



# FAL BGS series

M18 LASER with adjustable background suppression



## features

- M18 Photoelectric sensor Background Suppression with Laser emission
- Models in Class I and Class II Laser emission power
- Axial and Right angle optic materials
- Sensing distance adjustment by trimmer
- Collimated Light spot
- Complete protection against electrical damages
- Nichel brass housing



## web contents

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Cylindrical M18 LASER

## code description

FA L W / B P - 1 E 77

series	FA	M18 Cylindrical photoelectric sensor
emission	L	Laser emission
background suppression	S	Background Suppression (Laser Class 1)
	W	Background Suppression (Laser Class 2)
output	0	Lo/Do selectable output
	B	Complementary output (NO+NC)
NPN / PNP output	N	NPN output
	P	PNP output
housing	1	Axial version Metallic housing
	3	Right Angle (90°) version Metallic housing
plug	E	Connector M12 4 pins
version	77	Special version (Anti Reflex)

## available models

model	distance (mm)	laser class	optical	output selectable (LO/DO)		complementary output (NO+NC)	
				NPN	PNP	NPN	PNP
background suppression	30...100	1	axial	FALS/0N-1E	FALS/0P-1E	FALS/BN-1E	FALS/BP-1E
	30...80		right angle	FALS/0N-3E	FALS/0P-3E	FALS/BN-3E	FALS/BP-3E
	30...150	2	axial	FALW/0N-1E	FALW/0P-1E	FALW/BN-1E	FALW/BP-1E
	30...130		right angle	FALW/0N-3E	FALW/0P-3E	FALW/BN-3E	FALW/BP-3E
	30...120		axial	-	-	FALW/BN-1E77	FALW/BP-1E77
	30...100		right angle	-	-	FALW/BN-3E77	FALW/BP-3E77

FAL BGS



# technical specification

according to IEC EN 60947-5-2

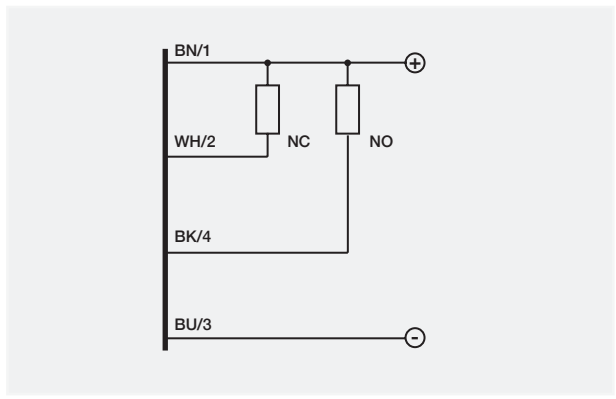
Cylindrical M18  
LASER

	axial	radial	axial	radial
	FALS/**_**	FALS/**_**	FALW/**_**	FALW/**_**
nominal sensing distance	25...100 mm	25...80 mm	25...150 mm	25...130 mm
sensing range (Sd)	30...100 mm	30...80 mm	30...150 mm	30...130 mm
emission	red laser diode (650 nm)			
Laser Protection Class EN60852-1	1		2	
adjustment	trimmer (270°)			
hysteresis	10 %			
repeatability	10 %			
operating voltage	10...30 Vdc			
ripple	≤ 10 %			
no-load current	≤ 40 mA			
output current	100 mA			
leakage current	≤ 10 µA (Vdc max)			
output voltage drop	2 V max. IL = 100 mA			
output type	NPN or PNP; NO + NC or LO/DO selectable			
switching frequency	1.5 kHz			
power on delay	250 ms			
power supply protections	polarity reversal, transient			
output protection	short circuit (auto reset), over voltage pulses			
temperature range	- 10°C...+ 50°C			
temperature drift	10 % Sn			
max. Capacitive Load	500 nF			
protection degree	IP67 (EN60529) <sup>(1)</sup>			
external light interference	15,000 lux (incandescent lamp)			
EMC	in conformity with the EMC Directive according to EN 60947-5-2			
LED indicator	yellow (output state)			
housing material	nickel plated brass			
optic materials	PMMA ABS		glass ABS	PMMA ABS   glass ABS
exit plug	grilamid (PA 12)			
tightening torque	40 Nm (metallic)			
weight	60 g			

