

# NS25S 25mm Uni-Stable Shutter Specifications

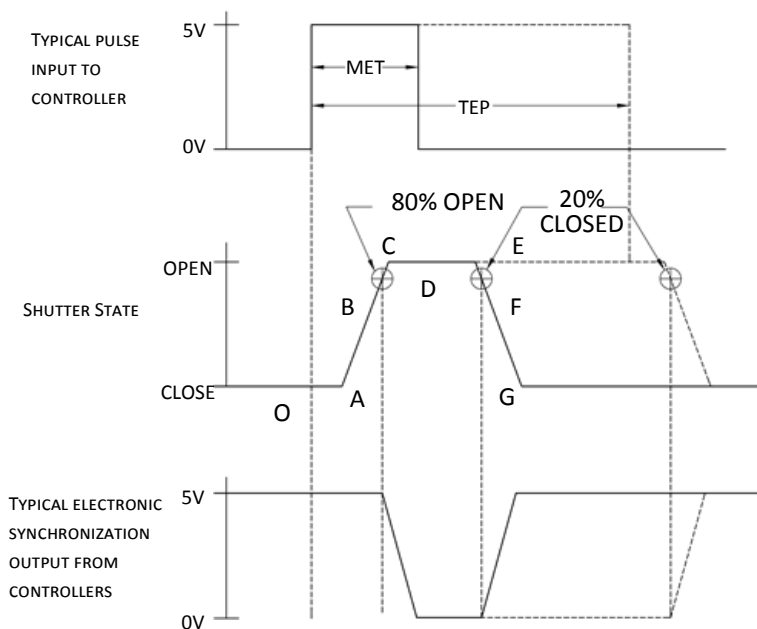
## Features

- The **UNIBLITZ®** NS25S is a 25mm aperture utilizing our patented **N-CAS®** technology.
- Uni-stable design requires power when holding the device in the closed state.
- Simple design provides maximum clearance around the aperture.
- Machined flat surfaces for easy integration into virtually any system.
- Small form factor, 25mm aperture, 2.250 inch overall diameter.
- Reflective blades available.
- Electronic synchronization available.
- Terminated to 6 inch 5-pin male connector harness or 18 inch flying leads.
- The NS25S is available in a normally open configuration.



**Fig. 1** NS25S 25mm Uni-Stable Shutter

## Timing



**Fig. 2**

<sup>1</sup>Typical timing values (msec.) using UNIBLITZ® drive equipment and measured with UNIBLITZ® shutters equipped with standard black Teflon® coated shutter blades.

NS25S		Time (msec.) <sup>1</sup>
<b>O-A:</b>	Delay time on opening after current is applied	3.0
<b>A-C:</b>	Transfer time on opening	5.0
<b>O-C:</b>	Total opening time	8.0
<b>C-E:</b>	Min. dwell time with min. input pulse	6.0
<b>B-F:</b>	Min. equivalent exp. time	11.0
<b>D-E:</b>	Delay on closing after current is applied	3.0
<b>E-G:</b>	Transfer time on closing	5.0
<b>A-G:</b>	Total window time	16.0
<b>MET:</b>	Min. exposure time	13.0
<b>TEP:</b>	Typical exposure pulse	>13.0

## Electrical

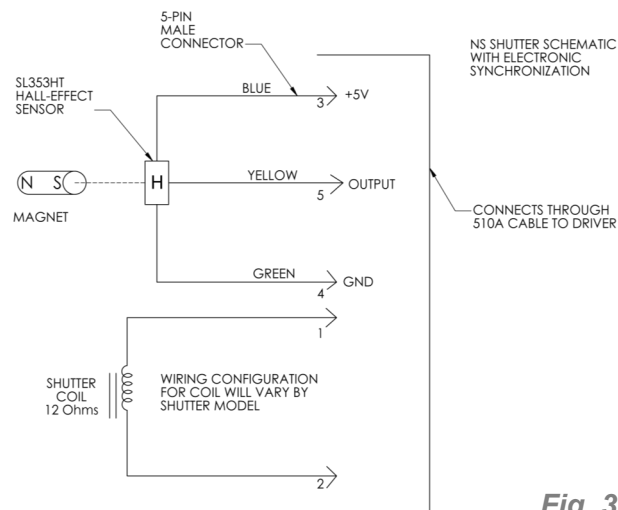
COIL RESISTANCE	PEAK PULSE VOLTAGE TO OPEN	HOLD VOLTAGE (NOMINAL)
12 OHMS <sup>1</sup>	+36 VDC <sup>2</sup>	+5 VDC <sup>3</sup>

<sup>1</sup> One 12 ohm actuator coil.

<sup>2</sup> Peak capacitor voltage as provided by the VDM1000 driver circuit.

<sup>3</sup> Voltage level required across actuator coil when being held in open position.

The Synchronization system for the NS type 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. See **Fig. 3** for the NS shutter schematic which incorporates the Electronic Synchronization system. **There is no connection to the designated synchronization pins when an electronic sync. is not selected.**



