



GLL170T-B333

GLL170

FIBER-OPTIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
GLL170T-B333	6063342

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		
	Display + operating buttons	For configuring the sensor parameters
Display		
	LED green	Operating indicatorStatic on: power on
	LED yellow	Status of digital outputPermanently on: Switching output activePermanently off: Digital output not active
	Display	Display of sensor functions

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

Safety-related parameters

MTTF_D	300 years
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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	≤ 40 mA ³⁾
Protection class	III
Digital output	
Number	1
Type	PNP ⁴⁾
	NPN
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
	≤ 50 μs
Switching frequency	2 kHz
	10 kHz
Time functions	Switch-on delay, off delay, one shot, Without time delay
Delay time	Programmable, 0 ms ... 9,999 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
Function of pin 2/white (WH)	Teach-in input

¹⁾ Limit values.

²⁾ May not fall below or exceed U_y tolerances.

³⁾ Without load.

⁴⁾ Selectable via menu.

Mechanics

Housing	Rectangular
Dimensions (W x H x D)	10 mm x 31.7 mm x 72.5 mm
Connection	Connector M8, 3-pin
Connection detail	
Conductor size	0.2 mm ²
Cable diameter	Ø 3.8 mm
Material	
Housing	Plastic, PC/POM

	Cable	Plastic, PVC
Weight		22 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)
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Certificates

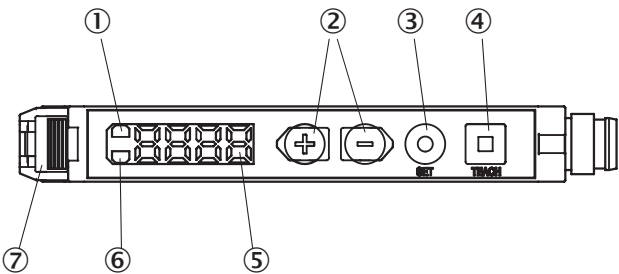
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
cRUus certificate	✓

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

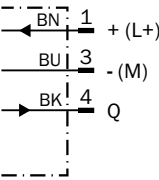
ETIM 7.0	EC002651
ETIM 8.0	EC002651
UNSPSC 16.0901	39121528

Adjustments GLL170T

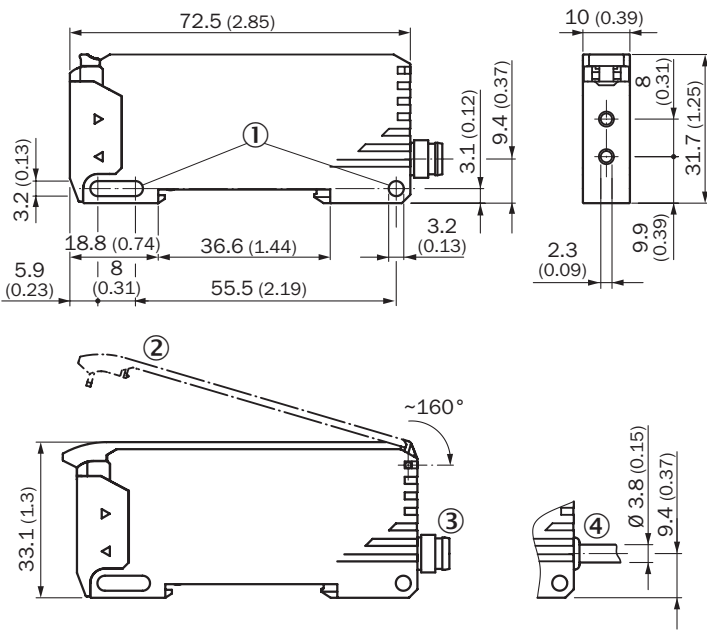


- ① LED indicator orange, lights up when switching output is active
- ② Plus/minus button
- ③ SET button
- ④ Teach-in button
- ⑤ Display
- ⑥ LED indicator green: Supply voltage active
- ⑦ Locking the fiber-optic cables

