

CS90HS 90mm Uni-Stable Shutter Specifications

Features

- The UNIBLITZ® CS90HS has been designed to provide accurate, repeatable exposures for a wide variety of applications.
- Small form factor, a 90 mm aperture fits into a 7 inch diameter housing.
- Multi-bladed design in combination with a UNIBLITZ® actuator provide increased reliability over other designs of this type.
- State of the art patented damping system for increased reliability and speed.
- Reflective blades available
- Can be driven with our existing VMM/VCM drive units. A special driver is not required.
- Available in housed or un-housed configurations for OEM applications.
- Electronic Synchronization System option available.
- Exposure repetition rates from DC to 3Hz.
- Available in a normally-open configuration



Fig. 1 CS90HS 90mm Uni-stable Shutter

Timing

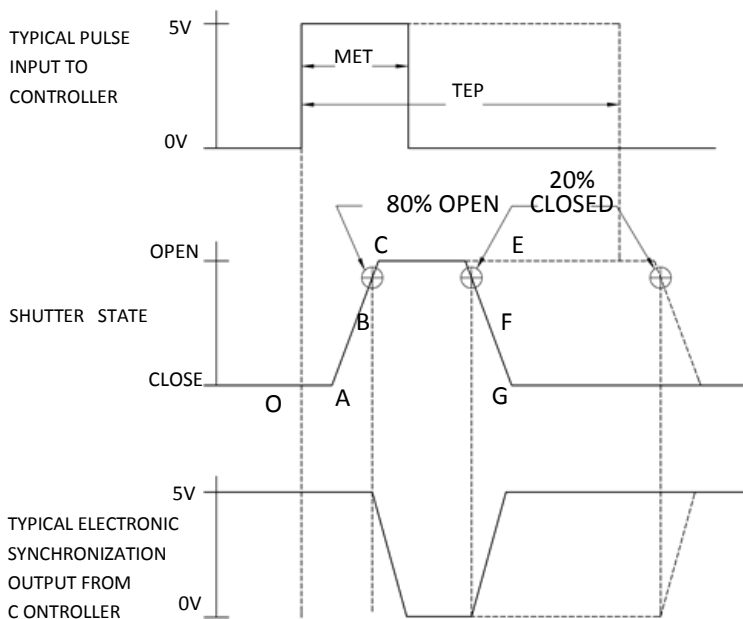


Fig. 2

¹Typical timing values (msec.) using UNIBLITZ® drive equipment and measured with UNIBLITZ® shutters equipped with standard black Teflon® coated shutter blades.

CS90HS		Time (msec.) ¹
O-A:	Delay time on opening after current is applied	18.0
A-C:	Transfer time on opening	48.0
O-C:	Total opening time	66.0
C-E:	Min. dwell time with min. input pulse	11.0
B-F:	Min. equivalent exp. time	64.0
E-G:	Transfer time on closing	57.0
A-G:	Total window time	116.0
MET:	Min. exposure time	70.0
TEP:	Typical exposure pulse	>100.0

Electrical

CS90HS	COIL RESISTANCE	PULSE VOLTAGE TO OPEN	HOLD VOLT-AGE ¹ (NOMINAL)
Primary Actuator	24 OHMS	+70 VDC	+7 VDC / +5 VDC ²
Secondary Actuator ³	24 OHMS	+70 VDC	+7 VDC / +5 VDC ²

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

² VMM dual hold level driver system included in UNIBLITZ VMM shutter controller. Not including device drops.

³ Actuators are wired in parallel. Combined DCR is 12 ohms.

