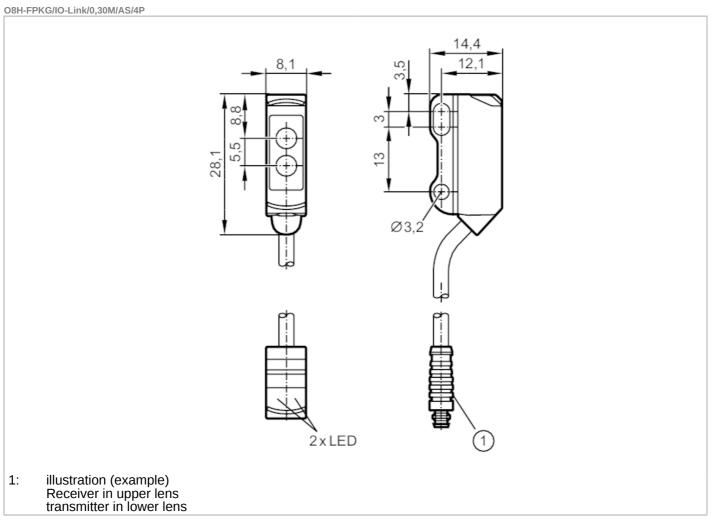
Diffuse reflection sensors with background suppression







Product characteristics				
Type of light		red light		
Housing		rectangular		
Application				
System		Background suppression		
Function principle		Diffuse reflection sensor		
Electrical data				
Operating voltage	[V]	1030 DC		
Current consumption	[mA]	20; ((24 V))		
Protection class		III		
Reverse polarity protection		yes		
Type of light		red light		
Wave length	[nm]	633		

