

A3 Diamond Fast-Neutron Monitor

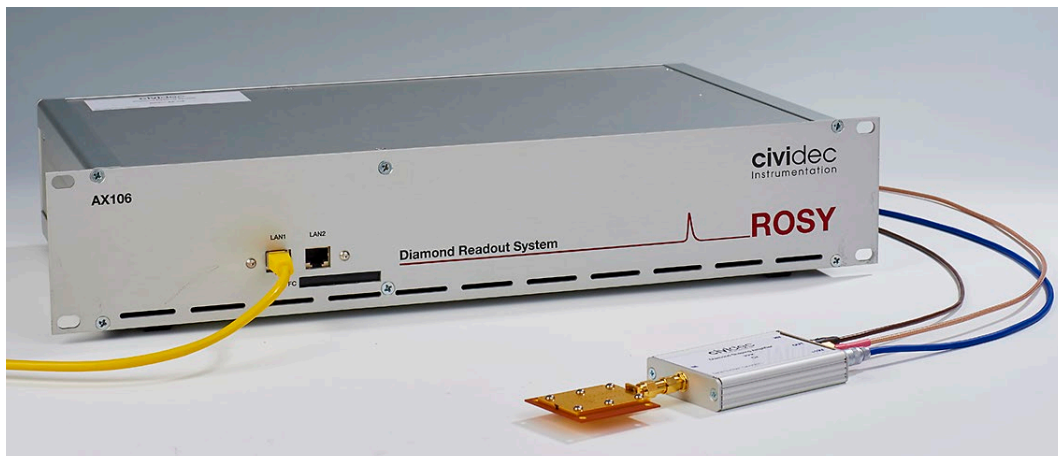
The **Diamond Fast-Neutron Monitor** is used for measuring the neutron flux of fast neutrons. It consists of a Diamond Fast-Neutron Detector, a CIVIDEC Spectroscopic Amplifier and optional the **ROSY**[®] real-time data processing unit, which measures the neutron rate over time as well as the neutron spectrum in real-time.

Feature: Background from neutron-induced reactions in surrounding materials can be rejected in real-time using the Selective Spectroscopy Application of **ROSY**[®].

For applications in high-radiation areas, a detector cable of up to 10 m length can be installed between the detector and the spectroscopic amplifier.

Features:

Neutron energy:	$E_n > 2 \text{ MeV}$
Fast-Neutron detection efficiency:	$> 1\%$
Radiation hardness:	10^{16} n/cm^2
Intrinsic energy resolution:	20 keV FWHM
Max. counting rate:	1 MHz



The Diamond Fast-Neutron Monitor was developed for applications at nuclear facilities. At the fusion reactor ITER, neutrons are determined through the $^{12}\text{C}(n,\alpha)^9\text{Be}$ reaction in the diamond detector.

- Options:**
- Detectors for vacuum operation
 - Detectors for high-temperature operation
 - Compact detectors for small spaces
 - Amplifiers for high-temperature operation
 - System for neutron fluxes of $>10^8 \text{ n/cm}^2/\text{s}$

Power supplies can be included in ROSY[®]

Get your customized solution!