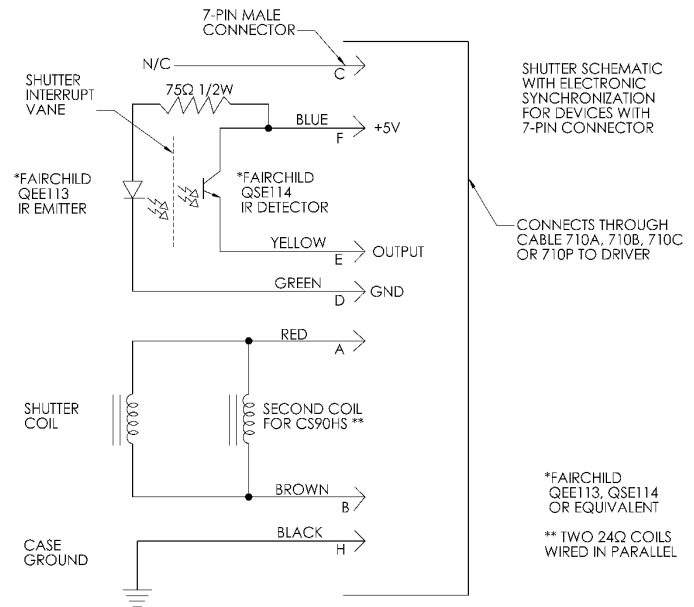


Fig. 3

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. **No connection to the designated synchronization pins when no electronic sync. is selected.**

Mechanical

SERIES	WEIGHT UNCASED	WEIGHT CASED	OPERATING TEMP. (DEGREES)	MAX. OPENING BOUNCE	MAX. CLOSING BOUNCE	MAX. FREQUENCY OF OPERATION ²	NUMBER OF SHUTTER BLADES
CS90HS	11.4 oz (320 g)	24.10 oz (680 g)	0-80 °C	15%	5%	1 Hz / 3 Hz	6

² (CONT/BURST) CONTinuous 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.

Housing Options

Un-housed Style

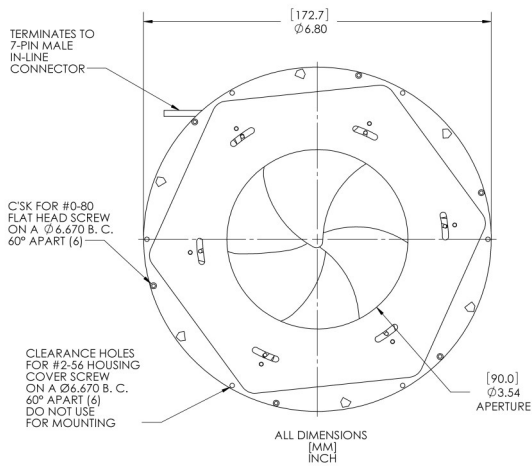
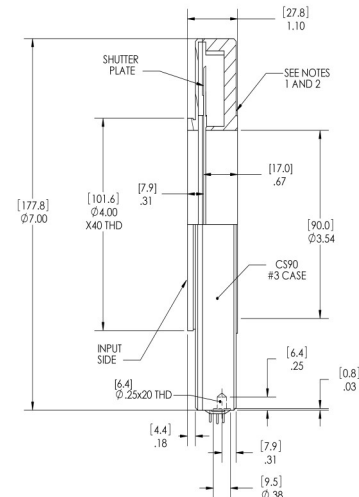


Fig. 4

Housed Style



- NOTES:
- (3) #2-56 MOUNTING HOLES ON A Ø4.100 BOLT CIRCLE 120° APART
 - (3) #4-40 MOUNTING HOLES ON A Ø4.400 BOLT CIRCLE 120° APART
 - ALL DIMENSIONS [MM] INCH

