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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
- Bi-stable operation
- Only two unique moving parts
- **RoHS Compliant**
- Transfer time on opening:
12.0 milliseconds
- Total opening time:
19.0 milliseconds
- Can be configured for the **VED24**, **VDM1000**, or **ED12DSS** shutter drivers.

Product Options

NS45B 2 3 4 5 - 6 - 7

Ex: NS45B1T0L-EC-ED

1 Shutter Series:

- **NS45B**

2 Housing:

- **1:** Un-housed

3 Blade Coating: ¹

- **T:** Low Energy (Teflon®)
- **ZM:** High Energy (AlMgF2) ²

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

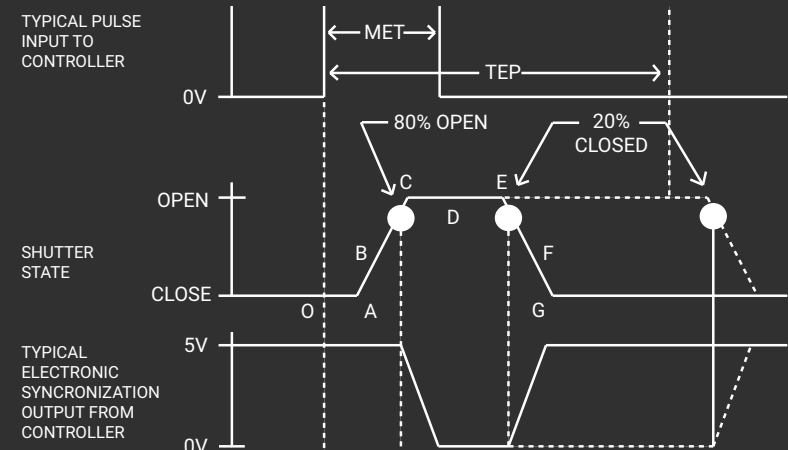
7 Driver Compatibility:

- **ED:** ED12DSS Compatibility
- **VED:** VED24 Compatibility
- Leave blank for VDM1000 compatibility

¹ Other blade coating options may be available by special order.

² Input side only; Teflon® coating is on opposite side to protect shutter blade surface. Light source must be input to the reflective side only.

Shutter Timing



NS45B (w/ VDM1000 and Teflon® coated blades)		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 time 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

Technical Specifications

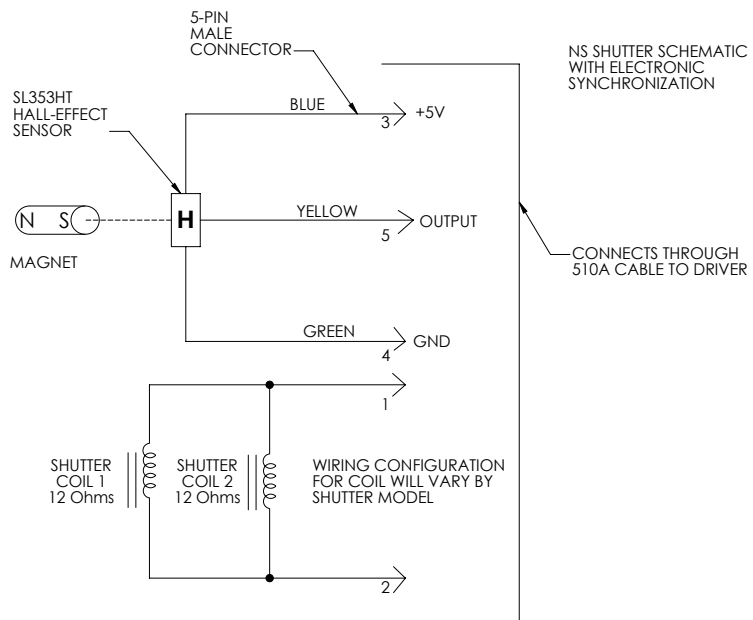
Coil Resistance	Voltage to Open	Hold Voltage
6 Ω ¹	+10.7 VDC ²	N/A

¹ Two 12 Ω coils wired in parallel

² Peak voltage as provided by the **VED24 Driver**

³ (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.

Series	Weight	Operating Temp.	Max. Opening Bounce	Max. Closing Bounce	Max. Freq. of Operation ³	Number of Shutter Blades
NS45B	3.81 oz (0.11 kg)	0 - 80 °C	15%	5%	2.5 Hz / 5 Hz	5



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 this electronic synchronization system. **There is no connection to the designated synchronization pins when an electronic sync. is not selected.**

