



Fiber-optic cables

Versatile solutions for different requirements: Optical fiber cables from SICK

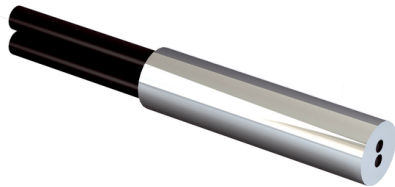
SICK
Sensor Intelligence.

Optical fiber cables at a glance



Versatile sensor heads for demanding installation environments

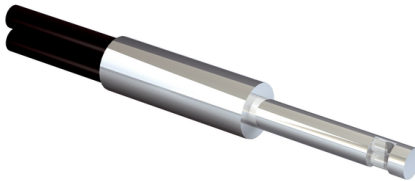
Optical fiber cables are available with numerous different fiber optic sensor heads. Thanks to the different designs and mounting options, the optical fiber cables can be easily integrated into even the most demanding installation environments.



Fiber optic sensor head with smooth sleeve

Mounting using a simple setscrew – for applications where quick installation is paramount.

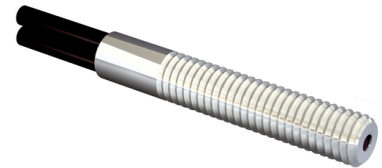
Select optical fiber cable



Fiber optic sensor head with integrated 90° deflection

Reduction in the mechanical stress on the optical fiber cable and the risk of cable breakage or damage – for narrow or angled areas.

Select optical fiber cable



Fiber optic sensor head with integrated thread

Mounting in a bracket provided – for applications where stable mounting is paramount.

Select optical fiber cable

Advantages



Fiber optic sensor head with extended end sleeve

Combination of a stable mounting with the advantages of a bendable end sleeve for detecting objects that are difficult to access.

Select optical fiber cable



Flat fiber optic sensor head

Stable mounting and installation even in small installation spaces – for applications where precise alignment is paramount.

Select optical fiber cable



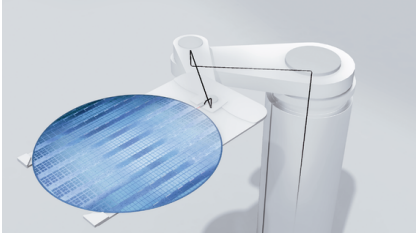
Fiber optic sensor head with light band (array)

Fiber optic sensor heads with range recognition detect objects over the entire length of a light band. The detection area can be limited using optional slotted masks in order to safely detect even small objects.

Select optical fiber cable

Flexible fibers for a long service life

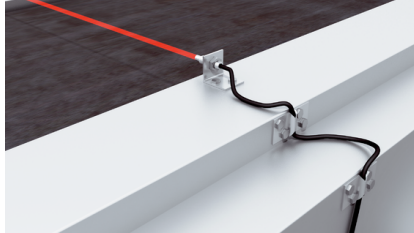
The fibers of an optical fiber cable are decisive for its longevity. Even with repeated bending and torsion, optical fiber cables from SICK retain their structure and thus ensure reliable transmission of light energy over long periods of time.



Reliable transmission – even after many bending cycles

Optical fiber cables from SICK are a reliable solution for applications that require frequent bending. Even after more than 800,000 bending cycles, the transmission quality remains virtually unchanged, which significantly reduces the risk of optical fiber breakage. This makes them ideal for use in robot-assisted systems where flexibility, durability and low weight are crucial.

Select optical fiber cable



Wide application possibilities – even with tight bend radii

Optical fiber cables from SICK offer a high degree of flexibility and can be bent to a radius of 1 mm – for uncomplicated installation without compromising performance.

Select optical fiber cable



Different materials – depending on the application

Optical fiber cables from SICK consist of glass or plastic fibers. Glass fibers transmit infrared light and are characterized by their resistance to high temperatures and chemical influences. Plastic fibers, on the other hand, are a more cost-effective alternative that offer a high degree of flexibility thanks to the possibility of simple shortening.

Protective sheath for challenging ambient conditions

Whether at high ambient temperatures, in contact with chemicals, or when used in a vacuum – SICK also offers the right optical fiber cable for difficult applications.



Optical fiber cable for use at high temperatures

SICK offers a comprehensive range of heat-resistant optical fiber cables that can withstand temperatures of up to 350 °C. A stainless steel sheath also protects the optical fiber cables from other external influences.

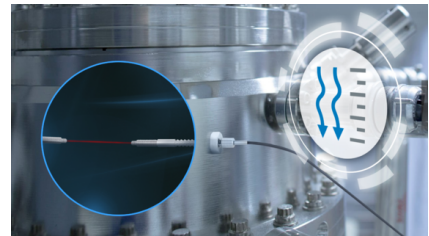
Select optical fiber cable



Optical fiber cable for use in conjunction with chemicals

Rugged optical fiber cables are essential for applications involving chemicals. Fibers with chemical-resistant sheaths offer reliable performance and resistance for different environments.

Select optical fiber cable



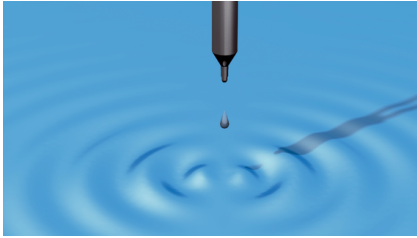
Optical fiber cable for use in a vacuum

Thanks to precise mounting on airtight wall feedthroughs on both sides – the vacuum and the atmospheric side – these fibers enable reliable detection even under vacuum conditions.

Select optical fiber cable

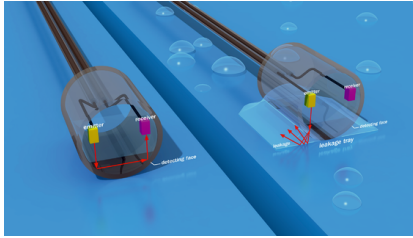
Optical fiber cables for the detection of liquids, leaks and wafers as well as glass substrates

Optical fiber cables also offer a suitable solution for special applications. Be it the detection of leakage arcs, the detection of wafers and glass substrates with v-optics, or the detection of liquids.



