



### Model Number

**KT12-8-H-2,2-4425**

Background suppression sensor  
with 2 m fixed cable and connector, 5-pin

### Features

- Miniature design
- Precise background suppression
- Very small black-white difference
- Infrared light
- Small, sharp light spot
- Antistatic glass window
- Metal-reinforced fastening hole M4
- Push-pull output with signal converter unit SU12

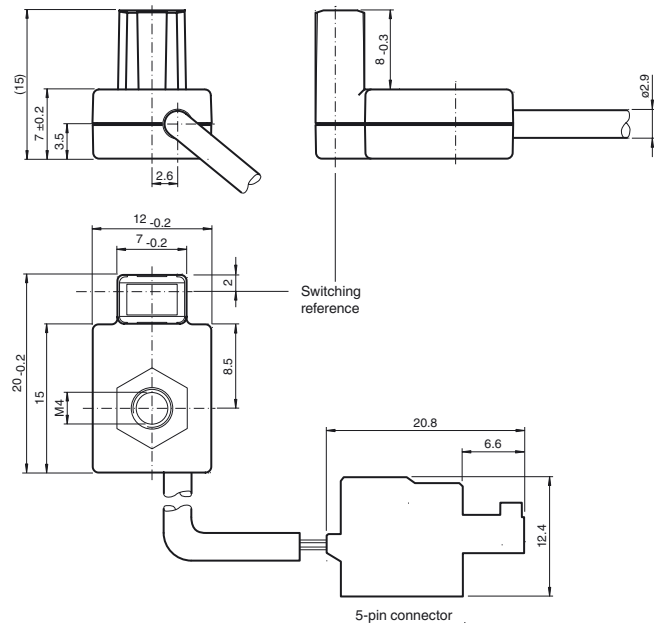
### Description

The KT12 sensor is a miniature fiber-like sensor with real background suppression (BGS).

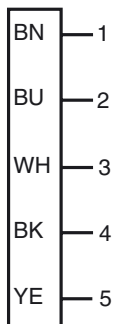
The sensor features high switching accuracy, color independence, dust resistance which ideally suits the sensor to precisely detect edges of sheet material for positioning purposes. Detectable sheet material ranges from all colors of sheet material such as paper, plastic, metal, wafer and PCB boards.

The KT12 sensor head requires the signal converter of the SU12 series.

### Dimensions



### Electrical connection



**Technical data****General specifications**

Detection range	0.3 ... 3.2 mm
Detection range max.	0 ... 4 mm
Background suppression	starts from 4 mm
Light source	IRED
Light type	modulated infrared light , 870 nm
Black/White difference (6 %/90 %)	< 7 %
Switching accuracy, Black 6 % / White 90 %	< 0.5 mm
Switching repeat accuracy, White 90 %	< 0.5 mm
Diameter of the light spot	1 mm at sensor range 2.2 mm
Angle of divergence	approx. 24 °
Ambient light limit	continuous light 40000 Lux , Fluorescent lamp 5000 Lux

**Functional safety related parameters**

MTTF <sub>d</sub>	1940 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %

**Electrical specifications**

Operating voltage	U <sub>B</sub>	see accessory
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**Output**

Signal output	see accessory
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**Ambient conditions**

Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Storage temperature	-20 ... 75 °C (-4 ... 167 °F)

**Mechanical specifications**

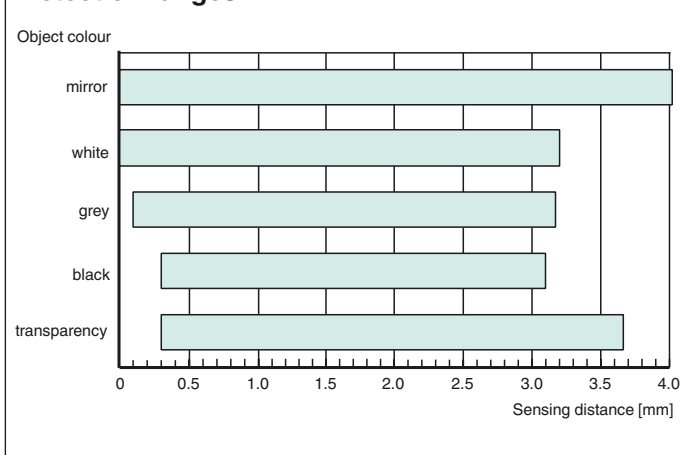
Protection degree	IP65
Connection	2 m cable with 5-pin connector
Material	
Housing	PC/ABS
Optical face	glass
Threaded bushings	brass
Cable	PVC
Cable	
Sheath diameter	2.9 mm
Color	black
Mass	30 g

