



Applications	In-situ measurement of dissolved CO ₂ motivated by: Air- sea gas exchange; Ocean Acidification; Limnology; Climate Studies; Agriculture/ Fish Farming; Fresh water control; Carbon Capture and Storage (CCS)
Detector	High-precision optical analysing NDIR system • Maintenance free
Principle	Dissolved CH ₄ molecules diffuse through a silicone membrane into the patented detector chamber, where their number is determined by means of IR absorption spectrometry. Concentration dependent IR light intensities are converted into output signals.
Dimension/ Weight	90 d x 376 mm corrosion-free titanium/ 4,7 kg (3 kg in water)
Operation depth	2000, 4000, 6000 m version available
Temperature range	3 ... +30°C (Arctic version: -2 ... +15°C)
Measuring range	0... 6000 ppm (other ranges available) • Standard calibration is 200... 1000ppm • Units selectable: µatm, ppm, etc.
Equilibration time	first signal after 5s, T ₆₃ ~ 45 sec (with external pump)
Resolution	< 1ppm
Accuracy	±1% reading (as the total sum of all the errors)
Calibration	Calibration unit is ppm • Partial pressure in µatm is derived (internal sensors for pressure, temperature and humidity) • Recalibration recommended every 12 months
Drift correction / Features	Dual channel NDIR unit
Connector	Connector SUBCONN [®] MCBH8-M Titanium 8-pin • Others on request
Power supply/ Consumption (@12 VDC)	Typ. 12 VDC (11 - 24 VDC) (Arctic version: 12 - 24 VDC) • warm- up phase 2- 30min (depending on water temp)/ Apr. 300 mA + max. 150 mA small external pump (option) + max. 450 mA big external pump (option)
Data Interface	RS-232C and RS-485 • Data format ASCII NMEA-0183
Software	Windows [®] Software DETECT [™] included (real time data visualization, setting of sensor parameters, download data from internal data logger) • Adaption to user-software • Sleep mode function user configurable
Options	Analogue Output: 0 – 5/10 V (Range / Full-scale can be user-configured) • Internal or external data logger (µSD card/ CF card) • external Battery Pack (e.g. 200 Ah Lithium (SAFT LSH 20)) • Build-in water temperature probe for concentration calculation • ROV and AUV adaption packages • Profiling and mooring frames • HydroC [™] /CO ₂ (and/or CH ₄) Flow Through sensor for underway (FerryBox) and lab applications • biofouling protection • external mounted pump with flow head for faster response time

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