

Millisecond Shutter

Bruker ASC manufactures and distributes a Millisecond Shutter based on a licence agreement with the Swiss Light Source (SLS), where this shutter system was originally developed for use at the Protein Crystallography Beamline. With modern synchrotrons the need to control the exposure time to x-rays is of great importance. The Millisecond Shutter is designed to provide an accurate and reproducible exposure time as fast as 2 ms. The shutter is also available in vacuum compatible versions.

The Millisecond Shutter is a single-shot x-ray shutter system. It consists of a mechanical shutter and associated driver electronics, which can easily be interfaced to any control system. A thin steel blade (1mm thickness) toggles around an axis supported by two ball bearings. The blade is driven by two solenoid magnets and has a stroke of 2 mm. In closed position the shallow angle of the steel blade corresponds to an effective shutter thickness of 9mm for a beam vertical size of 500 μm .

A high vacuum suitable housing equipped with 2 DN40KF connecting flanges for the implementation of the shutter into the beam path is available.



Shutter & Driver

courtesy SLS

Specifications:

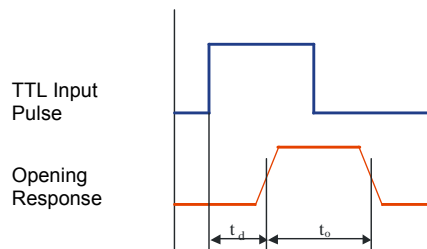
Shutter Mechanics

- Dimensions: 55 x 60 x 57mm
- Shutter Aperture: 2 mm vertical
5 mm horizontal
- Max. Beamsize : 1 mm vertical
4 mm horizontal
- Shutter Blade Material Steel
- effective thickness > 5 mm
- Minimal Guaranteed Opening Time: 2.0ms

Driver

- Dimensions: ca. 110 x 82 x 165mm
- Voltage: 115 / 230V; 50 / 60 Hz
- Connections: - Mains Power In
- TTL Signal In
- Shutter OUT

Shutter Response Performance



- Opening Delay Time: 1,5 ms
- Rise / Fall time: 200 μs
- Minimal Guaranteed Opening Time: 2,0 ms

Available Options

- Shutters with customized apertures can be realized upon request.
- Vacuum housing with Conflat Type Flanges

Shutter with Vacuum Housing:

Flange-to-flange distance: 120 mm



Bruker ASC

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