



Uniblitz® VS14

14mm Uni-Stable Optical Shutter

Overview

The Uniblitz VS14 has been designed to provide accurate, repeatable exposures for a wide variety of applications. The VS series shutters have been successfully field tested in microscopy, video imaging, PMT protection, and photographic applications worldwide. The VS14 is available in a housed or un-housed configuration for OEM applications (or where spatial limitations are a consideration). Uni-stable shutter devices, like the VS14, require power to hold the blades in the open state (though the device can be custom-configured for “normally open” operation).

Key Features

- 14mm aperture
- Small, slim form-factor
- Configured for the [VCM-D1 Shutter Driver](#)
- **RoHS Compliant**
- Transfer time on opening:
1.5 milliseconds
- Transfer time on closing:
3.5 milliseconds

Specifications

Electrical Specifications

| | |
|-------------------------------------|---------|
| Coil resistance | 12 OHMS |
| Voltage to Open | +65 VDC |
| Hold Voltage (Nominal) ¹ | +5 VDC |

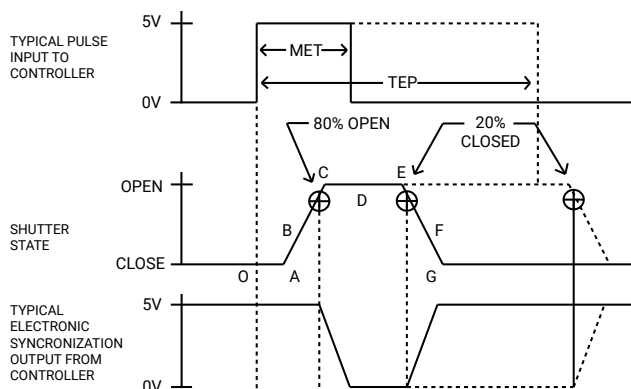
Mechanical Specifications

| | |
|--------------------------------------|---------------|
| Weight Unhoused | 60.0 g |
| Weight Housed | 290.0 g |
| Operating Temp. | 0 - 80 °C |
| Max. Opening Bounce | 15% |
| Max. Closing Bounce | 5% |
| Max. Freq. of Operation ² | 10 Hz / 40 Hz |
| Number of Shutter Blades | 2 |

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

² (Continuous/Burst) Continuous frequency rating specified at shutter's minimum exposure pulse. Burst frequency rating specified for four (4) seconds maximum with one (1) minute minimum between bursts.

Shutter Timing Data



¹ Under no circumstances should any type of lubricant be applied to the shutter blade area. Lubricating the shutter blades will likely slow the shutter down and may eventually render it inoperable.

VS14 (w/ VCM-D1 and "T" blades) ¹

Time (msec.)

| | | |
|--------------|---|------|
| O - A | Delay time on opening after current applied | 2.0 |
| A - C | Transfer time on opening | 1.5 |
| O - C | Total opening time | 3.5 |
| C - E | Min. dwell time with min. input pulse | 2.0 |
| B - F | Min. equivalent exp. time | 4.5 |
| E - G | Transfer time on closing | 3.0 |
| A - G | Total window time | 6.5 |
| MET | Min. exposure time | 4.0 |
| TEP | Typical exposure pulse | >6.5 |

Product Options

VS14 **2 3 4 5 6 - 7 - 8**

Ex: VS14S2ZM0-EC-21

1 Shutter Series:

VS14

2 Voltage:

S: Use with VCM-D1

E: Use with D880C or VED24

3 Housing:

1: Un-Housed

2: #2 Housing

4 Blades: ²

T: Low Energy (Teflon®)

ZM: High Energy (AlMgF2) ³

5 Electronic Sync:

0: Omitted

1: Included

6 Connector:

L: 18" Flying Leads

Leave blank for 7-pin Wire Pro connector

7 Encapsulated Coil:

EC: Included

Leave blank if not required

8 Mount: ⁴

21: Zeiss Axiovert **105:** C-Mount (Male)

24: Olympus BX/IX **106:** C-Mount (Female)

