

# Uniblitz® NS45B

## 45mm Bi-Stable Optical Shutter

### Overview

The Uniblitz NS45B is a 45mm-aperture bi-stable optical shutter utilizing our patented N-CAS® technology. The NS45B's simple design provides maximum clearance around the aperture, and a machined flat surface makes for its easy integration into telescopes, video cameras, etc. The NS45B has an overall diameter of 3.915 inches, and an electronic synchronization is available. Bi-stable shutter devices, like the NS45B, require no power to hold the blades in either the open or closed state.

### Key Features

- 45mm aperture
- Only two unique moving parts
- Can be configured for the [VED24](#), [ED12DSS](#), or [VDM1000](#) drivers
- **RoHS Compliant**
- Transfer time on opening:  
12.0 milliseconds
- Transfer time on closing:  
12.0 milliseconds

### Specifications

#### Electrical Specifications

Coil resistance	6 OHMS <sup>1</sup>
Voltage to Open	+10.7 VDC <sup>2</sup>
Hold Voltage (Nominal)	N/A

#### Mechanical Specifications

Weight Unhoused	110.0 g
Operating Temp.	0 - 80 °C
Max. Opening Bounce	15%
Max. Closing Bounce	5%
Max. Freq. of Operation <sup>3</sup>	2.5 Hz / 5 Hz
Number of Shutter Blades	5

<sup>1</sup> Two 12 ohm coils wired in parallel.

<sup>2</sup> Peak voltage as provided by the VED24 Driver.

<sup>3</sup> (Continuous/Burst) Continuous frequency rating specified at shutter's minimum exposure pulse. Burst frequency rating specified for four (4) seconds maximum with one (1) minute minimum between bursts.

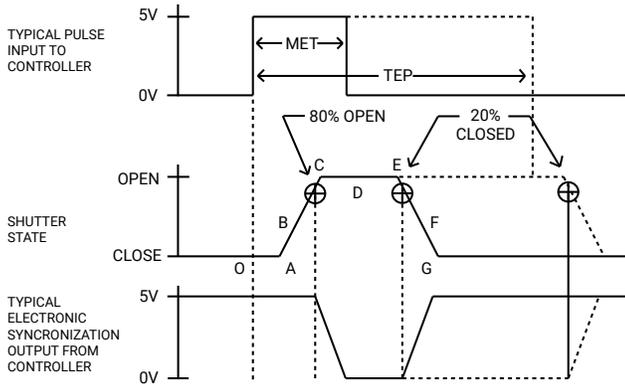


**Need Support?** Please visit our website or email us at [info@uniblitz.com](mailto:info@uniblitz.com).

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## Shutter Timing Data



<sup>1</sup> Under no circumstances should any type of lubricant be applied to the shutter blade area. Lubricating the shutter blades will likely slow the shutter down and may eventually render it inoperable.

### NS45B (w/ VDM1000 and "T" blades) <sup>1</sup>

### Time (msec.)

Parameter	Time (msec.)
O - A	Delay time on opening after current applied 7.0
A - C	Transfer time on opening 12.0
O - C	Total opening time 19.0
C - E	Min. dwell time with min. input pulse 12.5
B - F	Min. equivalent exp. time 6.0
D - E	Delay on closing after current applied 24.5
E - G	Transfer time on closing 12.0
A - G	Total window time 36.5
MET	Min. exposure time 26.0
TEP	Typical exposure pulse >30.0

## Product Options

NS45B ② ③ ④ ⑤ - ⑥ - ⑦

Ex: NS45B1T0L-EC-VED

### ① Shutter Series:

NS45B

### ② Housing:

1: Un-Housed

### ③ Blades: <sup>2</sup>

T: Low Energy (Teflon®)

ZM: High Energy (AlMgF<sub>2</sub>) <sup>3</sup>

### ④ Electronic Sync:

0: Omitted

1: Included

### ⑤ Connector:

L: 18" Flying Leads

Leave blank for 5-pin Switchcraft® connector with 6" harness

### ⑥ Encapsulated Coil:

EC: Included

Leave blank if not required

### ⑦ Driver Compatibility:

ED: ED12DSS compatibility

VED: VED24 compatibility

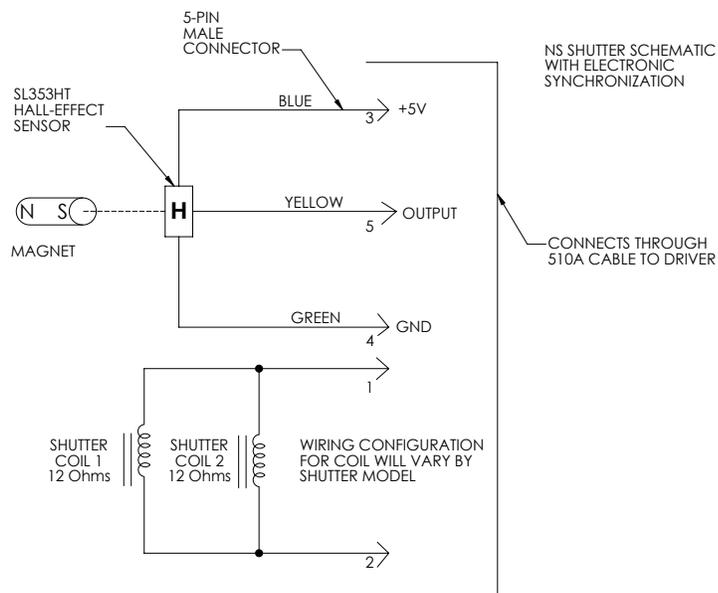
Leave blank for VDM1000 compatibility

<sup>2</sup> Other blade coating options may be available by special order.

