



# FX series

Photoelectric sensors  
for DIN-rail mounting



## features

- Fibre-optic amplifier for DIN-rail mounting (DIN/EN 50022)
- Distance setting by means of teach in with additional manual fine adjustment (FX4)
- Distance setting by means of 12-turn potentiometer with illuminated scale (FX3)
- Adjustable pulse delay and stretching (FX4)
- High switching frequency: 1,5 kHz
- Ideal for stacking, thanks to 10 mm housing width
- Teach 1 (background), Teach 2 (target and background) (FX4)
- Large setting range of 20...200 mm



## web contents

- Application notes
- Photos
- Catalogue / Manuals



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## code description

FX 3 / 0 P - 0 A

series	<b>FX</b>	Fibre-optic amplifier
distance setting	<b>3</b>	Distance setting by means of potentiometer
	<b>4</b>	Distance setting by means of teach in buttons
LO / DO	<b>0</b>	LO/DO function selectable
PNP / NPN output	<b>P</b>	PNP output
	<b>N</b>	NPN output
housing	<b>0</b>	Plastic housing
cable / plug output	<b>A</b>	Cable output 2 m
	<b>F</b>	4 pin M8 connector

## available models

dimensions (mm)	series	DIN rail	adjustment	exit	PNP		NPN	
					NO / NC	NO / NC		
10 x 31 x 60	FX3	●	trimmer	cable	FX3/0P-0A	FX3/0N-0A		
				M8	FX3/0P-0F	FX3/0N-0F		
	FX4		Teach-In	cable	FX4/0P-0A	FX4/0N-0A		
				M8	FX4/0P-0F	FX4/0N-0F		



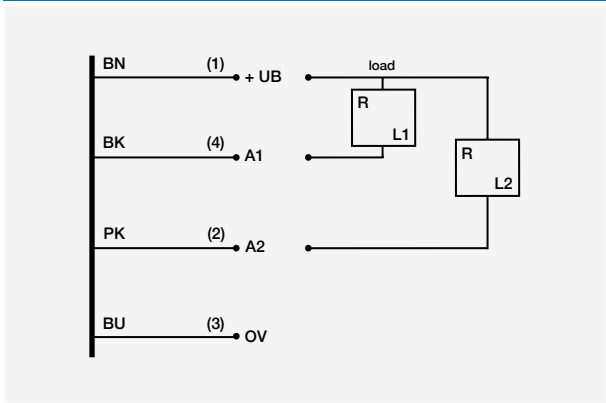
	FX4/0*-0*	FX3/0*-0*
nominal sensing distance	see optical fibres table	
setting range	20...200 mm	
teach increment	≤ 1 mm	-
hysteresis	10 % typ.	
standard target	100 x 100 mm white	
emitter (regulated light power)	red (660 nm)	
output (switchable)	NO / NC	
excess light output	-	light ON
output state indication	LEDs; bar graph	LED yellow
excess light indicator	LED green	
supply voltage range	10 ... 30 Vdc	
max. ripple content	≤ 20% V al / UB	
output current	≤ 200 mA	
output voltage drop	≤ 2.0 V a / at 200 mA	
no-load supply current	μ25 mA typ. a / at UB = 24 V	≤ 15 mA typ. a / at UB = 24 V
leakage current	≤ 0.1 mA	
switching frequency	≤ 1,500 Hz	
switching time	≤ 330 μsec	
modulation frequency	15 kHz	
power on delay	80 ms	300 ms
max. ambient light, halogen	5,000 Lux	
max. ambient light, sun	10,000 Lux	
sensitivity setting	Teach-In	Potentiometer
pulse delay/stretching	10 ... 150 msec	-
ambient temperature range	-25 ... +55 °C	
temperature drift of sn	0.2 % / °C	
voltage reversal protection	built-in	
induction protection	built-in	
short-circuit protection	built-in	
shocks and vibration	IEC 60947-5-2 / 7.4	
cable length	300 m max.	
weight	17 g connector / 68 g cable	18 g connector/ 69 g cable
protection degree	IP64 (EN60529) <sup>(1)</sup>	
EMC	in conformity with the EMC Directive according to EN 60947-5-2	
optical fibre connection	Ø 2,2 mm	
housing material	PBTP	
connection cable (FX*/0*-0A)	PVC 4 x 0,25 mm <sup>2</sup> / 128 x 0,05 mm Ø	
connector type (FX*/0*-0F)	M8 4 wires	

