SOLARMAN BDH200-WU Data Acquisition Terminal Stick Logger User Manual

Contents

SOLARMAN BDH200-WU Data Acquisition Terminal Stick Logger

Product Information

Specifications

- **Dimensions:** 70mm x 46mm x 29mm
- **Protection Grade:** IP65
- **Data Interface:** USB Type-A 3.0 (Default)
- **Protocol Version:** Modbus Communication Protocol, MQTT Communication Protocol, etc.
- **Color:** Black (Default)

Product Usage Instructions

Overview
The BDH200-WU Data Acquisition Terminal (DAT) is designed for inverter data acquisition, processing, storage, and remote transmission. It features WiFi and Bluetooth communication functions, cloud remote upgrade capability, NTP timing function, and more.

Installation
The DAT has a high integration degree and low power consumption. It is equipped with a special fixed structure for easy installation. Ensure the DAT is placed in a suitable location for data acquisition.

Connection
Connect the DAT to the appropriate power source and ensure the data interface is connected securely to the device you wish to acquire data from.

Data Acquisition and Transmission
Utilize the provided software interface to configure the DAT for data acquisition, processing, storage, and transmission. Follow the software interface description in the user manual for detailed instructions.

Outdoor Use
The DAT is designed to withstand outdoor environments. Ensure proper waterproofing and protection from falls or corrosion when using the DAT outside.

FAQ

- **Q: What is the default color of the BDH200-WU Data Acquisition Terminal?**
  A: The default color of the terminal is Black.
- **Q: What is the operating frequency for WiFi communication?**
  A: The operating frequency for WiFi communication ranges from 2412-2462MHz for 802.11b/g/n (HT20) and 2422-2452MHz for 802.11n (HT40).

This document describes the product information of the BDH200-WU data acquisition terminal(Stick Logger), including product features, performance specifications, electrical characteristics, and external dimensions.

Product description

Figure 1 BDH200-WU Frontal view of the data acquisition terminal

Overview

BDH200-WU Data acquisition terminal(Stick Logger) (Hereinafter referred to DAT) is our independent development,specially designed for inverter data acquisition, processing, storage and remote transmission.. It adopts the integrated design of antenna host,, integrates WiFi communication, Bluetooth communication, RF transceiver circuit, baseband circuit, etc., with high integration degree and low power consumption, and is equipped with special fixed structure. Install and use is very convenient. In order to adapt to the inconvenient environment such as outdoor and bad weather, the design of the DAT fully considers the requirements of waterproof, anti-fall and anti-corrosion.

Product features

- WiFi communication function
- Bluetooth communication function
- The cloud remote upgrade
- WiFi near field upgrade

- NTP timing function
- Remote maintenance function
- Data remote transmission function
- Multi-master station (platform) connection function
- Data acquisition, processing and storage functions
- Dimensions: 70mm*46mm*29mm
- Protection grade: IP65
- Data interface:USB Type-A3.0(Default)
- Protocol version: modbus communication protocol, MQTT communication protocol, etc
- Color: Black (default)

Applications

- Inverter data acquisition and transmission
- Data acquisition and transmission of other smart devices

Technical indicators

Performance indicators
Table 1 performance indicators:

	Indicator	**Parameter**
WiFi	Operating frequency	2412-2462MHz for 802.11b/g/n(HT20) 2422-2452MHz for 802.11n(HT40)
	Protocol version	IEEE 802.11 b/g/n protocol
	Modulation mode	CCK, OFDM, QPSK, BPSK, 16QAM, 64QAM
	work pattern	AP + STA
Bluetooth	Operating frequency	2.402~2.480 GHz
	Protocol version	V5.2
	Modulation mode	GFSK
	work pattern	Bluetooth low energy Bluetooth LE

Direct current characteristic
Table 2 direct current characteristic:

Parameter	Symbol	Min	Standard	Max	Unit	Condition
Supply voltage	VCC	5	12	24	V	12V power supply
Emission open current	ITX	165	250	400	mA	12V power supply
Single receiving current	IRX	110	120	140	A	12V power supply

- The test conditions were all at room temperature of 25°C;
- The power supply must meet the power supply capacity of more than 10W.

