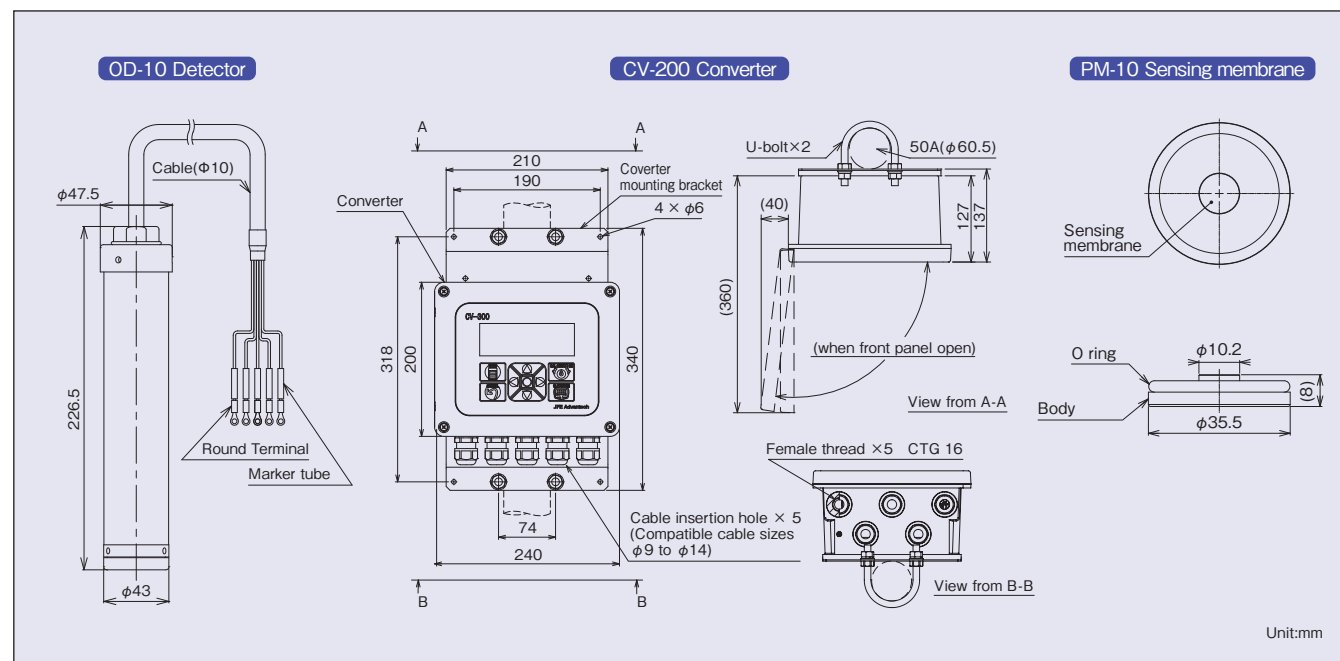
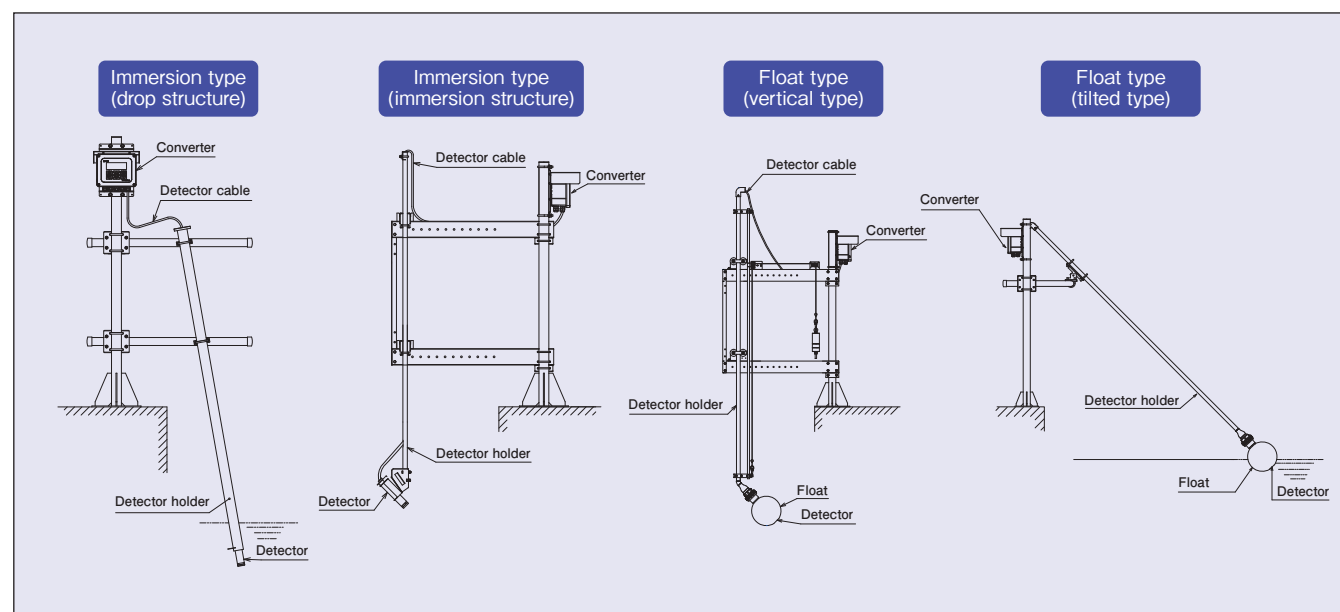