27: Nikon Leave blank if not required

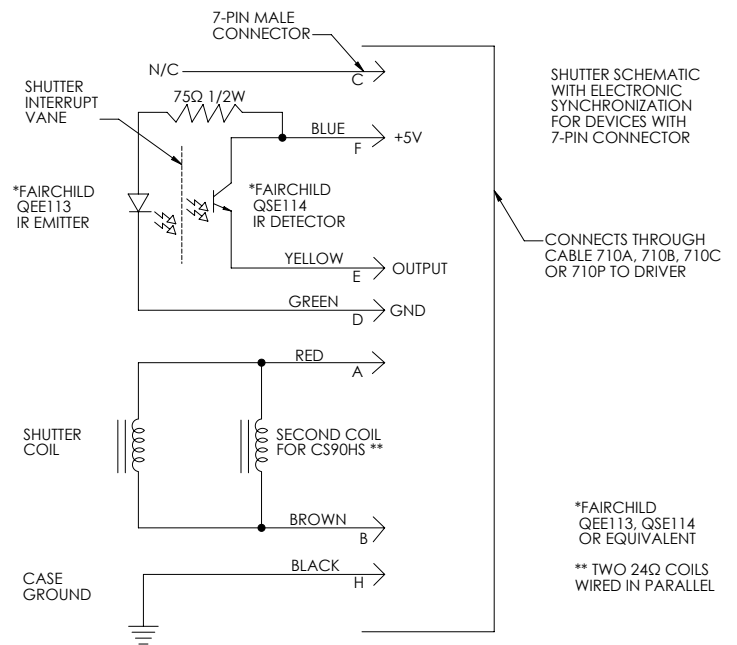
² Other blade coating options may be available by special order.

³ Input side only; Teflon® coating is on opposite side to protect shutter blade surface. Light source must be input to the reflective side only.

⁴ Mounts are only compatible if #2 housing is optioned as well.

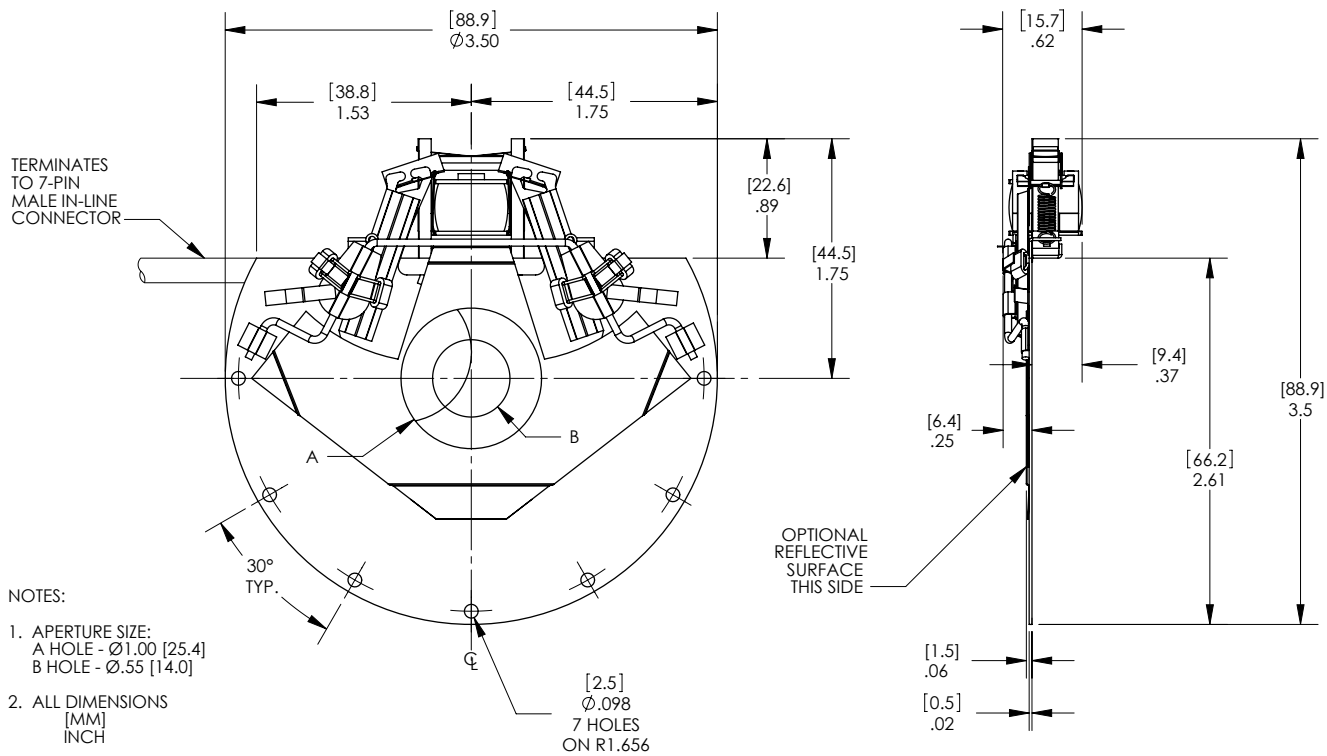
Electronic Sync.

