

Sb = 10 m



- single lens optics
- long sensing range
- short response time

**general data**

type	retro-reflective laser sensor
version	single lens optics
light source	pulsed red laser diode
actual range Sb	10 m
nominal range Sn	11 m
repeatability	< 0,1 mm at laser focus
polarization filter	yes
alignment / soiled lens indicator	flashing light indicator
light indicator	LED yellow
power on indication	LED green
sensitivity adjustment	Teach-in
laser class	1
distance to laser focus	400 mm
wave length	650 nm

**electrical data**

response time / release time	< 0,25 ms
voltage supply range +Vs	10 ... 30 VDC
current consumption max.	35 mA
current consumption typ.	25 mA
voltage drop Vd	< 2,2 VDC
output current	< 100 mA
short circuit protection	yes
reverse polarity protection	yes

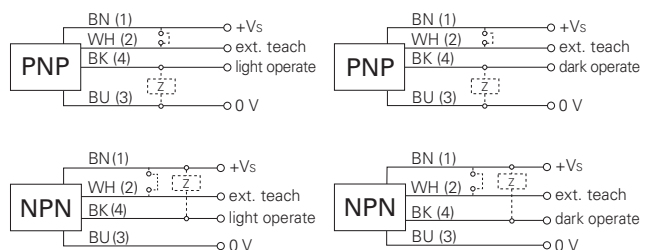
**mechanical data**

width / diameter	14,8 mm
height / length	43 mm
depth	31 mm
type	rectangular
housing material	plastic (PA12)
front (optics)	PMMA
connection types	connector M8, 4 pin

**ambient conditions**

operating temperature	-10 ... +50 °C
protection class	IP 67

**connection diagrams**



**connectors**

ESG 32AH0200	4 pin	2 m straight
ESW 31AH0200	4 pin	2 m angular

additional cable connectors and field wireable connectors, see accessories

**accessories**

SENSOFIX mounting kit	149011
mounting bracket	134964

for details, see accessories section

**laser warning**

**CLASS 1 LASER PRODUCT**

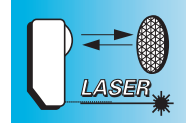
Complies with 21 CFR 1040.10 and 1040.11  
except for deviations pursuant to  
Laser Notice No. 50, dated July 26, 2001

Complies with EN60825-1:2001

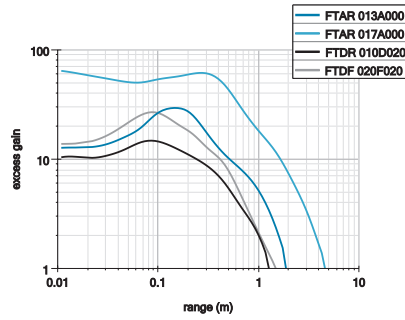
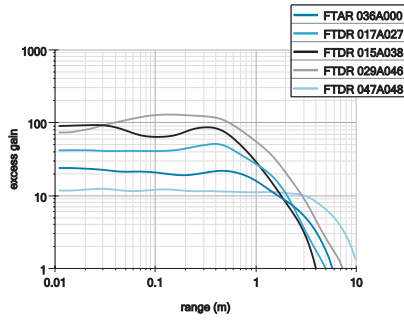
order reference	output circuit	output function
OPDK 14N1901/S35A	NPN	light operate
OPDK 14N3901/S35A	NPN	dark operate
OPDK 14P1901/S35A	PNP	light operate
OPDK 14P3901/S35A	PNP	dark operate

