

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

FEATURES

- 35mm diameter aperture
- Laser energy ratings up to 10W/mm² with "Z" and "ZM" blade coating options
- Exposure repetition rates from DC - 20Hz
- 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[®] VS35 shutter series electro-programmable shutter is one of the largest aperture shutters currently offered in the UNIBLITZ VS line. Like its smaller counterpart, VS25 series, the VS35 series shutters are offered in both an uncased version and a black anodized aluminum housing. The uncased version allows a great deal of flexibility for mounting the shutter in OEM applications. The cased version is very popular due to its rugged design and the protection it offers the shutter mechanism in systems where the shutter is mounted in an exposed environment. The VS35 series has proven to be well suited to video applications where a larger aperture is required. Further enhancement of the VS35 cased version can be achieved utilizing one of the custom mounting systems available.

When the shutter is used in applications switching laser or high energy non-coherent light sources. Alternate reflective blade coating 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.

For those applications where the shutter will be used to switch a mercury arc lamp, we strongly recommend the "R1" enhancement. This modification will allow the shutter to operate under the intense heat produced by mercury lamps. For additional information, please review the information found in the "MICROSCOPE, VIDEO, and UNIVERSAL MOUNTING SYSTEMS" data sheets.

ELECTRICAL

Coil Resistance	12 ohms
Pulse Voltage to Open	+70VDC
Hold Voltage ¹	+7VDC/+5VDC ²

MECHANICAL

Wgt. Un-Cased	2.33 oz (.07 kg)
Wgt. Cased	14.35 oz (.41 kg)
Operating Temp.	0°C to +80°C
Max. Opening Bounce	15%
Max. Closing Bounce	5%
Max. Frequency of Operation (CONT/BURST) ³	5 Hz / 20 Hz
Number of Blades	2

