# Sensors Training Systems
6085-00

**LabVolt Series**

Datasheet

Festo Didactic
en 120 V - 60 Hz
05/2019

# Table of Contents



# General Description

**The Sensors Training Systems from LabVolt were replaced** by the following Festo Didactic equipment set:

- Equipment set TP 1311: Sensors for object detection

Click on the link for more information about the system (topic coverage, list of components, etc.)

Please note that the legacy systems listed below are shown for information purposes only, as the new equipment sets replace them:

# List of Available Training Systems

| Qty | Description | Model number |
|---|---|---|
| 1 | Sensors Training System (Stand-Alone) | 588648 (6085-A0) |

# Available Training Systems

## Sensors Training System (Stand-Alone) 588648 (6085-A0)

The Sensors Training System (Stand-Alone) is designed to familiarize students with the operation of various types of sensors. The training system is stand-alone in that it contains everything required to perform the exercises in the provided courseware, including a power supply, pilot lamps, connection leads, and a work surface for equipment installation.

The system contains a selection of photoelectric, inductive and capacitive sensors representative of what can be found in the industry. Each sensor is mounted on a flexible support attached to a metal base. The training system provides a comprehensive, high-quality, and cost-effective solution to rapidly build student knowledge in sensors.

The sensor inputs and outputs are accessible through banana jacks, allowing for easy system setup. The sensors are protected against bad connections and reverse polarity, and are identified with the proper symbol on their base. All components meet industrial safety standards.

A block, on which reflectors have been added, is used to observe the characteristics of each sensor.

The Sensors courseware consists of a student manual and an instructor guide. The student manual is divided into seven hands-on exercises. Each exercise provides a clearly stated objective, a discussion, a summary of the exercise procedure, a detailed exercise procedure, and a conclusion. The instructor guide contains the measurement results as well as the answers for each hands-on exercise of the student manual.

## List of Equipment

| Qty | Description | Model number |
|---|---|---|
| 1 | Expanding Work Surface (Small) | 582356 (6302-10) |
| 1 | DC Power Supply | 587962 (6360-A0) |
| 1 | Background Suppression Photoelectric Switch | 587979 (6373-00) |
| 1 | Polarized Retroreflective Photoelectric Switch | 587980 (6374-00) |
| 1 | Inductive Proximity Switch | 587981 (6375-00) |
| 1 | Capacitive Proximity Switch | 587982 (6376-00) |
| 1 | Diffuse Reflective Photoelectric Switch | 587983 (6377-00) |
| 1 | Fiber-Optic Photoelectric Switch | 587985 (6378-00) |
| 1 | Reflective Block | 582366 (6396-00) |
| 1 | Connection Leads | 588202 (6491-B0) |

## List of Manuals

| Description | Manual number |
|---|---|
| Sensors (Student Manual) | 584267 (32606-00) |
| Sensors (Instructor Guide) | 584271 (32606-10) |

## Table of Contents of the Manual(s)

### Sensors (Student Manual) (584267 (32606-00))



## System Specifications

| Parameter | Value |
|---|---|
| **Physical Characteristics** | |
| Intended Location | On a table able to support the weight of the work surface and installed equipment |
| Dimensions (H x W x D) | 555 x 425 x 220 mm (21.9 x 16.7 x 8.7 in) |
| Net Weight | TBE |

# Equipment Description

## Expanding Work Surface (Small) 582356 (6302-10)

The Expanding Work Surface (Small) consists in a perforated plate that can be mounted on the main Work Surface, Model 6301, to increase the work area. The Expanding Work Surface (Small) is one-third the main Work Surface in area.

### Specifications

| Parameter | Value |
|---|---|
| **Physical Characteristics** | |
| Dimensions (H x W x D) | 30 x 290 x 590 mm (1 x 11.5 x 23 in) |
| Net Weight | 3.2 kg (7.5 lb) |

## DC Power Supply 587962 (6360-A0)


The DC Power Supply converts the ac line voltage into a 24 V dc voltage. The power supply is protected against short circuits by an automatic current/ limit circuit.

### Specifications

| Parameter | Value |
|---|---|
| **Power Requirements** | |
| Voltage | 100-240 V ac |
| Current | 4.4 A |
| Service Installation | Standard single-phase ac outlet |
| **Output** | |
| Voltage | 24 V dc |
| Current | 5.0 A |
| **Physical Characteristics** | |
| Dimensions (H x W x D) | 120 x 140 x 225 mm (4.7 x 5.5 x 8.9 in) |
| Net Weight | TBE |

## Background Suppression Photoelectric Switch 587979 (6373-00)


The Background Suppression Photoelectric Switch consists of a light source and a receiver combined in the same casing. The sensor is mounted on a flexible support for easy positioning. The model has one normally open and one normally closed contact, and the electrical connections are made using miniature banana jacks.

## Specifications

| Parameter | Value |
|---|---|
| **Light Source** | Infrared LED, 880 nm |
| **Maximum Range** | 10 cm (4 in) |
| **Supply Voltage** | 24 V dc |
| **Contacts** | |
| Type | SPDT |
| Ratings | 24 V dc - 3 A |
| **Physical Characteristics** | |
| Dimensions (H x W x D) | 400 x 70 x 170 mm (16 x 3 x 7 in) |
| Net Weight | 500 g (1.1 lb) |

## Polarized Retroreflective Photoelectric Switch 587980 (6374-00)

The Polarized Retroreflective Photoelectric Switch consists of a light source and a receiver combined in the same casing. The sensor requires a special retroreflective surface. The sensor is mounted on a flexible support for easy positioning. The model has one normally open and one normally closed contact, and the electrical connections are made using miniature banana jacks.

