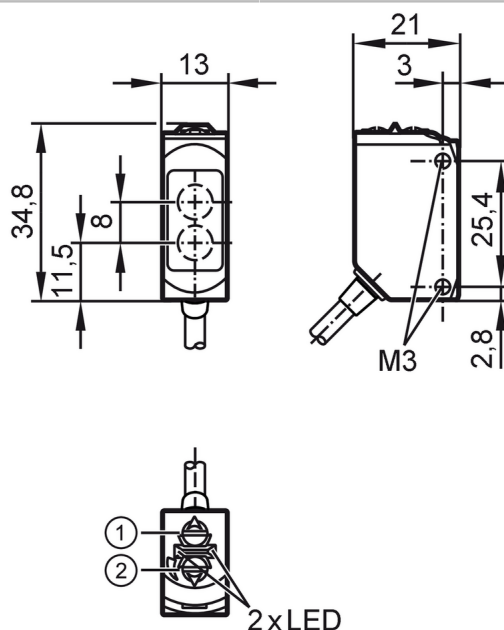




Diffuse reflection sensors with background suppression

O6H-FNKG



- 1 output function switch
 1 potentiometer sensitivity
 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	food and beverage 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



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Type of short-circuit protection	yes (non-latching)	
Monitoring range		
Range [mm]	2...200; (white paper 200 x 200 mm)	
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...80	
Protection	IP 65; IP 67; IP 68; IP 69K	
Tests / approvals		
EMC	EN 60947-5-2	
MTTF [years]	708	
UL approval	Ta	-25...80 °C
	Enclosure type	Type 1
	voltage supply	Class 2
	UL approval number	E003
Mechanical data		
Weight [g]	81.3	
Housing	rectangular	
Dimensions [mm]	34.8 x 13 x 21	
Material	housing: stainless steel (1.4404 / 316L); sealing: EPDM; plastics: PPSU	
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.	



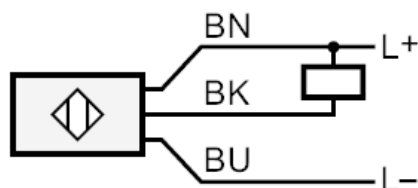
Diffuse reflection sensors with background suppression

O6H-FNKG

Electrical connection

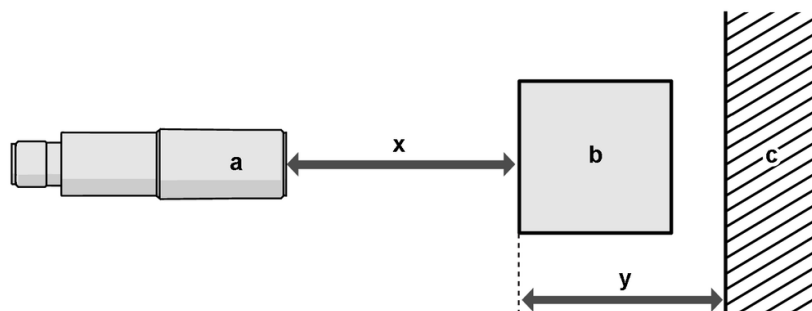
Cable: 2 m, PVC; 3 x 0.25 mm²

Connection



Core colors :
 BN = brown
 BK = black
 BU = blue

Diagrams and graphs



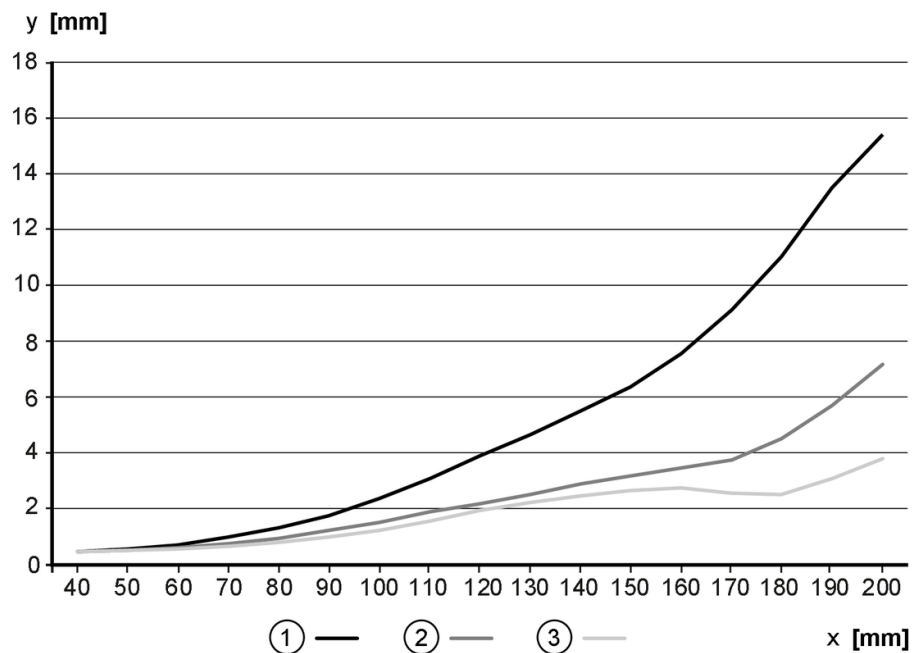
a: sensor
 b: object
 c: background
 x: distance sensor/object [mm]
 y: min. distance object/background [mm]



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)