

## Machine Vision Strobes

### MVS 7010, 7020, 7060

### High Intensity Xenon Strobes

The MVS 7000 Series represents PerkinElmer's high light output performance in Machine Vision Strobes. These high intensity strobes deliver over 40% more light output per watt than our MVS 2020 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 MVS 7000 series are available, each optimized for maximum light output at a specific flash rate. External signal inputs allow you to further customize the strobe to your application.

The MVS 7000 series is certified to the latest European CE directives for Safety and Emission. The universal AC power supply recognizes AC voltages from 90V to 230V ( $\pm 10\%$ ) with line frequencies from 50 – 60 Hz. The xenon flashlamp is housed in a field replaceable module. Various fiber optic bundles, nose pieces and adapters are available for sizes up to 1" in diameter.



#### Features

- CE certified
- Universal AC input (90 – 230 VAC,  $\pm 10\%$ )
- High intensity bright white light
- Configured for various fiber optic light guides
- Flash rates up to 135 Hz
- Pulse duration less than 20  $\mu\text{sec}$
- Rugged stainless steel enclosure
- Inputs for external trigger and intensity control
- Field replaceable flashlamp module

Optical Specifications

Parameter	MVS 7010 (2)	MVS 7020	MVS 7060
Maximum flash rate (3)	10 Hz (22 - 6 Hz)	20 Hz (45 - 13 Hz)	60 Hz (135 - 38 Hz)
Input energy per flash (4)	4.3 J (1.9 - 6.8 J)	2.2 J (1.0 - 3.4 J)	0.7 J (0.3 - 1.1 J)
Light output flash duration (5)	20 µsec	10 µsec	8 µsec
<b>Photometric light output</b>			
0.9" (23 mm) fiber optic light guide (6)	45 lumen-sec	26 lumen-sec	10 lumen-sec
0.5" (13 mm) fiber optic light guide (7)	28 lumen-sec	16 lumen-sec	7 lumen-sec
0.27" (7 mm) fiber optic light guide (8)	14 lumen-sec	7 lumen-sec	3.5 lumen-sec
<b>Radiometric light output</b>			
0.9" (23 mm) fiber optic light guide (6)	340 mJ	190 mJ	75 mJ
0.5" (13 mm) fiber optic light guide (7)	210 mJ	120 mJ	50 mJ
0.27" (7 mm) fiber optic light guide (8)	110 mJ	55 mJ	25 mJ
Spectral bandwidth	250 - 1100 + nm	250 - 1100 + nm	250 - 1100 + nm

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

Electrical Specifications

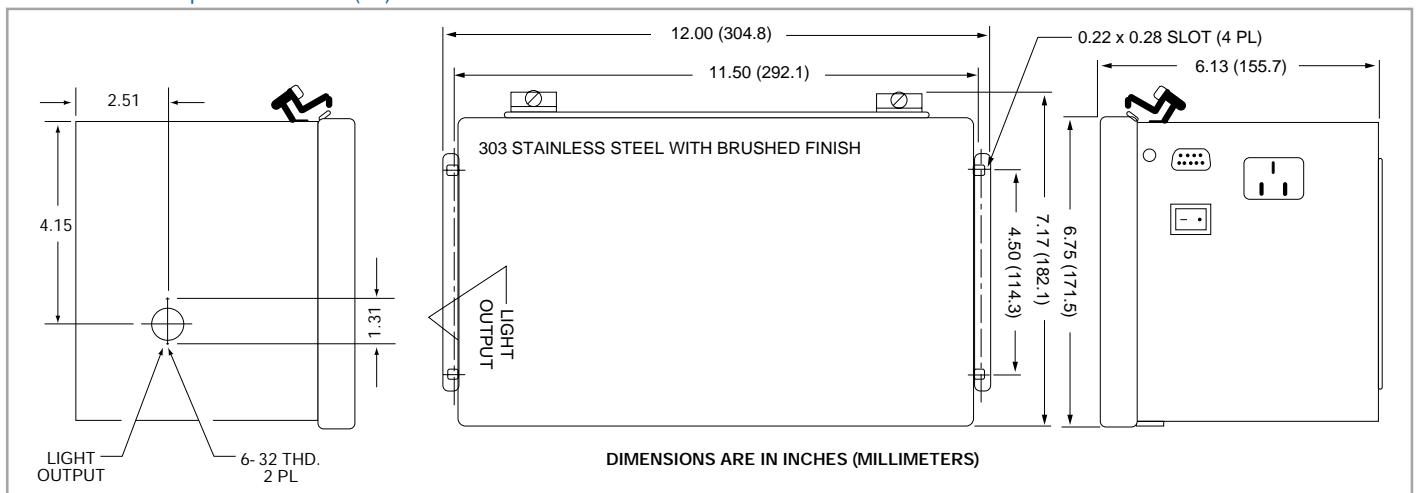
Input Voltage	90 - 230 VAC (±10%), 50 - 60 Hz
Maximum output power	43 W
Input current (rms)	1 A at 115 VAC
Flashlamp voltage (9)	400 - 750 VDC
Remote intensity control	5 - 10 VDC (Vref: Vlamp = 1 : 75)
Trigger input: (10)	
Trigger	+5 volt TTL pulse into 4N36 opto-isolator with 150 ohm nominal series resistor
Pulse duration	10 to 100 microseconds

Environmental Specifications

Operating temperature	-10 to +110°F (-23 to +43°C)
Storage temperature	-40 to +194°F (-40 to +90°C)

- Note 1: All values are nominal; specifications subject to change without notice.
- Note 2: Limited lamp life due to high peak currents; select the MVS 7020 or MVS 7060 for most applications.
- Note 3: Maximum flash rate at 600 VDC; the numbers in parenthesis represent the maximum flash rate at adjusted lamp voltage (400 - 750 VDC).
- Note 4: Energy at 600 VDC, energy per flash is voltage dependent (E = 1/2 CV<sup>2</sup>) and discharge capacitance is 24 µf, 12 µf, and 4 µf respectively.
- Note 5: Approximate values measured at 1/3 peak of light pulse.
- Note 6: Approx. light output @ factory setting into 0.9" (23mm) dia fiber optic light guide.
- Note 7: Approx. light output @ factory setting into .5" (13mm) dia fiber optic light guide.
- Note 8: Approx. light output @ factory setting into .27" (7mm) dia fiber optic light guide.
- Note 9: Factory set at 600 VDC; increasing lamp voltage will reduce lamp life.
- Note 10: Delay between flash command and light output is 8 µsec typical.
- Note 11: Optical 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 (11)



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