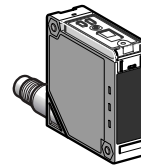
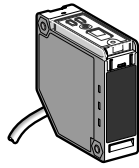


## Photo-electric sensors

Osiris® Application, mechanical handling series  
With adjustable background suppression  
Mechanical display of adjustment  
d.c. supply. Solid-state output

Compact design



<b>System</b>	<b>Diffuse system with adjustable background suppression, long sensing distance with high accuracy</b>				
<b>Type of transmission</b>	Infrared				
<b>Nominal sensing distance (Sn)</b>	<b>1 m</b>				
<b>References</b>					
3-wire, PNP or NPN, programmable	Programmable NO or NC function	<b>XUK 8AKSNL2</b>	<b>XUK 8AKSNM12</b>		
Weight (kg)	0.190		0.070		
<b>Characteristics</b>					
<b>Product certifications</b>	CE, UL, CSA				
<b>Ambient air temperature</b>	Operation: - 25...+55 °C. Storage: -30...+70 °C				
<b>Vibration resistance</b>	7 gn (f = 10...55 Hz) conforming to IEC 60068-2-6				
<b>Shock resistance</b>	10 gn, duration 11 ms conforming to IEC 60068-2-27				
<b>Degree of protection</b>	IP 65 conforming to IEC 60529 (IP 30 with open cover). NEMA 4X indoor use, 12 and 13 double insulation				
<b>Materials</b>	Case: PC, lenses: PMMA; cable: PVC				
<b>Connection (1)</b>	Pre-cabled, diameter 6 mm, length 2 m, wire c.s.a.: 5 x 0.34 mm <sup>2</sup>	M12 male connector, 4-pin, 2-position (suitable extension cables and female connectors, see page 30210/2)			
<b>Rated supply voltage</b>	<b>--- 12...24 with protection against reverse polarity</b>				
<b>Voltage limits</b>	--- 10...30 V (including ripple)				
<b>Switching capacity (sealed)</b>	<b>≤ 100 mA with overload and short-circuit protection</b>				
<b>Voltage drop, closed state</b>	≤ 1.5 V				
<b>Current consumption, no-load</b>	35 mA				
<b>Maximum switching frequency</b>	250 Hz				
<b>Delays</b>	First-up: ≤ 80 ms; response: ≤ 2 ms; recovery: ≤ 2 ms				
<b>Function table</b>	Function	Diffuse system			
State of output (PNP or NPN) and yellow LED (on for the sensor conducting state)		No object in beam		Object in beam	
	NO				
	NC				

(1) For a 5 m long cable, replace L2 with **L10**.

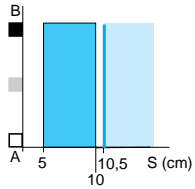
# Photo-electric sensors

Osiris® Application, mechanical handling series  
With adjustable background suppression  
Mechanical display of adjustment  
d.c. supply. Solid-state output

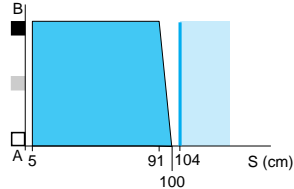
## Detection curves

Variation of usable sensing distance S

Adjustment at 10 cm



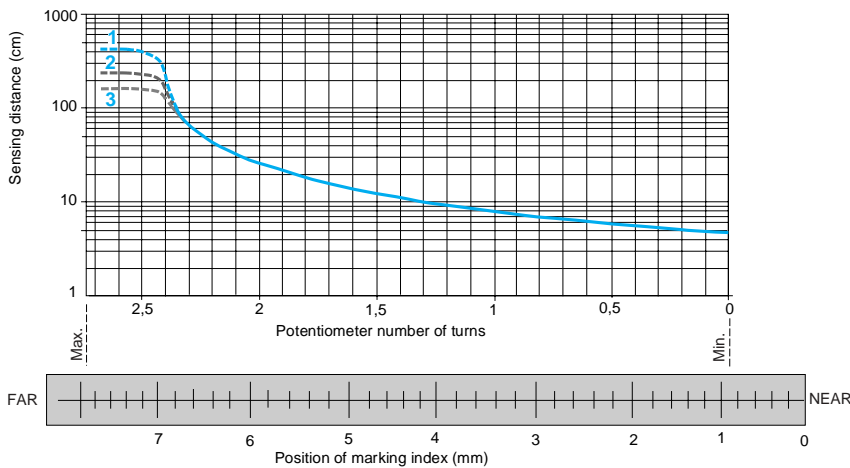
Adjustment at 1 m



A-B: Object reflection coefficient

- Black 6 %
- Grey 18 %
- White 90 %
- Sensing range
- Non sensing zone
- (Matt surfaces)

