

TSR-100 MOTION REFERENCE UNIT



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.

The TSR-100 MRU can be mounted on marine vessels, remotely operated vehicles, and autonomous underwater vehicles to help support your mission objectives such as sonar surveys, imaging sonar compensation, attitude measurement and orientation.

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

- gyro compensated pitch, roll, heading and heave output for operations in static and dynamic conditions
- output string modified to your specification
- can be installed in any orientation
- magnetic interference detection
- optional pressure / temperature sensors
- High Accuracy version Meets IHO Standard SP1 Data output

Our commitment to you does not stop with the delivery of our state-of-the-art TSR-100 MRU 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.

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.

TSR-100 SPECIFICATIONS	
FEATURE	SPECIFICATION
Size	3.5 in DIA x 6 in L, 89 mm DIA x 152 mm L
Material	Anodized Aluminum cylinder with mounting plate (Delrin housing also available)
Weight	1.2 kg (Aluminum) in air, 0.3 kg (Aluminum) in water
Depth Rating	3300 m (Aluminum) 900 m (Delrin)
Power	7 VDC to 36 VDC reverse polarity protected
Communication	RS-232, RS-485, RS-422
Connector	4 pin LSG-4-BCL connector (others available upon request)
Maximum rotation rate	Selectable +/- 150 deg/sec, +/- 300 deg/sec
Maximum acceleration	+/- 5 g
Magnetometer range	+/- 2.5 gauss
Pitch / Roll Accuracy	0.2 ° RMS Note that the orientation and heave accuracy depends on the application and the environment that the sensor is operating in (i.e. vibration, dynamic motion and etc.).
Heading Accuracy	1.0 ° RMS typical for most conditions under ideal magnetic conditions
Pitch / Roll Accuracy (High Accuracy option)	0.05 ° RMS Note that the orientation and heave accuracy depends on the application and the environment that the sensor is operating in (i.e. vibration, dynamic motion and etc.).
Heave Accuracy	5 cm if heave is less than 1 meter, 5% if heave is greater than 1 meter
Heave Resolution	1 cm
Optional Sensors	Pressure / Temperature

About Think Sensor Research

We aim to revolutionize the way data is collected in marine 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.