

Xenon light source for MPMS3 with FOSH

Magneto-optic measurement

The SQUID magnetometer family MPMS is the well-known workhorse for magnetic sample characterisation. It can be equipped with the optional fiber optic sample holder (FOSH). The FOSH option is used for measurements of the magnetic moment in the MPMS-XL or MPMS3, while the sample is illuminated. A detailed description of the FOSH can be found in our application note.

The MLS is a light source which can be used with the MPMS FOSH option. This turnkey device includes all necessary parts and components to generate light of a certain wavelength. The set-up also includes the optic to couple the light into the FOSH option fiber, which is just plugged into the delivered set-up.

The MLS package includes:

- Xenon lamp bulb
- Lamp housing
- Variable lamp power supply
- 10 position manual filter wheel
- 9 bandpass filters
- Dichroic mirror (400 nm – 900 nm)
- Fiber coupling optics and SMA connector for the fiber delivered with FOSH option
- Manual shutter (blind position in filter wheel)
- Manual iris
- Pair of safety goggles
- Manual

Xenon lamps have the highest radiation power in the UV and VIS, which is why we recommend to use them with the FOSH-UV/VIS (model M310-UV).

Included filters	
Center wavelength	Full width half maximum
436 nm	20 nm
470 nm	40 nm
500 nm	20 nm
530 nm	30 nm
555 nm	20 nm
585 nm	40 nm
640 nm	30 nm
740 nm	40 nm
850 nm	40 nm

Ordering information

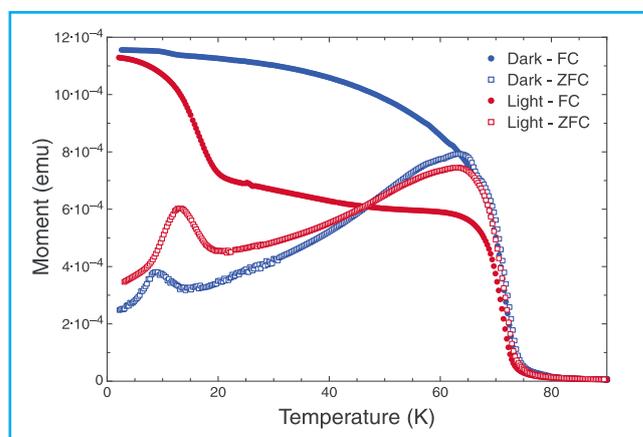
QD-MLS-150FW/2	Light source with 150 W Xenon lamp
QD-MLS-300FW/2	Light source with 300 W Xenon lamp



Manual filterwheel with 10 positions

Specification	
Lamp type	Xenon short arc
Lamp power	150 W or 300 W
Mechanical termination for fiber	SMA for FOSH option
Input	90 – 250 VAC, 48 – 63 Hz

Options	
QD-MLS-UV	UV package Dichroic mirror for UV Filter 360 nm Filter 376 nm
QD-M312B	Support arm for the MPMS3 cabinet (only for 150 W configuration)
QD-MLS-S	Stand for light source
QD-1400-033-FR	Hand-held silicon detector for light intensity adjustment with SMA termination. Wavelength range from 400 nm to 1.000 nm. Readout in [mA]



Zero-field-cooled and field-cooled FOSH data, collected using DC scan mode at 100 Oe applied field, on a sample existing of core shell particles of Prussian blue analogues, which is ferromagnetic with $T_c \sim 70$ K, and surrounding cores which are photoactive and ferromagnetic with $T_c \sim 20$ K