

## Datasheet: Calibration Cube

SENIS Calibration Tool

### DESCRIPTION:

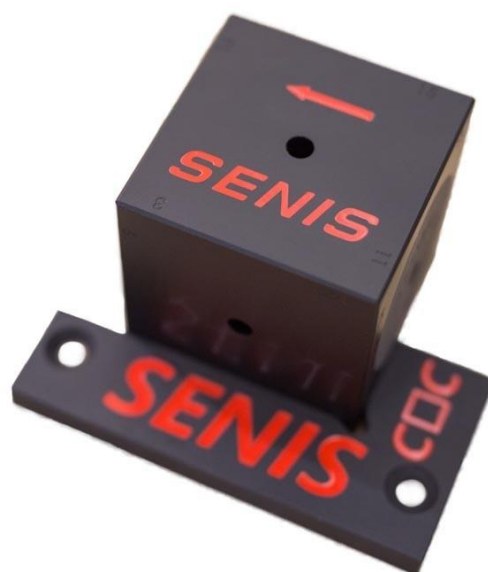
**SENIS Calibration Cube** is a unique tool to calibrate magnetic field sensors and *SENIS* magnetic field mappers. It ensures your equipment is always measuring very accurately and reliably. The Calibration Tool also serves as a stable reference magnet.

A homogenous, stable magnetic field in the center of the cube is accessible through 6 holes in each face. Placing a sensor from different sides into the cube center allows calibrating the sensor directional sensitivity vectors with respect to the orthogonal faces of the cube.

The full high accuracy orthogonality recalibration is done within less than 30 minutes.

*SENIS* Calibration Cube can be used every time you change a sensor on your mapper. It calibrates your sensors and measuring system in-situ, i.e. at the place and in the environment where they are used. Calibration with the *SENIS* Calibration Cube is fast and easy. *SENIS* proprietary calibration software actively guides the user through the calibration process, resulting in a calculated sensitivity matrix, which is then used for the orthogonality error compensation during the mapping process.

An additional Calibration Cube Corner Tool ensures repeatable, accurate and easy orientation of the cube to external Cartesian coordinate systems.



**Figure 1:** SENIS Calibration Cube with Corner Tool

## KEY FEATURES:

- Highly accurate in-situ validation of magnetic field sensors and mappers
- Easy and fast to use
- Mechanical referencing and orthogonality of the magnetic field better than  $0.1^\circ$  in all 3 directions
- Accurate 3-axis orthogonality recalibration for SENIS mappers
- Also works as a stable reference magnet
- Highly accurate in-situ positioning with Calibration Cube Corner Tool
- Dust free surface, easy to clean for highest mechanical accuracy



**Figure 2:** Calibration Cube in safety case

## SPECIFICATIONS:

Geometry	
Size	70 mm x 70 mm x 70 mm
Weight	950 g
Max probe diameter	6 mm
Magnetic Properties	
Magnetic field strength	105 mT $\pm$ 5 mT, depending on actual cube
Volume of homogenous field in cube center	>1 mm x 1 mm x 1 mm
Reference calibration temperature	23° C $\pm$ 1° C
Temperature dependence of permanent magnetic field	<0.05% / °C
Alignment and orthogonality of magnetic field sensor	<0.1° in all 3 Cartesian directions