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VS14 & VS25 SHUTTER SPECIFICATIONS

Vincent Associates 803 Linden Avenue, Rochester, NY 14625
web www.uniblitz.com **e-mail** vincentassociates@uniblitz.com **toll-free** 800.828.6972

UNIBLITZ® BY VINCENT ASSOCIATES

FEATURES

- Two aperture sizes available
  - 14mm diameter - Model VS14
  - 25mm diameter - Model VS25
- Laser energy ratings up to 10W/mm² with "Z" or "ZM" shutter blade coating options
- Exposure repetition rates from DC - 40Hz
- Electronic synchronization available
- Cased and uncased versions available
- Can be equipped with the "R1" high temperature option
- Normally open option available on special order

The *UNIBLITZ*® VS14 and VS25 shutter series have been designed to give accurate, repeatable exposures for a wide variety of applications. They have been successfully field tested in microscopy, video imaging, PMT protection, and photographic applications worldwide.

Available with either 14mm or 25mm apertures, these shutters are offered in either cased or uncased configurations. The uncased shutter allows a high degree of flexibility when mounting the unit in OEM applications. The cased version of this series is very popular due to the protection the black anodized aluminum housing provides the precision shutter mechanism.

When used with laser or high energy non-coherent light sources, alternate reflective blade coatings and finishes are available. For information on typical laser damage thresholds see "OPTICAL" information in our "COMPARISON SPECIFICATION" sheet. For further information see our application note "LASER APPLICATION REFERENCE" sheet in the resource section of our web site, www.uniblitz.com.

To further enhance the adaptability of this series, we offer several customized mounts and mounting systems for popular microscopes and video imaging applications. For those applications where the shutter will be used to switch a mercury arc lamp, we strongly recommend the "R1" modification. This modification will allow the shutter to operate under the intense heat produced by mercury lamps. Additional information can be found in the specific data sheets entitled "MICROSCOPE, VIDEO, and UNIVERSAL MOUNTING SYSTEMS".

[1] Voltage level required across actuator coil when being hold in the open position.
[2] 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.

ELECTRICAL

Coil Resistance	12 ohms
Pulse Voltage to Open	+65VDC
Hold Voltage[1]	+5VDC

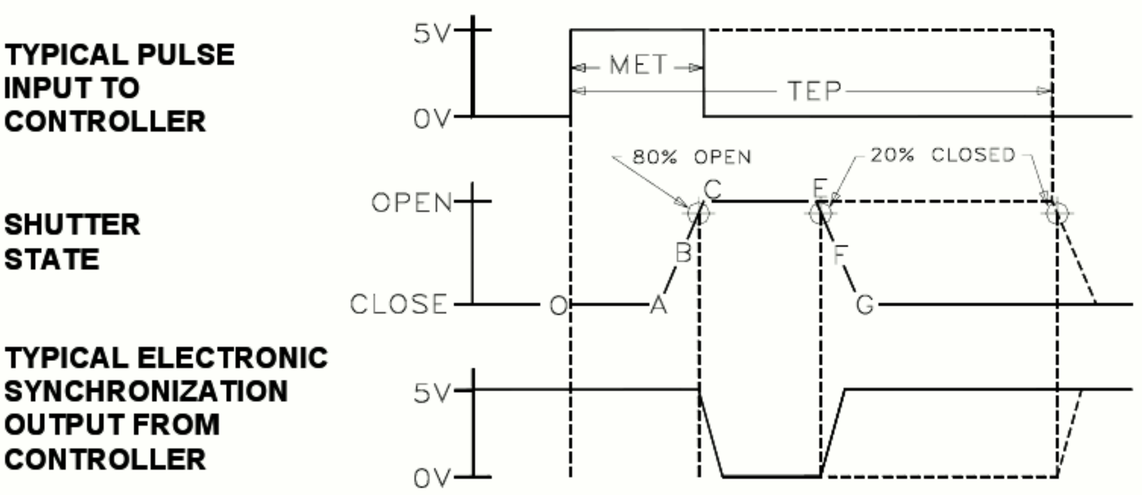
MECHANICAL

Wgt. Un-Cased	2.05 oz (.06 kg)
Wgt. Cased	10.22 oz (.29 kg)
Operating Temp.	0°C to +80°C
Max. Opening Bounce	15%
Max. Closing Bounce	5%
Max. Frequency of Operation (CONT/BURST)[2]	10 Hz / 40 Hz
Number of Blades	2

TIMING

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

TIMING OF PULSE INPUT AND SYNCHRONIZATION OUTPUT RELATIVE TO SHUTTER STATE



(Timing in msec.)	VS14	VS25
O-A Delay time on opening after current is applied	2.0	3.0
A-C Transfer time on opening	1.5	3.0
O-C Total opening time	3.5	6.0
B-F Min. equivalent exp. time	4.5	6.0
C-E Min. dwell time with min. input pulse	2.0	2.0
E-G Transfer time on closing	3.0	5.0
A-G Total window time	6.5	10.0
MET: Min. exposure time	4.0	6.0
TEP: Typical exposure pulse	>6.5	>8.0

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.

