Datasheet

Uniblitz® DSS35B

35 mm Bi-Stable Optical Shutter



Overview

The Uniblitz® DSS35B is a 35 mm bi-stable optical shutter with an extremely low-profile construction. With no external actuator sticking out, it is very slim and easy to build into a system. Its reliability comes from having only two moving parts: the drive ring and the blades. It is guaranteed 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

- ✓ 35 mm aperture
- ✓ Includes 5M1P and 5M1SM adapters
- ✓ 5,000,000 actuation guarantee
- ✓ Configured for the VED24 driver
- ✓ Transfer time on opening: 23.0 ms
- ✓ RoHS compliant

Specifications

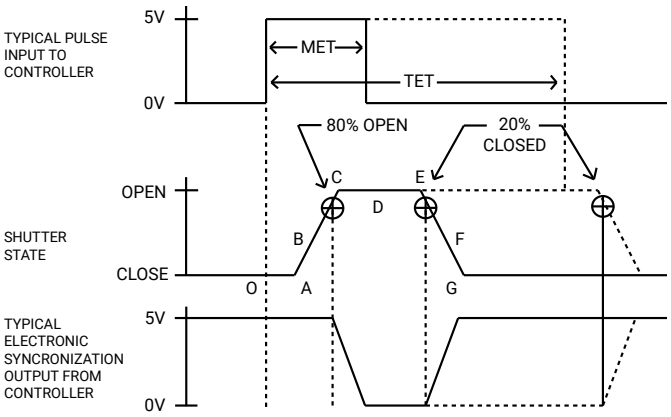
Electrical	
Coil resistance	8 Ω
Voltage to open[1]	+10.7 VDC
Hold voltage (nominal)	N/A

Mechanical	
Weight	54.5 g
Operating temperature	−10 to +65 °C
Max. opening bounce	15%
Max. closing bounce	5%
Max. frequency[2]	1.5 Hz / 3.0 Hz
Number of shutter blades	5

1 Peak voltage, as provided by the VED24 driver.
2 Continuous: at the shutter's minimum exposure pulse. Burst: 4 s maximum, with at least 1 min between bursts.

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Shutter timing data[2]



1 Measured with the VED24 and Teflon® blades.
2 Never lubricate the blade area. It slows the shutter and can make it inoperable.

Segment	Description	ms[1]
O–A	Delay time on opening after current is 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 exposure time	45.0
D–E	Delay time on closing after current is applied	18.0
E–G	Transfer time on closing	20.0
A–G	Total window time	66.0
MET	Minimum exposure time	45.0
TET	Typical exposure time	>45.0

Product options

DSS35B | 2 | 3 | 4

Example: **DSS35B1T1**

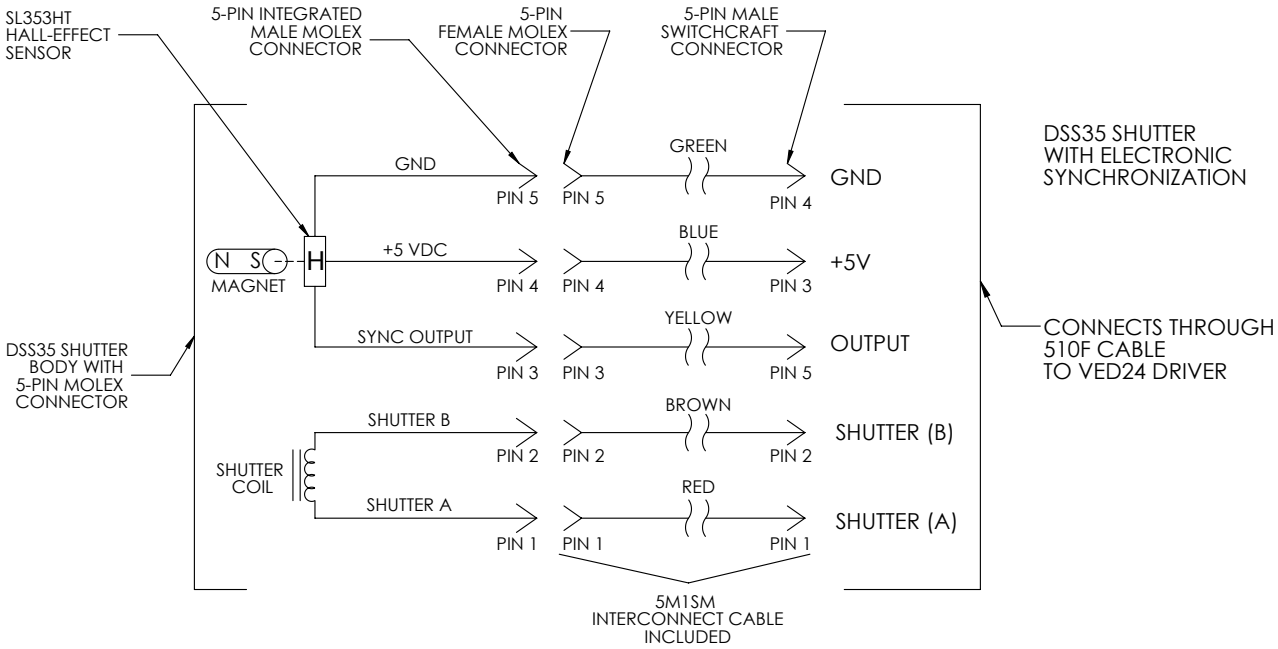
2	Housing
1	Un-housed
3	**Blades[1]**
T	Low energy (Teflon®)
ZM	High energy ($AlMgF_2$)[2]