## External Dimensions



## Detector holder



We will respond upon request. The cleaning mechanism can be selected air cleaning, water cleaning, and air-water mixed cleaning.

\*Specifications in this catalog are subject to change without prior notice due to product improvement.

**JFE Advantech Co., Ltd.**  
 URL : <https://www.jfe-advantech.co.jp/eng/>

**Tokyo Office (Overseas Sales Department)**  
 JFE Kuramae Bldg. 2F, 2-17-4 Kuramae, Taito-ku, Tokyo  
 111-0051, Japan  
 Tel.+81-3-5825-5577 Fax.+81-3-5825-5591

**Water Environment Division**  
 3-48, Takahata cho, Nishinomiya, Hyogo,  
 663-8202, Japan  
 Tel.+81-798-66-1502 Fax.+81-798-65-7025

## Optical Dissolved Oxygen Meter

# OD-10

ISO9001  
 CERTIFIED  
 JQA  
 MANAGEMENT SYSTEM  
 QUALITY SYSTEM  
 JQA-0950

Measurement of dissolved oxygen for aeration flow rate control at sewage treatment plants and monitoring of water quality

- Light emission lifetime evaluation system to ensure long-term stable measurement without being affected by temporal change of the light source.
- No incident flow is required because the OD-10 optical system does not consume oxygen during measurement.



- Easy maintenance with no use of electrolyte solution.
- No re-configuration of the detector is needed when replacing the sensing cartridge, because the characteristic parameters of sensing membrane are stored on a memory chip in each sensing cartridge.
- Easy operation with large icon switches on the CV-200 converter.



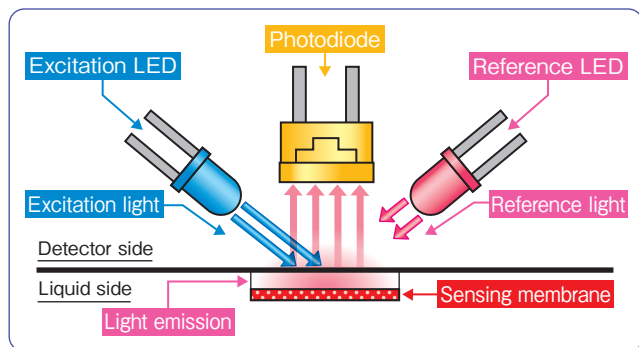
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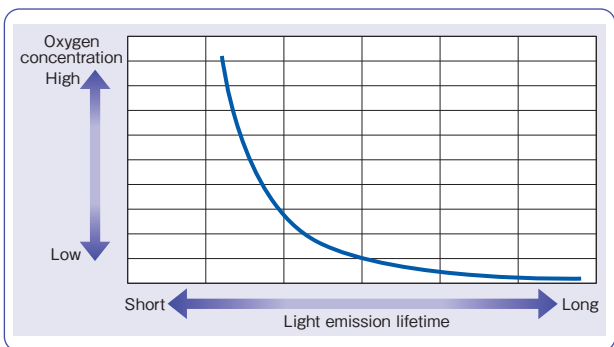
## Features