Diffuse reflection sensors with background suppression



Electrical design PNP Output function light-on/dark-on mode; (programmable) Max. voltage drop switching output DC Permanent current rating of switching output DC Switching frequency DC [Hz] 1000 Short-circuit protection yes Type of short-circuit protection Type of short-circuit protection Monitoring range Range [mm] 150; (white paper 200 x 200 mm) Range on white object (90 % [mm] 350 Range on grey object (18 % [mm] 350 Range on black object (6 % [mm] 550 Range adjustable yes Max. light spot diameter [mm] 4 Light spot dimensions refer to Monitoring range final value [mm] 1080 Background suppression yes Interfaces Communication interface IO-Link Transmission type COM2 (38.4 kBaud) IO-Link revision 1.1 SDCI standard	O8H-FPKG/IO-Link/0,30M/AS/4P Outputs	-			
Output function light-on/dark-on mode; (programmable) Max. voltage drop switching output DC [M] Permanent current rating of switching output DC [mA] Switching frequency DC [Hz] Short-circuit protection yes Type of short-circuit protection yes (non-latching) Monitoring range Range [mm] 150; (white paper 200 x 200 mm) Range on white object (90 % remission) [mm] 350 Range on grey object (18 % remission) [mm] 550 Range adjustable yes Max. light spot diameter [mm] 4 Light spot dimensions refer to at maximum range Monitoring range final value [mm] 1080 Background suppression available yes Interfaces Communication interface IO-Link Transmission type COM2 (38.4 kBaud) IO-Link revision 1.1 SDC standard IEC 61131-9 Profiles Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Changes and Ch					
Max. voltage drop switching output DC Permanent current rating of switching output DC Switching frequency DC Short-circuit protection Type of short-circuit protection Type of short-circuit protection Type of short-circuit protection Monitoring range Range [mm] 150; (white paper 200 x 200 mm) Range on white object (90 % remission) Range on grey object (18 % remission) Range on Black object (6 % remission) Range adjustable Max. light spot dimensions refer to Monitoring range final value Background suppression available Interface Transmission type Communication interface Transmission type Communication interface Transmission type Communication interface Transmission type Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Changes Conde					
Permanent current rating of switching output DC [mA] 1000 Short-circuit protection yes Type of short-circuit protection yes (non-latching) Monitoring range Range [mm] 150; (white paper 200 x 200 mm) Range on white object (90 % remission) [mm] 350 Range on grey object (18 % remission) [mm] 550 Range on black object (6 % [mm] 550 Range on black object (6 % [mm] 4 Range on black object (6 % [mm] 550 Range on black object (6 % [mm] 4 Light spot diameter [mm] 4 Light spot dimensions refer to at maximum range Monitoring range final value [mm] 1080 Background suppression available yes Interfaces Communication interface IO-Link Transmission type COM2 (38,4 kBaud) IO-Link revision 1.1 SDC1 standard IEC 61131-9 Profiles Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Changes (Inc.) [ms] 3 Min. process cycle time [ms] Function bit length	Max. voltage drop switching	[V]			
Switching frequency DC [Hz] 1000 Short-circuit protection yes Type of short-circuit protection yes (non-latching) Monitoring range Range [mm] 150; (white paper 200 x 200 mm) Range on white object (90 % remission) [mm] 150 Range on grey object (18 % remission) [mm] 350 Range on black object (6 % remission) [mm] 550 Range adjustable yes Max. light spot diameter [mm] 4 Light spot dimensions refer to at maximum range Monitoring range final value [mm] 1080 Background suppression available [mm] 1080 Interfaces Communication interface IC-Link Transmission type COM2 (38.4 kBaud) IO-Link revision Interface fills1:9 SCI standard Function Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Changes (Teach Channel) SiO mode yes A Required master port class A M	Permanent current rating of	[mA]	100		
Short-circuit protection Type of short-circuit protection Type of short-circuit protection Monitoring range Range [mm] 150; (white paper 200 x 200 mm) Range on white object (90 % remission) Range on grey object (18 % remission) Range on black object (6 % remission) Range adjustable Max. light spot diameter [mm] 4 Light spot diameter [mm] 5 Background suppression available Nonitoring range final value [mm] 1080 Background suppression available Transmission type COM2 (38,4 kBaud) IO-Link revision 1.1 SDCI standard 1 SDCI standard 1 SDCI standard 1 SDCI standard 2 Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Channel SIO mode Required master port class Min. process cycle time [ms] 5 Function bit length		[Hz]	1000		
Monitoring range mm 150; (white paper 200 x 200 mm) 150 mm 150 mm 150 mm mm mm mm mm mm mm					
Range on white object (90 % remission) Range on grey object (18 % remission) Range on grey object (18 % remission) Range on black object (6 % remission) Range adjustable Max. light spot diameter [mm] Light spot dimensions refer to Monitoring range final value [mm] Background suppression available Interfaces Communication interface Transmission type O-Link revision SDCI standard SDCI standard SIO mode Required master port class Min. process cycle time [ms] 150			·		
Range on white object (90 % [mm] remission)	Monitoring range				
remission) [IIIII] Range on grey object (18 % remission) [mm] Range on black object (6 % remission) [mm] Range adjustable [mm] Range adjustable [mm] Ax. light spot diameter [mm] Light spot dimensions refer to [mm] Authoring range final value [mm] Background suppression available Interfaces Communication interface Transmission type COM2 (38,4 kBaud) IO-Link revision SDC1 standard Forfiles Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Chant SIO mode Required master port class Min. process cycle time [ms] Function bit length	Range	[mm]	150; (white paper 200 x 200 mm)		
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remission) Range adjustable Max. light spot diameter [mm] Light spot dimensions refer to Monitoring range final value [mm] Background suppression available Interfaces Communication interface Transmission type COM2 (38,4 kBaud) IO-Link revision SDCI standard Profiles Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Channel SIO mode Required master port class Min. process cycle time [ms] Function bit length		[mm]	350		
Max. light spot diameter [mm] Light spot dimensions refer to Monitoring range final value [mm] Background suppression available Interfaces Communication interface Transmission type COM2 (38,4 kBaud) IO-Link revision SDCI standard Profiles Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Channels (SIO) mode Required master port class Min. process cycle time [ms] 4 4 4 4 4 4 4 4 4 4 4 4 4		[mm]	550		
Light spot dimensions refer to Monitoring range final value [mm] Background suppression available Interfaces Communication interface Transmission type IO-Link COM2 (38,4 kBaud) IO-Link revision I.1 SDCI standard Profiles Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Channels SIO mode Required master port class Min. process cycle time Light maximum range 1080 1080 LO-Link COM2 (38,4 kBaud) IEC 61131-9 Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Channels SIO mode Function But maximum range 1080 1080 Interfaces IO-Link IEC 61131-9 Function Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Channels SIO mode Suppression available Interfaces IO-Link IEC 61131-9 Function Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Channels SIO mode Suppression available Interfaces IO-Link Interfaces Interfaces Interfaces Interfaces Interfaces Interfaces Int	Range adjustable		yes		
Monitoring range final value [mm] Background suppression available Interfaces Communication interface Transmission type COM2 (38,4 kBaud) IO-Link revision 1.1 SDCI standard Profiles Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Channels SIO mode Required master port class Min. process cycle time [ms] 1080 yes IO-Link COM2 (38,4 kBaud) IEC 61131-9 Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Channels SIO mode yes Required master port class A Min. process cycle time [ms] Function bit length	Max. light spot diameter	[mm]	4		
Background suppression available Interfaces Communication interface Transmission type COM2 (38,4 kBaud) IO-Link revision 1.1 SDCI standard IEC 61131-9 Profiles Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Channels SIO mode Required master port class A Min. process cycle time [ms] Function bit length	Light spot dimensions refer to		at maximum range		
Interfaces Communication interface Transmission type IO-Link Transmission type COM2 (38,4 kBaud) IO-Link revision I.1 SDCI standard Frofiles Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Channels SIO mode Required master port class A Min. process cycle time [ms] Function Do-Link COM2 (38,4 kBaud) IEC 61131-9 Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Channels SIO mode yes Function bit length	Monitoring range final value	[mm]	1080		
Communication interface Transmission type COM2 (38,4 kBaud) IO-Link revision 1.1 SDCI standard Profiles Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Channels SIO mode Required master port class Min. process cycle time [ms] Function IO-Link COM2 (38,4 kBaud) IEC 61131-9 Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Channels yes Function bit length			yes		
Transmission type IO-Link revision IO-Link revision SDCI standard Profiles Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Channels SIO mode Required master port class Min. process cycle time [ms] Function COM2 (38,4 kBaud) I.1 SEC 61131-9 Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Channels A Min. process cycle time [ms] Function Dit length	Interfaces				
IO-Link revision SDCI standard Profiles Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Channels SIO mode Required master port class Min. process cycle time [ms] Function 1.1 Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Channels A Min. process cycle time [ms] Function bit length	Communication interface		IO-Link		
SDCI standard Profiles Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Channels SIO mode Required master port class Min. process cycle time [ms] Function IEC 61131-9 Smart Sensor: Device Diagnosis; Teach Channel; Switching Channels A Since Device Diagnosis; Teach Channels Switching Channels A Function Bit length	Transmission type		COM2 (38,4 kBaud)		
Profiles Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Channel SIO mode Required master port class Min. process cycle time [ms] Function Smart Sensor: Device Diagnosis; Teach Channel; Switching Channel yes A bit length	IO-Link revision		1.1		
SIO mode yes Required master port class Min. process cycle time [ms] Function ges A bit length	SDCI standard		IEC 61131-9		
Required master port class Min. process cycle time [ms] Function A Simplify A Bit length	Profiles		Smart Sensor: Device Identification; Device Diagnosis; Teach Channel; Switching Channel		
Min. process cycle time [ms] 3 Function bit length	SIO mode		yes		
Function bit length	Required master port class		A		
	Min. process cycle time	[ms]	3		
IO-Link process data process value 8				-	
(a. aliaan)	•				
(cyclical) device status 4	(cyclical)				
IO-Link functions (acyclical) application specific tag; operating hours counter; switching cycles counter	IO-Link functions (acyclical)		binary switching information 1 application specific tag: operating hours counter; switching cycles counter		
Type of operation DeviceID	Type of operation		· • •		
Supported DeviceIDs default 535	Supported DeviceIDs			J	
Operating conditions	Operating conditions				
Ambient temperature [°C] -2560		[°C]	-2560		
Protection IP 65; IP 67					

