

NetDI™

High-speed Datalogger and Deckunit

- **High-performance industrial ARM controller**
- **High-performance data acquisition**
- **High data storage capacity**
- **USB download and configuration updates, no need to open housings**
- **Low-power for long-term deployments**
- **Customized designs to your need**
- **Fail-safe operation**

The NetDI™ (**Net**working **D**ata **I**nterface) Datalogger is designed special for high-safety, high-speed, rough and high-accuracy measuring applications. Multiple high accuracy and high-speed analogue inputs can be used to acquire external signals. Serial optical isolated inputs, configured as RS-232 or RS-485 interfaces, can be used for digital sensor signals and online real-time data output. Multiple data formats are provided such as plain ASCII, NMEA-0183, MODBUS or other.

The industrial-grade 32GB SDHC Card can be used on a standard PC to readout the data from many years. The modular hardware and flexible software design enables sufficient solutions for many different challenging applications.



	Specification
Applications	High-speed data logger for on-board or subsea instruments • Low-power and long-time deployments • Customized designs with special sensors or hardware • High-speed condition monitoring
Controller	High-speed, low power industrial-grade ARM controller STM32 • Watchdog
Firmware	Industrial real-time multitasking kernel • KEIL Compiler certified for functional safety applications up to SIL-3 (IEC 61508) • Configuration or software updates via USB port
Processing	Standard formulas following IEEE "Double Precision" and UNESCO formulas for seawater analysis • Simple polynomial calibration formula for sensor values
PLC Controller	<i>Option:</i> Soft-PLC configurable • Time- and sensor triggered "phases" to control processes with actuators • Configuration menus
Data storage	Industrial grade flash memory 8 GB SDHC • No moving parts • High reliability with journaling file-system and integrated mini-USV: survives resets • PC compatible – easy to use • Standard NMEA-0183 data storage format (simple ASCII) • High storage capacity for years • Data download via USB <i>Option:</i> 32 GB SDHC • card backup storage into EEPROM
Safety	Hardware Watchdog • Integrated Uninterrupted Power Supply (UPS) filters power-drops • Journaling file system survives resets • optical isolated interfaces • industrial "safety" compiler with development tools such as version history management
Monitor, Control	7" Touch-Screen • water-proof design • Control-Buttons and LED lights as required
Time base	Real-time-clock • ISO 8601 • <i>Option:</i> calibrated to deviation 1ppm - 30s/year
High speed Analogue Inputs	<i>Option:</i> 2 channels 12/16 Bit • Expandable to 4 channels • Typ. 10 kHz sampling Input range $\pm 200\text{mV}$ to $\pm 80\text{V}$ • Accuracy 0.25% FS • Up to 1 MS/s for 2 channels
Standard Analogue Inputs	8 channels 24 bit • 18 bit effective • Optional galvanic de-coupled Input range $\sim \text{mV}$ to $\pm 10\text{V}$ • 0/4-20mA • Accuracy 0.05% FS
Serial Interfaces	3 x RS-232 or RS-485 interfaces • 2 x USB 2.0 • Configurable <i>Option:</i> Module with additional 28 x RS-232/485, up to 1 Mbit/s (from that 4 x optical isolated)
Real-time output	RS-232 or RS-485 • ASCII NMEA-0183 data format • Configurable settings <i>Option:</i> other interfaces, TCP/IP data transmission, radio or satellite modems etc.
LAN	<i>Option:</i> 10/100 MBit Ethernet • TCP/IP • <i>Option:</i> WLAN
Digital IO	6 x power output 3A • 6 x OC output • 6 x digital out, optical isolated <i>Option:</i> Module with more 4 x power output 3A • 4 x digital out (LEDs) • special programming
Sensor inputs	Analogue and digital sensor inputs: Standard 0-10V, 4-20mA, 3rd party Probes
GPS	GPS position-control (geo correlation) • Acquisition control by position



Power / Sleep	9-30 VDC and 90-240 VAC • Operating <10W (depending equipment) • <i>Option:</i> Low-power typ. 3W • switchable Touch-Display • Sleep mode ~mW
Size	19" rack DeckUnit • Special micro system • Underwater housings <i>Option:</i> Micro-design for small spaces • Underwater housings up to full ocean depth
Temperature	-20°C ... +50°C operating • -40°C ... +85°C storage



19" DeckUnit, fully integrated



Customized "underway" system for VOLVO OCEAN RACE, with Touch-Display, sea-water supply and sensors



Underwater Data-logger with Li-Ion battery (self-powered, self-recording) and external water-proof Display-Box with 7" Touch-Display for setup and diagnostic. USB port for data download or firmware upgrades

