

# X-Strobe™ Series

## Machine Vision Strobes



### Description

If you are looking for an advanced machine vision strobe illumination system, you will find it in PerkinElmer's new X-Strobe™ series. It is high output, long life, small size and superior reliability that make this strobe the first choice for all types of machine vision applications. The X-Strobe™ incorporates our latest innovations in xenon flashlamp technology, power supply engineering, trigger performance, and reflector design while meeting CE requirements. Features include variable intensity control and more light output per watt than our MVS-2020, MVS-2027, and MVS-7000 Series making the X-Strobe™ our most versatile strobe series.

The xenon flashlamp produces intense pulses of radiant energy covering the ultraviolet (UV), visible (VIS) and near infrared (NIR). When coupled to a CCD-CID camera system, the strobe "freezes motion" which eliminates blur and enhances image quality. Several variations of the X-Strobe™ are available, each optimized for maximum light output within a range of flash rates. External signal inputs allow you to further customize the strobe to your application.

The X-Strobe™ series is designed to the latest European CE directives for Safety and Emission, (certification by May 2001). The universal AC power supply recognizes AC voltage from 100V to 240V with line frequencies from 50–60Hz. The installation of the xenon flashlamp provides easy and quick lamp replacement. Various nose pieces and adapters are available in sizes up to 1" in diameter to fit with the most common fiber optic bundles.

### Features

- High intensity full spectrum light
- Short pulse width
- Small size
- Long life
- Improved stability
- Universal AC input (100-240 VAC)
- CE designed
- Configured for various fiber optic light guides
- Inputs for external trigger and intensity control
- Easy and quick lamp replacement

# X-Strobe™ Series

X-Strobe™

X1500

X-1200

X-400

## Optical Specifications (1)

Maximum flash rate (2)	15 Hz (0 – 25 Hz)	20 Hz (0 – 45 Hz)	60 Hz (0 – 135 Hz)
Input energy per flash (3)	1.5 – 2.7 J	1.0 – 2.2 J	0.3 – 0.7 J
Light output flash duration (4)	8 – 13 μsec	8 – 13 μsec	8 – 13 μsec
Photometric light output (5)	34 lumen-sec	31 lumen-sec	12 lumen-sec
(6)	22 lumen-sec	19 lumen-sec	8.5 lumen-sec
(7)	11 lumen-sec	8.5 lumen-sec	4.2 lumen-sec
Radiometric light output (5)	245 mJ	225 mJ	90 mJ
(6)	170 mJ	145 mJ	60 mJ
(7)	85 mJ	65 mJ	30 mJ
Spectral bandwidth	250 – 1100 + nm	250 – 1100 + nm	250 – 1100 + nm
Flashlamp life (8)	> 10 <sup>8</sup>	> 10 <sup>8</sup>	> 2 x 10 <sup>8</sup>
Discharge Capacitance	15 μf	12 μf	4 μf

Note: High intensity may cause damage to plastic fiber optic light guides. Contact the manufacturer for temperature limits.

## Electrical Specifications

Input voltage	100 – 240 VAC (± 10%), 50 – 60 Hz
Maximum output power	43 W
Input current (rms)	1.5 A @ 115 VAC
Flashlamp voltage (9)	400 – 600 VDC
Remote intensity control (10)	4 – 6 VDC (Vref: Vlamp = 1:100)
External trigger input (11)	+5 V TTL pulse, 20 mA, 10 – 100 μsec

## Environmental Specifications

Operating temperature	0 to +40°C (32 to +104°F)
Storage temperature	-40 to +90°C (-40 to +194°F)

Note 1: All values are nominal; specifications subject to change without notice.

Note 2: Maximum flash rate at 600 VDC; the numbers in parenthesis represent the range of flash rates at adjusted lamp voltage (400 – 600 VDC). Flashrate = 43/E where energy per flash, E = 1/2 Capacitance x Voltage<sup>2</sup> (E = 1/2 CV<sup>2</sup>).

Note 3: Energy at 400 – 600 VDC.

Note 4: Approximate values measured at 1/3 peak of light pulse.

Note 5: Approximate light output at 600 VDC into 0.9" (23 mm) diameter fiber optic light guide. Numerical aperture 0.5.

Note 6: Approximate light output at 600 VDC into 0.5" (13 mm) fiber optic light guide.

Note 7: Approximate light output at 600 VDC into 0.27" (7 mm) fiber optic light guide.

Note 8: Maintaining > 70% light output.

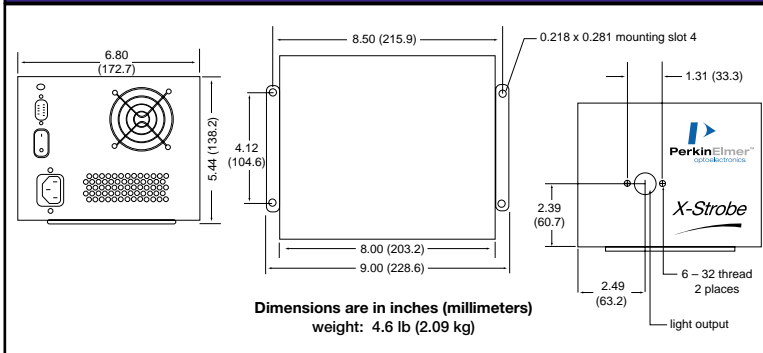
Note 9: Increasing lamp voltage will reduce lamp life.

Note 10: Also available Vref:Vlamp = 1:60

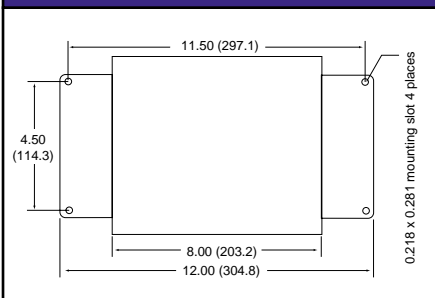
Note 11: Delay between flash command and light output is 8 μsec typical.

Note 12: Optional fiber optic nose pieces: Fostec 0.72" ID (MVS 23), Volpi 0.59" ID (MVS 24), or Dolan Jenner 1.0" ID (MVS 25).

## Mechanical Specifications



## Alternate mounting configuration



All values are nominal; specifications subject to change without notice.



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