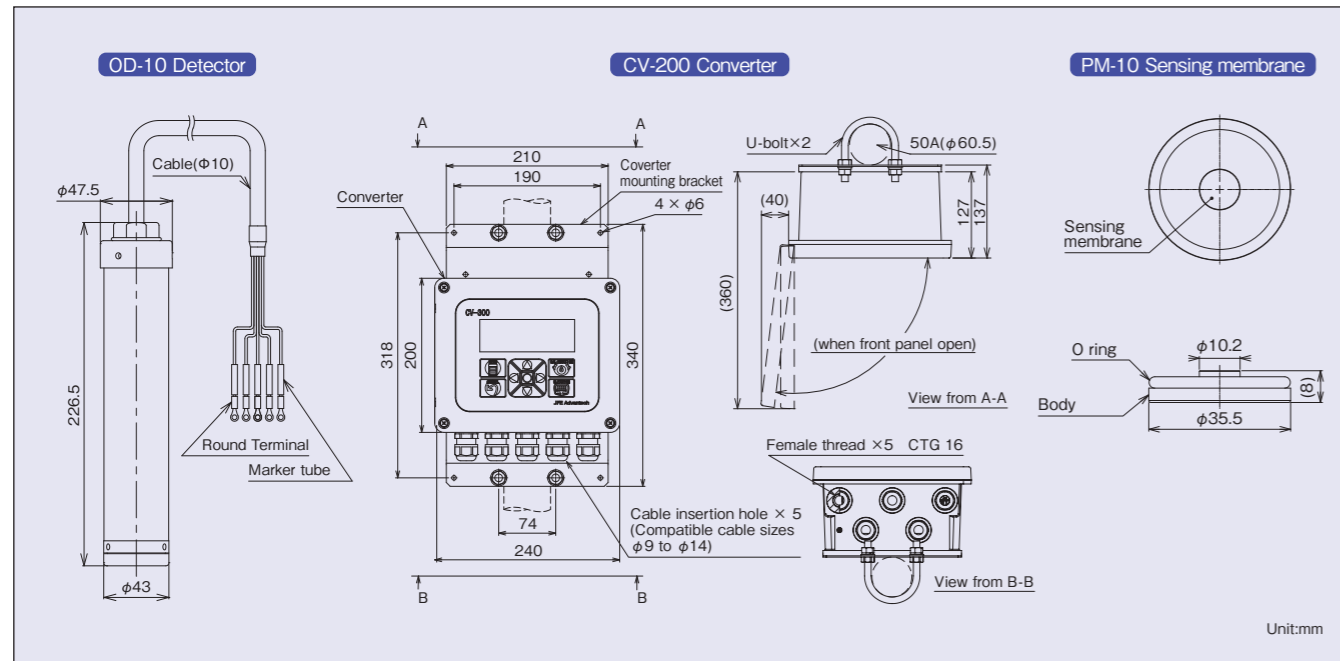
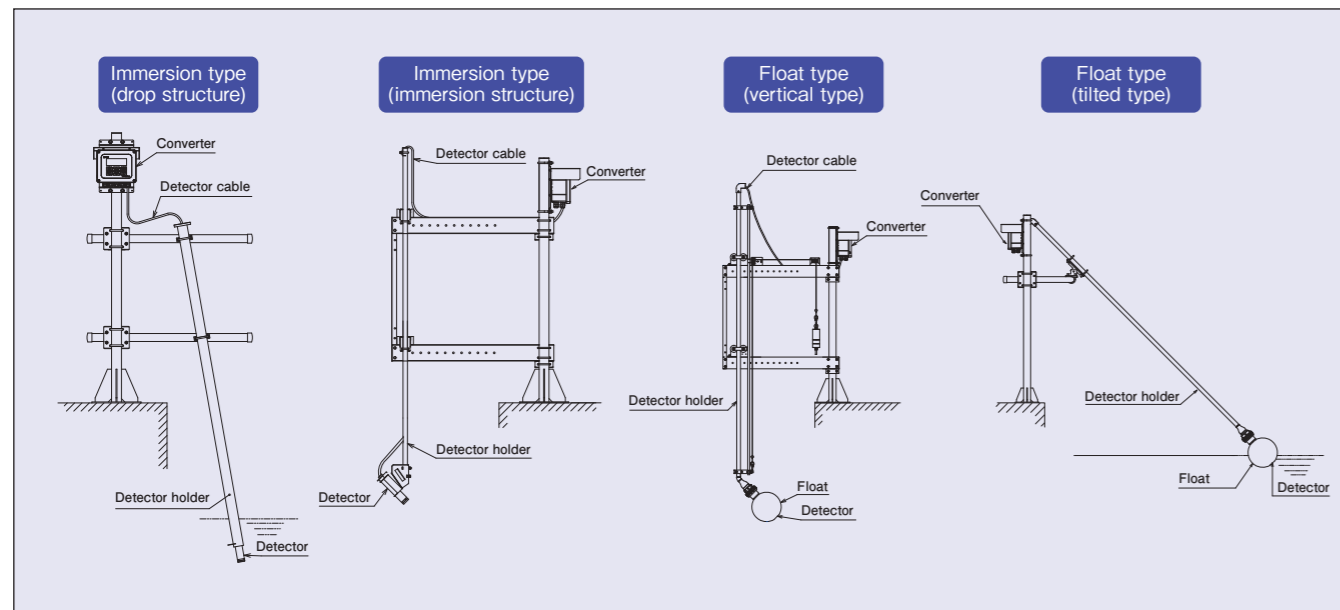


