

At a glance:

- Smallest fully self-contained photoelectric proximity switch on the market
- Long operating distances
- Standardized sizes: Ø 4 mm smooth and M5 threaded
- Glass window, therefore scratch resistant and easy to clean
- Excellent resistance to environmental influences thanks to fully vacuum-potted electronics and optical parts
- High degree of protection: IP 67

Construction

The devices are built into stainless-steel housings, and fully potted under vacuum. The optical part works with parabolic mirrors (no lenses), which allows for full potting without degradation of the optical characteristics, thus providing the best long-term reliability in difficult environments. The electronic module uses chip-on-board technology on a ceramic-free substrate, and is therefore insensitive to shock and deformation.

Sensitivity setting

The sensitivity is factory adjusted, and cannot be modified by the user.

Protection

The switches are protected against overloads, short-circuits and all possible wire reversals. Furthermore, protection against overvoltages caused by inductive loads on the output and against voltage spikes on the power supply lines are built in. Malfunctions or destruction caused by electrostatic discharges, fast transients, or HF fields, are prevented by appropriate technology.

LED

The LED (yellow) lights up if a sufficient quantity of light falls on the receiver; at the same time, the light-ON output is switched. The LED flashes if the receiver does not receive enough light (excess light) for reliable operation.

Connection

Switches with 2 m PVC cable 3 x 0.14 mm² (type 2) or 3-pole S8 connector are standard. Other cable types or lengths are available on request. Suitable connecting cables are listed on page 112.

Test input

The additional test input built into the emitters of through-beam models provides the possibility of an extra system control.

Excess light control

If the switch is detecting an object, but not enough light (excess light) is available at the receiver's sensing face, the LED flashes. As a result, alignment is made much easier. Moreover, eventual dirt on the sensing face is indicated early. Cleaning is therefore possible before proper operation is impaired, thus increasing system viability.

Technical data:

(according to IEC 60947-5-2)

Hysteresis	10 % typ.
Supply voltage range U_B	10 ... 30 VDC
Max. ripple content	20 %
Output current	100 mA
Output voltage drop	2.0 V max. at 100 mA
Max. switching frequency	250 Hz
Switching time (\uparrow and \downarrow)	2.5 msec
Max. ambient light:	
halogen	5,000 Lux
sun	10,000 Lux
Ambient temperature range	0 ... +55 °C
Degree of protection	IP 67
EMC protection:	
IEC 60255-5	1 kV
IEC 61000-4-2	Level 2
IEC 61000-4-3	Level 3
IEC 61000-4-4	Level 2

Power-ON reset

Operation of the output is inhibited until the power supply requirements are met. This prevents unwanted switching of the output during power-ON.

Data sheets

Detailed data sheets with additional technical information are available for all models. These may be retrieved from the CONTRINEX website (www.contrinex.com), or ordered cost-free from our sales offices.

Drawings

The mechanical drawings may be downloaded as data files from the CONTRINEX website, and imported directly into construction drawings.

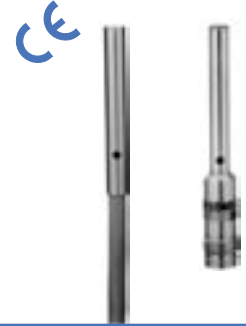
Delivery package

Photoelectric proximity switch, 2 fixing nuts (for size M5), instructions.

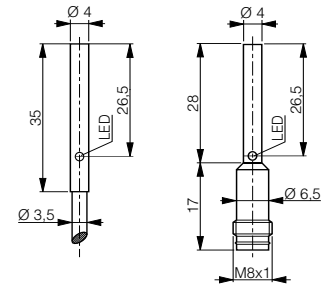
Ø 4

Diffuse sensor, energetic

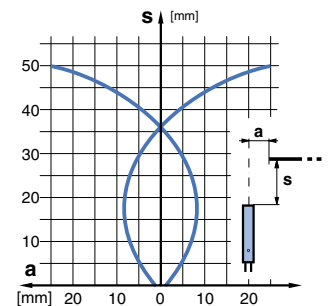
50 mm



Dimensions:

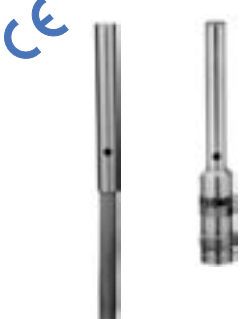
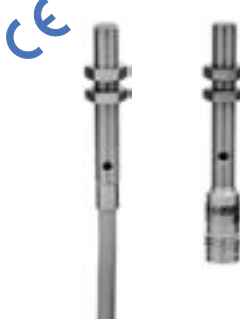
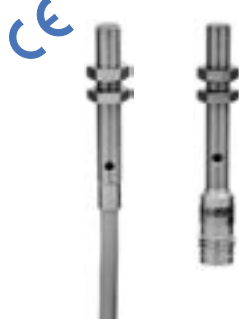
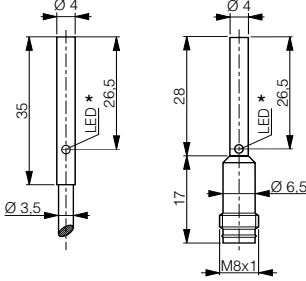
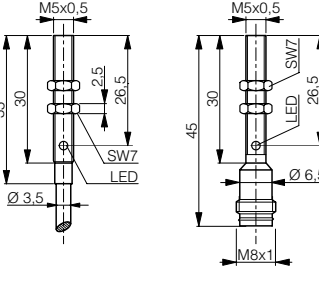
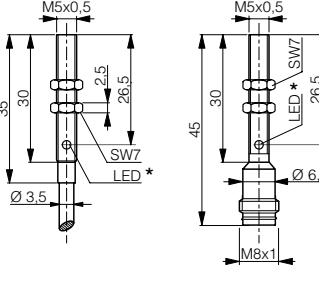
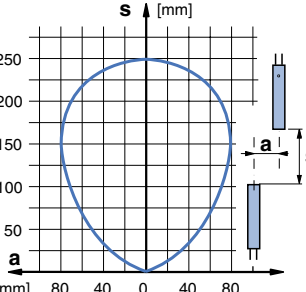
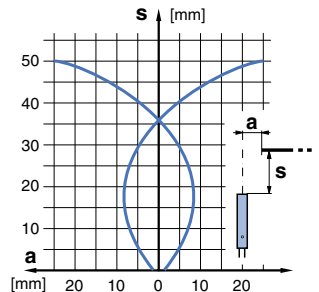
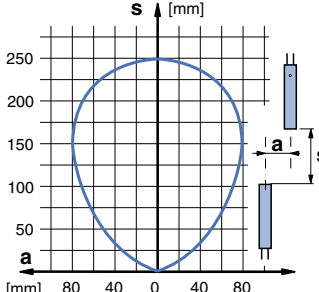


