

UHS1 SERIES SHUTTER SPECIFICATIONS



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FEATURES

- 1mm diameter aperture
- Fastest shutter in the **UNIBLITZ**[®] line of electro-programmable shutters.
- 350μsec total exposure time in the (HIGH) speed mode.
- 180μsec rise time.
- Activated by an electronic pulse through shutter driver module, the DM412, included.
- Exposure repetition rate continuously variable from DC-400Hz.
- Solid state synchronization system included.
- Non-resonant design allows instantaneous changes in repetition rate and duty cycle in the normal (NORM) mode.
- No optical surface when open provides 100% transmittance

The UHS1 supersedes the LS2 as the fastest shutter in Vincent's **UNIBLITZ**[®] line. As with the LS series, the UHS1 is specially suited for laser use, with applications including low level chopping, high speed switching, pulse gating and selection, and modulation to 400 Hz. In the high speed mode (HIGH) the UHS1 produces a total exposure pulse of 350μsec! This speed is unprecedented in Vincent type instrumentation shutters.

In the normal speed mode (NORM) the shutter is programmable, and activated by an electronic pulse generated by Vincent's drive module, the DM412. This module is included with the UHS1, and will interface with the VMM-D1 and VMM-T1 controllers. The DM412 converts the specialized shutter drive outputs into the voltage pulses necessary for proper operation of the UHS1.

DM412 Drive Module:

Operation of the DM412 is simple and straightforward. All activate functions are supplied through the VMM-D1 or VMM-T1 shutter drivers. The only controls integral to the DM412 are the NORM/HIGH switch which allows "on the fly" selections between the normal (NORM) and high (HIGH) speed modes. The CONTROL BNC allows TTL (active low) or remote switch (710R) to electronically select the normal and high speed modes, providing greater flexibility.

ELECTRICAL

Coil Res.:	12 ohms*
Pulse Voltage to Open	+65VDC*
Hold Volt.:	+5VDC*

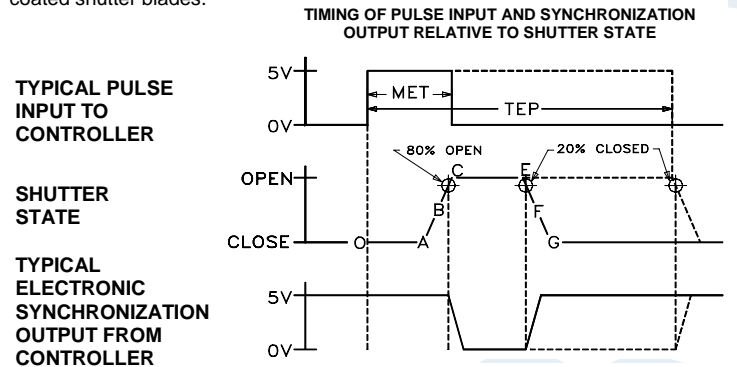
*each actuator

MECHANICAL

Wgt. Cased Shutter	4.3 oz (.121 Kg)
Operating Temperature	0°C to +80°C
Absolute Max. Frequency of Operation	400Hz
Max. Opening Bounce	15%
Max. Closing Bounce	5%
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 in msec.)	
	HIGH	NORM
O-A Delay time on opening after current is applied	0.54	0.54
A-C Transfer time on opening	0.18	0.18
O-C Total opening time	0.72	0.72
B-F Min. equivalent exp. time	0.20	0.77
C-E Min. dwell time with min. input pulse	0.05	0.54
E-G Transfer time on closing	0.12	0.28
A-G Total window time	0.35	1.00

