

GTE6-P6231 G6

**MINIATURE PHOTOELECTRIC SENSORS** 





# Ordering information

Туре	Part no.
GTE6-P6231	1080231

Other models and accessories → www.sick.com/G6

Illustration may differ



## Detailed technical data

## **Features**

Functional principle	Photoelectric proximity sensor
Functional principle detail	Energetic
Sensing range max.	≤ 900 mm
Sensing range	≤ 760 mm
Polarisation filters	No
Emitted beam	
Light source	PinPoint LED
Type of light	Visible red light
Light spot size (distance)	Ø 5 mm (150 mm)
Key LED figures	
Wave length	650 nm
Adjustment	Mechanical spindle, 5 turns

# Safety-related parameters

MTTF <sub>D</sub>	1,749 years
<b>DC</b> <sub>avg</sub>	0 %
T <sub>M</sub> (mission time)	20 years

#### Electrical data

Supply voltage $\mathbf{U}_{\mathrm{B}}$	10 V DC 30 V DC <sup>1)</sup>
Ripple	± 10 % <sup>2)</sup>
Current consumption	30 mA <sup>3)</sup>
Protection class	III
Digital output	
Туре	PNP
Switching mode	Light/dark switching
Switching mode selector	Selectable via light/dark selector
Signal voltage PNP HIGH/LOW	$V_S$ - ( $\leq 3 \text{ V}$ ) / approx. 0 V
Output current I <sub>max.</sub>	≤ 100 mA <sup>4)</sup>
Response time	1.25 ms <sup>5)</sup>
Switching frequency	500 Hz <sup>6)</sup>
Circuit protection	A <sup>7)</sup> B <sup>8)</sup> D <sup>9)</sup>

 $<sup>^{1)}\,\</sup>mathrm{Limit}$  values when operated in short-circuit protected network: max. 8 A.

#### Mechanical data

Housing	Rectangular
Dimensions (W x H x D)	12 mm x 31.5 mm x 21 mm
Connection	Cable with M8 male connector, 4-pin, 300 mm <sup>1)</sup>
Connection detail	
Conductor size	0.14 mm <sup>2</sup>
Length of cable (L)	300 mm <sup>1)</sup>
Material	
Housing	Plastic, ABS/PC
Front screen	Plastic, PMMA
Cable	PVC
Weight	60 g

 $<sup>^{1)}</sup>$  Do not bend below 0 °C.

# Ambient data

Enclosure rating	IP67
Ambient operating temperature	-25 °C +55 °C <sup>1)</sup>

 $<sup>^{1)}</sup>$  Temperature stability following adjustment +/-10  $^{\circ}\text{C}.$ 

 $<sup>^{2)}\,\</sup>mbox{May}$  not exceed or fall below  $\mbox{U}_{\mbox{\scriptsize V}}$  tolerances.

<sup>3)</sup> Without load.

 $<sup>^{4)}</sup>$  At Uv > 24 V, IA max. = 50 mA.

<sup>5)</sup> Signal transit time with resistive load.

<sup>6)</sup> With light/dark ratio 1:1.

 $<sup>^{7)}</sup>$  A = V<sub>S</sub> connections reverse-polarity protected.

<sup>8)</sup> B = inputs and output reverse-polarity protected.

 $<sup>^{9)}</sup>$  D = outputs overcurrent and short-circuit protected.

Ambient temperature, storage	-40 °C +70 °C
UL File No.	E348498

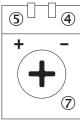
 $<sup>^{1)}</sup>$  Temperature stability following adjustment +/-10  $^{\circ}\text{C}.$ 

## Classifications

ECLASS 5.0	27270903
ECLASS 5.1.4	27270903
ECLASS 6.0	27270903
ECLASS 6.2	27270903
ECLASS 7.0	27270903
ECLASS 8.0	27270903
ECLASS 8.1	27270903
ECLASS 9.0	27270903
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC001821
ETIM 6.0	EC001821
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

# Adjustments

Adjustment possibility



- LED indicator green: Supply voltage active
   LED indicator yellow: Status of received light beam
- ⑦ Sensitivity control: potentiometer

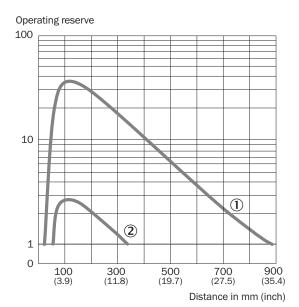
# Connection type



# Connection diagram

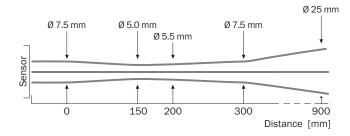
## Cd-066

#### Characteristic curve

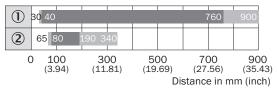


- ① Sensing range on white, 90% remission factor
- ② Sensing range on black, 6.25 % remission

# Light spot size

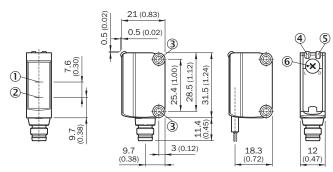


## Sensing range diagram



- Sensing range
- Sensing range, typ. max.
- ① Sensing range on white, 90% remission factor
- ② Sensing range on black, 6.25 % remission

## Dimensional drawing (Dimensions in mm (inch))



- ① Optical axis, receiver
- ② Optical axis, sender
- 3 Mounting holes M3
- ④ LED indicator green: Supply voltage active
- (5) LED indicator yellow: Status of received light beam
- 6 Light/ dark rotary switch: L = light switching, D = dark switching

#### Recommended accessories

Other models and accessories → www.sick.com/G6

	Brief description	Туре	Part no.
Universal bar	clamp systems		
	Clamp bar to fix G6 sensors on rods of 12 mm, clamp-on design up to 4 mm wall thickness, aluminum (clamp bar), stainless steel (bracket), clamp bar mounting and clamp function, mounting bracket, mounting hardware	BEF-KHS-IS12G6	2086865
Mounting bra	ckets and plates		
	Stainless steel (1.4301)	BEF-WN-G6	2062909
Plug connecto	ors and cables		
•	<ul> <li>Connection type head A: Female connector, M8, 4-pin, straight, A-coded</li> <li>Connection type head B: Flying leads</li> <li>Signal type: Sensor/actuator cable</li> <li>Cable: 5 m, 4-wire, PVC</li> <li>Description: Sensor/actuator cable, unshielded</li> <li>Application: Zones with chemicals</li> </ul>	YF8U14- 050VA3XLEAX	2095889

Brief description	Туре	Part no.
<ul> <li>Connection type head A: Male connector, M8, 4-pin, straight</li> <li>Description: Unshielded</li> <li>Connection systems: Screw-type terminals</li> <li>Permitted cross-section: 0.14 mm² 0.5 mm²</li> </ul>	STE-0804-G	6037323

# SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is "Sensor Intelligence."

# **WORLDWIDE PRESENCE:**

Contacts and other locations -www.sick.com

