Datasheet

Flow-through Turbidity Meter

AI-TU300

Arka Instruments LLP

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Flow-through turbidity meter
AI-TU300

The AI-TU300 online turbidity analyzer is a patent product with independent intellectual property rights for on-line monitoring of drinking water quality. It has the characteristics of ultra-low turbidity detection limit, high precision measurement,
long time maintenance-free equipment, water saving and digital output. It supports remote monitoring of cloud platform and mobile phone data, and RS485-modbus communication.

Applications

- Rare water
- Sewage sedimentation tank
- Food industry
- Water purification plant
- Thermal power
- Chemical
- Fertilizer
- Environmental protection

Flow-through turbidity meter

Features

- Small size, easy system integration
- Ultra-low turbidity detection limit
- Optional measuring range
- Low range, high accuracy
- Water saving
- Digital output
- Remote monitor

Principle

AI-TU300 turbidity meter adopts 90° scattering detection principle, and designs unique photoelectric receiving structure, as well as automatic temperature and light compensation method, which greatly improves the accuracy and accuracy of turbidity detection. The sensor ARM7 built-in data processor, and adopts efficient digital filtering algorithm to avoid noise interference. At the same time, it adopts standard Modbus digital signal output and 4-20 mA analog output, which is convenient for users to access the computer monitoring system.

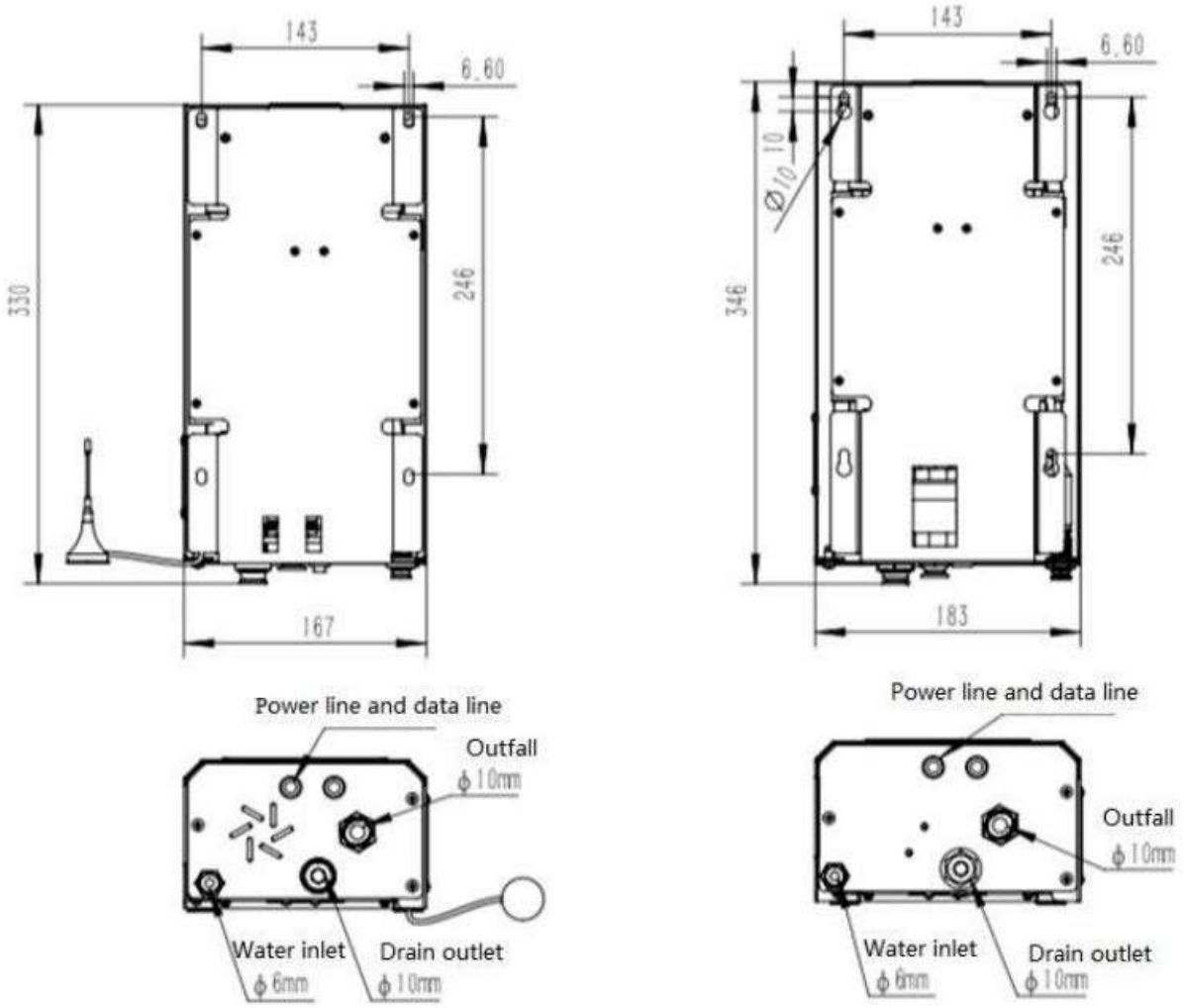
Parameters	
Range	0-1 NTU,0-20 NTU ,0-100NTU
Operating voltage	DC 24V
Measurement	90° scattering
Zero drift	≤±0.015 NTU
Value error	≤±2% or ±0.015 NTU larger
Discharge mode	Automatic discharge
Calibration	Formalhydrazine standard liquid calibration (factory calibrated)
Water pressure	0.1 Kg/cm3-8Kg/cm3,
Digital output	RS485Modbus protocol (baud rate 9600,8, N 、1)
Analog output	4-20 mA
Storage temperature	-20℃-60℃
Working temperature	0-50℃
Sensor material	Composite
Maintenance cycle	6-12 months recommended (depending on site water quality environment)
Resolution	0.001NTU
Inlet water flow	50ml/min to 300ml/min
Weight	4.5Kg
Ingress protection	IP54
Humidity	Relative humidity 5%~95%, non-condensing
Cable length	2m
Dimension	183mm*349mm*113.5mm
Sensor dimension	66mm*145mm*54mm
Water inlet and outlet	Water inlet: 6mm hose; water outlet and drain: 10mm hose

