



# RK500-07 Turbidity Sensor



## Overview

RK500-07 Turbidity Sensor is an instrument which uses optical principle to measure the degree of turbidity of water. Turbidity is caused by suspended particles in water. The suspended particles reflect the incident light. Usually, the scattered light in the direction of 90° is used as the test signal, so the unit tested is called NTU. This method is suitable for testing low to medium range, ranging from 0.01 to 4000FNU. According to EN27027 and ISO7027 standards, infrared light of 860 nm is used as light source, which cannot be disturbed by the chromaticity of samples.

## Features

- On-line & real-time monitoring
- With temperature compensation
- High accuracy
- Easy operation and high reliability
- No external module, a whole design
- Sapphire measurement window

## Applications

- Environmental protection
- Water quality monitoring
- Aquaculture
- Clean in place (CIP)
- Sewage treatment
- Industrial wastewater treatment

## Technical Parameter



| Type              | A                                | B                                                          | C                 | D                                                       |
|-------------------|----------------------------------|------------------------------------------------------------|-------------------|---------------------------------------------------------|
| Application       | General freshwater environment   | Mariculture, strongly corrosive sewage, complex scenes etc | Pipe installation | With cleaning brush, maintenance free                   |
| Self-cleaning     | /                                | /                                                          | /                 | Yes                                                     |
| Main material     | 316L                             | titanium alloy                                             | 316L, UPVC        | 316L                                                    |
| Screw thread      | Upper: NPT3/4, Lower: NPT3/4     |                                                            | /                 | NPT3/4                                                  |
| Accuracy          | ±1%FS                            |                                                            |                   | ±2%FS                                                   |
| Resolution        | 0.01NTU(≤10NTU) , 0.1NTU(>10NTU) |                                                            |                   | 0.1NTU                                                  |
| Power consumption | <0.2W                            |                                                            |                   | Cleaning brush start:<1.5W<br>Cleaning brush stop:<0.2W |



# RK500-07 Turbidity Sensor

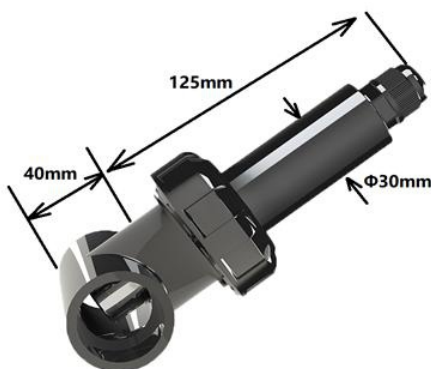
## Technical Parameter

| Type                  | A                                     | B | C | D       |
|-----------------------|---------------------------------------|---|---|---------|
| Operating temperature | 0-+60℃                                |   |   | -5-+60℃ |
| Range                 | 0-10NTU ,0-100NTU,0-1000NTU,0-4000NTU |   |   |         |
| Supply                | 7-30VDC                               |   |   |         |
| Output                | 4-20mA&RS485 at the same time         |   |   |         |
| Response time         | 1S                                    |   |   |         |
| Pressure resistance   | 0.8Mpa                                |   |   |         |
| Ingress protection    | IP68                                  |   |   |         |
| Storage               | 10-60℃@20%-90%RH                      |   |   |         |
| Cable length          | 5m default                            |   |   |         |

