

DESCRIPTION:

Hall Probe 0YM for H3A Magnetic Transducers is a very robust, Hybrid 1-axis Hall-Probe.

The Hall chip is glued onto a reference ceramic plate suitable for an appropriate fixing of the probe.

The Hall Probe 0YM for H3A Magnetic Transducers integrates one high-resolution Hall sensor, and a temperature sensor.

The probe chip is embedded in the probe package and connected to the CaH cable, which makes this probe both mechanically and electrically very robust.

The outputs of the Hall Probe are high-level analog voltages proportional with the transverse (By) measured component of a magnetic flux density and a voltage proportional with the probe temperature.

KEY FEATURES:

- **Very robust Hall Probe. The chip is glued onto a reference ceramic plate suitable for an appropriate fixing of the probe**
- **Hybrid 1-axis (By) Hall Probe**
- **Ultra-low noise & offset fluctuation magnetic transducer, allowing very high resolution measurements**
- **Very high linearity**
- **Magnetic transducer based on much improved offset and noise reduction technique**
- **Very low planar Hall voltage**
- **A temperature sensor on the probe for temperature compensation**
- **The Hall Probe 0YS for H3A Magnetic Transducers is consisting part (Module H) of the H3A Magnetic Field Transducer and Digital Teslameter**

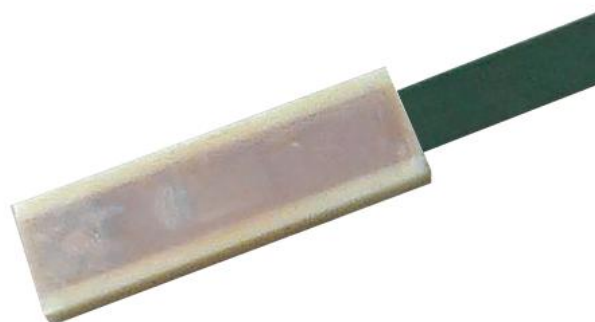
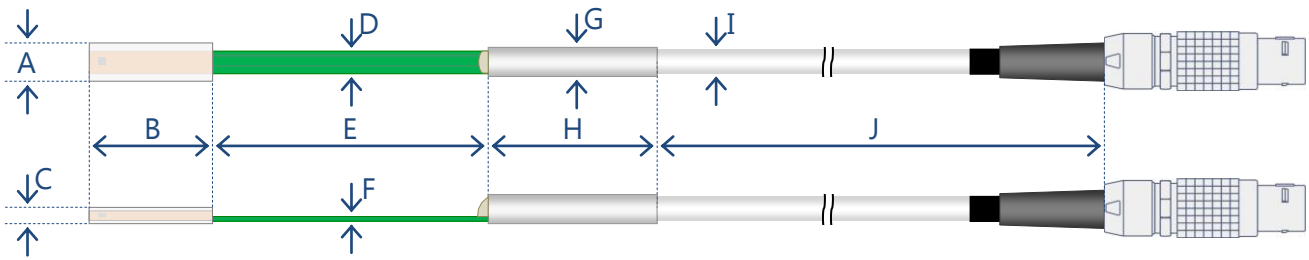


Figure 1. **SENIS Hall probe type H3A-0YM**

PROBE DIMENSIONS AND CHARACTERISTICS:



Dimension	mm	Dimension	mm
A	3.00 ± 0.05	F	0.10 ± 0.01
B	8.0 ± 0.1	G	2.1 ± 0.2
C	0.50 ± 0.02	H	20 ± 1
D	35 ± 1	I	1.7 ± 0.2
E	2.00 ± 0.05	J	$X \pm 1\%(X)$

TOP VIEW:

FRONT VIEW:

