Data sheet

GLL170-N332

GLL170

FIBER-OPTIC AMPLIFIER

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	part no.
GLL170-N332	6063337

Other models and accessories ➜ www.sick.com/GLL170

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 [1]
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	632 nm
Average service life	100,000 h at T_a = +25 °C
Adjustment	
Potentiometer	For setting the sensing range/for setting the switching mode/for adjusting the switch-off delay
Display	
LED green	Operating indicatorStatic on: power onDimmed in the range +/- 10 % of the switching threshold
LED yellow	Status of digital outputPermanently on: Switching output activePermanently off: Digital output not active

[1] Average service life: 100,000 h at T_U = +25 °C.

Safety-related parameters

$MTTF_D$	760 years
DC_{avg}	0 %

T_M (mission time)	20 years

Electronics

Supply voltage U_B	10 V DC ... 30 V DC [1]
Ripple	≤ 10 % [2]
Current consumption	≤ 30 mA [3]
Protection class	III
Digital output	
Number	1
Type	NPN [4]
Switching mode	Light/dark switching
Signal voltage PNP HIGH/LOW	Approx. U_B-1.5 V / 0 V
Signal voltage NPN HIGH/LOW	Approx. U_B / < 1.5 V
Output current $I_{max.}$	≤ 100 mA
Circuit protection outputs	Reverse polarity protected
	Overcurrent protected
	Short-circuit protected
Response time	≤ 250 µs
Switching frequency	2 kHz
Time functions	Without time delay, off delay
Delay time	Selectable via rotary switch, 0 ms ... 40 ms
Pin/Wire assignment	
Function of pin 4/black (BK)	Digital output, received light → Output Q1 HIGH
Function of pin 4/black (BK) – detail	The pin 4 function of the sensor can be configured

[1] Limit values.
[2] May not fall below or exceed U_V tolerances.
[3] Without load.
[4] Selectable via rotary switch.

Mechanics

Housing	Rectangular
Dimensions (W x H x D)	10 mm x 31.7 mm x 72.5 mm
Connection	Cable, 3-wire
Connection detail	
Deep-freeze property	Do not bend below 0 °C
Conductor size	0.2 mm²
Cable diameter	Ø 3.8 mm
Length of cable (L)	2 m
Material	
Housing	Plastic, PC/POM
Cable	Plastic, PVC
Weight	63 g
Maximum tightening torque of the fixing screws	0.5 Nm

Ambient data

Enclosure rating	IP66 (EN 60529)
Ambient operating temperature	–25 °C ... +55 °C
Ambient temperature, storage	–40 °C ... +70 °C
Typ. Ambient light immunity	Artificial light: ≤ 5,000 lx Sunlight: ≤ 60,000 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 mm, 3 x 30 min (EN60068-2-6))
Air humidity	35 % ... 95 %, relative humidity (no condensation)
Electromagnetic compatibility (EMC)	EN 60947-5-2
UL File No.	NRKH2.E300503 & NRKH8.E300503
RoHS certificate	✓

Smart Task

Timer function	Deactivated Switch-on delay Off delay Impulse (one shot)

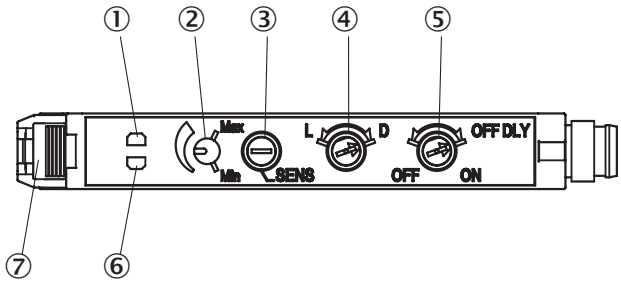
Classifications

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

Certificates

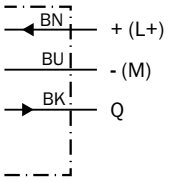
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
cRUus certificate	✓

Adjustments GLL170

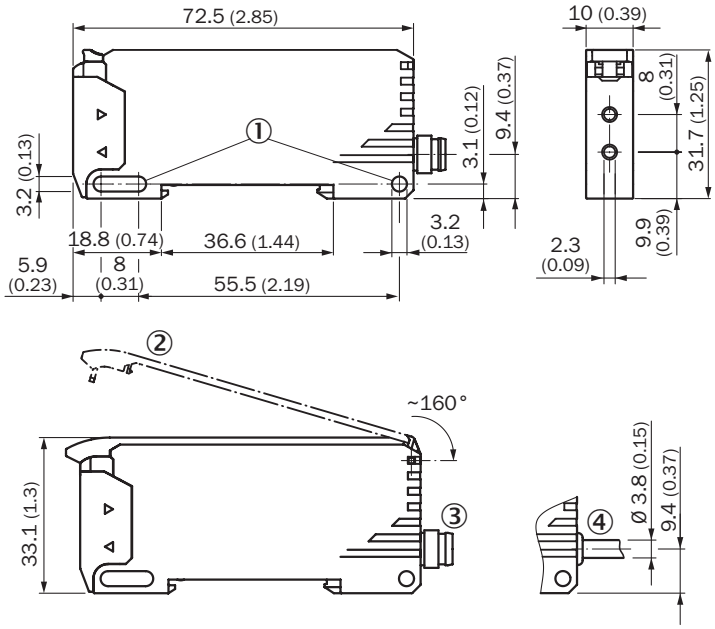


① LED indicator orange, lights up when switching output is active
② Sensitivity scale 230°
③ Sensitivity control: potentiometer, 8 turns
④ Selector switch: "L.ON" (light switching) /"D.ON" (dark switching)
⑤ OFF delay selector switch: “ON” (on)/“OFF” (off), 40 ms fixed
⑥ LED signal strength indicator green, lights up, when light received< 0.9 or >1.1 (switching threshold = 1)
⑦ Locking the fiber-optic cables