- Light emission lifetime evaluation system to ensure long-term stable measurement without being affected by temporal change of the light source.
- No incident flow is required because the OD-10 optical system does not consume oxygen during measurement.
- Easy maintenance with no use of electrolyte solution.
- No re-configuration of the detector is needed when replacing the sensing cartridge, because the characteristic parameters of sensing membrane are stored on a memory chip in each sensing cartridge.
- Easy operation with large icon switches on the CV-200 converter.

## Measuring Principle



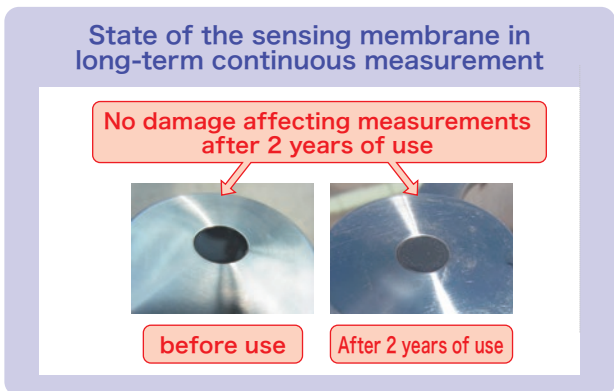
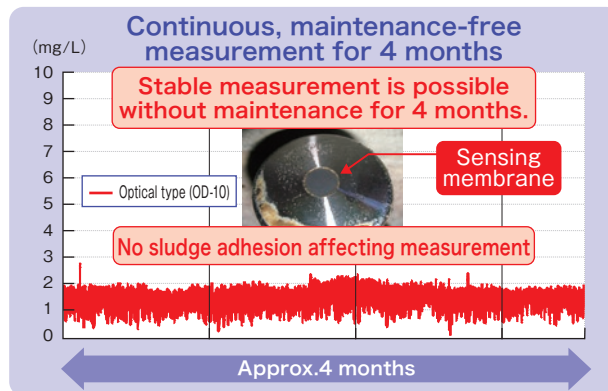
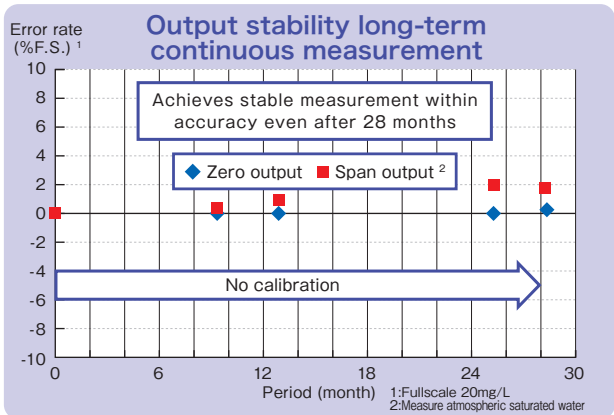
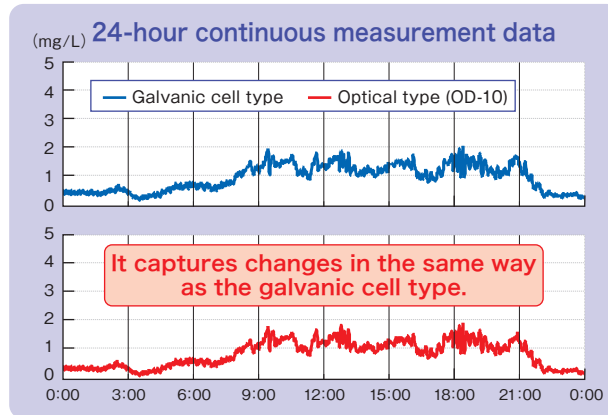
The sensing membrane emits light by returning to the ground state after the sensing material is excited by the excitation light. The light-emission depends on the oxygen concentration around the sensing membrane. The long-term stable measurement can be conducted by use of the reference light which gives standard light-emission.



