

NORTHERN DIVER^V

MINE WARFARE & MILITARY DIVING SPECIALISTS

NIMROD V₂

A compact and lighter weight modular diver hand-held underwater sonar and navigation console.





The system combines standard:

- > GPS receivers – internal & external
- > 15m tether and float
- > Mission planning
- > Digital compass/gyroscope
- > Depth reading
- > Clock/stopwatch

Typical uses are search & relocation of the following. . .

Unexploded ordnance by navy mine clearance divers, commercial EOD divers, etc.

**Seabed infrastructure within the offshore oil & gas environment
(e.g. pipelines, well heads and structures).**

**Missing persons, lost property, vehicles, aircraft, wrecks by police or
search and rescue divers.**

Seabed/lake-bed antiquities by marine biologists, archaeologists, sport divers, etc.

Housing

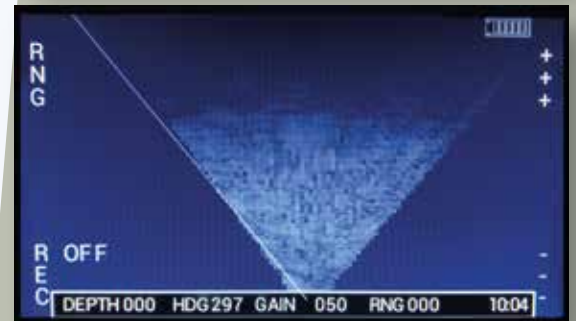
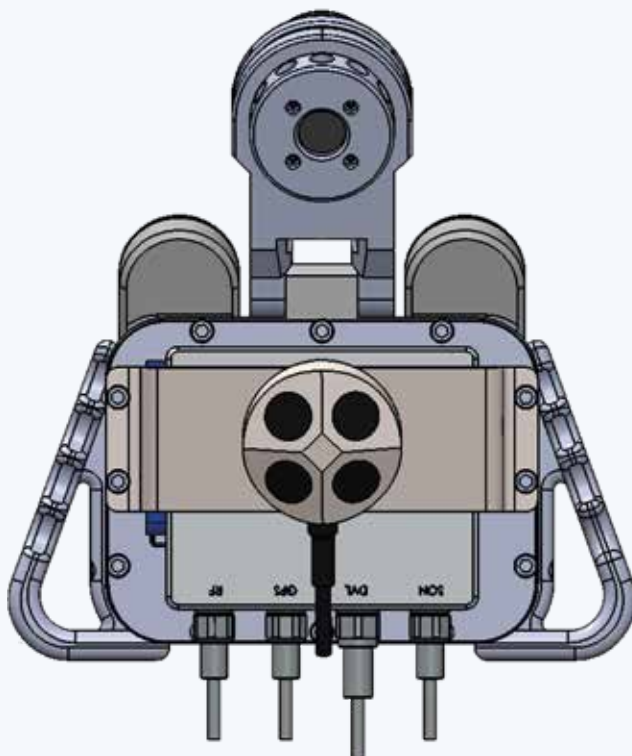
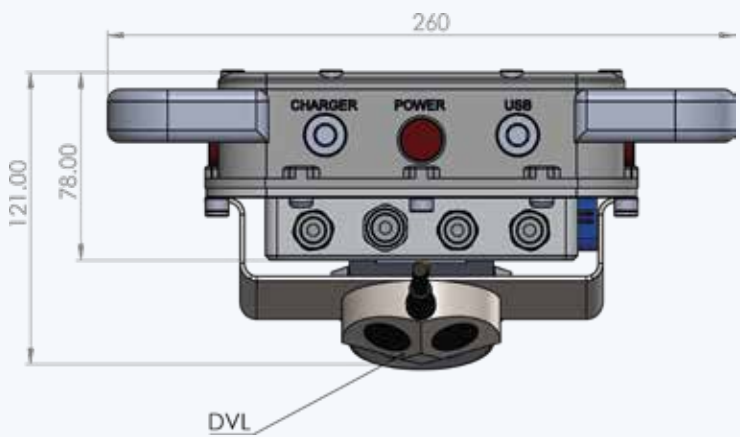
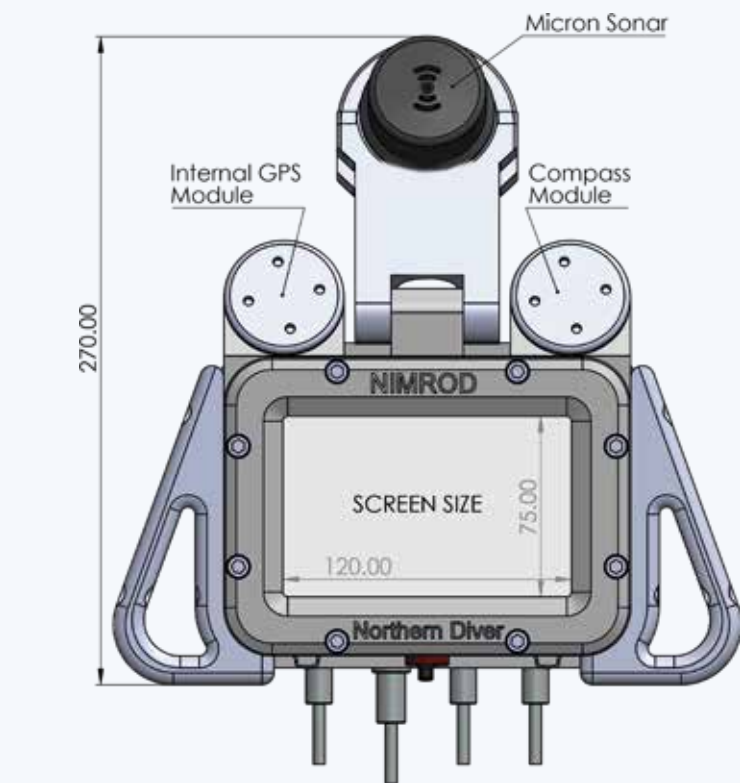
Dimensions (Console)	169mm(L) x 134mm(W) x 76mm(H)
Weight	~2.3kg in air, ~0.6kg in water (inc battery)
Weight (with Sonar & DVL)	~3.75kg in air, ~0.8kg in water (inc battery)
Construction	Aluminium (AL 6061-T6)
Finish	Black Hard Anodised
Connectors	LEMO W Series connectors 4 – Off External GPS Sonar DVL Auxiliary – Thruster radio control
Temperature	
	Operating 0°C to +45°C Storage -10°C to +50°C
Operating Depth	80m

