



PerkinElmer, Inc. is a \$1.7 billion high technology company based in Boston, Massachusetts, operating in four businesses—Life Sciences, Fluid Sciences, Optoelectronics, and Analytical Instruments. The Company has operations in over 125 countries, and is a component of the S&P Index.

PerkinElmer Optoelectronics is The Lighting, Imaging and Telecom Solutions Company based in Santa Clara, CA. PerkinElmer is a world leader in developing Optoelectronics products and services for many attractive markets. With more than 50 years of experience, Optoelectronics has the knowledge, the commitment, and the resources to provide complete solutions. By accelerating the development of new products and applications, leveraging our operations in Asia, Europe and North America, and incorporating Six Sigma into all that we do, we're building a premier customer franchise.

Lighting

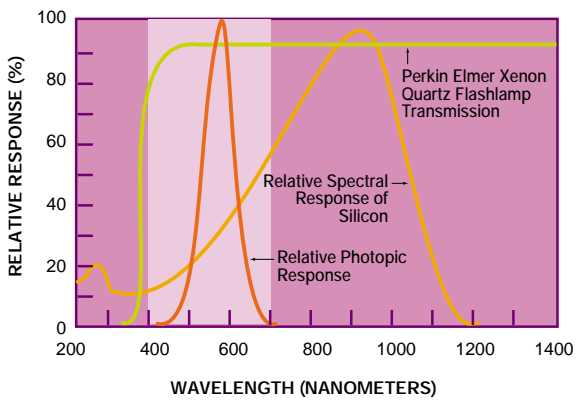
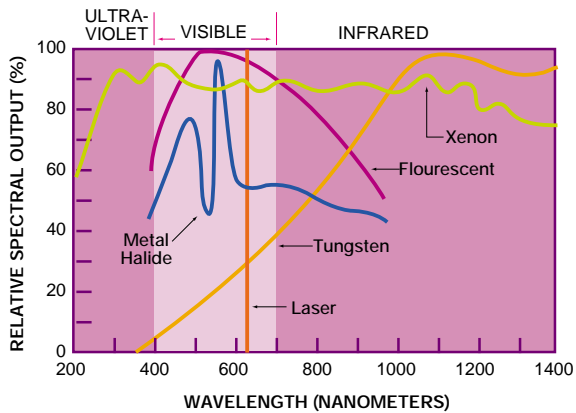
Building on strong customer partnerships, Optoelectronics is driving growth by "selling up the value chain." We offer complete customer solutions incorporating our xenon, mercury, metal halide and fluorescent lighting technologies. Applications range from analytical instrumentation and fiber optic illumination to advanced video projection and photographic flash systems.

Imaging

The leader in amorphous silicon technology, Optoelectronics produces the semiconductor panels that are the critical components of digital x-ray systems. Imaging products are grouped in four offerings; Industrial Imaging, Medical Imaging, Analytical Instruments and Consumer based applications.

Telecom & Sensors

Optoelectronics is a world-class provider of components and solutions for the Telecom industry with expertise in optical semiconductors, micro optic component integration, high volume manufacturing, and high-performance fiber optic test equipment. This segment is propelled by the explosive growth of the Internet and the resulting demand for high-speed, high-bandwidth fiber optic equipment.



PerkinElmer's commitment to meeting the needs of developing markets led to the production of a full line of illumination systems for machine vision and industrial application. Since the early 1980's, PerkinElmer Opto-electronics has been manufacturing the MVS (Machine Vision Systems) product line specifically for use with CCD and CID silicon cameras for a variety of industrial and vision application, including robotics and quality control. New systems are continually being developed in keeping with the technical advances of the other components that make up a complete machine vision system.

MVS Product Line

PerkinElmer is known in the industry for producing the highest quality illumination systems, as well as for its incomparable ability to customize those systems for specific applications. The product line includes systems utilizing xenon and metal halide technology and a variety of accessories that provide uniform direct lighting, fiber optic lighting, or collimated lighting.

Xenon Strobe Fiber Optic and Direct Illumination Systems

PerkinElmer's Machine Vision strobes include standard and custom xenon strobe products for use in industrial, vision and robotic applications. Able to freeze motion with high intensity and short duration pulses; our powerful, convenient strobes offer dramatic improvements over conventional lighting.

Continuous Fiber Optic Illumination Systems

PerkinElmer also provides fiber optic continuous illumination systems based on light sources including xenon and metal halide for industrial, vision and microscopy applications. Our cost effective systems provide high intensity white light in a small package requiring infrequent, simple and quick service periods.