<sup>3</sup> Input side only; Teflon® coating is on opposite side to protect shutter blade surface. Light source must be input to the reflective side only.

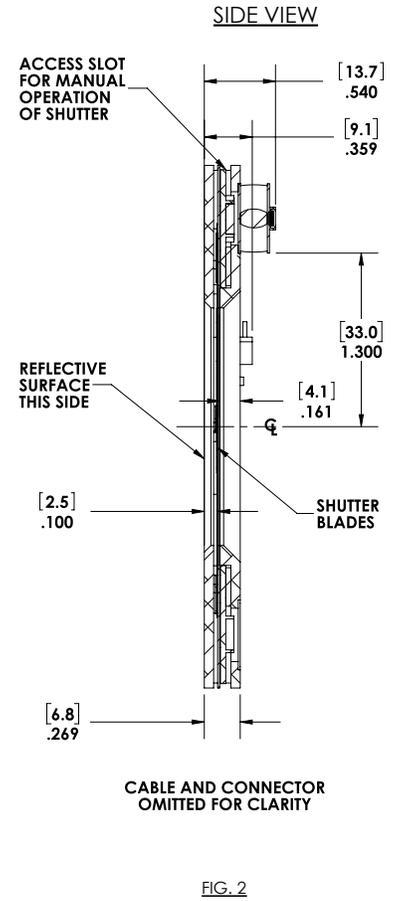
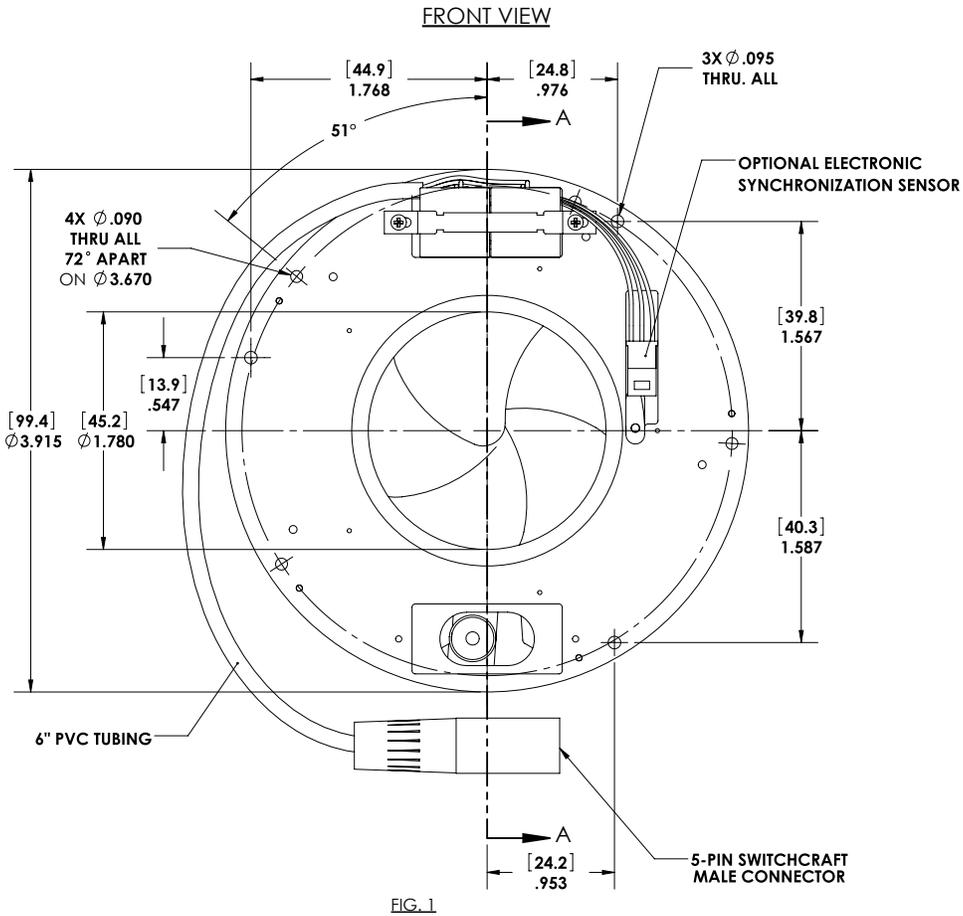
## Electronic Sync.

The synchronization system for NS shutter devices incorporates a small magnet mounted to the driving mechanism and a Hall effect sensor. When the device achieves approximately 80% of full open, the magnet causes the Hall effect sensor to change state, producing a signal to indicate that the shutter has switched to the active state. Shown to the left is the NS series shutter schematic which incorporates the electronic synchronization system. **There is no connection to the designated synchronization pins when an electronic sync. is not selected.**



# Uniblitz® NS45B Technical Drawings

## Shutter Layout



ALL DIMENSIONS MAX.  
[MM]  
INCH