8 Channel RTD Acquisition Module

A-1120

Instruction Manual

- Thank you for purchasing A-1120 module. We hope you are satisfied with its performance.
- Please read this manual carefully and keep it for future reference.

Warranty

ATC Co. guarantees that this product meets its published specifications at the time of shipment from the factory. Under proper installation it should work as expected.
However, ATC Co. can't guarantee that operation in ATC system is absolutely error-free, or without interruption.

Warranty Period

Our products are warranted against defects in material and manufacturing for a period of two years from the date of shipment. During the warranty period, ATC is responsible for necessary repairs as long as the product can be proved to be defective.
For warranty service or repair this product must be returned to a service facility designated by ATC. Buyer will pay shipping charges to ATC and ATC will pays return shipping charges.

Excluded Items

This warranty does not include consumptive parts such as batteries, fuses, buttons and relays. Also this warranty does not cover defects caused by improper installation, improper or insufficient maintenance, unauthorized modifications, improper operation, ignorance of environmental specifications, or improper software setting.

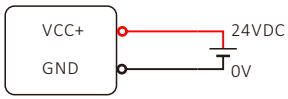
Remarks

*No other warranty is expressed or implied, except for the above mentioned.
*The remedies provided herein are the buyer's sole and exclusive remedies. ATC shall not be liable for any direct, indirect, special, incidental or consequential damages.

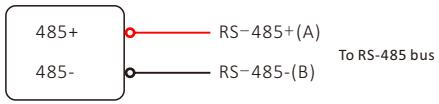
1. Specifications

Part Number	A-1120
AI	8(16 Bit)
AI Type	PT-100
AI Impedance	RTD:10MΩ
AI Accuracy	0.02%±0.1
Temperature Range	-200℃~850℃
Sampling Rate	10Hz (Total)
Span Drift	±10 ppm/℃
Interface	1×RS-485
Isolation(Power&RS485)	1500VDC
Protocol	Modbus RTU
Operation Temperature	-20 ~ +70℃
Operation Voltage	10~30VDC

2. Power Supply



3. RS-485



4. RTD (PT-100)

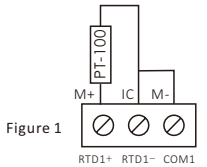


Figure 1

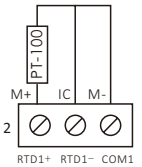
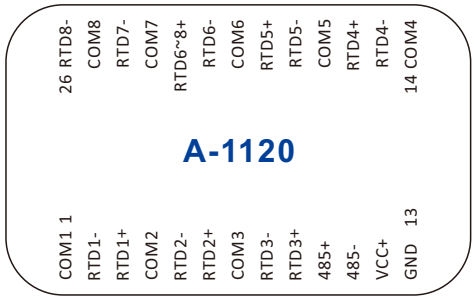


Figure 2

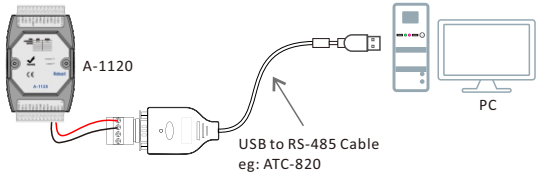
5. Pinout Wire Diagram



6. Configuration

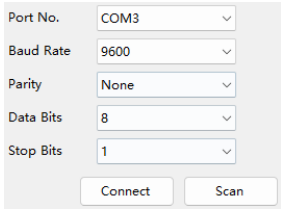
Please go to the ATC website to download and install the ATC Utility configuration software.
Website address: www.szatc.com

- Connect the RS-485 communication port between the computer and the module via USB to RS-485 cable, as shown in the following figure.



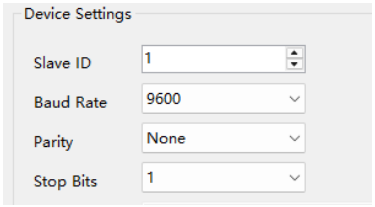
- Connect/Scan Module

Port No.: Select the actual COM port number.
Serial Parameters: Default 9600 N 8 1.
Connect: Click to connect the module.
Scan: Search for the module that is online.



- Device Settings

Slave ID: Default 1(Dec), The setting range is 1~255.
Serial Parameters: Default 9600 N 8 1.



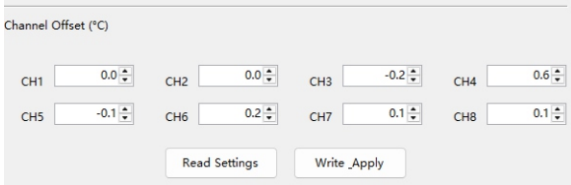
- RTD real-time value

Can view the current temperature values of each channel in real time.

Channel	Address	Value	Temperature (°C)
CH1	40001	2000	0.0
CH2	40002	2191	19.1
CH3	40003	2195	19.5
CH4	40004	2193	19.3
CH5	40005	2193	19.3
CH6	40006	2000	0.0
CH7	40007	2000	0.0
CH8	40008	2001	0.1

- Channel Offset

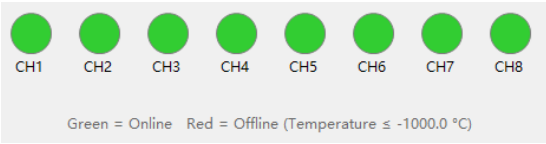
The deviation value can be adjusted according to the actual situation on site.



Note: After all parameters have been set, you must click the Write_Apply button to save the parameters and make them effective.

- Online Detection

It can indicate whether the sensor is connected to the channel, with green indicating connection and red indicating disconnection.



7. Modbus Address Mapping

A-1120			
Supported Modbus Code: 01 (Coils)			
Address 0X	Item	Status	Note
00001 ~ 00008	1-8 channel RTD online status	R	0=Offline, 1=Online
Supported Modbus Code: 03/06/16 (Holding Registers)			
Address 4X	Item	Status	Note
40001-40008	1-8 channel RTD temperature	R	-200 ~ +850℃: 0-10500
40011	Station Number (ID)	R/W	1-255
40012	Baud rate	R/W	0=9600,1=19200,2=38400 3=57600,4=115200
40013	Parity	R/W	0=None,1=Even,2=Odd
40014	Stop bit	R/W	1 or 2
40016	Apply/Save/Reboot	R/W	Write 0x55AA to trigger save and reboot parameter
40053-40060	1-8 channel deviation value	R/W	1=0.1℃