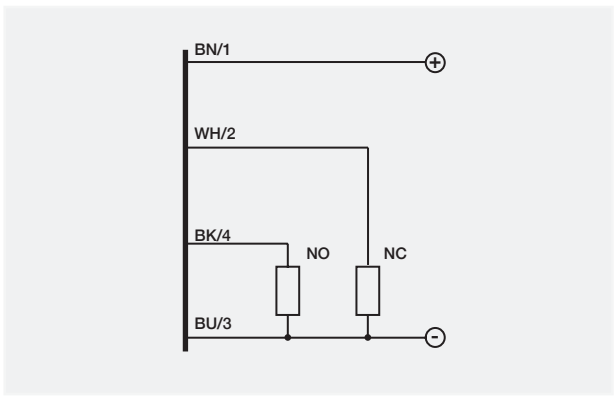
<sup>(1)</sup> Protection guaranteed only with plug cable well mounted

# electric diagrams of the connections

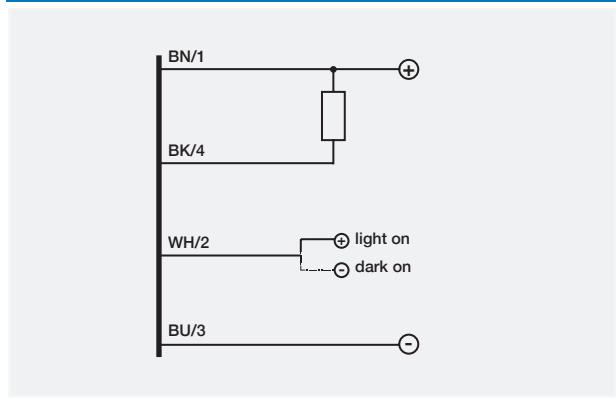
## NPN NO + NC



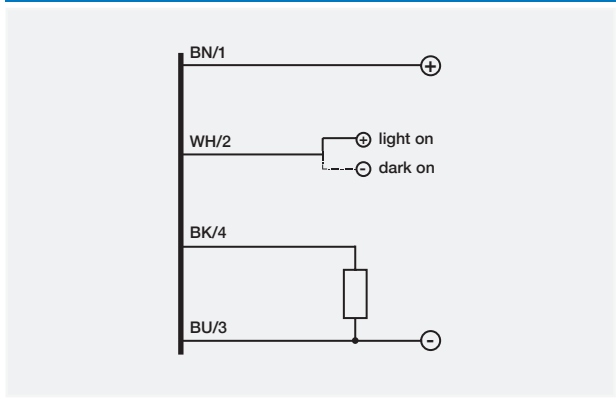
## PNP NO + NC



## NPN LO/DO



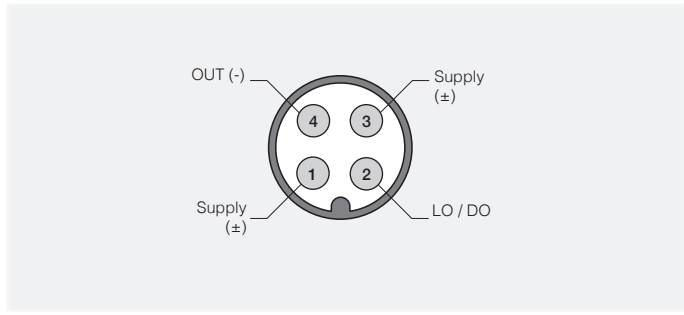
## PNP LO/DO



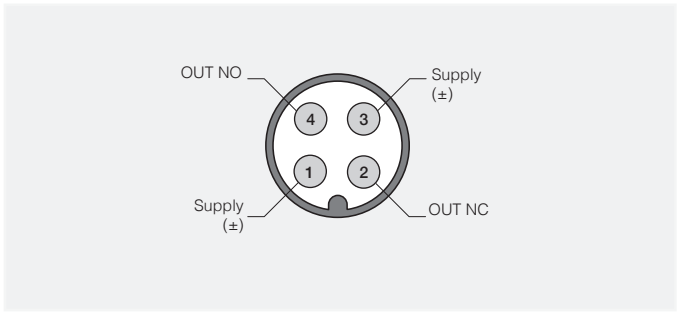
- BN brown
- BU blue
- BK black
- WH white
- PK pink
- GY gray