Temperature characteristic
Table 3 temperature characteristic:

Parameter	Min	Standard	Max	Unit
Operating temperature	-30	25	70	°C
Storage temperature	-45	25	90	°C

Indicator light description
There are 3 indicators on the front of the terminal, refer to the table below for definition:
Table 4 led definition:

Function	Color	Definition
READY	green	In normal operation, the green light is flashing, and the abnormal light is often off or on;
COM	green	In normal operation, the green is always bright, and the abnormal is often off;
NET	green	In normal operation, the green is always bright, and the abnormal is often off

Structure block diagram

Terminal can complete the implementation of the bluetooth communication and WiFi communication function, its internal basic block diagram is shown in figure 2.

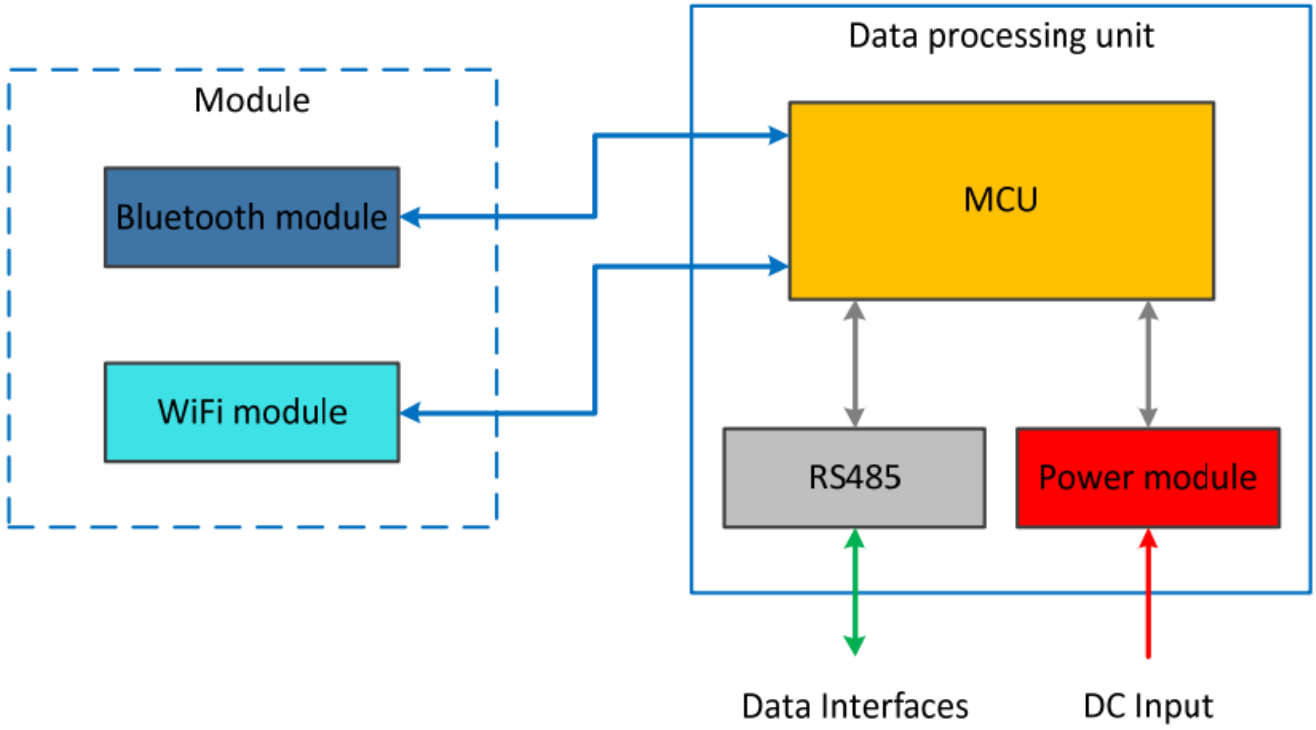


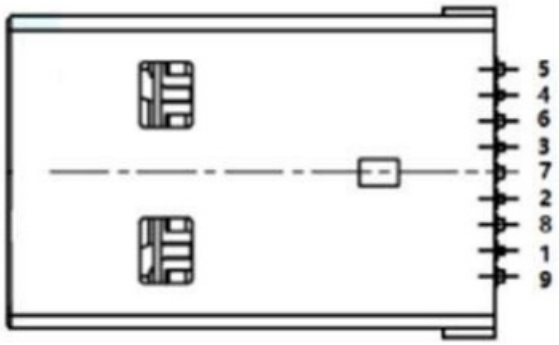
Figure 2 Overall block diagram of DAT

Interface Instructions

Connection interface with DAT
The DAT adopts USB Type-A3.0 interface, and the pin is defined as follows:
Table 5 pin definition:

PIN	Description	Network name	Types	Notes
1	Power supply VCC	VCC	Power	Power supply from 4.5 V to 5.5 V 3.5 W
2	NC	NC	NC	
3	NC	NC	NC	
4	The power GND	GND	Power	The power GND
5	data communication	RS485-B	I/O	RS485-B line
6	data communication	RS485-A	I/O	RS485-A line
7	NC	NC	NC	
8	NC	NC	NC	
9	NC	NC	NC	

The pin diagram is shown in FIG 3:



USB PIN

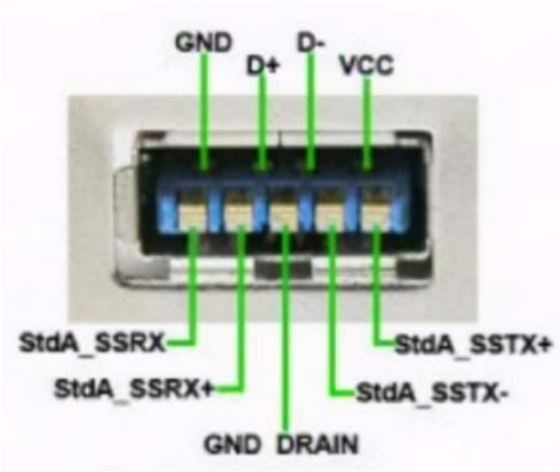


Figure 3 DAT interface pin diagram

Software Interface Description
Table 6 software protocol:

