1 byte	0x01: Illegal Function 0x02: Illegal Data Value 0x03: Illegal Register Address 0x04: CRC Error
CRC16	2 byte	

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Modbus TCP

Protocol Format



MBAP Format:

Data Field	Length (bytes)	Description	Client	Server
Transaction Identifier	2	Unique ID generated by the client to match requests/responses.	The client should assign a unique Transaction Identifier (TransID) to each request frame.	The same as request
Protocol Identifier	2	Always 0x0000 for standard Modbus TCP.	The client assign, default is '0'	The same as request
Length	2	Number of remaining bytes (Unit ID + PDU). Max: 254 (0x00FE).		
Unit Identifier	1	Device address, defualt is (0x0001)		
*** Fuciton Code is the same as Modbus RTU**				

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Register Definition

Classification - Summary - Information							
End Point	**R/W**	**Type**	**Unit**	**Gain**	**Number**	**Address**	**Comment**
Plant Status	RO	UINT16	/	/	1	10000	1: On-grid; 2: Off-grid; 3. Standby; 4: Fault;
Battery Status	RO	UINT16	/	/	1	10001	0: Standby; 1: Charging; 2: Discharging;
PV Power	RO	INT32	W	1	2	10002	AC couple device not supported
3rd Party PV Power	RO	INT32	W	1	2	10004	
Active Power	RO	INT32	W	1	2	10006	Positive: represents output power. Negative: represents absorption power.
Battery Power	RO	INT32	W	1	2	10008	The sum of the charging/discharging power of all batteries in the plant Positive: Discharging. Negative: Charging.
Load Power	RO	INT32	W	1	2	10010	
Grid Power	RO	INT32	W	1	2	10012	Positive: From grid Negative: Feed to grid
SOC	RO	UINT16	%	1	1	10014	Integrated SOC for all batteries in the plant
SOH	RO	UINT16	%	1	1	10015	Integrated SOH for all batteries in the plant
Reserved	RO	/	/	/	2	10016	
Total PV Generation	RO	UINT32	kWh	10	2	10018	
Reserved	RO	/	/	/	2	10020	
Total Battery Charge Energy	RO	UINT32	kWh	10	2	10022	
Total Battery Discharge Energy	RO	UINT32	kWh	10	2	10024	
Total Load Consumption Energy	RO	UINT32	kWh	10	2	10026	
Reserved		/	/	/	2	10028	
Total Purchased Energy	RO	UINT32	kWh	10	2	10030	
Reserved		/	/	/		10032	
Total Feed-in Energy	RO	UINT32	kWh	10	2	10034	
Rechargeable Power	RO	INT32	W	1	2	10036	
Dischargeable Power	RO	INT32	W	1	2	10038	
Number of PCS	RO	UINT16	/	/	1	10040	
Number of Available PCS	RO	UINT16	/	/	1	10041	
Reserved					10	10050	

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Classification - Summary - Control							
End Point	**R/W**	**Type**	**Unit**	**Gain**	**Number**	**Address**	**Comment**
System Time	RW	/	/	/	2	10060	Timestamp
Reserved	RW	/	/	/	1	10062	
Reserved	RW	/	/	/	1	10063	
Work Mode	RW	UINT16	/	/	1	10064	0: Self-consumption; 1: TOU; 3: 3rd party control (VPP, etc) 4. User-Defined 6: AI mode 7: Dynamic Price
Reserved	RW	/	/	/	2	10065	
Reserved	RW	/	/	/	2	10067	
Reserved	RW	/	/	/	1	10069	
Reserved	RW	/	/	/	1	10070	
Active Power Control	RW	INT32	W	1	2	10071	Positive: PCS Grid port Discharging power. Negative: Grid Charging power. Only valid when the work mode is 3rd party control
Reserved	-	-	-	-	1	10073	1: Switch On 2: Swith Off
Export Power Limitation Eanble	RW	UINT16	/	1	1	10074	0: Disable; 1: Enable;
Export Power Limit Control Value	RW	INT32	W	1	2	10075	
Reserved	RW	/	/	/	1	10077	
Reserved	RW	/	/	/	2	10078	
Reserved	RW	/	/	/	1	10080	
Reserved	RW	/	/	/	9	10081	

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Classification - Summary - Settings							
End Point	**R/W**	**Type**	**Unit**	**Gain**	**Number**	**Address**	**Comment**
Charge Limit SOC	RW	UINT16	%	1	1	60000	
DISharge Limit SOC	RW	UINT16	%	1	1	60001	
Reserve SOC	RW	UINT16	%	1	1	60002	
Backup Reserve Enable	RW	UINT16	/	1	1	60003	0：Disable 1：Enable

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