

CUSTOMER REFERENCE

SENIS
magnetic & current measurement

SENIS AG, Switzerland develops, manufactures and supplies advanced sensors and instruments for magnetic field and electric current measurement as well as the corresponding development and engineering services. Our solutions and services help our clients in the automotive, consumer electronics, test and measurement industries, as well as to research institutes to create powerful, robust and effective products.

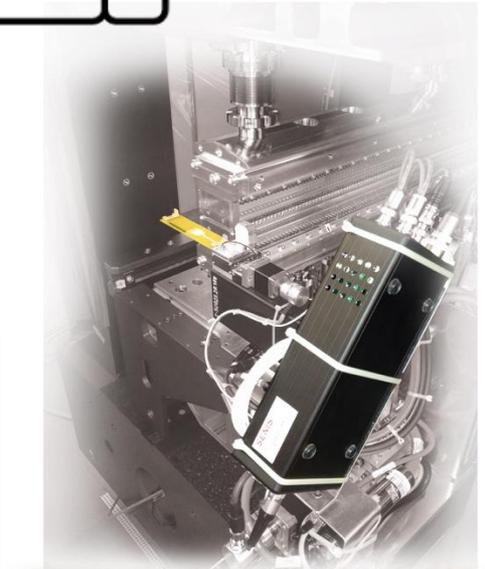
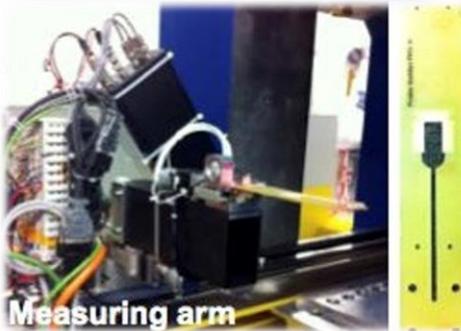
SENIS® H3A Transducer used at PSI is a SENIS 3-axis ultra-low-noise and high-resolution magnetic flux density-to-analog voltage transducer with a hybrid 3-axis Hall probe of type S.

The hybrid Hall probe integrates three high resolution Hall sensors, and a temperature sensor. The probe provides a good angular accuracy of the three measurement axes. The Hall probe is connected with an electronic box providing biasing for the Hall probe and the application of the improved **spinning-current technique**, which very effectively cancels offset, low frequency noise and the planar Hall effect. The additional conditioning of the Hall probe output signals in the electronic box includes Hall signal amplification, high linearization, compensation of the temperature variations, and limitation of the f-bandwidth.

www.senis.ch

PAUL SCHERRER INSTITUT

PSI



1. At the Paul Scherrer Institute (PSI, www.psi.ch), within the **SwissFEL** project, the hard X-ray line (Aramis) has been equipped with short-period in-vacuum undulators, known as the U15 series. The magnetic measurement system has been built at PSI, together with all the data analysis tools. The **Hall probe** has been designed for PSI by the Swiss company SENIS.

Paper at: <http://scripts.iucr.org/cgi-bin/paper?S1600577518002205>

2. Also at PSI, SENIS Hall Probes are used for monitoring of beam control magnets in the **proton therapy system**. The initial patient therapy started in February 2007. According to PSI, the radioactive area (gamma and neutron radiation) did not harm **SENIS Hall Probes**. "We apply SENIS Hall probes for monitoring of dipole magnets in our PROSCAN accelerator. Protons are generated with a maximal energy of 250MeV and a maximal beam current of 500uA, so that gamma and neutron rays arise. The gamma rays have an energy spectrum of several MeV. SENIS Hall probes are successfully exposed to the radiation since several years and we haven't seen any performance deterioration", says Dr. Marco Negrazus of PSI, in May 2016. <http://p-therapie.web.psi.ch/proscan.html>