



NORBIT WINGHEAD® F11 & F11 DS

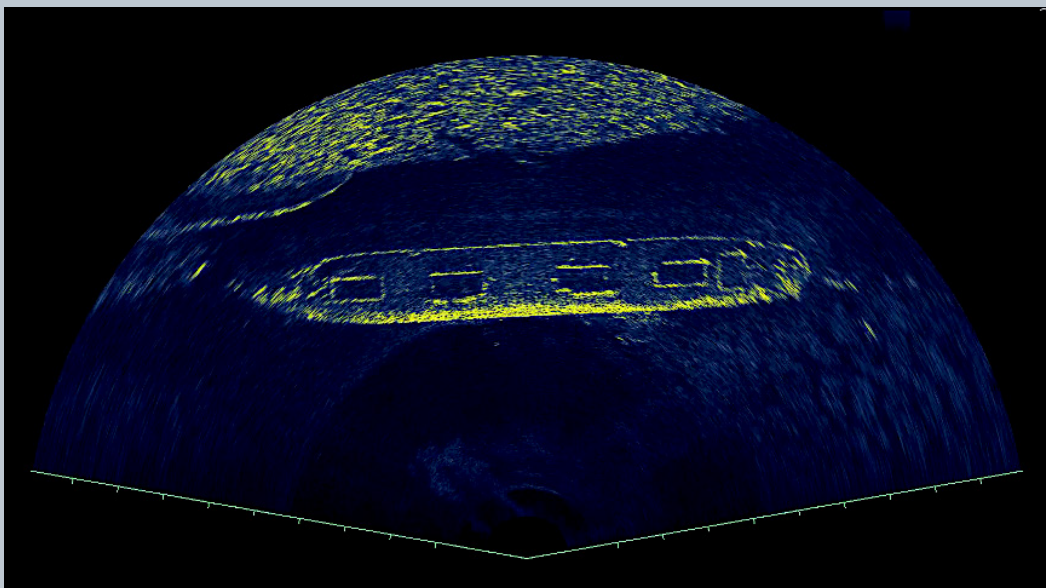


Superior Performance Ultra High-Resolution Curved Array Forward Looking Sonar

NORBIT introduced the WINGHEAD platform to achieve unparalleled acoustic performance and flexibility. WINGHEAD F11 is an ultra high-resolution forward looking sonar, offering long range images, in a wide sector, with an unprecedented range resolution. Its curved array receiver makes it both acoustically excellent and hydrodynamically performant.

It is perfectly suited for the most demanding tasks on ROV and unmanned vehicle, for search and recovery and for underwater threats, where image quality is paramount.

NORBIT WINGHEAD sonars are based on a state-of-the-art analogue and digital platform featuring powerful signal processing capabilities, ensuring the highest quality data performance. With broad R&D expertise, NORBIT has developed - from the ground-up - exciting new technology that allows existing and new applications to benefit from the advantages offered by a compact wideband curved-array multibeam sonar.





WINGHEAD F11 & F11 DS

Features	Applications	Options
<ul style="list-style-type: none"> ✓ Long Range ✓ High Update Rate ✓ Ultra High Angular Resolution ✓ High Range Resolution ✓ Ethernet Interface ✓ Ultra Compact Single Unit Solution ✓ Standard Product Delivery Incl. Shipping Case and Sonar Interface Unit 	<ul style="list-style-type: none"> ✓ Inspection (ROV, AUV and Other Moving Platforms) ✓ Obstacle Avoidance ✓ Search and Recovery ✓ Automatic Leak Detection ✓ Marine Construction ✓ Fisheries ✓ Sciences ✓ Security and Defence Applications (inquire Sales for F11 Crossfire) 	<ul style="list-style-type: none"> ✓ Deep Sea Version (Model F11 DS) ✓ Custom Vertical Beam-Width ✓ VDSL Data-link ✓ Weather Rated Command / Control Laptop ✓ AUV, ROV Cabling ✓ Custom Cable Length Options ✓ ROV Version ✓ Clear Signal® Antifouling Available

TECHNICAL SPECIFICATION

HORIZONTAL COVERAGE	7-180° FLEXIBLE SECTOR (TYPICAL 150°)
VERTICAL COVERAGE	>25°
RANGE RESOLUTION	<10mm ACOUSTIC w. 80kHz BANDWIDTH
NUMBER OF BEAMS	256, 512, 1024
OPERATING FREQUENCY	NOMINAL FREQUENCY 400kHz (FREQUENCY AGILITY 200-700kHz)
RANGE	WINGHEAD F11 & F11 DS: RANGE MAX: 250m (NOMINAL 200m) @ 400kHz RANGE MAX: 400m (NOMINAL 300m) @ 200kHz
PING RATE	UP TO 60Hz
RESOLUTION	STANDARD: 0.5° @400kHz, 0.3° @700kHz
INTERFACE	100MBit/s (ROV DIRECT 1000MBIT/S) 16MBit/s OPTIONAL VDSL
POWER CONSUMPTION	50W (10-28VDC, 110-240VAC) (ROV DIRECT: 24-48VDC)
DEPTH RATING	WINGHEAD F11: 900m WINGHEAD F11 DS: 4500m
DIMENSIONS	WINGHEAD F11: DIMENSIONS WITHOUT BRACKET H: 90mm/3.52", L: 447mm/17.6", W: 102 mm/4.01" WINGHEAD F11 DS: DIMENSIONS WITHOUT BRACKET H: 104mm/4.1", L: 447mm/17.6", W: 113 mm/4.4"
WEIGHT	WINGHEAD F11: 3.1kg (AIR) 1.6kg (WATER) WINGHEAD F11 DS: 5.2kg (AIR) 3.6kg (WATER)
CABLE LENGTH	STD 8m, OPTIONAL: 2m, 25m, 50m PICTAIL, 600m WITH VDSL
OPERATING TEMP.	-4°C to +40°C (TOPSIDE -20°C to +55°C)
STORAGE TEMP.	-20°C to +60°C
ENVIRONMENTAL	TOPSIDE: IP67: DUST TIGHT, PROTECTED AGAINST THE EFFECT OF IMMERSION UP TO 1m

OUTLINE DRAWING