# plug

## M12 FAL\*/0\*--\*\*

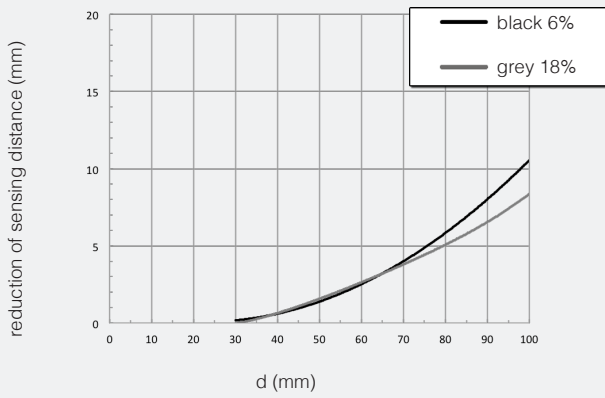


## M12 FAL\*/B\*--\*\*

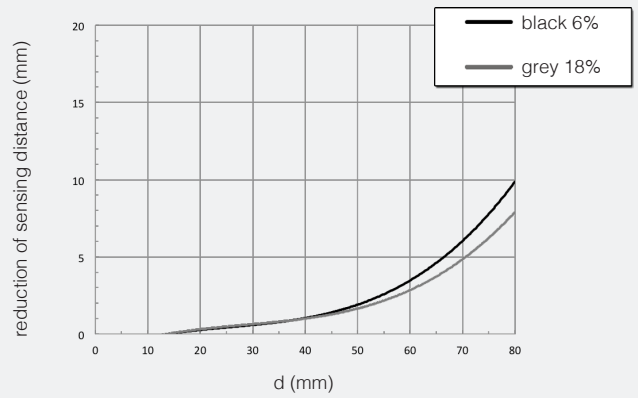




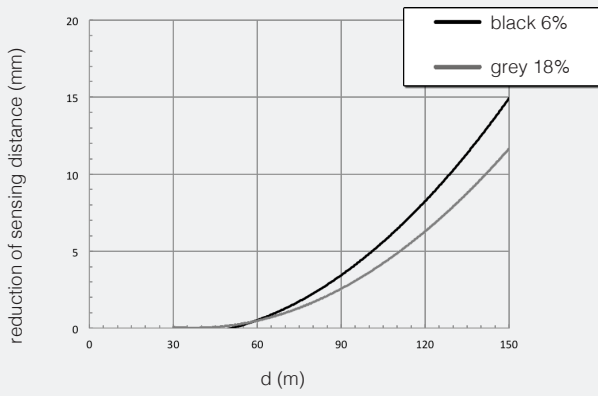
### FALS/\*\*-1E reduction of sensing distance



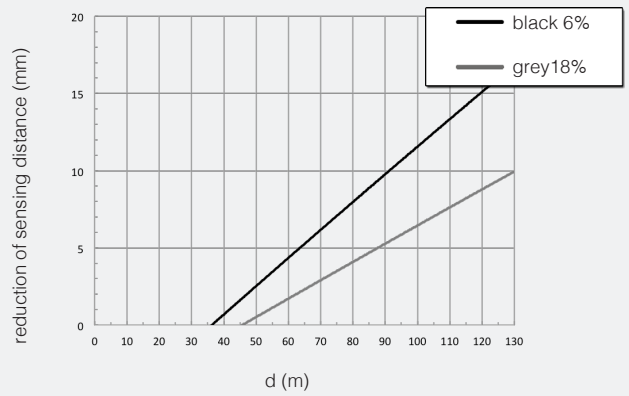
### FALS/\*\*-3E reduction of sensing distance



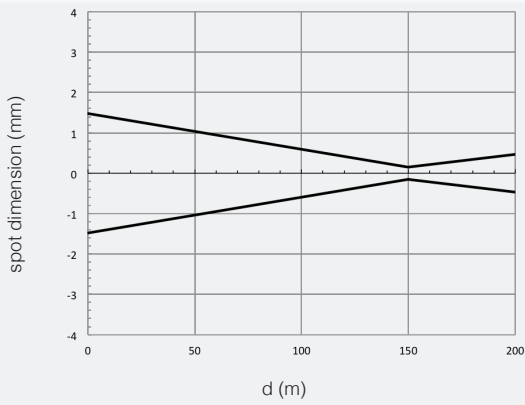
### FALW/\*\*-1E reduction of sensing distance



