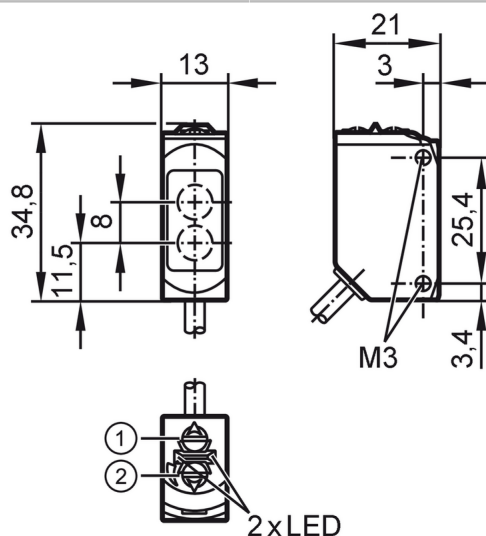




Diffuse reflection sensors with background suppression

O6H-FNKG/0,30m/US



- 1: output function switch
2: potentiometer sensitivity



Product characteristics

Type of light	red light
Housing	rectangular

Application

Special feature	Background suppression
Function principle	Diffuse reflection sensor
Application	suited for use in the machine tool industry

Electrical data

Operating voltage	[V]	10...30 DC
Current consumption	[mA]	22; ((24 V))
Protection class		III
Reverse polarity protection		yes
Type of light		red light
Wave length	[nm]	633

Outputs

Electrical design		NPN
Output function		light-on/dark-on mode; (selectable)
Max. voltage drop switching output DC	[V]	2.5
Permanent current rating of switching output DC	[mA]	100
Switching frequency DC	[Hz]	1000
Short-circuit protection		yes
Type of short-circuit protection		yes (non-latching)

Monitoring range

Range	[mm]	2...200; (white paper 200 x 200 mm)
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O6H405



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Range on white object (90 % remission) [mm]	2...200
Range on grey object (18 % remission) [mm]	4...200
Range on black object (6 % remission) [mm]	8...200
Range adjustable	yes
Max. light spot diameter [mm]	8
Light spot dimensions refer to	at maximum range
Background suppression available	yes

Operating conditions

Ambient temperature [°C]	-25...60
Protection	IP 65; IP 67; IP 68

Tests / approvals

EMC	EN 60947-5-2	
MTTF [years]	698	
UL approval	Ta	-25...50 °C
	Enclosure type	Type 1
	voltage supply	Class 2
	UL approval number	E023

Mechanical data

Weight [g]	51.3
Housing	rectangular
Dimensions [mm]	34.8 x 13 x 21
Material	housing: stainless steel (1.4404 / 316L); plastics: PPSU; sealing: FKM
Lens material	front lens: PMMA
Lens alignment	Side sensing
Tightening torque [Nm]	1; (screws)

Displays / operating elements

Display	Switching status	1 x LED, yellow
	Power	1 x LED, green

Remarks

Remarks	cULus - Class 2 source required
Pack quantity	1 pcs.

Electrical connection

Cable: 0.3 m, PUR; 3 x 0.25 mm²

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



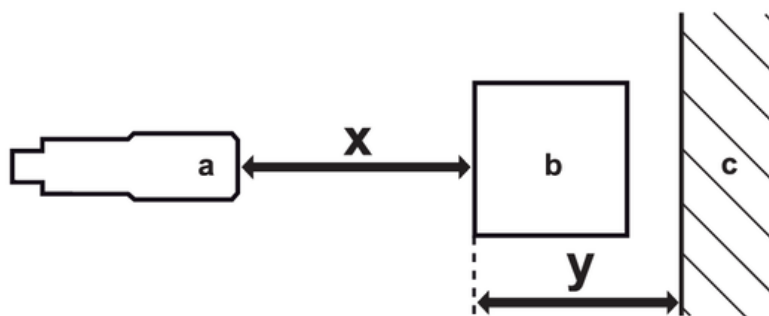
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Connection



Diagrams and graphs



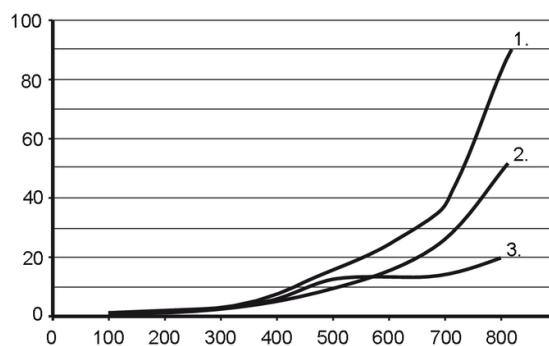
- a: sensor
- b: object
- c: background
- x: distance sensor/object [mm]
- y: min. distance object/background [mm]



Diffuse reflection sensors with background suppression

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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)