Glossary of Terms

Alignment
The correct relation of emitter to receiver as it is important for optimum performance.

Background Suppression
A general term for diffuse sensors that can be adjusted to ignore the influence of objects/ surfaces behind the target object. Background Suppression Sensors minimize variations in sensing distances because of the difference in reflectivity between highly reflective and dark targets.

Capacitive
A sensing device that is actuated by conductive and nonconductive materials with a dielectric constant greater than 1.

Color Mark Sensor
A sensor specifically designed to differentiate between colored marks or between a mark and a background color.

Converged Beam (Fixed Focus)
The convergent mode is similar to the diffuse sensing mode because an object is sensed when the receiver sees light reflected back to the sensor by the object itself. The emitter and receiver are focused at a fixed point. Because convergent beam sensors make much more efficient use of sensing light energy, they can sense relatively non-reflective materials and objects with small reflective surfaces.

Dark Activated
Operating mode for photoelectric sensors where the output is turned on (transistor becomes conducting, or relay coil is energized) when light is not received.

Diffuse Reflective
Sensor configuration with the emitter and receiver located in the same housing. Sensing of target is based on reflection of light from the target itself.

Hysteresis
The difference between the switch-on and switch-off point for a sensor.

Inductive Sensing
A sensing technology that identifies the presence of metallic objects by detecting eddy current losses in a magnetic field produced at a sensing face.

IP
International Protection; an international standard scale for enclosure ratings.

Kodak 90% Reflective White Card
A standard reference manufactured by Kodak designed to reflect 90% of white light. Used as a standard target for diffuse reflective sensors.

Light Activated
Operating mode for photoelectric sensors where the output is turned on when light is received.

Limit Switch
A switch positioned such that it is actuated by a moving part, in order to shut off or reverse the power to the motor driving the part when it reaches the limit set for it's travel.

Magnetic Sensing
A sensing device that is activated when brought into the influence of a magnetic field generated by either a permanent magnet or an electromagnet.

NEMA
National Electrical Manufacturer's Association; Industrial trade organization that publishes testing standards, including enclosure ratings.

NPN
Transistor output designed to provide a path to ground for current passing through the load (sinking). When the NPN output is on, current can then pass from Positive, through the load, and through the NPN transistor to ground, completing the circuit.

Off-Delay
Off delay timers prolong or hold an output signal by a preset time interval after the target leaves the sensing area. The OFF delay can be used as an output pulse extender when target presence is not of sufficient duration for control requirements.

On-Delay
On-Delay timers delay the generation of an output signal by a preset time interval from the appearance of the target. Target presence shorter in duration than the preset delay interval will not generate an output signal.

Polarized Retroreflective Sensing
Visible light from the emitter of a retroreflective photoelectric sensor that is filtered so as to be projected in only one plane. The receiver of a polarized unit is filtered to accept only light that is reflected perpendicular to the emitted light. Corner cube reflectors are required to properly rotate the emitted light source.

PNP
Transistor output that provides a path to "plus" for current passing through the load (sourcing). When the transistor is turned on, current can then pass from Positive, through the PNP transistor, through the load, and to ground, completing the circuit.

Retroreflective Sensing
Detection method where light from the emitter is aimed at, and reflected back to the receiver, from a retroreflective target.

Sensing Distance
The maximum distance at which, under specifications, a sensor can detect a target.

Shielded Sensor
A sensor which senses only to the front of its face and ignores metals to its side.

Switching Frequency
The maximum number of complete on-off cycles that the control output is capable of in one second, usually expressed in Hz (Hertz, cycles per second).

Through-Beam Sensing
Sensor where the emitter and receiver are in separate housings and arranged facing each other. The target would be detected passing between the emitter and receiver, interrupting the beam.

Ultrasonic Sensing
Ultrasonic proximity mode sensors can measure the time delay between the emitted sound and the returned echo, and produce an accurate measurement of sensing distance. Analog Ultrasonic Sensors produce an output that has a highly linear relationship to sensing distance.

Unshielded Sensor
Refers to inductive-type proximity sensors that do not have an internal metallic ring to reduce interference from surrounding metals and other inductive sensors. Non-shielded sensors cannot be flush mounted in metal and must be spaced further away from other inductive sensors than shielded types of sensors.