

Fast optical DO sensor for microscale measurements

RINKO EC

ARO-EC-CM



Applicable to aquatic eddy covariance method.



- Extremely fast response (90%: less than 0.5 s from air to water)
- Robust
- Easy integration
- Easy DO sensing foil replacement by users
- Eddy covariance measurements of temperature and DO



JFE Advantech Co., Ltd.

■ Description

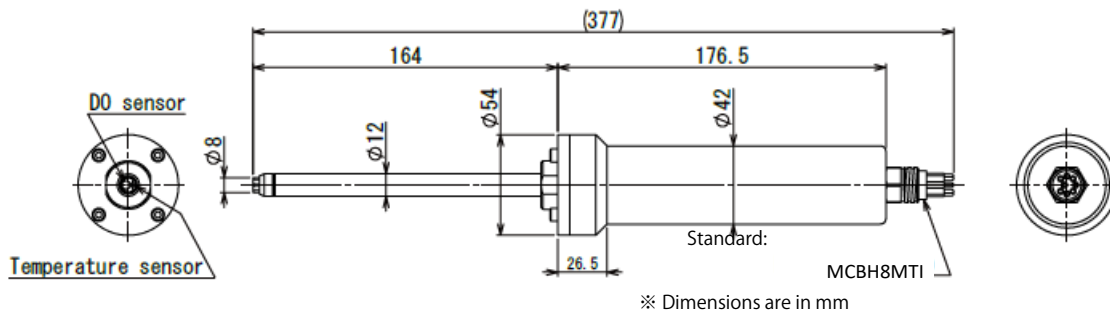
Aquatic eddy covariance method is a powerful technique to measure benthic fluxes. The **RINKO** series is based on the optical (phosphorescence) principle which is now widely known as a remarkably fast response oxygen sensor with high accuracy. As a new member of the **RINKO** family, the robust **RINKO EC** (model name: **ARO-EC-CM**) is designed for aquatic eddy covariance measurements. The response time of the **RINKO EC** oxygen sensing foil is **less than 0.5 s** (90%, from air to water at 25 °C). The foil life-time is more than 200 h, which enables at least **1 week of continuous measurements** of dissolved oxygen. Moreover, **the foil can be replaced easily** by users. The **RINKO EC** is an advantageous tool for eddy covariance measurements in many aquatic environments.

■ Specifications

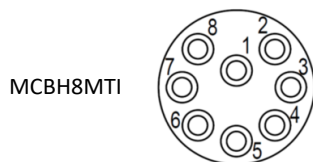
Model name	ARO-EC-CM	
Measurement principle	DO	Phosphorescence
	Temperature	Thermistor
Range	DO	Air saturation: 0 to 200% (calibration range: 3 to 30 °C)
	Temperature	-3 to 45 °C (calibration range: 3 to 31 °C)
Precision	DO	Air saturation: ±1% ⁽¹⁾
Accuracy	Temperature	±0.02 °C
Response time (90%)	DO	< 0.5 s (from air to water at 25°C)
	Temperature	< 0.5 s (from air to water at 5°C)
DO sensing foil life-time	200 h in continuous operation	
Signal output	0 to 5 V analog	
Pre-heat time	5 s	
Power	9.6 to 24 VDC (12 VDC recommended)	
Current drain (at 12 VDC, typical)	≤ 20 mA	
Material	Housing: Titanium (grade 2)	
Dimensions	Φ 54 mm × 340.5 mm (w/o connector)	
Weight	Approx. 0.6 kg in air, 0.3 kg in water	
Depth rating	50 m	
Connector	Standard: MCBH8MTI or Option: AG306-HP	

Note(1): 2-point (span/zero) calibration before each measurement is required to obtain accurate DO data.

■ Drawing



■ Pin configuration



- 1: Analog OUT2 + (Temperature, 0 to 5 V)
- 2: (not used)
- 3: (not used)
- 4: Analog OUT 2 - (Temperature, 0 to 5 V)
- 5: Analog OUT 1 - (DO, 0 to 5 V)
- 6: Analog OUT 1 + (DO, 0 to 5 V)
- 7: GND
- 8: POW+ (10 to 24 VDC, 12 VDC recommended)

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



JFE Ocean & River Instruments Division
 URL: <https://www.jfe-advantech.co.jp/>

Head Office 3-48 Takahata cho, Nishinomiya, Hyogo 663-8202
 TEL. +81-798-66-1783 FAX. +81-798-66-1654

Tokyo Head Office JFE Kuramae Bldg, 2F, 2-17-4 Kuramae, Taito ku, Tokyo 111-0051
 TEL. +81-3-5825-5589 FAX. +81-3-5825-5591

Tohoku Sales Office TM Bldg, 2F, 1-3-1, Ichiban cho, Aoba ku, Sendai, Miyagi 980-0811
 TEL. +81-22-711-7535 FAX. +81-22-711-7534