



## **TSR-100 MOTION REFERENCE SENSOR**

The TSR-100 is a motion reference unit (MRU) designed to accurately measure pitch, roll, heading and heave in surface and underwater applications under static and dynamic conditions.

When you dedicate substantial budgets to complete an underwater mission you want to know you can absolutely depend on the data results you have gathered. Your clients are expecting reliable measurements and you want to provide the best possible data quality.

We are here to help. The TSR-100 MRU can be mounted anywhere on vessels, remotely operated vehicles or other structures to help support your underwater data collection objectives such as surveys, imaging sonar compensation, and attitude measurement.

The TSR-100 motion reference unit is the new leader in its class to give you:

- top-of-the-line the accuracy, data quality, and reliability
- superb hardware components, handpicked to support even the most demanding environments, such as wide temperature variations
- additional insight into the motion of your platform through heave measurement

Information provided by Think Sensor Research is believed to be accurate and reliable. However, no responsibility is assumed by Think Sensor Research for its use. Specifications subject to change without notice.

Our commitment to you does not stop with the delivery of our state-of-the-art TSR-100 product. When working Think Sensor Research, you benefit from highly personalized services to further help you complete your mission on time, on budget and to your exact requirements:

- implementation of the MRU in your specific application and environment
- full customization and optimization of communication protocols, connectors and cables
- periodic firmware updates
- follow-the-sun support

TSR-100 SPECIFICATIONS	
FEATURE	SPECIFICATION
Size	3.5" DIA x 6" L Anodized Aluminum cylinder with mounting plate (Delrin and Marine Bronze housing also available)
Weight	1.2 kg (Aluminum)
Weight (in water)	0.3 kg (Aluminum)
Depth Rating	3300 m (Aluminum) 2500 m (Marine Bronze) 900 m (Delrin)
Power	7 VDC to 36 VDC reverse polarity protected
Communication	RS-232 or RS-485
Connector	4 pin LSG-4-BCL connector (others available upon request)
Maximum rotation rate	Selectable +/- 75 deg/sec, +/- 150 deg/sec, +/- 300 deg/sec
Maximum acceleration	+/- 18 g
Magnetometer range	+/- 2.5 gauss
Orientation Accuracy	+/- 0.5 deg typical for static conditions (application depended) +/- 1.0 deg typical for dynamic conditions (application depended) Note that the orientation accuracy depends on the application and the environment that the sensor is operating in (i.e. vibration, dynamic motion and etc.).
Orientation resolution	0.1 deg
Heave resolution	5 cm
Optional Sensors	Pressure / Temperature

## About Think Sensor Research

We aim to revolutionize the way data is collected in marine and aerospace applications by providing state-of-the-art sensor products and highly individualized assistance and on-going support. We take a pragmatic approach to the design of our solutions with a decade of hands-on experience in marine and aerospace electronics and focus on our clients' on-going success with an innovation-driven culture. Think Sensor Research is a privately owned company based in West Vancouver, British Columbia, Canada.