

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

Departing Frequency	Acoustic Communication		Type 8195
Transmit Source Level (dB re 1 µPa @ 1 m)	Operating Frequency		
Receiver Threshold (dB r 1 μPa) 85-120 dB (7 levels) Acoustic Data Link High speed, spread spectrum 300-9,000 baud (true payload rate variable by telemetry scheme) Power Power Variance Battery Capacity Single Battery Pack 120 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 8 Interface Gauge Interface Card Type 1 x IWIS DHPT Interface Card (dependant on field requirements) Interface Card Serial Turnication Format IWIS RS 485 at 9,600 baud, Modbus TCP or Modbus RTU protocol Interface Card Serial Serial 2 x RS 485/242 - 2 x RS 483/242 - 2 x RS 483/			
Acoustic Data Link High speed, spread spectrum 300-9,000 baud (true payload rate variable by telemetry scheme)	Transmit Source Level (dB re 1 µPa @ 1 m)		>190 dB
Power Power Power Power Cong life lithium primary cell battery pack Single Battery Pack 120 Ah @ 14.5 V dc 240 Ah @ 14	Receiver Threshold (dB re 1 µPa)		85-120 dB (7 levels)
Power Power Power Single Battery Pack Dual Battery Pack Dependant on interface and logging configuration Dual Communication D	Acoustic Data	Link	High speed, spread spectrum
Power Single Battery Pack 120 Ah @ 14.5 V dc		Transmission Rates	300–9,000 baud (true payload rate variable by telemetry scheme)
Battery Capacity Dual Battery Pack 210 Ah @ 14.5 V dc	Power		
Battery Life	Power		Long life lithium primary cell battery pack
Dependant on interface and logging configuration	Battery Capacity	Single Battery Pack	120 Ah @ 14.5 V dc
Supply Voltage 24 V dc ± 4 V		Dual Battery Pack	240 Ah @ 14.5 V dc
Maximum Power 30 W	Battery Life	,	Dependant on interface and logging configuration
Gauge Interface Card Type	•	Supply Voltage	24 V dc ± 4 V
Sauge Interface Card Type		Maximum Power	30 W
Interface Card Serial Communication Format IWIS RS485 at 9,600 baud, Modbus TCP or Modbus RTU protocol	Communication & Interface		
Interface Card Serial Communication Format IWIS RS485 at 9,600 baud, Modbus TCP or Modbus RTU protocol	Gauge Interface Card Type		1 x IWIS DHPT Interface Card (dependant on field requirements)
Serial 2x RS485/422 - 2x RS232 Analogue 6x Analogue Cx Analog	· ·		
Analogue Analogue Serial Communication Direct serial access to data logger & Gauge Interface Card via the external serial port			
Direct serial access to data logger & Gauge Interface Card via the external serial port		Analogue	
Minimum Memory Capacity 512 Mb - Industrial SD Card (non-volatile) Sample Rates Standard Configurable from 2 minutes to 5 days (dependant on interface) 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 Super duplex stainless steel - UNS32550 Mechanical Design Sonardyne 6th Generation including inter 0-ring test ports Dimensions (Length x Diameter) MF Single Battery Configuration 1,086 x 199 mm Weight in Air/Water Vapical MF Single Battery Configuration 1,348 x 199 mm Typical LMF Dual Battery Possible Single Singl	Serial Communication		
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 Mechanical Design Mechanical Design Mechanical Design Mechanical Design Mr Single Battery Configuration LMF Dual Battery Configuration LMF Dual Battery Configuration Typical Mr 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) Environmental Depth Rating Operating Temperature Storage Temperature 1 x Out on the Special Test Port 1 x Out on the Special Test Po	Logging and Data Storage		
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	Minimum Memory Capa	city	512 Mb - Industrial SD Card (non-volatile)
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		Standard	Configurable from 2 minutes to 5 days (dependant on interface)
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 1,348 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	·	Special	High sample rate operation for user defined durations from 1 minute to 4 days with configurable rates from 5–60 seconds (dependant on
Mechanical Design Dimensions (Length x Diameter) Weight in Air/Water External Connectors Depth Rating Depth	Mechanical		
Mechanical Design Dimensions (Length x Diameter) Weight in Air/Water External Connectors Depth Rating Depth	Mechanical Construction		Super duplex stainless steel - UNS32550
Dimensions (Length x Diameter) MF Single Battery Configuration 1,086 x 199 mm (Length x Diameter) 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			
LMF Dual Battery Configuration 1,348 x 199 mm	Dimensions	MF Single Battery Configuration	
Weight in Air/Water Typical MF Single Battery Typical LMF Dual Battery Typical LMF Dual Battery Factornal Connectors Gauge Interface Serial Test Port 1x Subconn MCBH8M 1x Subconn MCBH8F Environmental Depth Rating Operating Temperature Toto +55°C Storage Temperature Design Qualification Typical LMF Single Battery 1x ODI or TRONIC (dependant on field requirements) 1x Subconn MCBH8F 1x Subconn MCBH8M 1x Subconn MCBH8F 1x Subconn MCBH8M 1x Subconn MCBH8F 1x Subconn MCBH8F 1x Subconn MCBH8F 1x Subconn MCBH8F 1x Subconn MCBH8M 1x Subconn MCBH8F 1x Subconn MCBH8M 1x Subconn MCBH8F 1x Subconn MCBH8M 1x Subconn MCBH8F 1x	(Length x Diameter)	, ,	1,348 x 199 mm
Typical LMF Dual Battery 93/63 kg External Connectors Gauge Interface 1 x ODI or TRONIC (dependant on field requirements) 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	Weight in Air/Water		76/52 kg
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			
Ix 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	External Connectors		1 x ODI or TRONIC (dependant on field requirements)
Environmental3,000 m (dependant on connector)Operating Temperature-10 to +55°CStorage Temperature-25 to +70°CDesign QualificationISO 13628-6 Level Q1 & Q2OptionsROV Handle Type 8195-007ROV Handle Assembly (folding), super duplex stainless steel - UNS32550		Serial Test Port	1x Subconn MCBH8M
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			1x Subconn MCBH8F
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	Environmental		
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	Depth Rating		3,000 m (dependant on connector)
Design Qualification ISO 13628-6 Level Q1 & Q2 Options ROV Handle Type 8195-007 ROV Handle Assembly (folding), super duplex stainless steel - UNS32550	Operating Temperature		-10 to +55°C
Options ROV Handle Type 8195-007 ROV Handle Assembly (folding), super duplex stainless steel - UNS32550	Storage Temperature		-25 to +70°C
ROV Handle Type 8195-007 ROV Handle Assembly (folding), super duplex stainless steel - UNS32550	Design Qualification		ISO 13628-6 Level Q1 & Q2
ROV Handle Type 8195-007 ROV Handle Assembly (folding), super duplex stainless steel - UNS32550	Options		
	ROV Handle Type 8195-007		, , =, , , ,
Battery Configuration Single (120 Ah), Dual (240 Ah) or Triple (360 Ah)	Battery Configuration		Single (120 Ah), Dual (240 Ah) or Triple (360 Ah)

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