

# User Manual

## Modbus RTU and TCP



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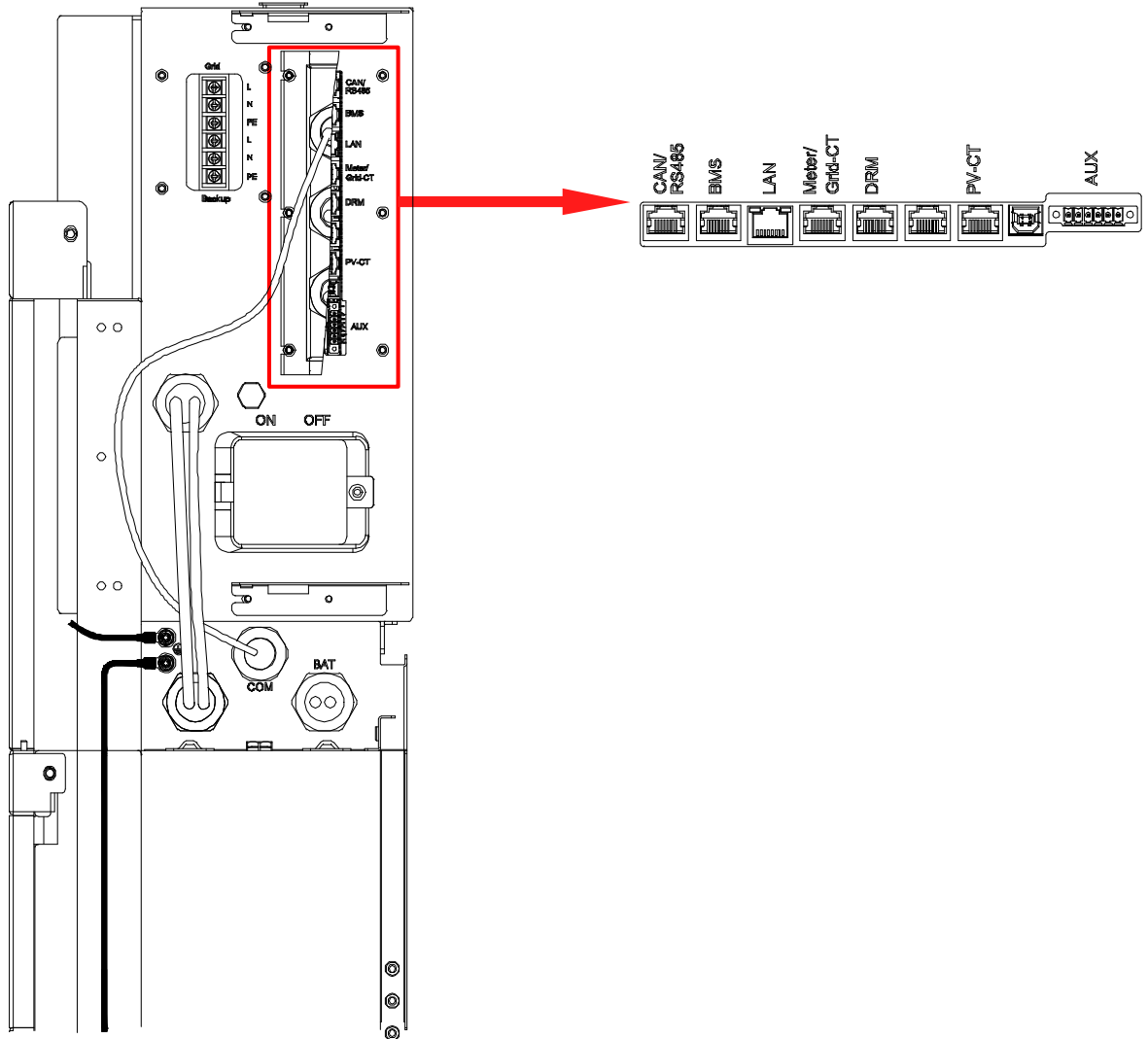