MET: Min. exposure time	0.80	0.80
TEP: Typical exposure pulse	N/A	>1.00

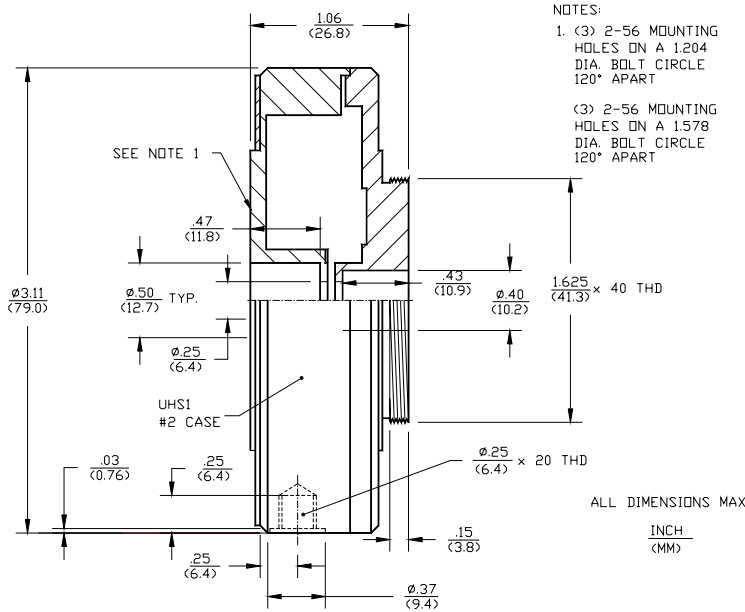
The question regarding enhancement of shutter speed with the application of user supplied lubricants has been repeatedly asked. It is our experience that lubricating the shutter blades will actually slow the shutter down and eventually render the shutter inoperable. UNDER NO CIRCUMSTANCES SHOULD ANY TYPE OF LUBRICANT BE APPLIED TO THE SHUTTER BLADE AREA.

HOW TO ORDER

UHS1 2 T -100			
APERTURE SIZE	HOUSING	BLADE FINISH	MOUNTING OPTIONS
UHS1 - 1mm	2- #2 CASE	T- TEFLON COATED S. S. BLADES ZM - AlMgF2 COATED BeCu BLADES	- 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 - 100 MOUNTING RING - 105 C-MOUNT ADAPTER (MALE) - 106 C-MOUNT ADAPTER (FEMALE)

HOUSED STYLE

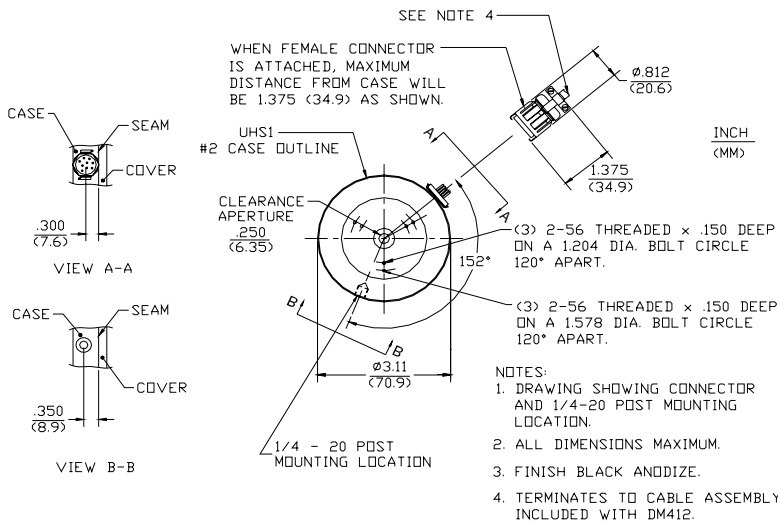
Figure 1



The **UHS1 #2** housing style allows a number of mounting configurations. A 1/4-20 threaded hole is provided for post mounting. The 1.625 inch x 40TPI external thread located on the rear side, and the six 2-56 threaded 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. See "MICROSCOPE & VIDEO MOUNTING SYSTEMS" data sheet for additional information. The unit terminates with a 9-pin male connector.

HOUSING/CONNECTOR

Figure 2



This drawing illustrates 9-pin connector and 1/4-20 threaded hole layout for the **UHS1 series #2** housed style.