



# Orion INS

## Inertial Navigation Systems

The Orion INS is aimed at meeting the needs of users in the offshore subsea construction and survey industries who need a dependable and competitively priced reference system. It can provide precise attitude, heading and heave data and is suitable for a wide range of applications such as supporting multibeam sonar surveys or the construction of major seabed installations. The subsea version is available rated to 6000m while the surface model can be used in the most extreme conditions to provide users with the valuable benefit of minimal downtime.

Dependability has been built-in by TSS with the painstaking selection of components and software developed to meet the demands and expectations of its users. TSS engineers dedicated two years to the creation of a software algorithm that exceeds industry expectations for performance and reliability. It is a development of an existing marine algorithm that has been refined by TSS over 20 years of successful use in the most demanding applications offshore.

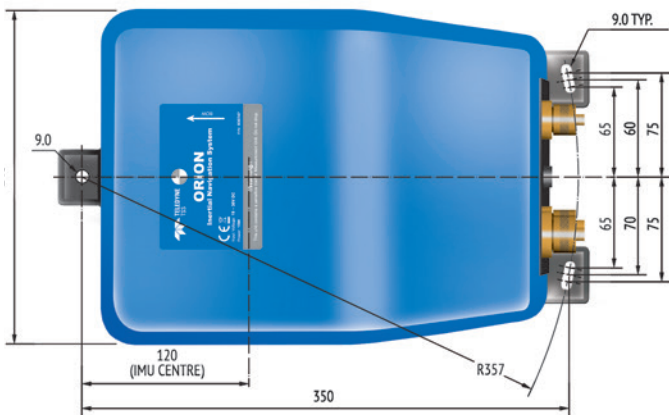
The algorithm processes the data generated by three separate ring laser gyros (RLG) that have been selected for their dependability and accuracy. They can be used at operating temperatures ranging from -10°C to +55°C and require a settle time of less than 15 minutes.



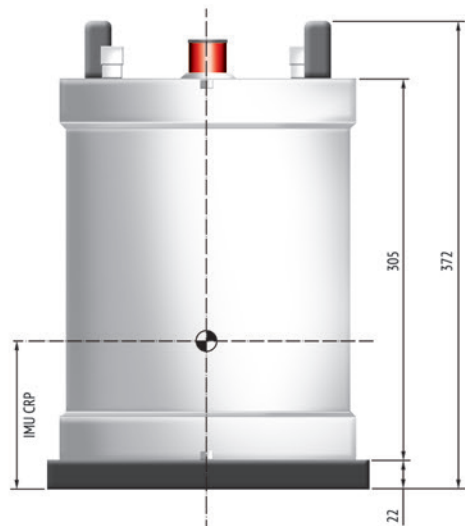
Manufactured in the USA, the RLGs are widely used in the aviation industry and consequently offer users the reassurance that comes from working with proven advanced technology. The accelerometers employed within the Orion are equally highly regarded and are built into the new Orion at Teledyne TSS' advanced UK workshops where quality control is maintained to the highest standards possible. The Orion system consequently offers a MTBF (Mean Time Between Failure) of 30,000 hours while its key individual components are rated at 300,000 hours MTBF.

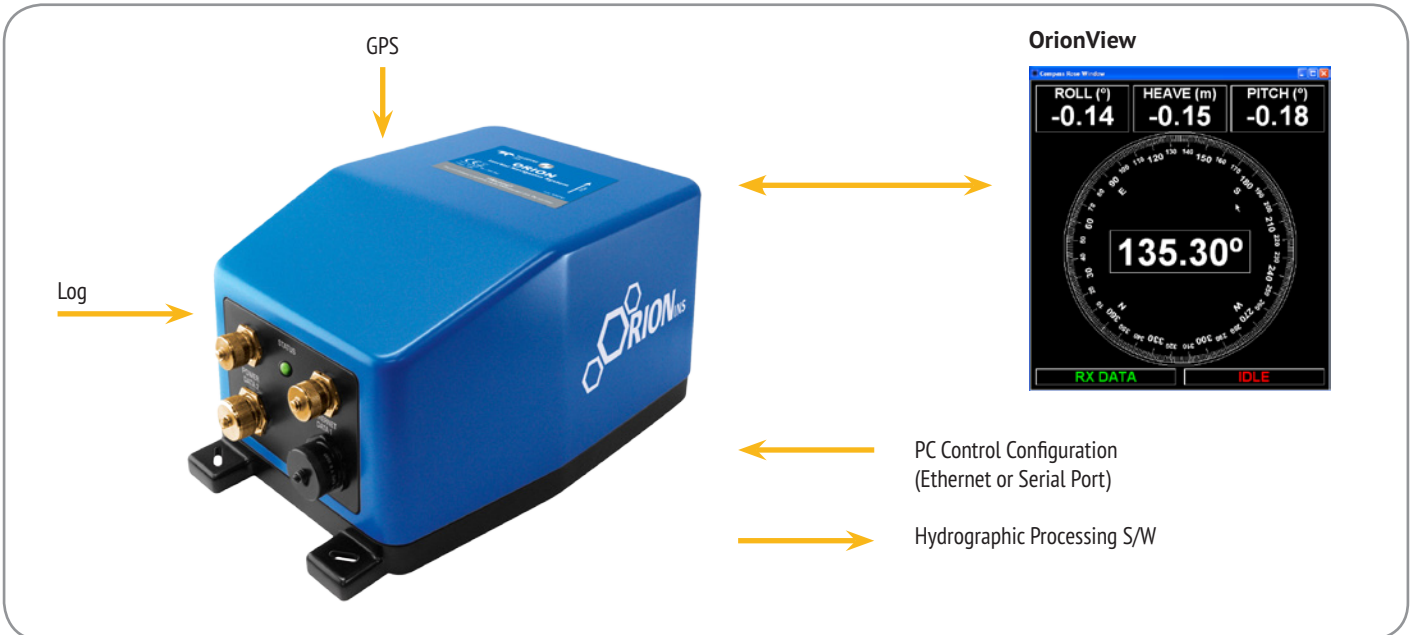
The performance of the Orion's components and software means that users will benefit from heading resolutions accurate to 0.025 through a range of ±90°. Heave measurements are accurate to 5cm or 5% over ranges to ±99m and free inertial positioning is a feature.

### Mounting arrangements - Surface version housing dimensions



### Subsea mounting arrangement - Vertical





### OrionView

The Orion customer package includes OrionView for Windows™, a graphical user interface designed to operate on Microsoft Windows™ XP or later. It can be used to configure the Orion operating parameters and display transmitted data from all connected channels. Alternatively, the Orion can be configured using any terminal emulation program available on a connected PC, i.e. Hyper Terminal.

