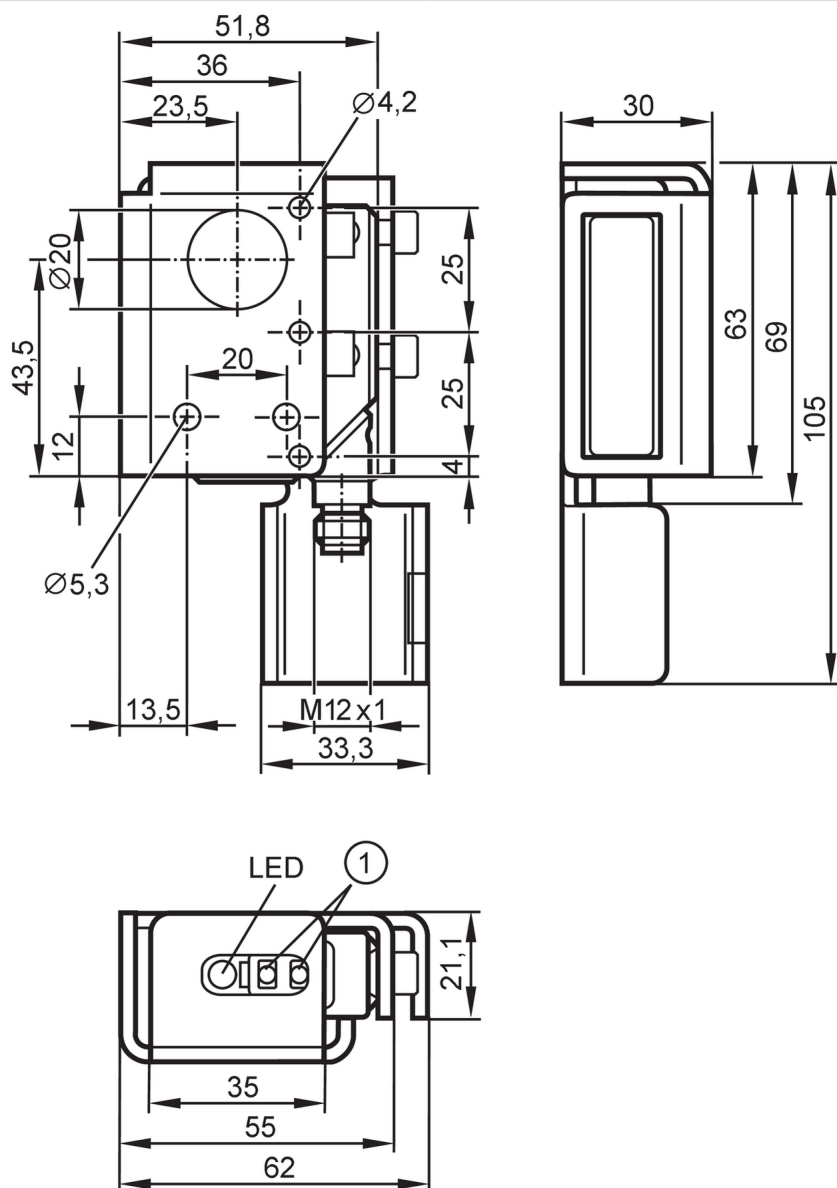


O5H51A



Diffuse reflection sensors with background suppression

O5H-FPKG/US100/3D



- 1 Programming buttons
Receiver in upper lens
transmitter in lower lens



Product characteristics

Type of light	red light
Housing	rectangular

Application

Special feature	Background suppression
Function principle	Diffuse reflection sensor
Application	For applications in hazardous areas

Electrical data

Operating voltage	[V]	10...30 DC; (when used outside the hazardous area: 10...36)
Current consumption	[mA]	25