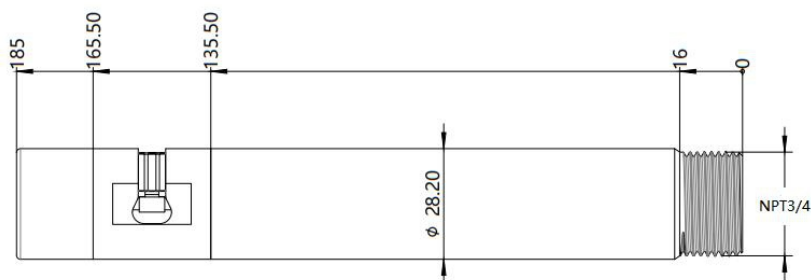
## Dimensions



Type A/B



Use UPVC with an outer diameter of 32mm for docking  
Type C

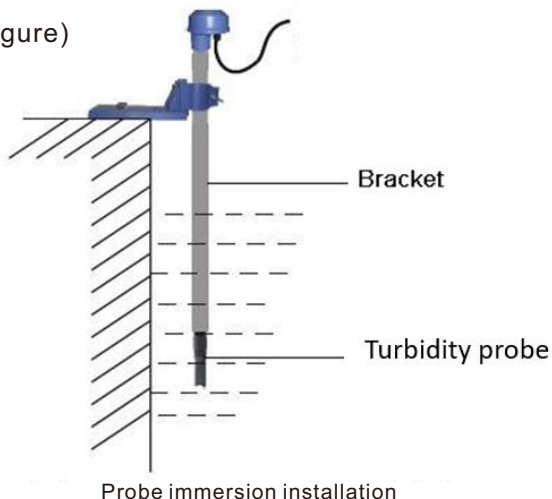
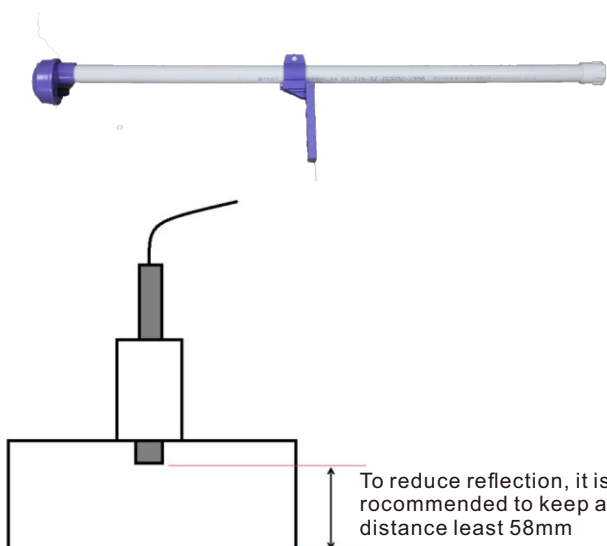


Type D with cleaning brush

## Installation & Usage

- Put directly into the liquid
- Adopt submersible mounting bracket (show in the below figure)

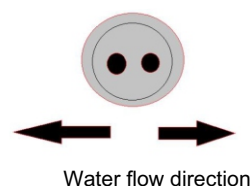
Mounting bracket (length=1m):



If the pipeline is made of reflective material, such as stainless steel, aligning the connection line of the two small holes with the direction of the pipeline will significantly improve accuracy.

Electrode maintenance: Keep the sensor's optical surface clean, and wipe it gently if necessary.

Caution: Avoid strong vibrations to prevent damage to the front transparent glass. Do not scrape it with hard objects.



## Parameter Selection Table

| Remark | Series | Type | Supply | Accessory | Cable Length |                          |
|--------|--------|------|--------|-----------|--------------|--------------------------|
| RK     | 500-07 |      |        |           |              |                          |
|        |        | A    |        |           |              | Type A                   |
|        |        | B    |        |           |              | Type B                   |
|        |        | C    |        |           |              | Type C                   |
|        |        | D    |        |           |              | Type D                   |
|        |        |      | A      |           |              | 7-30VDC                  |
|        |        |      | X      |           |              | Other                    |
|        |        |      |        | A         |              | With mounting bracket    |
|        |        |      |        | N         |              | Without mounting bracket |
|        |        |      |        |           | 5000         | Unit(mm)                 |
|        |        |      |        |           | ...          | Unit(mm)                 |

Example: RK500-07AAN Type A, Supply:7-30VDC,Without mounting bracket,Cable length:5m.

| Revision time | Reviser | Current Version | Remarks |
|---------------|---------|-----------------|---------|
| 20250417      | Lee     | V5.0            |         |