**Compliance with standards and directives**

Directive conformity	
EMC Directive 2004/108/EC	IEC / EN 60947-5-2:2007
Standard conformity	
Shock and impact resistance	IEC / EN 60068. half-sine, 50 g in each X, Y and Z directions
Vibration resistance	IEC / EN 60068-2-6. Sinus. 10 -150 Hz, 5 g in each X, Y and Z directions

**Approvals and certificates**

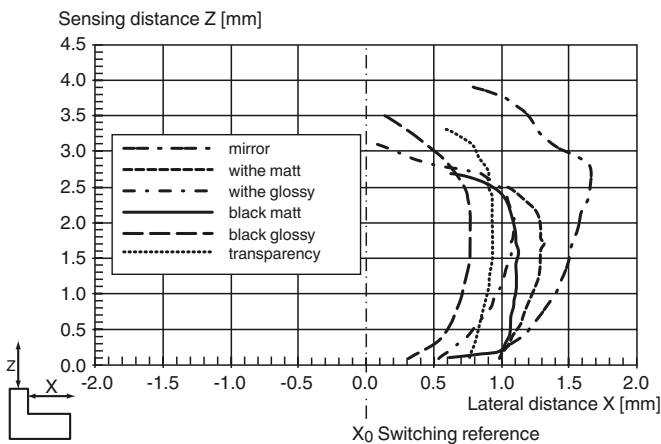
UL approval	cULus Listed, General Purpose
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**Detection ranges****Accessories****SU12.3-4645**

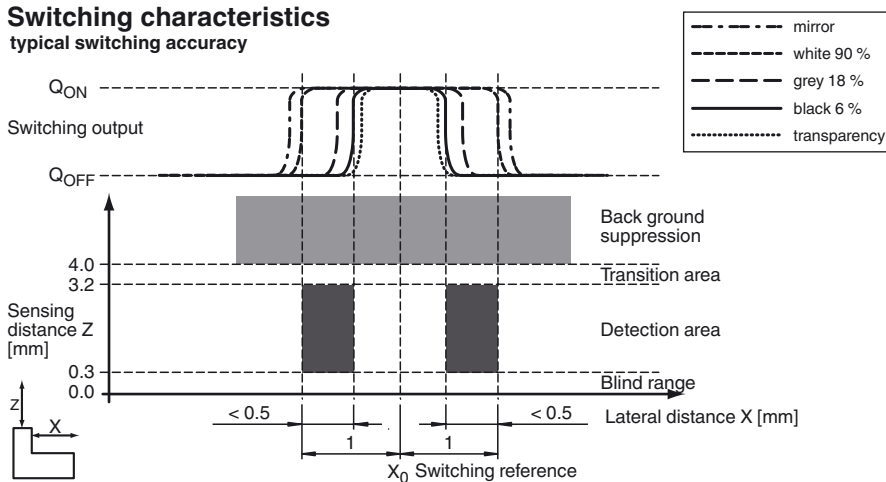
Signal converter for three miniature sensors series KT12

Curves/Diagrams

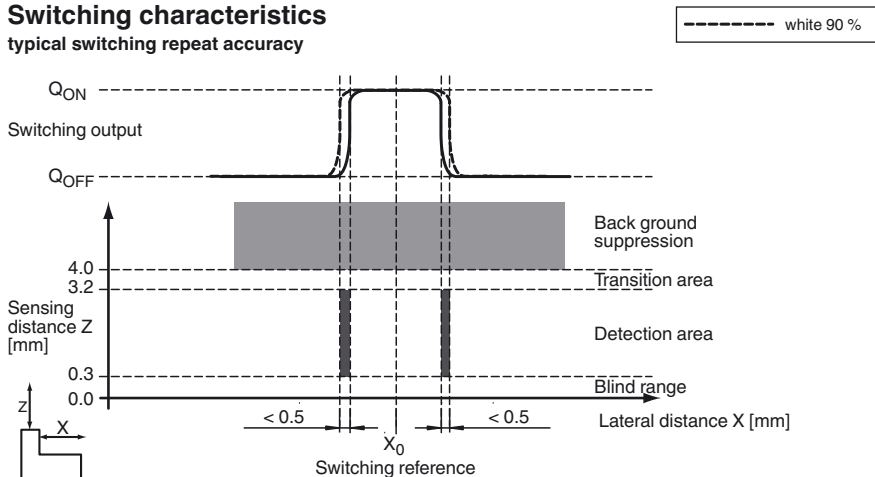
Characteristic response curve



Switching characteristics  
typical switching accuracy



Switching characteristics  
typical switching repeat accuracy



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