Serial number	Protocol version
1	Modbus Communication protocol
2	Master communication protocol MQTT or custom protocols

FCC

FCC Radiation Exposure Statement:
This device meets the government's requirements for exposure to radio waves. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons regardless of age or health. The SAR limit of USA (FCC) is 1.6 W/kg averaged. Device types: Stick Logger (FCC ID: 2BCTM-BDH200SERIES) has also been tested against this SAR limit. SAR information can be viewed on-line at **http://www.fcc.gov/oet/ea/fccid/**. Please use the device FCC ID number for search. This device was tested simulation typical 0mm to body. To maintain compliance with FCC RF exposure requirements, the use of accessories should maintain a separation distance between the user's bodies mentioned above, the use of accessories should not contain metallic components in its assembly, the use of accessories that do not satisfy these requirements may not comply with FCC RF exposure requirements, and should be avoided.

FCC Warning
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, under part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used by the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful

interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Documents / Resources

	SOLARMAN BDH200-WU Data Acquisition Terminal Stick Logger [pdf] User Manual BDH200-WU Data Acquisition Terminal Stick Logger, BDH200-WU, Data Acquisition Terminal Stick Logger, Acquisition Terminal Stick Logger, Terminal Stick Logger, Stick Logger, Logger

References

- User Manual