

BDS25 (BI-STABLE) SHUTTER SPECIFICATIONS

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FEATURES

- Bi-stable, patent pending design, **NO POWER REQUIRED WHEN IN THE OPEN OR CLOSED STATE**
- Small form factor, a 25 mm aperture, 2.250 inch overall diameter.
- Five-bladed design in combination with a dual **UNIBLITZ[®]** actuators, and a state of the art patented damping system provide increased reliability over other designs of this type.
- Reflective blades available.
- Can be driven with our existing VMM/VCM drive units, using special designed interface cable.
- Available housed or un-housed for OEM applications.
- Electronic Synchronization System optional.
- Design, accuracy, and reliability that you have come to know as with all other **UNIBLITZ** products!
- Interface cable, the 610A-MD1 included.

The **BDS25** 25mm bi-stable shutter is another new patent pending innovation in the **UNIBLITZ[®]** line of high reliability electro-programmable shutter systems! **This bi-stable device does not require power when held in either the open or close position.** Power is only required to switch states and to operate the device's electronic synchronization option. The small form factor allows a 25 mm aperture to be installed into applications not presently accessible with existing **UNIBLITZVS** series shutters. Its footprint is similar to the CS25, 25mm shutter, 2.25-inch diameter. Presently the device is offered in both an un-housed and housed version.

The **UNIBLITZBDS25** incorporates dual miniaturized actuators. One actuator is used to open the device while the other is used to close it. The **BDS25** can be driven with existing VMM/VCM drive systems, however, requires a special interface cable, the **610A-MD1** (which includes a microprocessor controlled aux driver) for ease of operation, this cable is included with the **BDS25**. As an option, the shutter may also be equipped with an electronic synchronization system, to increase the unit's flexibility. The new shutter's multi-bladed design, combined with its dual miniaturized **UNIBLITZ** actuator, and patented damping system provides operation and control in applications where power availability is a concern or heat generated by holding shutters in one of two states cannot be tolerated.

Presently the device's interface cable, the **610A-MD1** can be operated with any of our standard VMM/VCM bench top drivers. When using a driver of your own design, please contact our technical support personnel for additional information. (Presently the **BDS25's** interface cable does not support operation with any of our OEM drivers.)

When gating high intensity light sources, the **BDS25** can be equipped with reflective blades. This option protects the shutter blades from the light source's damaging effects by reflecting the energy away from the blade surface. Three standard reflective blade options are also available, "S" (reflective stainless steel), "Z" (AlSiO) and "ZM" (AlMgF2).

ELECTRICAL

	OPEN Actuator	CLOSE Actuator
Coil Resistance	12 ohms	12 ohms
Pulse Voltage to Open	+65VDC	+65VDC
Hold Voltage (not required)	N/A	N/A

MECHANICAL

Operating Temp.	0 °C to +80 °C
Max. Opening Bounce	15%
Max. Closing Bounce	5%
Number of Blades	5

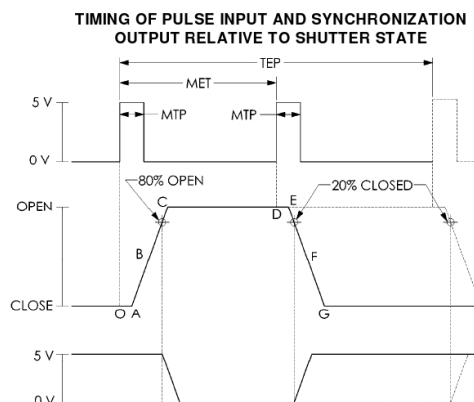
TIMING

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

TYPICAL PULSE INPUT TO CONTROLLER

SHUTTER STATE

TYPICAL ELECTRONIC SYNCHRONIZATION OUTPUT FROM CONTROLLER



(Timing in msec.)

O-A Delay time on opening after current is applied	6.0
A-C Transfer time on opening	13.0
O-C Total opening time	19.0
B-F Min. equivalent exp. time	26.5
C-D Min. dwell time with min. input pulse	6.0
D-E Delay time on closing after current is applied	6.0
E-G Transfer time on closing	16.0
A-G Total window time	41.0

MET: Min. exposure time	25.0
TEP: Typical exposure pulse	>25.0
MTP: Min. trigger pulse	1.0

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

BDS25S 3 T 0 -90				
APERTURE SIZE	HOUSING	BLADE FINISH	ELECTRONIC SYNCHRONIZATION	MOUNTING OPTIONS
BDS25S - 25mm	1 - UNCASED 3- #3 CASE	T - TEFLON COATED S - POLISHED STAINLESS STEEL BLADES* ZM - AlMgF2 COATED BeCu BLADES* Z - AISIO COATED BeCu BLADES*	0 - OMIT SYNC. 1 - INCLUDED SYNC.	17 F-C VIDEO ADAPTER 21 ZEISS AXIOVERT TYPE 22 OLD STYLE NIKON TYPE 23 OLYMPUS TYPE 24 OLYMPUS TYPE 26 LEICA TYPE 27 NIKON TYPE 28 OLYMPUS IX TYPE 29 NIKON TYPE 30 LEICA TRANSMITTED TYPE 31 NIKON/CONFOCAL TYPE 32 NIKON 801 TYPE 90 MOUNTING RING 105 C-MOUNT ADAPTER (MALE) 106 C-MOUNT ADAPTER (FEMALE) 110 T-MOUNT ADAPTER

