Ask AI

Modbus RTU DC Monitor



This product is an industrial-standard current and power monitoring module featuring 4-channel simultaneous acquisition. It uses the Modbus RTU protocol and allows monitoring of channel current, voltage, and power via the RS485 interface. It features built-in protection circuits including power isolation, optocoupler isolation, resettable fuse, and TVS diode.

SKU	Product
33931	Modbus RTU DC Monitor

Product Parameters

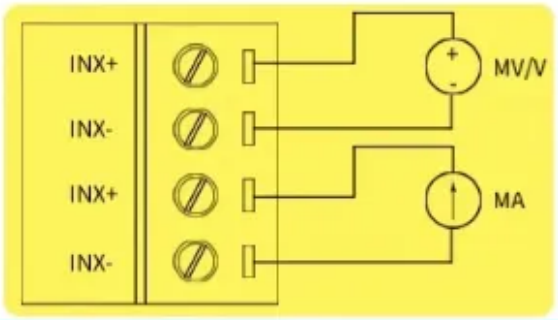
Parameter	Description
Communication Interface	RS485
Communication Baud Rate	4800, 9600, 19200, 38400, 57600, 115200, 128000, 256000
Default Communication Format	9600, N, 8, 1
Modbus Protocol	Standard Modbus RTU protocol
Supply Voltage	DC 7 - 36 V
Sampling Resistor	0.002 Ω 1%
Voltage Measurement Range	0 ~ 36 V
Current Measurement Range	± 8 A
Resolution	0.8 mA

LED Indicator Descriptions

Indicator	Status Description
Status LED	Status indicator, flashes when the MCU is operating normally
TXD LED	Transmit indicator, lights up when transmitting data
RXD LED	Receive indicator, lights up when receiving data

Hardware Interface Description

The module can measure current and voltage on four channels, each of which can operate independently. The four channels correspond to (IN1+ IN1-), (IN2+ IN2-), (IN3+ IN3-), and (IN4+ IN4-), respectively.



Voltage and current input simultaneously

INx+ and INx- represent the current input and output, respectively. The module measures the differential voltage across the sampling resistor connected in series between INx+ and INx- to determine the current flowing through. The module can measure bidirectional current; reversing all inputs and outputs is also acceptable.

Special note: When measuring different power supplies, a common GND connection is required; otherwise, the bus voltage cannot be measured, and only the differential voltage and current can be measured.

Hardware Connection Description

Connect the USB TO 485 converter to the target board using jumper wires, connecting A-->A and B-->B as shown in the figure below:



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