

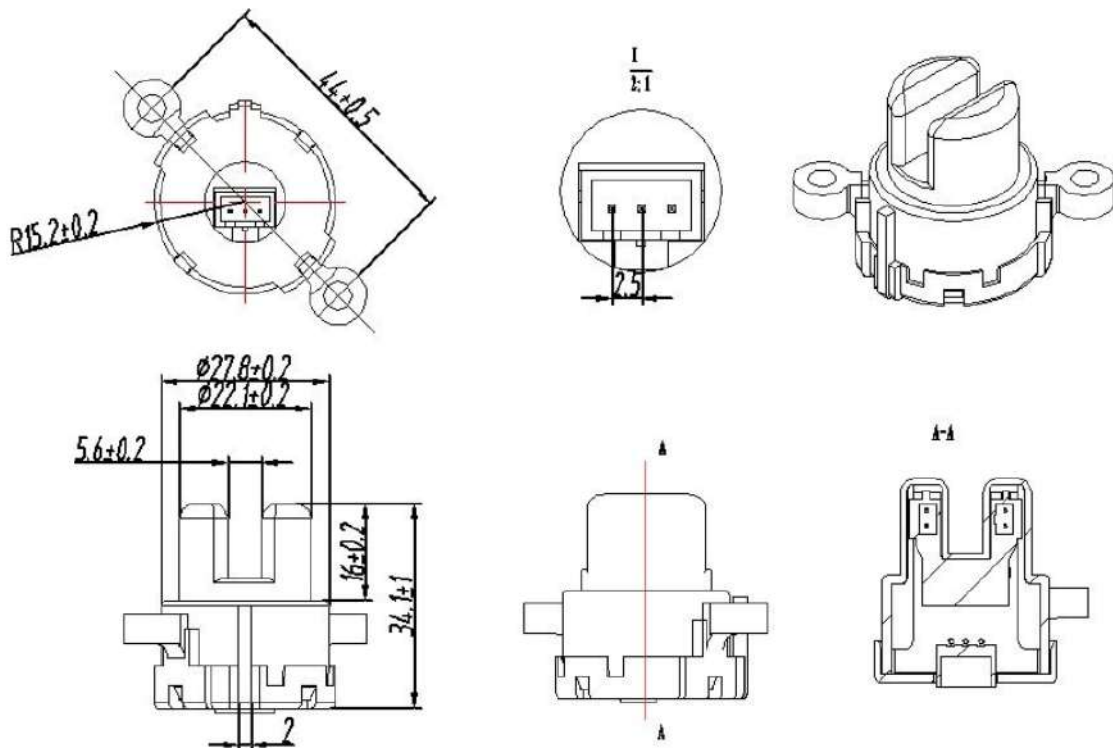
# Turbidity sensor

1. **Manufacturer Brand:** DFRobot

2. **Place of Origin:** China

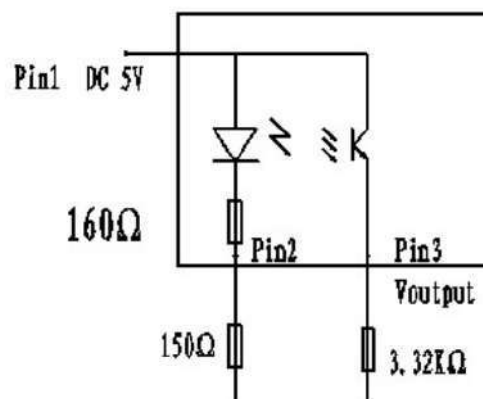
3. **Ordering Code:** M021.00084

4. **Outline Dimensions:**

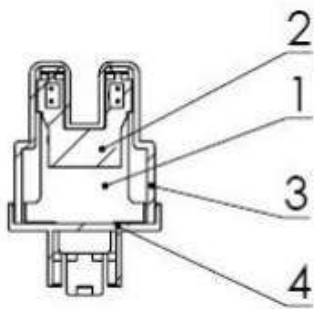


5. **Internal Structure:**

The sensor and its test circuit



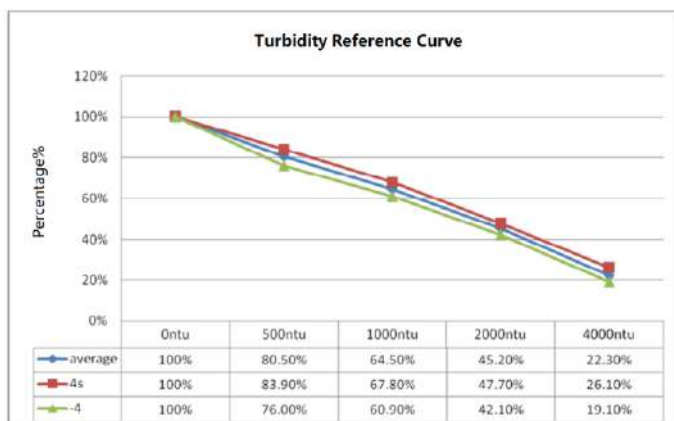
## 6. The Brand, Parameters And Composition of the Key Components:



