

MPMS Option Specifications

Option C010

Fiber Optic Sample Holder

The Fiber Optic Sample Holder provides a convenient way to study the magnetization of a sample under the influence of light. It connects easily to an optical fiber from a laser or other high powered light source, so the user can illuminate a sample in the sample space. During and after illumination, the MPMS can measure magnetization over a wide range of temperatures and magnetic fields.

Numerical

Aperture:

0.22±0.02

1.5mm Core

Part Number:

Fiberguide Industries

Fiber: SFS1500-1650N

SUPERGUIDE G UV-Vis Fiber

(Optional ANHYDROGUIDE G Fiber available)

Flexible Bundle: SFB200/220T

Connector:

Flexible Bundle: SMA

Length:

Flexible Bundle: 2 meters



Option C020

Low Field Profiling Option

The Low Field Profiling option measures the remanent magnetic field in the MPMS superconducting solenoid. This allows the user to establish controlled measurement conditions before introducing a field sensitive sample, such as high temperature superconductors or spin glasses into the MPMS. The Low Field Profiling option allows the user to map the field uniformity at low magnetic fields and to measure the absolute field at a given position. Using the Low Field Profiling option and manually setting the magnetic field, one can achieve very low field conditions (given the High Resolution field setting precision of the MPMS), or precisely set fields up to ±10 Gauss. This option is available for either Revision 1.X MPMS software operating systems, or the new highly versatile Revision 2 software control system. For Revision 1.X, the option comes with a custom designed fluxgate magnetometer, and a BNC output jack for interfacing to a chart recorder or other analog data recorder (not supplied). For MPMS with Revision 2, the option includes the fluxgate and BNC connector, and additional cabling to interface the fluxgate with the MPMS 1822 controller. Revision 2 software can scan and plot the field profiles, and allow manual field changes. The

fluxgate extends down into the bore of the superconducting solenoid as would a sample rod. In this way, the MPMS Sample Drive does automated field profiling. Standard with the option, is a wall-mounted holder with a μ -metal shield, for zeroing the fluxgate before each use.

Fluxgate Range:

±10 Gauss

Sensitivity:

±0.01 Gauss

Battery Type:

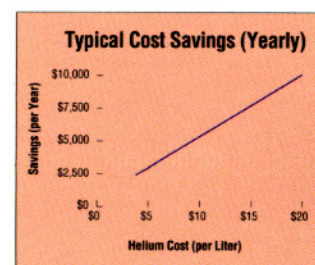
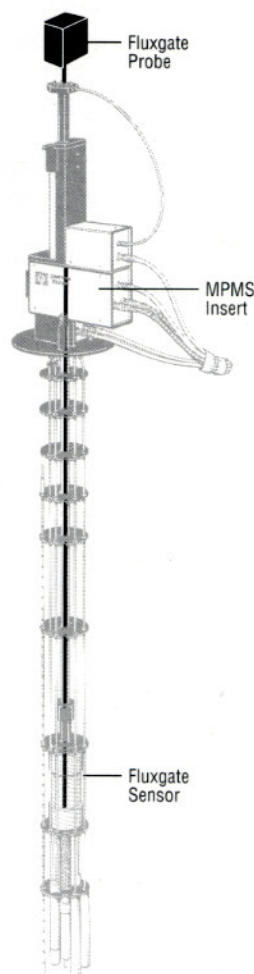
9 Volt

Average Battery Life:

3-4 Hours

Voltage Output:

±1 Volt (1 Gauss=0.1 Volts)



Option C030

Nitrogen Jacketed Dewar

This option is designed to reduce operating costs and extend liquid helium hold time. The Nitrogen Jacketed Dewar was engineered to fit the MPMS cabinet and environmental magnetic shields, and is fully compatible with all of the other MPMS options. The nitrogen tank holds about 20 liters of liquid and lasts about seven days. Users working below 200 Kelvin will benefit the most from this option. Reduction in liquid helium consumption can be as much as 30 percent for users working in the low temperature range.

"There's no end to the range of experiments and conditions possible with the MPMS. We have options that support all kinds of measurements, from 2 to 800K, from 0.005G to 70KG."

