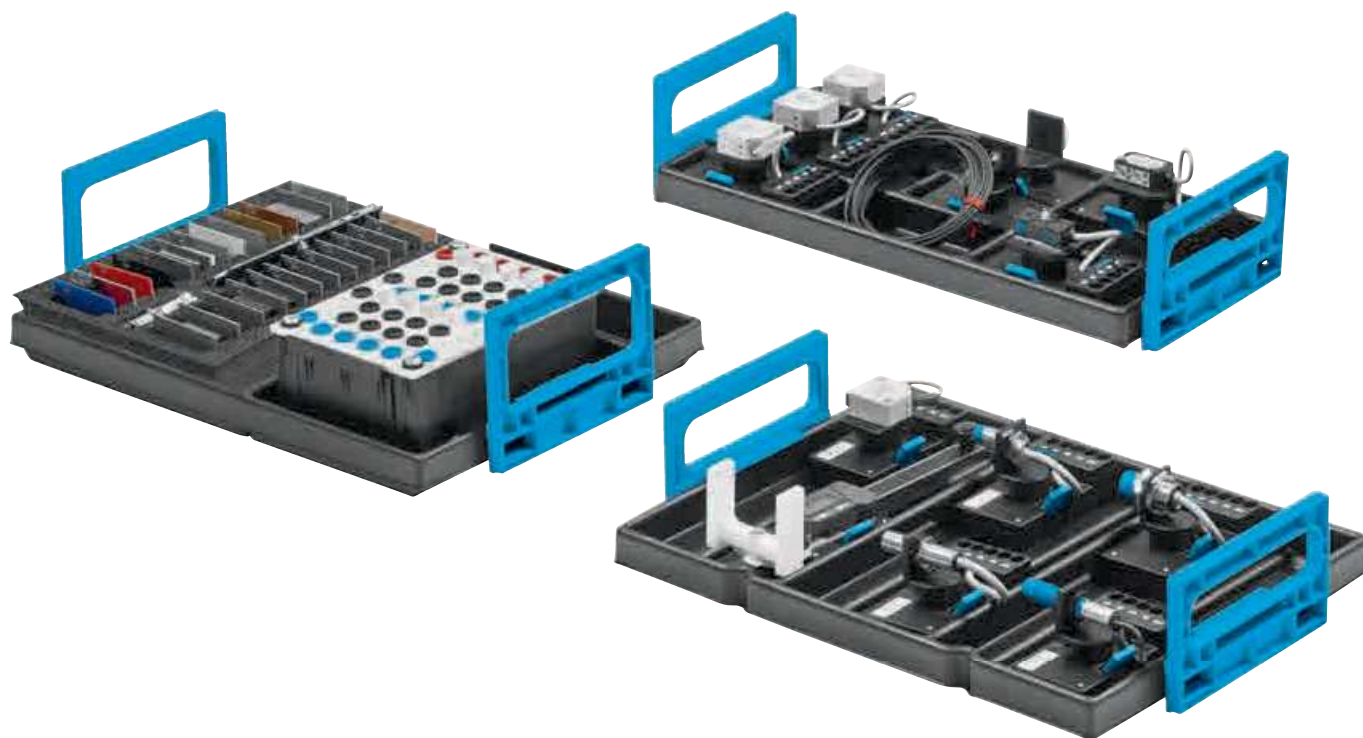# Equipment set TP 1311
Sensors for object detection

The purpose of automation technology

The subject of sensors for object detection is covered extensively in the TP 1311 equipment set. The topics include configuration, function, areas of application, and the selection of sensors based on the requirements of an application.

The equipment set contains sensors with analog and binary output signals, although the focus is on binary output signals. These sensors are called proximity switches.

The following types are contained in the equipment set:
– Magnetic proximity sensors
– Inductive proximity sensors
– Optical proximity sensors
– Capacitive proximity sensors
– Inductive sensors (analog)

The special feature
Hands-on experience plays a central role in teaching the fundamentals of sensors for object detection. Examples are used to demonstrate the general operational principles of different sensors. Special attention is paid to the selection of the right sensor, its connection, the correct setting, and functional checking.

With the TP 1311 students can acquire a thorough, basic knowledge about sensors for object detection.

Course topics
– Configuration, function, and coefficients of the sensors used
– Basic principles of connection and circuit technology
– Influence of object shape, material, surface, and color on the switching characteristics of sensors
– Terms which describe coefficients and functional behavior
– Configuration of logic circuits
– Selecting appropriate sensors by taking into account certain parameters

Complete equipment set TP 1311	566918

The most important components at a glance:

1	1x	Proximity sensor, magneto-resistive	566199
2	1x	Proximity sensor, inductive, M12	548643
3	1x	Proximity sensor, inductive, M18	548645
4	1x	Analog sensor, inductive, M12	548644
5	1x	One-way light barrier, receiver	548647
6	1x	One-way light barrier, transmitter	548648
7	1x	Fiber-optic unit	548655
8	1x	Fiber-optic cable	548659
9	1x	Retro-reflective sensor	548649
10	1x	Reflector (triple mirror), 20 mm	548650
11	1x	Diffuse sensor with background suppression	548656
12	1x	Proximity sensor, capacitive, M12	548651
13	1x	Indicator unit and distributor, electrical	162244
14	1x	Slide unit	572740
15	1x	Set of test objects	549830

Accessories, also order:

Aluminum profile plate ➔ Page 39
Slotted mounting plate ➔ Page 39
Tabletop power supply unit ➔ www.festo-didactic.com
Power supply unit for mounting frame ➔ Page 159
4 mm Safety laboratory cables ➔ Page 159

Also order:

Workbook

Fifteen projects based on industrial examples, suitable for equipment set TP 1311, each including problem descriptions, parameters, and project tasks, deal in detail with the specific subject of sensors for object detection. The main topics are configuration, function, and the influence of material properties on behavior, possible applications, and how to select a sensor based on the application conditions.

The content topics are covered by exercises using magnetic, inductive, optical, and capacitive proximity sensors.

The workbook includes:
– Sample solutions
– Training notes
– Multimedia CD-ROM with graphics, photos of industrial applications
– Exercise sheets for trainees
Campus license (➔ Page 19):

de	566919
en	566920
es	566921
fr	566922

Supplementary media
– WBT Sensor technology 2: Sensors for object detection
– Textbook: Proximity switches