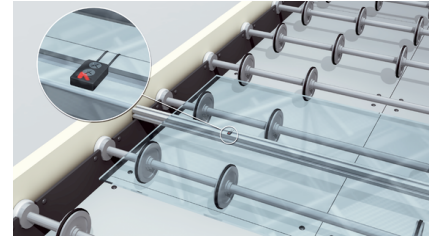
Detection of liquids

Fiber optic sensors detect liquids by immersion, contactlessly, or by mounting on a pipe. In addition to liquid detection, it is also possible to detect trapped air bubbles when mounted on the pipe. Select optical fiber cable



Detection of leaks

Fiber optic sensors reliably detect leaks. For this purpose, they are installed on the ground, where they precisely detect liquids covering the ground. Select optical fiber cable



Detection of wafers and glass substrates

Fiber optic sensors with v-optics detect wafers and glass substrates. The technology minimizes background interference and enables reliable detection even of shiny objects. Select optical fiber cable

Fiber optic accessories



Tip adapters

Attachment lenses are used for various purposes: They can reduce the aperture angle to achieve a greater scanning range and reduce the risk of extraneous reflection. Another purpose of the lenses is to focus the light at a certain distance in order to capture even small objects. Select attachment lenses



Mounting systems

With the components for mounting and adapting fiber-optic sensors from SICK, you also enjoy flexibility during installation. Select mounting equipment



Miscellaneous accessories

Other accessory tools such as fiber optic cutters round off the portfolio. Select other accessories



Technical data overview

Detection principle	Consisting of a sender and a receiver
Fiber length	150 mm ... 30,000 mm (depends on variant)
Minimal object diameter	0.0015 mm ... 4 mm (depends on variant)

Product description

Together with the right fiber optic amplifier, optical fiber cables are crucial for mastering complex detection tasks in automation technology. Optical fiber cables from SICK consist of three main components: a sensor head, a fiber, and a sheath. The durable fiber, which is protected by resistant materials, in combination with the wide range of sensor heads, makes optical fiber cables from SICK the right choice for numerous applications.

At a glance

- Very large selection of plastic and glass fiber-optic cables.
- Fiber-optic cables resistant to chemicals and high temperature
- Threaded and smooth sleeves, bands of light (array), 90° reflection versions available
- Focused optics
- Proximity and through-beam versions available
- Plastic, protective metal or Teflon sheathing available

Your benefits

- Very large selection of fiber-optic cables with plastic and glass fibers, giving users more application flexibility
- Resistant to damage caused by mechanical and chemical stress, as well as high temperatures
- Standard and customer-specific types
- Simple installation saves time
- For detection of objects, surfaces, leading edges, and fluid levels

Ordering information

Other models and accessories → www.sick.com/Fiber-optic_cables

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Threaded sleeve
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓
- **Compatibility with infrared light (1,450 nm):** no

Thread diameter (housing)	Integrated lens	Angle of dispersion < 60 °	Fiber length	Type	Part no.
M12	Yes	Yes	20,000 mm	LL3-TX01S01	5343641
				LL3-TX02	5325046
				LL3-TX01	5324173
M3	No	No	2,000 mm	LLSE-A1300111020C4	2115017
M4	No	No	2,000 mm	LLSE-A1400111020C4	2115019
			5,000 mm	LLSE-A1400111050C4	2127411
			2,000 mm	LL3-TB01	5308050
			10,000 mm	LL3-TB01-10	5308051
			30,000 mm	LL3-TB01-30	5315499
			2,000 mm	LL3-TB02	5308048
			5,000 mm	LL3-TH02-05	5329394
			2,000 mm	LL3-TH02	5308065

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Threaded sleeve, 90 ° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60 °:** no
- **Fiber length:** 2,000 mm

Thread diameter (housing)	Type	Part no.
M3	LLSE-R1300111020C2	2115018
M4	LLSE-R1400111020C2	2115020
	LL3-TV77	5326557
	LL3-TB06	5325916

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Smooth sleeve
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** no

Smooth sleeve diameter	Fiber length	Type	Part no.
1.5 mm	2,000 mm	LLSE-A2010111020B4	2115021
	10,000 mm	LLSE-A2010111100B4	2139189
	1,000 mm	LL3-TR03	5308054
	2,000 mm	LL3-TR03-2	5308055
		LL3-TM03	5308070
3 mm	2,000 mm	LL3-TT01	5308057

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Smooth sleeve
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓
- **Compatibility with infrared light (1,450 nm):** no

Smooth sleeve diameter	Integrated lens	Angle of dispersion < 60°	Fiber length	Type	Part no.
-	Yes	Yes	2,000 mm	LL3-TG03	5325942
1 mm	No	No	500 mm	LL3-TR04	5325918
2.5 mm	No	No	2,000 mm	LL3-TB07	5325919
3 mm	No	No	2,000 mm	LLSE-A2030111020C4	2115022
			4,000 mm	LL3-TK054000	5339333
			2,000 mm	LL3-TS07	5308049
				LL3-TK05	5313034
	Yes	Yes	2,000 mm	LL3-TR10	5325920
4 mm	No	No	2,000 mm	LLSE-A2040111020C4	2115023

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Threaded sleeve
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** no

