Data sheet

GLL70P-1HTGY1DZZZZZ1Z1

GLL70

FIBER-OPTIC SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	part no.
GLL70P-1HTGY1DZZZZZ1Z1	6087429

Other models and accessories ➜ www.sick.com/GLL70

Detailed technical data

Features

Device type	Fiber-optic amplifier
Device type detail	Stand-alone
Functional principle detail	Depending on the optical fiber cable used
Sensing range max.	Depending on the optical fiber cable used
Emitted beam	
Light source	LED
Type of light	Visible red light
Key LED figures	
Normative reference	EN 62471:2008-09 | IEC 62471:2006, modified
LED risk group marking	Free group
Wave length	660 nm
Average service life	100,000 h at T_a = +25 °C
Adjustment	
Wire/pin	For deactivation of the sender and execution of test logic For setting the sensing range For synchronizing the output signal with the trigger signal
Display + operating buttons	For configuring the sensor parameters
Display	
LED green	Operating indicator Static on: power on
LED yellow	Status of digital output Permanently on: Switching output active Permanently off: Digital output not active Flashing: Executing teach-in/teach-in error
Display	Display of sensor functions Menu languages. German, English, Chinese, Korean

Safety-related parameters

$MTTF_D$	581.5 years
DC_{avg}	0%
T_M (mission time)	20 years

Electronics

Supply voltage U_B	10 V DC ... 30 V DC [1]
Ripple	± 10 %
Current consumption	≤ 50 mA
Protection class	III
Digital output	
Number	1
Type	PNP [2]
	NPN: open collector [2]
Signal voltage PNP HIGH/LOW	Approx. U_B-2.5 V / 0 V
Signal voltage NPN HIGH/LOW	Approx. U_B / < 2.5 V
Output current $I_{max.}$	≤ 100 mA
Circuit protection outputs	Reverse polarity protected
	Overcurrent protected
	Short-circuit protected
Response time	≤ 50 µs
	≤ 250 µs
	≤ 1,000 µs
	≤ 4,000 µs
Switching frequency	10 kHz [3]
	2 kHz
	500 Hz
	31.25 Hz
Time functions	Switch-on delay
	Off delay
	ON and OFF delay
	Impulse (one shot)
	Switch-on delay and pulse
	Deactivated
Delay time	Adjustment via operating buttons, 0 ms ... 30,000 ms
Digital input	
Number	1
Pin/Wire assignment	
Function of pin 4/black (BK)	Digital output, object present → Output Q HIGH
Function of pin 4/black (BK) – detail	The pin 4 function of the sensor can be configured

[1] Limit values.
[2] Selectable via menu.
[3] With light/dark ratio 1:1.

Function of pin 2/white (WH)	Teach-in input
Function of pin 2/white (WH) – detail	The pin 2 function of the sensor can be configured

[1] Limit values.
[2] Selectable via menu.
[3] With light/dark ratio 1:1.

Mechanics

Housing	Rectangular
Dimensions (W x H x D)	10.7 mm x 33.3 mm x 82.1 mm
Connection	Cable, 4-wire, 2 m
Connection detail	
Deep-freeze property	Do not bend below 0 °C
Conductor size	0.18 mm²
Cable diameter	Ø 4 mm
Length of cable (L)	2 m
Material	
Housing	Plastic, PC
Protection hood	Plastic, PC
Display	Plastic, PET
Operating buttons	Plastic, POM
Cable	Plastic, PVC
Weight	Approx. 74 g

Ambient data

Enclosure rating	IP50 (EN 60529)
Ambient operating temperature	–25 °C ... +55 °C
Ambient temperature, storage	–40 °C ... +70 °C
Typ. Ambient light immunity	Artificial light: ≤ 16,000 lx Sunlight: ≤ 67,000 lx
Shock resistance	50 g, 11 ms (3 positive and 3 negative shocks along X, Y, Z axes, 18 total shocks (EN60068-2-27))
Vibration resistance	10 Hz ... 55 Hz (Amplitude 1.5 mm, 3 x 120 min (EN60068-2-6))
Air humidity	35 % ... 85 %, relative humidity (no condensation)
Electromagnetic compatibility (EMC)	EN 60947-5-2
UL File No.	NRKH.E300503 & NRKH7.E300503