<sup>(1)</sup> Protection guaranteed only with plug cable well mounted

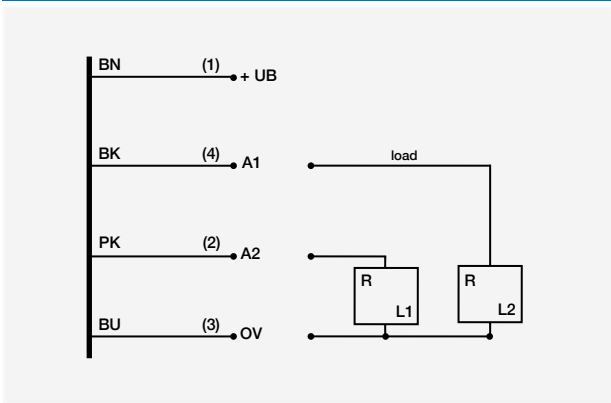
# electrical diagrams of the connections



## FX3/0\*-0\* NPN output

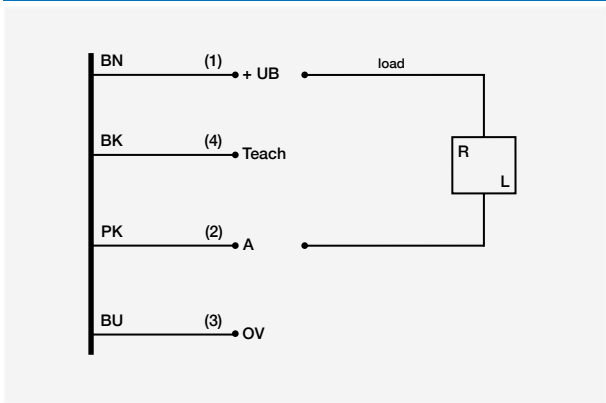


## FX3/0\*-0\* PNP output

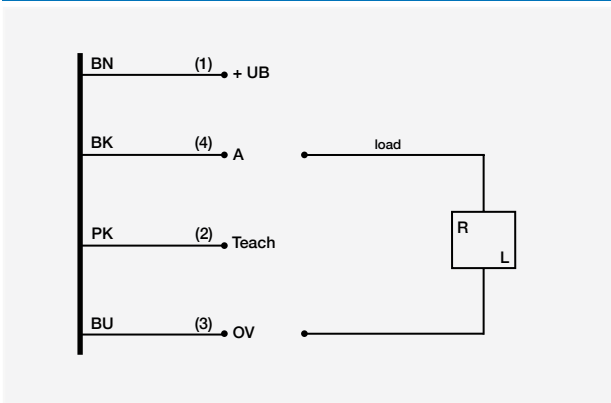


A1 Output (Light-ON/Dark-ON switchable)  
A2 Excess light output Light-ON

## FX4/0\*-0\* NPN output



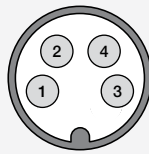