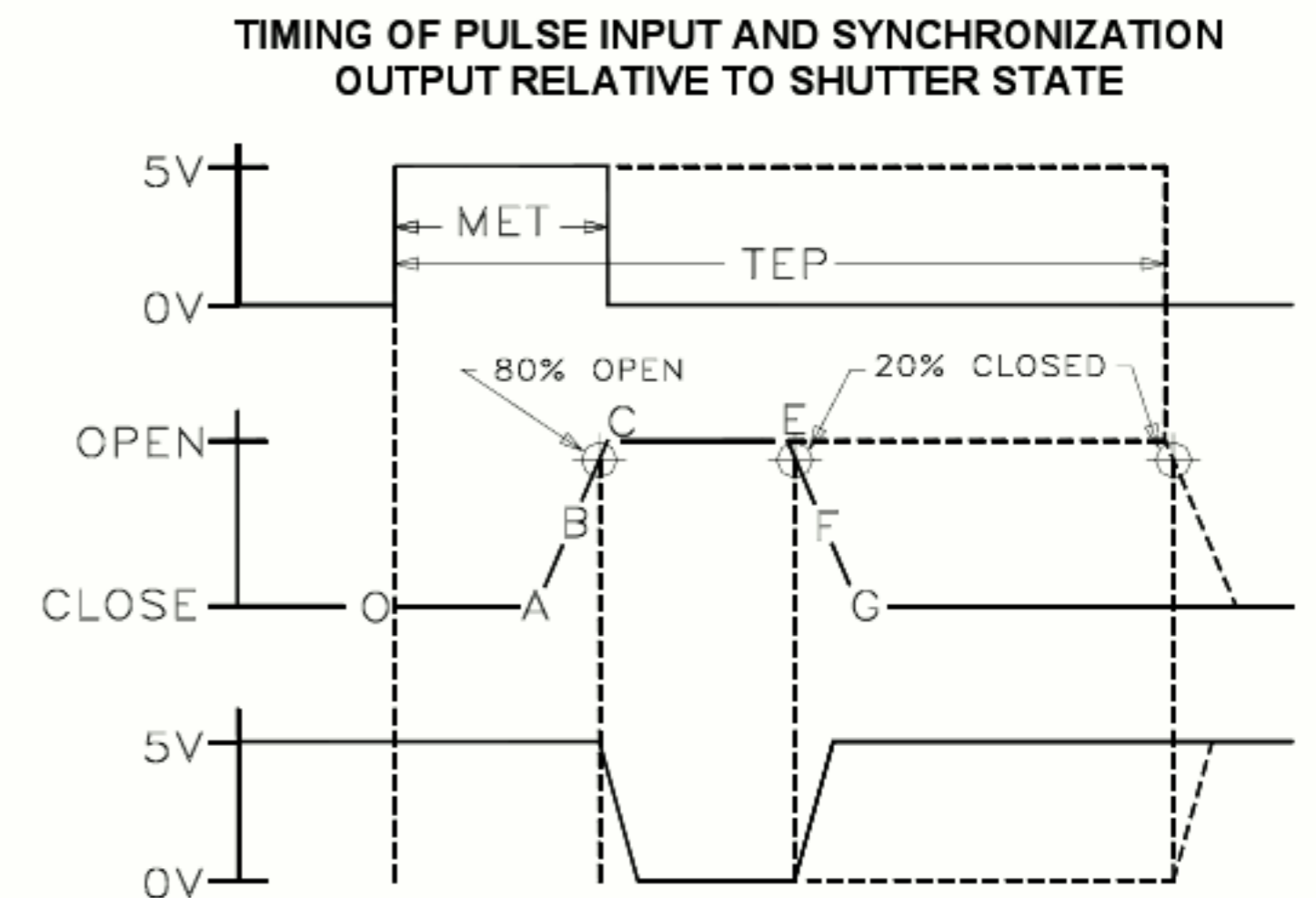
TIMING

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

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	5.0
A-C Transfer time on opening	13.0
O-C Total opening time	18.0
B-F Min. equivalent exp. time	20.0
C-E Min. dwell time with min. input pulse	5.0
E-G Transfer time on closing	12.0
A-G Total window time	30.0

MET: Min. exposure time	20.0
TEP: Typical exposure pulse	>23.0

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

VS35S 2 T 0 R3 -100

Aperture Size	Housing	Blade Finish	Electronic Sync.	High Temp Mod	Mounting Options
VS35S - 35mm	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 -126 F-Mount Adapter (Male) -17 VS35 Video Adapter

¹Voltage level required across actuator coil when being held in the open position.

