

## S2CR 7/17W USBL

PRODUCT INFORMATION



Simultaneous positioning and communication

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

Directional beam pattern, optimized for vertical and slant channels

Depth rated long-range device

Compatible with S2CR 7/17 and S2CR 7/17D

Page	TECHNICAL SPECIFICATIONS						
Stainless Steel   10000 m available upon request   10000 m available		OPERATING DEPTH	Delrin	200 m			
FREQUENCY BAND TRANSDUCER BEAM PATTERN hemispherical  SLANT RANGE ACCURACY¹¹ BEARING RESOLUTION NOMINAL SNR 10 dB  ACOUSTIC CONNECTION BIT ERROR RATE INTERNAL DATA BUFFER HOST INTERFACE 2¹ INTERFACE CONNECTOR Up to 2 SubConn® Metal Shell 1.500 Series  CONSUMPTION Stand-by Mode Listen Mode ¹¹ Receive Mode ⁴¹ Transmit Mode  10 W, 4000 m range 40 W, 8000 m range 40 W, 8000 m range 55 W, max. available POWER SUPPLY⁵¹  DIMENSIONS ⁶¹ Housing/USBL sensor Total length WEIGHT dry/wel Delrin* 8500 / 4230 g Aluminium Alloy * Stainless Steel 1.5600 / 9540° g	ΑΓ		Aluminium Alloy	1000 m			
FREQUENCY BAND TRANSDUCER BEAM PATTERN hemispherical  SLANT RANGE ACCURACY¹¹ BEARING RESOLUTION NOMINAL SNR 10 dB  ACOUSTIC CONNECTION BIT ERROR RATE INTERNAL DATA BUFFER HOST INTERFACE 2¹ INTERFACE CONNECTOR Up to 2 SubConn® Metal Shell 1.500 Series  CONSUMPTION Stand-by Mode Listen Mode ¹¹ Receive Mode ⁴¹ Transmit Mode  10 W, 4000 m range 40 W, 8000 m range 40 W, 8000 m range 55 W, max. available POWER SUPPLY⁵¹  DIMENSIONS ⁶¹ Housing/USBL sensor Total length WEIGHT dry/wel Delrin* 8500 / 4230 g Aluminium Alloy * Stainless Steel 1.5600 / 9540° g		Stainless Steel		2000 m			
FREQUENCY BAND TRANSDUCER BEAM PATTERN hemispherical  SLANT RANGE ACCURACY¹¹ BEARING RESOLUTION NOMINAL SNR 10 dB  ACOUSTIC CONNECTION BIT ERROR RATE INTERNAL DATA BUFFER HOST INTERFACE 2¹ INTERFACE CONNECTOR Up to 2 SubConn® Metal Shell 1.500 Series  CONSUMPTION Stand-by Mode Listen Mode ¹¹ Receive Mode ⁴¹ Transmit Mode  10 W, 4000 m range 40 W, 8000 m range 40 W, 8000 m range 55 W, max. available POWER SUPPLY⁵¹  DIMENSIONS ⁶¹ Housing/USBL sensor Total length WEIGHT dry/wel Delrin* 8500 / 4230 g Aluminium Alloy * Stainless Steel 1.5600 / 9540° g	Ä		Titanium	10000 m available upon request			
TRANSDUCER BEAM PATTERN  SLANT RANGE ACCURACY <sup>1)</sup> BEARING RESOLUTION  NOMINAL SNR  10 dB  ACOUSTIC CONNECTION  BIT ERROR RATE  INTERNAL DATA BUFFER  HOST INTERFACE <sup>2)</sup> INTERFACE CONNECTOR  CONSUMPTION  Stand-by Mode  Listen Mode <sup>3)</sup> Receive Mode <sup>4)</sup> Transmit Mode  POWER SUPPLY <sup>5)</sup> DIMENSIONS <sup>4)</sup> Housing/USBL sensor  Total length  WEIGHT dry/wet  Definit*  Aluminium Alloy * Stacinless Steel  SLANT RANGE ACCURACY <sup>1)</sup> O.01 m  O.01 m  O.01 degrees  O.01 m  O.1 degrees  No Metal Shell  10 W  Bit ERROR RATE  Interpretation  Inte	GE	OPERATING RANGE		up to 11000			
SLANT RANGE ACCURACY   1		FREQUENCY BANK		7 - 17 kHz			
BEARING RESOLUTION		TRANSDUCER BEAM PATTERN		hemispherical			
NOMINAL SNR		SLANT RANGE AC	CURACY 1)	0.01 m			
NOMINAL SNR	JSBI	BEARING RESOLUTION		0.1 degrees			
BIT ERROR RATE   less than 1010		nominal snr		10 dB			
CONSUMPTION   Stand-by Mode   Listen Mode 3    5 - 285 mW     1.4W     Transmit Mode   10 W, 4000 m range   10 W, 4000 m range   40 W, 8000 m range   65 W, max. available   External 24 VDC (12 VDC*) or internal rechargeable battery*   DIMENSIONS 6  Housing/USBL sensor   Total length   WEIGHT dry/wet   Delrin*   Aluminium Alloy *   Stainless Steel   15600/9540* g	Z	ACOUSTIC CONNECTION		up to 6.9 kbit/s			
CONSUMPTION   Stand-by Mode   Listen Mode 3    5 - 285 mW     1.4W     Transmit Mode   10 W, 4000 m range   10 W, 4000 m range   40 W, 8000 m range   65 W, max. available   External 24 VDC (12 VDC*) or internal rechargeable battery*   DIMENSIONS 6  Housing/USBL sensor   Total length   WEIGHT dry/wet   Delrin*   Aluminium Alloy *   Stainless Steel   15600/9540* g	OET.	BIT ERROR RATE		less than 10 <sup>-10</sup>			
CONSUMPTION   Stand-by Mode   Listen Mode 3    5 - 285 mW     1.4W     Transmit Mode   10 W, 4000 m range   10 W, 4000 m range   40 W, 8000 m range   65 W, max. available   External 24 VDC (12 VDC*) or internal rechargeable battery*   DIMENSIONS 6  Housing/USBL sensor   Total length   WEIGHT dry/wet   Delrin*   Aluminium Alloy *   Stainless Steel   15600/9540* g	<del>y</del>	INTERNAL DATA BU	JFFER	1 MB, configurable			
