

## Optical DO sensor with wiper

# RINKO W

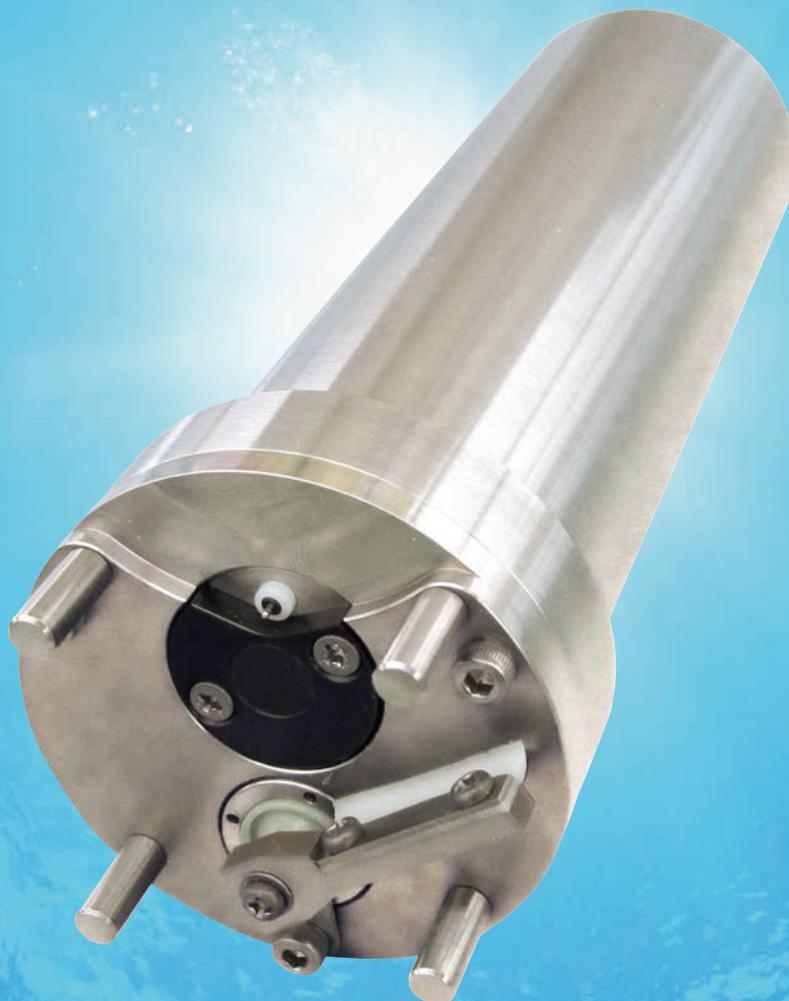
AROW2-USB/  
CAR/CAD

ISO9001



JQA0950

For long-term deployment



- Long-term stability DO sensing foil
- Less maintenance
- Wiper to prevent bio-fouling



JFE Advantech Co., Ltd.

# RINKO W

## AROW2-USB/CAR/CAD



### ■ Description

The RINKO W is an autonomously deployable data logger for long-term DO measurements. In order to protect the sensing foil against accumulating bio-fouling, the instrument has a mechanical wiper to sweep the optical window.

The sensor is coated with photostimulable phosphor (PSP) on the outside of the pressure-resistant acrylic optical window, measuring the phase difference between phosphorescent time lengths. The excitation blue LED pulse generates a red phosphorescence pulse, which in turn has an inverse correlation with the oxygen partial pressure in the water (DO concentration). Phosphorescent time lengths under oxygen-free conditions are long. However, under high DO concentration conditions, the time length shortens. Since the method does not consume oxygen, there is no need for stirring.

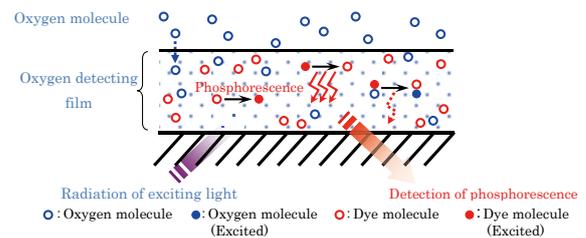


Fig. 1 Oxygen Measurement Conceptual

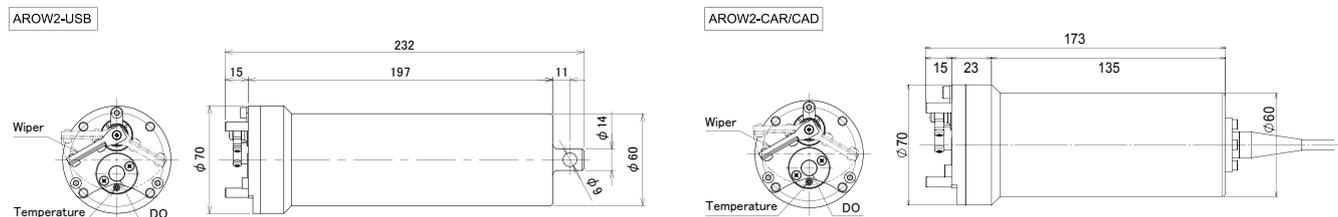
### ■ Sensor specifications

Model	AROW2-USB/CAR/CAD	
Parameter	DO	Temperature
Principle	Phosphorescence	Thermistor
Range	0 to 200%	-3 to 45 °C
Resolution	0.01 to 0.04%	0.001 °C
Accuracy	Non-linearity $\pm 2\%$ FS (at 1 atm, 25 °C)	$\pm 0.02$ °C (3 to 31 °C)

### ■ Instrument specifications

	Data logger	Cable type
Model	AROW2-USB	AROW2-CAR/CAD
Memory medium	1 GB micro SD card	—
Battery	CR-V3 3.3 Ah Lithium battery (maximum 4 batteries)	—
Operating voltage	—	DC 12 to 24 V
Communication	USB 2.0 (ver. 1.1 compatible)	CAR: RS-232C, CAD: RS-485
A/D conversion	16 bit digital conversion	
Measurement mode	Continuous mode, burst mode	—
Sampling interval	0.5 to 1 s (0.1 s increment) 1 to 600 s (1 s increment)	—
Burst sampling interval	1 to 1,440 min	—
Number of samples per burst	1 to 18,000 samples	—
Power consumption	120 mA	40 mA
Dimensions	$\Phi 70 \times 232$ mm	$\Phi 70 \times 173$ mm (connector not included)
Weight	Approx. 1.2 kg in air, 0.6 kg in water	Approx. 1.0 kg in air, 0.5 kg in water
Depth rating	200 m depth equivalent	
Materials	Titanium (grade 2)	

### ■ Drawing



※ Dimensions are in mm. ※ All specifications on this leaflet are subject to change without notice.



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