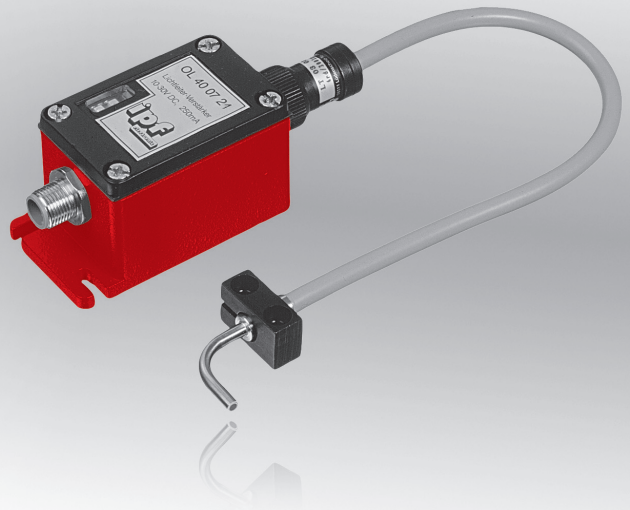
fiber optic amplifiers 1000

dimensions	**40 x 42 x 83.5mm**
glass fiber optics	through-beam sensor **up to 1.5m** dif. reflection sensor **up to 230mm**



- ✓ **robust aluminum housing**
- ✓ **functional reserve**
- ✓ **LED indicators for operating voltage, status and functional reserve**
- ✓ **no / nc as well as pnp / npn selectable**
- ✓ **high switching frequency and switching distances**
- ✓ **connection with M12-connector**

amplifiers for glass fiber optics interference suppression and alarm output

description

Using highly flexible glass fibers ***ipf*** fiber optic amplifiers constitute functional units capable of implementing through-beam and diffuse reflection sensors.
Fiber optic amplifiers operate with modulated infrared light. The entire electronics have been assembled in a robust die-cast aluminum housing.
The adaptation of the fiber optics is achieved via a knurled nut with a M18x1 thread and a sealing ring. Using a potentiometer the sensing range and/or operating range may be adjusted internally.
The devices can be switched between pnp and npn mode. It is also possible to choose between light-on and dark-on modes.
Additionally the **OL400721** features a timer function that can be programmed in 8 ways, an interference suppression as well as an alarm output.
ipf fiber optic amplifiers with glass fibers are used as limit value sensors, pulse generators or for position recognition in areas where normal photoelectric sensors are not able to handle the task due to a lack of space or high temperatures (up to 300°C).
Contactless recognition of materials such as metal, glass, wood, paper, plastic, etc.

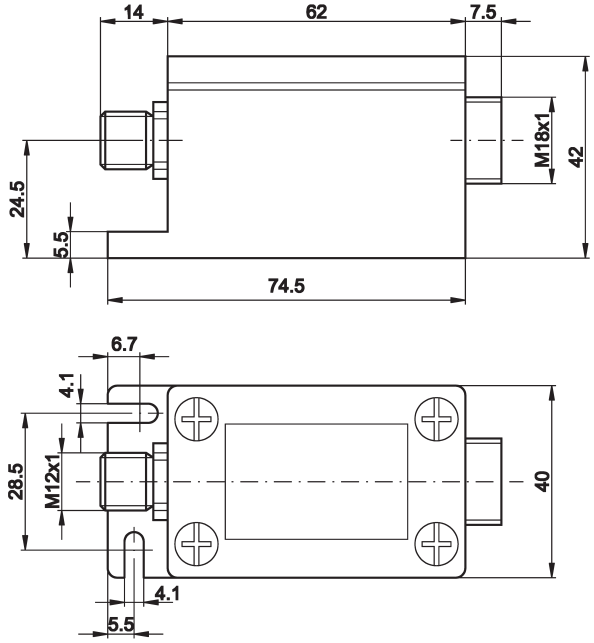
application examples

- ▶ detection of markings
- ▶ quality control of printing
- ▶ presence checks of metal pins
- ▶ foil width recognition

fiber optic sensors

1000 fiber optic amplifiers

article-no.	**OL400321**
output signal	**pnp / npn, light-on / dark-on mode programmable**