Thread diameter (housing)	Fiber length	Type	Part no.
M3	2,000 mm	LLTE-A1300111020E4	2115011
	10,000 mm	LLTE-A1300111100E4	2136422
	15,000 mm	LLTE-A1300111150E4	2133633
	2,000 mm	LLTE-A1300111020E4	2127945
	376 mm	LLTE-A1300111005E41ZZZZZZS021	2128123
	2,000 mm	LL3-DK08	5350097
		LL3-DR022000	5350148
		LL3-DT01S02	5342826
	5,000 mm	LL3-DT01S03	5342827
	2,000 mm	LL3-DS06	5308073
		LL3-DB07	5325988
		LL3-DT01	5308076
	500 mm	LL3-DK21	5313023
	1,000 mm	LL3-DR02	5308079
	2,000 mm	LL3-DR08	5326037
	5,000 mm	LL3-DT01-05	5309087
M4	2,000 mm	LLTE-A1400111020E4	2115013
	3,000 mm	LLTE-A1400111030E4	2130487
	7,000 mm	LLTE-A1400111070E4	2130894
	3,000 mm	LL3-DM02-3	5327029
	2,000 mm	LL3-DM01	5308071
		LL3-DK66	5313024
		LL3-DR06	5308082
M6	2,000 mm	LL3-DK06-S01	5327794

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Threaded sleeve, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** no
- **Fiber length:** 2,000 mm

Thread diameter (housing)	Type	Part no.
M3	LLTE-R1300111020E3	2115012
M4	LLTE-R1400111020E3	2115014

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Smooth sleeve
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** no

Smooth sleeve diameter	Fiber length	Type	Part no.
1.5 mm	1,000 mm	LL3-DR04	5308081
2 mm	1,000 mm	LL3-DP01	5325998
2.5 mm	2,000 mm	LL3-DT03	5308072
3 mm	2,000 mm	LLTE-A2030111020E4	2115015
	4,000 mm	LLTE-A2030111040E4	2124207
		LL3-DR034000	5345731
	2,000 mm	LL3-DB10	5325999
		LL3-DR11	5326000
		LL3-DK4Z	5313026
		LL3-DR03	5308080
	500 mm	LL3-DR05	5308087
4 mm	2,000 mm	LLTE-A2040111020E4	2115016
5 mm	1,000 mm	LL3-DK051000	5342636

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Threaded sleeve
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** no

Thread diameter (housing)	Fiber length	Type	Part no.
M4	500 mm	LL3-DM02500	5342216
	5,000 mm	LL3-DM025000	5344076
M6	1,000 mm	LL3-DK06-01	5326997
	3,000 mm	LL3-DK063000	5338135
	2,000 mm	LL3-DK06	5313019
		LL3-DB03	5313021
		LL3-DK67	5313025

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Flat type
- **Fiber material:** glass
- **Jacket material:** stainless steel
- **Integrated lens:** no
- **Angle of dispersion < 60°:** no

Fiber length	Type	Part no.
3,490 mm	LL3-DL01	1068060
–	LL3-DL08	1100925

- **Functional principle:** Proximity system
- **Fiber-optic head design:** Threaded sleeve
- **Jacket material:** stainless steel

Thread diameter (housing)	Integrated lens	Angle of dispersion < 60°	Type	Part no.
M4	No	No	LL3-DL04	1068063

- **Fiber-optic head design:** Threaded sleeve
- **Jacket material:** stainless steel

Type	Part no.
LL3-DL05	1080979

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** special design
- **Fiber material:** glass
- **Jacket material:** stainless steel
- **Fiber head material:** stainless steel

Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
No	Yes	No	2,000 mm	LL3-DL07	1094996

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Threaded sleeve
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Integrated lens:** no
- **Angle of dispersion < 60°:** no

Thread diameter (housing)	Compatibility with infrared light (1,450 nm)	Fiber length	Type	Part no.
M3	No	1,000 mm	LL3-KD021000	5343661
M6	–	2,000 mm	LL3-DH01	5308091
			LL3-DH02	5308092
		3,000 mm	LL3-DH01-03	5321260

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Optical fiber cable can be shortened:** ✓
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** no

Fiber length	Type	Part no.
14,000 mm	LL3-KX0214000	5343663
3,000 mm	LL3-KX023000	5343928
9,000 mm	LL3-KX029000	5343662

- **Functional principle:** Through-beam system
- **Fiber material:** plastic

Integrated lens	Angle of dispersion < 60°	Type	Part no.
No	No	LL3-TS09	1056990

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Flat type, 90° deflection, Array
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** Aluminum
- **Optical fiber cable can be shortened:** ✓

Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
No	No	No	1,410 mm	LL3-TS15S01	1069692

- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Threaded sleeve
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓

Thread diameter (housing)	Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Type	Part no.
M12	Yes	No	Yes	LL3-TX02-05	5329846

- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Threaded sleeve
- **Jacket material:** plastic
- **Optical fiber cable can be shortened:** ✓

Thread diameter (housing)	Integrated lens	Angle of dispersion < 60°	Type	Part no.
M12	Yes	Yes	LL3-TX0405	1072927

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Threaded sleeve
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Optical fiber cable can be shortened:** ✓

Thread diameter (housing)	Integrated lens	Angle of dispersion < 60°	Fiber length	Type	Part no.
M12	Yes	Yes	10,000 mm	LL3-TX0410	1072949

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Threaded sleeve
- **Fiber material:** plastic
- **Jacket material:** stainless steel
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓

Thread diameter (housing)	Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
M3	No	No	No	1,000 mm	LL3-DJ01	5325989

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex, KTL180
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Threaded sleeve
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** no

Thread diameter (housing)	Fiber length	Type	Part no.
M4	2,000 mm	LL3-DM02	5308077
M6	2,000 mm	LL3-DB01	5308074
	10,000 mm	LL3-DB01-10	5308075
	3,000 mm	LL3-DB01-3	5322552
	30,000 mm	LL3-DB01-30	5324662

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), KTL180
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Threaded sleeve
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓

Thread diameter (housing)	Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
M6	No	No	No	2,000 mm	LL3-DB04	5325990

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Threaded sleeve
- **Fiber material:** plastic
- **Jacket material:** stainless steel
- **Fiber head material:** brass
- **Optical fiber cable can be shortened:** ✓

Thread diameter (housing)	Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60 °	Fiber length	Type	Part no.
M6	No	No	No	1,000 mm	LL3-DJ02	5325992

