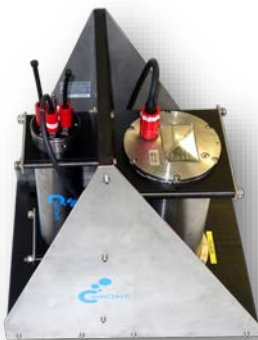


## MicroDI™ - Subsea Datalogger

- ➔ Ultra-low-power
- ➔ Long deployments
- ➔ Full ocean depth
- ➔ Very high accuracy data acquisition
- ➔ Extreme high data storage capacity
- ➔ Customized designs to your need
- ➔ Fail-safe operation
- ➔ Titanium for harsh conditions



The MicroDI™ (**Micro Data Interface**) Datalogger is designed special for rough and high-accuracy measuring applications. The main features are: ultra low-power for long-time deployments, multiple high accuracy analogue inputs, high precision real-time and high data storage capacity. Serial inputs, configured as RS-232 or RS-485 interfaces, can be used for digital sensor signals and online real-time data output. The micro-SD Card can be used on a standard PC to readout the data from many years. With a high analogue data sampling rate of up to 10 Hz not only long-time monitoring applications can be supplied, but also e.g. wave sampling. The ultra low-power consumption design allows condition or long-time monitoring. The modular hardware and flexible software design enables sufficient solutions for many different challenging applications. With the optionally internal Li-Ion rechargeable battery a complete autonomous measuring system is realized. De/Mobilisation is easy by using magnetic switch, checking the LED control light or setting up the configuration by ASCII commands.



MicroDI™ (left) with IMU sensor (right) for underwater motion measurements



MicroDI™ PowerLogger for subsea control (left) and 7 sensor inputs (right photo)



	<b>Specification Datalogger</b> (Note: specification depending configuration & setup)
<b>Applications</b>	Datalogger for subsea instruments • Ultra-Low-Power and Long-time deployments (years) • Customized designs with special sensors or hardware • Deep-sea research • Offshore Oil+Gas Condition Monitoring • Water quality measurement
<b>Analogue Inputs</b>	8 Channels 24 Bit input (18 Bit effective) Standard range 0-5V • Options for 0-10V, ±10V, 0/4-20mA etc.
<b>Serial Interfaces</b> Sensor and Host	Standard: 1 x RS232/485 Host interface for data output and command input (simple ASCII NMEA-0183 data format); 1 x RS232/485 for e.g. sensors Optional additional 4 x RS-232 interfaces • Optional RS-485 Configurable formats and timings, please define your needs
<b>Watchdog</b>	Independent watchdog and power-on controller
<b>Sample rate</b>	Typ. 1 Hz • max. 10 Hz • Faster sample rates on request • Programmable
<b>Digital IO</b>	8 Ports Digital Input, Output, Counter and PWM signals 4 Ports high-current switched outputs (1 to 3A) protected by self-resettable fuses Can be used to control external sensors , e.g. Pumps or Hydro-Wiper
<b>Real-Time-Clock</b>	High precision real-time-clock, typ. accuracy 25ppm Optionally calibrated to 1ppm (< 86ms/day – 30s/year)
<b>Power saving</b>	Optional PMM module to auto-power saving Off/On with configurable times
<b>Data storage</b>	Standard 4 GB µSD card • Max. 32 GB micro-SD (µSD) card PC compatible – easy to use Standard NMEA-0183 data storage format (ASCII) • High storage capacity for years
<b>Power</b>	+7... 32 VDC • e.g. depending external switched components Operating 0.1W, typ. 10mA @12VDC • Sleep mode 0.02mW, typ. 2µA @12VDC
<b>Housing</b>	Titanium housing • Corrosion free • Shallow-water POM housings available Ø90mm x 300mm length (without battery) • Special sizes available Optional LED light for operating modes, for diver or ROV control
<b>Connector</b>	SubConn® micro connectors MCBH-5 titanium • Other on request
<b>Operational depth</b>	300m (POM/titanium housing) to 6000m (titanium housing) available
<b>Operating</b>	-40°C ... +85°C Shock 10G 11ms
<b>Battery</b>	Optionally external or internal Li-Ion rechargeable battery See next page for specification



	<b>Specification</b> (Note: specification depending configuration & setup) <b>Li-Ion Battery (Option)</b>	
<b>Applications</b>	Optionally internal Li-Ion rechargeable battery with high-power, high safety, highly reliable cells and electronic protection (Battery Management System – BMS)	
<b>Temperature</b>	-20 ... +60 °C 0 ... +40 °C -20 ... +50 °C	Operating temperature Charge temperature Storage temperature, best +5 .. +15°C
<b>Voltage</b>	14.4 V 16.8 V 12.0 V 10.0 V	Nominal voltage Charge voltage Minimum voltage for full lifetime and performance Minimum voltage
<b>Capacity</b>	5.2Ah, (10.4Ah) 6.7Ah, (13.4Ah)	Nominal capacity, standard (long version: add 100mm) Nominal capacity, "A" grade (long version: add 100mm) <i>Note: please consider capacity loss up to 20% for +4°C sea water</i>
<b>Battery Current</b>	7 A	max. continuous current • Other up to 40A peak on request
<b>Self discharge</b>	< 5 %	per year at +25°C
<b>Charge cycles</b>	>500 cycles	for 80% remaining capacity
<b>Protection</b>	Over-charge • under discharge • current limiting and short circuit	
<b>Smart Charger</b>	<i>SmartCharger™</i> , can be connected all time • Do not open the housing for charging. Special procedure to revive deeply discharged batteries • Signal LEDs for Power, Charging, 100%, Error • IP65 protected for on-board usage.	
<b>Switch</b>	Optional: manual magnetic switch for power on/off	
<b>Storage</b>	Storage at +5 .. +15°C. medium-full charged • Recharge after 3 months. We provide storage/transport boxes with low-power cooling devices and charging.	
<b>Transportation</b>	Dangerous goods class 9. SubCtech is certified according IATA, DGR and ADR for any kind of transportation. On request UN T38.3. We are pleased to advise you.	



MicroDI™ PowerLogger consists of MicroDI™ Controller and Li-Ion Battery. Here customized OEM integration with optionally Hydro-Wiper connections, additional sensor interfaces, 32GB µSD card memory card, 1ppm Real-Time-Clock for 12 months operation in the Arctic Ocean.