**Fig. 3**

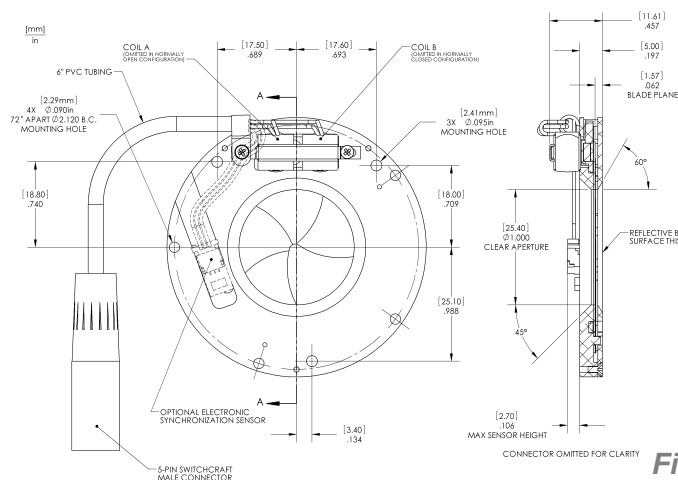
## Mechanical

SERIES	WEIGHT UNCASSED	WEIGHT CASSED	OPERATING TEMP. (DEGREES)	MAX. OPENING BOUNCE	MAX. CLOSING BOUNCE	MAX. FREQUENCY OF OPERATION <sup>2</sup>	NUMBER OF SHUTTER BLADES
NS25S	1.33 oz (0.04 kg)	N/A	0-80°C	15%	5%	5 Hz / 30 Hz	5

<sup>2</sup> (CONT/BURST) 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, 25°C ambient, actuator coil equipped with heat sink. For additional information on maximum sustained frequencies obtainable, please contact one of our technical representatives.

## Un-Housed Style

### Normally Closed Device

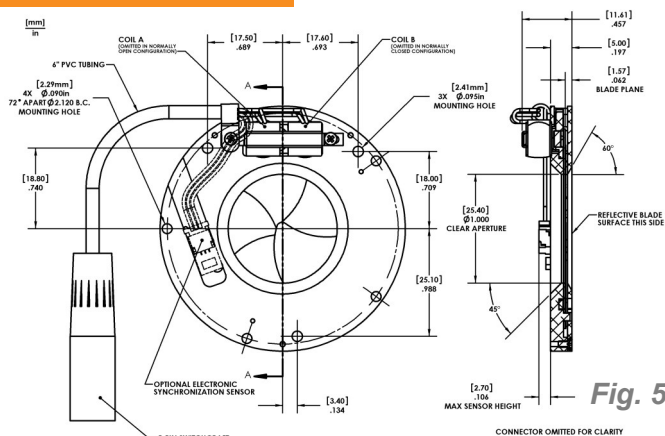


**Fig. 4**

- **Fig. 4** shows the un-housed style of the NS25S.
- Hole locations are identical to the current CS25 as well as an additional set of mounting holes to provide supplementary installation options.
- The body of the shutter measures 2.25" in diameter and only .20" thick. The only protrusion from his envelope is the small actuator and hold down bracket which have a clearance of .63" from the center of the aperture.
- The NS25S can be driven with the VDM1000 shutter controller. NOTE: Timing values listed here pertain to the VDM1000 driver only.

## Un-Housed Style

### Normally Open Device



- **Fig. 5** shows the un-housed style of the NSR25S, the NS25's Bi-Stable configuration.
- Hole locations are identical to the current CS25 as well as an additional set of mounting holes to provide supplementary installation options.
- The body of the shutter measures 2.25" in diameter and only .20" thick. The only protrusion from its envelope is the small actuator and hold down bracket which have a clearance of .63" from the center of the aperture.
- The NSR25S can be driven with the VDM1000 shutter controller. NOTE: Timing values listed here pertain to the VDM1000 driver only.

## Optical Blade Finish

SHUTTER SERIES	ULTRAVIOLET .3-.4µm (microns)		VISIBLE .4-.75µm (microns)		INFRARED .75-.106µm (microns)	
	(Z) AlSiO	(ZM) AlMgF <sub>2</sub>	(Z) AlSiO	(ZM) AlMgF <sub>2</sub>	(Z) AlSiO	(ZM) AlMgF <sub>2</sub>
NS25S	N/A	5 W/mm <sup>2</sup>	10 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>

For reflectance graph, please visit <http://www.uniblitz.com/optical-shutters-comparison-chart.aspx>

Blade Samples are available upon request.

## Product Options

Part Number: **NS25S**       

Example Part Number:  
NS25S1T0L-EC-ED-NL

<b>1</b> Aperture Size/Type: <b>NS25S:</b> 25mm (Uni-stable, Normally Closed) <b>NSR25S:</b> 25mm (Uni-stable, Normally Open)	<b>2</b> Housing: <b>1:</b> Un-housed	<b>3</b> Blade Finish: <sup>3</sup> <b>T:</b> Teflon® Coated S.S. Blades <b>ZM:</b> AlMgF <sub>2</sub> Coated BeCu Blades <sup>1</sup> <b>Z:</b> AlSiO Coated BeCu Blades <sup>1</sup>	<b>4</b> Electronic Sync: <b>0:</b> Omit Sync. <b>1:</b> Electronic Sync. Included
<b>5</b> Connector: <b>L:</b> 18" Flying Leads (Omit 5-Pin Connector) ▪ <b>Leave blank</b> for 5-Pin Switchcraft Connector with 6" harness	<b>6</b> Encapsulated Coil <b>EC:</b> Encapsulated Coil Included <sup>2</sup> (For use with vacuum) ▪ <b>Leave blank</b> if not required	<b>7</b> RoHS Compliant Version: <b>NL:</b> RoHS Compliant <sup>2</sup> ▪ <b>Leave blank</b> if not required	

<sup>1</sup> Input side only, Teflon® coating is on opposite side. Intended to protect the shutter blade surface, light source must be input to the reflective side only.

<sup>2</sup> Please visit our website for more information regarding this option.

<sup>3</sup> Other blade options are available through special order.

For information regarding applicable intellectual property, please visit [www.uniblitz.com/company-info/patents](http://www.uniblitz.com/company-info/patents).

803 Linden Avenue • Rochester, NY 14625 • 585-385-5930 tel • 800-828-6972 toll-free • 585-385-6004 fax • [www.uniblitz.com](http://www.uniblitz.com)

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