DESCRIPTION

EvoLogics S2CR 40/80 underwater acoustic modem is an efficient and reliable underwater communication device for a variety of subsea applications.

S2CR 40/80 provides a full-duplex digital communication link using the EvoLogics patented S2C (Sweep-Spread Carrier) Technology, delivering an excellent bitrate performance, resistant to the challenges of a dynamic subsea environment. Self-adaptive algorithms adjust the S2C parameters to maintain the highest bit rate possible in current conditions.

S2CR 40/80 has a directional 70° transducer beam pattern, optimized for medium range transmissions in vertical and slant channels or stationary systems.

KEY FEATURES

Reliable high-speed transmissions with S2C Technology — up to 27,7 kbit/s

Directional 70° transducer beam pattern, optimized for vertical and slant channels or stationary systems.

APPLICATIONS

AUV, ROV

Seafloor observatories

Underwater acoustic sensor networks

S2CR 40/80 utilizes the novel EvoLogics communication protocol with multiple data management options. A comprehensive set of commands provides full control over the modem's functionality, modem settings are software-configurable. The modem's firmware supports addressing and networking, moreover, transmissions of commands or high-priority messages do not interrupt the main data flow between modems.

S2CR 40/80 is available in a variety of configurations. A selection of housings offers depth rating options. Choose between multiple host connection interfaces or their combinations to seamlessly integrate the instrument into any underwater system. An optional Wake-Up module helps optimizing the power consumption for short- or long-term deployments - the configurable Wake-up module checks for incoming acoustic signals or data on the host interface and turns the modem on when such a signal is detected.

Unique application scenarios might require additional customization - EvoLogics experts are always ready to address any special requests.

SPECIFICATIONS

GENERAL	OPERATING DEPTH	500 m, Delrin housing	
		1000 m, Aluminium Alloy housing	
		2000 m, Stainless Steel housing	
	OPERATING RANGE	2000 m	
	FREQUENCY BAND	38 - 64 kHz	
	TRANSDUCER BEAM PATTERN	directional, 70°	

CONNECTION	ACOUSTIC CONNECTION	up to 27,7 kbit/s
	BIT ERROR RATE	less than 10^{-10}
	INTERNAL DATA BUFFER	1 Mb, configurable
	HOST INTERFACE*	Ethernet, RS-232 (RS-485/422 optional)
	INTERFACE CONNECTOR	up to 2 SubConn® Metal Shell 1500 Series

POWER	POWER CONSUMPTION	Stand-by Mode	2,5 mW
		Listen Mode**	5 - 285 mW
		Receive Mode	up to 1,1 W
		Transmit Mode	2,5 W, 250 m range
			3,5 W, 500 m range
			40 W, 1000 m range
			60 W, max. available
	POWER SUPPLY	External 24 VDC (12 VDC optional) or Internal rechargeable battery (optional)***	

PHYSICAL	DIMENSIONS****	Housing Ø110 mm x 170 mm	Total length 265 mm
	WEIGHT	Delrin housing, dry/wet	1390 g/ 690 g
		Aluminium Alloy housing, dry/wet	2100 g/ 1400 g
		Stainless Steel housing, dry/wet	8000 g/ 5800 g

*See Configuration Guide on p.3 for available standard interface combinations.

**User-configurable Listen Mode is only available with a Wake-Up module installed.
 Power consumption in Listen Mode depends on Listen Mode settings.

***Contact EvoLogics for more information on power supply options.

****Dimensions of a Delrin housing, other builds are slightly larger.

CONFIGURATION OPTIONS

HOUSING		
DELRIN	Plastic non-magnetic corrosion-resistant housing, depth rating 500 m	
ALUMINIUM ALLOY	Light metal housing for short-term deployments, depth rating 1000 m	
STAINLESS STEEL	Robust metal housing, suitable for long-term deployments in harsh environments, depth rating 2000 m	

INTERFACE		
1 CONNECTOR	RS-232* or	
	Ethernet	
2 CONNECTORS	RS-232 + RS-232 or	
	RS-232 + Ethernet	

MODULES		
WAKE-UP MODULE	RS-232 interface	✓
	Ethernet interface	✗
	RS-232 + RS-232 interface	✓
	RS-232 + Ethernet interface	✗

*One RS-232 Interface can be replaced with either RS-485 or RS-422 interface.
More interface configurations available by special request.
Contact EvoLogics for more information.