
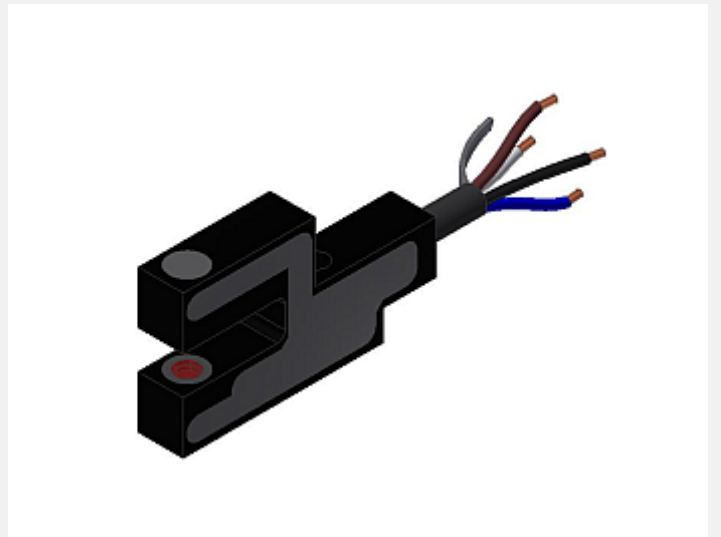


FIA Series

► FIA-L-06-...-C-IR-...

- Infrared laser light beam
- Class 1 laser product (850 nm, P<0.39 mW) 
- Integrated electronics
- Switching state indicator (yellow LED)
- Scratch-resistant optics
- Oil-resistant cable with PUR sheath
- Sturdy aluminum housing, compact design
- Insensitive to dirt accumulation, insensitive to outside light
- High switching frequency (typ. 25 kHz)
- Also available with tool plug (TP, TPO or TPX)



Design

Product name:

FIA-L-06-(aperture)-(fork size)-C-IR-(length)

FIA-L-06-(aperture)-(fork size)-C-IR-TP-(length) (with tool plug TP-M12, s. below)

FIA-L-06-(aperture)-(fork size)-C-IR-TPO-(length) (with tool plug TPO-01, s. below)

FIA-L-06-(aperture)-(fork size)-C-IR-TPX-(length) (with tool plug TPO-03, s. below)

Available apertures:

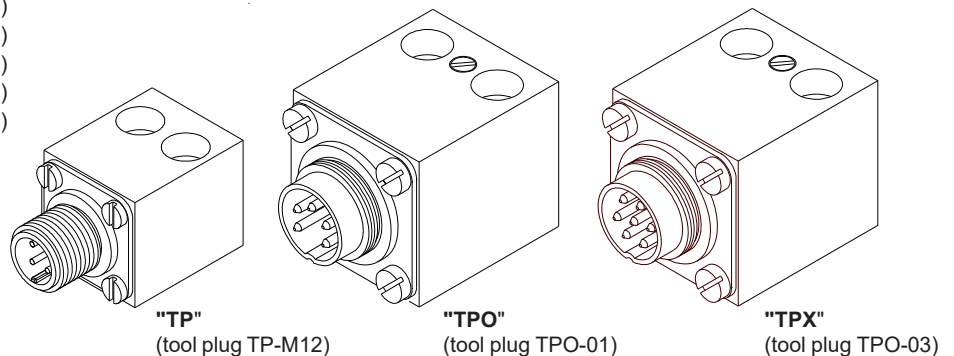
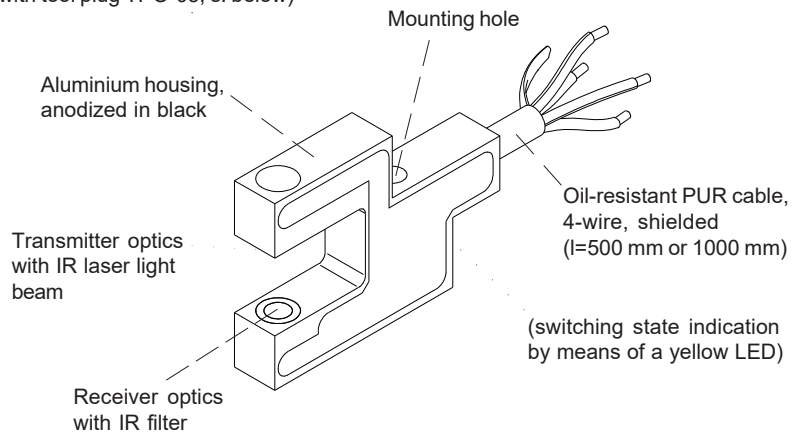
- d0.4** (circular aperture Ø 0.4 mm, up to A=10 mm)
- d0.6** (circular aperture Ø 0.6 mm, up to A=15 mm)
- d0.8** (circular aperture Ø 0.8 mm)
- d1.0** (circular aperture Ø 1.0 mm)
- d1.2** (circular aperture Ø 1.2 mm)