The lower the oxygen concentration around the sensing membrane, the longer the light emission lifetime, and vice versa. Thus the OD-10 evaluates the light emission lifetime which is correlated to the oxygen concentration.

## Examples

Installation site : Sewage treatment plant reaction tank Control value of DO : 1.5mg/L



## Specifications

### OD-10 Detector

Measurement system	Optical (Light emission time measurement method)	
Measuring range	Dissolved oxygen concentration	0 to 20.00 mg/L ,0 to 20.00ppm
	O <sub>2</sub> Saturation	0 to 200.0%
	Water temperature	0 to 50.0°C
Measuring accuracy	Reproducibility <sup>1</sup>	±2%F.S.
	Repeatability	±0.5%F.S.
90% response time <sup>2</sup>	<30sec	
Flow speed	Not required	
Measuring accuracy (water temperature)	±0.2°C	
Calibration method	Zero calibration	Calibration using zero water <sup>3</sup>
	Span calibration	Atmospheric calibration, Saturated water calibration, Comparative calibration <sup>4</sup>
Operating temperature range	0 to 50°C (No freezing allowed)	
Water pressure resistance	1MPa	
Material	SUS316	
Weight	Approx. 2.4kg(including sensing membrane,10m cable) <sup>5</sup>	
Optional	The following options are available separately, please contact us for any details. •Detector holder •Cleaning mechanism	

- 1:Output reproducibility after 24 hours when atmospheric saturated water is measured  
2:When zero water is measured from atmospheric saturated water.(water temperature 25°C)  
3:Uses 5% aqueous sodium sulfite solution  
4:Function to match the analyzed value  
5:Maximum cable length is 100m.

### CV-200 Converter

Mounting method <sup>1</sup>	Mount to a pole or on a wall	
Material	Casing: Aluminum die cast(ADC12)	Panel: Aluminum die cast (ADC12)
Color	Casing: Munsell N4 equivalent	Panel: Munsell 5PB6/8 equivalent
Weight	Approx. 3.0kg (converter main unit only)	
Power supply	90 to 264VAC, 50/60Hz	
Power consumption <sup>2</sup>	Approx. 7W	
Analog output	DC 4 to 20mA	
Allowable load resistance	800Ω	
Contact input <sup>3</sup>	Photocoupler insulation input (built-in Power supply:24VDC,5mA)	
Cleaning output	Control output (cleaning) a contact (contact rating:240VAC,1A) Control output (AC OUT) AC voltage output <sup>4</sup> (Allowable load 200VA or less)	
Self-diagnosis function <sup>5</sup>	Waiting for measurement after turning on the power, No membrane attached, Membrane replacement time, Abnormal water temperature:LCD display Detector failure,converter memory,error,Detector/converter intercommunication error : LCD display, failure output	
Alarm signal output	a contact (2 points,contact rating:240VAC,1A) ALM1:Level alarm ALM2:Selection of level alarm and membrane replacement timing alarm	
Failure signal output	c contact (contact rating:240VAC,1A)	
Display	Dot matrix LCD (with backlight)	
Lightning protection	Power supply section	±10kV (1.2/50μs)
	Current output section	±10kV (1.2/50μs) ±5kA (8/20μs)
Operating temperature range	-10 to 55°C	
Protection level	IP66	
Optional	The following options are available separately, please contact us for any details. •Converter stand •Sunshade cover	

