

# CS45 SHUTTER SPECIFICATIONS



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## FEATURES

- Small form factor, a 45 mm aperture fits into a 4-inch diameter housing!
- Multi-bladed design in combination with the UNIBLITZ actuator provide increased speed over other designs of this type.
- State of the art damping system for increased reliability and speed.
- Opening time exceeds that of the VS45!
- Reflective blades available as with Vincent LS and VS series.
- Can be driven with our existing VMM drive units. Special driver not required.
- Available housed or un-housed for OEM applications.
- Mounting adapters available for "F" mounts (i.e. the #17 mount) and when configured with a #17 mount the CS45 is adaptable to the Camelia camera utilizing the new #125 camera adapter.
- Electronic Synchronization System option available.
- Exposure repetition rates from DC to 5 Hz.
- Design, accuracy, and reliability that you have come to know as with all other UNIBLITZ products!

The CS45 is the first release in the new UNIBLITZ® CS series. With its improved size to aperture ratio, the CS series is designed to "fit" into applications not presently accessible with existing UNIBLITZ VS series shutters. As with the VS series, the CS series has been designed to provide accurate, repeatable exposures for a wide variety of applications. The small form factor allows a 45mm aperture to be installed into a four-inch diameter housing! The same size footprint as the VS25, our 25 mm shutter! To increase the unit's flexibility, the shutter can be supplied in an un-housed version for OEM applications or in situations inaccessible to most shutters due to spatial limitations.

The CS45, along with its state of the art damping system, provides increased reliability over other designs of its type. In addition, the system provides the reliable actuator system found in all other UNIBLITZ shutter designs allowing it to be driven with our existing VMM drive units. As an option, the shutter can be equipped with the electronic synchronization system.

When gating high intensity light sources, the CS45 can be equipped with polished stainless steel reflective blades. This option protects the shutter blades from the light source's damaging effects by reflecting the energy away from the blade surface. Look for future availability of "Z" (AlSiO) and "ZM" (AlMgF<sub>2</sub>) coated blades in this device.

To further enhance the flexibility of the CS series, we offer an optional #17 mount for adapting the shutter into video applications. In addition, we offer a #125 Camelia adapter to adapt the CS45 shutter (configured with the #17 mount) specifically to this camera type. (Please review the new "LVDS" adapter data sheet, this new product is also available for use in these applications.) For non-specific mounting installations, the #101 mounting ring can be used for universal mounting into many applications. Additional information regarding the #101 ring can be found in the specific data sheet entitled "MICROSCOPE & VIDEO MOUNTING SYSTEMS".

## ELECTRICAL

Coil Res.:	12 ohms
Pulse Voltage to Open:	+70VDC
Hold Volt.	+7VDC

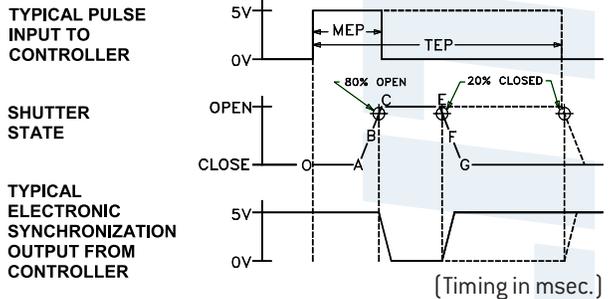
## MECHANICAL

Wgt. Un-Housed Shutter	3.17 oz [.09 Kg]
Operating Temp.	0°C to +80°C
Max. Frequency of Operat.	5Hz
Number Blades	5

## 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



O-A Delay time on opening after current is applied	6.0
A-C Transfer time on opening	14.0
O-C Total opening time	20.0
B-F Min. equivalent exp. time	31.0
C-E Min. dwell time with min. input pulse	12.0
E-G Transfer time on closing	24.0
A-G Total window time	50.0
MET: Min. exposure time	25.0
TEP: Typical exposure pulse	>25.0

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.