CONSUMPTION   Stand-by Mode   Listen Mode 3    5 - 285 mW     1.4W     Transmit Mode   10 W, 4000 m range   10 W, 4000 m range   40 W, 8000 m range   65 W, max. available   External 24 VDC (12 VDC*) or internal rechargeable battery*   DIMENSIONS 6  Housing/USBL sensor   Total length   WEIGHT dry/wet   Delrin*   Aluminium Alloy *   Stainless Steel   15600/9540* g	Z	HOST INTERFACE 2		Ethernet, RS-232 (RS-485/422*)			
Listen Mode 3    5 - 285 mW     1.4W     3 W, 2000 m range   10 W, 4000 m range   40 W, 8000 m range   65 W, max. available   External 24 VDC (12 VDC*) or internal rechargeable battery*	Ö	INTERFACE CONNECTOR		up to 2 SubConn® Metal Shell 1500 Series			
Receive Mode 4    1.4W   3 W, 2000 m range   10 W, 4000 m range   40 W, 8000 m range   65 W, max. available   External 24 VDC (12 VDC*) or internal rechargeable battery*   DIMENSIONS 6  Housing/USBL sensor   Total length   434 mm   WEIGHT dry/wet   Delrin*   Aluminium Alloy * Stainless Steel   15600/9540* g		CONSUMPTION	Stand-by Mode	2.5 mW			
Transmit Mode   3 W, 2000 m range   10 W, 4000 m range   40 W, 8000 m range   65 W, max. available   External 24 VDC (12 VDC*) or internal rechargeable battery*			Listen Mode <sup>3)</sup>	5 - 285 mW			
POWER SUPPLY 5)  External 24 VDC (12 VDC*) or internal rechargeable battery*  DIMENSIONS 6) Housing/USBL sensor Total length 434 mm  WEIGHT dry/wet Delrin* Aluminium Alloy * Stainless Steel  15600/9540* g	~		Receive Mode 4)	1.4W			
POWER SUPPLY 5)  External 24 VDC (12 VDC*) or internal rechargeable battery*  DIMENSIONS 6) Housing/USBL sensor Total length 434 mm  WEIGHT dry/wet Delrin* Aluminium Alloy * Stainless Steel  15600/9540* g	WEF		Transmit Mode	3 W, 2000 m range			
POWER SUPPLY 5)  External 24 VDC (12 VDC*) or internal rechargeable battery*  DIMENSIONS 6) Housing/USBL sensor Total length 434 mm  WEIGHT dry/wet Delrin* Aluminium Alloy * Stainless Steel 15600/9540* g	Q			10 W, 4000 m range			
POWER SUPPLY 5    External 24 VDC (12 VDC*) or internal rechargeable battery*				40 W, 8000 m range			
DIMENSIONS 6    Housing/USBL sensor   Ø 114 mm x 224 mm / Ø 170 mm x 210 mm				65 W, max. available			
Total length 434 mm  WEIGHT dry/wet Delrin* 8500/4230 g  Aluminium Alloy * 9800/5300 g  Stainless Steel 15600/9540* g		POWER SUPPLY <sup>5)</sup>		External 24 VDC (12 VDC*) or internal rechargeable battery*			
WEIGHT dry/wet Delrin* 8500 / 4230 g  Aluminium Alloy * 9800 / 5300 g  Stainless Steel 15600 / 9540 * g	PHYSICAL	DIMENSIONS 6)	Housing/USBL sensor	Ø 114 mm ×224 mm /Ø 170 mm ×210 mm			
Stainless Steel 15600/9540* g			Total length	434 mm			
Stainless Steel 15600/9540* g		WEIGHT dry/wet	Delrin*	8500/4230 g			
Stainless Steel 15600/9540* g			Aluminium Alloy *	9800/5300 g			
			Stainless Steel	15600/9540* g			
Titanium* 13420/8920 g			Titanium*	13420/8920 g			

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<sup>\*</sup> 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 500 mW for the Ethernet interface option. Add 0.3 W for Wake-Up Module.

3 Contact Evologics for more information on power supply options.

4 Dimensions of a Stainless Steel housing, other builds are slightly larger. Marked\* weights are estimates.



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PRODUCT INFORMATION

### **APPLICATIONS**

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

Underwater acoustic sensor networks

### **CONFIGURATION OPTIONS**

	DELRIN	Plastic non-magnetic corrosion-resistant housing for short-term deployments, depth rating 200 m	
HOUSING	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 <sup>1)</sup> or	
		Ethernet	
	2 CONNECTORS	RS-232 + RS-232 or	
∠		RS-232 + Ethernet	
MODULES	WAKE-UP MODULE 2)	RS-232 interface	✓
		Ethernet interface	x
		RS-232 + RS-232 interface	✓
		RS-232 + Ethernet interface	x
	ROLL, PITCH, HEADING 3)	internal AHRS, Xsens® MTx	

<sup>11</sup> One RS-2.32 Interface can be replaced with either RS-485 or RS-422 interface. More interface configurations available by special request. Contact Evologics for more information.

21 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.

31 Power consumption increases by 800 mW with an AHRS installed.