

**Alignment:** Relationship of the light source and the receiver. Proper alignment is necessary to achieve maximum sensitivity to objects being monitored.

**Ambient Light:** The surrounding light in which the photoelectric sensor operates. Because they use modulated LED switches, Namco sensors are insensitive to ambient light.

**Control Module:** A remote unit containing the power supply in which amplification, modulation, and conditioning of the photoreceiver signal take place.

**Cross-Talk Immunity:** A unique capability of Namco sensors that allows several LED controls to be placed close to each other with each receiver responding only to the light beam frequency of its own transmitter.

**Current Sinking:** The output circuit grounds or sinks the load or current. Current sinking (NPN) or sourcing (PNP) outputs are available on Namco sensors.

**Current Sourcing:** The output circuit switches the source voltage to the load. Current sinking (NPN) or sourcing (PNP) outputs are available on Namco sensors.

**Dark-Operated:** Operating mode in which the control is activated by interrupting the beam of light.

**Diffuse Proximity:** Sometimes called a proximity because of the required nearness of the light source and the photosensor to the reflective object.

**Excess Gain:** The diffused amount of light falling on the face of a receiver over and above the amount required to operate amplifier of the scanner. It is a guideline measurement for selection of retro-reflective and scanner type units.

**Fiber Optic:** Cables transmit light from a control unit to an object and then return the reflected light back to the control unit producing an electrical signal.

**LED:** Light emitting diode. Can be visible or invisible (infrared).

**Light-Operated:** Operating mode in which the control is activated by an uninterrupted beam of light.

**Modulated LED:** An LED in which the light is pulsed at a predetermined frequency to reduce interference from ambient light and/or to increase the sensing distance. The receiver is preset to respond only to that predetermined frequency.

**Opaque:** The quality of a material or object that prohibits light from passing through it.

**Operating Mode:** Condition of a sensor (dark or light-operated) that will activate it.

**Photoreceiver:** A unit positioned to detect light, or its absence, in a photoelectric sensor. It consists of a photosensor and a focusing lens in an enclosure.

**Proximity:** Sensing technique that utilizes a single sensor unit containing both emitter and receiver. Relies upon object to be sensed having high reflectivity.

**Range:** The distance at which a sensor (excluding thru-beams) will sense white paper on a flat black surface for maximum signal ratio. Retro-reflective units and diffuse proximity units are rated in distance from the unit to a reflector or target.

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**Repeatability:** The ability of a photoelectric unit to sense an object continuously and reliably at a predetermined point within a given tolerance.

**Response Time:** Time required by a photosensor to respond to an input signal and activate the output.

**Retro-Reflective:** A sensing technique in which a beam of light is aimed at a specified reflector and reflected back to the photoreceiver.

**Reverse Polarity Protection:** Usually a diode inserted in one of the power leads of a D.C. switch. This protects the internal circuitry if connections are accidentally reversed.

**Self-Contained Control:** A photoelectric sensor capable of sensing, signal conditioning, and output in a single unit.

**Signal Ratio:** The relationship of light to dark when the sensor is illuminated. Proper control alignment is necessary to establish optimum light-to-dark signal ratio.

**Specular:** Reflective technique in which a light beam is reflected back to a photoreceiver at a predetermined angle from the object being monitored.

**Thru-Beam:** Sensing technique in which the light source and the sensor are located opposite each other, and the light beam passes from the source to the receiver directly without the use of a reflector.

**Translucent:** The quality of a material or object that permits light to pass through it but diffuses it. For detection purposes, a retro-reflective technique works best with translucent objects because light must pass through twice, thus producing a larger signal change.

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*For technical assistance, call 1-800-NAMTECH*