Teledyne RD Instruments

Álava Ingenieros
GRUPO ÁLAVA

Tasman DVL

600 kHz / 300 kHz Phased-Array DVLs

Next-Generation DVL Technology—Raising the Bar on Range and Accuracy

Teledyne RDI's new **Tasman DVL** represents the next generation of DVL technology, promising to take your navigation to the next level. Teledyne RDI's long-standing Workhorse Navigator was the first DVL to enter the market, and remains the gold-standard for precision subsea navigation around the globe. The new Tasman DVL, with its wide array of advanced features, reduced size, and increased range, has been designed to supercede this industry icon with enhanced broadband signal processing and innovative field-replaceable phased-array transducer design.

With bottom tracking ranges from 0.15 m to 420 m, in up to 6,000 m water depths, the Tasman delivers a solid, value-priced solution for vehicles ranging from small ROVs to large diameter AUVs.

The 600 kHz and 300 kHz DVLs combine Teledyne RDI's proven bottom detection algorithms and single ping bottom location accuracy with its broadband velocity processing technology, providing users with highly reliable precision data for navigation and position processing, even over indeterminate terrain.

Raising the bar

Increased Bottom Tracking Range: Our new patent pending technology allows you to bottom track up to 160 m altitude with the 600 kHz DVL, and 420 m with the 300 kHz DVL while delivering the same low power consumption and high accuracy you've come to expect from Teledyne RDI.

Improved Accuracy: The new Tasman DVL offers customers industry-leading velocity accuracies throughout the entire altitude range and with no pre-calibration required.

Cutting-edge internal sensors:

Transducer Health Monitor: The innovative transducer health monitor provides insight, in near real-time, about the status of the transducer, and alerts the user of potential problems. The health monitor sensor also tracks pressure cycles, maximum pressure, and operating time for quality tracking purposes.

Leak Sensor: Real-time leak detection monitoring provides peace of mind and strategic decision-making for critical missions.

PRODUCT FEATURES

- Innovative field-replaceable phased-array transducer design delivers enhanced position accuracy at a reduced size, eliminates the need for speed of sound correction, and reduces drag on your vehicle
- Ethernet compatibility allows for plug-and-play with vehicle network interfaces
- Time of validity output for highly accurate coupling with an Inertial Navigation System (INS) further improves your resulting DVL aided INS position accuracy
- Upgradeable to include Acoustic Doppler Current Profiling (ADCP) capability
- Designed as a drop-in replacement for Workhorse Navigator for ease of installation
- Measurements include:
  - Estimate of single-ping bottom-track velocity variance for improved Kalman filter integration and data quality estimation
  - Bottom track velocity
  - Altitude: 4 individual measurements
  - Error velocity (data quality indicator)
  - Acoustic echo intensity
  - Water track velocity
  - Temperature
  - Current profiling (optional)

Tasman Doppler Velocity Logs

TECHNICAL SPECIFICATIONS

600 kHz / 300 kHz Phased-Array DVLs

		600 kHz	300 kHz
Bottom Tracking	Maximum Altitude[1]	100 m (160 m optional)	275 m (420 m optional)
	Minimum Altitude	0.15 m	0.3 m
	Velocity Range	±9 m/s or +16 m/s upon request	±9 m/s or +16 m/s upon request
	Long Term Accuracy[2]	±0.06% ±0.1 cm/s (<4 m altitude) ±0.2% ±0.1 cm/s (>4 m altitude)	±0.08% ±0.1 cm/s (0.5 to 8 m altitude) ±0.3% ±0.1 cm/s (>8 m altitude)
	Precision @ 1 m/s	±0.5 cm/s @ ½ alt.	±0.6 cm/s @ ½ alt.
	Resolution	0.01 mm/s	0.01 mm/s
	Maximum Ping Rate[3]	12 Hz	7 Hz
Water Profiling	Maximum Range[1]	60 m	150 m
	Minimum Range	1.9 m	4.5 m
	Velocity Range	±12 m/s	±17 m/s
	Long Term Accuracy	±0.3% ±0.1 cm/s	±0.6% ±0.1 cm/s
Environmental	Maximum Operating Depth	4,000 and 6,000 m	4,000 and 6,000 m
	Operating Temperature	-5°C to 45°C	-5°C to 45°C
	Storage Temperature	-30°C to 60°C	-30°C to 60°C
Sensors	Health Monitor	Transducer health, leak detection, pressure cycles, maximum pressure, over pressure, operating time	
	Pressure Sensor	4,000 m/6,000 m full-scale	4,000 m/6,000 m full-scale
	Dual-Axis Digital Inclinometer		
	AHRS (optional)		
Sensor Interfaces	Pressure • Speed of sound • GPS • Temperature • Heading, pitch, and roll from external compass/IMU		
Dimensions	(cm)	17.78 diameter x 17.4 high	17.78 diameter x 17.4 high
Weight	(kg)	7.26 in air, 4.35 in water	7.26 in air, 4.35 in water
Power	Average Power	5.95 W	12.46 W
	Quiescent Power Input	2 W	2 W
	Voltage (VDC)[4]	10.7-36 VDC	12-36 VDC
	Current	<6 A	<6 A
Communications	Ethernet: 10/100Base-T, Surge Current, RS232 and RS422		

1 @5°C and 35ppt, salinity, @ max V.
2 No pre-calibration necessary.
3 @5% of maximum altitude.
4 @24 VDC Input

TELEDYNE
RD INSTRUMENTS
Everywhereyoulook™
www.rdinstruments.com

Teledyne RD Instruments
14020 Stowe Drive, Poway, CA 92064 USA
Tel. +1-858-842-2600 • Fax +1-858-842-2822 • Email: rdi.sales@teledyne.com
Les Nertieres 5 Avenue Hector Pintus 06610 La Gaude France
Tel. +33-49-211-0930 • Fax +33-49-211-0931 • Email: rdie@teledyne.com