SeaBat® T20-S

Multibeam Echosounder

Superior image quality engineered for the demanding marine environment

The T20-S is a new addition to the leading SeaBat product range engineered from the ground up to evolve with your business.

Combined with the all-new **Subsea Sonar Processor** the T20-S provides the highest quality survey data in a fully integrated sonar processing and data storage unit housed in a subsea pressure vessel. Smaller form factor and reduced operational power to extend mission time for battery powered underwater vehicles. Internal data storage for self-contained survey solution, and interfacing via standard Ethernet to reduce integration time.

T20-S sonar head assembly

- 200/400kHz
- Robust titanium housing
- Lower power, smaller form factor

T20-S Standard configuration

- EM7219 Receiver array
- TC2160 (400kHz) Projector
- TC2163 (200kHz) Projector
- Subsea Sonar Processor
- 6000m titanium pressure housing
- 22- 60V DC input
- Wet cable set
- Survey data storage 0.5TByte for approx. 150hours, optional 2.0TByte for approx. 600hours.

Options:
- Wet-end brackets (customized)
- Motion and positioning sensors
- Teledyne RESON Sound Velocity Probes
- Teledyne RESON PDS2000 Survey Package
- Teledyne RESON Service Level Agreements
- Available without pressure housing

FEATURES

Product features

- Tracker – powerful tool for automated control
- Selectable Beam Density – you define what you need to get the job done. Minimize data storage rates to only what you require.
- Multi-Detect - Multiple detections for enhanced detail over complex features and water column targets.

For detailed description see relevant Feature Description document

Optional extra features

- FlexMode – increase data density where you need it most
- X-Range – improve range and reduce the impact of external noise
- Pipe Detection & Tracking – unique to SeaBat, optimize detection of pipes and automated steering of FlexMode sector. (Project Specific)

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T20 ACOUSTIC PERFORMANCE

	SeaBat T20-S Deep		SeaBat T20-S Shallow
Sonar operating frequency	400kHz	200kHz	190-420kHz
Across-track receiver beam width (nominal values[1])	1° (center)	2° (center)	1°@400kHz, 2°@200Khz
Along -track trasmit beam width (nominal values[1])	1°	2°	1°@400kHz, 2°@200Khz
Number of beams	Min 10, Max 1024		
Swath coverage (up to)	140° Equi -Distant (170° Equi-Angle)		
Typical range (CW)[2]	0.5-150m	300m	0.5-150m@400kHz, 300m@200kHz
Max range (CW)[3]	225m	400m	225m@400kHz, 400m@200kHz
Typical range (FM)[2]	0.5-180m	450m	0.5-180m@400kHz, 450m@200kHz
Max range (FM)[3]	300m	575m	300m@400kHz, 575m@200kHz
Ping rate (range dependent)	Up to 50 pings/s		
Pulse length	15-300µs (CW) 300µs – 20ms (FM)		
Depth resolution	6mm		
Depth rating	6000m	6000m	400m

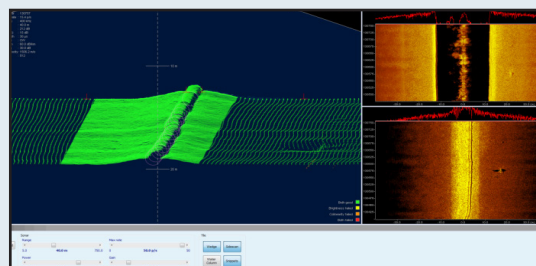For relevant tolerances for dimensions above and detailed outlined drawings see Product Description
[1] All beam widths measured at -3dB, unsteered with a sound velocity of 1480m/s.
[2] This is the range within which the system is normally operated. It consists of the minimum range below the sensor to a range value corresponding to max swath -50%
[3] This is a single value corresponding to the range at which the swath has reduced to 10% of its maximum value.

POWERFUL FEATURE SET

The systems provides un-compromised data quality combined with a range of powerful software features at an attractive price, with options for future feature expansions to grow with your needs.

T20-S SYSTEM SPECIFICATIONS

Input voltage	22- 60V DC
Power (approx)	Average 110W. Peak 370W
TRANSDUCER CABLE LENGTH	3m standard (1m, 10m optional)
Temperature (operational / storage)	Subsea Sonar Processor: -2°C to +36°C / -30°C to +70°C Sonar wet-end: -2°C to +36°C / -30°C to +70°C

	height [mm]	width [mm]	depth [mm]	weight [kg/air]	weight [kg/water]
T20 Rx (EM7219)	102.0	254.0	123.0	5.0	4.2
T20 Tx 400kHz (TC2160)	77.0	62.0	285	2.75	1.7
T20 Tx 200kHz (TC2163)	115	100	280	7.5	5.0
Subsea Sonar Processor (with pressure housing)	538	174	n/a	24.4	12.0

For relevant tolerances for dimensions above and detailed outlined drawings see Product Description or contact Teledyne RESON Engineering Services for more information.

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