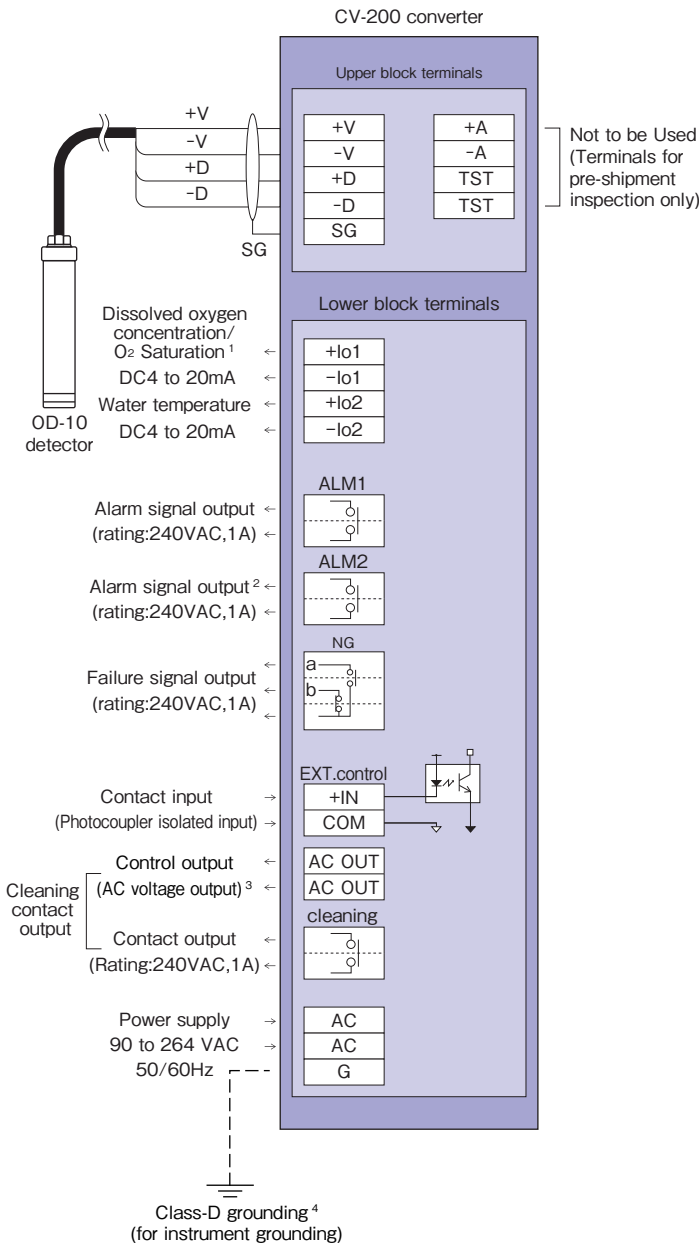
- 1:Converter mounting bracket are provided with the product. Converter stand , converter mounting bracket and 50A pole mounting U-bolts are sold separately.  
2:Excludes the power consumption of the load connected to the control output.  
3:Measurement hold, cleaning output control function.  
4:The AC voltage output to the control output for cleaning the detector is equal to the power supply voltage.  
5:For details,see the instruction manual.

### PM-10 Sensing membrane

Characteristic data setting	Automatic setting at the time of replacement <sup>1</sup>	
Estimated usable life <sup>2</sup>	2 years or more	
Material	Body	Acrylic resin (PMMA)
	Oring	NBR
Weight	Approx. 5g	

- 1: When replacing the detector, zero and span calibration work are required.  
2:It is a numerical value based on our standard usage record.Regular calibration and maintenance are required for stable measurement.

## Device wiring diagram



- 1:±101output is the selected one of dissolved oxygen concentration or dissolved oxygen saturation.  
2:ALM2 output is the selected one of level alarm or membrane replacement timing alarm.  
3:The AC voltage output to the control output for cleaning the detector is equal to the power supply voltage. Therefore, do not short-circuit the terminals as it may cause equipment failure.  
4:Be sure to connect the grounding terminal(G) to ground potential.  
(Class D grounding : ground resistance of 100Ω or less.)