XRS25 25mm Uni-Stable Shutter Specifications

Features

- The ***UNIBLITZ***® XRS25 is especially designed for x-ray applications.
- Can open within 10.0msec at a maximum rate of 10Hz
- Pt-Ir shutter blade, capable of blocking x-ray energy 30Kev.
- Exposure repetition rate continuously variable from DC to 10Hz.
- Electronic synchronization system available.
- Activated by an electronic pulse through UNIBLITZ® patented shutter drive systems.
- Non-resonant design allows instantaneous changes of the repetition rate and duty cycle.
- No optical surface when open provides 100% transmittance.
- Available in a normally-open configuration.
- This device will require two drive channels for operation and a specially modified cable (the 910C-D7) is required to connect to the driver **(this cable is included).**

Fig. 1 XRS25 25mm Uni-stable Shutter

Timing

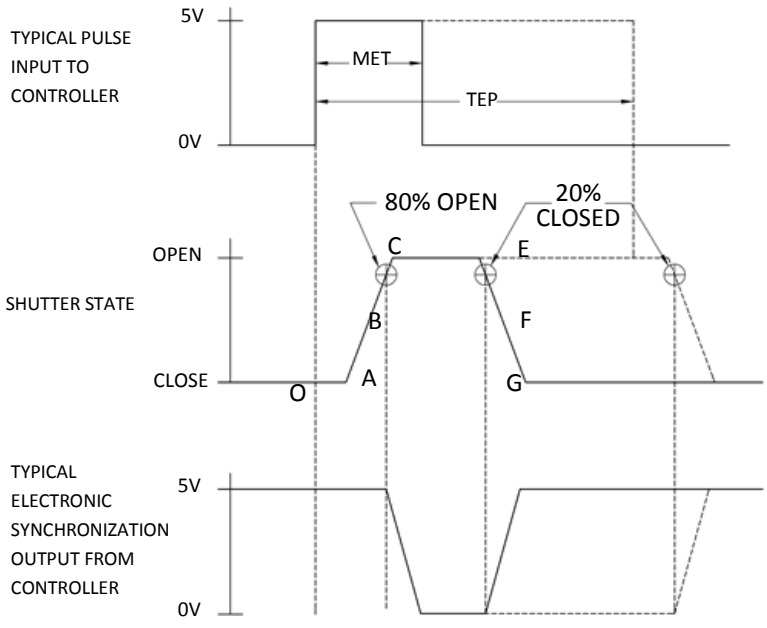


Fig. 2

	XRS25	Time (msec.)[1]
O-A:	Delay time on opening after current is applied	6.0
A-C:	Transfer time on opening	10.0
O-C:	Total opening time	16.0
C-E:	Min. dwell time with min. input pulse	17.5
B-F:	Min. equivalent exp. time	5.0
E-G:	Transfer time on closing	15.0
A-G:	Total window time	30.0
MET:	Min. exposure time	20.0
TEP:	Typical exposure pulse	>30.0

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

Electrical

COIL RESISTANCE	PULSE VOLTAGE TO OPEN	HOLD VOLTAGE [1] (NOMINAL)
12 OHMS	+65 VDC	+5 VDC

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

The Electronic Synchronization System provides a feedback signal (through the driver utilized) after the shutter transfers to the open state. The system incorporates dual syncs – one for each blade – and are operated in a wired AND configuration to insure that the output will not change state unless both blades have opened. Each sync system is comprised of an infrared emitting diode, an infrared sensitive detecting transistor, and an interrupting vane. The vane is attached to each shutter blade 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 associated vanes are removed from the infrared light paths, allowing the emitters of each of the syncs to switch the detectors to the active state. **No connection to the designated synchronization pins when no electronic sync is selected.**

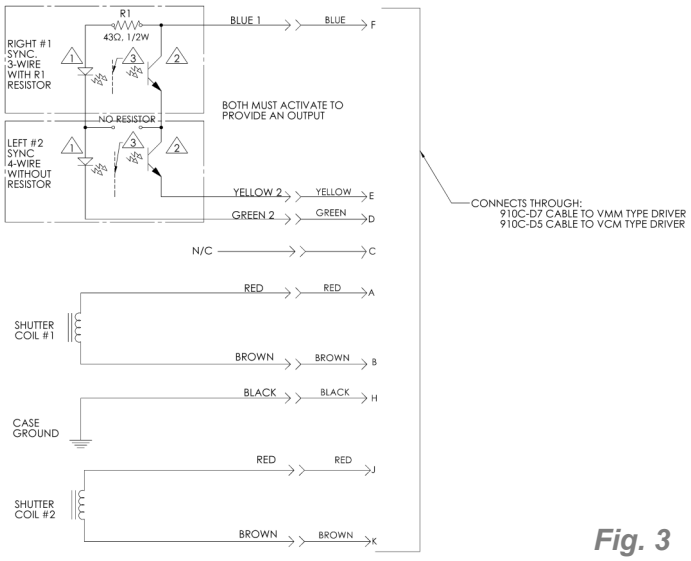


Fig. 3

Mechanical

SERIES	WEIGHT UNCASED	WEIGHT CASED	OPERATING TEMP. (DEGREES)	MAX. OPENING BOUNCE	MAX. CLOSING BOUNCE	MAX. FREQUENCY OF OPERATION [2]	NUMBER OF SHUTTER BLADES
XRS25	4.40 oz (.13 kg)	12.98 oz (.37 Kg)	0-80°C	15%	5%	2 Hz / 10 Hz	2

