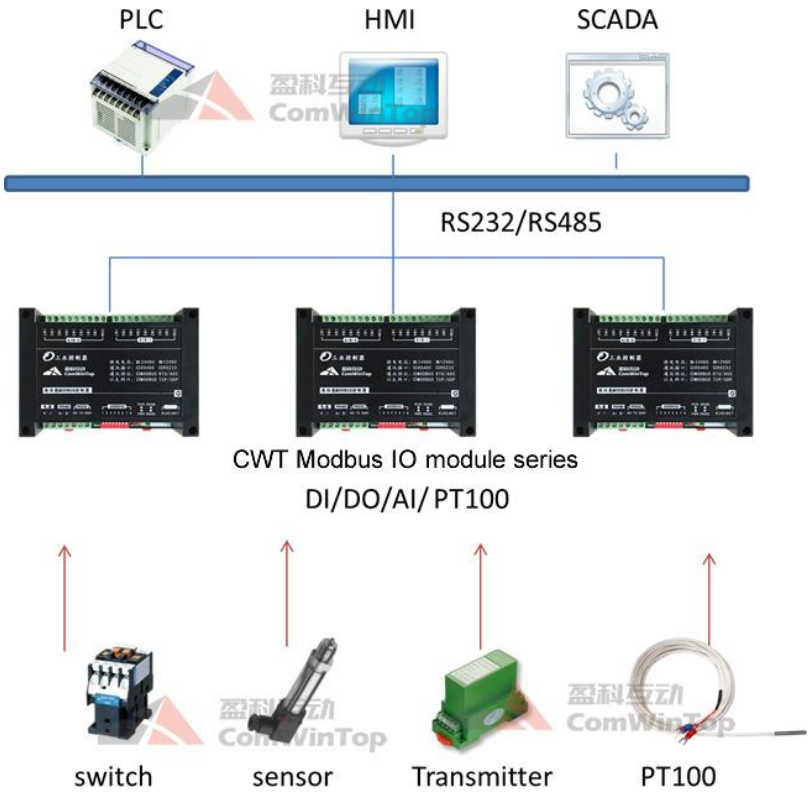
CWT-MB307F
Modbus I O Module
manual

CONTENTS

1 OVERVIEW

Model	Options	IO Port	Communication Port	Protocol
CWT-MB307F	I-V-485	8AI (4-20mA/0-10V) + 8DI	RS485	Modbus RTU
	I-V-485-232	8AI (4-20mA/0-10V) + 8DI	RS485+RS232	Modbus RTU
	I-V-E	8AI (4-20mA/0-10V) + 8DI	Ethernet	Modbus TCP
	I-V-E-485	8AI (4-20mA/0-10V) + 8DI	Ethernet+RS485	Modbus TCP, Modbus RTU
	I-V-E-485-232	8AI (4-20mA/0-10V) + 8DI	Ethernet+RS485+RS232	Modbus TCP, Modbus RTU