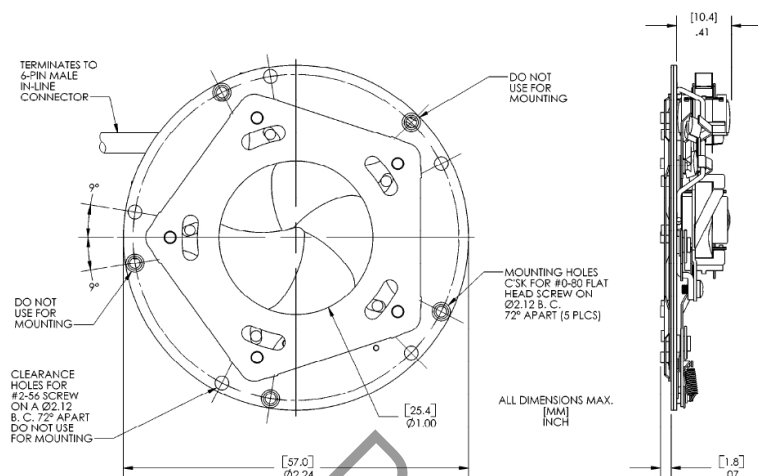
* Input side only. Teflon[®] coating is on opposite side. Intended to protect the shutter blade surface. Light source must be input to the reflective side only.

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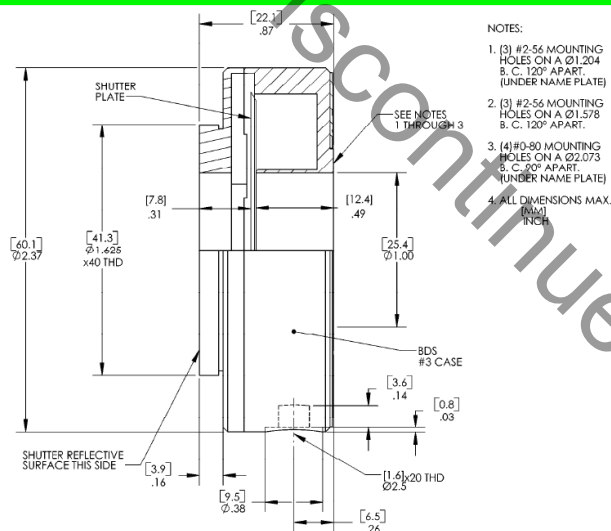
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UN-HOUSED STYLE



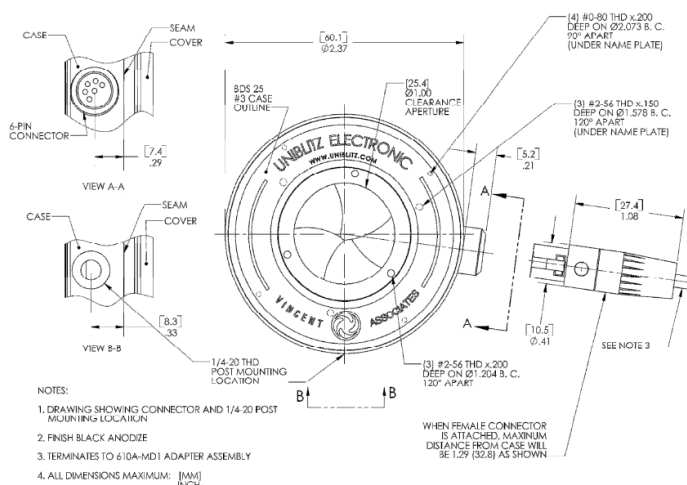
The BDS25 un-housed style is the basic configuration of this device and is best suited for OEM applications. Mounting can be accomplished through three 0-80 (flat head screws required) clearance holes located around the unit's perimeter on a 2.120 inch diameter bolt circle. At the angular location indicated. Unless otherwise specified, this standard unit is terminated to a 6-pin male connector through a 6-wire six-inch cable assembly. (The five 2-56 holes and two 0-80 hole are not recommended for mounting due to the potential for interference with the shutter's five blades or actuator mechanism.)

HOUSED STYLE



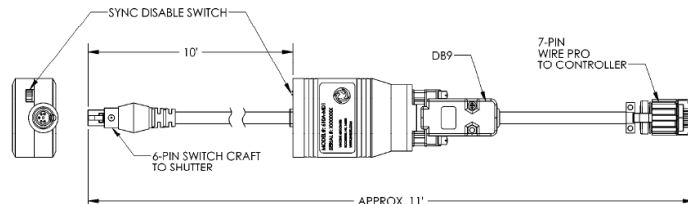
The BDS25 #3 housing style allows a number of mounting configurations. A 1/4-20 threaded hole is provided for post mounting. The 1.625inch x 40TPI external thread located on the rear side, and the specific mounting holes located on the front side (see Figure #2 and Figure #3) can be interfaced directly into your application or fitted with a variety of user specific mounting options. For the BDS25, the #90 Mounting Ring is a mounting option available that simplifies mounting the housed style onto a flat surface. The #90 mounting ring can attach to this cover in the same manner as the standard cover. Additional information regarding the #90 mounting ring can be found in the specific data sheet entitled "UNIVERSAL MOUNTING SYSTEMS" or online under "products", "Mounting Systems". The unit terminates with a 5-pin male connector as illustrated.

HOUSING/CONNECTOR LAYOUT



This drawing illustrates 6-pin connector and 1/4-20 threaded hole layout for the BDS25 series #3 housed style.

INTERFACE CABLE: 610A-MD1



Required for proper operation and interface to VMM/VCM drivers. This 11' adapter cable is included with this device. This special adapter contains a micro-processor that controls the operation of the unit's dual actuators, when triggered from VMM/VCM type drivers. When using a driver of your own design please contact our technical support personnel for additional information. (Presently this interface cable does not support operation with any of our OEM drivers).

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 U. S. Pat. No. 3,427,576; 3,595,553; 3,967,293; 6,652,165. Drawing shown for illustrative purposes only. Updated 02/15/2008.