PRODUCT OPTIONS

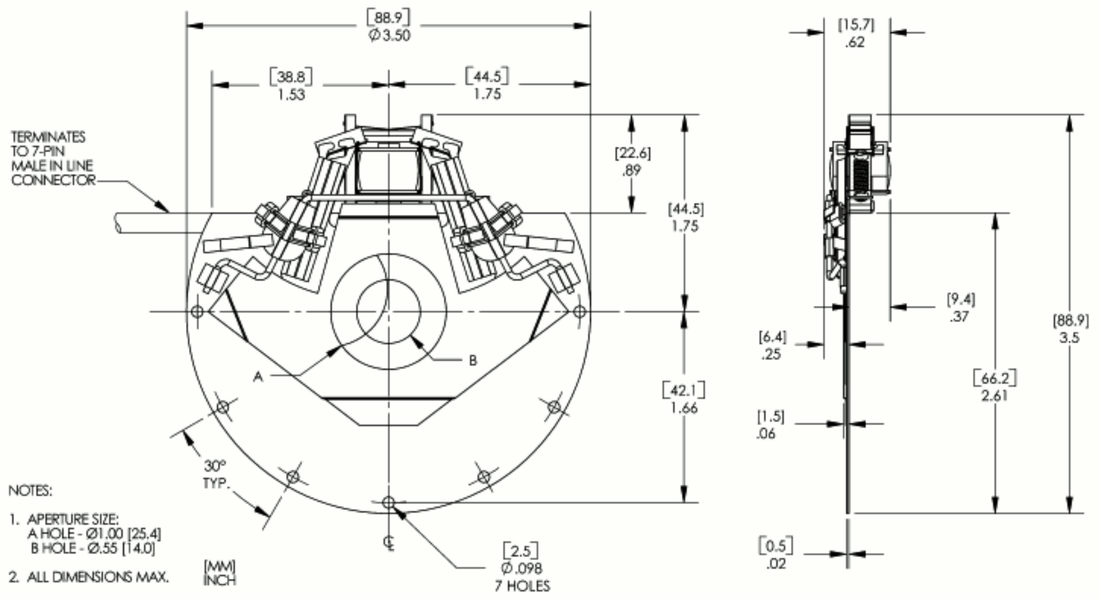
VS25S 2 T 0 R3 -100

Aperture Size	Housing	Blade Finish	Electronic Sync.	High Temp Mod	Mounting Options
VS14S - 14mm VS25S - 25mm	1 - Un-housed 2 - #2 Housing	T - Teflon® Coated S.S. Blades S - Polished Stainless Steel Blades* ZM - AlMgF2 Coated BeCu Blades* Z - AlSiO Coated BeCu Blades*	0 - Omit Sync. 1 - Electronic Sync. Included	R3 - High Temp Modification (Omit R3 Designation if Not Required)	-21 Zeiss Axiovert Type -22 Nikon SBX type -23 Olympus BH/IMT type -24 Olympus BX/IX type -26 Leica Type -27 Nikon Type -28 Olympus IX Transmitted Type -29 Nikon TE Type -30 Leica DM/DMIR /DMIRB Type -31 Nikon Confocal Type -32 Nikon 80i Type -100 Mounting Ring -105 C-Mount Adapter (Male) -106 C-Mount Adapter (Female) -110 T-Mount Adapter -17 VS14/25 F-C Video Adapter

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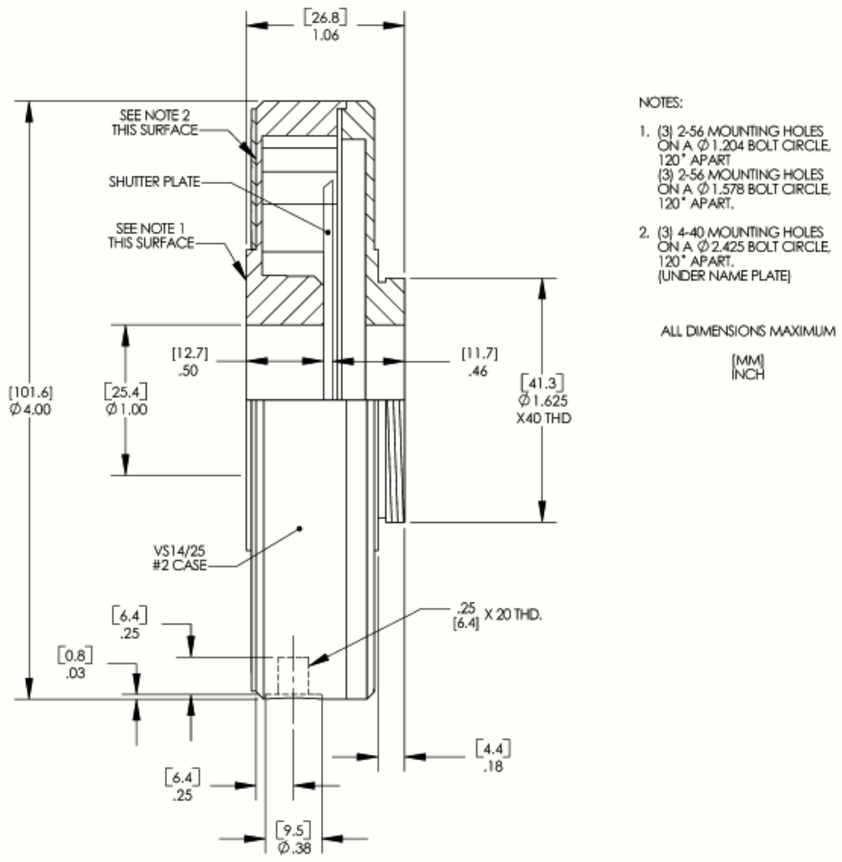
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UN-HOUSED STYLE