[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.*

Cable Adapter *Included*

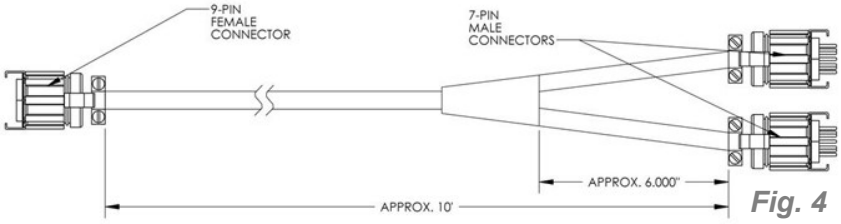


Fig. 4

** If the added cable length using the 710A cables is undesirable, the 910C-D7 can be equipped with dual 5-pin male Switchcraft connectors in place of the standard 7-pin connectors for direct connection to the VCM type controllers. This cable is referred to as 910C-D5 and only available on special order.* ***Please contact a technical representative for additional information.***

Fig. 4 illustrates 910C-D7 Cable required to allow proper connection of the XRS25 to VCM/VMM type controllers. The dual 7-pin male connectors of the 910C-D7 Cable would connect to the VCM controllers (through the 710A*) or VMM controllers directly and the 9-pin female would connect to the shutter as illustrated in figure #3.

Housing Options

Un-housed Style

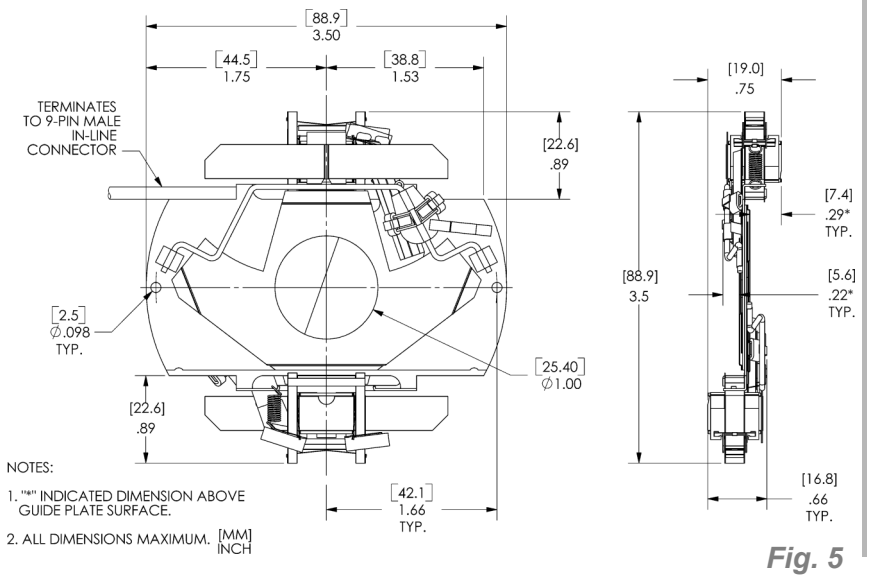


Fig. 5

Housed Style

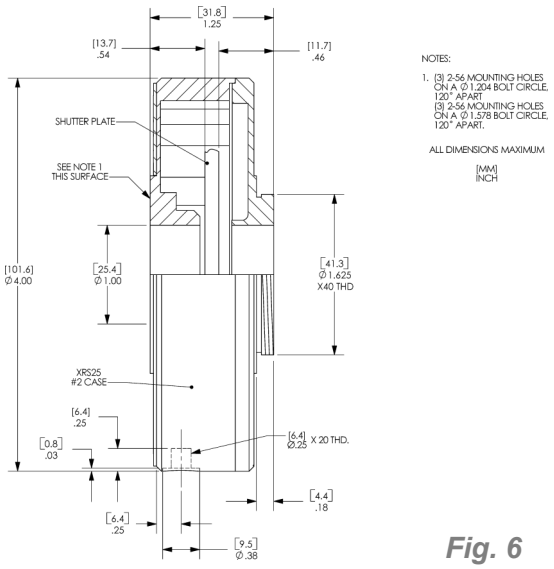
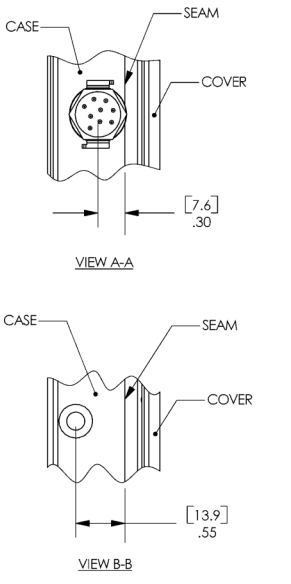


