WHITE LiNE **SCIENTIFIC EDITION** | UNDERWATER ACOUSTIC COMMUNICATION SYSTEM

S2CR 18/34WiSE

PRODUCT INFORMATION

S2C Technology: reliable high-speed data transmissions with up to 13.9 kbit/s

Development platform for underwater network protocols

Advanced data delivery protocol

Horizontally omnidirectional beam pattern, optimized for short and medium range transmissions in reverberant shallow waters

TECHNICAL SPECIFICATIONS

GENERAL	OPERATING DEPTH	Delrin	200 m
		Aluminium Alloy	1000 m
	OPERATING RANGE		3500 m
	FREQUENCY BAND		18 - 34 kHz
	TRANSDUCER BEAM PATTERN		horizontally omnidirectional
CONNECTION	ACOUSTIC CONNECTION		up to 13.9 kbit/s
	BIT ERROR RATE		less than 10^{-10}
	INTERNAL DATA BUFFER		1 MB, configurable
	HOST INTERFACE [1]		Ethernet, RS-232 (RS-485/422*)
	INTERFACE CONNECTOR		up to 2 SubConn® Metal Shell 1500 Series
POWER	CONSUMPTION	Stand-by Mode	2.5 mW
		Listen Mode [2]	5 - 285 mW
		Receive Mode [3]	less than 1.3 W
		Transmit Mode	2.8 W, 1000 m range
			8 W, 2000 m range
			35 W, 3500 m range
			80 W, max. available
	POWER SUPPLY [4]		External 24 VDC (12 VDC*) or internal rechargeable battery*
PHYSICAL	DIMENSIONS [5]	Housing	Ø 110 mm x 170 mm
		Total length	265 mm
	WEIGHT dry/wet	Delrin	2445/400 g
		Aluminium Alloy	2170/1470 g
FIRMWARE	SANDBOX [6]		16-64 MB (extendable, up to 32GB with SD memory card*)
	NS-2 FRAMEWORK		pre-installed
	TCL/EXPECT		pre-installed

* optional
[1] See the Configuration Options for available standard interface combinations.
[2] User-configurable Listen Mode is only available with a Wake-Up module installed. Power consumption in Listen Mode depends on Listen Mode settings.
[3] Power consumption for the RS-232 interface option. Add 600 mW for the Ethernet interface option.
[4] Contact EvoLogics for more information on power supply options.
[5] Dimensions of a Delrin housing, other builds are slightly larger.
[6] Contact EvoLogics for more information on firmware sandbox options.

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S2CR 18/34 WiSE

PRODUCT INFORMATION

The S2CR White Line Science Edition (S2CR WiSE) underwater acoustic modems facilitate an embedded network protocol development platform. The S2CR WiSE devices are an excellent testbed for new underwater network protocols, as custom networking scripts, sensor-specific data preprocessing scripts and modules can now run on real hardware in real-world conditions.

APPLICATIONS

Underwater network protocol development
High-speed communication in adverse conditions
Underwater acoustic sensor networks

CONFIGURATION OPTIONS

HOUSING	DELRIN	Plastic non-magnetic corrosion-resistant housing for short-term deployments, depth rating 200 m	
	ALUMINIUM ALLOY	Light metal housing for short-term deployments, depth rating 1000 m	
INTERFACE	1 CONNECTOR	RS-232 [1] + RS-232 (Sandbox) or	
		Ethernet	
	2 CONNECTORS	RS-232 + RS-232 (Sandbox) or	
		RS-232 + Ethernet	
MODULES	WAKE-UP MODULE [2]	RS-232 interface	✓
		Ethernet interface	×
		RS-232 + RS-232 interface	✓
		RS-232 + Ethernet interface	×
	WiSE TOOLCHAIN	uClibc library, GCC (C, C++) compiler, GDB debugger	

[1] 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.
[2] The Wake Up Module turns the rest of the device on if it detects incoming acoustic signals or incoming data on the host interface. Once the device completes receiving or transmitting data, it switches itself off.

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