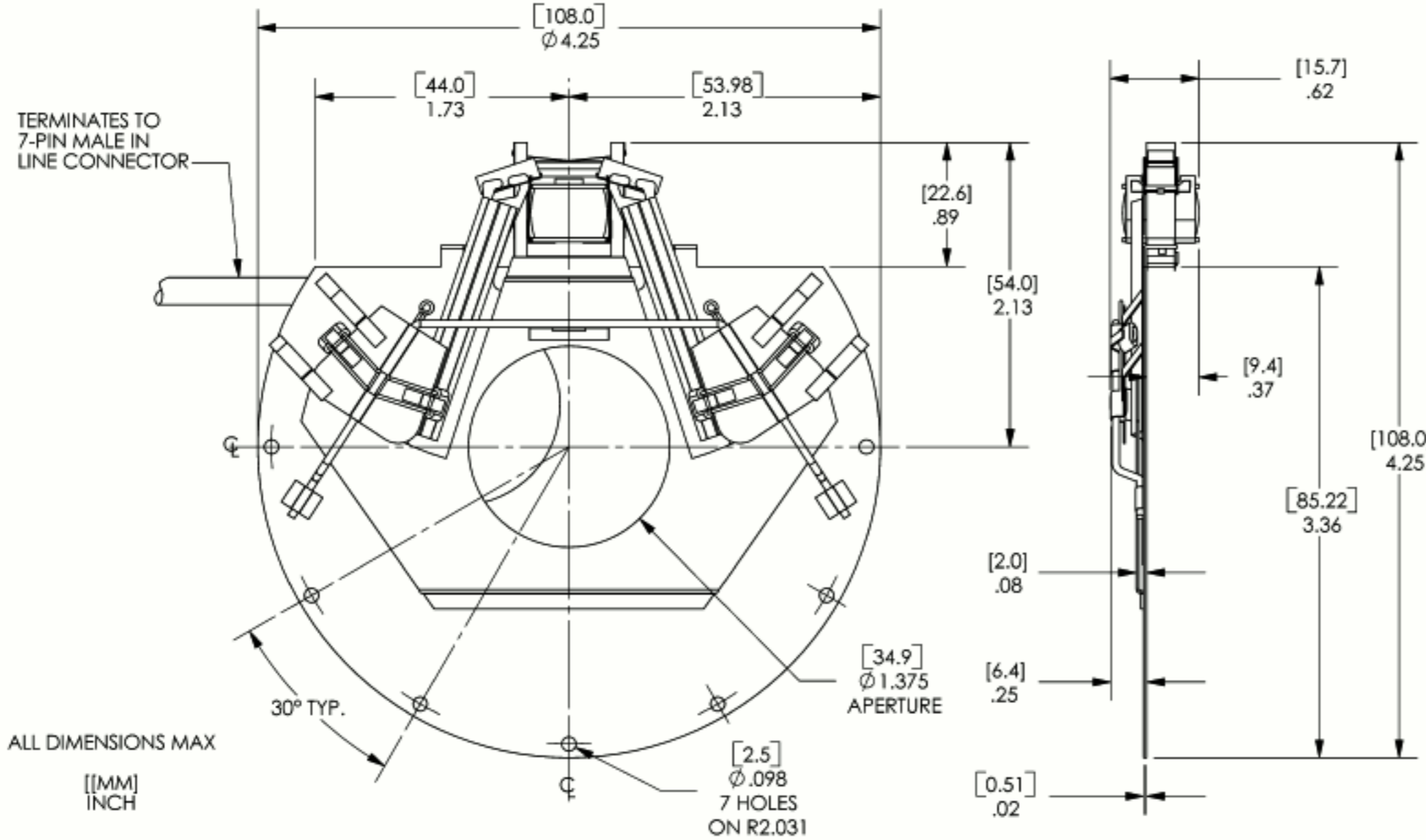
²Dual hold voltage level driver system included in UNIBLITZ[®] VMM/VCM shutter controller.

³CONTinuous 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.

*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.