Response curve:



Operating distance	50 mm
Standard target	100 x 100 mm white
No-load supply current	15 mA typ.
Emitter	IR LED 880 nm
Weight (cable / connector model)	35 / 3 g
Part ref.: (bold: preferred types)	
NPN light-ON / cable	LTK-1040-301
NPN dark-ON / cable	-
NPN light-ON / connector S8	LTS-1040-301
NPN dark-ON / connector S8	-
PNP light-ON / cable	LTK-1040-303
PNP dark-ON / cable	-
PNP light-ON / connector S8	LTS-1040-303
PNP dark-ON / connector S8	-
Suitable connecting cables (page 112)	A, B
Wiring (pages 100 - 101)	Diagram 1

SERIES 1040 / 1050

<p style="text-align: center;">Ø 4</p> <p style="text-align: center;">Through-beam sensor</p> <p style="text-align: center;">250 mm</p>	<p style="text-align: center;">M5</p> <p style="text-align: center;">Diffuse sensor, energetic</p> <p style="text-align: center;">50 mm</p>	<p style="text-align: center;">M5</p> <p style="text-align: center;">Through-beam sensor</p> <p style="text-align: center;">250 mm</p>	
			
 <p style="text-align: center;">*receiver only</p>		 <p style="text-align: center;">*receiver only</p>	
			
<p style="text-align: center;">250 mm</p>	<p style="text-align: center;">50 mm</p>	<p style="text-align: center;">250 mm</p>	
<p style="text-align: center;">-</p>	<p style="text-align: center;">100 x 100 mm white</p>	<p style="text-align: center;">-</p>	
<p style="text-align: center;">5 mA typ. (R) / 10 mA typ. (E)</p>	<p style="text-align: center;">15 mA typ.</p>	<p style="text-align: center;">5 mA typ. (R) / 10 mA typ. (E)</p>	
<p style="text-align: center;">IR LED 880 nm</p>	<p style="text-align: center;">IR LED 880 nm</p>	<p style="text-align: center;">IR LED 880 nm</p>	
<p style="text-align: center;">35 / 3 g (R and E)</p>	<p style="text-align: center;">35 / 4 g</p>	<p style="text-align: center;">35 / 4 g (R and E)</p>	
<p style="text-align: center;">(R) receiver / (E) emitter</p>	<p style="text-align: center;">LTK-1050-301</p>	<p style="text-align: center;">(R) receiver / (E) emitter</p>	
<p style="text-align: center;">-</p>	<p style="text-align: center;">-</p>	<p style="text-align: center;">-</p>	
<p style="text-align: center;">LLK-1040-202 (R) / LLK-1040-200 (E)</p>	<p style="text-align: center;">LTS-1050-301</p>	<p style="text-align: center;">LLK-1050-202 (R) / LLK-1050-200 (E)</p>	
<p style="text-align: center;">-</p>	<p style="text-align: center;">-</p>	<p style="text-align: center;">-</p>	
<p style="text-align: center;">LLS-1040-202 (R) / LLS-1040-200 (E)</p>	<p style="text-align: center;">LTK-1050-303</p>	<p style="text-align: center;">LLS-1050-202 (R) / LLS-1050-200 (E)</p>	
<p style="text-align: center;">-</p>	<p style="text-align: center;">-</p>	<p style="text-align: center;">-</p>	
<p style="text-align: center;">LLK-1040-204 (R) / LLK-1040-200 (E)</p>	<p style="text-align: center;">LTS-1050-303</p>	<p style="text-align: center;">LLK-1050-204 (R) / LLK-1050-200 (E)</p>	
<p style="text-align: center;">-</p>	<p style="text-align: center;">-</p>	<p style="text-align: center;">-</p>	
<p style="text-align: center;">LLS-1040-204 (R) / LLS-1040-200 (E)</p>	<p style="text-align: center;">-</p>	<p style="text-align: center;">LLS-1050-204 (R) / LLS-1050-200 (E)</p>	
<p style="text-align: center;">A, B</p>	<p style="text-align: center;">A, B</p>	<p style="text-align: center;">A, B</p>	
<p style="text-align: center;">Diagram 1 (R) / 4 (E)</p>	<p style="text-align: center;">Diagram 1</p>	<p style="text-align: center;">Diagram 1 (R) / 4 (E)</p>	

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