Available fork sizes: (cf. dimensions page 3)

- 5/10** (fork width A=5 mm, fork depth B=10 mm)
- 10/10** (fork width A=10 mm, fork depth B=10 mm)
- 10/15** (fork width A=10 mm, fork depth B=15 mm)
- 10/20** (fork width A=10 mm, fork depth B=20 mm)
- 10/30** (fork width A=10 mm, fork depth B=30 mm)
- 15/10** (fork width A=15 mm, fork depth B=10 mm)
- 20/10** (fork width A=20 mm, fork depth B=10 mm)
- 20/30** (fork width A=20 mm, fork depth B=30 mm)

Available lengths:

- 500** (cable length = 500 mm)
- 1000** (cable length = 1000 mm)




Available also with tool plug, three variants to choose from: (cf. page 4)

- TP** (tool plug TP-M12 with 4-pole M12-connector, fixed to the sensor cable)
- TPO** (tool plug TPO-01 with 5-pole connector 680, fixed to the sensor cable)
- TPX** (tool plug TPO-03 with 7-pole connector 680, fixed to the sensor cable)



Technical Data

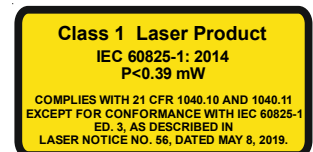
Type	FIA-L-06-...-C-IR
Laser	Solid state laser 850 nm, DC operation, 0.39 mW max. opt. power, laser class 1 acc. to DIN EN 60825-1. The use of these laser transmitters therefore requires no additional protective measures.
Min. detectable object	typ. 0.3 mm
Reproducibility	typ. 0.01 mm
Optical filter	IR filter
Voltage supply	+24VDC (± 10%), reverse polarity protected
Ambient light	up to 5000 Lux
Current consumption	typ. 20 mA
Aperture size	Circular apertures Ø 0.4 mm / Ø 0.6 mm / Ø 0.8 mm / Ø 1.0 mm / Ø 1.2 mm
Switching outputs (2x)	Q = pnp bright-switching (pnp n.c.) / npn dark-switching (nnp n.o.) Qinv = pnp dark-switching (pnp n.o.) / npn bright-switching (nnp n.c.) 100mA, short-circuit protection
Enclosure rating	IP67
Operating temperature range	-20°C ... +50°C
Storage temperature range	-20°C ... +85°C
Housing	Aluminum, anodized in black
Dimensions	see page 3
Cable type	Cable integrated in the sensor housing: 4-wire PUR-sheath, shielded, length 500 mm or 1000 mm
EMC test acc. to	DIN EN 60947-5-2 
Switching frequency	typ. 25 kHz
Switching state indicator	by means of a yellow LED integrated in the sensor housing: LED on = sensor free LED off = sensor covered



Laser Information

The laser transmitter of FIA-L Series comply with laser class 1 according to EN 60825-1. Under reasonably foreseeable conditions a class 1 laser is safe. The reasonably foreseeable conditions are kept during specified normal operation. The use of these laser transmitters therefore requires no additional protective measures.

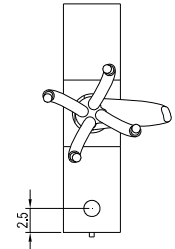
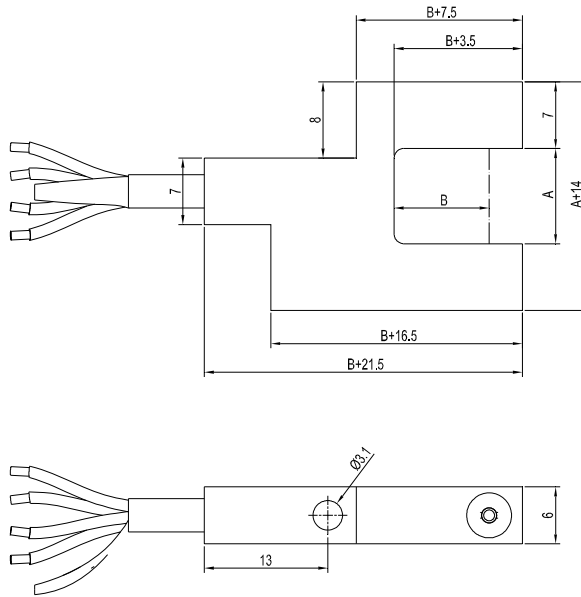
The laser transmitter of FIA-L Series are supplied with an information label „CLASS 1 LASER PRODUCT“.