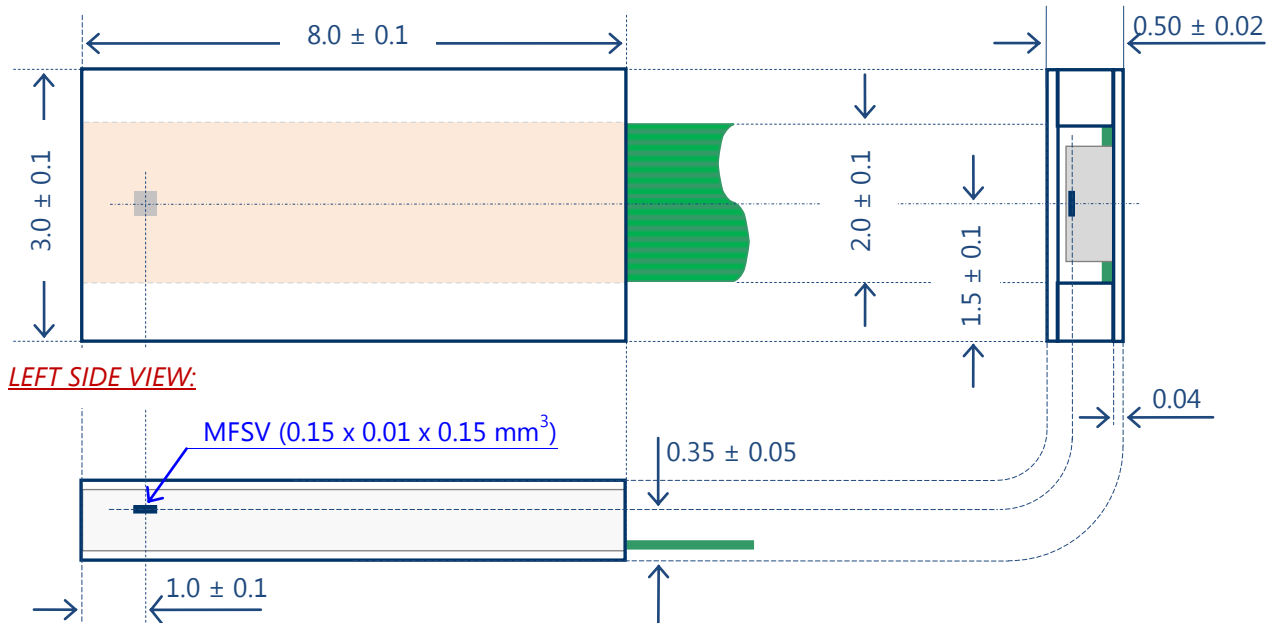


Figure 2.

Dimensions of the SENIS single-axis H3A-0YMxxL Hall probe (all measures are displayed in mm). The grey square on the TOP view denotes the magnetic field sensitive volume (MFSV) of the Hall sensor. Connector on the right side is LEMO FGG.2B.314.CLAD92

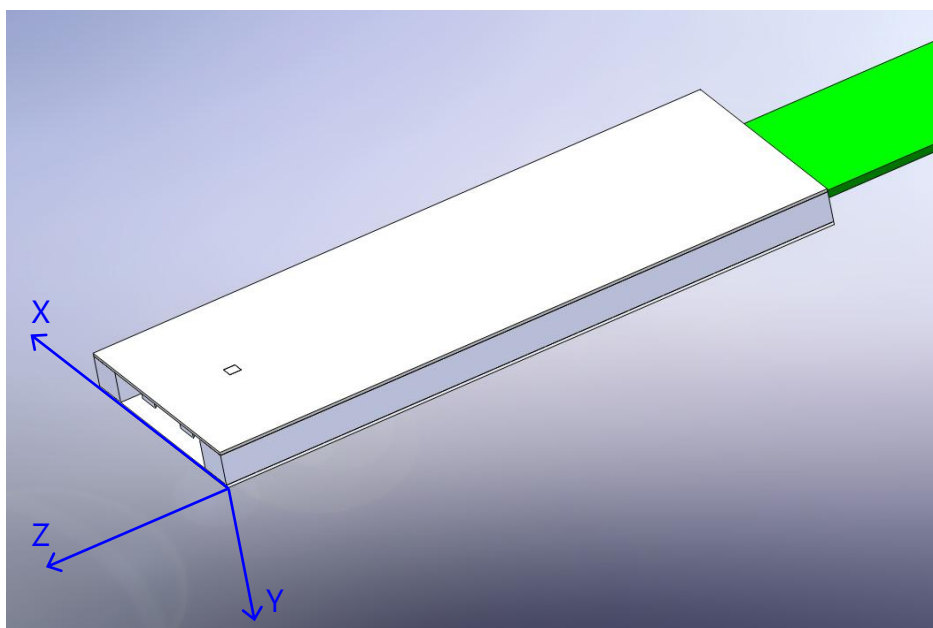


Figure 3. Reference Cartesian coordinate system of the H3A-0YM Hall probe

Parameter	(mm)
Dimensions	
▪ Magnetic field sensitive volume (MFSV)	150 x 0.01 150 μ m
▪ Position of the MFSV centre of Y-sensor (with respect to the Probe's Cartesian coordinate system, Fig. 3)	X: 1.5 ± 0.1 Y: -0.35 ± 0.05 Z: -1.0 ± 0.1
▪ Total probe external dimensions	8.0 x 3.0 x 0.5
Accuracy of positioning	
▪ Angular accuracy of the axes with respect to the reference surface	$\pm 2^\circ$, determined during calibration
General properties	
▪ Cable	Shielded, with a flexible thin part near the probe (see Fig. 2)

INSTALLATION MANUAL FOR THE 0YM HALL PROBE

Although the 0YM probe is very robust with respect to its size, it should be handled with special care. Considering that we deal with a high-precision device of very small dimensions, following precautions should help to avoid damage to the probe during installation and handling, and ensure that the device's accurate calibration remains preserved.

- The Hall Probe must be connected to the Electronic module before applying power.
- The mounting of the Probe should be carried out by application of very low pressure to its head and particularly on the thin flexible substrate.
- Do not apply more force than required to hold the probe in its place. Damage to either the ceramics package of the Hall sensor or flex PCB will destroy the Probe. We strongly suggest storing the probe in its protective case when not in use.
- If the probe head is clamped, the user needs to make sure that the environment surface in contact with the reference plane of the probe is flat and covers as much of the probe reference surface as possible (see image below). Do not apply more force than required to hold the probe in its mounting.
- The mounting of the probe should be carried out by application of very low pressure to its head and thin wires. If the probe head is clamped, the user needs to make sure that the environment surface in contact with the reference plane of the probe is flat and covers as much of the probe reference surface as possible (see figure below). Do not apply more force than required to hold the probe in its mounting.



- In order to prevent rupture of the flexible PCB wires from the probe head, the user should fix and secure the probe cable in the proximity of the head. The thin wires of the **flexible section** of the probe need to be folded with care; repeated sharp bending should be strongly avoided.
- Avoid any high pressure and bending of the **transient section** between the flexible PCB and the Probe cable.