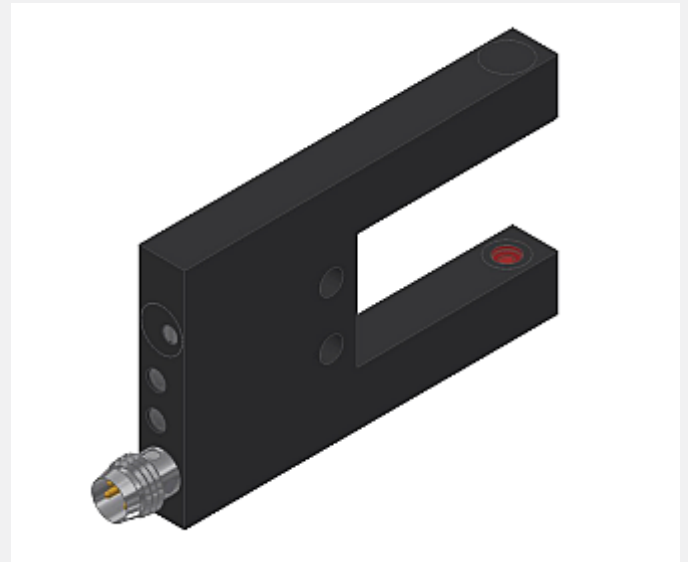


FIA Series

► FIA-DUO-...

- Insensitive to outside light due to optical filter
- Infrared light beam (IR LED 850 nm)
- Various fork sizes available
- Switching frequency typ. 5 kHz
- High resolution
- Potentiometer for adjustment of light power
- Two trigger signals (output 1 and 2)
- Switching state indication by means of 2 LED (red and green)
- Directional counting due to trigger offset (approx. 0.3 mm)
- Connecting cable oil-resistant
- Compact and sturdy metal housing



Design

Product name:

FIA-DUO-(fork size)-NPN
FIA-DUO-(fork size)-PNP

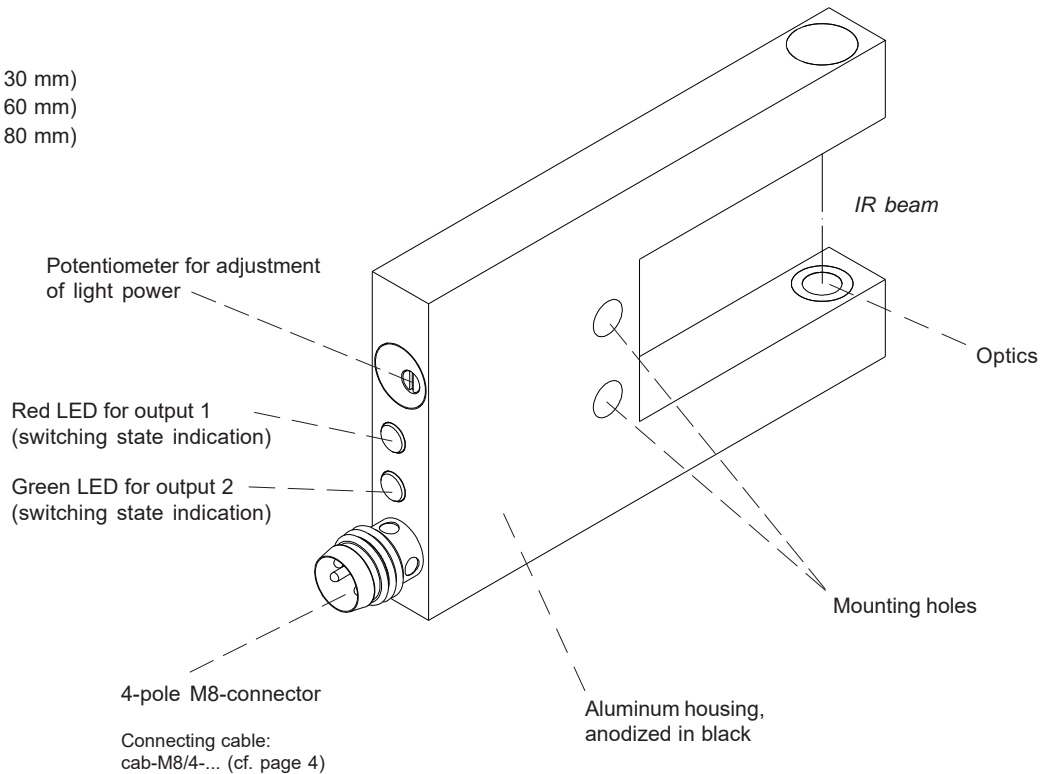
Fork size: (cf. page 3)

