EvoLogics®

S2CR 7/17 USBL

PRODUCT INFORMATION

Simultaneous positioning and communication

S2C Technology: accurate 3D positioning and reliable data transmissions with up to 6.9 kbit/s

Hemispherical beam pattern, optimized for vertical and slant channels

Depth rated long-range device

TECHNICAL SPECIFICATIONS

GENERAL	OPERATING DEPTH	Delrin	200 m
		Aluminium Alloy	1000 m
		Stainless Steel	2000 m
		Titanium	6000 m
	OPERATING RANGE		8000 m
	FREQUENCY BAND		7 - 17 kHz
	TRANSDUCER BEAM PATTERN		horizontally omnidirectional
USBL	SLANT RANGE ACCURACY [1]		0.01 m
	BEARING RESOLUTION		0.1 degrees
	NOMINAL SNR		10 dB
CONNECTION	ACOUSTIC CONNECTION		up to 6.9 kbit/s
	BIT ERROR RATE		less than 10^{-10}
	INTERNAL DATA BUFFER		1 MB, configurable
	HOST INTERFACE [2]		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 [3]	5 - 285 mW
		Receive Mode [4]	less than 1.3 W
		Transmit Mode	3 W, 2000 m range
			10 W, 4000 m range
			40 W, 8000 m range
			80 W, max. available
	POWER SUPPLY [5]		External 24 VDC (12 VDC*) or internal rechargeable battery*
PHYSICAL	DIMENSIONS [6]	Housing/USBL sensor	Ø 113 mm x 260 mm / Ø 175 mm x 145 mm
		Total length	405 mm
	WEIGHT dry/wet	Delrin	8500 / 4230 g
		Aluminium Alloy	9800 / 5300 g
		Stainless Steel	13640 / 9540 g
		Titanium	13420 / 8920 g

* optional
[1] Slant range estimation is based on the measured time delay, slant range accuracy depends on sound velocity profile, refraction and signal-to-noise ratio.
[2] See the Configuration Options for available standard interface combinations.
[3] User-configurable Listen Mode is only available with a Wake-Up module installed. Power consumption in Listen Mode depends on Listen Mode settings.
[4] Power consumption for the RS-232 interface option. Add 600 mW for the Ethernet interface option.
[5] Contact EvoLogics for more information on power supply options.
[6] Dimensions of a Delrin housing, other builds are slightly larger.

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APPLICATIONS

Positioning, navigation and communication for deep-sea AUVs and ROVs

Seafloor observatories

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	
	STAINLESS STEEL	Robust metal, suitable for long-term deployments in harsh environments, depth rating 2000 m	
	TITANIUM	Corrosion resistant, suitable for long-term deployments in harsh environments, depth rating 6000 m	
INTERFACE	1 CONNECTOR	RS-232 [1] or	
		Ethernet	
	2 CONNECTORS	RS-232 + RS-232 or	
		RS-232 + Ethernet	
MODULES	WAKE-UP MODULE [2]	RS-232 interface	✓
		Ethernet interface	✗
		RS-232 + RS-232 interface	✓
		RS-232 + Ethernet interface	✗
	ROLL, PITCH, HEADING [3]	internal AHRS, Xsens® MTx	

[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.
[3] Power consumption increases by 400 mW with an AHRS installed.