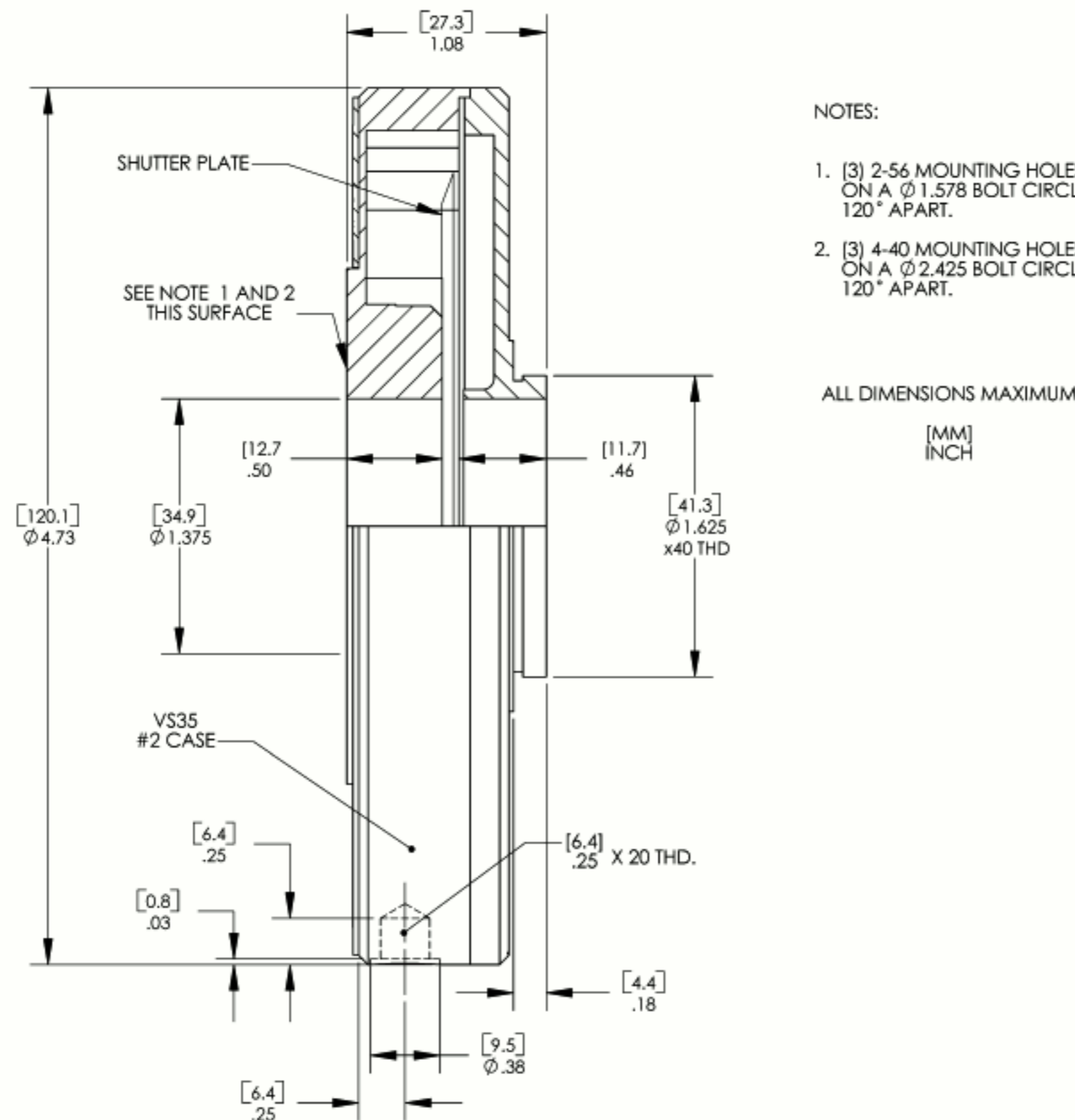
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UN-HOUSED STYLE



