

ASSURIX Intrinsically Safe Photoelectronic Sensors

3-wire construction

Operating Manual and Control Drawing No. OM-AX-01



- For use in CL I, CL II, CL III, Division 1, GR ABCDEFG, HAZARDOUS LOCATIONS.
- For use in ATEX Ex Zones 1, 2
- Type of Ex protection: Intrinsically safe II 2 G Ex ia IIC T6 Gb.
- CLASSIFIED BY UNDERWRITER'S LABORATORIES INC. ASSIGNED CONTROL No. 24VL.
- ATEX Certification no. DMT 03 ATEX E003

Types		Light Barriers		Proximity Switch		Retroreflective Barriers	
Technical Data		II 2 G Ex ia IIC T6 Gb, according to the ATEX directive 2014/34/EU					
Type of Ex protection	II 2 G Ex ia IIC T6 Gb, according to the ATEX directive 2014/34/EU						
Designation	AX-SE-25-P18 AX-SE-25-P30	AX-SE-50-P30	AX-T-5-P18 AX-T-5-P30	AX-T-10-P18 AX-T-10-P30	AX-R-1-P18	AX-R-4-P30	
Type	S: Emitter / E: Receiver		T: Proximity switch		R: Retroreflective barrier		
Range	25m	50m	0.5m Note1	1m Note1	1m Note2	4m Note2	
Housing (Yellow brass, nickel plated)	...-P18 = M18 ...-P30=M30	M30	...-P18=M18 ...-P30=M30	...-P18=M18 ...-P30=M30	M18	M30	
Light source, wave length	870nm				623nm		
Optical aperture angle	appr. 17° (emitter)		appr. 30°		appr. 17°		
Nominal supply voltage	12VDC (intrinsically safe)						
Current consumption	13mA	13mA	15mA	15mA	15mA	15mA	
Safety ratings	$V_i \leq 13.6VDC / I_i \leq 120mA / P_i \leq 800mW$ (in accordance with the power supply)						
Effective capacity / inductance	$C_i = 150pF / L_i = 7.92uH$						
Response	50Hz	50Hz	100Hz	100Hz	100Hz	100Hz	
Output	PNP, short circuit protected						
Operating temperature range T_{amb}	$-20^\circ C < T_{amb} < +60^\circ C$						
Enclosure rating	IP 66, NEMA 4 & NEMA 4X						
Mean Time to Failure MTTF	407 Years						
Cable, Length: 3m, shielded, blue covered	Emitter: 2 x AWG24 Receiver: 3 x AWG24		3 x AWG24		3 x AWG24		
Fibre optics connection	--				--		
Accessories	M18: 4 nuts M18 M30: 4 nuts M30		M18: 2 nuts M18 M30: 2 nuts M30		2 nuts M18	2 nuts M30	
Accessories, not included Options	<p>- Reflector (triple mirror for retroreflective barriers), D=40mm, 50mm or 83mm</p> <p>- AX-... / 1kHz: Sensors with a switching frequency of 1kHz</p> <p>- AX-SE-10-P18: Light barrier with 10kHz switching frequency</p> <p>- AX-SE-100-P30: Light barrier with a range of 100m</p> <p>- AX-SE-56-P30-GF: Light barriers for fibre optics, high density</p> <p>- AX-SE-25/50-P30-GF: Light barriers for fibre optics</p> <p>- AX-R-1-P18/90°: Device with 90° viewing angle</p> <p>- AX-T-5/10-P30-NPN: With NPN output</p> <p>- AX-S/E-...-P30-S017: Light barriers with socket M18. Binder series 714, 4 terminals, housing M30, LED inside the socket for receiver and emitter (I=13mA)</p> <p>- AX-...-P18-S096: Housing M18, socket M12 / 5P at cable, length 10cm, with LED</p> <p>- AX-...-P30-S099: Housing M30, socket M12 / 5P, with LED</p> <p>- AX-R-...-S171: Retroreflective barriers with potentiometer for fine adjustment</p> <p>- AX-R-4-P30-S172: Retroreflective barriers M30, socket M12 and potentiometer</p> <p>- AX-SE-25-P18-S199: Range: 100m, housing M18</p> <p>- AX-T-5/10-P18-S201: For applications with fibre optics</p> <p>- AX-...-P...-S224: Stainless steel housing 1.4404 / 316L</p>						
Function and LED indication	Light barriers						
	Proximity switch						
	Retroreflective barriers						
Output function: Inverted output function by changing the polarity of the supply voltage.							
Connection diagram:	Devices with	Socket S017: cable connection:		Socket S096/S099: (Pin 2: Not connected)			
+12VDC	Brown	Pin 1		Pin 1 / brown			
0V:	Black	Pin 3		Pin 3 / blue			
Output:	Red	Pin 2		Pin 4 / black			
Protection earth PA/PE	At the housing	Pin 4		Pin 5 / grey			
Cable shield	Blank or white	--		--			
Note 1: Range on white paper 30cm x 20cm.	Note 2: Range on reflector (triple mirror), D=83mm						

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