Wiring

485Modbus interface wiring mode as below table.

Color	Function
Green	485A
Yellow	485B

Dimensions

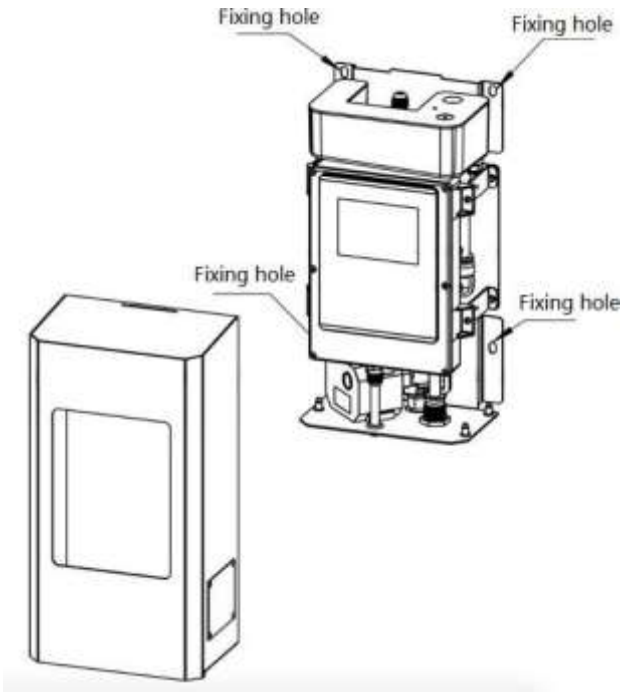


Installation Dimensions (left: A, right B)