Separate data sheets describe each of the systems and accessories. PerkinElmer's high standards of quality throughout the years have provided customers with safe, reliable products. Our MVS products are easy to install and ready to use.

Lighting Systems Design, Prototype and Production Partnering Services

PerkinElmer is a leader in systems design. We offer a wide range of partnering services including design, prototyping and production of electro-optic systems based on xenon strobe and continuous illumination sources. Let us offer you our experience in optical, electrical and mechanical engineering to provide you with your specific lighting solution.

Optical Characteristics

The spectral output of the xenon lamp is ideal for use with CCD and CID silicon cameras. The PerkinElmer MVS illumination systems are built primarily with xenon flash, xenon continuous or metal halide continuous light sources. Flashlamp repetition rate, operating position, and lifetime are all unique to the individual systems. Please refer to specific data sheets for details.

Power and Triggering Information

PerkinElmer's Machine Vision Systems are conveniently operated using conventional 115/220 VAC and/or 12 or 24 VDC input power. Specific data sheets provide power requirements for each system. All strobe units are TTL triggerable.

Operating Instructions

Operation of PerkinElmer Machine Vision Systems is straightforward. The units arrive completely assembled and ready for installation. An operations manual, which contains complete instruction for installation and operation, is shipped with each system.

Maintenance and Repair

PerkinElmer's Machine Vision Systems should be trouble-free under normal operating conditions. No routine maintenance or repair is required, except for periodic replacement of the lamp.

Over a period of time, and depending on usage, light output from the lamp will gradually deteriorate to the point where the lamp will have to be replaced. Contact PerkinElmer Optoelectronics for replacement of the lamp and instructions.

If a system fails or otherwise does not function properly, the user should not attempt any troubleshooting. Contact PerkinElmer Optoelectronics for assistance. Repairs should be made only by factory-trained personnel.

Safety Notes

Safe operating practices and proper use of PerkinElmer Machine Vision strobes are the responsibility of the user. Follow these guidelines to ensure safe operation:

- Operate the unit within the specified power range.
- Avoid looking directly at the lamp
- Follow the instructions supplied for replacement of the lamp
- Be sure to wear safety glasses when replacing lamps. These lamps are high pressure, gas-filled devices.
- Avoid getting fingerprints on the lamp. If this occurs, clean the surface with methanol or ethanol and a clean soft cloth.
- Allow several minutes for the residual voltage on the discharge capacitor to dissipate before opening a unit. To be fully sure there is no residual voltage, short across the discharge capacitor with a 10-kilohm resistor.

- Refer to the operations manual for the particular safety characteristics of each system type.
- Contact the factory for repairs.

Features

- High intensity white light
- Eliminates image blur of moving parts
- Operates at variable flash rates
- Custom options
- Uniformly illuminates small to large areas of interest
- Low input power
- Minimal heating effects
- UV enhancement available

Applications

- Quality assurance
- Part recognition
- Component orientation
- Label reading
- Counting
- Edge detection
- Sorting
- Motion sensing
- Package integrity verification
- Surface uniformity measurement
- Contaminant detection
- Color differentiation
- Fluorescence detection
- Near-IR detection

CUSTOMER SERVICE: YOUR NEEDS ARE OUR NEEDS

At the heart of our operation is a team of dedicated and responsive PerkinElmer employees, highlighted by our Customer Service personnel.

This experienced staff stands ready to provide you with immediate, helpful service, answering any question you may have about our products, our services, and our ordering procedures.

You can contact the Customer Service Department directly by calling **978-745-3200** or our toll-free number, **800-950-3441**, from 8:00 a.m. to 4:30 p.m. (EST). Or send us a fax at **978-745-0894**.

Located in Salem, Massachusetts, the Customer Service Department serves PerkinElmer Optoelectronics–Salem customers, allowing you to:

- **Place a Product Order** — in a quick and efficient manner.
- **Obtain Sales Center Information** — about one of the locations in our worldwide network of offices, distributors and representatives.
- **Order Product Literature** — including technical literature that details the features, specifications and performance of our products and services.
- **Procure Written Quotations** — for any product or service, standard or custom.
- **Receive Engineering Assistance** — through product engineers and design teams who can help you with everything from single components to complete electro-optical systems.
- **Obtain Manufacturing Information** — concerning our quality standards, procedures and certification processes.