

1) Output function, 2) Operating voltage, 3) Sensitivity, light/dark, 4) Optical axis receiver, 5) Optical axis emitter



#### Basic features

Approval/Conformity	cULus CE WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Contrast sensor
Series	6K
Style	Square Connection 90°

#### Display/Operation

Adjuster	button
Display	Output function- LED yellow LED green: Power
Setting	Contrast (switching point) Light-on/dark-on Teach mode Stand./Dyn./Obj.

#### Electrical connection

Connection	Connector, M8x1-Male, 4-pin
Polarity reversal protected	yes
Short-circuit protection	yes

#### Electrical data

Input function	Key disable on/off Same function as button
No-load current $I_0$ max. at $U_e$	30 mA
Operating voltage $U_b$	10...30 VDC
Rated operating current $I_e$	100 mA
Rated operating voltage $U_e$ DC	24 V
Ripple max. (% of $U_e$ )	12 %
Switching frequency	1500 Hz
Turn-off delay $t_{off}$ max.	0.33 ms
Turn-on delay $t_{on}$ max.	0.33 ms
Voltage drop $U_d$ max. at $I_e$	2.4 V

#### Environmental conditions

Ambient temperature	-20...60 °C
EN 60068-2-27, Shock	Half-sinus, 30 g <sub>n</sub> , 11 ms, 3x6
EN 60068-2-6, Vibration	10...55 Hz, amplitude 0.5 mm, 3x30 min
IP rating	IP67
IP rating per DIN 40050	IP69K

#### Functional safety

MTTF (40 °C)	426 a
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#### Interface

Switching output	NPN normally open/normally closed (NO/NC)
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#### Material

Housing material	ABS
Material sensing surface	PMMA

#### Mechanical data

Dimension	12 x 41.5 x 21.6 mm
Mounting part	Screw M3

#### Optical features

Ambient light max.	5000 Lux
Average power Po max.	390 $\mu$ W
Beam characteristic	Focused
Laser class per IEC 60825-1	1
Light spot size	0.7 x 0.7 mm at 250 mm
Light type	Laser red light
Principle of optical operation	Diffuse sensor, focused
Pulse duration t max.	0.7 $\mu$ s
Pulse frequency	11.7 kHz
Pulse power Pp max.	8.5 mW
Switching function, optical	Light/dark switching
Wave length	650 nm

#### Range/Distance

Range	1...250 mm
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#### Remarks

The sensor is functional again after the overload has been eliminated.

Reference object (target): gray card, 100 x 100, 90 % remission, axial approach.

Only for applications per NFPA 79 (machines with a supply voltage of maximum 600 V). Use an R/C (CYJV2) cable with suitable properties for attaching the device.

For additional information, refer to user's guide.

Order accessories separately.

Do not press key using a pointed tool.

When using as a UL product the ambient temperature Ta max. must not exceed 50°C.

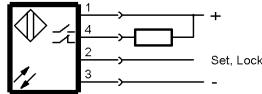
For more information about MTTF and B10d see MTTF / B10d Certificate

Indication of the MTTF- / B10d value does not represent a binding composition and/or life expectancy assurance; these are simply experiential values with no warranty implications. These declared values also do not extend the expiration period for defect claims or affect it in any way.

#### Connector Drawings



#### Wiring Diagrams



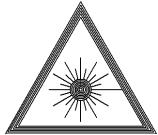
Photoelectric Sensors  
BKT 6K-002-N-S75  
Order Code: BKT0011

**BALLUFF**

Opto Symbols



Warning Symbols



LASER CLASS 1 per IEC 60825-1