External Dimensions



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.

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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.

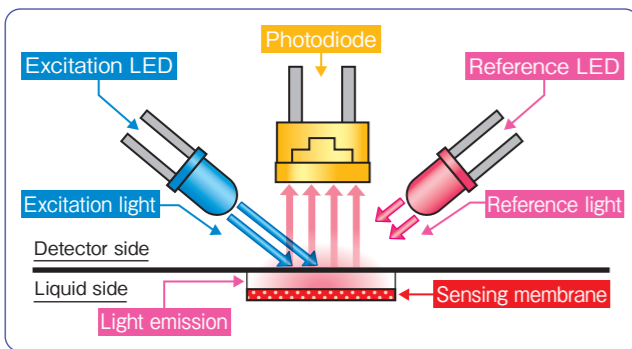


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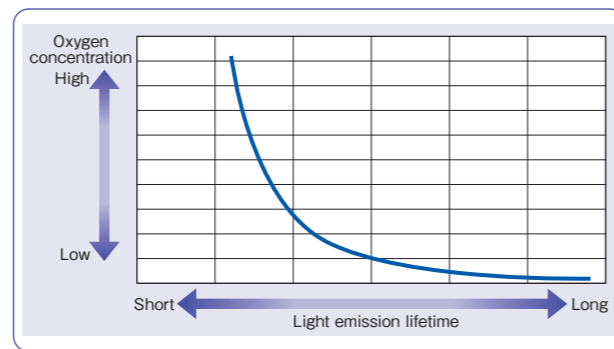
Features

