

# FIA Series

## ▶ FIA-L-08-d0.2-...-P-RL

- Visible red laser light
- Class 1 laser product (680 nm, P<0.39 mW)
- Integrated electronics
- Various fork sizes available
- Laser beam typ. Ø 0.2 mm
- Insensitive to dirt accumulation, insensitive to outside light
- Optical long-pass filter
- High switching frequency (typ. 50 kHz)
- Switching state indication (yellow LED)
- Scratch-resistant optics
- 4-pole M8-connector
- Sturdy aluminum housing, compact design



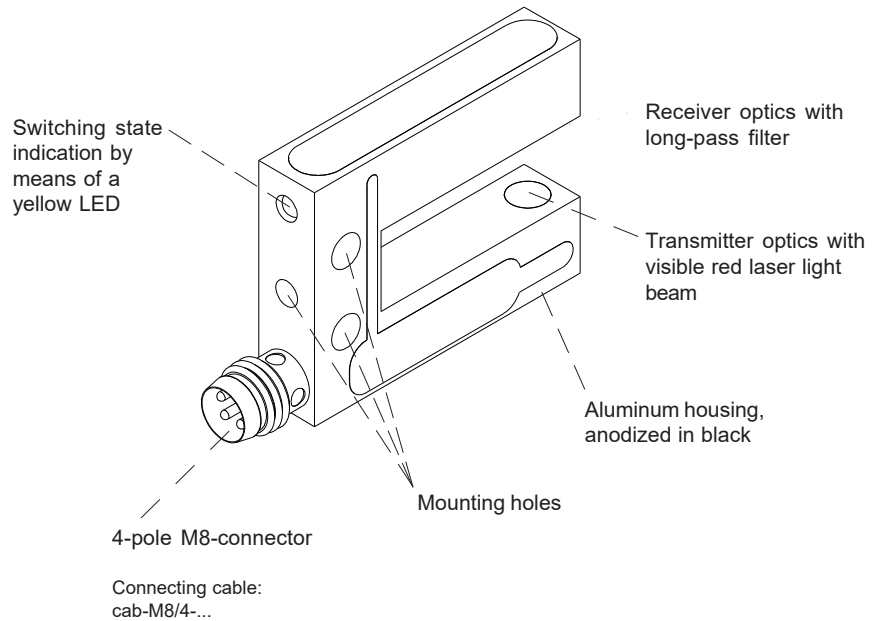
### Design

#### Product name:


FIA-L-08-d0.2-(fork size)-P-RL

**Laser beam diameter:**  
d0.2 (Ø 0.2 mm)

- Available fork sizes:** (cf. dimensions page 3)
- 10/15 (fork width A=10 mm, fork depth B=15 mm)
  - 10/25 (fork width A=10 mm, fork depth B=25 mm)
  - 10/30 (fork width A=10 mm, fork depth B=30 mm)
  - 20/15 (fork width A=20 mm, fork depth B=15 mm)
  - 20/30 (fork width A=20 mm, fork depth B=30 mm)
  - 25/50 (fork width A=25 mm, fork depth B=50 mm)
  - 25/80 (fork width A=25 mm, fork depth B=80 mm)
  - 30/15 (fork width A=30 mm, fork depth B=15 mm)
  - 30/30 (fork width A=30 mm, fork depth B=30 mm)
  - 40/30 (fork width A=40 mm, fork depth B=30 mm)
  - 40/40 (fork width A=40 mm, fork depth B=40 mm)
  - 40/60 (fork width A=40 mm, fork depth B=60 mm)
  - 60/60 (fork width A=60 mm, fork depth B=60 mm)