### Specifications

| Parameter | Value |
|---|---|
| **Light Source** | Visible red LED, 660 nm |
| **Maximum Range** | 3 m (10 ft) |
| **Supply Voltage** | 24 V dc |
| **Contacts** | |
| Type | SPDT |
| Ratings | 24 V dc - 3 A |
| **Physical Characteristics** | |
| Dimensions (H x W x D) | 400 x 70 x 170 mm (16 x 3 x 7 in) |
| Net Weight | 500 g (1.1 lb) |

## Inductive Proximity Switch 587981 (6375-00)

The Inductive Proximity Switch is sensitive to metals. The sensor is mounted on a flexible support for easy positioning. The model has one normally open and one normally closed contact, and the electrical connections are made using miniature banana jacks.

### Specifications

| Parameter | Value |
|---|---|
| **Maximum Range** | 10 mm (0.4 in) |
| **Supply Voltage** | 24 V dc |
| **Contacts** | |
| Type | SPDT |

| Parameter | Value |
|---|---|
| Ratings | 24 V dc - 3 A |
| **Physical Characteristics** | |
| Dimensions (H x W x D) | 400 x 70 x 170 mm (16 x 3 x 7 in) |
| Net Weight | 500 g (1.1 lb) |

## Capacitive Proximity Switch 587982 (6376-00)

The Capacitive Proximity Switch is sensitive to every material. The sensor is mounted on a flexible support for easy positioning. The model has one normally open and one normally closed contact, and the electrical connections are made using miniature banana jacks.

## Specifications

| Parameter | Value |
|---|---|
| **Maximum Range** | 25 mm (1 in) |
| **Supply Voltage** | 24 V dc |
| **Contacts** | |
| Type | SPDT |
| Ratings | 24 V dc - 3 A |
| **Physical Characteristics** | |
| Dimensions (H x W x D) | 400 x 70 x 170 mm (16 x 3 x 7 in) |
| Net Weight | 500 g (1.1 lb) |

## Diffuse Reflective Photoelectric Switch 587983 (6377-00)


The Diffuse Reflective Photoelectric Switch consists of a light source and a receiver combined in the same casing. The sensor is mounted on a flexible support for easy positioning. The model has one normally open and one normally closed contact, and the electrical connections are made using miniature banana jacks.

### Specifications

| Parameter | Value |
|---|---|
| **Light Source** | Visible red LED, 700 nm |
| **Maximum Range** | 20 cm (8 in) |
| **Supply Voltage** | 24 V dc |
| **Contacts** | |
| Type | SPDT |
| Ratings | 24 V dc - 3 A |
| **Physical Characteristics** | |
| Dimensions (H x W x D) | 400 x 70 x 170 mm (16 x 3 x 7 in) |
| Net Weight | 500 g (1.1 lb) |

## Fiber-Optic Photoelectric Switch 587985 (6378-00)


The Fiber-Optic Photoelectric Switch consists of a fiber-optic photoeletric switch whose light source is a visible red LED. The sensor is mounted on a flexible support for easy positioning. The model has one normally open and one normally closed contact, and the electrical connections are made using miniature banana jacks.

### Specifications

| Parameter | Value |
|---|---|
| **Light Source** | Visible red LED, 680 nm |
| **Maximum Range** | 10 cm (4 in) |
| **Supply Voltage** | 24 V dc |
| **Contacts** | |
| Type | SPDT |
| Ratings | 24 V dc - 3 A |
| **Physical Characteristics** | |
| Dimensions (H x W x D) | 400 x 70 x 170 mm (16 x 3 x 7 in) |
| Net Weight | 500 g (1.1 lb) |

## Reflective Block 582366 (6396-00)

The Reflective Block consists of a block with various types of reflection surfaces: white, black, shiny metallic, matte black metallic, and retroreflective. The dimensions of the block are: 75 x 75 x 75 mm (3 x 3 x 3 in).

### Specifications

| Parameter | Value |
|---|---|
| **Surfaces** | White, black, shiny metallic, matte black metallic, retroreflective |
| **Physical Characteristics** | |
| Dimensions (H x W x D) | 75 x 75 x 75 mm (3 x 3 x 3 in) |
| Net Weight | 300 g (0.7 lb) |

## Connection Leads 588202 (6491-B0)

The Connection Leads consist in extra-flexible electrical leads terminated with stacking 2 mm banana plugs.

### Specifications

| Parameter | Value |
|---|---|
| **Electrical Leads** | |
| Quantity | 7 |
| Length | 45 cm (18 in) |
| Connectors | 2 mm banana plugs |
| Rating | 10 A |
| **Physical Characteristics** | |
| Net Weight | 100 g (0.2 lb) |

Reflecting the commitment of Festo Didactic to high quality standards in product, design, development, production, installation, and service, our manufacturing and distribution facility has received the ISO 9001 certification.



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