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# 1. Modbus RTU Interface

## 1.1. SMILE-B3-PLUS

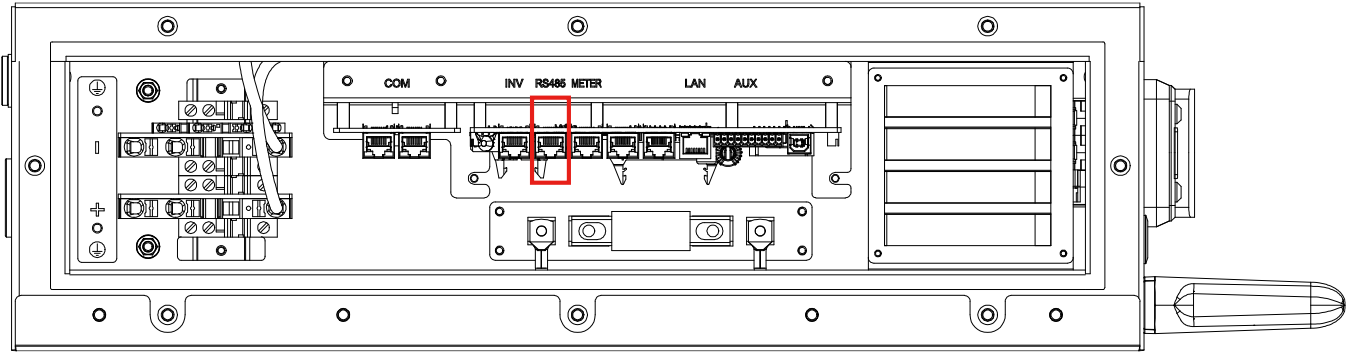


Schematic diagram of Modbus RTU interface

### 1.1.1. Interface Definition

Item	Description
Interface	CAN/RS485
PIN Definition	4B5A
Baud Rate	9600

## 1.2. SMILE-BAT-8.2PHA

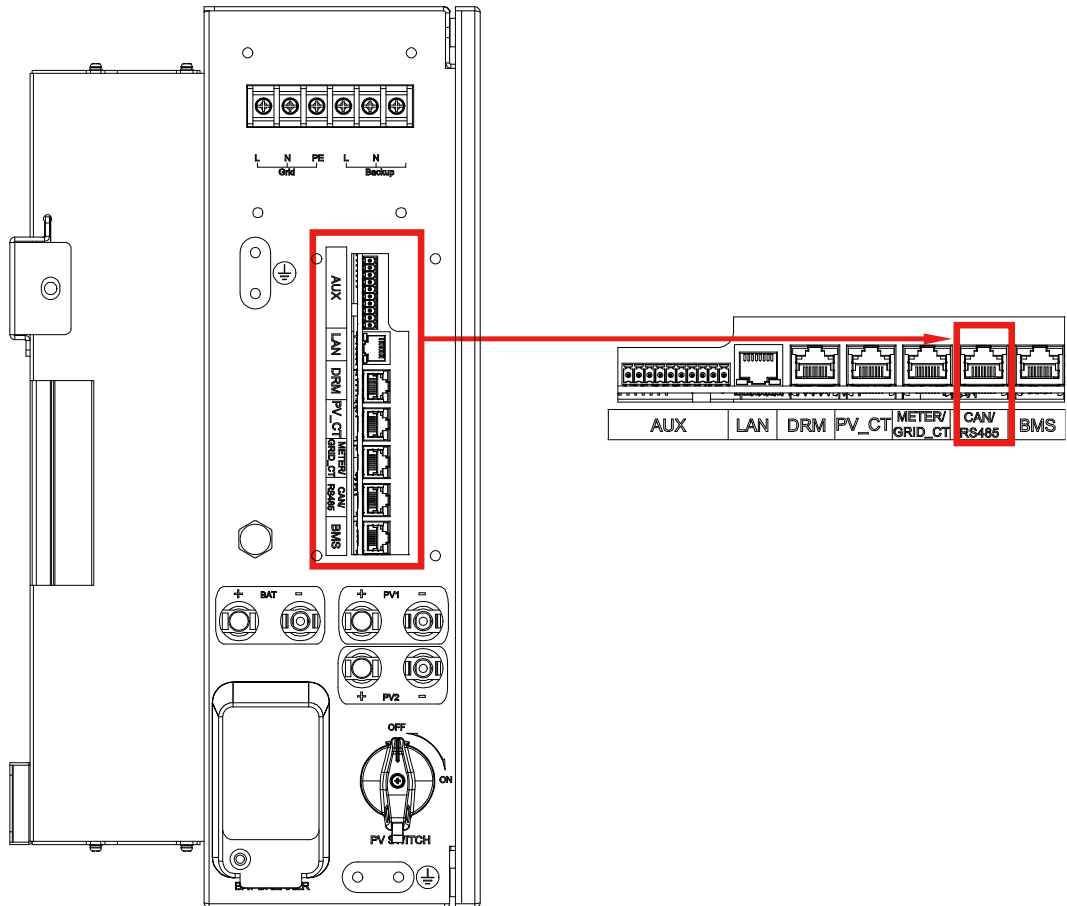


Schematic diagram of Modbus RTU interface

### 1.2.1. Interface Definition

Item	Description
Interface	RS485
PIN Definition	4B5A
Baud Rate	9600

### 1.3. SMILE-S6-HV

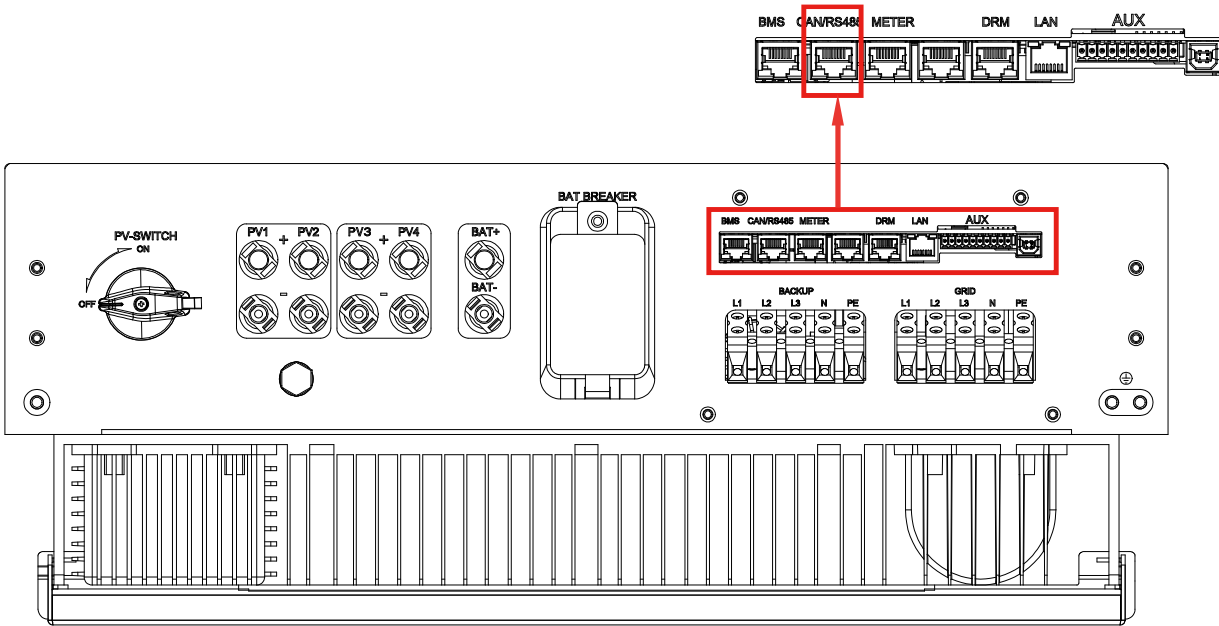


Schematic diagram of Modbus RTU interface

#### 1.3.1. Interface Definition

Item	Description
Interface	RS485
PIN Definition	4B5A
Baud Rate	9600

### 1.4. SMILE-T10-HV



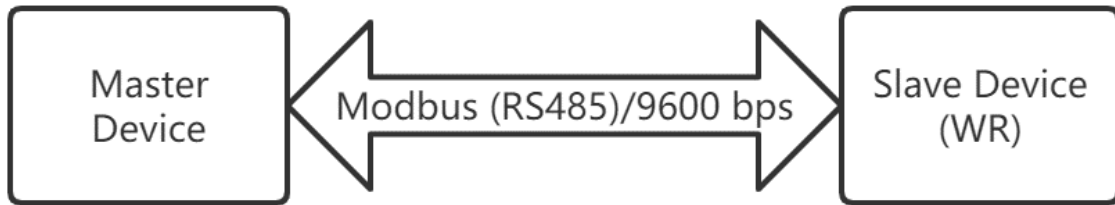
Schematic diagram of Modbus RTU interface

#### 1.4.1. Interface Definition

Item	Description
