

Uniblitz® DSS35B

35mm Bi-Stable Optical Shutter

Overview

The Uniblitz DSS35B is a 35mm bi-stable optical shutter with an extremely low-profile construction. Its lack of an external protruding actuator makes it very slim and flexible for system integration. The inherent reliability of the DSS35B comes from the fact that it contains only two moving parts: the drive ring and the blades. It is guaranteed to operate for 5,000,000 operations. Bi-stable shutter devices, like the DSS35B, require no power to hold the blades in either the open or closed state.

Key Features

- 35mm aperture
- Includes 5M1P and 5M1SM adapters
- **5,000,000 actuation guarantee**
- Configured for the [VED24 Shutter Driver](#)
- **RoHS Compliant**
- Transfer time on opening: 23.0 milliseconds

Specifications

Electrical Specifications

Coil resistance	8 OHMS
Voltage to Open ¹	+10.7 VDC
Hold Voltage (Nominal)	N/A

Mechanical Specifications

Weight	54.5 g
Operating Temp.	-10 - +65 °C
Max. Opening Bounce	15%
Max. Closing Bounce	5%
Max. Freq. of Operation ²	1.5 Hz / 3.0 Hz
Number of Shutter Blades	5

¹ Peak voltage as provided by the VED24 Driver.

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.

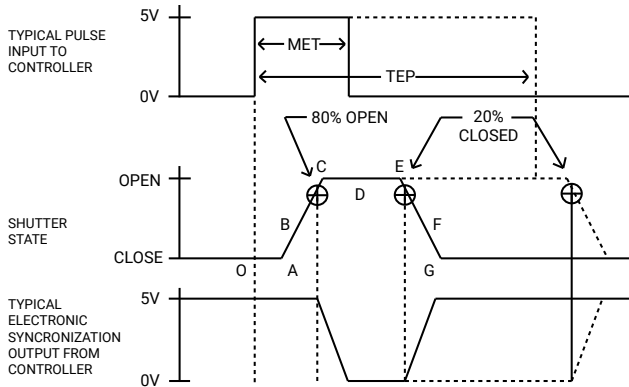


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Shutter Timing Data



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.

DSS35B (w/ VED24 and "T" blades) ¹

Time (msec.)

O - A	Delay time on opening after current applied	19.0
A - C	Transfer time on opening	23.0
O - C	Total opening time	42.0
C - E	Min. dwell time with min. input pulse	23.5
B - F	Min. equivalent exp. time	45.0
D - E	Delay time on closing after current applied	18.0
E - G	Transfer time on closing	20.0
A - G	Total window time	66.0
MET	Min. exposure time	45.0
TEP	Typical exposure pulse	>45.0

Product Options

DSS35B **2** **3** **4**

Ex: DSS35B1T1

1 Shutter Series:

DSS35B

2 Housing:

1: Un-Housed

3 Blades: ²

T: Low Energy (Teflon®)

