

# SeaBat® F50

## High Resolution Forward-looking Multibeam Sonar

The SeaBat F50 is a high-resolution forward-looking sonar system operating at 200kHz or 400kHz that illuminates a wide 140° horizontal sector ahead of the sonar head assembly. The SeaBat F50 may be mounted on a surface vessel, submarine, AUV or ROV and is available in depth ratings up to 6000 meters.

The SeaBat F50 focused beams, high ping rate and bandwidth combine to provide the user with superior resolution and image quality. The use of multibeam sonar technology allows for nearly instantaneous update of the sonar image, which provides information to the user faster than mechanically scanning sonars.

The SeaBat F50 makes full use of Commercial-off-the-Shelf (COTS) hardware and software to increase cost-effectiveness with a well defined path for future upgrades and expansion.

### Systems standard configurations:

- SeaBat F50-R - for Surface Vessel use
- SeaBat F50-S Shallow - up to 400m depth
- SeaBat F50-S Deep - up to 6,000m depth



The SeaBat F50 is the successor to the well-known SeaBat 7128 providing a similar form, fit and function while further enhancing data quality and providing highly consistent low noise sonar data.

### PRODUCT BENEFITS

- Unique combination of wide sector coverage and narrow beamwidth to support applications including MCM, classification of underwater intruders or support of offshore construction - flexibility of use ensures you get the most from your investment
- Robust COTS hardware for demanding offshore or naval operations and high uptime
- Access to full beam data via standard sonar records allows advanced users to develop new applications quickly

### FEATURES

#### RESOLUTION

- Unparalleled resolution and installation flexibility

#### FREQUENCY

- 200kHz or 400kHz

#### HIGH SPEED

- 256 focused receive beams

#### BEAM WIDTH

- 0.5° beam width

#### UPDATE RATE

- Up to 50Hz update rate (range selection dependent)

#### RANGE

- Up to 600m using 200kHz

#### DEPTH RATING

- Surface Vessel: 50m
- AUV/ROV: 400m or 6000m

#### OPTIONS

- Rack Mount Sonar Processor 19" (RSP) OR Subsea Sonar Processor, 6000m (SSP)
- Sound Velocity Sensor
- Standard Service Level Agreements (SLA)



# SeaBat® F50 High Resolution Forward-looking Multibeam Sonar



## SEABAT F50 SYSTEM SPECIFICATIONS

	Frequency 200 kHz	400kHz
Range (up to)	600m	300m
Sector coverage	140°	140°
Number of horizontal beams	256 Equi-angular	256 Equi-angular
Horizontal beamwidth: transmit, receive	> 128°, 1° (center)	> 128°, 0.5° (center)
Vertical beamwidth: transmit	Shallow: TC2179 24° ± 3° Deep: TC2162 27° ± 3°;	TC2179: 24° ± 2° TC2162: 31.5° ± 4°;
Vertical beamwidth: receive	28.5° ± 3.8°	31° ± 3.5°
Max update rate	50Hz	50Hz
Pulse length (range resolution)	CW: 30 to 300 µS (up to 2.5cm) FM: 300 µS to 10 mS	CW: 30 to 300 µS (up to 2.5cm) FM: 300 µS to 10 mS
System depth rating:	R: 50m, S: 400m or 6000m	R: 50m, S: 400m or 6000m
System control	F50 Sonar Processor Unit (SPU)	
Power requirements	48V DC, approx. 60W (processor), 110/220V AC 50/60Hz, 300W	
Data transfer	Ethernet, 1Gbit	

### SONAR PROCESSORS:

The user can select either the Rack Mount Processor (RSP) for surface vessel use or the Subsea Sonar Processor (SSP) for underwater vehicles use

	Rack Mount Processor	Subsea Sonar Processor
Power	100-230VAC 50/60Hz 50/60Hz, 300W	22- 60V DC; 110W (CW short range settings) / 300W (X-Range with 10ms pulse)
Temperature Range (operational/storage)	-5°C to +45°C / -30°C to +70°C	-2°C to +36°C / -30°C to +70°C
Dimensions	88mm (2U) x 478mm* x 462mm (19" rack mount)	538mm x 174mm
Weight (air/water)	Approx. 13kg	24.4kg / 12.0kg

SONAR ARRAYS:	Receiver (EM7218 Shallow/EM7218-1 Deep)	TC2179 (Shallow)	TC2162 (Deep)
Depth rating over	400m / 6,000m	400m	6,000m
Dimensions	102.0mm x 460.0mm x 90.7mm	122.2 x 81.5 x 99.8	240 x 86 x 99
Weight (air/water)	8.2kg / 3.9kg	1.3 kg / 0.3 kg	3.5kg / 1.7 kg
Temperature range	Operation: -2°C to +36°C / Storage: -30°C to +70°C		



**TELEDYNE MARINE**  
RESON  
Everywhere you look™

[www.teledynemarine.com/reson](http://www.teledynemarine.com/reson)

Tel. +45 4738 0022 (Europe) • Tel: +1 805 964 6260 (USA)

Email: [reson@teledyne.com](mailto:reson@teledyne.com)

For relevant tolerances for dimensions above and detailed outlined drawings see Product Description  
\*Supplied Sonar User Interface Software runs on user supplied PC or laptop (subject to minimum processing requirements)

Specifications subject to change without notice.  
© 2021 Teledyne RESON A/S. All rights reserved. PLD19154-8