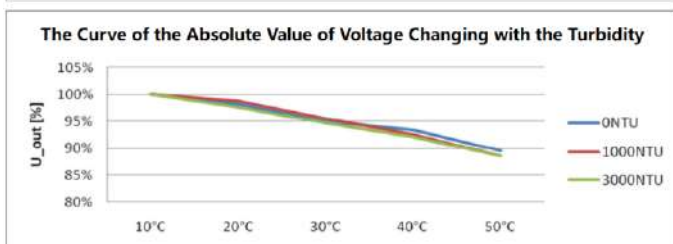
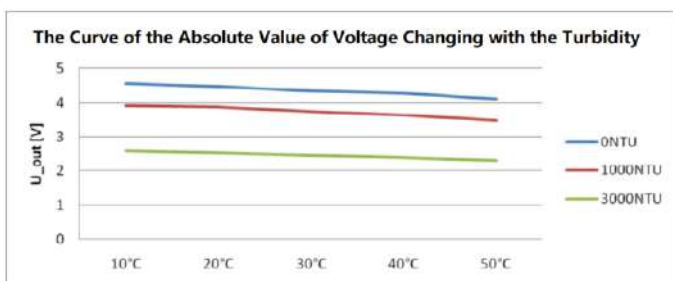
No.	Name	Material Composition	Environmental Standards
1	PCB Components	CM-3, photosensitive element	RoHS
2	Support	PA6+15%	RoHS
3	Shell	PP	RoHS
4	Back Cover	PA6+15%	RoHS

## 7. Electric Performance Parameters

- Rated Voltage: DC 5 V
- Rated Current: 30mA
- Withstand Voltage: No flash-over or breakdown when applying AC 1500V, 50Hz voltage between the energized terminal and shell for 1S.
- Leakage Current: Leakage between coil and shell < 0.25mA
- Insulation Resistance: The insulation resistance should be greater than 100MΩ when the voltage of DC 500V is applied between the charged spot and the exposed non-charged metal and non-metal.
- Turbidity Reference Curve:



- The Curve of the Absolute Value of Voltage Changing with the Turbidity:



## 8. Mechanical Properties and Environmental Resistance

- Appearance: No bending of terminals, no cracking of shell, clear and readable printing
- Operating Liquid: Clear water
- Operating Temperature: 5 °C ~ 90 °C
- Storage Temperature: -10 °C ~ 90 °C
- Low Temperature Performance: -20 °C (24 Hrs), output deviation is less than 10%
- Thermal Shock Resistance: - 20°C (30min), 85°C (30min), 100 cycles, no visible damage to the product and the output deviation is less than 10%
- Damp Heat Test: After storing the sensor in a damp heat oven with a relative humidity of 85% and temperature of 85 °C for 90 hours, its output deviation is less than 10%.
- Salt Spray Test: After placing the sensor in the salt spray box for 168 hours, there is no rust that could cause malfunctions.
- Vibration-resistance Performance: When placed on a vibrating table with an amplitude of 3 mm and a frequency of 22 Hz, after vibration test for 10 minutes in each direction: forward/backward, left/right, and up/down, the sensor keeps intact, no structural deformation, and its output deviation is less than 10%.
- Drop Test: After being dropped from a height of 80 cm from the cement floor, there should be no abnormalities in the sensor such as cracks and deformations in all parts, still holding the ability to meet the requirements of insulation performance.

## 9. Manufacturer' s Key Process Parameters

Sensor Test: Put the sensor in clean water with NTU<0.5 for testing, its voltage output is  $V=4.1\pm 0.3V$

## 10. RoHS Requirements:

This product is RoHS compliant.

## 11. Packaging Method:

50 pcs/pack

10 packs/carton

## 12. Precautions for Use:

Operating conditions

- Operating Temperature: 5 °C ~ 90 °C
- Storage Temperature: -10 °C ~ 90 °C