Photoelectric Sensor

OVERVIEW

The photoelectric sensor is intended for use with:

- Belt Conveyor (The catalog number of the sensor is 00-1203-000.)
- Rotary Index Table (The catalog number of the sensor is 00-1209-000.)

DESCRIPTION

This photoelectric sensor is a photoelectric proximity switch which is used to detect objects within the sensing distance.

The sensor contains two basic elements in a single housing: (1) light transmitter, which emits infrared light; (2) light receiver, an optical transistor which is sensitive to infrared light.

When the transmitted beam strikes an object in its path, the beam is diffusely reflected (depending on the object's surface structure and color) back to the receiver. If the intensity of the reflected light is sufficient, the sensor will output an ON signal.

The sensor output can be connected to SCORBOT controller inputs to signal specific events, such as the arrival of an object on a conveyor belt.

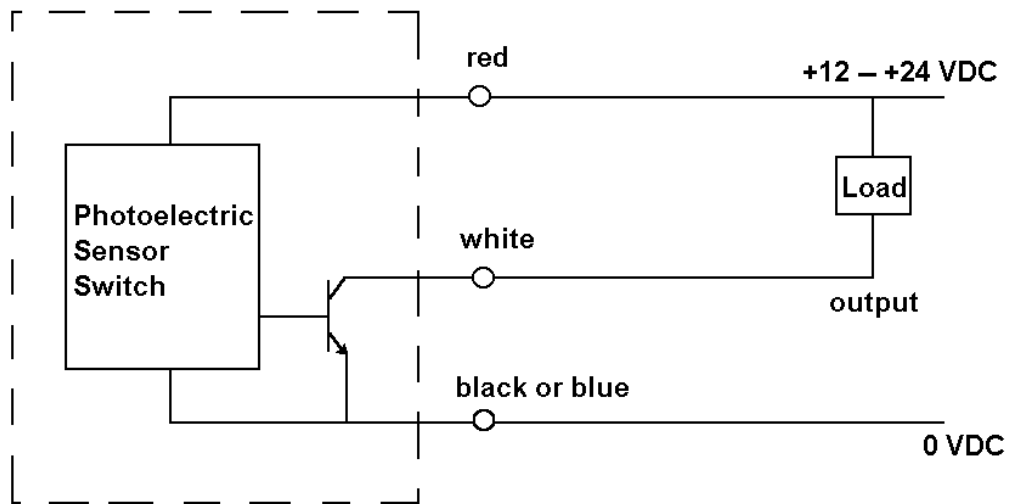| Specifications	
Sensing Method	Diffuse Reflective
Minimum Sensing Distance	100 mm
Supply Voltage	12–30 VDC
Maximum Output Current	100 mA
Light Source	Infrared LED
Operating State of Output	Light-On
Switching Output	NPN Open Collector

INSTALLATION

To install the sensor, connect its three wires as follows:

| Wire	Destination
Red	Power supply (12 VDC – 24 VDC)
Black (or blue)	Ground (GND)
White	A controller input

You can supply 12VDC to the sensor from the User power supply in Controller-A (SCORBOT-ER V/ Vplus/VII), or from the Utilities Control Box, or from any external 12VDC power supply.

