

The Cryofree® Toolkit

SampleProtect measurement system

The unique **SampleProtect** measurement system is optimised for opto-electrical applications; providing electrical protection for sensitive samples whilst minimising the time to get your first experimental results.

- Wide sample temperature range from <3 to 300 K
- High quality measurement grade cables for low level signals
- Fully earthed signal management box and cables
- **Cryofree®** – both water and air cooled compressors available

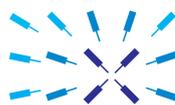
The **SampleProtect** measurement system ensures that your sample is protected from the risk of electrostatic discharge (ESD) damage from the moment it is electrically connected to our patent pending puck. ESD protection is designed into the system at every stage of the experiment, from sample mounting to right through removing the sample from the cryostat. This means that every time you load a sample into the cryostat you can be confident that it is electrically protected – no more waiting until the sample is cold to find that it has been damaged during the loading process.

The **SampleProtect** measurement system comes complete with Oxford Instruments' **Cryofree** bottom loading cryostat – the **OptistatDry** BLV, Zurich Instruments' **MFLI** Lock-in Amplifier, a specially designed ESD break-out box, ESD puck and high quality cables.

Protect
your samples
from ESD
damage



The **MFLI** 500 kHz lock-in amplifier with the MF-MD multi-demodulator option brings the benefits of high performance signal processing at low and medium frequencies. The differential voltage and current inputs of the **MFLI** are optimised for low noise operation and the high oversampling rate ensures an even better signal to noise ratio. Zurich Instruments' unique **LabOne®** control software provides a toolset including an integrated oscilloscope, a spectrum analyser, a plotter and a parameter sweeper.



Zurich
Instruments



The Business of Science®



The **Cryofree OptistatDry** BLV model allows samples to be cooled to less than 3 K without the need for liquid cryogenes. It has been designed to make integration into spectroscopy experiments quick and easy.

Faster to first experiment

- **Minimise cryostat set up time** – the **OptistatDry** stand is designed to interface to all optical benches (metric or imperial)
- **Minimise sample mounting and wiring time** – the unique sample puck (patent pending) is designed to make mounting and wire bonding to samples quick and easy
- **Minimise measurement set up time** – all the cables are professionally made to measurement standards to handle small signals and eliminate potential ground loops

Faster between experiments

- **Minimise sample change time** – the unique **OptistatDry** load port enables you to change your sample with the cryostat in situ, eliminating the need for time consuming re-alignment of optics
- **No risk of ESD damage to samples** – the patent pending puck ensures your samples are protected from the moment they are electrically connected to the puck
- **Minimise measurement time** – the fast frequency sweep on the **MFLI** minimises the time to find the optimal measurement frequency



Specifications

Sample temperature range	< 3 - 300 K
Measured temperature stability	±0.1 K
Cool down time from ambient to 4.2 K	< 160 minutes at 50 Hz
Typical cooling power	0.2 W at 4.2 K
Optical access	28 mm diameter clear view, f1

Read our application notes –

Efficient electrical nanodevice characterisation with OptistatDry cryostat and MFLI Lock-in Amplifier



[click here](#)

Measuring resistance of a HTS sample using OptistatDry cryostat and MFLI Lock-in Amplifier



[click here](#)

For more information, email us at nanoscience@oxinst.com or visit www.oxford-instruments.com/sampleprotect

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