Electrical

Power Supply	12 -24V DC nominal from internal supplied battery pack (configurable)
Processor	32BIT ARM CORTEX processor
Display	5 inch, 320 x 240 pixel 16-bit colour Liquid Crystal Display Viewing angles 30 to 60 Deg.

Features

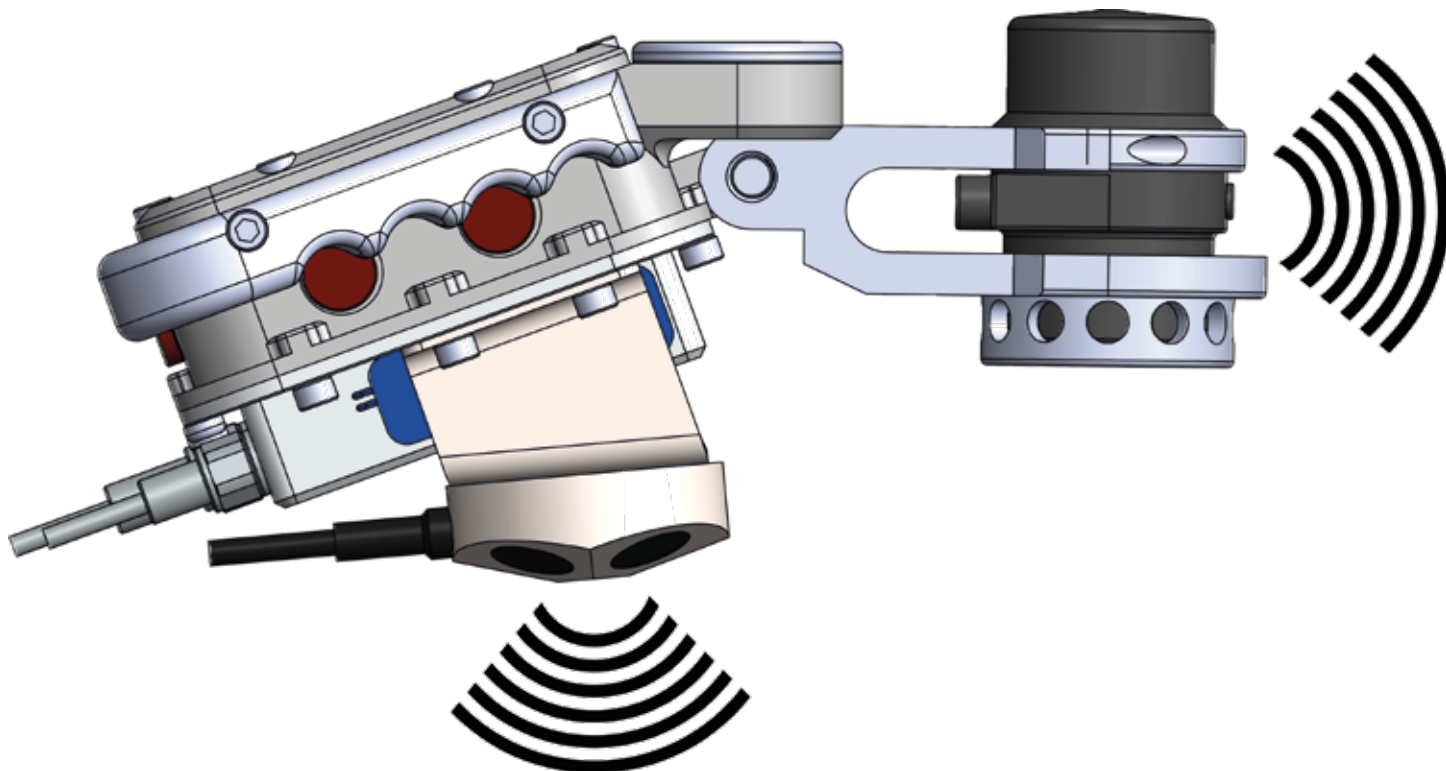
Data Storage & Logging	Internal 16Gb Flash memory (other capacities available on request). Data Logging capacity (2Mb per minute) > 100hrs on internal storage TW1421 High Gain Dual Feed Embedded GPS/GLONASS Antenna > Architecture Dual, Quadrature Feeds > 1 dB Bandwidth 31MHz
Integrated Sensors	Pressure sensor for depth calculation. Internal sensor for leak detection. Attitude /Heading reference system:- > Pitch and roll. > Electronic magnetic compass. > Rotational rate gyros. > Battery voltage level indicator
User Interface	5 solid-state piezo button interface for menu navigation.
Communication Interfaces	Bluetooth communication for sending and downloading missions USB port for connection to a PC, used for updating Firmware software





