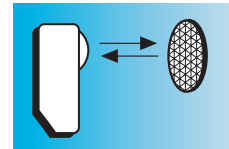


Retro-reflective sensors Series 12/18

Preferential types

		Infrared series 12		Polarization Filter series 18	
		Sb 2,0 m		Sb 2,5 m	
		cable	connector	cable	connector
PNP	light operate	FRAM 12P1001	FRAM 12P1001/S14L	FPAM 18P3151	FPAM 18P3151/S14
	dark operate	FRAM 12P3001	FRAM 12P3001/S14L		
	light/dark operate				
NPN	light operate	FRAM 12N1001	FRAM 12N1001/S14L		
	dark operate	FRAM 12N3001	FRAM 12N3001/S14L	FPAM 18N3151(*)	FPAM 18N3151/S14(*)
	light/dark operate				
technical data					
nominal range Sn		2,8 m		3 m	
actual range Sb		2,0 m		2,5 m	
characteristics		excess gain curve Series 12		-	
output indicator		red LED		yellow LED	
alignment aid / soiled lens indicator		flashing LED		flashing LED	
light source / wave length		pulsed infrared LED / 880 nm		pulsed red light diode / 660 nm	
voltage supply range		10 - 30 VDC		10 - 30 VDC	
max. supply current average value / peak value		24 mA / 33 mA		22 mA / 35 mA	
max. switching current		200 mA		200 mA	
voltage drop		≤ 1,8 VDC		≤ 1,8 VDC	
response time / release time		≤ 2 ms / ≤ 2 ms		≤ 1 ms / ≤ 1 ms	
sensitivity adjustment		-		-	
short circuit protection		yes		yes	
reverse polarity protection		yes		yes	
temperature range		-25...+65 °C		-25...+55 °C	
housing material		brass nickel plated		brass nickel plated / polycarbonate	
protection class		IP 65		IP 67	
* in preparation					





Series 12/18

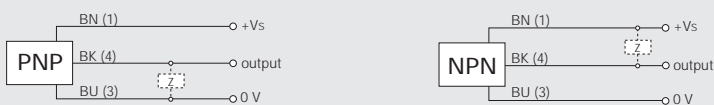
Series 12

- Alignment aid / soiled lens indicator (flashing LED)
- Connector base version with 4 quadrant LED

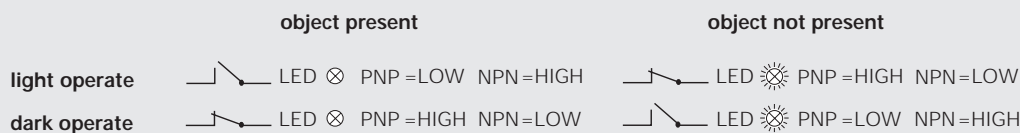
Series 18

- Visible red light
- Polarization filter

connection diagrams



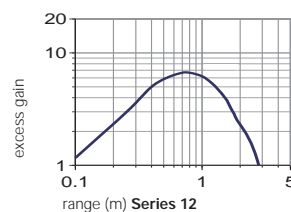
output states



reflectors and tape

part number	reflector	actual range Sb	
		series 12	series 18
TC 104	∅ 40 mm	1,0 m	1,5 m
TC 110	∅ 84 mm	2,0 m	2,5 m

excess gain curve



connectors

ES 14	
ES 24	LED for PNP and NPN
ES 33AP2	2 m PUR
ES 34AP2	2 m PUR

for details see accessories section

Series 12

Range
Sb 2,0 m

Alignment
aid

Metal
housing

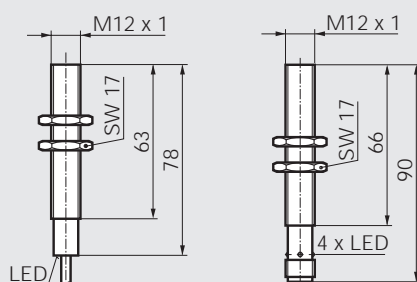
Series 18

Range
Sb 2,5 m

Visible red
light

Polarization
filter

series 12



series 18