The electronic synchronization system provides a feedback signal (through the driver utilized) after the shutter transfers to the open state. The system incorporates an infrared emitting diode, an infrared sensitive detecting transistor, and an interrupting vane. The vane is attached to the shutter so as to block the light path between the emitter and detector in the closed position. When the shutter transfers to the 80% open position, the vane is removed from the infrared light path, allowing the emitter to switch the detector to the active state. For the VS14, this system uses a similar activation flag attached to the mechanism, which triggers a reflective emitter/detector device. **No connection to the designated synchronization pins when no electronic sync. is selected.**

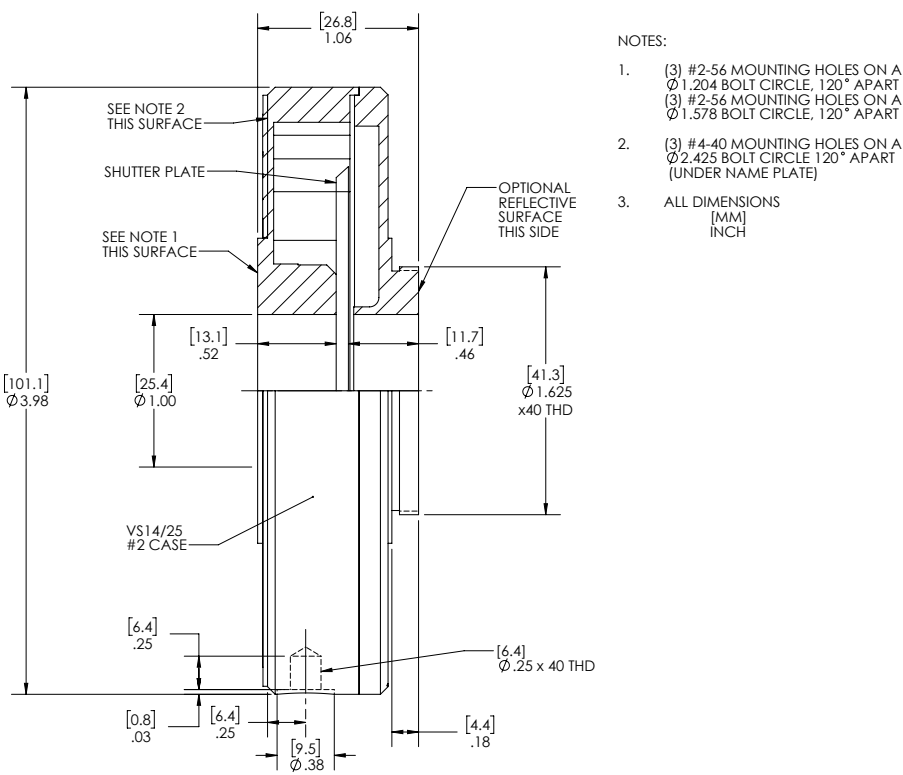


Uniblitz® VS14 Technical Drawings

Un-Housed



Housed





Uniblitz® VS14 Technical Drawings

Connector Layout