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Threaded sleeve
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** brass
- **Optical fiber cable can be shortened:** ✓
- **Thread diameter (housing):** M6
- **Compatibility with infrared light (1,450 nm):** no
- **Fiber length:** 2,000 mm

Integrated lens	Angle of dispersion < 60 °	Type	Part no.
–	–	LL3-DH09	5326030
No	No	LL3-DR01	5308078

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Smooth sleeve
- **Fiber material:** glass
- **Jacket material:** plastic
- **Fiber head material:** Aluminum
- **Compatibility with infrared light (1,450 nm):** yes

Smooth sleeve diameter	Integrated lens	Angle of dispersion < 60 °	Fiber length	Type	Part no.
5.8 mm	No	No	150 mm	LL3-LM35150	2073488
			450 mm	LL3-LM35450	2073489
			750 mm	LL3-LM35750	2073490
7 mm	Yes	Yes	1,000 mm	LL3-LM401000	2082375

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Smooth sleeve, Long end sleeve
- **Fiber material:** glass
- **Jacket material:** plastic
- **Fiber head material:** Aluminum
- **Smooth sleeve diameter:** 5.8 mm
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** yes
- **Angle of dispersion < 60°:** no

Fiber length	Type	Part no.
2,200 mm	LL3-LT312200	2073487
150 mm	LL3-LM31150	2073483
1,500 mm	LL3-LM311500	2073486
300 mm	LL3-LM31300	2079212
450 mm	LL3-LM31450	2073484
750 mm	LL3-LM31750	2073485

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Smooth sleeve, Long end sleeve
- **Fiber material:** glass
- **Jacket material:** stainless steel
- **Fiber head material:** Aluminum
- **Smooth sleeve diameter:** 5.8 mm
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** yes
- **Angle of dispersion < 60°:** no

Fiber length	Type	Part no.
450 mm	LL3-LT31450	2077269
	LL3-LT31450S01	2088456
750 mm	LL3-LT31750	2074450

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex, KTL180
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Smooth sleeve
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓

Smooth sleeve diameter	Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
3 mm	No	No	No	2,000 mm	LL3-DK04	5313020

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Smooth sleeve, Long end sleeve, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓
- **Smooth sleeve diameter:** 3 mm
- **Compatibility with infrared light (1,450 nm):** no
- **Fiber length:** 2,000 mm

Integrated lens	Angle of dispersion < 60°	Type	Part no.
No	No	LL3-DV02	5308089
Yes	Yes	LL3-DR12	5326001

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Threaded sleeve, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** brass
- **Optical fiber cable can be shortened:** ✓

Thread diameter (housing)	Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
M3	No	No	No	1,000 mm	LL3-DV08	5336171

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex, KTL180
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Threaded sleeve, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓

Thread diameter (housing)	Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
M6	No	No	No	2,000 mm	LL3-DB09	5325991

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Threaded sleeve, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** plastic
- **Optical fiber cable can be shortened:** ✓
- **Thread diameter (housing):** M6
- **Integrated lens:** yes
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** yes
- **Fiber length:** 2,000 mm

Type	Part no.
LL3-DV05	5322549
LL3-DV06	5322550
LL3-DV07	5322551

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Flat type, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** plastic
- **Optical fiber cable can be shortened:** ✓
- **Compatibility with infrared light (1,450 nm):** no

Integrated lens	Angle of dispersion < 60°	Fiber length	Type	Part no.
No	No	2,000 mm	LL3-DC07	5326019
		1,000 mm	LL3-DC08	5326029
Yes	Yes	3,000 mm	LL3-DE01-03	5329208
		1,000 mm	LL3-DE01	5325285
		2,000 mm	LL3-DE03	5325986
			LL3-DC06	5326017
		3,000 mm	LL3-DC04	5326018
		2,000 mm	LL3-DC39	5322513

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Flat type
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** plastic
- **Optical fiber cable can be shortened:** ✓
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** no

Fiber length	Type	Part no.
2,000 mm	LL3-DE04	5325987
1,000 mm	LL3-DE02	5324497

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Flat type
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** plastic
- **Optical fiber cable can be shortened:** ✓
- **Integrated lens:** yes
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** yes

Fiber length	Type	Part no.
4,000 mm	LL3-DC03	5326020
2,000 mm	LL3-DR09	5325528
	LL3-RR01	5326008

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Flat type
- **Fiber material:** glass
- **Jacket material:** stainless steel
- **Fiber head material:** plastic

Compatibility with in- frared light (1,450 nm)	Fiber length	Type	Part no.
Yes	3,000 mm	LL3-DH10	5326023

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Flat type
- **Fiber material:** plastic
- **Jacket material:** stainless steel
- **Fiber head material:** plastic
- **Optical fiber cable can be shortened:** ✓

Compatibility with in- frared light (1,450 nm)	Fiber length	Type	Part no.
No	3,000 mm	LL3-DH11	5326024

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Flat type
- **Fiber material:** plastic
- **Jacket material:** chemical-resistant plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓

Compatibility with in- frared light (1,450 nm)	Angle of dis- persion < 60°	Fiber length	Type	Part no.
Yes	No	2,000 mm	LL3-DH08	5326025

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Flat type, 90° deflection
- **Fiber material:** glass
- **Jacket material:** stainless steel
- **Fiber head material:** stainless steel

Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
Yes	Yes	Yes	2,000 mm	LL3-DH06	5326026

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex, KTL180
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Flat type
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** plastic
- **Optical fiber cable can be shortened:** ✓

Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
Yes	No	Yes	2,000 mm	LL3-DC09	5326028

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Flat type, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓

Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
No	No	No	2,000 mm	LL3-DC47	5324268

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Flat type, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓

Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
No	No	No	2,000 mm	LL3-DC57	5324269

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Threaded sleeve, Long end sleeve, Bendable sleeve, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓
- **Thread diameter (housing):** M6
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** no