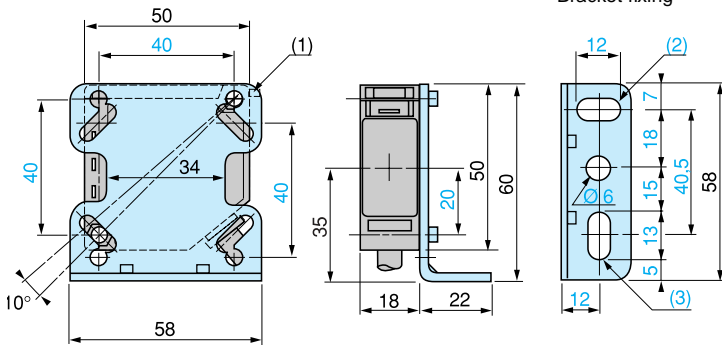
## Sensing distance adjustment



- 1 White 90 %
- 2 Grey 18 %
- 3 Black 6 %

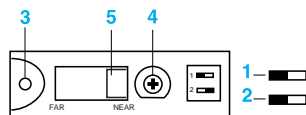
## Dimensions

### XUK 8AKSNL2



- (1) Cover locking tab.
- (2) 1 elongated hole  $\varnothing 6 \times 12$ .
- (3) 1 elongated hole  $\varnothing 6 \times 13$ .

## Functions



## Switches

- 1 NO/NC programming
- 2 PNP or NPN output

## LED

- 3 Yellow output LED

## Potentiometer

- 4 Sensing distance adjustment

## Marking index

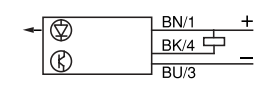
- 5 Potentiometer adjustment indication

## Wiring schemes (3-wire ---)

### NO/NC programming

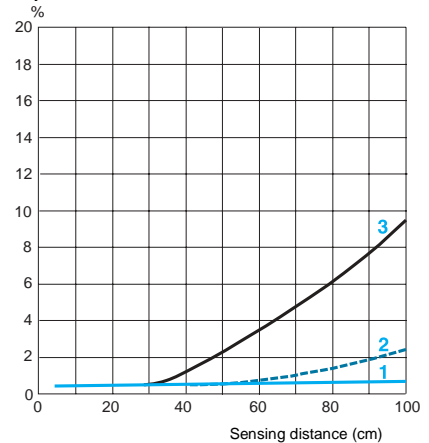


### NPN output



NO: detection of object presence  
NC: detection of object absence

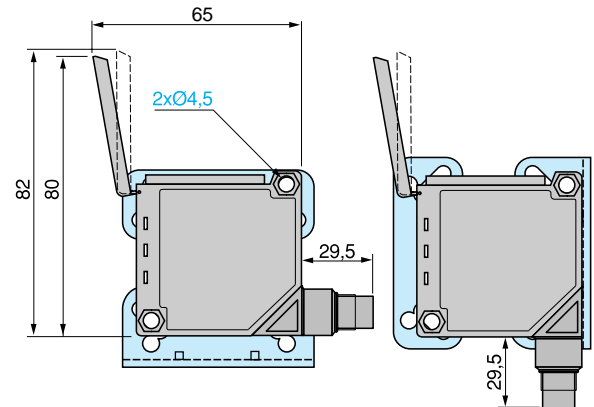
## Relative difference in sensing distances according to object colour



- 1 White 90 %
- 2 Grey 18 %
- 3 Black 6 %

## XUK 8AKSNM12 with cover raised

### Bracket mounting

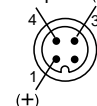


## Connection of cable

**XUK 8AKSNL2**  
(-) BU (Blue)  
(+) BN (Brown)  
(OUT) BK (Black)

## Connection of connector

**XUK 8AKSNM12**  
Output (-)



See connection on page 30210/2.