Connection diagram Cd-043



Dimensional drawing



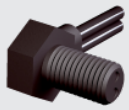
Dimensions in mm (inch)
① Mounting holes
② protective hood (optional), opens approx. 160°

③ Connector M8
④ cable

Recommended accessories

Other models and accessories ➜ www.sick.com/GLL170

	Brief description	Type	part no.
device protection and care			
	• **Description:** Protective Hood for GLL170, opens approx. 160° • **Usable for:** Fiber-optic sensors	BF-GLL170	5336263
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:** WLL80, WLL180, GLL170(T), KTL180 • **Functional principle:** Proximity system • **Fiber material:** Plastic • **Jacket material:** Plastic • **Fiber head material:** Stainless steel • **Thread diameter (housing):** M6 • **Fiber length:** 2,000 mm	LL3-DB01	5308074
	• **For fiber optic amplifiers:** WLL80, WLL180, GLL170(T) • **Functional principle:** Proximity system • **Fiber material:** Plastic • **Jacket material:** Plastic • **Fiber head material:** Stainless steel • **Thread diameter (housing):** M3 • **Fiber length:** 2,000 mm	LL3-DT01	5308076
	• **For fiber optic amplifiers:** WLL80, WLL180, GLL170(T), WLL24 Ex • **Functional principle:** Proximity system • **Fiber material:** Plastic • **Jacket material:** Plastic • **Fiber head material:** Stainless steel • **Thread diameter (housing):** M6 • **Fiber length:** 2,000 mm	LL3-DB02	5308083
	• **For fiber optic amplifiers:** WLL80, WLL180, GLL170(T), WLL24 Ex • **Functional principle:** Through-beam system • **Fiber material:** Plastic • **Jacket material:** Plastic • **Fiber head material:** Stainless steel • **Thread diameter (housing):** M4 • **Fiber length:** 2,000 mm	LL3-TB01	5308050
	• **For fiber optic amplifiers:** WLL80, WLL180, GLL170(T), WLL24 Ex • **Functional principle:** Proximity system • **Fiber material:** Plastic • **Jacket material:** Plastic • **Fiber head material:** Plastic • **Thread diameter (housing):** M6 • **Fiber length:** 2,000 mm	LL3-DV05	5322549
	• **For fiber optic amplifiers:** WLL80, WLL180, GLL170(T), WLL24 Ex • **Functional principle:** Through-beam system • **Fiber material:** Plastic • **Jacket material:** Plastic • **Fiber head material:** Plastic • **Thread diameter (housing):** M4 • **Fiber length:** 2,000 mm	LL3-TV05	5322546
	• **For fiber optic amplifiers:** WLL80, WLL180, GLL170(T), WLL24 Ex • **Functional principle:** Through-beam system • **Fiber material:** Plastic • **Jacket material:** Plastic • **Fiber head material:** Plastic • **Fiber length:** 2,000 mm	LL3-TS40	5323971
	• **For fiber optic amplifiers:** WLL80, WLL180, GLL170(T), WLL24 Ex • **Functional principle:** Through-beam system • **Fiber material:** Plastic • **Jacket material:** Plastic • **Fiber head material:** Stainless steel • **Thread diameter (housing):** M12 • **Fiber length:** 20,000 mm	LL3-TX01	5324173
	• **For fiber optic amplifiers:** WLL80, WLL180, GLL170(T) • **Functional principle:** Proximity system • **Fiber material:** Plastic • **Jacket material:** Plastic • **Fiber head material:** Stainless steel • **Fiber length:** 2,000 mm	LL3-DR11	5326000
	• **For fiber optic amplifiers:** WLL80, WLL180, GLL170(T), WLL24 Ex, KTL180 • **Functional principle:** Proximity system • **Fiber material:** Plastic • **Jacket material:** Plastic • **Fiber head material:** Plastic	LL3-DC38	5322472

	Brief description	Type	part no.
	• **Fiber length:** 2,000 mm		
	• **For fiber optic amplifiers:** WLL80, WLL180, GLL170(T) • **Functional principle:** Through-beam system • **Fiber material:** Glass • **Jacket material:** Stainless steel • **Fiber head material:** Brass • **Thread diameter (housing):** M4 • **Fiber length:** 2,000 mm	LL3-TH08	5325978
	• **For fiber optic amplifiers:** WLL80, WLL180, GLL170(T), WLL24 Ex • **Functional principle:** Through-beam system • **Fiber material:** Plastic • **Jacket material:** Chemical-resistant plastic • **Fiber head material:** Chemical-resistant plastic • **Fiber length:** 2,000 mm	LL3-TY01	5308066
connectors and cables			
	• **Connection type head A:** Female connector, M8, 3-pin, straight, A-coded • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** 0.14 mm² ... 0.5 mm²	DOS-0803-G	7902077
	• **Connection type head A:** Female connector, M8, 3-pin, angled, A-coded • **Description:** Unshielded • **Connection systems:** Solder connection • **Permitted cross-section:** ≤ 0.25 mm²	DOS-0803-W	7902078
	• **Connection type head A:** Male connector, M8, 3-pin, straight, A-coded • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** 0.14 mm² ... 0.5 mm²	STE-0803-G	6037322

SICK AT A GLANCE

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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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