Technical Drawings - NS45B

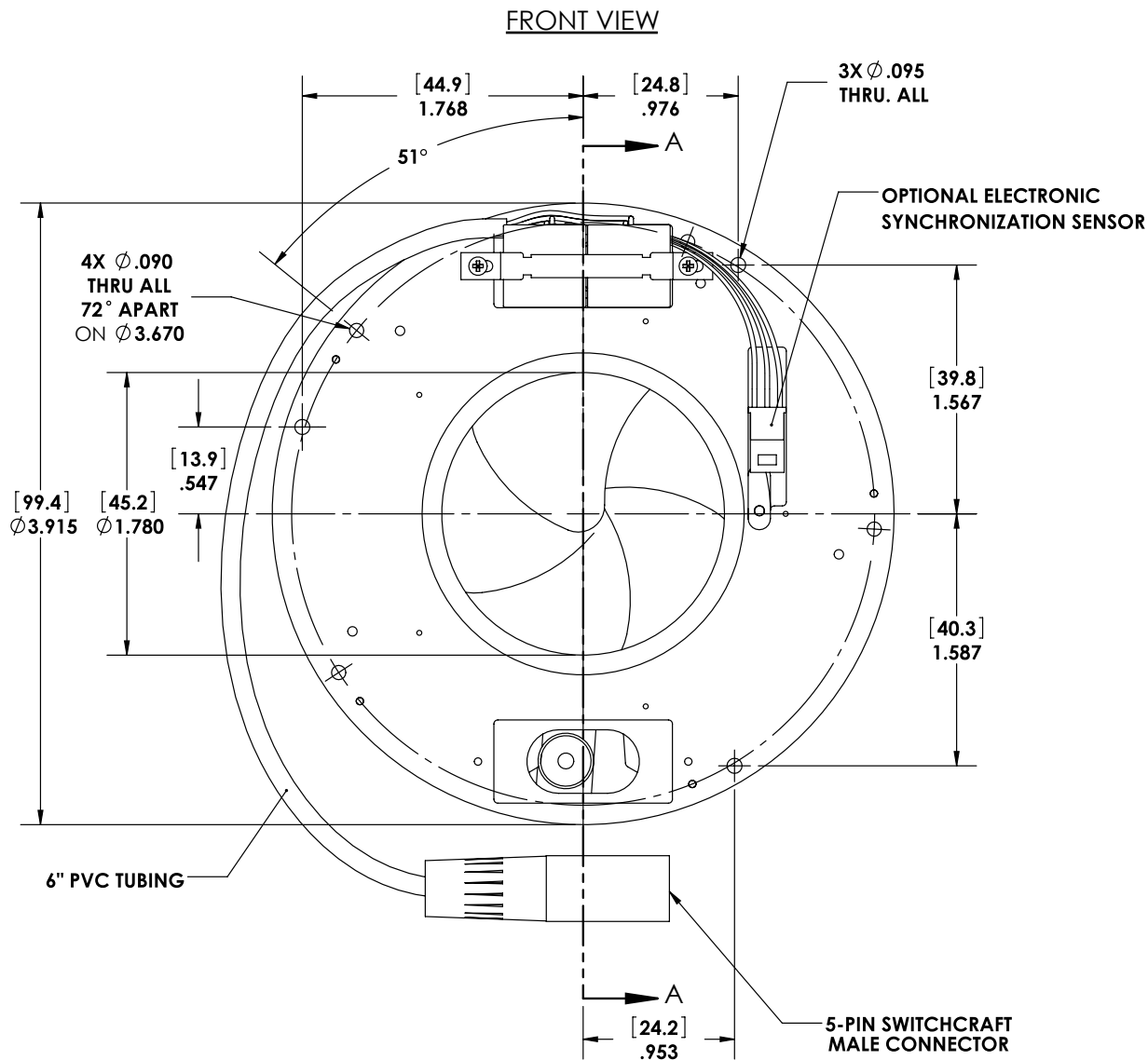


FIG. 1

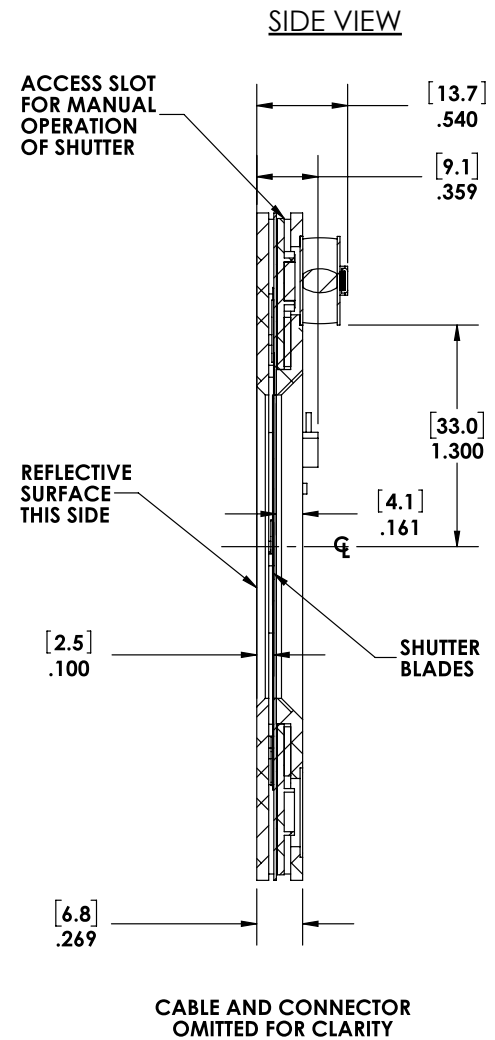


FIG. 2

ALL DIMENSIONS MAX.
[MM]
INCH