Dimensions

FIA-L-06-...-C-IR-...:

Fork size	dim. A	dim. B
5/10	5 mm	10 mm
10/10	10 mm	10 mm
10/15	10 mm	15 mm
10/20	10 mm	20 mm
10/30	10 mm	30 mm
15/10	15 mm	10 mm
20/10	20 mm	10 mm
20/30	20 mm	30 mm

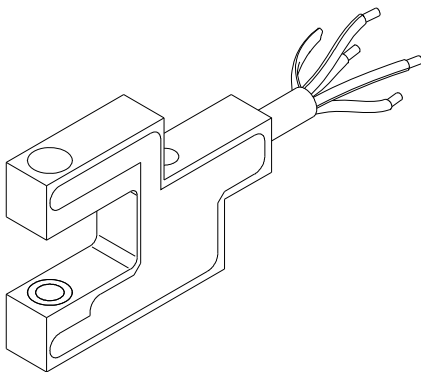


(All dimensions in mm)

Connector Assignment

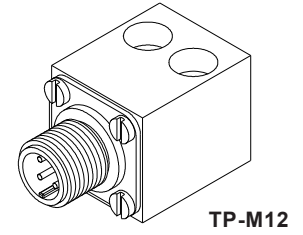
Assignment of cable wires of FIA-L-06-...-C-IR-...
(4-wire cable, PUR sheath, shielded):

Color:	Assignment:
Brown	+Ub (+24VDC ± 10%)
White	Qinv (pnp dark-switching, npn bright-switching)
Blue	GND (0V)
Black	Q (pnp bright-switching, npn dark-switching)
Shield	Housing



Connector assignment of FIA-L-06-...-C-IR-TP-...
(with tool plug TP-M12)
(4-pole connector M12)

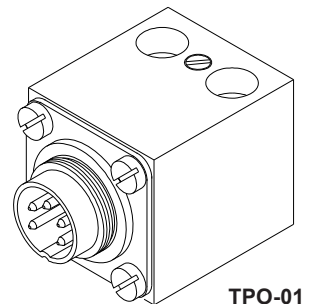
Pin:	Assignment:
1	+Ub (+24VDC ± 10%)
2	Output Qinv
3	GND (0V)
4	Output Q



TP-M12

Connector assignment of FIA-L-06-...-C-IR-TPO-...
(with tool plug TPO-01)
(5-pole connector Binder 680)

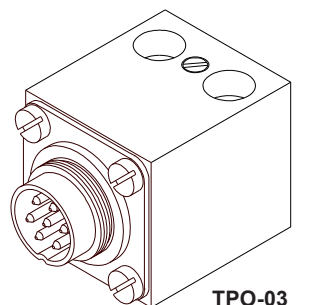
Pin:	Assignment:
1	GND (0V)
2	+Ub (+24VDC ± 10%)
3	Output
4	n.c.
5	Monitoring output



TPO-01

Connector assignment of FIA-L-06-...-C-IR-TPX-...
(with tool plug TPO-03)
(7-pole connector Binder 680)

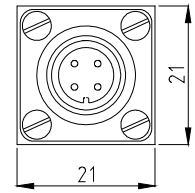
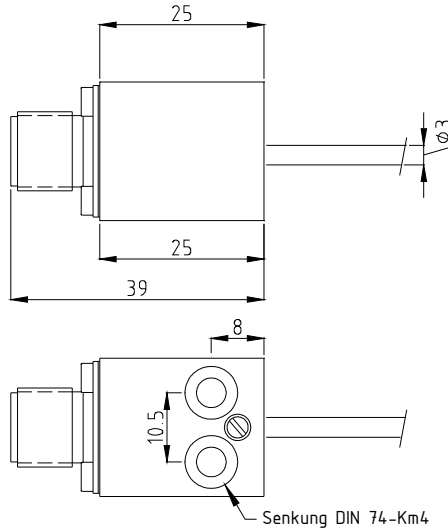
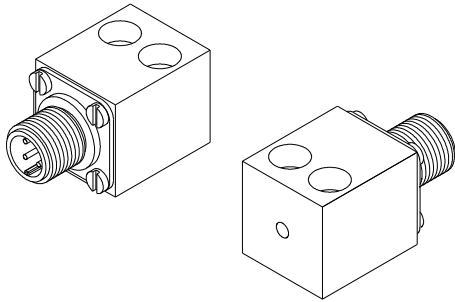
Pin:	Assignment:
1	
2	
3	
4	(to be determined yet)
5	
6	
7	



