Datasheet
Subsea Acoustic Data Logger

Sonardyne's 6G® subsea Acoustic Data Logger (ADL) systems use a spread spectrum, high speed acoustic link to allow large volumes of data to be rapidly and accurately retrieved topside.

ADLs are used when no umbilical connection with downhole gauges is available. Integrated with batteries and IWIS or non-IWIS cards from all major oil field service companies, ADLs are designed to power the gauges and to record the returning pressure and temperature data. Using a topside transceiver, all stored data is acoustically transferred through the water column to a vessel, platform or rig. Changes to the gauge logging schedule can also be conducted through the same acoustic link.

Combined with Remotely Operated Vehicle (ROV) portability, the system is the ideal solution for initial well appraisal, where frequent downhole readings need to be logged over a period of a few weeks. Equally, ADLs are suitable for long-term deployments where it may remain installed on a wellhead, logging data for several years without intervention.

Constructed from corrosion resistant materials, ADLs can be moved between wells by ROV for a greater degree of reservoir characterisation. Being part of Sonardyne's 6G range of products, logged data can be wirelessly retrieved using any 6G transceiver deployed from a vessel, rig or Uncrewed Surface Vehicle (USV).

Key features

- Designed for ROV deployment and retrieval
- Easily moved between wells
- High speed, spread spectrum acoustic data link
- Interfaces to all industry standard gauges
- Depth rated to 3,000 m
- Fully adjustable data logging rate
- Long-life seabed deployment
- Optional ROV handle and wet mate connector

Specifications
Subsea Acoustic Data Logger

Acoustic Communication		**Type 8195**
Operating frequency		LMF (14–19 kHz)
Transducer beam shape		±30° (directional) ±70° (omni with noise shield)
Transmit source level (dB re 1 µPa @ 1 m)		>190 dB
Receiver threshold (dB re 1 µPa)		85–120 dB (7 levels)
Acoustic data	Link	High speed, spread spectrum
	Transmission rates	300–9,000 baud (true payload rate variable by telemetry scheme)
Power		
Power		Long life lithium primary cell battery pack
Battery capacity	Single battery pack	120 Ah @ 14.5 V dc
	Dual battery pack	240 Ah @ 14.5 V dc
Battery life		Dependant on interface and logging configuration
Interface card	Supply voltage	24 V dc ± 4 V
	Maximum power	30 W
Communication & Interface		
Gauge interface card type		1 x IWIS DHPT Interface Card (dependant on field requirements)
Interface card serial communication format		IWIS RS485 at 9,600 baud, Modbus TCP or Modbus RTU protocol
Interfaces	Serial	2x RS485/422 - 2x RS232
	Analogue	6x Analogue
Serial communication		Direct serial access to data logger & Gauge Interface Card via the external serial port
Logging and Data Storage		
Minimum memory capacity		512 Mb - Industrial SD Card (non-volatile)
Sample rates	Standard	Configurable from 2 minutes to 5 days (dependant on interface)
	Special	High sample rate operation for user defined durations from 1 minute to 4 days with configurable rates from 5–60 seconds (dependant on interface)
Mechanical		
Mechanical construction		Super duplex stainless steel - UNS32550
Mechanical design		Sonardyne 6th Generation including inter O-ring test ports
Dimensions (length x diameter)	MF single battery configuration	1,086 x 199 mm
	LMF dual battery configuration	1,348 x 199 mm
Weight in air/water	Typical MF single battery	76/52 kg
	Typical LMF dual battery	93/63 kg
External connectors	Gauge interface	1 x ODI or TRONIC (dependant on field requirements)
	Serial test port	1x Subconn MCBH8M 1x Subconn MCBH8F
Environmental		
Depth rating		3,000 m (dependant on connector)
Operating temperature		-10 to +55°C
Storage temperature		-25 to +70°C
Design qualification		ISO 13628-6 Level Q1 & Q2
Options		
ROV handle Type 8195-007		ROV handle assembly (folding), super duplex stainless steel - UNS32550
Battery configuration		Single (120 Ah), Dual (240 Ah) or Triple (360 Ah)