

Electronic Sensors Training | eLearning Course

Electronic Sensors - W17404-CJ14JEN-E1

Objective 6: Describe the Operation of a Photoelectric Sensor and Give an Application

Components of a Photoelectric Sensor

A photoelectric switch actually has three components, a light source (transmitter), a photoelectric sensor (the receiver) and one or more sets of electrical contacts.

The receiver uses a light sensitive diode (called a photo-diode) to pass current when exposed to the light from the transmitter.

When light from the sensor's transmitter strikes the receiver, the photo-diode conducts. This energizes the sensor, which moves its contacts to their energized state, N.O. contacts close and N.C. contacts open. When the transmitter light is removed from the receiver, the contacts return to their normal states.

The diagram illustrates the components of a photoelectric sensor. On the left is the transmitter, which emits a yellow light beam towards the receiver on the right. The receiver consists of a photo-diode and a relay. The photo-diode is connected to a control circuit that includes a diode and a relay. The relay has three contacts: a normally open (N.O.) contact that closes when the sensor is energized, and a normally closed (N.C.) contact that opens when the sensor is energized. The transmitter also has two electrical terminals.

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eLearning Course: M17404

Amatrol's Multimedia Courseware - Electronic Sensors (M17404) teaches learners essential electronic sensors concepts applicable throughout modern industry. Electronic sensors are used in a wide variety of advanced manufacturing applications, from automated systems to industrial robots. Learners using Amatrol's electronic sensors eLearning course will study the most-used sensors important throughout industry today, including inductive proximity, capacitive proximity, and photoelectric sensors.

In-Depth Electronic Sensors Curriculum

Comprehensive Electronic Sensors Curriculum Connected to Real-World Skills

Amatrol's electronic sensors eLearning course covers important topics, such as:

Inductive Proximity Sensors

Learners begin with an introduction to inductive proximity sensors. Individual lessons focus on topics like the function and operation of inductive proximity sensors, including factors that affect their performance. Learners will also practice skills, such as connecting and operating an inductive proximity sensor, measuring and analyzing inductive proximity sensor performance, and designing a drill motor control circuit which uses an inductive proximity sensor.

Capacitive Proximity Sensors

Learners will study the components and operation of capacitive proximity sensors. Individual lessons focus on topics like the function and operation of capacitive proximity sensors, including factors that affect their performance. Learners will also practice skills, such as connecting and operating a capacitive proximity sensor, measuring and analyzing capacitive proximity sensor performance, and designing a level sensing control circuit that uses a capacitive proximity sensor.

Photoelectric Sensors

Learners using Amatrol's electronic sensors eLearning course will study basic principles of photoelectric sensors. Individual lessons focus on topics like the function and operation of photoelectric sensors, including factors that affect their performance. Learners will also practice skills, such connecting and operating a photoelectric sensor, connecting and operating a motor control circuit with a photoelectric sensor, troubleshooting a motor control circuit with an electronic sensor, and designing a motor control circuit that will sense product jams on a conveyor system.

Interactive eLearning with Learning Management System

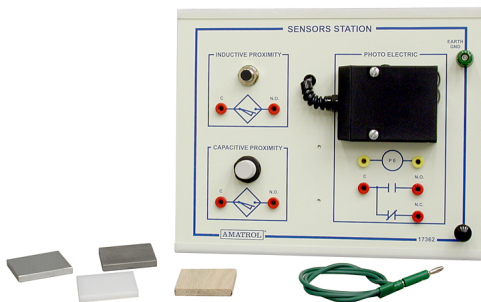
Highly-Interactive Multimedia Format Appeals to All Learning Styles

Amatrol's electronic sensors eLearning course features interactive eLearning curriculum that integrates various types of learning methods to create an engaging, effective learning experience. Amatrol's multimedia [eLearning](#) curriculum includes text with voiceovers, videos, 3D animations, pictures, and interactive activities, quizzes, and self-reviews.

Free Learning Management System (LMS)

Amatrol eLearning is easy-to-use for both students and instructors. Its web-based interface is simple to navigate and available on any WebGL-compatible Internet browser. Instructors love Amatrol eLearning for its simple, yet sophisticated Learning Management System (LMS). The LMS allows instructors to create custom courses, monitor student participation, track course progress, assess knowledge levels prior to a course, and test knowledge levels after completion. Learners appreciate the fact that they can start and stop as needed, moving through each Amatrol course at their own pace. If a self-review reveals that they didn't understand a particular topic as well as they thought they did, they can revisit it before moving on.

Additional Info



Requires:

- Computer (see [Computer Requirements](#))

Options:

- Electronic Sensors Learning System (85-MT5D)

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