20/30 (fork width 20 mm, fork depth 30 mm)
25/60 (fork width 25 mm, fork depth 60 mm)
25/80 (fork width 25 mm, fork depth 80 mm)

Output: (cf. page 4)


NPN = 
 bright-switching (24V/0V)

PNP = 
 dark-switching (0V/24V)





Technical Data

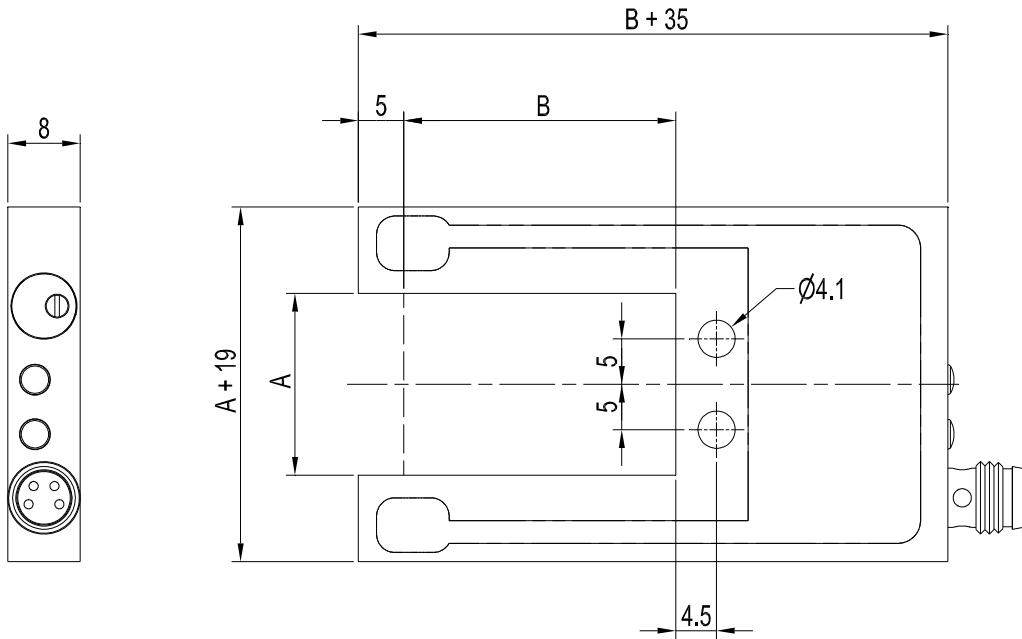
Type	FIA-DUO-...
Transmitter	IR LED: 850 nm
Distance transmitter/receiver	equal to fork width A (A=20 mm or A=25 mm)
Aperture of transmitter	typ. Ø 1.0 mm
Min. detectable object	when using FIA-DUO-20/30-... with fork width A=20: typ. Ø 0.5 mm when using FIA-DUO-25/60-... with fork width A=25: typ. Ø 0.6 mm when using FIA-DUO-25/80-... with fork width A=25: typ. Ø 0.6 mm
Beam divergency	typ. 0.3 mm (of output 1 and output 2)
Reproducibility	typ. 0.01 mm
Optical filter	Day light block filter
Constant light operation	yes
Enclosure rating	IP67
Voltage supply	+24VDC (± 10%), reverse polarity protected
Max. current consumption	typ. 80 mA
Switching state indication	red LED on: output 1 covered green LED on: output 2 covered
Adjustment of transmitter power	by means of potentiometer (3 rotations), rotation clockwise: increase of IR power
Switching output	NPN = bright-switching (24V/0V): if output is covered, signal switches from high (24V) to low (0V) PNP = dark-switching (0V/24V): if output is covered, signal switches from low (0V) to high (24V)
Switching frequency	typ. 5 kHz
Operating temperature range	-20°C ... +60°C
Storage temperature range	-20°C ... +85°C
Housing material	aluminum, anodized in black
Housing dimensions	FIA-DUO-20/30-... WxLxH approx. 39 mm x 65 mm x 8 mm (without connector) FIA-DUO-25/60-... WxLxH approx. 44 mm x 95 mm x 8 mm (without connector) FIA-DUO-25/80-... WxLxH approx. 44 mm x 115 mm x 8 mm (without connector)
Type of connector	4-pole M8 connector
Max. switching current	100 mA, short-circuit proof
EMC test acc. to	DIN EN 60947-5-2 



