

# Dissolved Oxygen

## HD-200FL (4-Wire Transmitter)



## HD-480 (4-Wire Transmitter)



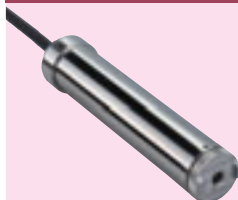
### HD-200FL Specifications

Measuring method	Optical (fluorescent)	
Measuring range	DO: 0 to 20 mg/L Saturation: 0 to 200% Temperature: 0 to 50°C	Resolution: 0.01 mg/L Resolution: 0.1% Resolution: 0.1°C
Repeatability	±1% of full scale	
Linearity	±2% of full scale	
Transmission output	Two points 4 to 20 mA DC output isolated type Maximum load resistance 900 Ω Range 1: DO concentration: Freely selectable within the measurement range Range 2: Temperature: Freely selectable within the range from -10.0 to 110.0°C Alarm: Burnout function (3.8 mA or 21 mA) Hold: Selectable from previous value hold, optional value hold	
Contact output	Three points Dry contact output Relay contact, SPDT (1c) Signal R1, R2: upper limit alarm, lower limit alarm, hold, Cleaning (selectable) FAIL: Alarm Control operation Control width: 0.02 to 4.00 mg/L (±0.01 to ±2.00 mg/L)	
Communication function	RS-485 Two wire systems, Input/output isolated type (not isolated from transmission output)	
Temperature compensation range	0 to 50°C	
Self-diagnosis function	Calibration error, sensor diagnosis error, converter alarm	
Operating temperature range	-20 to 55°C (Should not be frozen)	
Power supply	100 to 240 V AC 50/60 Hz 15 VA (max.)	
Structure	IP65 : 50 A pole or wall mounting Case: Aluminum alloy Mounting brackets, hood: SUS304	
Compatible sensor	DO-2000	
Weight	Main unit body: Approx. 3.5 kg Hood, mounting brackets: Approx. 1 kg	
Regulatory certification	CE marking, FCC rules	

### HD-480 Specifications

Measuring method	Galvanic cell method	
Measuring range	Dissolved oxygen: 0 to 20 mg/L Saturation ratio: 0 to 200% Temperature: 0 to 40°C	Resolution: 0.01 mg/L Resolution: 1% Resolution: 0.1°C
Repeatability	Dissolved oxygen: ±0.5% full-scale or less (for equivalent input)	
Linearity	Dissolved oxygen: ±0.5% full-scale or less (for equivalent input)	
Transmission output	4 to 20 mA DC Input/output isolated type Maximum load resistance 900 Ω	
Transmission output range	Freely settable within measuring range	
Contact output	No. of outputs: Two points (R1, R2) Contact format: Relay contact SPDT (1c) Contact capacity: 240 V AC 3 A, 30 V DC 3 A (resistance load) Contact function: Selectable from upper, lower limit operation (ON/OFF control) and malfunction alarm, maintenance operation, temperature	
Calibration function	· Atmospheric calibration or saturated liquid calibration · Salinity correction (0.0 to 5.0%) · Temperature calibration (2 points)	
Self-diagnosis function	· Calibration failure (zero error, sensitivity error) · Sensor diagnosis (temperature sensor short-circuit, temperature sensor disconnection) · Outside measuring range · Analyzer malfunction	
Power supply	100 to 240 V AC 50/60 Hz 10 VA (max.)	
Temperature compensation range	0 to 40°C	
Ambient temperature	-5 to 45°C	
Compatible sensor	Sensor: 5405, Probe: DP-100	
Weight	Approx. 400 g	
Regulatory certification	CE marking, FCC rules	

### Sensor



#### Specifications

Model	DO-2000
Sensor cap	5700A
Measurement sample temperature	0 to 50°C
Measurement depth	10 m
Wetted material	SUS316, NBR, PVC
Weight	Approx. 3.0 kg (including 10 m cable)

### Holder

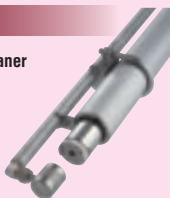
- **Immersion type holder**  
DH-101 series (insertion type)  
NH-10 series (drop-in type)
- **Flow type holder**  
DF-30 series

### Cleaner

- **Immersion type jet cleaner**  
JDH series
- **Flow type jet cleaner**  
JDF series
- **Ultrasonic cleaner**  
UH / UDH series



Intermittent cleaning by air jet cleaner



Continuous cleaning by ultrasonic cleaner

### Accessories

- **DO sensor extensive cable**  
C-7E



- **Relay box**  
CT-50DO



### Sensor

#### Specifications

Model	5405
Construction	Cartridge replacement disposable type
Cleaner combination	Possible
Film thickness	50 μm
Responsiveness (for same measurement conditions)	90% response 120 sec. or less
Measurement solution conditions	Temperature: 0 to 40°C Pressure: 0 to 0.1 MPa (DO measurement is possible to a maximum depth of 10 m.) Flow velocity: 25 cm/sec. or more
Film material	PTFE
Combined probe	DP-100



#### [Disposable type sensor]

The film recovering work required when renewing conventional electrodes is no longer necessary and anyone can easily perform replacement. In addition, disposable type sensors deliver high quality and low cost.

### Probe

#### Specifications

Model	DP-100
Construction	Immersion type
Measurement solution temperature	0 to 40°C
Solution contact material	PVC, titanium, CR
Combined sensor	5405

#### [Immersion type probe]

Directly immerse the probe in the measurement solution during use. No special installation work is required. Immersion type holders / flow type holders are available according to the application.



### Cleaner

- **Water/air jet Cleaner Flow type**  
JDH-30



- **Water/air jet Cleaner Immersion type**  
JDH-10