- 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



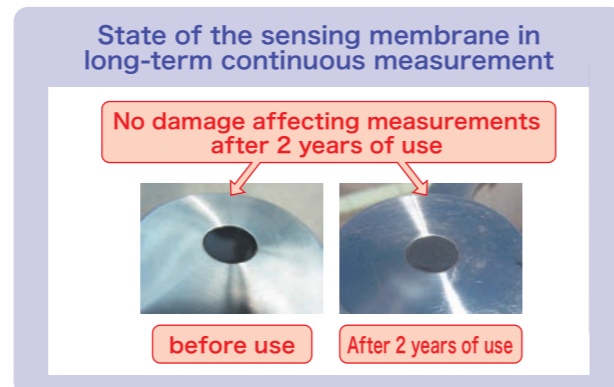
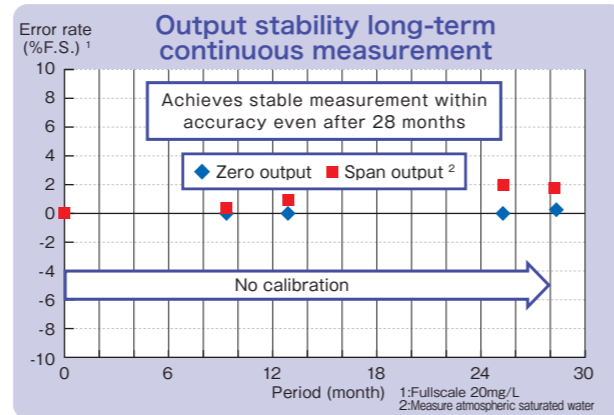
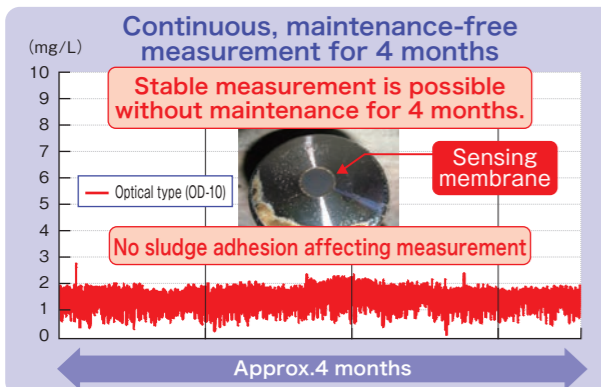
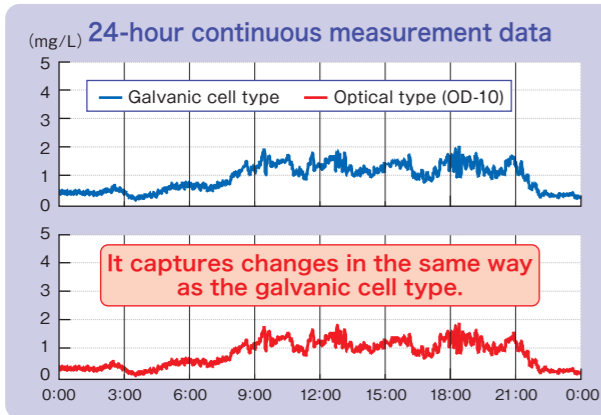
The sensing membrane emits light by returning to the ground state after the sensing material is excited by the excitation light. The light-emission depends on the oxygen concentration around the sensing membrane. The long-term stable measurement can be conducted by use of the reference light which gives 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 ₂ Saturation	0 to 200.0%
	Water temperature	0 to 50.0°C
Measuring accuracy	Reproducibility ¹	±2%F.S.
	Repeatability	±0.5%F.S.
90% response time ²	<30sec	
Flow speed	Not required	
Measuring accuracy (water temperature)	±0.2°C	
Calibration method	Zero calibration	Calibration using zero water ³
	Span calibration	Atmospheric calibration, Saturated water calibration, Comparative calibration ⁴
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) ⁵	
Optional	The following options are available separately, please contact us for any details. ·Detector holder ·Cleaning mechanism	

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

CV-200 Converter

Mounting method ¹	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 ²	Approx. 7W
Analog output	DC 4 to 20mA (2 channels : -Io1 and -Io2 are common potential.) ±Io1 : Dissolved oxygen concentration or O ₂ Saturation ±Io2 : Water temperature
Allowable load resistance	800Ω
Contact input ³	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 ⁴ (Allowable load 200VA or less)
Self-diagnosis function ⁵	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	Built-in lightning protection circuit 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

