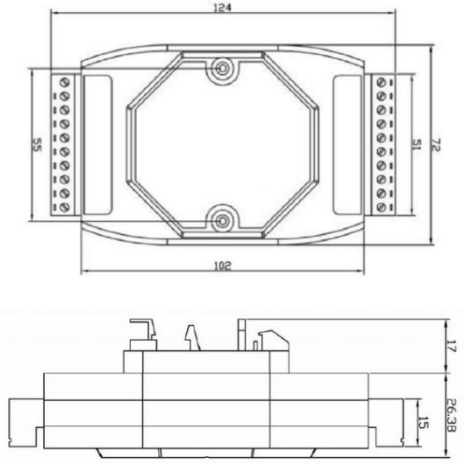
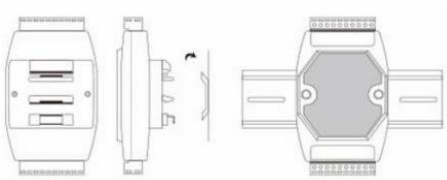
■ Overall Dimension

Overall dimension(LxHxW) 115mmx106.5mmx12.5mm



■ Install

TD-4075 adopts DIN35mm guide rail installation mode. The guide rail shall comply with the installation dimension specification of TH35-7.5 guide rail in the national standard GB/T19334-2003. This standard is equivalent to the international standard of IEC 60715-1981. The installation must be stable and firm.



DIN-Rail Mounting

Overlay installation

■ Description of output digital value

1. The output digital value is bit unsigned integer data, and the value range: 0~4095.Corresponding to the lower limit and upper limit of the input range, such as 4~20mA range 0 corresponds to 4mA, 4095 corresponds to 20mA, which is linear.
2. Corresponding calculation formula of output digital value and physical quantity;

Val= D/4095.0*(RH-RL)+RL
Val:physical quantity D:Output digital value
RH:Input upper range RL:Input lower range
The calculated value is the sensor value
EG:Measurement range is 4~20mA,pressure sensor is 4~20mA
Pressure sensor range is 0~1.6MPa
Sensor output current=D/4095*(20-4)+4(mA)
Sensor measures pressure=D/4095*(1.6-0)+0(Mpa)

3. Refer to TD-4000 series user manual for communication point list and more information.

■Maintain

(1) Before the power-on test of the acquisition module, the input and output wiring as well as the polarity of the power supply and signal must be checked again.

(2) Strictly use a megger to test the insulation between the module terminals. If you want to check the insulation of the system circuit, you should first disconnect the wiring of all modules, otherwise it will cause damage to the internal components.
(3) The products have been strictly inspected and quality controlled before leaving the factory. If you find that the operation is abnormal or suspect that the internal module is faulty, please contact the nearest agent or directly contact our technical support hotline.
(4) Within 36 months from the date of delivery, any product quality problem during normal use shall be repaired by our company free of charge.

TD-4075
Hybrid analog quantity, switching quantity module Instrations(Usage)

- Please check the product packaging, product label model, specifications are consistent with the order contract;
- Please read this manual carefully before installation and use. If you have any questions, please contact our technical support hotline;
- The product need to installed in a safe place;
- 24V DC power supply for instrument, 220V AC power supply is strictly prohibited;
- It is strictly prohibited to disassemble and assemble the instrument without permission to prevent instrument failure or failure.
- The Company reserves the right to change the product without prior notice to the user. In case of any discrepancy between the contents of the instructions and the website, samples and other materials, the instructions shall prevail.
- Please scan the code for more product information and configuration software.

Micro cloud

Baidu cloud disk

■ Profile

TD-4075 is an industrial-grade standard mixed analog switching value product, which supports 0~10V, 0~5v, 0~2.5v, 0~1v, 0~20mA, 4~20mA range four-channel single-ended input, dry node wet node switching value input, open circuit output of switching value collector, support engineering value output and engineering value alarm output, and photoelectric isolation of the acquisition part. The application layer adopts standard MODBUS-RTU protocol, which is suitable for various industrial occasions and automation systems, and is convenient for communication with the upper computer, It can realize fast networking and build detection system.

■ Main Technical Parameters

Input

Analog quantity range: 0~10V, 0~5v, 0~2.5v, 0~1v, 0~20mA, 4~20mA
Input method:Four-channel current,voltage unipolar input
Sampling frequency:≤10Hz
Channel sampling rate:Total sample rate/number of enabled channels
Resolution ratio:12 bit
Accuracy class：≤0.1%
Input impedance current:100Ω，voltage:20MΩ
Note: When the voltage range is open, there will be a certain voltage value.
Switching value: 4-channel dry node, wet node (support polarity reversal, high level:10~50V, low level:0~2V) input

Output

Signal type： RS-485 digital signal
Signal level rule: standard RS-485 differential level
Baud rate： 1200、2400、4800、9600、19200、38400、57600、115200bps
Verification method:No parity check,Parity check
Data bits： 8bit Stop bit：1bit
Communication output protocol:MODBUS-RTU
Communication distance:1200m
Switching value: 4-channel open collector output, built-in continuous diode, output current≤200mA, support analog alarm output.

General Technical Parameters

Power Supply: DC24V, Voltage Range: DC 9~30V
Current Consumption: <2W @DC 24V
Dielectric Strength: 1500V DC/1min （between input and output）
Insulation Resistance: ≥ 100MΩ (between input and output)
Electromagnetic Compatibility: In accord with GB/T18268(IEC61326-1)
Suit for Field Equipment: Configuration software, PLC, touch screen, computer and other equipment supporting MODBUS - RTU protocol

Indicator status

1、The indicator light is always on after power-on. If it is not on, it indicates that the power supply is faulty or the contact is not on;
2、The indicator flashes during normal communication;
3、When there is no communication, the indicator lamp flashes, indicating that the module is faulty.
4.When there is no communication, the indicator lamp flashes, indicating that the module is faulty.
5.When the switch output is valid, the corresponding indicator light will be on, otherwise it will be off.