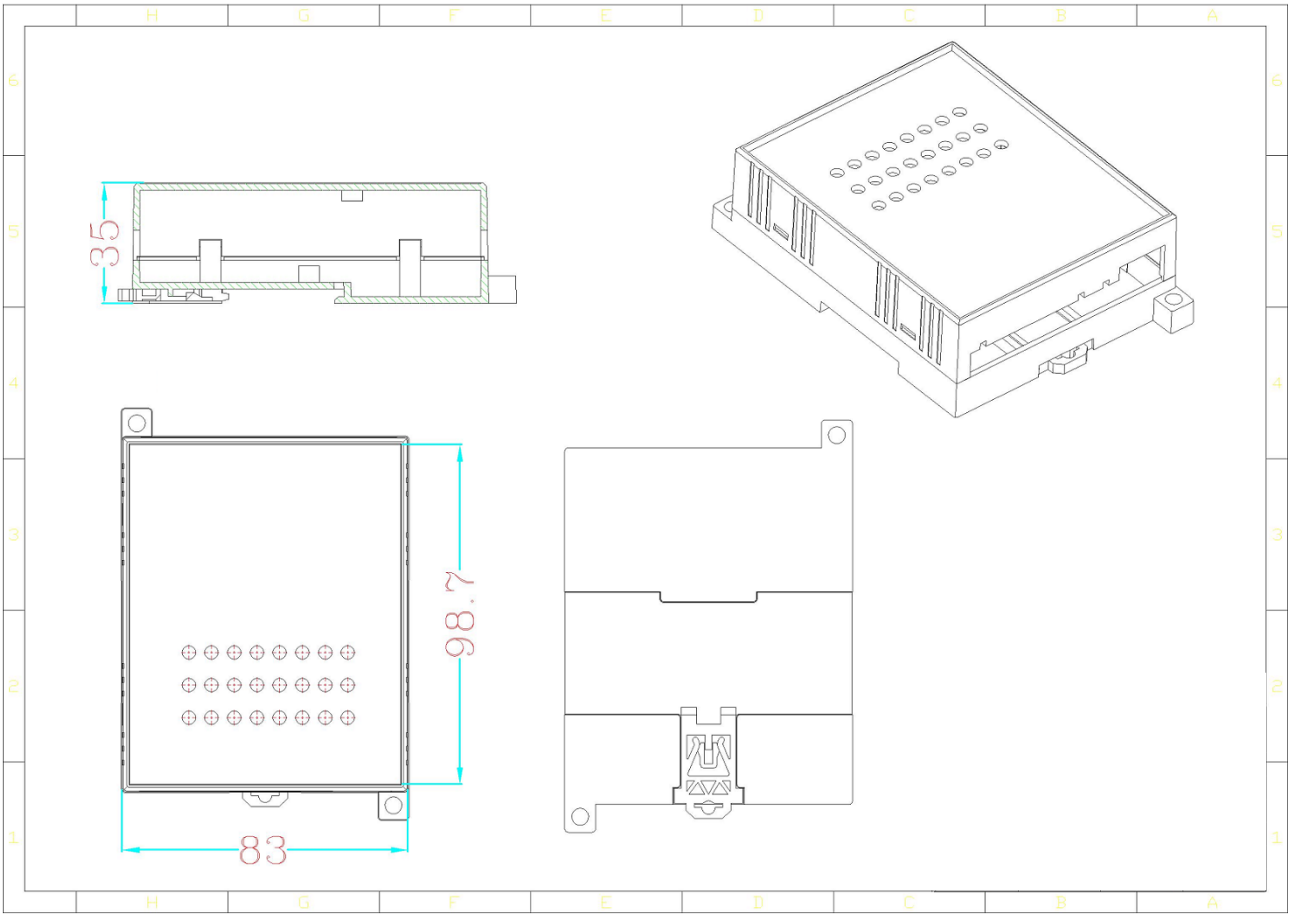


1.1 System Parameter

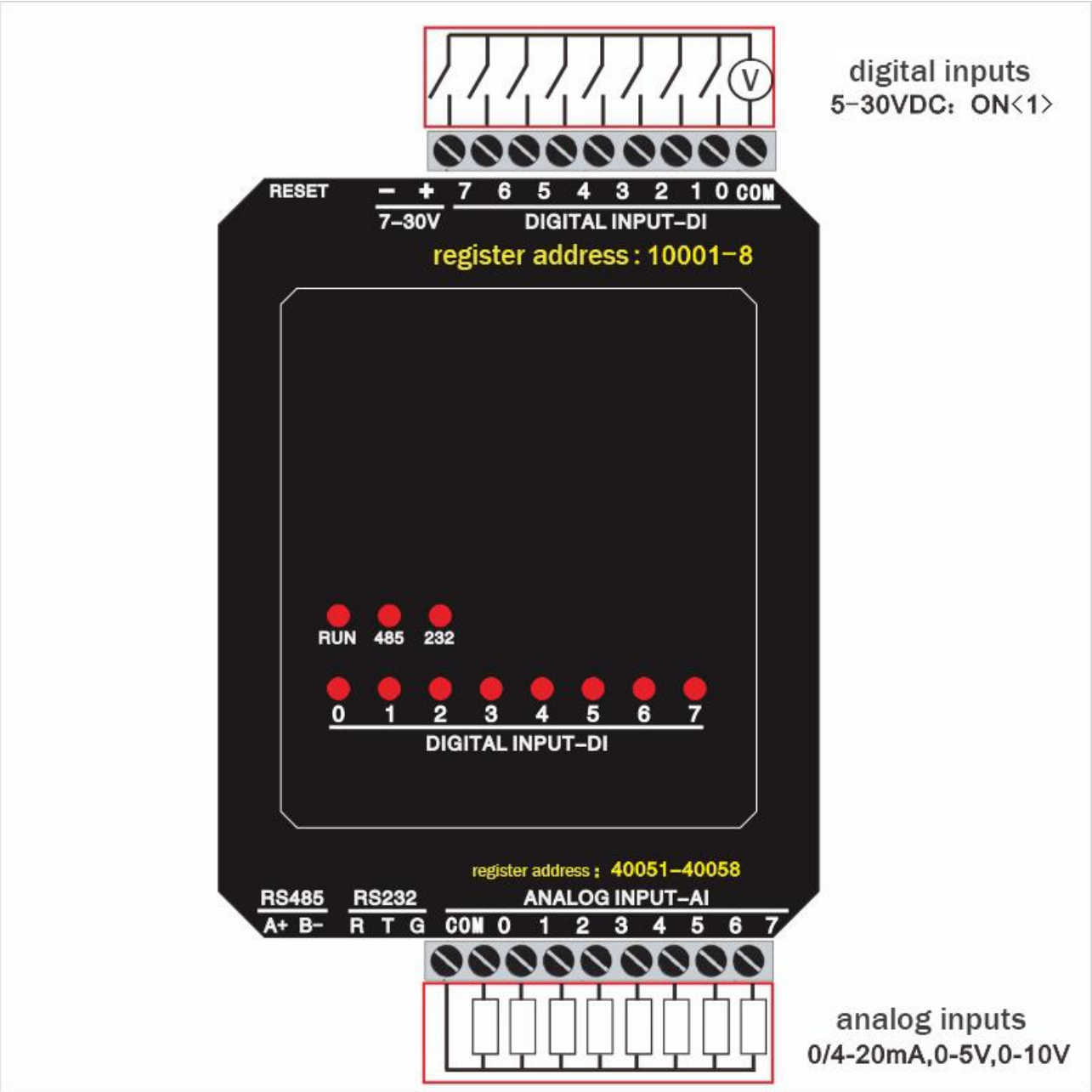
CPU	32-bit ATMEL ARM, 72MHZ
OS	GCOS，10ms scheduling mechanism
Power	7-35VDC @2W, power supply reverse protection, isolation design
Installation	DIN rail mounting or screw fixing 
Working Environment	-40℃～85℃，5%～95%RH(non-condensing)
Protection	IP20
Watchdog	1.5m guard