Smart Task

Timer function	Deactivated Switch-on delay Off delay ON and OFF delay Impulse (one shot) Switch-on delay and pulse
Inverter	Yes

Certificates

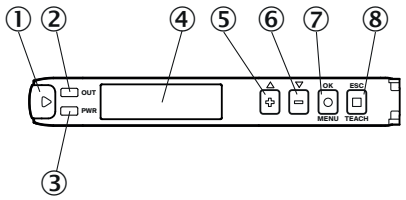
EU declaration of conformity	✓
UK declaration of conformity	✓

ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cRUus certificate	✓
Photobiological safety (IEC EN 62471)	✓

Classifications

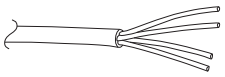
ECLASS 5.0	27270905
ECLASS 5.1.4	27270905
ECLASS 6.0	27270905
ECLASS 6.2	27270905
ECLASS 7.0	27270905
ECLASS 8.0	27270905
ECLASS 8.1	27270905
ECLASS 9.0	27270905
ECLASS 10.0	27270905
ECLASS 11.0	27270905
ECLASS 12.0	27270905
ETIM 5.0	EC002651
ETIM 6.0	EC002651
ETIM 7.0	EC002651
ETIM 8.0	EC002651
UNSPSC 16.0901	39121528

display and adjustment elements

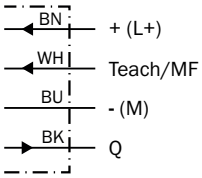


① Fiber optic interlock
② LED yellow
③ LED green
④ Display
⑤ (+) button
⑥ (-) pushbutton
⑦ Menu/OK pushbutton
⑧ Teach-in/escape pushbutton

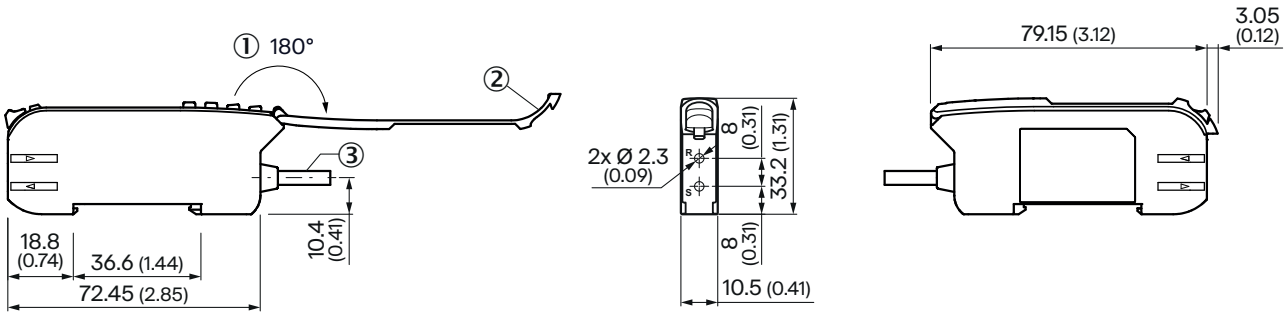
Connection type Cable, 4-wire



Connection diagram Cd-604



Dimensional drawing



Dimensions in mm (inch)
① aperture angle
② Hinged cover for the pushbuttons
③ Connection

Recommended accessories

Other models and accessories ➜ www.sick.com/GLL70

	Brief description	Type	part no.
Mounting systems			
	• **Description:** Mounting bracket • **Material:** Steel • **Details:** Steel, zinc coated • **Items supplied:** Without mounting hardware • **Usable for:** Fiber-optic sensors • **Suitable for:** WLL180T, GLL170(T)	BEF-WLL180	5325812

	Brief description	Type	part no.
fiber-optic sensors			
	• **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex • **Functional principle:** Through-beam system • **Fiber length:** 2,000 mm • **Thread diameter (housing):** M3 • **Fiber material:** Plastic • **Jacket material:** Plastic • **Fiber head material:** Stainless steel	LLSE-A1300111020C4	2115017
	• **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T) • **Functional principle:** Proximity system • **Fiber length:** 2,000 mm • **Thread diameter (housing):** M3 • **Fiber material:** Plastic • **Jacket material:** Plastic • **Fiber head material:** Stainless steel	LLTE-A1300111020E4	2115011

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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.”

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