## FX4/0\*-0\* PNP output



- BN** brown
- BU** blue
- BK** black
- WH** white
- PK** pink
- GY** gray

# plug

## M8

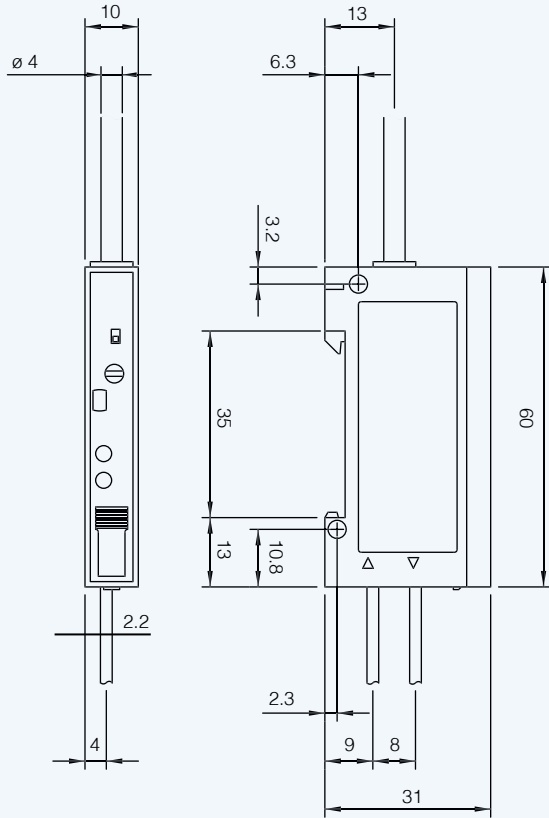




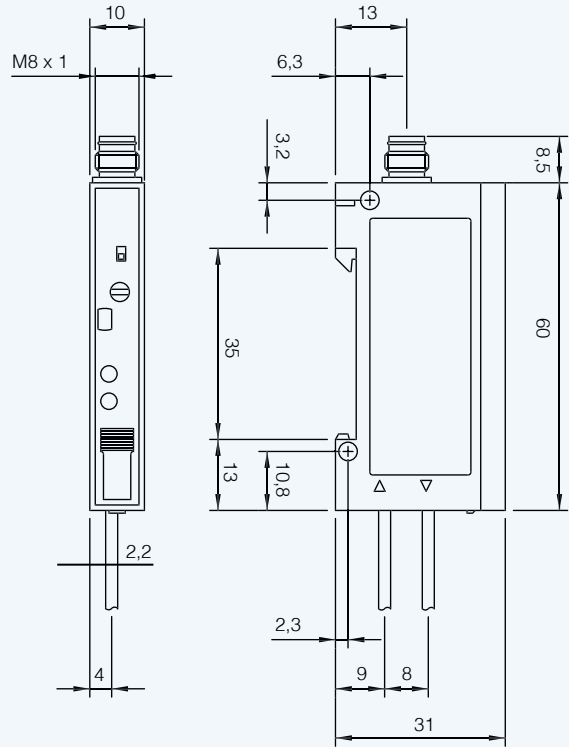
# dimensions (mm)

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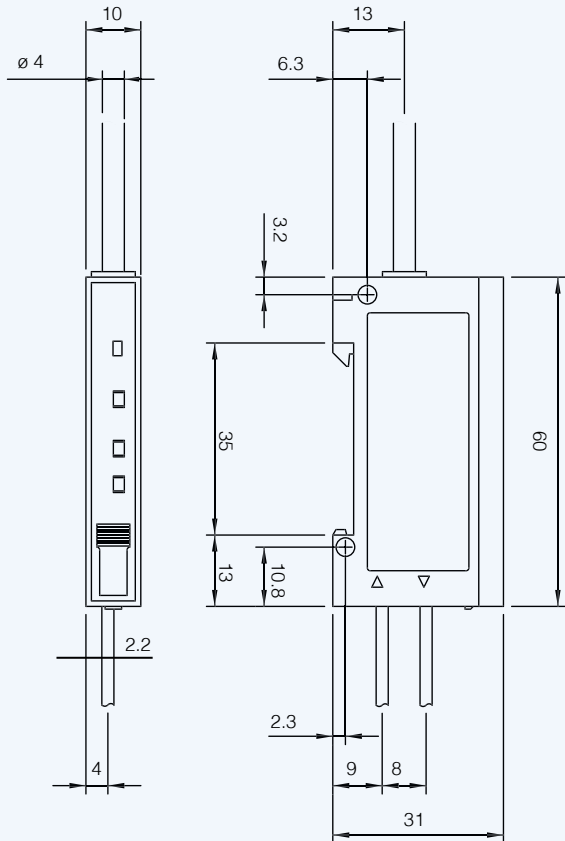
FX3/0\*-0A



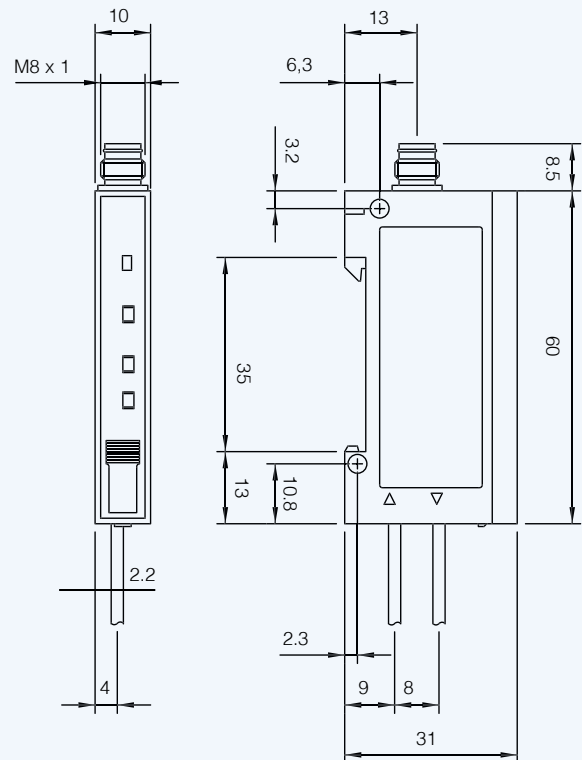
FX3/0\*-0F



FX4/0\*-0A



FX4/0\*-0F



FX