Fiber length	Type	Part no.
10,000 mm	LL3-DB02-10	5328568
2,000 mm	LL3-DB06	5326006
	LL3-DB02	5308083

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Threaded sleeve, Long end sleeve, Bendable sleeve, 90° deflection
- **Fiber material:** glass
- **Jacket material:** stainless steel
- **Fiber head material:** brass
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** yes
- **Angle of dispersion < 60°:** no

Thread diameter (housing)	Fiber length	Type	Part no.
M4	1,000 mm	LL3-DH055000	5340697
		LL3-DH05	5326021
M6	2,000 mm	LL3-DH04	5326022

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Threaded sleeve, Long end sleeve, Bendable sleeve, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** no
- **Fiber length:** 2,000 mm

Thread diameter (housing)	Type	Part no.
M3	LL3-DM04	5337948
M4	LL3-DM03-3	5326721
	LL3-DM03	5308084

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Threaded sleeve, Long end sleeve
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** no

Thread diameter (housing)	Fiber length	Type	Part no.
M3	2,000 mm	LL3-DT02-02	5329174
	500 mm	LL3-DT02	5308085
		LL3-DT04	5308086
M4	2,000 mm	LL3-DK63Z	5313027
		LL3-DT05	5313028

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Smooth sleeve, Long end sleeve, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓
- **Smooth sleeve diameter:** 5 mm
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** no

Fiber length	Type	Part no.
9,000 mm	LL3-DV019000	5335399
2,000 mm	LL3-DV01	5308088
	LL3-DK33	5313031

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Smooth sleeve, Ø 6 mm, length 32 mm
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Smooth sleeve diameter:** 6 mm
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** no

Fiber length	Type	Part no.
500 mm	LL3-KD01500	5345834
750 mm	LL3-KD01750	5345835

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Threaded sleeve, Long end sleeve
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel

Thread diameter (housing)	Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
M3	No	No	No	1,000 mm	LL3-DB05	5326002

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Threaded sleeve, Long end sleeve, Bendable sleeve, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** brass
- **Optical fiber cable can be shortened:** ✓
- **Thread diameter (housing):** M4
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** no
- **Fiber length:** 2,000 mm

Type	Part no.
LL3-DB08	5326004
LL3-DR10	5326005

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Smooth sleeve, Long end sleeve
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** no

Smooth sleeve diameter	Fiber length	Type	Part no.
3 mm	1,000 mm	LL3-DR07	5326007
4 mm	2,000 mm	LL3-DK43	5313030

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Smooth sleeve
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Compatibility with infrared light (1,450 nm):** no

Thread diameter (housing)	Smooth sleeve diameter	Integrated lens	Fiber length	Type	Part no.
–	2.5 mm	–	500 mm	LL3-DK22	5313029

Thread diameter (housing)	Smooth sleeve diameter	Integrated lens	Fiber length	Type	Part no.
M10	–	No	3,000 mm	LL3-KX01	5343156

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Threaded sleeve, Long end sleeve, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓

Thread diameter (housing)	Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
M6	No	No	No	2,000 mm	LL3-DV03	5308090

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Flat type, Array
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** brass
- **Optical fiber cable can be shortened:** ✓
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** no

Fiber length	Type	Part no.
10,000 mm	LL3-DZ0210000	5334006
2,000 mm	LL3-DZ02	5326014

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Flat type, Array
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** plastic
- **Optical fiber cable can be shortened:** ✓

Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
Yes	No	Yes	2,000 mm	LL3-DZ01	5326013

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Flat type, 90° deflection, Array
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** brass
- **Optical fiber cable can be shortened:** ✓

Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
No	No	No	2,000 mm	LL3-DZ03	5326015

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Threaded sleeve
- **Fiber material:** glass
- **Jacket material:** stainless steel
- **Fiber head material:** brass
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** yes
- **Angle of dispersion < 60°:** no

Thread diameter (housing)	Fiber length	Type	Part no.
M4	2,000 mm	LL3-DH072000	5342745
	1,000 mm	LL3-DH07	5326031
M6	3,000 mm	LL3-DH03-03	5324788
	750 mm	LL3-DH03750	5340698
	2,000 mm	LL3-DH03	5324787

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Flat type, 90° deflection
- **Fiber material:** glass
- **Jacket material:** stainless steel
- **Fiber head material:** Aluminum
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** yes
- **Angle of dispersion < 60°:** no

Fiber length	Type	Part no.
10,000 mm	LL3-DH5010000	2106741
500 mm	LL3-DH50500	2083802

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Threaded sleeve
- **Fiber material:** glass
- **Jacket material:** stainless steel
- **Fiber head material:** stainless steel
- **Thread diameter (housing):** M6
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** yes
- **Angle of dispersion < 60°:** no

Fiber length	Type	Part no.
10,000 mm	LL3-DW0110000	5343668
2,500 mm	LL3-DW012500	5344273
3,000 mm	LL3-DW013000	5344274
5,000 mm	LL3-DW01-5	5326221
1,000 mm	LL3-DW01	5315234
2,000 mm	LL3-DW01-2	5324789

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Smooth sleeve
- **Fiber material:** plastic
- **Jacket material:** chemical-resistant plastic
- **Fiber head material:** chemical-resistant plastic
- **Optical fiber cable can be shortened:** ✓
- **Smooth sleeve diameter:** 6 mm
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** no
- **Fiber length:** 4,000 mm

Type	Part no.
LL3-DB114000	5338927
LL3-DB124000	5352729

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Smooth sleeve, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** chemical-resistant plastic
- **Fiber head material:** chemical-resistant plastic
- **Optical fiber cable can be shortened:** ✓
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** no

Smooth sleeve diameter	Fiber length	Type	Part no.
6 mm	4,000 mm	LL3-DV114000	5338928
		LL3-DV114000S01	5345836
8 mm	5,000 mm	LL3-DV125000	5343980