Connection diagram Cd-045





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			
	<ul style="list-style-type: none">• Description: Protective Hood for GLL170, opens approx. 160°• Usable for: Fiber-optic sensors	BF-GLL170	5336263
Mounting systems			
	<ul style="list-style-type: none">• 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			
	<ul style="list-style-type: none"> • For fiber optic amplifiers: WLL80, WLL180, GLL170(T), KTL180 • Functional principle: Proximity system • Fiber length: 2,000 mm • Thread diameter (housing): M6 • Fiber material: Plastic • Jacket material: Plastic • Fiber head material: Stainless steel • Included with delivery: Mounting, 2 x M6 hexagon nut, 2 x washer, FC fiber cutter (5304141) 	LL3-DB01	5308074
	<ul style="list-style-type: none"> • For fiber optic amplifiers: 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 • Included with delivery: Mounting, 2 x M3 hexagon nut, 2 x washer, adapter sleeves, BF-WLL160-13 (1.3 mm) adapter sleeves, FC fiber cutter (5304141) 	LL3-DT01	5308076
	<ul style="list-style-type: none"> • For fiber optic amplifiers: WLL80, WLL180, GLL170(T), WLL24 Ex • Functional principle: Proximity system • Fiber length: 2,000 mm • Thread diameter (housing): M6 • Fiber material: Plastic • Jacket material: Plastic • Fiber head material: Stainless steel • Included with delivery: Mounting, 2 x M6 hexagon nut, 2 x washer, FC fiber cutter (5304141) 	LL3-DB02	5308083
	<ul style="list-style-type: none"> • For fiber optic amplifiers: WLL80, WLL180, GLL170(T), WLL24 Ex • Functional principle: Through-beam system • Fiber length: 2,000 mm • Thread diameter (housing): M4 • Fiber material: Plastic • Jacket material: Plastic • Fiber head material: Stainless steel • Included with delivery: Mounting, 4 x M4 hexagon nut, 4 x washer, FC fiber cutter (5304141) 	LL3-TB01	5308050
	<ul style="list-style-type: none"> • For fiber optic amplifiers: WLL80, WLL180, GLL170(T), WLL24 Ex • Functional principle: Proximity system • Fiber length: 2,000 mm • Thread diameter (housing): M6 • Fiber material: Plastic • Jacket material: Plastic • Fiber head material: Plastic • Included with delivery: Mounting, 1 x M6 hexagon nut, FC fiber cutter (5304141) 	LL3-DV05	5322549
	<ul style="list-style-type: none"> • For fiber optic amplifiers: WLL80, WLL180, GLL170(T), WLL24 Ex • Functional principle: Through-beam system • Fiber length: 2,000 mm • Thread diameter (housing): M4 • Fiber material: Plastic • Jacket material: Plastic • Fiber head material: Plastic • Included with delivery: Mounting, 2 x M4 hexagon nut, FC fiber cutter (5304141) 	LL3-TV05	5322546
	<ul style="list-style-type: none"> • For fiber optic amplifiers: WLL80, WLL180, GLL170(T), WLL24 Ex • Functional principle: Through-beam system • Fiber length: 2,000 mm • Optical fiber head array width: 40 mm • Fiber material: Plastic • Jacket material: Plastic • Fiber head material: Plastic • Included with delivery: Mounting, 4 x M3 Phillips-head screw, FC fiber cutter (5304141), protective cladding for fiber head 	LL3-TS40	5323971
	<ul style="list-style-type: none"> • For fiber optic amplifiers: WLL80, WLL180, GLL170(T), WLL24 Ex • Functional principle: Through-beam system • Fiber length: 20,000 mm • Thread diameter (housing): M12 • Fiber material: Plastic • Jacket material: Plastic • Fiber head material: Stainless steel • Included with delivery: Mounting, 4 x M12 hexagon nut, FC fiber cutter (5304141), protective cladding for fiber head 	LL3-TX01	5324173
	<ul style="list-style-type: none"> • For fiber optic amplifiers: WLL80, WLL180, GLL170(T) • Functional principle: Proximity system 	LL3-DR11	5326000

	Brief description	Type	part no.
	<ul style="list-style-type: none">• Fiber length: 2,000 mm• Smooth sleeve diameter: 3 mm• Fiber material: Plastic• Jacket material: Plastic• Fiber head material: Stainless steel• Included with delivery: Adapter sleeves, 1 x BF-WLL160-10 (1.0 mm) adapter sleeve, 1 x BF-WLL160-13 (1.3 mm) adapter sleeve, FC fiber cutter (5304141)		
	<ul style="list-style-type: none">• For fiber optic amplifiers: WLL80, WLL180, GLL170(T), WLL24 Ex, KTL180• Functional principle: Proximity system• Fiber length: 2,000 mm• Fiber material: Plastic• Jacket material: Plastic• Fiber head material: Plastic• Included with delivery: Adapter sleeves, BF-WLL160-10 (1.0 mm) adapter sleeves, FC fiber cutter (5304141)	LL3-DC38	5322472
	<ul style="list-style-type: none">• For fiber optic amplifiers: WLL80, WLL180, GLL170(T)• Functional principle: Through-beam system• Fiber length: 2,000 mm• Thread diameter (housing): M4• Fiber material: Glass• Jacket material: Stainless steel• Fiber head material: Brass	LL3-TH08	5325978
	<ul style="list-style-type: none">• For fiber optic amplifiers: WLL80, WLL180, GLL170(T), WLL24 Ex• Functional principle: Through-beam system• Fiber length: 2,000 mm• Smooth sleeve diameter: 6 mm• Fiber material: Plastic• Jacket material: Chemical-resistant plastic• Fiber head material: Chemical-resistant plastic• Included with delivery: FC fiber cutter (5304141)	LL3-TY01	5308066

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 3-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YF8U13-020VA1XLEAX	2095860
		YF8U13-050VA1XLEAX	2095884
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 10 m, 3-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YF8U13-100VA1XLEAX	2095885
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 3-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YG8U13-020VA1XLEAX	2096165
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 3-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YG8U13-050VA1XLEAX	2096166
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 10 m, 3-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YG8U13-100VA1XLEAX	2096209
		YF8U13-C60VA1XLEAX	2146368
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 1 m, 3-wire, PVC Description: Sensor/actuator cable, unshielded 	YG8U13-010VA1XLEAX	2146371

	Brief description	Type	part no.
	<ul style="list-style-type: none">• Application: Zones with chemicals, Uncontaminated zones• Connection type head A: Female connector, M8, 3-pin, angled, A-coded• Connection type head B: Flying leads• Signal type: Sensor/actuator cable• Cable: 3 m, 3-wire, PVC• Description: Sensor/actuator cable, unshielded• Application: Zones with chemicals, Uncontaminated zones	YG8U13-030VA1XLEAX	2146372
	<ul style="list-style-type: none">• Connection type head A: Female connector, M8, 3-pin, angled, A-coded• Connection type head B: Flying leads• Signal type: Sensor/actuator cable• Cable: 0.6 m, 3-wire, PVC• Description: Sensor/actuator cable, unshielded• Application: Zones with chemicals, Uncontaminated zones	YG8U13-C60VA1XLEAX	2146370

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.”

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