Default factory parameters

Device address：1 Baud rate：9600bps Verification method: no verification
Data bits： 8bit Stop bit：1bit
Channel range: all are set to 4~20mA, and the acquisition status is enabled;

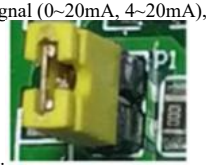
■ Range configuration description

Each channel can be configured with a separate range, and the input range can be flexibly selected for more convenient use by customers. Open the equipment shell and find that there are P1~P4 jumpers in turn near the equipment terminals, which correspond to the four channels of IN0~IN3.
(1) When INx measures voltage signal 0, the jumper of corresponding channel is

disconnected.

Three-wire sensor connection

(2) When INx measures the current signal (0~20mA, 4~20mA), the jumper of the



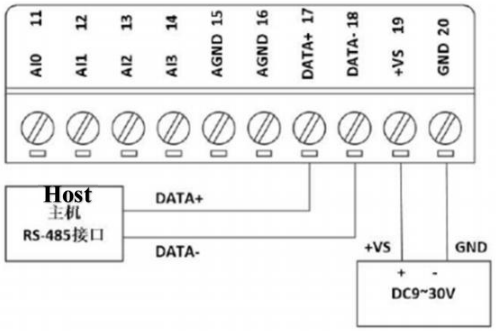
corresponding channel is short-circuited.

■ Connecting terminal description

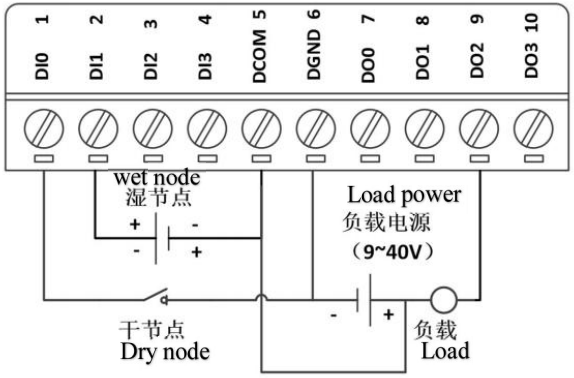
Terminal number	Terminal name	Description
1	DI 0	Switching value input channel 0
2	DI 1	Switching value input channel 1
3	DI 2	Switching value input channel 2
4	DI 3	Switching value input channel 3
5	DCOM-	Common positive terminal of switching valuel
6	DGND	Common negative terminal of switching value
7	DO 0	Switching value output channel 0
8	DO 1	Switching value output channel 1
9	DO 2	Switching value output channel 2
10	DO 3	Switching value output channel 3
11	AI 0	Analog input channel 0
12	AI 1	Analog input channel 1
13	AI 2	Analog input channel 2
14	AI 3	Analog input channel 3
15	AGND	Analog input negative terminal
16	AGND	Analog input negative terminal
17	DATA+	Positive end of communication interface
18	DATA-	Negative terminal of communication interface
19	+VS	Positive terminal of external power supply(9~30V)
20	GND	Negative terminal of external power supply

■ Wiring instructions

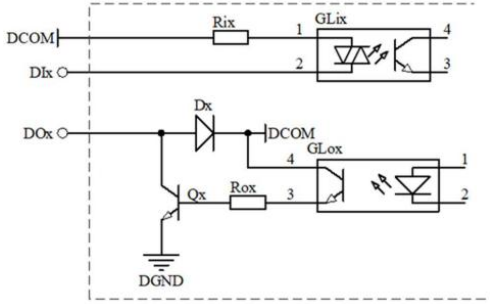
Communication wiring diagram of acquisition module：



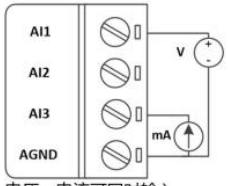
When the switching value is the dry node input and the switching value output, DCOM and DGND need to be externally connected with 9~40V power supply, which can be shared with the module power supply. In the way, DI0 is the dry node input, DI1 is the wet node input. For the NPN type sensor, the dry node input connection method is used. For the PNP type sensor, the sensor cannot share the power supply with DCOM and DGND, and according to the wet node input connection method, DO2 is the collector open-drain output, and the built-in freewheeling diode can be connected to the inductive load.



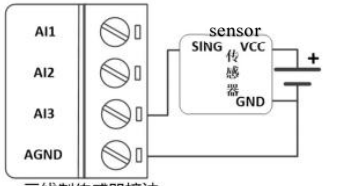
Schematic diagram of internal structure of switching value：



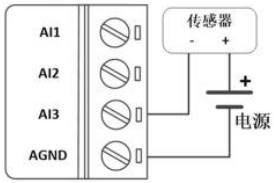
Analog quantity wiring diagram:



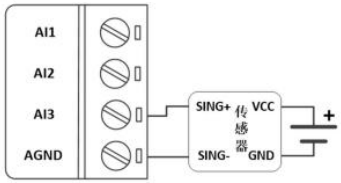
电压、电流可同时输入
Current and voltage can be input simultaneously.



三线制传感器接法
Three-wire sensor connection



两线制传感器接法
Two-wire sensor connection



四线制传感器接法
Four-wire sensor connection