ZM: High Energy (AlMgF₂) ³

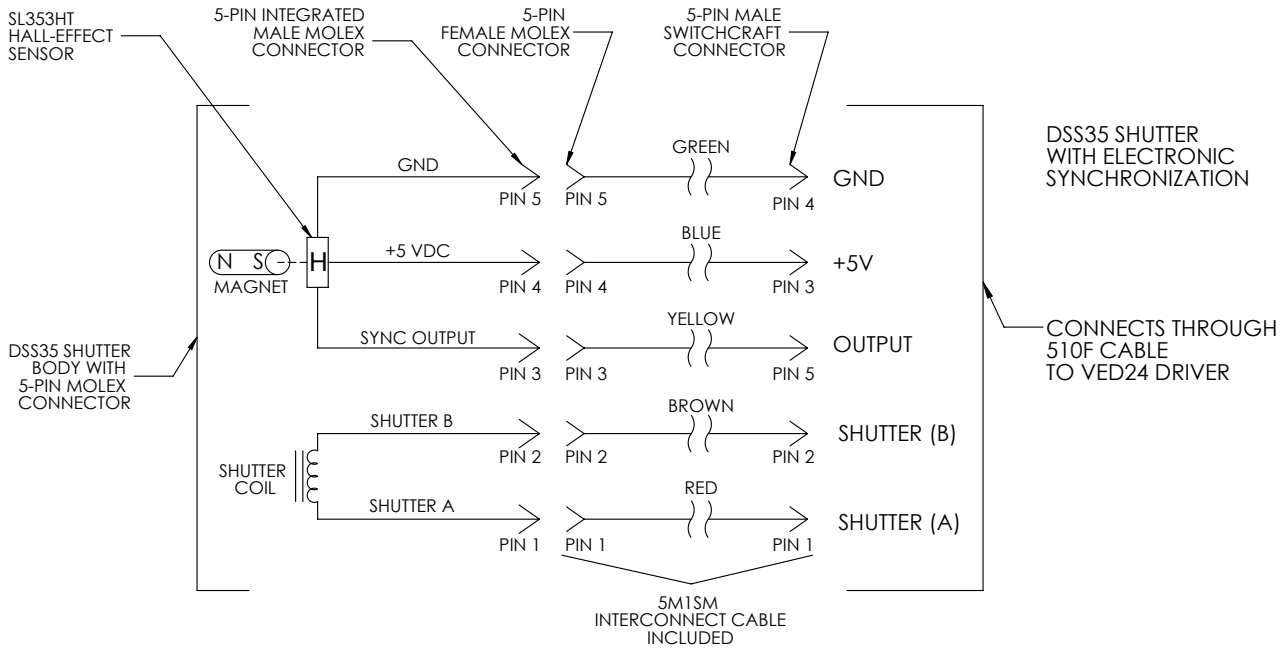
4 Electronic Sync:

1: Included

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.

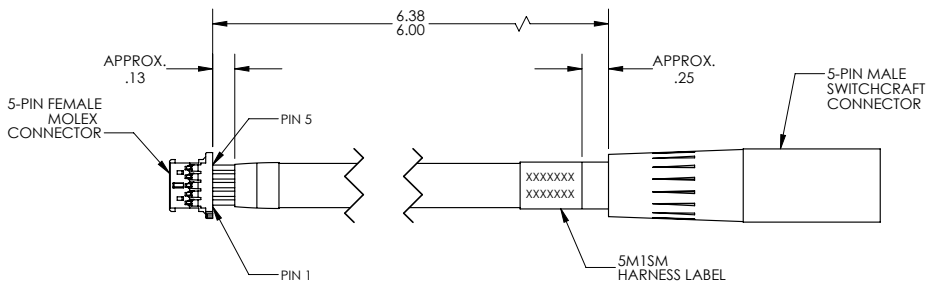
Electronic Sync.



The synchronization system for DSS35B shutter devices incorporates a small magnet mounted to the driving mechanism and a Hall effect sensor. When the device achieves approximately 80% of full open, the magnet causes the Hall effect sensor to change state, producing a signal to indicate that the shutter has switched to the active state. Shown to the left is the DSS35B's shutter schematic which incorporates this electronic synchronization system.

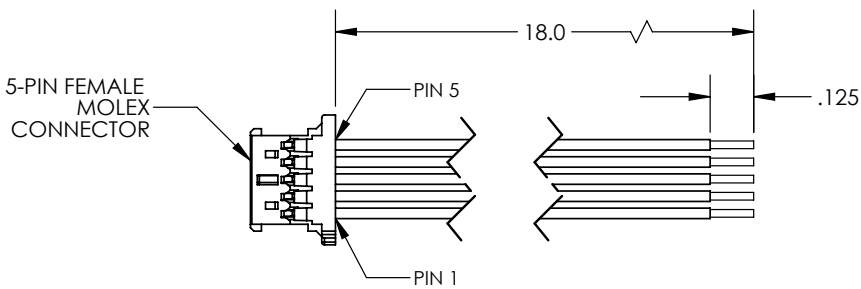
Uniblitz® DSS35B Technical Drawings

5M1SM Adapter (Included)



Molex (F) Pin	Signal	SwitchCraft (M) Pin
1	Shutter (+)	1
2	Shutter (-)	2
3	Sync Output (+)	5
4	+5 VDC Reg. (Sync)	3
5	Ground	4

5M1P Adapter (Included)



Molex (F) Pin	Wire Color	Signal
1	Red	Shutter (+)
2	Brown	Shutter (-)
3	Yellow	Sync Output (+)
4	Blue	+5 VDC Reg. (Sync)
5	Green	Ground

Uniblitz® DSS35B Technical Drawings

Shutter Layout