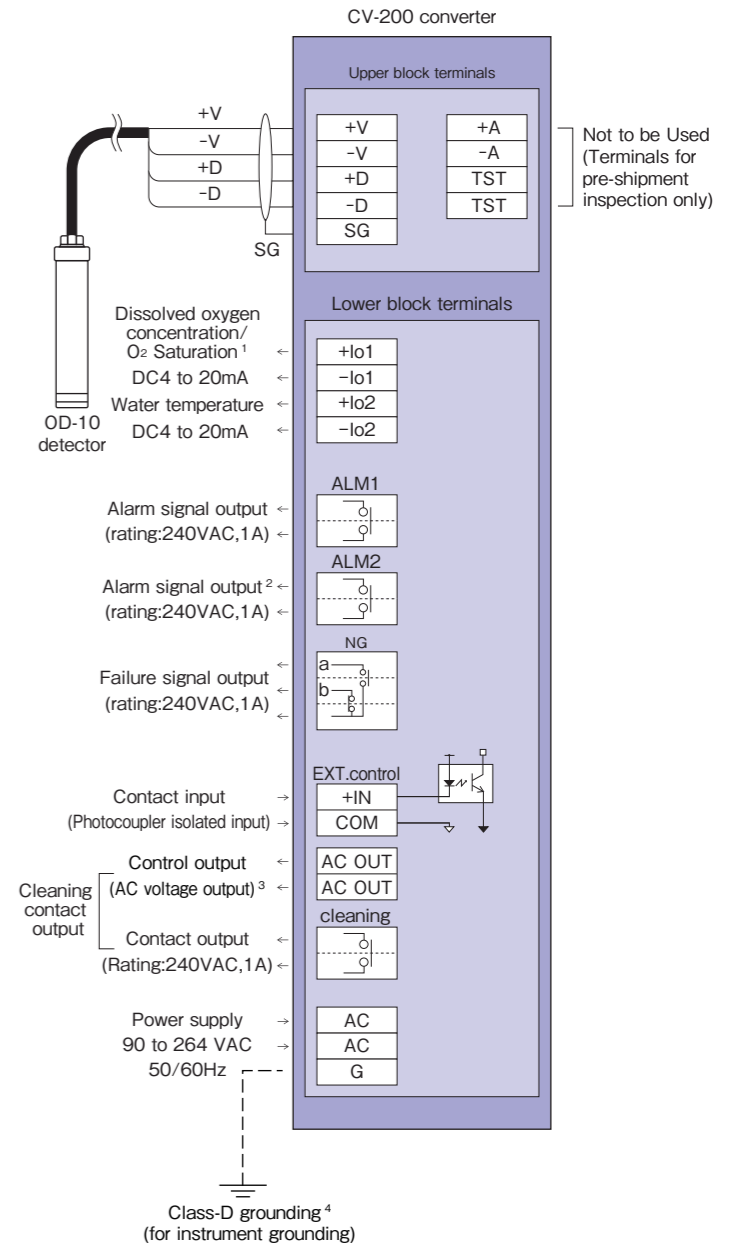
- Converter mounting bracket are provided with the product. Converter stand , converter mounting bracket and 50A pole mounting U-bolts are sold separately.
- Excludes the power consumption of the load connected to the control output.
- Measurement hold, cleaning output control function.
- The AC voltage output to the control output (AC OUT) is the same as the power supply voltage (90 to 264VAC 50/60Hz) to the converter.
- For details,see the instruction manual.

PM-10 Sensing membrane

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

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

Device wiring diagram



- ±Io1output is the selected one of dissolved oxygen concentration or dissolved oxygen saturation.
- ALM2 output is the selected one of level alarm or membrane replacement timing alarm.
- The AC voltage output to the control output (AC OUT) is the same as the power supply voltage(90 to 264VAC 50/60Hz) to the converter.
The voltage specifications of the standard cleaning mechanism are rated 100VAC, 50/60Hz. Please contact us if the power supply voltage to the converter is other than 100VAC.
Also, do not short-circuit the terminals because it may cause equipment failure.
- Be sure to connect the grounding terminal(G) to ground potential.
(Class D grounding : ground resistance of 100Ω or less.)