2 INSTALL

2.1 size



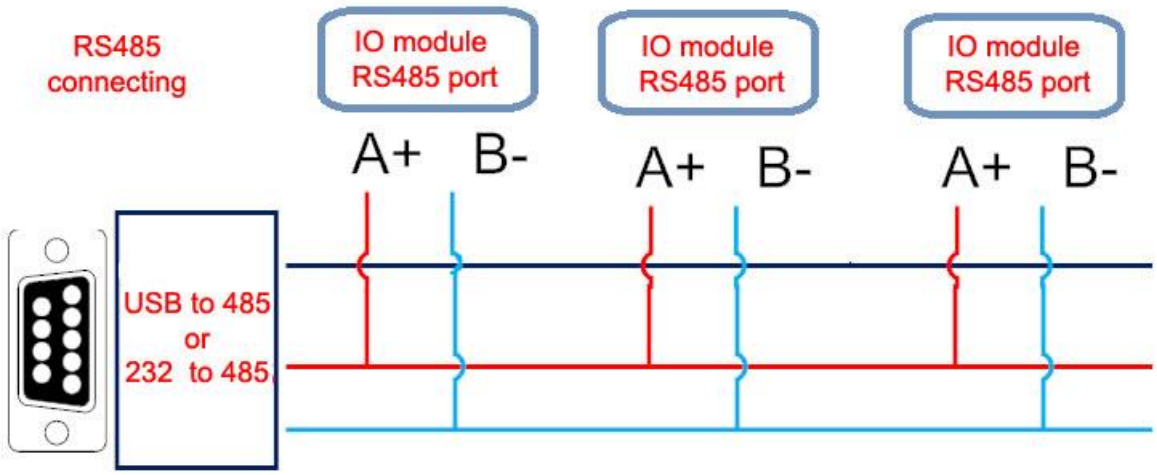
2.2 wiring

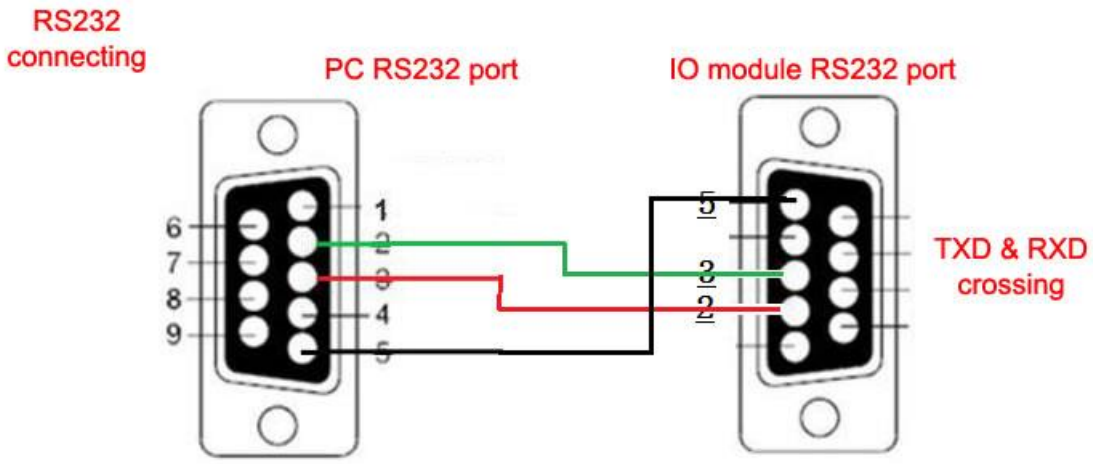

digital inputs
5-30VDC: ON<1>
RESET
- + 7 6 5 4 3 2 1 0 COM
7-30V
DIGITAL INPUT-DI
register address: 10001-8
RUN 485 232
0 1 2 3 4 5 6 7
DIGITAL INPUT-DI
register address: 40051-40058
RS485
A+ B-
RS232
R T G
ANALOG INPUT-AI
COM 0 1 2 3 4 5 6 7
analog inputs
0/4-20mA,0-5V,0-10V

3 CONFIGURATION

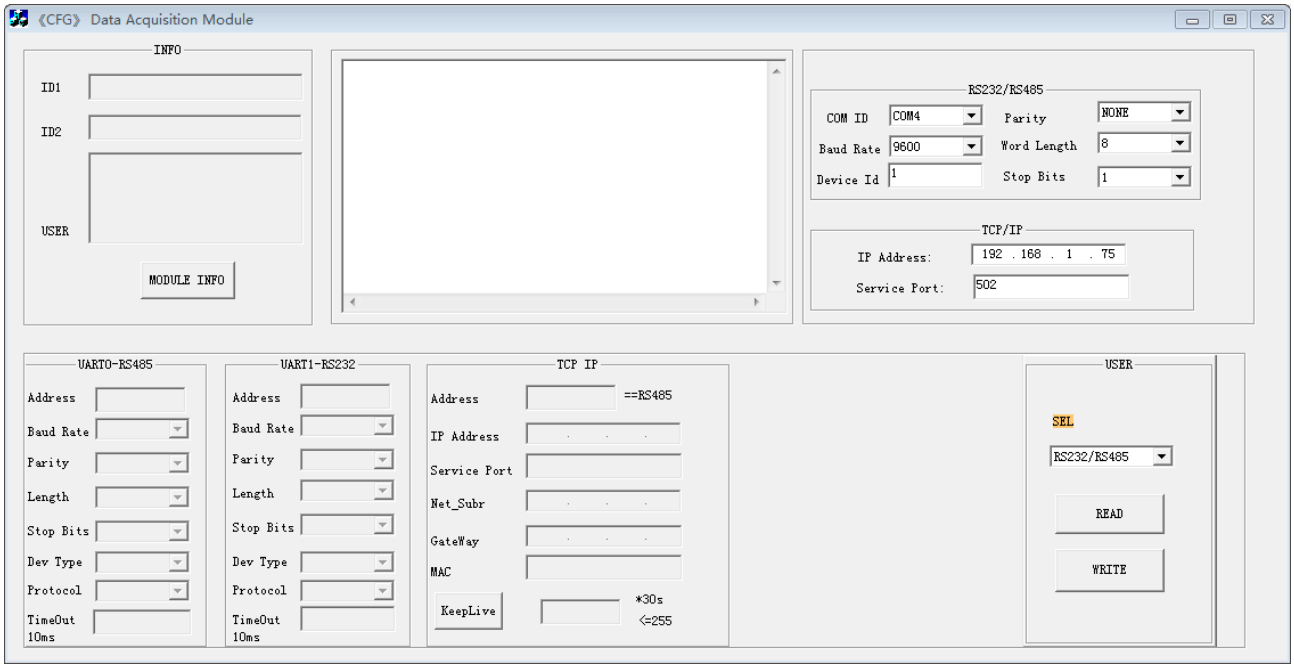
3.1 RS232/RS485

Port type	1RS485 & 1RS232
Protection	DCDC isolation design, 2500V lightning protection, ESD, overvoltage, overcurrent protection
Baud rate	1200～115200，default 9600
Parity	Even, Odd, None
start bit	1 bit
data bits	8 bit
Stopbits	1,2bits
Protocol	MODBUS RTU
default	9600.N.8.1，slave id is 1