System Extras

- > Forward looking single beam sonar
- > DVL (Doppler-Velocity-Log) tracking
- > Thruster control



Miniature Long Range DVL

Device diameter: 125 mm
 Device height: 30 mm
 Device weight: 0.75 kg (air)
 Device weight: 0.50 kg (submerged)
 Depth rating: 600 to 3000 meters
 Material: stainless steel 316 (back plate); PEEK (housing)
 Operating temperature : -5 to 55 °C

Electrical / Interface

Input voltage: 10-30 Vdc
 Power consumption: 3W
 Power-on current surge: 15W
 Physical interface : 3m cable w/interface module,
 8 wires pwr/serial/Ethernet
 Indicator: status LED (Power, Lock)
 Communication : Ethernet & Serial (UART 115200 baud)
 Protocols : water linked API and PD6

Connections

Acoustic / Performance

Transducer frequency: 420 MHz
 Transducer setup: 4-beam convex Janus array
 Transducer beam angle: 22.5 degrees
 Ping rate: 2-15 Hz (adaptive to altitude)
 Sensor assist: integrated AHRS
 Min altitude: 5 cm
 Max altitude: 125 meters (> 110m is dependent on seabed conditions, salinity levels etc.)
 Max velocity: 9 m/s
 Velocity resolution: 0.1 mm/s
 Long term accuracy: ± 1.01 % (std), ± 0.1 % (performance)

Micron Sonar

Acoustic operating frequency: CHIRP centred on 700kHz
 Beam width: 35° vertical, 3° horizontal
 Range maximum: 75m, minimum 0.3m
 Range resolution: approximately 7.5mm (minimum)
 Mechanical resolution: 0.45°, 0.9°, 1.8°, 3.6°
 Scanned sector: variable up to 360°
 Continuous 360° scan and sector offset mode

Electrical, communications and software

Power requirement: 12-48V DC at 4VA (average)
 Maximum cable length: 1000m using RS485
 Communication protocols: RS485 (twisted pair), RS232
 Surface control: computer using standard serial port, SeaHub or USB-RS232/RS485 converter
 Control software: Trittech Seaset Pro, Micron software or low-level command protocol Software features True acoustic zoom, instant reversal, image measurement, inverted head operations

Physical

Weight: 324g (in air), 180g (in water)
 Depth rating: 750m standard, 3000m optional
 Temperature range: -10 to 35°C
 (-20 to 50°C in storage)



OFFICES

Northern Diver International Ltd.
East Quarry
Appley Lane North
Appley Bridge
Lancashire,
WN6 9AE
UK

CONTACT DETAILS

Mel Simm
Military Sales Director
Office: +44 (0) 1257 25 69 36
Mobile: +44 (0) 7877 693 876
Email: mel@ndiver.com

Neil Tordoff
Commercial Sales Director
Office: +44 (0) 1257 25 69 49
Mobile: +44 (0) 7972 061 533
Email: neil@ndiver.com

VISIT

www.ndiver-military.com