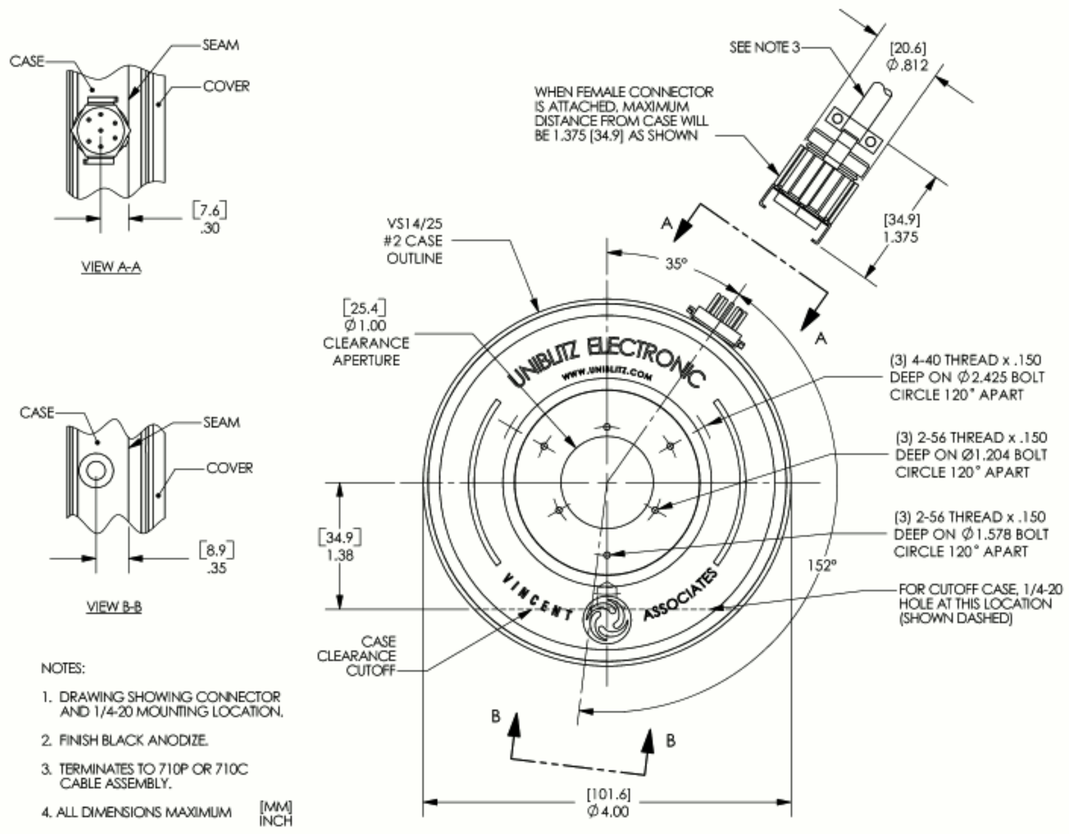
The VS14/25 uncased style is the basic configuration of this series and is best suited for OEM applications. Mounting can be accomplished through seven 2.5mm holes around the unit's outer perimeter. The unit terminates to a 7-pin male in-line connector through a six-inch cable assembly.

HOUSED STYLE



The VS14/25 #2 case style allows a number of mounting configruations. A ¼-20 threaded hole is provided for post mounting. The 1.625in x 40TPI external thread, rear side, and the three 2-56 threaded holes, front side, (Figure 3) can be interfaced directly into your applications or fitted with variety of specific mounting options. See "MICROSCOPE, VIDEO and UNIVERSAL MOUNTING SYSTEMS" data sheets for additional information. The unit terminates with a 7-pin male connector.

HOUSING/CONNECTOR LAYOUT



This drawing illustrates 7-pin connector and ¼-20 threaded hole layour for the VS14/25 series #2 case style.

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