3.2 Configuration software



Set salve ID, default is 1

3.3 Ethernet

Port type	RJ45
Communicate protocol	MODBUS TCP、MODBUS UDP
Communicate rate	1000 times/s
bandwidth	10M/100Mbps
IP address	192.168.1.75
Port	502

4 DESCRIPTION OF IO CHANNEL

4.1 Analog input

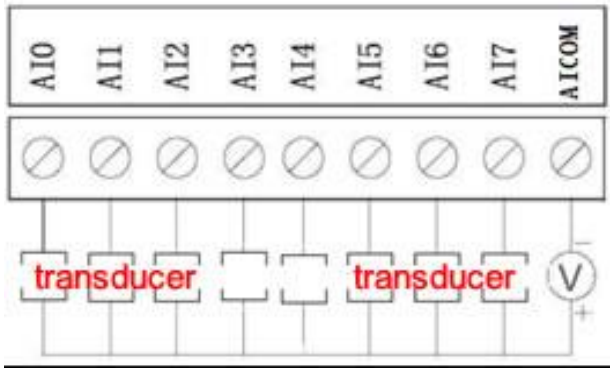
Input type	**4～20mA<default>**， support: 0～20mA/0～5/1～5/0～10V **(need open housing to jumper)**
Precision	0.1%，16 bit
Refresh rate	0.01m

Modbus Register map

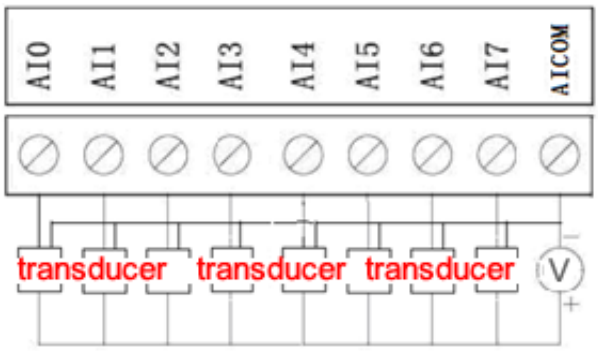
channel	Register address	Function code	Format	Scaling
AI0-AI7	40051-40058	03	UINT16	0.001

AI wiring diagram

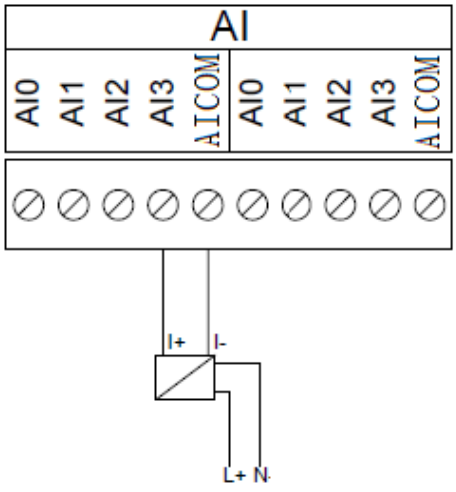
two-wire



three-wire



Four-wire



4.2 Digital input

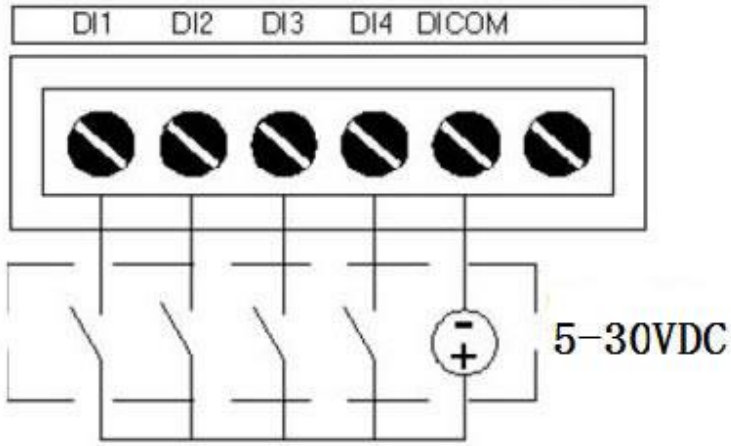
ON signal level	5-30VDC，6mA@24VDC
OFF signal level	0-3VDC
Protection	opt coupler isolation, 2500V lightning protection, overvoltage, overcurrent protection
Sample rate	0.01m

Modbus Register map

channel	Register address
DI0-DI7	10001-10008

DI wiring diagram

Wet contact wiring



Dry contact wiring