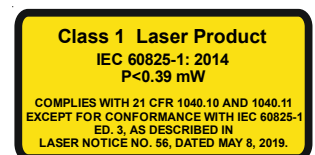
Technical Data

Type	FIA-L-08-d0.2-...-P-RL
Light source	Solid state laser 680 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.
Laser beam	typ. Ø 0.2 mm
Min. detectable object	typ. 0.2 mm
Reproducibility	typ. 5 µm
Optical filter (receiver side)	long-pass filter
Voltage supply	+24VDC (± 10%), reverse polarity protected
Ambient light	up to 5000 Lux
Current consumption	typ. 20 mA
Aperture size (receiver side)	Circular aperture Ø 0.5 mm
Switching outputs (2x)	Q = pnp bright-switching (pnp n.c.) / npn dark-switching (npn n.o.) Qinv = pnp dark-switching (pnp n.o.) / npn bright-switching (npn n.c.) 100mA, short-circuit protection
Enclosure rating	IP67
Operating temperature range	-20°C ... +50°C
Storage temperature range	-20°C ... +85°C
Housing material	Aluminum, anodized in black
Housing dimensions	see page 3
Connector type	4-pole M8-connector (metal)
EMC test acc. to	DIN EN 60947-5-2 
Switching frequency	typ. 50 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.

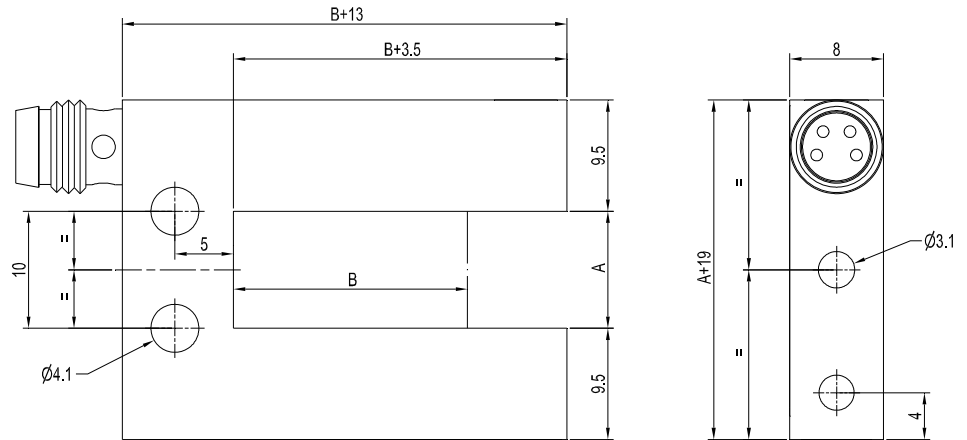
The laser transmitter of FIA-L Series are supplied with an information label „CLASS 1 LASER PRODUCT“.



Dimensions

FIA-L-08-d0.2-(fork size)-P-RL:

Fork size	Dim. A	Dim. B
10/15	10 mm	15 mm
10/25	10 mm	25 mm
10/30	10 mm	30 mm
20/15	20 mm	15 mm
20/30	20 mm	30 mm
25/50	25 mm	50 mm
25/80	25 mm	80 mm
30/15	30 mm	15 mm
30/30	30 mm	30 mm
40/30	40 mm	30 mm
40/40	40 mm	40 mm
40/60	40 mm	60 mm
60/60	60 mm	60 mm



Available connecting cables:

- cab-M8/4-g-2** (l=2m)
- cab-M8/4-g-5** (l=5m)
- cab-M8/4-w-2** (angle type, l=2m)
- cab-M8/4-w-5** (angle type, l=5m)



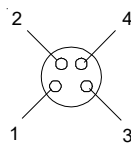
(All dimensions in mm)

Connector Assignment

FIA-L-08-d0.2-...-P-RL:  
(4-pole M8 connector)

Pin: Assignment:

- 1 +Ub (+24VDC ± 10%)
- 2 Qinv (pnp dark-switching, npn bright-switching)
- 3 0V (GND)
- 4 Q (pnp bright-switching, npn dark-switching)



Available connecting cables:

- cab-M8/4-g-2** (l=2m)
- cab-M8/4-g-5** (l=5m)
- cab-M8/4-w-2** (angle type, l=2m)
- cab-M8/4-w-5** (angle type, l=5m)