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex, KTL180
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Smooth sleeve
- **Fiber material:** plastic
- **Jacket material:** chemical-resistant plastic
- **Fiber head material:** chemical-resistant plastic
- **Optical fiber cable can be shortened:** ✓

Smooth sleeve diameter	Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
6 mm	No	No	No	2,000 mm	LL3-DY01	5308093

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Flat type, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** plastic
- **Optical fiber cable can be shortened:** ✓

Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
Yes	No	Yes	3,000 mm	LL3-DC05	5326016

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex, KTL180
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Flat type, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** plastic
- **Optical fiber cable can be shortened:** ✓

Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
Yes	No	Yes	2,000 mm	LL3-DC38	5322472

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Compatibility with infrared light (1,450 nm):** no
- **Fiber length:** 2,000 mm

Type	Part no.
LL3-RB01	5326010
LL3-RB02	5326011

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** plastic

Compatibility with infrared light (1,450 nm)	Fiber length	Type	Part no.
No	2,000 mm	LL3-RG01	5326012

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Proximity system
- **Fiber-optic head design:** special design
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** chemical-resistant plastic
- **Optical fiber cable can be shortened:** ✓
- **Smooth sleeve diameter:** 5 mm
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** no

Fiber length	Type	Part no.
234 mm	LL3-DF02-S03	5329354
224 mm	LL3-DF02-S04	5352805
2,000 mm	LL3-DF02-S01	5321924

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** special design
- **Fiber material:** plastic
- **Jacket material:** chemical-resistant plastic
- **Fiber head material:** chemical-resistant plastic
- **Optical fiber cable can be shortened:** ✓

Compatibility with infrared light (1,450 nm)	Fiber length	Type	Part no.
No	2,000 mm	LL3-DF03	5336766

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Array
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** plastic
- **Optical fiber cable can be shortened:** ✓
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** no

Fiber length	Type	Part no.
10,000 mm	LL3-DF0710000	5340780
5,000 mm	LL3-DF075000	5338077
2,000 mm	LL3-DF07	5326033

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** special design
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** plastic
- **Optical fiber cable can be shortened:** ✓
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** no
- **Fiber length:** 2,000 mm

Type	Part no.
LL3-DF05	5326034
LL3-DF04	5326035

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** special design
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** chemical-resistant plastic
- **Optical fiber cable can be shortened:** ✓

Compatibility with in- frared light (1,450 nm)	Fiber length	Type	Part no.
No	5,000 mm	LL3-DW02	5325608

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Threaded sleeve
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** brass
- **Optical fiber cable can be shortened:** ✓
- **Thread diameter (housing):** M4
- **Compatibility with infrared light (1,450 nm):** no

Integrated lens	Angle of dis- persion < 60°	Fiber length	Type	Part no.
–	–	2,000 mm	LL3-TH17	5325967
No	No	5,000 mm	LL3-TR015000	5345737
		2,000 mm	LL3-TK77	5313035
			LL3-TR01	5308052
		5,000 mm	LL3-TR01-05	5322198
			LL3-TH01-05	5329380
		2,000 mm	LL3-TH01	5308064

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Threaded sleeve
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓
- **Compatibility with infrared light (1,450 nm):** no

Thread diameter (housing)	Integrated lens	Angle of dispersion < 60°	Fiber length	Type	Part no.
M12	Yes	Yes	1,000 mm	LL3-TX02-01	5328256
			10,000 mm	LL3-TX02-10	5326380
M3	No	No	2,000 mm	LL3-TR02	5308053
				LL3-TM01	5308068
				LL3-TM02	5308069
M4	No	No	1,000 mm	LL3-TJ01	5325915

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Threaded sleeve
- **Fiber material:** plastic
- **Jacket material:** stainless steel
- **Fiber head material:** stainless steel

Thread diameter (housing)	Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
M12	Yes	No	Yes	1,000 mm	LL3-TX03-01	5328257

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Compatibility with infrared light (1,450 nm):** no

Thread diameter (housing)	Smooth sleeve diameter	Integrated lens	Angle of dispersion < 60°	Fiber length	Type	Part no.
–	5.5 mm	No	No	2,500 mm	LL3-TY04	5325981
M14	–	–	–	10,000 mm	LL3-TB08	5325917

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Smooth sleeve, Long end sleeve
- **Fiber material:** glass
- **Jacket material:** plastic
- **Fiber head material:** Aluminum
- **Smooth sleeve diameter:** 5.8 mm
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** yes
- **Angle of dispersion < 60°:** no

Fiber length	Type	Part no.
450 mm	LL3-LM32450	2073499

Fiber length	Type	Part no.
750 mm	LL3-LM32750	2073500

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Smooth sleeve, Long end sleeve, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** no
- **Fiber length:** 2,000 mm

Smooth sleeve diameter	Type	Part no.
2 mm	LL3-TG05	5325921
2.5 mm	LL3-TV02	5308059

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Smooth sleeve, Long end sleeve, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓
- **Compatibility with infrared light (1,450 nm):** no
- **Fiber length:** 2,000 mm

Smooth sleeve diameter	Integrated lens	Angle of dispersion < 60°	Type	Part no.
2 mm	Yes	Yes	LL3-TV08	5325922
3 mm	No	No	LL3-TV01	5308058

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Smooth sleeve, Long end sleeve, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Optical fiber cable can be shortened:** ✓

Smooth sleeve diameter	Fiber length	Type	Part no.
2.5 mm	1,000 mm	LL3-TH06	5325926

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Proximity system
- **Fiber-optic head design:** Flat type, 90° deflection
- **Fiber material:** glass
- **Jacket material:** plastic
- **Fiber head material:** Aluminum
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** yes
- **Angle of dispersion < 60°:** no

