

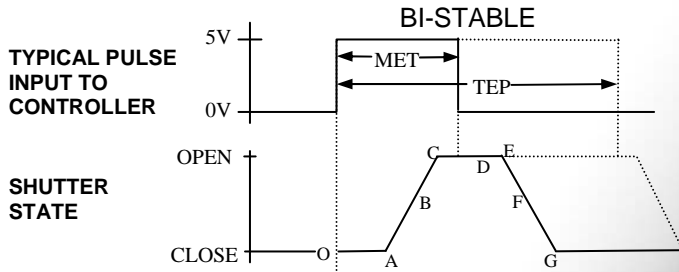
FEATURES

- ② All new **N-CAS®** actuator system radically reduces moving parts.
- ② Bi-stable configuration is standard.
- ② Uni-stable version is available by special order and can be configured normally open or normally closed.
- ② Simple design provides maximum clearance around the aperture.
- ② Largest aperture NS device presently available.
- ② Machined flat surfaces for easy integration into virtually any system.
- ② Small form factor, 45mm aperture, 3.915 inch overall diameter.
- ② Reflective blades available.
- ② Terminated to 6 inch 5-pin male connector harness.

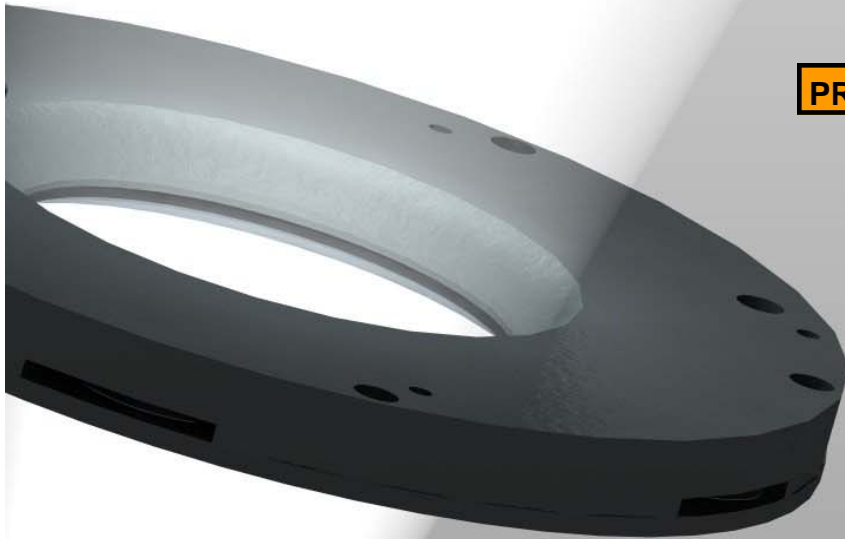
In our ongoing effort to improve the state of shutter technology, Vincent Associates, the manufacturer of **UNIBLITZ®** and now **UNIBLITZ® II** shutters, has again endeavored to provide an even more reliable shutter product for the Photonics industry with the introduction of the 45mm aperture version of the patent pending **N-CAS®** (Non-Contact Actuation System) shutter, the **NS45**. The device's reliability has been enhanced by significantly reducing the number of moving parts. In the 45mm aperture version, the **NS45**, has a total number of six moving parts, five of which are the blades themselves! The activating mechanism is non-contact and has shown to increase its reliability through testing over similar shutter designs. The **N-CAS®** shutter has demonstrated to be the most reliable shutter device of its type available on the market today! The **NS45** is the largest aperture NS device presently available.

TIMING

Typical timing values (msec.) using UNIBLITZ drive equipment and measured with UNIBLITZ shutters equipped with standard TEFLON® coated shutter blades.



O-A Delay time on opening after current is applied	7.0
A-C Transfer time on opening	12.0
O-C Total opening time	19.0
B-F Min. equivalent exp. Time	30.0
C-E Min. dwell time with min. input pulse	18.0
D-E Delay time on closing after current is applied	6.0
E-G Transfer time on closing	12.0
A-G Total window time	42.0
MET: Min. exposure time	31.0
TEP: Typical exposure pulse	>31.0



PRODUCT OPTIONS

APERTURE SIZE	HOUSING	BLADE FINISH	ELECTRONIC SYNC.	CONNECTION
NS45S-45mm	I-UNHOUSED	T-TEFLON COATED	0-OMIT SYNC.	L-18" FLYING LEADS OMIT 5-PIN CONNECTOR
NSR45S-45mm (normally open)	HOUSING AVAIL AT A FUTURE DATE	S-POLISHED STAINLESS STEEL BLADES*	ELECTRONIC SYNC AVAIL AT A FUTURE DATE	OMIT "L" - INSTALL 5-PIN CONNECTOR WITH 6" HARNESS (SEE FIGURE 1)
NS45B-45mm (Bi-stable)		ZM- AlMgF ₂ COATED BeCu BLADES* Z- AISiO COATED BeCu BLADES*		

*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.
*Contact a technical representative for OEM drive requirements.

