DCbox UV-BASED COD WATER QUALITY SENSOR

DCRS-COD

- Chemical Oxygen Demand (COD) is an indicator used to measure the amount of reducing substances in water. Since most reducing substances in water are organic matter, COD is commonly used as an index to assess the concentration of organic pollutants. A higher COD value indicates more severe organic pollution in the water.
- Utilizes UV absorption method, requiring no chemical reagents. The sensor integrates a self-cleaning system to effectively prevent biofouling. It also includes a built-in temperature sensor with automatic temperature compensation functionality.
- Uses modulated optical signals to reduce interference from visible light. Equipped with a turbidity measurement channel to effectively compensate for the influence of turbidity on COD readings.
- COD measurement range: 0–500 mg/L; Turbidity measurement range: 0–200 NTU
- RS485 communication interface: Supports MODBUS RTU protocol for easy connection to computers for monitoring and communication.
- Modbus communication settings: Device address can be configured, baud rate is adjustable, and temperature, turbidity, and COD readings can be retrieved from the register.
- Wide voltage power supply: Supports DC 12–30V input.

SPECIFICATIONS

- Power supply : DC12~30V
- Power consumption : 0.6W(normal); 4.5w (when self-cleaning system is working)
- Communication interface : RS485; standard MODBUS-RTU protocol; Communication baud rate ： default 4800 (1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 configurable)
- Measurement principle : Dual-wavelength ultraviolet absorption method
- Measurement range : COD: 0~500mg/L equiv.KHP
Turbidity: 0~200NTU
- Measurement error : COD: ±5%FS equiv.KHP(25℃)
Turbidity: ±5%FS(25℃)
- Measurement resolution : COD: 0.1mg/L
Turbidity: 0.1NTU
- Temperature resolution : 0.1℃
- Temperature error : ±0.5℃
- Repeatability : ±1%FS equiv.KHP(25℃)
- Response time : ≤20sec
- Operating conditions : 0~40℃
- Waterproof rating : IP68
- Flow rate : <3m/s
- Pressure resistance : ＜0.1MPa
- Cable length : Default 5m, customizable
- Housing material : Corrosion-resistant plastic, stainless steel
- Recommended maintenance and calibration frequency : 3 months
- Self-cleaning system lifespan : 18 months

ORDER INFORMATION

DCRS-COD- Code1 -2- Code2

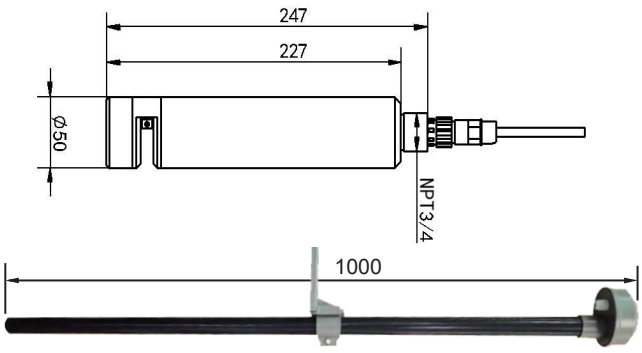
Code1	Output Signal
V	0~10V
Y	RS-485
A	4~20mA
Code2	**Measurement Range**
500	0~500mg/L equiv.KHP

WIRING CONNECTION

Comm.	Color	Description
Power	Brown	Power+(10-30Vdc)
	Black	Power-
Comm.	Yellow	485-A
	Blue	485-B

Analog	Color	Description
Power	Brown	Power+(10-30Vdc)
	Black	Power-
Output	Yellow(Green)	Signal+
	Blue	Signal-

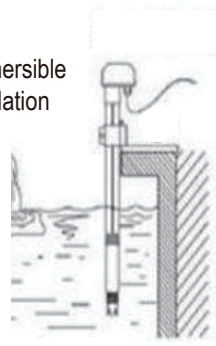
DIMENSIONS (mm)



Submersible Installation Kit (available as an optional accessory)

INSTALLATION METHOD

Submersible Installation



Submersible Installation:
The sensor cable passes through a stainless steel tube. The top of the sensor head features a 3/4" threaded connection, which should be securely connected to the stainless steel 3/4" thread using PTFE (Teflon) tape. Ensure that the top of the sensor and the cable entry point remain watertight to prevent water ingress.