Fig. 6

Drawings of the device in its normally open configuration are available under the 'Downloads' tab on our website.

Housing/Connector Layout



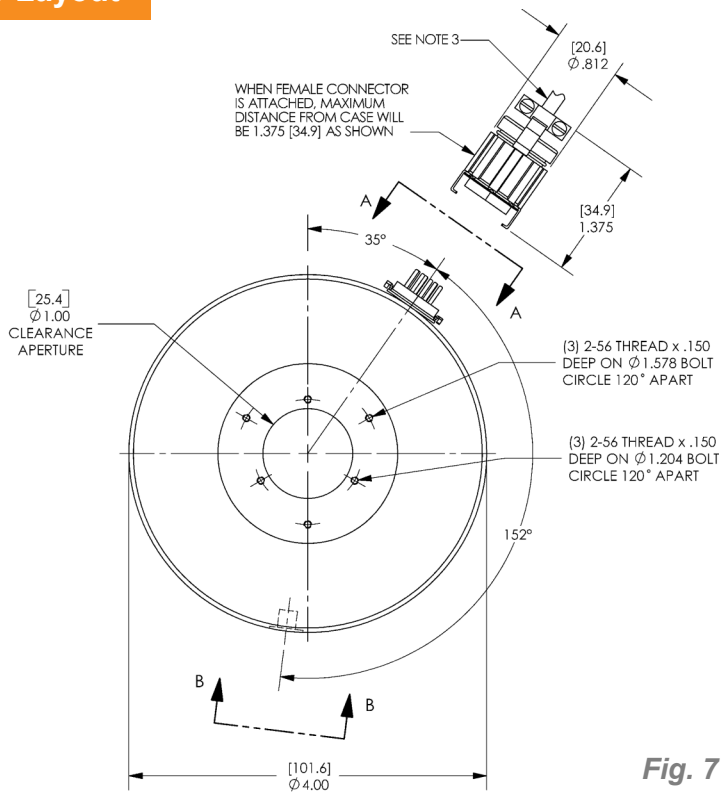


Fig. 7

Fig. 7 illustrates the 7-pin connector and 1/4-20 threaded hole layout for the XRS25 series #2 housed style.

NOTE:

The cable required is non-standard, the 910C-D7 (9-pin female connector to dual 7-pin male connectors, 10ft. in length). This shutter device requires two driver channels for proper operation and each of the 7-pin connectors of the 910C-D7 would be connected to the SHUTTER output of two separate VMM type driver channels. The drive channels should be triggered simultaneously to achieve published typical timing specifications.

Product Options

Part Number: **XRS25S** ❶ ❷ ❸ ❹ ❺ – ❻ – ❼ – ❽ – ❾

Example Part Number:
XRS25S2P1-HS-EC-NL-100

❶ Aperture Size\Type:
XRS25S: 25mm (Normally Closed)
XRS25E: 25mm (For use with D880C Driver)
XRSR25S: 25mm (Normally open)[4]
XRSR25E: 25mm (Normally open, for use with D880C Driver)[4]

❷ Housing:
1: Un-housed
2: #2 Housing

❸ Blade Finish:
P: .010" Thick PtIr (10% Iridium, 90% Platinum)

❹ Electronic Sync:
0: Omit Sync.
1: Electronic Sync. Included

❺ 18" Flying Leads:
L: 18 Inch Flying Leads Included[2]
- ***For un-housed devices only***
- ***Leave blank*** *if not required*

❻ Heat Sink:
HS: Actuator coil heat sink[2]
- *Leave blank if not required*
- *Optional for an un-housed device*
- ***Included with #2 Housing—no designation required***

❼ Encapsulated Coil
EC: Encapsulated Coil Included[2]
(For use with vacuum)
- ***Leave blank*** *if not required*

❽ RoHS Compliant Version:
NL: RoHS Compliant[2]
- ***Leave blank*** *if not required*

❾ Mounting Options (by type, #2 Housing Required):
- ***Leave blank*** *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

[1] *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.*
[2] *Please visit our website for more information regarding this option.*
[3] *Available through special order only—contact us for more information.*
[4] *If #2 Housing is selected, modification to housing is required.*

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