The VS35 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

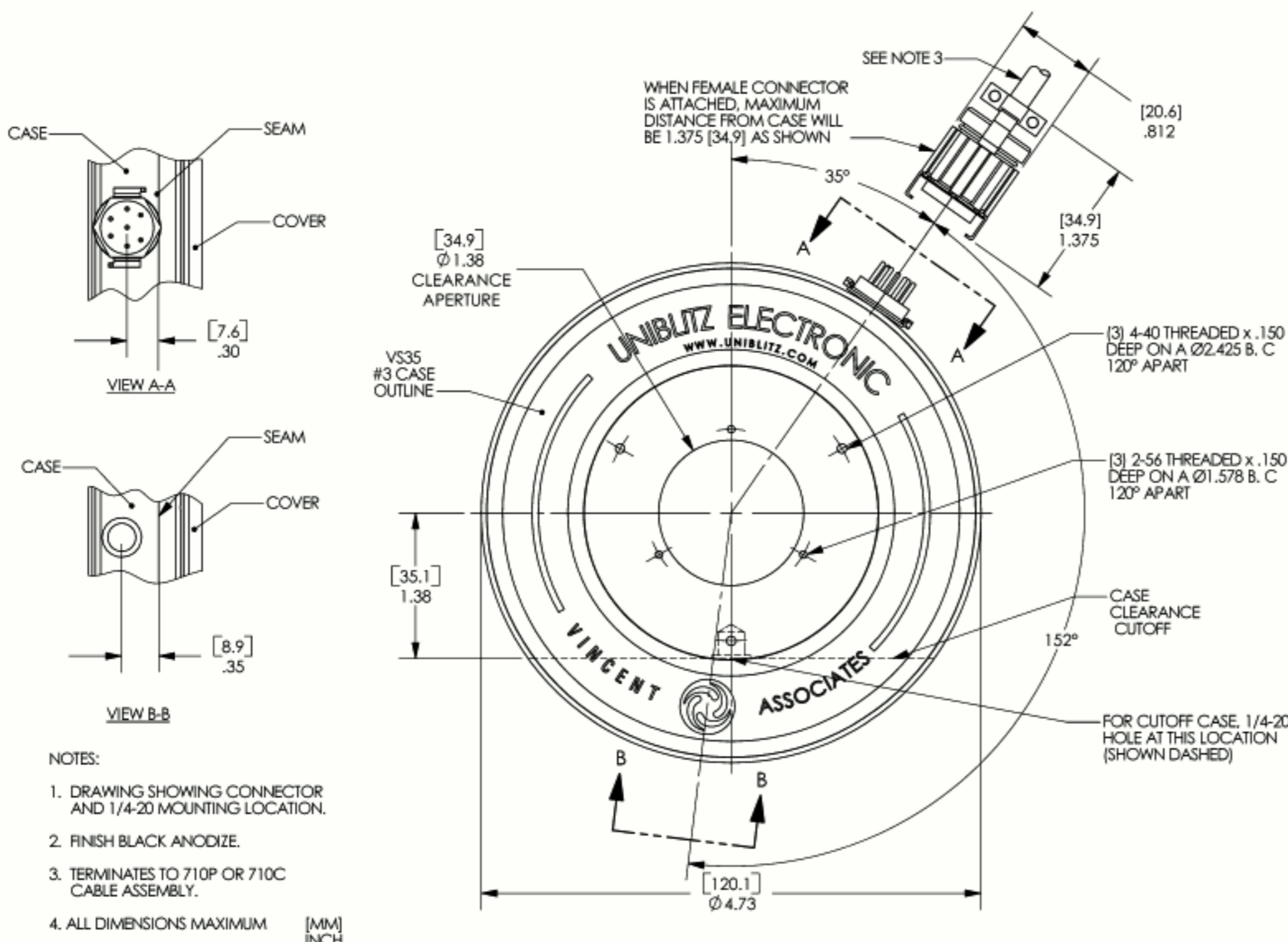


- NOTES:
- [3] 2-56 MOUNTING HOLES ON A Ø 1.578 BOLT CIRCLE, 120° APART.
 - [3] 4-40 MOUNTING HOLES ON A Ø 2.425 BOLT CIRCLE, 120° APART.

ALL DIMENSIONS MAXIMUM
 [MM]
 INCH

The VS35 #2 case style allows a number of mounting configurations. A 1/4-20 threaded hole is provided for post mounting. The 1.625in x 40TPI external thread, rear side, and the three 2-56 threaded holes and the three 4-40 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 UNIVER-SAL MOUNTING SYSTEMS" data sheets for additional information. The unit terminates with a 7-pin male connector.

HOUSING/CONNECTOR LAYOUT



- NOTES:
- DRAWING SHOWING CONNECTOR AND 1/4-20 MOUNTING LOCATION.
 - FINISH BLACK ANODIZE.
 - TERMINATES TO 710P OR 710C CABLE ASSEMBLY.
 - ALL DIMENSIONS MAXIMUM [MM] INCH

This drawing illustrates 7-pin connector and 1/4-20 threaded hole layout for the VS35 series #2 case style.