

# Metadata

<b>Standardized Instrument Name</b>	
<b>Scheme URI</b>	
<b>Term URI</b>	
<b>Instrument DOI</b>	
<b>Instrument Unique ID</b>	38-533-81
<b>ID Type</b>	Serial number
<b>Model No.</b>	CO2-Pro FT
<b>Instrument Type</b>	External
<b>Description</b>	Ship-based pCO <sub>2</sub> underway system provides CO <sub>2</sub> mixing ratio data for near-surface water that can be used to calculate seawater CO <sub>2</sub> partial pressure (pCO <sub>2</sub> )
<b>Manufacturer</b>	Pro-Oceanus
<b>Manufacturer type</b>	Organizational
<b>Notes</b>	<p>The sensor operates through rapid diffusion of dissolved gas from water through a semi-permeable membrane to a non-dispersive infrared (NDIR) gas analyzer. The sensor was factory calibrated (February 2020) prior to deployment on the RV William Kennedy using gas traceable to international standards at the NOAA ESRL GMD Central Calibration Laboratory. Declared accuracy is 0.01 ppm or <math>\pm 0.5\%</math>. Long-term stability is achieved through an automated zeroing routine that periodically removes CO<sub>2</sub> from the system establishing a new zero CO<sub>2</sub> baseline value. Seawater was continuously pumped through the system at a rate of approximately 1 L/min from a clean water intake located approximately 2 m beneath the surface aboard the RV William Kennedy. Through sensor programming the pCO<sub>2</sub> was sampled at <math>\sim 7</math> min increments during the 2021 James Bay expedition.</p>
<b>Sensor Details</b>	
<b>Sensor Details 1</b>	
<b>Instrument Sensor Name</b>	CO2-Pro FT
<b>Instrument Sensor Serial No.</b>	38-533-81
<b>Sensor Range</b>	0 – 1000 ppm

**Sensor Sensitivity** Declared accuracy is 0.01 ppm or  $\pm 0.5\%$ .

**Sensor Units** ppm

**Last Calibration Date** 2020-02-01