VINCENT ASSOCIATES®

UNIBLITZ®
Electro-Programmable Shutter Systems

TS2S Shutter Series Specifications

(Sub-miniature “Flag” alternative)

Overview

The TS2S is the second aperture size available in the revolutionary TS series of shutters. The TS series is the latest technology available from UNIBLITZ . This patent pending device has eliminated the external protruding actuator and contains no other interfering components. This new direct-drive system eliminates all linkages between the actuator and the shutter blade. The TS2S can be configured normally open or normally closed. The reliability of this device has been enhanced by containing only two moving parts (the rotor and the blade). When paired with the VED24 shutter controller, the TS2S will provide reliability in a package nearly three times smaller than our standard LS2 shutter. The TS2S can also be operated by the VDM1000 for applications that require faster transfer times.

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Features

- Patent Pending single bladed design.
- Shutter mechanism has a flag mounted internally and has the aperture on center.
- Innovative actuator system radically reduces moving parts to increase reliability.
- Machined flat surfaces on both sides of the device for easy system integration since the flag is mounted internally.
- Small form factor, 2mm aperture, 1.150 outer diameter and .190 thick.
- Reflective blades available for high energy light sources.
- Alternate blade material can be made available by special order (i.e. x-ray or other unique customer applications).
- Low voltage/current operation.
- Fast exposure operation, opening times shorter than 1ms.
- Frequency operation as fast as 100Hz.
- Terminated to a 2-pin JST connector (S2B-PH-SM4-TB) via a 4 inch flex interconnect.

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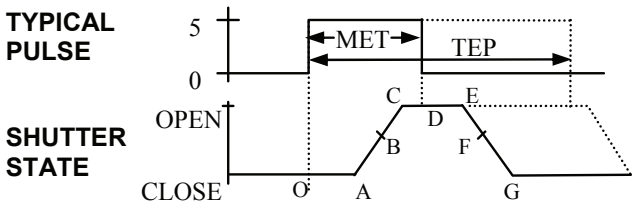
Due to our ongoing product development program, Vincent Associates reserves the right to discontinue or change specifications or designs at any time, without incurring any obligations

TS2S Product Specifications



TS2S Timing Data in msec

Timing data recorded with VDM1000 driver.

O-A: Delay time on opening after current is applied	0.70
A-C: Transfer time on opening	0.68
O-C: Total opening time	1.38
C-E: Min. dwell time with min. input pulse	1.00
B-F: Min. equivalent exp. time	1.62
D-E: Delay time on closing after current is applied	0.75
E-G: Transfer time on closing	0.56
A-G: Total window time	2.24

MET: Min. exposure time	2.0
TEP: Typical exposure pulse	> 3.0

The question regarding enhancement of shutter speed with the application of user supplied lubricants has been repeatedly asked. It is our experience that lubricating the shutter blades will actually slow shutter down and eventually render the shutter Inoperable. UNDER NO CIRCUMSTANCES SHOULD ANY TYPE OF LUBRICANT BE APPLIED TO THE SHUTTER BLADE AREA..

TS2S Electrical Specifications

COIL RESISTANCE: 8 OHMS
PULSE VOLTAGE: 10.7V
HOLD VOLTAGE: 3V

TS2S Mechanical Specifications

WEIGHT: 5.5g
TEMP RANGE: 0-80C
OPEN BOUNCE: 5%
CLOSE BOUNCE: 5%
NO BLADES: 1
FREQ CONT: 30HZ
FREQ BURST: 100HZ

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. For additional information on maximum sustained frequencies obtainable, please contact one of our technical representatives.

For OEM driver, contact technical support for typical drive circuit applications and wiring diagrams.

TS2S Shutter Outline Drawing

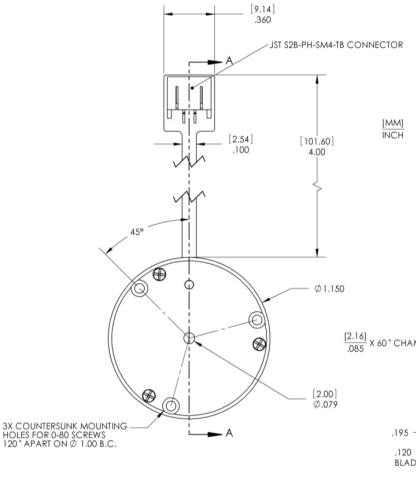


FIGURE #1

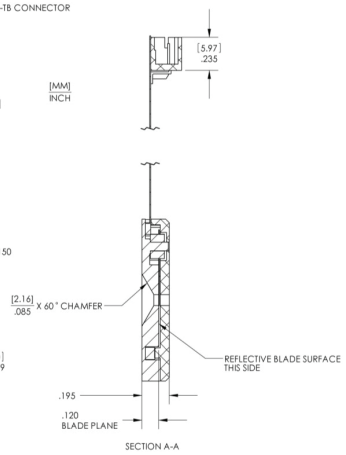


FIGURE #2

The UNIBLITZ TS2S is designed with a low-profile and flat surfaces for easy integration into your system. Three counter-sunk mounting holes are provided for use with 0-80 FH screws. The body of the shutter measures 1.150 in diameter and only .190" thick. There are no protrusions of any kind outside of the main envelope.

A standard shutter is terminated by a 2-pin JST header (S2B-PH-SM4-TB). The connector is mounted on a 4" flexible circuit. Alternatively, the shutter can be purchased with 18 flying leads (30 AWG) attached to the end of the 4" flexible circuit ("L" specification). The 5M203D adapter is required when controlling the TS2S with a VDM1000 or VED24 driver.

TS2S Product Options

TS2S	1	T	0	
Aperture Size	**Housing**	**Blade Finish**	**Electronic Sync**	**Connector**
TS2S-2mm	1-Un-housed (Housing may be available at future date.)	T-Black Teflon Z-AlSiO Coated* ZM-AlMgF$_2$ Coated*	0–Omit Sync N/A (Electronic sync may be available at a future date.)	Blank–2-pin JST connector with 4" flex harness L-2 wire bare leads attached to 4" flex connector

*Input side only, black coating is on opposite side. Intended to protect the shutter blade surface. The light source must be input to the reflective side only.

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