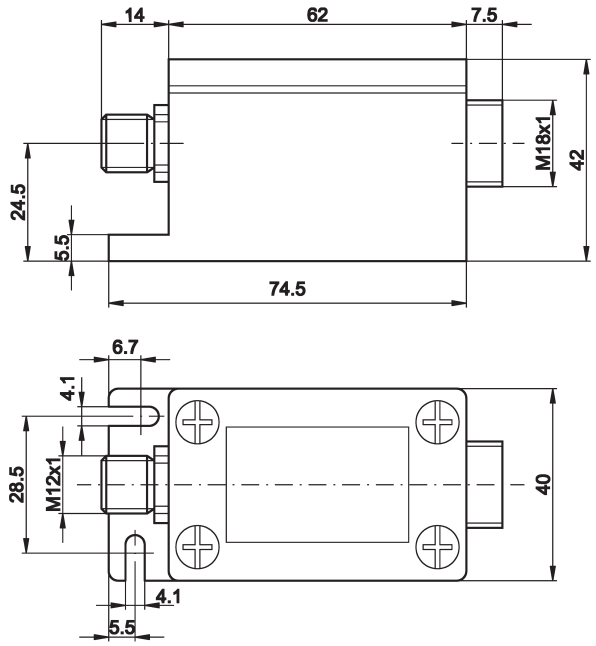


TECHNICAL DATA

operating range	through-beam sensor: depends on used fiber optics *
sensing range	dif. reflection sensor: depends on used fiber optics *
output signal	pnp / npn, light-on / dark-on mode programmable
alarm output	-
operating voltage	10 ... 36V DC
current consumption (w/o load)	≤ 30mA
output current (max. load)	400mA
voltage drop (max. load)	2.0V DC
hysteresis	5 ... 15% in diffuse reflection sensor operation
switching frequency	500Hz
transmitting element (pulsed)	LED, infrared
wavelength	880nm
display (signal)	yellow LED
display (operation)	green LED
display (functional reserve)	red LED flashing, lights up in case of short-circuit
sensitivity adjustment	potentiometer
interference suppression	-
turn-on/off delay	-
short-circuit protection	+
reverse polarity protection	+
dimensions	40x42x83.5mm
housing material	aluminum
operating temperature	-10 ... +60°C
degree of protection (EN 60529)	IP65
connection	M12-connector, 3-pin
connection accessories	e.g. **VK200025**
connection (fiber optics)	M18x1 knurled nut

* approximate values see data sheet glass fibers

article-no.	**OL400721**
output signal	**pnp / npn, light-on / dark-on mode programmable, alarm**



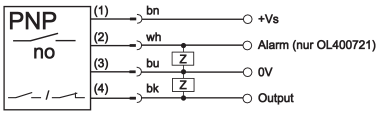
TECHNICAL DATA

operating range	through-beam sensor: depends on used fiber optics *
sensing range	dif. reflection sensor: depends on used fiber optics *
output signal	pnp / npn, light-on / dark-on mode programmable
alarm output	pnp, n.o., 50mA
operating voltage	10 ... 36V DC
current consumption (w/o load)	≤ 30mA
output current (max. load)	400mA
voltage drop (max. load)	2.0V DC
hysteresis	5 ... 15% in diffuse reflection sensor operation
switching frequency	300 / 1000kHz
transmitting element (pulsed)	LED, infrared
wavelength	880nm
display (signal)	yellow LED
display (operation)	green LED
display (functional reserve)	red LED flashing, lights up in case of short-circuit
sensitivity adjustment	potentiometer
interference suppression	+
turn-on/off delay	0 ... 10s
short-circuit protection	+
reverse polarity protection	+
dimensions	40x42x83.5mm
housing material	aluminum
operating temperature	-10 ... +60°C
degree of protection (EN 60529)	IP65
connection	M12-connector, 4-pin
connection accessories	e.g. **VK200325**
connection (fiber optics)	M18x1 knurled nut

* approximate values see data sheet glass fibers

connection

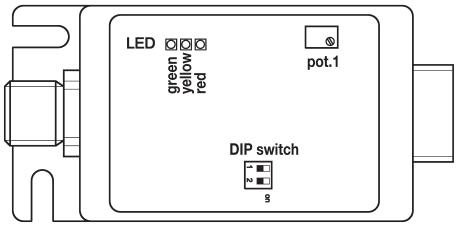
connector device



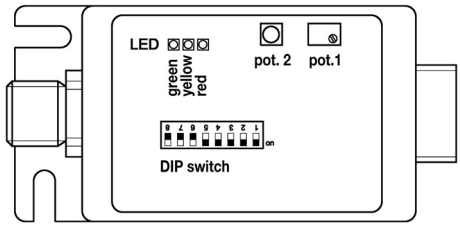
wire colors: bn = brown (1), wh = white (2), bu = blue (3), bk = black (4)

The housing may be opened to program the different functions. Setting control is provided.
Different operating modes are displayed by 3 LEDs:
green LED: operating voltage applied
yellow LED: output switched
red LED: **flashes** operation in functional reserve range **lights up** in case of short-circuit

OL400321



OL400721



programming of the internal DIP switches OL400321

		off (0)	on (1)
s1	switching output	light-on mode	dark-on mode
s2	switching output	pnp	npn

programming of the internal DIP switches OL400721

		off (0)	on (1)
s1	interference suppression	mode 1	mode 2
s2	functional reserve	dynamic	static
s3	switching output	npn	pnp
s4	switching output	light-on mode	dark-on mode
s5	switching frequency	1,000Hz	300Hz

s6	**s7**	**s8**			
0	0	0	no timer function		
0	0	1	switch-on delay	0-10 sec	(pot. 2)
0	1	0	switch-off delay	0-10 sec	(pot. 2)
0	1	1	switch-on/off delay	0-10 sec	(pot. 2)
1	0	0	dynamic light-on mode	100ms	
1	0	1	dynamic dark-on mode	100ms	
1	1	0	switch-on delay	100ms	
1	1	1	switch-off delay	100ms	

For fiber optic amplifiers with fiber optic through-beam sensors the dark-on mode has been defined as normally open (no).
For fiber optic amplifiers with fiber optic diffuse reflection sensors the light-on mode has been defined as normally open (no).

This data sheet contains the standard versions only. Kindly request the availability of other output- and connection versions.

We will be pleased to supply the matching cable socket for your devices with connector. Please refer to the list in catalog chapter "accessories" under "cable sockets ipf -*SENSORFLEX*®" or search our website for "VK".

Warning: Never use these devices in applications where the safety of a person depends on their functionality.

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Subject to alteration!
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