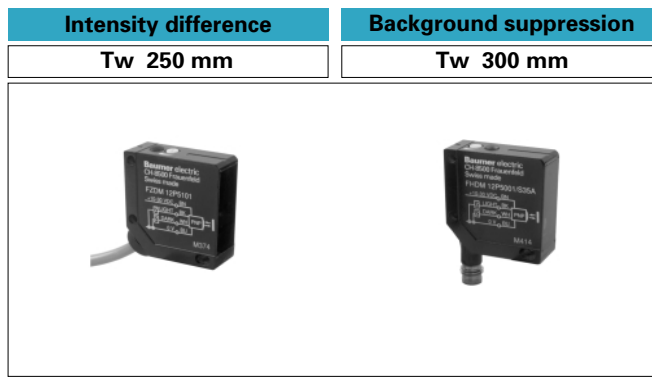
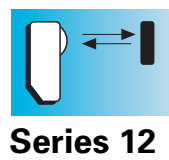


Diffuse sensors Series 12



	Intensity difference Tw 250 mm		Background suppression Tw 300 mm	
PNP	light operate			
	dark operate			
	light/dark operate	FZDM 12P5101	FZDM 12P5101/S35A	FHDM 12P5001
				FHDM 12P5001/S35A
NPN	light operate			
	dark operate			
	light/dark operate	FZDM 12N5101	FZDM 12N5101/S35A	FHDM 12N5001
				FHDM 12N5001/S35A
technical data				
sensing distance adjustable Tw	30...250 mm		15...300 mm	
sensing range Tb adjustable at Tw = 15 mm	-		5...15 mm	
sensing range Tb adjustable at Tw = 300 mm	-		15...300 mm	
characteristics	relative receiving signal		sensing distance diagram	
output indicator	yellow LED		yellow LED	
alignment aid / soiled lens indicator	flashing LED		-	
light source / wave length	pulsed infrared LED / 880 nm		pulsed red LED / 660 nm	
voltage supply range	10 - 30 VDC		10 - 30 VDC	
max. supply current average value / peak value	25 mA / 35 mA		25 mA / 35 mA	
max. switching current	100 mA		100 mA	
voltage drop	≤ 1,8 VDC		≤ 1,8 VDC	
response time / release time	≤ 1ms / ≤ 1 ms		≤ 1ms / ≤ 1 ms	
sensitivity adjustment	5 turn pot		5 turn mechanical adjustment	
short circuit protection	yes		yes	
reverse polarity protection	yes		yes	
temperature range	-25...+65 °C		-25...+65 °C	
housing material	die-cast zinc		die-cast zinc	
protection class	IP 67		IP 67	

Options			
light/dark operate	PNP		FHDM 12P5003/S35A
technical features	optimized for dark and shiny surfaces insensitive against shiny backgrounds enhanced immunity against ambient light conditions		



- Miniature design
- Fully adjustable sensing distance
- Background suppression by triangulation
- Simple installation with visible red light
- Rugged metal housing

connection diagrams

output states

	object present	object not present
light operate	LED PNP = HIGH NPN = LOW	LED PNP = LOW NPN = HIGH
dark operate	LED PNP = LOW NPN = HIGH	LED PNP = HIGH NPN = LOW

relative receiving signal

sensing distance diagram

connectors

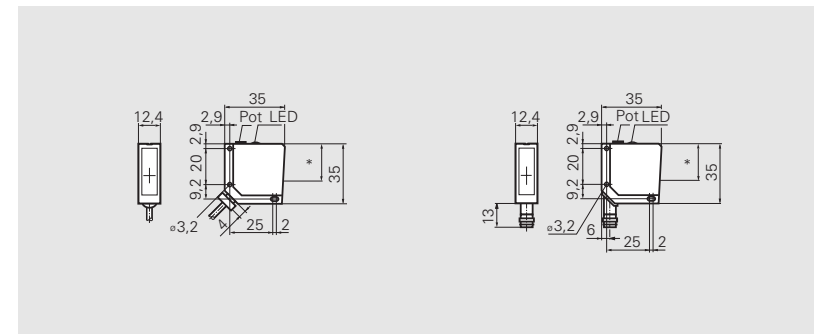
ES 8A	4 pin	2 m PVC
ES 9A	4 pin	2 m PVC
ESW 31AH0200	4 pin	2 m PUR halogen-free
ESG 32AH0200	4 pin	2 m PUR halogen-free

accessories

mounting bracket	113873
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for details see accessories section

- Tw adjustable up to 300 mm
- Background suppression
- Visible red light
- Metal housing



* emitter axis
 Intensity difference
 20,5 mm
 Background suppression
 24,3 mm