Dimensions

FIA-DUO-(fork size)-...:

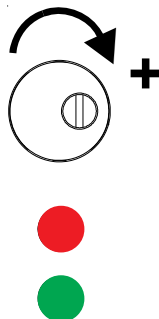
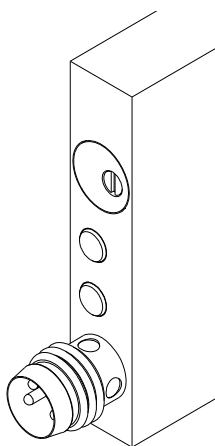
Fork-size	Dim. A	Dim. B
20/30	20 mm	30 mm
25/60	25 mm	60 mm
25/80	25 mm	80 mm



All dimensions in mm



Setting



Adjustment of potentiometer (3 revolutions):

Potentiometer for adjustment of transmitting power:
Rotation clockwise: Increase of IR-power

LED red for switching state indication (output 1)
LED red: Output 1 covered

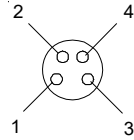
LED green for switching state indication (output 2)
LED green: Output 2 covered

Connector Assignment

FIA-DUO-...-NPN:

4-pole M8 connector:

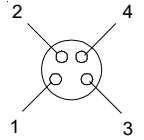
Pin:	(Color)	Assignment:
1	(brn)	+Ub (+24VDC ± 10%)
2	(wht)	Output 1 ∇ (24V/0V)
3	(blu)	0V (GND)
4	(blk)	Output 2 ∇ (24V/0V)



FIA-DUO-...-PNP:

4-pole M8 connector:

Pin:	(Color)	Assignment:
1	(brn)	+Ub (+24VDC ± 10%)
2	(wht)	Output 1 \blacktriangle (0V/24V)
3	(blu)	0V (GND)
4	(blk)	Output 2 \blacktriangle (0V/24V)



NPN bright-switching:

When output is covered: signal changes from HIGH (24V) to LOW (0V)

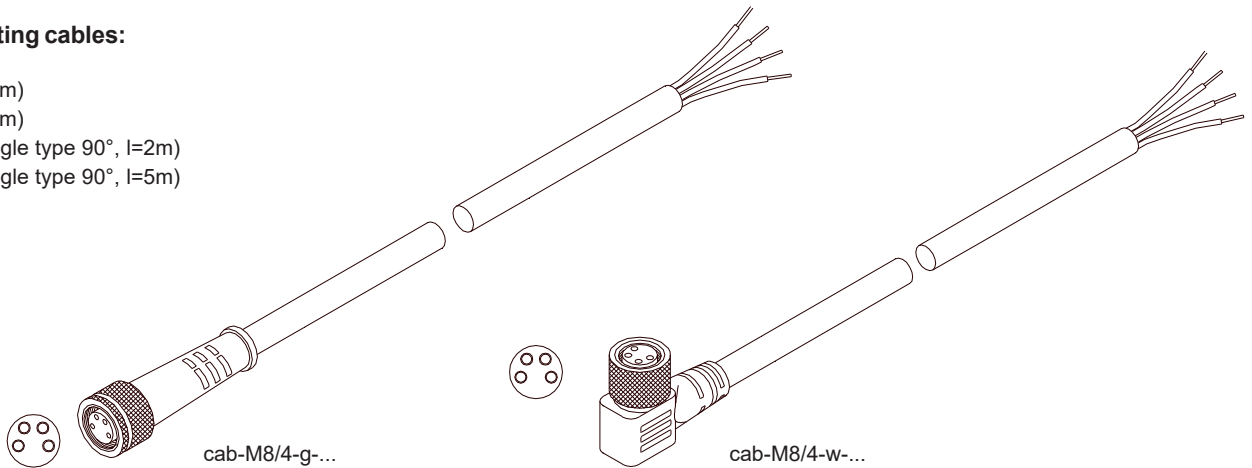
PNP dark-switching:

When output is covered: signal changes from LOW (0V) to HIGH (24V)

Connecting Cable

Available connecting cables:

- cab-M8/4-g-2** (l=2m)
- cab-M8/4-g-5** (l=5m)
- cab-M8/4-w-2** (angle type 90°, l=2m)
- cab-M8/4-w-5** (angle type 90°, l=5m)



Switching Outputs

