

PRE-INSTALLATION CALIBRATION OF THE 1-SECOND INTERMAGNET MAGNETOMETER LEMI-025

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The ways to satisfy the new requirements to the scaling and orientation errors of 1-second INTERNAGNET magnetometers are considered in the work. It is showed that the accuracy required for the scale factors and the orthogonality angles could be achieved by the use of the known calibration method applicable for digitally biased magnetometers. In accordance with this method determination of the scale factors is performed by the sequential aligning of each component parallel and antiparallel to the Earth magnetic field vector, which has to be measured by a proton magnetometer. Non-orthogonality of the components' pair is measured at the aligning of these components nearly 45 deg of arc to the magnetic field vector. For precise orientation of the sensor by the declination angle the procedure for determination components' axes relatively the local vertical is proposed. Checking the given approach by means of the three-axial Coil Calibration system it was found, that the achieved accuracy completely satisfies the INTERNAGNET requirements.