4	Electronic sync
1	Included

1 Other blade coatings may be available by special order.
2 Input side only; the Teflon® coating on the opposite side protects the blade surface. Light must enter on the reflective side.

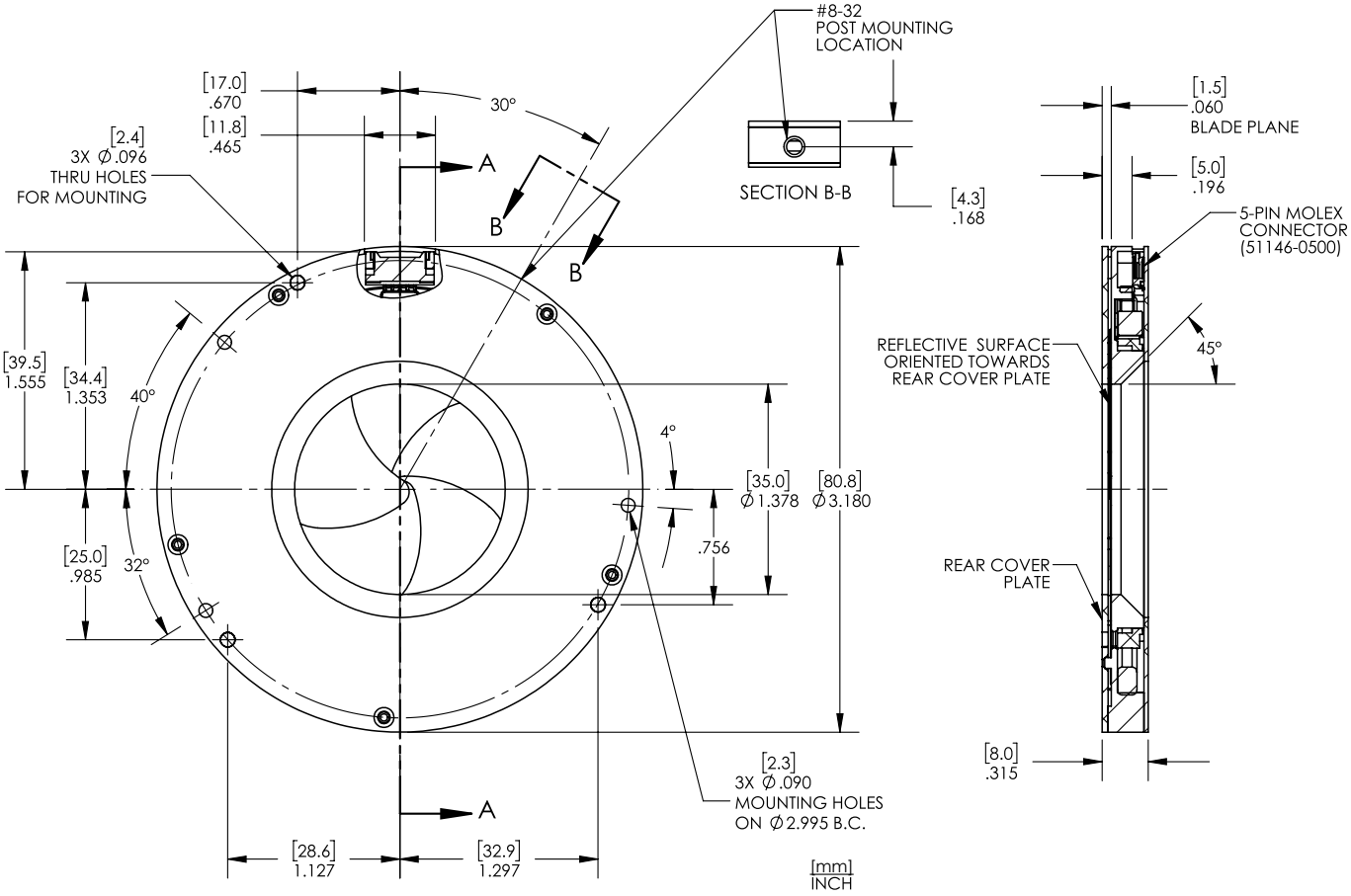
Electronic sync

The DSS35B's electronic sync uses a small magnet on