



# UNIBLITZ<sup>®</sup>

Electro-Programmable Shutter Systems

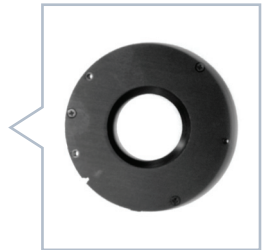
## DSS20 Shutter Series Specifications

### Overview

The DSS series is the latest technology available from UNIBLITZ. This patent pending device has eliminated the external protruding actuator and contains no other interfering components. All drive and damping related components related to the mechanical motion of the shutter are contained or integrated within. The device can also be scaled for alternate aperture sizes to further tailor the device for the most demanding customer applications.

The DSS20 was the first device in the DSS series. The DSS20 is a bi-stable shutter and no power is required to hold the shutter in either the open or closed state. Power is required only to change the state of the device. There are no dimensional changes associated with this configuration and it can be driven by the ED12DSS driver board.

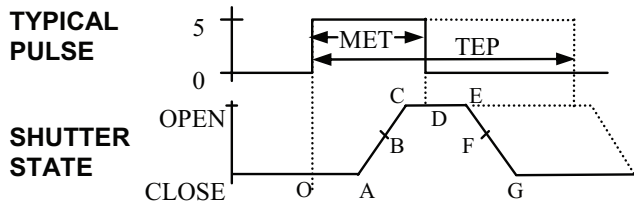
The reliability of this device has been enhanced by containing only two unique moving parts (the drive ring and the blades). This in conjunction with their bi-stable operation (and when driving the shutter with the new ED12DSS +12VDC driver) has provided the most reliable device of its kind available.



### Features

- **Flat Mounting Surfaces On Both Sides Of The Device**  
There are no protruding components allowing flush mounting on either side of the device.
- **Easily Integrated Into Customer Applications**  
Circular envelope and concentric aperture allow for easy and fast integration into customer specific applications.
- **Scalable Design**  
Simplicity of design allows for unprecedented ease of scaling from apertures as small as 10mm.
- **Low Cost For A Custom Aperture**  
Until now a redesign for specific aperture openings of a shutter device would incur substantial NRE (Non-Recurring Engineering) costs. The DSS shutter is specifically designed to take advantage of its versatility.
- **Can Be A Replacement For Existing Flag Shutters**  
Flag shutter devices are difficult to design on center and require additional offset space in a camera for the actuator. DSS devices can be centered on aperture and hence the overall space required for a given aperture is substantially less.
- **Blades Can Be Coated For Ir Applications**  
DSS Shutters are particularly suited for Non-Uniformity Correction applications.
- **Two Distinct Moving Parts**  
The drive ring and the blades are the only parts in motion limiting points of wear.
- **Low Voltage Or Low Current Operation**  
Bi-stable operation significantly reduces power draw. The DSS10 can be designed to take advantage of your particular system, whether it is battery powered or takes power from line voltage.

## DSS20 – Product Specifications



### DSS20 Timing Data in msec

Timing data recorded with ED12DSS driver with drive pulse equal to MET.

O-A: Delay time on opening after current is applied	7.8
A-C: Transfer time on opening	12.5
O-C: Total opening time	20.3
C-E: Min. dwell time with min. input pulse	14.7
B-F: Min. equivalent exp. time	27.0
D-E: Delay time on closing after current is applied	10.0
E-G: Transfer time on closing	12.1
A-G: Total window time	39.3
MET: Min. exposure time	25.0
TEP: Typical exposure pulse	>25.0

The question regarding enhancement of shutter speed with the application of user supplied lubricants has been repeatedly asked. It is our experience that lubricating the shutter blades will actually slow the shutter down and eventually render the shutter inoperable. UNDER NO CIRCUMSTANCES SHOULD ANY TYPE OF LUBRICANT BE APPLIED TO THE SHUTTER BLADE AREA.

### DSS20 Electrical Specifications

COIL RESISTANCE: 8 OHMS  
PULSE VOLTAGE: 12V

### DSS20 Mechanical Specifications

WEIGHT: 15.5g  
TEMPERATURE RANGE: 0-80C  
OPEN BOUNCE: 15%  
CLOSE BOUNCE: 5%  
NUMBER OF BLADES: 5  
CONTINUOUS FREQUENCY: 5HZ  
BURST FREQUENCY: 15HZ

Continuous frequency rating specified at shutter's minimum exposure pulse. BURST frequency rating specified for (4) four seconds maximum with (1) one minute minimum between bursts. Frequency measurements are taken in free air and 25°C ambient. For additional information on maximum sustained frequencies obtainable, please contact one of our technical representatives.

## DSS20 – Shutter Outline Drawing

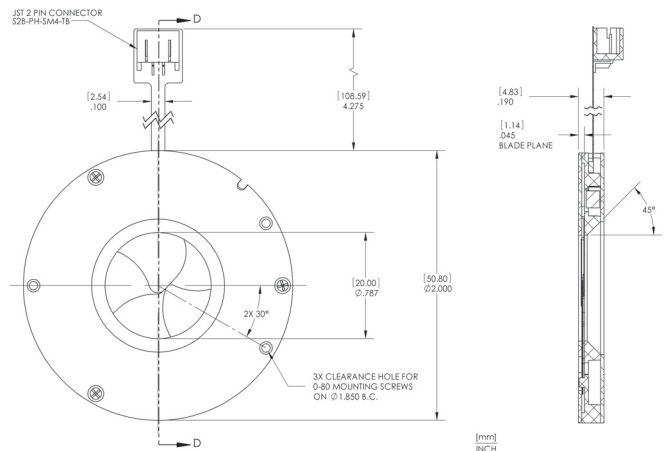


FIGURE #1

The DSS20 shutter device weighs 15.5g and is only .190 inches thick. You will notice that there are no other interfering components that will impede mounting the unit to any flat surface. It is easily mounted into an optical system via the three 0-80 clearance mounting holes at the locations shown in figure #1. Presently the unit will terminate to a 2-pin JST connector (S2B-PH-SM4-TB) via a 4 inch flex interconnect.

### DSS20 Product Options

DSS20B	1	T	0	
Aperture Size	Housing	Blade Finish	Electronic Sync	Connector
DSS20B-20mm	1-Un-housed	T-Black both sides Z-AISiO Coated* ZM-AIMgF2 Coated*	N/A	Included on four inch flex cable harness

\*Input side only, black coating is on opposite side. Intended to protect the shutter blade surface. The light source must be input to the reflective side only.



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