Fiber length	Type	Part no.
1,000 mm	LL3-LM361000	2073494
1,250 mm	LL3-LM361250	2073495
150 mm	LL3-LM36150	2073491
450 mm	LL3-LM36450	2073492
750 mm	LL3-LM36750	2073493
150 mm	LL3-LM37150	2073496
450 mm	LL3-LM37450	2073497
750 mm	LL3-LM37750	2073498

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Flat type, 90° deflection
- **Fiber material:** glass
- **Jacket material:** plastic
- **Fiber head material:** Aluminum
- **Compatibility with infrared light (1,450 nm):** yes

Integrated lens	Angle of dispersion < 60°	Fiber length	Type	Part no.
No	No	150 mm	LL3-LM38150	2073501
		450 mm	LL3-LM38450	2073502
		750 mm	LL3-LM39450	2073505
			LL3-LM39750	2073506
			LL3-LM38750	2073503
Yes	Yes	750 mm	LL3-LM38751	2073504

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Threaded sleeve, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** Zinc with nickel coating
- **Optical fiber cable can be shortened:** ✓
- **Thread diameter (housing):** M4
- **Compatibility with infrared light (1,450 nm):** no

Integrated lens	Angle of dispersion < 60°	Fiber length	Type	Part no.
No	No	10,000 mm	LL3-TR0810000	5334038
		2,000 mm	LL3-TR08	5325984

Integrated lens	Angle of dispersion < 60°	Fiber length	Type	Part no.
Yes	Yes	5,000 mm	LL3-TR095000	5336564
		2,000 mm	LL3-TR09	5325985

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Threaded sleeve, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** plastic
- **Optical fiber cable can be shortened:** ✓
- **Thread diameter (housing):** M4
- **Integrated lens:** yes
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** yes

Fiber length	Type	Part no.
10,000 mm	LL3-TV0510000	5337026
3,000 mm	LL3-TV05-3	5326073
5,000 mm	LL3-TV055000	5336527
2,000 mm	LL3-TV05	5322546
	LL3-TV06	5322547
	LL3-TV07	5322548

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Smooth sleeve, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** chemical-resistant plastic
- **Fiber head material:** chemical-resistant plastic
- **Optical fiber cable can be shortened:** ✓
- **Smooth sleeve diameter:** 5 mm
- **Integrated lens:** yes
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** yes

Fiber length	Type	Part no.
6,000 mm	LL3-TY036000	5336504
3,000 mm	LL3-TY03	5325982

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Smooth sleeve, 90° deflection
- **Fiber material:** glass
- **Jacket material:** stainless steel
- **Fiber head material:** brass
- **Smooth sleeve diameter:** 4 mm
- **Integrated lens:** yes
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** yes
- **Fiber length:** 2,000 mm

Type	Part no.
LL3-TH15	5325975
LL3-TH16	5325976

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Smooth sleeve, 90° deflection
- **Fiber material:** glass
- **Jacket material:** stainless steel
- **Fiber head material:** stainless steel

Smooth sleeve diameter	Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
4 mm	No	Yes	No	2,000 mm	LL3-TH07	5325977

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Flat type
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** plastic
- **Optical fiber cable can be shortened:** ✓
- **Compatibility with infrared light (1,450 nm):** no

Integrated lens	Angle of dispersion < 60°	Fiber length	Type	Part no.
No	No	1,000 mm	LL3-TE02	5325910
Yes	Yes	2,000 mm	LL3-TR11	5325906
		1,000 mm	LL3-TE01	5325807
		2,000 mm	LL3-TR06	5325912

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Flat type, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** plastic
- **Optical fiber cable can be shortened:** ✓
- **Compatibility with infrared light (1,450 nm):** no
- **Fiber length:** 2,000 mm

Integrated lens	Angle of dispersion < 60°	Type	Part no.
No	No	LL3-TE04	5325911
Yes	Yes	LL3-TR12	5325907
		LL3-TE03	5325908
		LL3-TR13	5325909
		LL3-TR05	5325808
		LL3-TE05	5325914

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Threaded sleeve, Long end sleeve, Bendable sleeve, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓
- **Thread diameter (housing):** M4
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** no
- **Fiber length:** 2,000 mm

Type	Part no.
LL3-TB03S01	5344077
LL3-TB03	5308056

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Threaded sleeve, Long end sleeve, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓

Thread diameter (housing)	Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
M3	No	No	No	2,000 mm	LL3-TV04	5308060

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Smooth sleeve, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓

Smooth sleeve diameter	Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
3 mm	No	No	No	2,000 mm	LL3-TS08	5308061

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓
- **Integrated lens:** yes
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** yes
- **Fiber length:** 2,000 mm

Type	Part no.
LL3-TS12	5308062
LL3-TK16	5313038

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Threaded sleeve, Long end sleeve, Bendable sleeve, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓

Thread diameter (housing)	Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
M3	No	No	No	2,000 mm	LL3-TB05	5325924

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Smooth sleeve
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** brass
- **Optical fiber cable can be shortened:** ✓

Smooth sleeve diameter	Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
3 mm	No	No	No	500 mm	LL3-TP01	5325925

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Flat type, 90° deflection, Array
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓

Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
No	No	No	2,000 mm	LL3-TS05	5334043

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Flat type, 90° deflection, Array
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** brass
- **Optical fiber cable can be shortened:** ✓
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** no

Fiber length	Type	Part no.
2,000 mm	LL3-TS11	5338673
5,000 mm	LL3-TS115000	5341038
2,000 mm	LL3-TS10	5308063
	LL3-TZ06	5325938

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Flat type, 90° deflection, Array
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** plastic
- **Optical fiber cable can be shortened:** ✓
- **Integrated lens:** yes
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** yes

Fiber length	Type	Part no.
5,000 mm	LL3-TS40-5	5328527
2,000 mm	LL3-TS40	5323971

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Flat type, 90° deflection, Array
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** brass
- **Optical fiber cable can be shortened:** ✓
- **Integrated lens:** yes
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** yes
- **Fiber length:** 2,000 mm