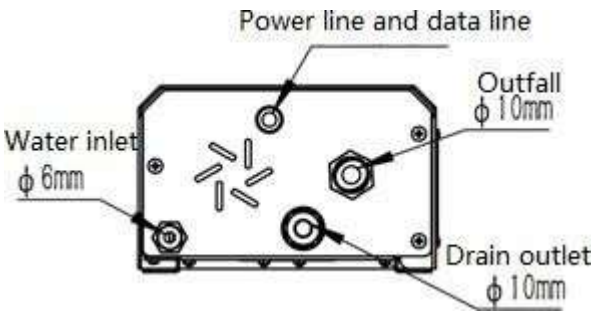
Installation

To fix the turbidity online analyzer in front of the vertical wall, you need to remove the front panel. Loosen the connection between the front panel and the back panel by removing the three screws under the panel, and then remove it diagonally

There are four fixed holes on the back panel of the turbidity online instrument, see the position indicated by the arrow in the figure below. Usually measure the size on the wall and drive in expansion screws to fix the instrument on the wall. The equipment can also be installed inside the cabinet. Pay attention to the level when installing.



The water pipe joint of the turbidity online meter is at the bottom of the equipment, as shown in the following figure.



Function diagram of bottom water pipe quick-plug interface

Considerations:

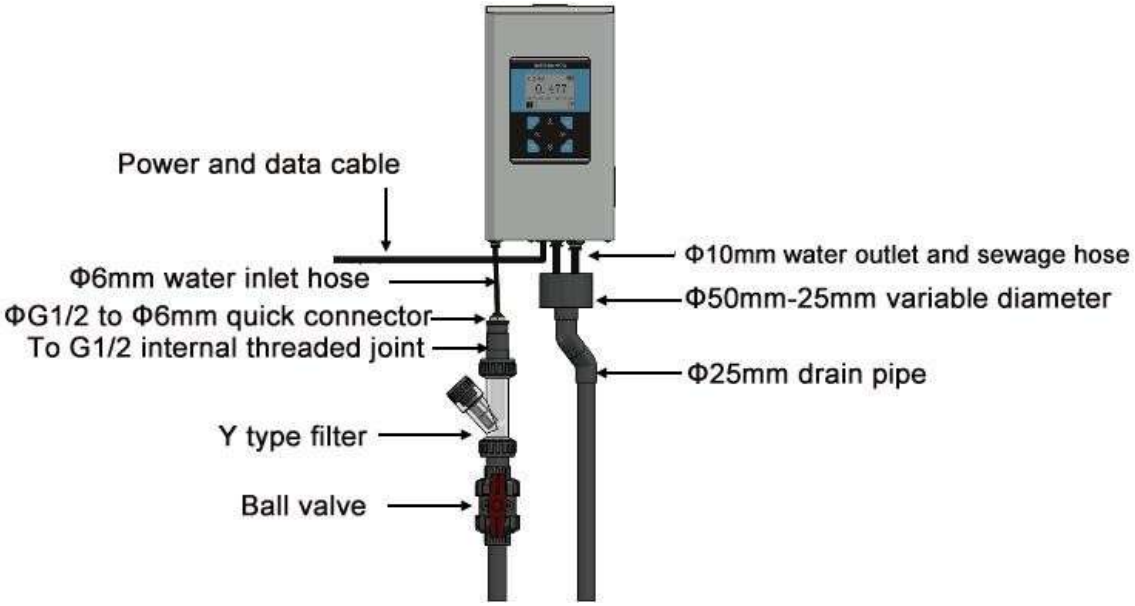
Feed water pressure should be controlled kg/cm 32less than 300 mL /min of Type 02 flow Water intake should be guaranteed to always have a state of water, not intermittent water supply.

Power supply

Turbidity meter connection as shown below. the working voltage is DC24V, daily working current is between 0.05 A and 0.5 A.

Cable colour	Connection
Red	+24 V
Black	GND
Green	485A
Yellow	485B

Overall installation effect



Ordering Code

AI-TU300-ZA-0-3-4-C						Description
AI-TU300	-	-	-	-	-	
Measurement Range	ZA					0-1NTU
	ZC					0-20NTU
	ZD					0-100NTU
	XX					Others
Output		0				No
		B				4-20mA+RS485
Electrical Interface			3			Six Core Waterproof Connector
Level of Protection				4		IP54
Power Supply					C	24VDC

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