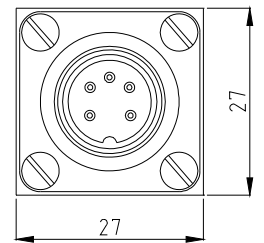
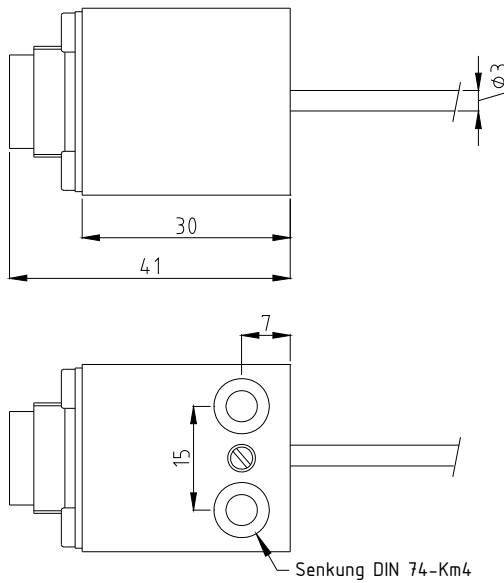
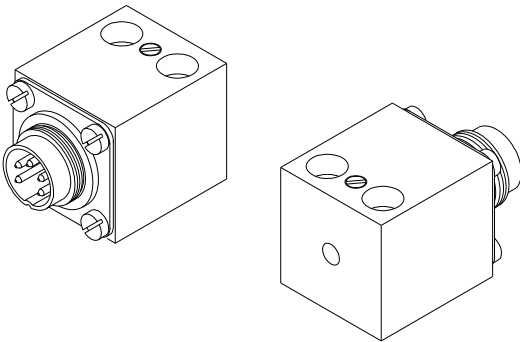
TPO-03

Tool Plugs

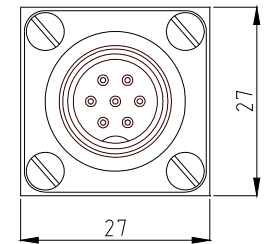
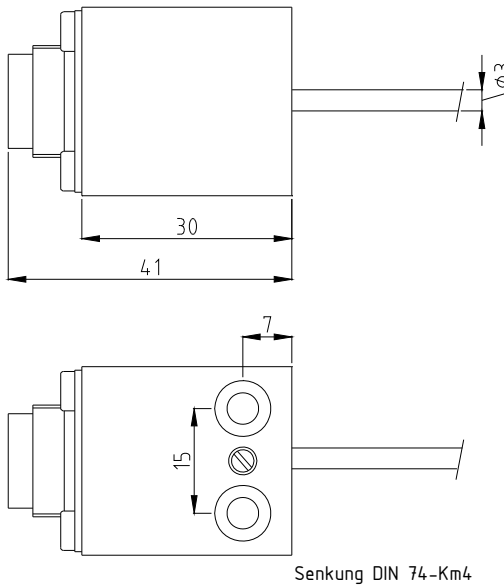
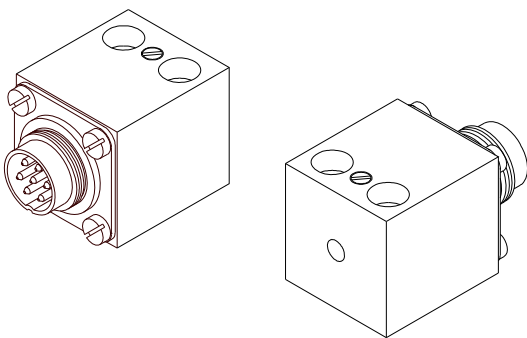
Tool plug TP-M12:



Tool plug TPO-01:



Tool plug TPO-03:



(All dimensions in mm)