Type	Part no.
LL3-TZ09	5326598
LL3-TZ10	5326599

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Flat type, Array
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** brass
- **Optical fiber cable can be shortened:** ✓
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** no
- **Fiber length:** 2,000 mm

Type	Part no.
LL3-TS14	5313039
LL3-TZ05	5325937

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Threaded sleeve
- **Fiber material:** glass
- **Jacket material:** stainless steel
- **Fiber head material:** brass
- **Thread diameter (housing):** M4
- **Integrated lens:** no
- **Angle of dispersion < 60°:** no

Compatibility with infrared light (1,450 nm)	Fiber length	Type	Part no.
No	2,000 mm	LL3-TH12	5325972
		LL3-TH13	5325973
		LL3-TH14	5325974
Yes	5,000 mm	LL3-TH08-05	5329554
	3,000 mm	LL3-TH08-3	5328051
	2,000 mm	LL3-TH08	5325978
		LL3-TH09	5325979

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Threaded sleeve
- **Fiber material:** glass
- **Jacket material:** stainless steel
- **Fiber head material:** stainless steel
- **Thread diameter (housing):** M4
- **Integrated lens:** no
- **Compatibility with infrared light (1,450 nm):** yes
- **Angle of dispersion < 60°:** no

Fiber length	Type	Part no.
195 mm, 545 mm	LL3-TH08S01	5337056
1,000 mm	LL3-TW011000S07	5338149
15,000 mm	LL3-TW0115000	2115488
		5342705
2,000 mm	LL3-TW012000S01	2092707
	LL3-TW012000S03	5337904
3,000 mm	LL3-TW01-3	5326722
	LL3-TW013000S04	5337905
4,000 mm	LL3-TW014000	5339218
	LL3-TW014000S05	5337906
5,000 mm	LL3-TW015000	2081220
	LL3-TW015000S06	5337907
1,000 mm	LL3-TW01	5315233
2,000 mm	LL3-TW01-2	5321306

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Threaded sleeve
- **Fiber material:** glass
- **Jacket material:** stainless steel
- **Fiber head material:** stainless steel

Thread diameter (housing)	Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
M4	No	No	No	1,300 mm	LL3-TN011300	5338641

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Threaded sleeve
- **Fiber material:** glass
- **Jacket material:** chemical-resistant plastic
- **Fiber head material:** brass

Thread diameter (housing)	Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
M4	No	Yes	No	1,000 mm	LL3-TH10	5325970

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Threaded sleeve
- **Fiber material:** glass
- **Jacket material:** plastic
- **Fiber head material:** brass

Thread diameter (housing)	Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
M4	No	Yes	No	1,000 mm	LL3-TH11	5325971

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Smooth sleeve, Long end sleeve
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** plastic
- **Optical fiber cable can be shortened:** ✓

Smooth sleeve diameter	Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
3.7 mm	Yes	No	Yes	2,000 mm	LL3-TG01	5325940

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** plastic
- **Optical fiber cable can be shortened:** ✓

Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
Yes	No	Yes	2,000 mm	LL3-TG02	5325943

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** 90° deflection
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Optical fiber cable can be shortened:** ✓

Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
Yes	No	Yes	2,000 mm	LL3-TG04	5324499

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** 90° deflection, Smooth sleeve
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** stainless steel
- **Optical fiber cable can be shortened:** ✓
- **Integrated lens:** yes
- **Compatibility with infrared light (1,450 nm):** no
- **Angle of dispersion < 60°:** yes
- **Fiber length:** 2,000 mm

Type	Part no.
LL3-TS22	5325944
LL3-TS22M	5325968

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Smooth sleeve
- **Fiber material:** plastic
- **Jacket material:** chemical-resistant plastic
- **Fiber head material:** chemical-resistant plastic
- **Optical fiber cable can be shortened:** ✓

Smooth sleeve diameter	Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
6 mm	Yes	No	Yes	2,000 mm	LL3-TY01	5308066

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** 90° deflection
- **Fiber material:** plastic
- **Jacket material:** chemical-resistant plastic
- **Fiber head material:** chemical-resistant plastic
- **Optical fiber cable can be shortened:** ✓

Smooth sleeve diameter	Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
6 mm	Yes	No	Yes	2,000 mm	LL3-TY02	5308067

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** Flat type, 90° deflection
- **Fiber material:** plastic
- **Jacket material:** chemical-resistant plastic
- **Fiber head material:** chemical-resistant plastic
- **Optical fiber cable can be shortened:** ✓

Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60°	Fiber length	Type	Part no.
Yes	No	Yes	2,000 mm	LL3-TY05	5325980

- **For fiber optic amplifiers:** GLL70, WLL80, WLL180, GLL170(T)
- **Functional principle:** Through-beam system
- **Fiber-optic head design:** special design
- **Fiber material:** plastic
- **Jacket material:** plastic
- **Fiber head material:** plastic
- **Optical fiber cable can be shortened:** ✓

Integrated lens	Compatibility with infrared light (1,450 nm)	Angle of dispersion < 60 °	Fiber length	Type	Part no.
Yes	No	Yes	2,000 mm	LL3-TF01	5324242

- **Functional principle:** Proximity system

Thread diameter (housing)	Type	Part no.
M3	LL3-DA01	5308127
	LL3-DA02	5308130
	LL3-DA03	5326465
	LL3-DA04	5326466
	LL3-DA08	5334039
M4	LL3-DA05	5326467
	LL3-DA06	5326468
	LL3-DA07	5326469
	LL3-DA09	5334040

- **Functional principle:** Through-beam system

Thread diameter (housing)	Type	Part no.
M2.6	LL3-TA01	5308128
	LL3-TA01IR	5328271
	LL3-TA01S	5326461
	LL3-TA02	5308129
	LL3-TA03	5326462
	LL3-TA05	5326464
	LL3-TA06	5338873
	LL3-TA07	5338642
	LL3-TA08	5345738
M4	LL3-TA04	5326463

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