Fig. 5

Housing/Connector Layout

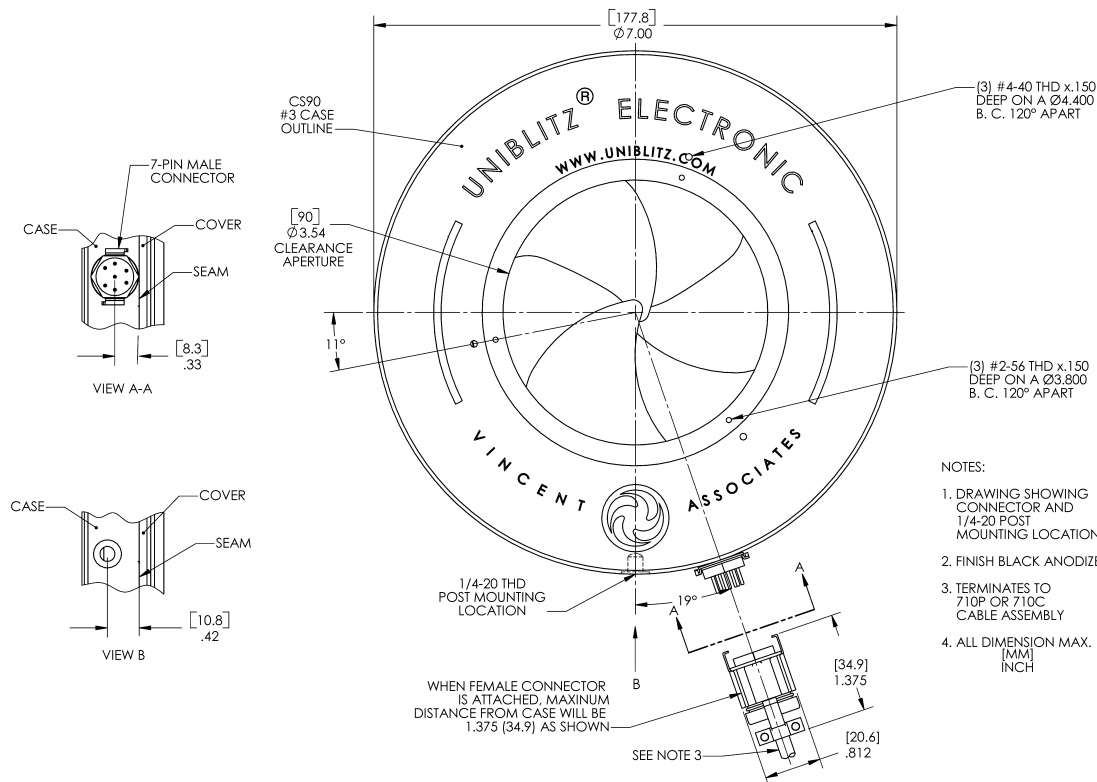


Fig. 6 illustrates 5-pin connector and 1/4-20 threaded hole layout for the CS90HS series #3 housed option.

Product Options

Part Number: **CS90HS**     -  -  -  - 

Example Part Number:
CS90HS1T1L-HS-EC-NL-103

<p>1 <u>Aperture Size\Type:</u> CS90HS: 90mm CS90HE: 90mm (For use with D880C Driver) CSR90HS: 90mm (Normally open) CSR90HE: 90mm (Normally open, for use with D880C Driver)</p>	<p>2 <u>Housing:</u> 1: Un-housed 3: #3 Housing</p>	<p>3 <u>Blade Finish:</u> T: Teflon® Coated S.S. Blades</p>
<p>4 <u>Electronic Sync:</u> 0: Omit Sync. 1: Electronic Sync. Included</p>	<p>5 <u>18" Flying Leads:</u> L: 18 Inch Flying Leads Included¹ <ul style="list-style-type: none"> ▪ For un-housed devices only ▪ Leave blank if not required </p>	<p>6 <u>Heat Sink:</u> HS: Actuator coil heat sink¹ <ul style="list-style-type: none"> ▪ Two required for both coils (exclusive to the CS90HS) ▪ Optional for an un-housed device ▪ Included with #3 Housing—no designation required ▪ Leave blank if not required </p>
<p>7 <u>Encapsulated Coil</u> EC: Encapsulated Coil Included¹ <ul style="list-style-type: none"> ▪ Two required for both coils (exclusive to the CS90HS) (For use with vacuum) ▪ Leave blank if not required </p>	<p>8 <u>RoHS Compliant Version:</u> NL: RoHS Compliant¹ <ul style="list-style-type: none"> ▪ Leave blank if not required </p>	
<p>9 <u>Mounting Options</u> (by type, #3 Housing Required): <ul style="list-style-type: none"> • Leave blank if not required • 103: Mounting Ring </p>		

¹ Please visit our website for more information regarding this option.

For information regarding applicable intellectual property, please visit www.uniblitz.com/company-info/patents.

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