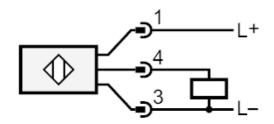
Diffuse reflection sensors with background suppression



O8H-FPKG/IO-Link/0,30M/A	AS/4P						
Tests / approvals							
EMC		EN 60947-5-2					
MTTF	[years]	757					
		Ta	-2560 °C				
		Enclosure type	Type 1				
UL approval		voltage supply	Limited Voltage/Current				
		UL approval number	E017				
		File number UL	E174191				
Mechanical data							
Weight	[g]	21.2					
Housing		rectangular					
Dimensions	[mm]	28.1 x 8.1 x 14.4					
Material		housing: ABS; stainless steel (1.4404 / 316L)					
Lens material		РММА					
Lens alignment		Side sensing					
Displays / operating elements							
Display		Switching status	1 x LED, yellow				
		Power	1 x LED, green				
Remarks							
Pack quantity		1 pcs.					
Electrical connection	n						
Cable: 0.3 m, PVC; 3 x 0.08 mm ²							
Connector: 1 x M8; coding: A							



Connection

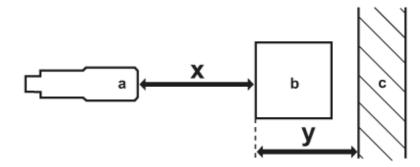


Diffuse reflection sensors with background suppression



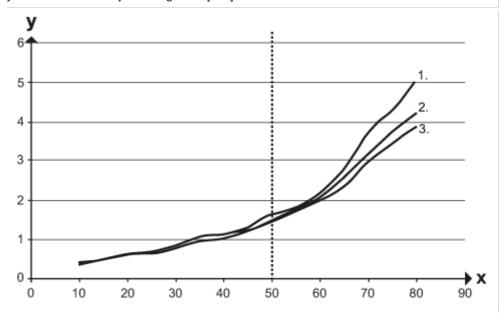
O8H-FPKG/IO-Link/0,30M/AS/4P

Diagrams and graphs



- a: sensor
- b: object
- c: background
- x: distance sensor/object [mm]
- y: min. distance object/background [mm]

Background suppression chart



- x: distance sensor/object [mm]
- y: min. distance object/background [mm]
- 1 = object black (6 % remission) , background (white 90 % remission)
- 2 = object grey (18 % remission), background (white 90 % remission)
- 3 = object white (90 % remission), background (white 90 % remission)