If you use an external power supply, connect the power supply ground to the robot controller ground (GND).
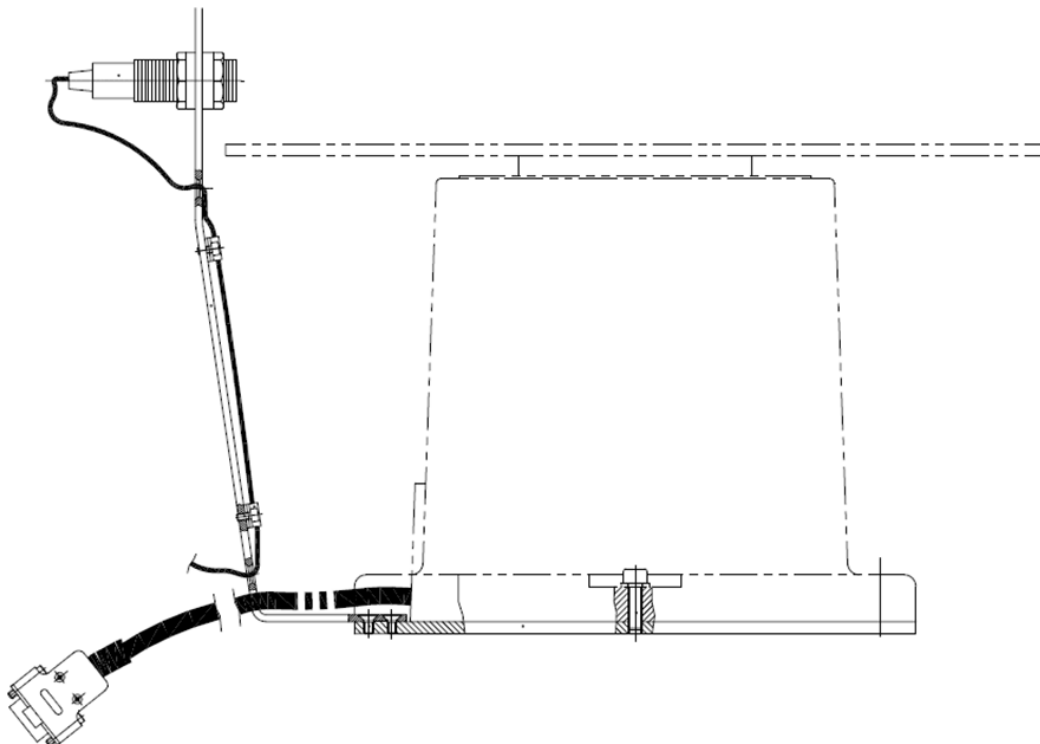
APPLICATION

The photoelectric sensor can be installed for use with a rotary table or a conveyor, as shown in the examples below. A special fixture supplied with the sensor allows you to install it in various positions.
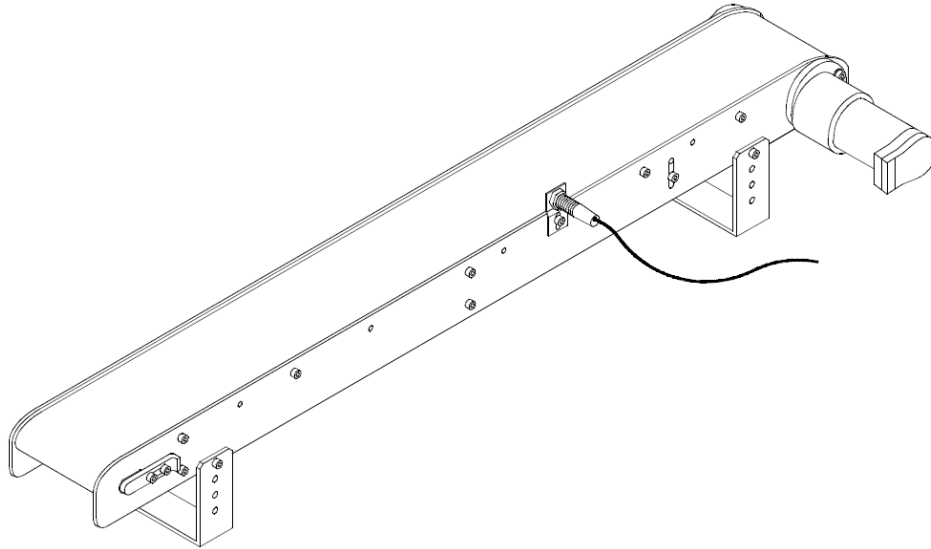
Sensor installed on conveyor

Sensor installed on rotary table

Note that the Pro Level of SCORBASE enables the use of the sensor in an interrupt mode. I.e., the moment the sensor detects the arrival of an object, it interrupts the operation of the entire robotic system and immediately initiates the interrupt service defined in the user program.

SCORBASE Levels 2 and 3 enable the sensor activation, but only in the polling mode. I.e., to detect the expected event, the program must continuously monitor the sensor state.