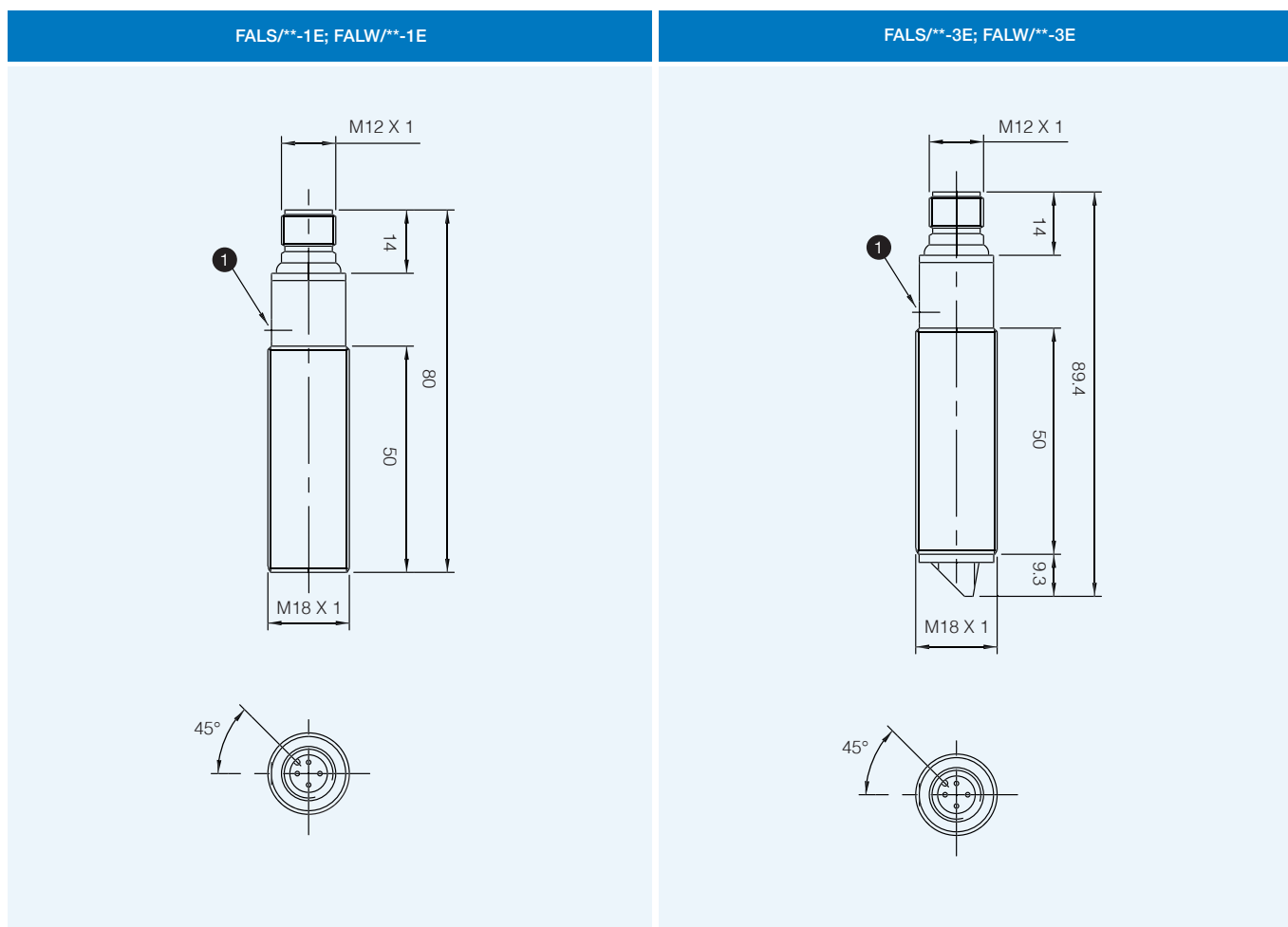
### FALW/\*\*-3E reduction of sensing distance



### FALS/\*\*-\*\* spot dimension



## dimensions (mm)



**1** Trimmer

## dimensions (mm)

accessories included in all models