O5H51A



Diffuse reflection sensors with background suppression

O5H-FPKG/US100/3D

Protection class	III	
Reverse polarity protection	yes	
Type of light	red light	
Outputs		
Electrical design	PNP	
Output function	light-on/dark-on mode; (programmable)	
Max. voltage drop switching output DC [V]	2.5	
Permanent current rating of switching output DC [mA]	100; (when used outside the hazardous area: 200)	
Switching frequency DC [Hz]	1000	
Short-circuit protection	yes	
Type of short-circuit protection	yes (non-latching)	
Overload protection	yes	
Monitoring range		
Range [mm]	50...1800; (white paper 200 x 200 mm 90 % remission)	
Range on white object (90 % remission) [mm]	50...1800	
Range on grey object (18 % remission) [mm]	50...900	
Range on black object (6 % remission) [mm]	50...600	
Range adjustable	yes	
Max. light spot diameter [mm]	50	
Background suppression available	yes	
Operating conditions		
Ambient temperature [°C]	-10...50	
Note on ambient temperature	when used outside the hazardous area: -25...60 °C	
Protection	IP 65	
Tests / approvals		
ATEX marking	 II 3D Ex tc IIIC T105°C Dc X	
EMC	EN 60947-5-2	
MTTF [years]	360	
Mechanical data		
Weight [g]	335	
Housing	rectangular	
Dimensions [mm]	105 x 30 x 62	
Material	housing: PA; Front framework: stainless steel; operator interface: TPU (urethane); Protective cover: stainless steel	
Lens material	front lens:PMMA	
Lens alignment	Side sensing	
Displays / operating elements		
Display	Switching status	1 x LED, yellow
Teach function	yes	

O5H51A



Diffuse reflection sensors with background suppression

O5H-FPKG/US100/3D

Electronic lock	yes
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Remarks

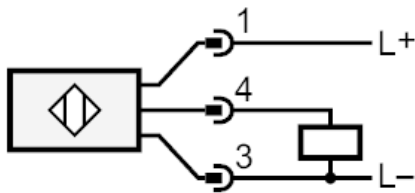
Pack quantity	1 pcs.
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Electrical connection

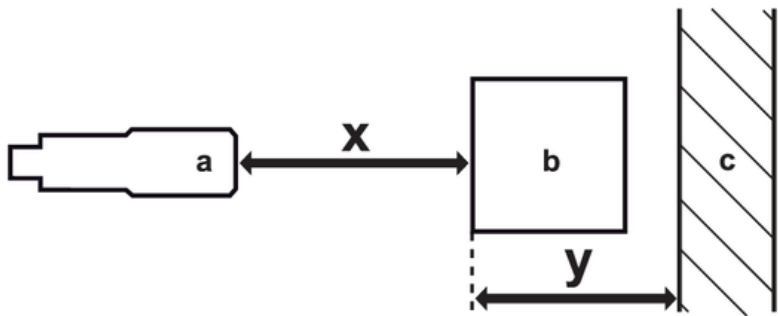
Connector: 1 x M12; coding: A; Contacts: 4



Connection



Diagrams and graphs



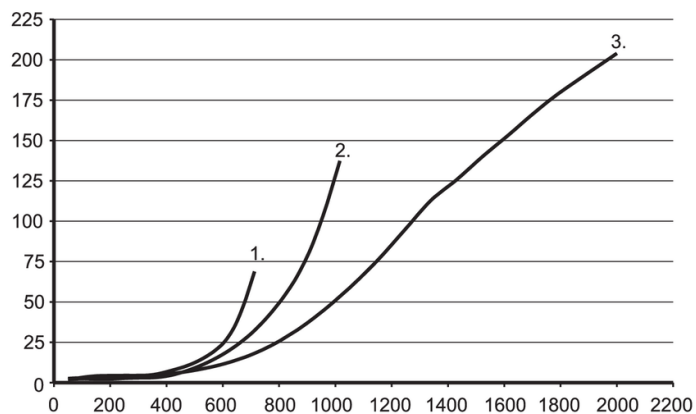
- a: sensor
- b: object
- c: background
- x: distance sensor/object [mm]
- y: min. distance object/background [mm]



Diffuse reflection sensors with background suppression

O5H-FPKG/US100/3D

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)