Interface	RS485
PIN Definition	4B5A
Baud Rate	9600

## 2. Modbus RTU Communication

### 2.1. Communication Flow Chart



Communication Flow Chart

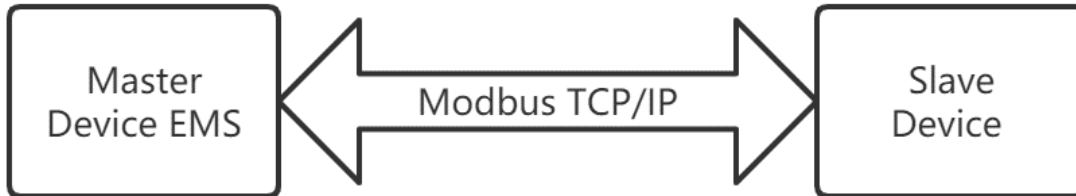
#### 2.1.1. RS485/MODBUS-RTU Communication

Item	Description
Interface	RS485
Connection mode	two-wire (RS485+, RS485-), shielded twisted pair conductor
Working mode	half duplex
Communication speed	9600bps
Response Time	<300ms
Command interval	>300 ms
Timeout	>10s



### 3. Modbus TCP (under Development)

#### 3.1. Communication Flow Chart



Communication Flow Chart

##### 3.1.1. RS485/MODBUS-RTU Communication


Item	Description
Interface	TCP/IP
Response Time	< 100ms
Command interval	> 100 ms
Timeout	> 10s

*EMS device is server, open a local port 0x502*

 @AlphaEnergyStorageSystem  @AlphaESS  @alpha\_ess  @AlphaESS  www.alpha-ess.com

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