

## Graphenea's Cartridge S2X Makes Sensing Easy

2022-03-09

Graphenea has released a new product to make sensing with graphene easy for every customer. Introducing the Cartridge S2X, a package that interfaces the graphene microdevice and the electrical equipment used for its readout, we are lowering the barriers for graphene-based sensing research.

The cartridge has a small cleft onto which to place the GFET die, just below the electronics module with gentle pogo contacts to the graphene chip. The contacts are placed for seamless integration with our S20, S21, S20P and S21P graphene chips that are designed with biosensing in mind. The design makes use of 8 connections to the chip, including six source electrodes, one drain, and one gate. The pins are routed to a standard 8-pin BNC connector, for an easy and robust link to external measurement equipment.

The design includes a replaceable reservoir for liquids on top of the GFET die. The cartridge is modular, such that introducing and removing GFET chips is done easily, by just removing four small screws. The ease of use doesn't compromise on the mechanical stability, with the cartridge produced to withstand at least 500 mating cycles. The body and the reservoir are produced from polyimide, which has high chemical stability and negligible interaction with the liquid sample. The size of the cartridge is 11x12 cm, with thickness of about 2 cm.

Graphene field-effect transistors (GFETs) have unprecedented sensitivity to the surrounding environment and are ideal transducers for a variety of sensing applications. Depending on the application, GFETs can be tuned to be sensitive only to the stimulus of interest and have shown breakthrough performance in areas such as graphene device research, biosensors, pre-clinical tests, healthcare, and Point of Care (PoC) applications. With the availability of Graphenea's GFET S-series devices, and now the Cartridge S2X, we take away the worry of reliable fabrication and measurement, letting our customer focus on their sensing application of choice.

Read the [original article](#) on Graphenea.