the drive mechanism and a Hall Effect sensor. At about 80% open, the sensor changes state and signals that the shutter is open.



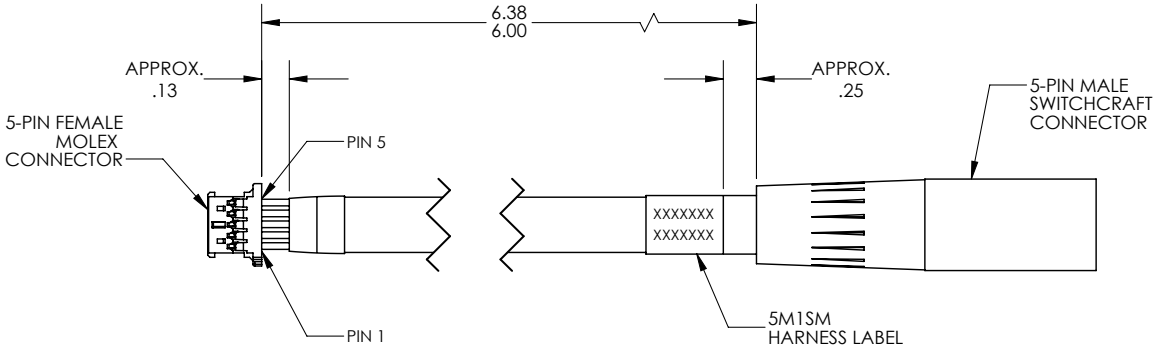
Technical drawings

DSS35B shutter layout



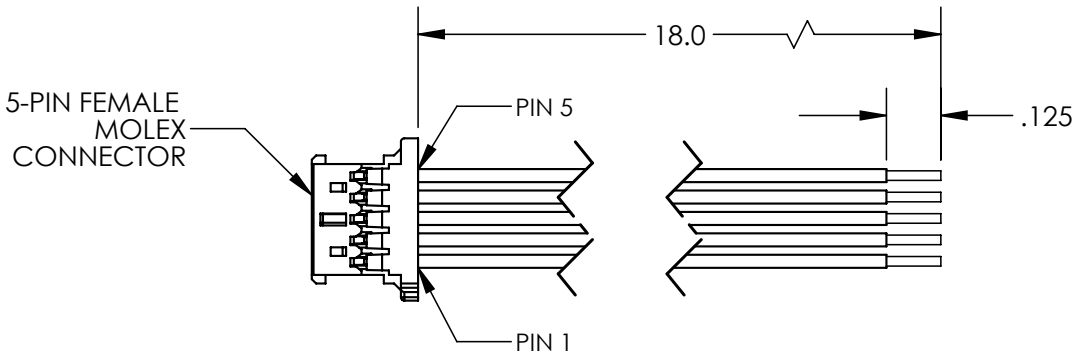
Technical drawings

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