BI-STABLE VERISON

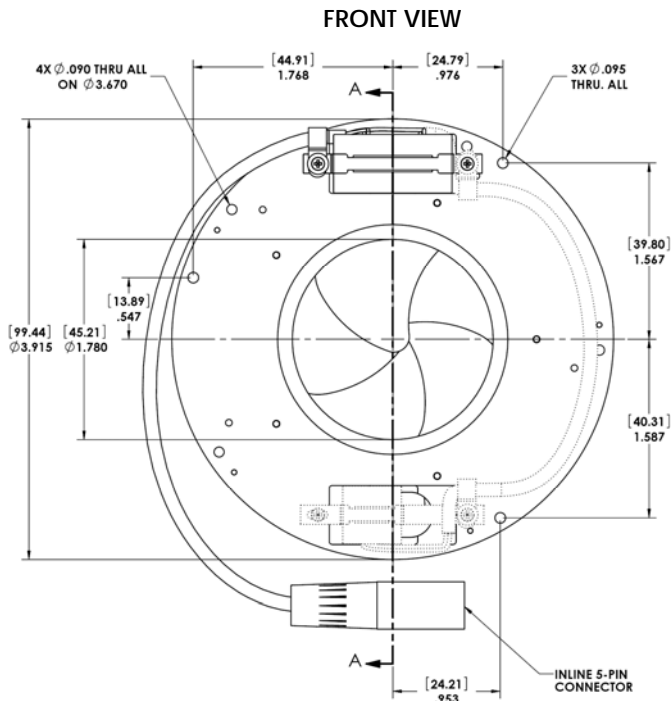


FIG. 1

*The dashed outline depicts the location and wiring of the second coil for the uni-stable version.

SIDE VIEW-(CROSS-SECTION)

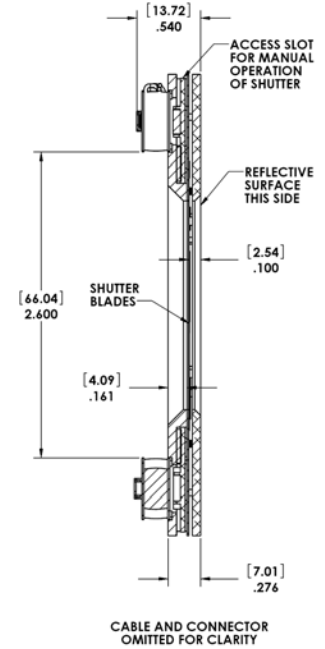


FIG. 2

ALL DIMENSIONS
MAX
[MM]
INCH

ELECTRICAL

Coil Resistance ³ Each Coil	12 Ohms
Pulse Voltage to Open	+36VDC
Hold Voltage ¹ (Uni-stable)	+5VDC

¹Voltage level required across actuator coil when being held in the open position. Hold voltage not required for bi-stable operation.

²CONTInuous 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 with heat sink bracket. For additional information on maximum sustained frequencies obtainable, please contact one of our technical representatives.

³Two 12 ohm coils wired in parallel.

MECHANICAL

Weight Un-Housed (w/ connector)	4.23oz(120.0g)
Operating Temperature	0°C to +80°C
Maximum Opening Bounce	15%
Maximum Closing Bounce	5%
Maximum Freq of Operation(CONT/BURST) ²	2.5Hz/5Hz
Number of Blades	5

*For OEM driver, contact technical support for typical drive circuit applications and wiring diagrams.

The UNIBLITZ® II NS45 is designed with a low-profile and flat surfaces for easy integration into your system. Hole locations are identical to the current CS45 as well as an additional set of mounting holes to provide supplementary installation options. The body of the shutter measures 3.915" in diameter and only .276" thick. The only protrusion from this envelope is the small actuator and hold down bracket, which has a clearance of 1.300" for the bi-stable coil design, from the center of the aperture.

The NS45 will be actuated by the VDM1000, a new driver built specifically to take advantage of the NS45's low power requirements. This new driver will permit the NS45 to operate with virtually identical open and close times.

The NS45 will be available in multiple configurations. The standard shutter will operate as a bi-stable. In this configuration the shutter will not require power to remain in the open or closed position. N-CAS series shutters can be configured to a uni-stable operation. In this configuration the shutter will require power to remain open with a failsafe closure. The NS45S can also easily be configured normally open to provide reverse functionality. There are no dimensional changes associated with this configuration, merely a different driver circuit which is selectable on the VDM1000.

The standard shutter is terminated by a 5-pin male connector with 6 inch cable assembly. The 510A cable is required when controlling the NS45 with the VDM1000. This cable is included with the VDM1000. There is an access slot located above the actuator that will allow for manual operation of the shutter if so desired.

Due to our ongoing product development program, Vincent Associates reserves the right to discontinue or change specifications or designs at any time, without incurring any obligations. Teflon® is a registered trade mark of E.I. DuPont Drawing shown for illustrative purposes only. Patent applied for. Updated 04/09