OPDK 14 Sb = 10 m

Retro-reflective sensors



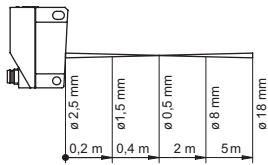
excess gain curve



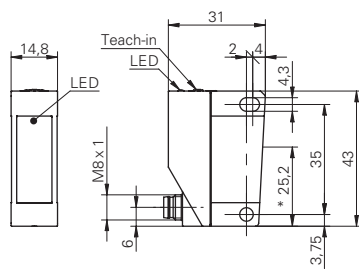
reflectors

FTAR 013A000	ø 15 mm
FTAR 017A000	ø 20,7 mm
FTAR 020A000	ø 25,2 mm
FTAR 036A000	ø 46 mm
FTDF 020F020	tape 20 x 20 mm
FTDR 010D020	15 x 25 mm
FTDR 015A038	18 x 40 mm
FTDR 017A027	20 x 42 mm
FTDR 029A046	32,5 x 48 mm
FTDR 047A048	54 x 75 mm

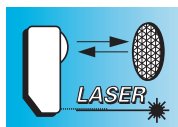
beam characteristic



dimension drawing



\* emitter and receiver axis



S<sub>b</sub> = 1 m

- designed for detection of transparent objects
- single lens optics
- short response time



**general data**

type	retro-reflective laser sensor
special type	for transparent objects
version	single lens optics
light source	pulsed red laser diode
actual range S <sub>b</sub>	1 m
nominal range S <sub>n</sub>	1,5 m
repeatability	< 0,1 mm at laser focus
polarization filter	yes
light indicator	LED yellow
power on indication	LED green
sensitivity adjustment	Teach-in
laser class	1
distance to laser focus	100 mm
wave length	650 nm

**electrical data**

response time / release time	< 0,25 ms
voltage supply range +Vs	10 ... 30 VDC
current consumption max.	35 mA
current consumption typ.	25 mA
voltage drop V <sub>d</sub>	< 2,2 VDC
output circuit	PNP
output current	< 100 mA
short circuit protection	yes
reverse polarity protection	yes

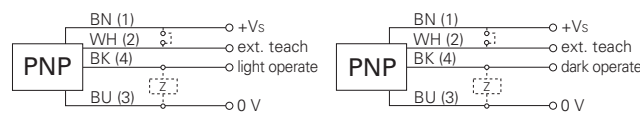
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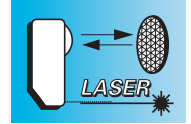
**laser warning**

**CLASS 1 LASER PRODUCT**

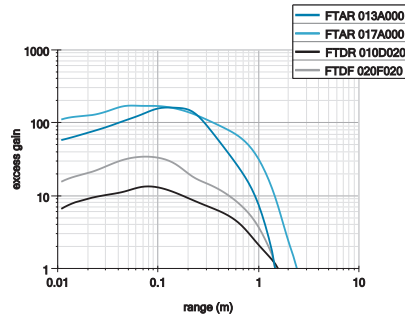
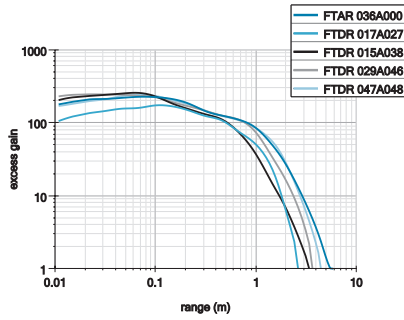
Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated July 26, 2001

Complies with EN60825-1:2001

order reference	output function	teach value stored after power-off
OPDK 14P1902/S35A	light operate	volatile
OPDK 14P1903/S35A	light operate	non volatile
OPDK 14P3902/S35A	dark operate	volatile
OPDK 14P3903/S35A	dark operate	non volatile



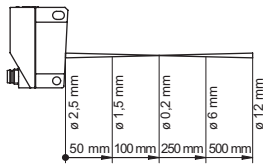
excess gain curve



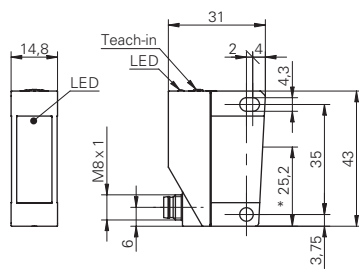
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dimension drawing



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