

Optical Sensors



Wide Range of Sensors

Festo is a single source supplier for a wide range of optical detection sensors. Festo carries an optical sensor for distances ranging from 0 to 20,000 mm. These sensors assure a high precision as well as performance, flexibility and speed.

Versatility

Festo offers a wide range of options for size and mounting as well as custom, application optimized solutions.

Sensing Options

Festo optical sensors are available in fixed and in intelligent or teachable versions. There are many different sensing options such as:

- Through Beam
- Retro Reflective
- Diffuse

Including Background suppression for improved sensing

Light Sources

There are various light sources and technologies, that include:

- Visible and Infrared light
- Laser light for higher precision
- Fiber optic for small areas

Contrast, Color, and Distance measuring are also available.

Robust Construction

Festo optical sensors are highly protected to a protection class of IP67 and are therefore suitable for harsh environments.

Optical Sensors

Technical Data						
Type	SOEC-RT-Q50	SOE-...-Q20,Q30	SOEG-RT-4/M5-...	SOE-...-Q50	SOEL-RTD-Q50	SOEG-...-M12/M18
Sensor types	Color	D, RR, TB, B, BT, DS, C	D	B, RR, TB	Distance	D, RR, TB, B
Form factor	Q50 block shape	Q20 or Q30 block shape	Barrel style	Q50 block shape	Q50 block shape	Barrel style
Sensing range	12 ... 32 mm	Up to 1000 mm	10 mm	Up to 12 m	80 ... 300 mm 4 ... 20 mA	Up to 2 m
Outputs	3 Digital channels (PNP, NO)	NO/NC, programmable	NO PNP/NPN	PNP/NPN, NO, changeover	2 PNP, programmable	PNP/NPN
Connection	M12 plug, 8-pin	M8 plug/cable	Cable	M12, plug/cable	M12 plug, 8-pin	M12/cable
Max. output current	100 mA	100 mA	100 mA	200 mA	100 mA	200 mA
Operating voltage	12 ... 28 V DC (±10%)	10 ... 30 V DC (±10%)	10 ... 30 V DC (±20%)	10 ... 30 V DC (±10%)	16 ... 30 V DC (±10%)	10 ... 30 V DC
Switching frequency	500 Hz	Up to 1000 Hz	250 Hz	Up to 2500 Hz	100 Hz	500/1000 Hz
Light source	White LED	Red LED/red laser, fiber optic	LED IR 880 nm	Red LED/red laser	Red laser Beam 650 nm	Red LED
Polarity protection	Yes	Yes	Yes	Yes	Yes	Yes
Short circuit protection	Yes	Yes	Yes	Yes	Yes	Yes
Protection class	IP67	IP67	IP67	IP67	IP67	IP67
Operating temperature	-10 ... +55°C	-20 ... +60°C	0 ... +55°C	-20 ... +60°C	-10 ... +60°C	-25 ... +55°C
Housing material	ABS	ABS	Stainless steel	ABS	ABS	Brass, chrome plated
Approvals	UL listed	UL listed for Q20	N/A	UL listed	UL listed	N/A

B = Background Suppression for transparent objects
 C = Contrast
 D = Diffuse
 DS = Distance
 IR = Infrared
 RR = Retroreflective
 TB = Through Beam

Applications or Industry Segments

Packaging:

Festo three-color sensor, type SOEC-RT-Q50_PS-S-7L, is ideal for identifying or sorting correct packaging based on color markers.

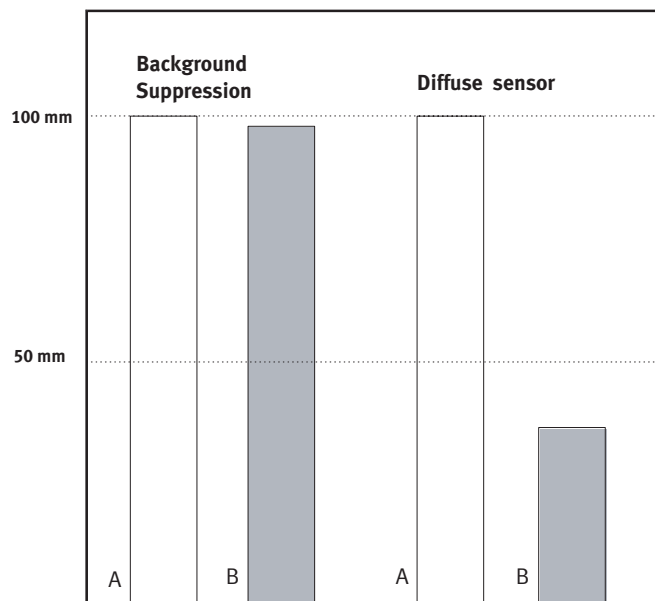
Festo offers many types of solutions for detecting objects for packaging, regardless of size, color, or transparency.

Distance Sensing:

Festo laser displacement sensor, type SOEL-RTD-Q50-PP-S-7L, can accurately measure a distance from 80 mm to 300 mm with a resolution of 0.3 mm.

Background Suppression

Background Suppression technology is useful for identifying two closely matched objects in color or position.



Background Suppression discerns objects (A, B) within closer proximity of each other than conventional sensing.

Festo Corporation

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