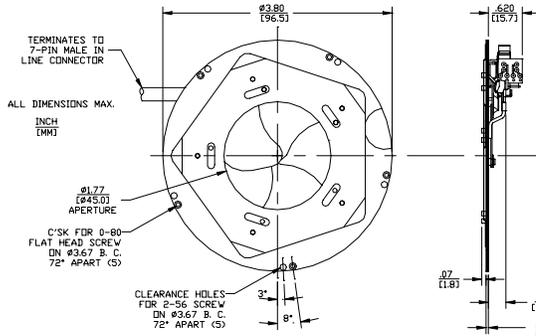
## HOW TO ORDER

CS45S 3 T 0 -101

Aperture Size	Housing	Blade Finish	Solid State Synchronization	Mounting Options
CS45S - 45mm	1 - Uncased	T- Teflon Coated	0 - Omit Sync.	-17 F Type Video Adapter -101 Mounting Ring -125 Camelia Adapter
	3 - #3 Case	S- Polished Stainless Steel Blades	1 - Solid State Sync.	
		ZM- AlMgF <sub>2</sub> Coated BeCu Blades		
		Z- AlSiO Coated BeCu Blades		

## UN-HOUSED STYLE

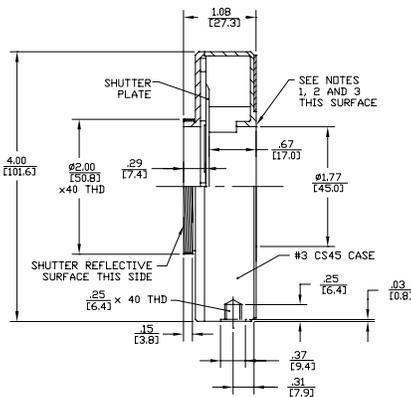
Figure 1



The CS45 un-housed style is the basic configuration of this series and is best suited for OEM applications. Mounting can be accomplished through five 0-80 (flat head) clearance holes located around the unit's perimeter on a 3.67 inch diameter bolt circle. These holes, as indicated, are 72 degrees apart. Unless otherwise specified, the standard unit is terminated to a 7-pin male connector through a 7-wire six-inch cable assembly. (The 2-56 holes are not recommended for mounting due to the potential for interference with the shutter's blades.)

## HOUSED STYLE

Figure 2

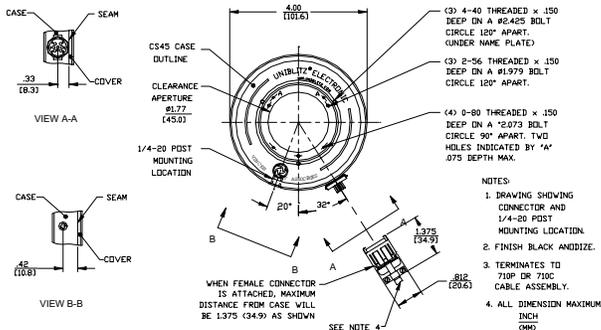


- NOTES:
- (4) 0-80 MOUNTING HOLES ON A Ø2.073 BOLT CIRCLE 90° APART
  - (3) 2-56 MOUNTING HOLES ON A Ø1.979 BOLT CIRCLE 120° APART
  - (3) 4-40 MOUNTING HOLES ON A Ø2.425 BOLT CIRCLE 120° APART
  - ALL DIMENSIONS MAX. INCH (MM)

The CS45 #3 housing style allows a number of mounting configurations. A 1/4-20 threaded hole is provided for post mounting. The 2.00inch 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 specific mounting options. For the CS45, the #17 and the #101 are the only options available at this time. The #125 adapter can be fitted to the CS45 when configured with the #17 mounting option. See "MICROSCOPE & VIDEO MOUNTING SYSTEMS" data sheet for additional information. The unit terminates with a 7-pin male connector.

## HOUSING/CONNECTOR LAYOUT

Figure 3



This drawing illustrates 7-pin connector and 1/4-20 threaded hole layout for the CS45 series #3 housed style.