

Precise, fast and high range

## BOS 6K SENSORS WITH TIME-OF-FLIGHT-TECHNOLOGY

The BOS 6K optoelectronic sensor family consists of cubical midi sensors that cover all relevant detection principles and use different light sources for this purpose. The latest generation convinces with proven, but also completely new functional principles and technologies.

What all sensors in the family have in common is their housing shape, their operating concept and the IO-Link communication standard. This uniformity considerably simplifies the parameterization and integration of the sensors. In combination with the intelligent PNP/NPN output, this also reduces the number of variants required.

In addition to the standard red light and laser variants, Balluff now also offers sensors equipped with Time-of-Flight (TOF) technology for long-distance sensing. They are capable of detecting objects safely and reliably at longer distances, despite their small housing.

### Multitalented sensors with Time-of-Flight technology

The new BOS 6K sensors with TOF are a precise, fast and versatile solution for distance measurement. This is particularly advantageous for background suppression, as it means that even a background close to the object can be reliably distinguished from the object.

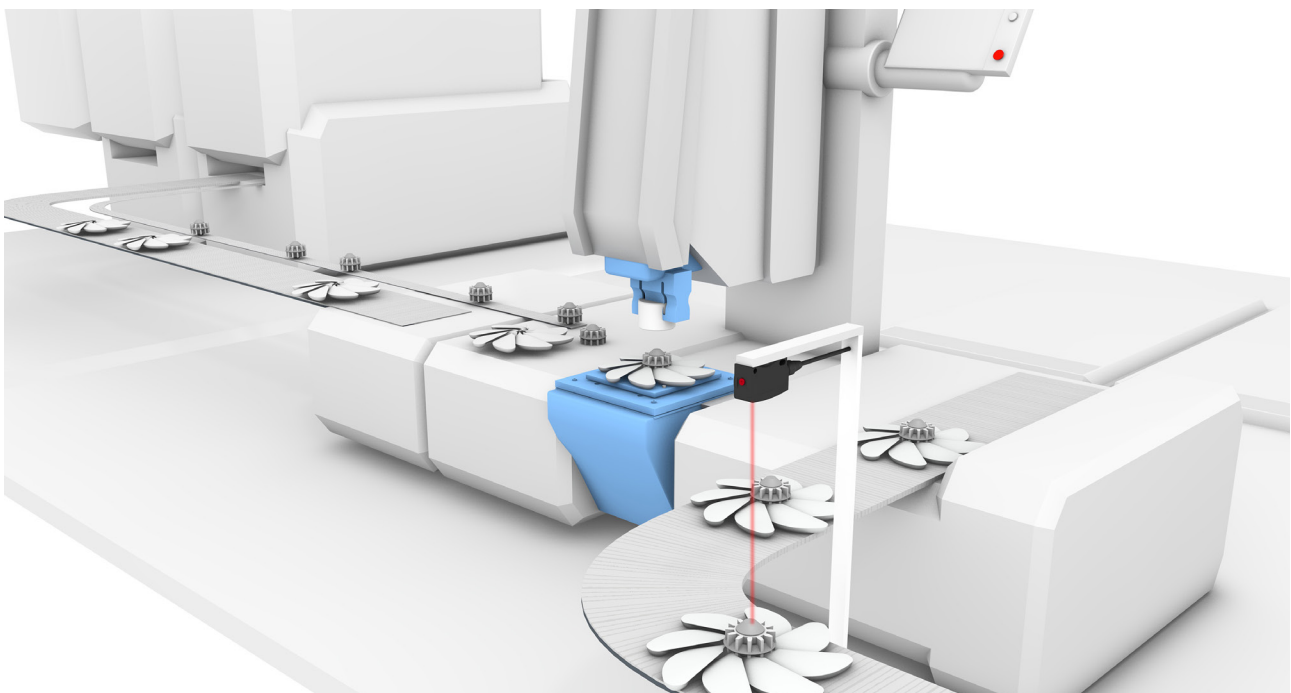
The time-of-flight method also works reliably at greater distances, which means that the sensors can be used for distances of up to 1.5 m despite their compact design. This opens up completely new possibilities in the design of automation systems and makes the sensors very flexible to use.

Another major advantage of TOF sensors is their versatility: they can be used in different environments, as their operation doesn't depend on the surface and colour of the object. They reliably detect both light and dark surfaces.

Finally, the sensors are impressively robust: These dust- and waterproof Time-of-Flight sensors with their IP69 protection class, like all the BOS 6K sensors, are ready for use in harsh, industrial environments.

### Features

- Uniform space-saving housing shape for all variants
- Uniform operating concept and simple integration thanks to IO-Link
- Time-of-Flight sensors for precise distance measurement up to 1.5 m
- Object detection independent of object surface and color
- Robust, dust- and waterproof for industrial environments



Detection of object details at long distances

BOS 6K SENSOR  
WITH TIME-OF-FLIGHT-  
TECHNOLOGY



|                                  |  |
|----------------------------------|--|
|                                  | BOS02EK  |
| Series                           | BOS 6K   |
| Optical operating principle      | Background suppression                                     |
| Range                            | 0...1500 mm  |
| Gray value shift (20%/90%)       | ≤ 15 mm  |
| Light type                       | Laser red light, 655 nm                                    |
| Laser class                      | 1  |
| Beam characteristic              | Collimated   |
| Light spot size                  | 2 × 3 mm at 1500 mm  |
| Interface                        | IO-Link 1.1.3 COM 2  |
| Output function                  | Pin 4: AutoDetect (PNP/NPN) NO/NC selectable, Pin 2: Teach |
| Switching hysteresis             | 4...7 mm (at switching frequency 5 Hz)                     |
| Switching frequency              | 5...500 Hz   |
| Connection                       | Connector, M8 male, 4-pin                                  |
| Operating voltage U <sub>B</sub> | 18...30 V DC   |
| Dimensions                       | 34 × 20 × 12 mm  |
| Housing material                 | ABS  |
| Material sensing surface         | PMMA   |
| Approval/conformity              | CE, UL, UKCA   |

ACCESSOIRES



|               | BAM00UH           | BAM0304                | BAM0305                        |
|---------------|-------------------|------------------------|--------------------------------|
| Version       | 2 adjustable axes | Multifunctional holder | Holder with protective housing |
| Material      | Steel zinc plated | Die-cast zinc          | Die-cast zinc                  |
| Dimension     | 14 × 30 × 20 mm   | ∅ 32 × 16 mm           | ∅ 32 × 16 mm                   |
| Mounting part | Screw M3          | Screws, clamps         | Screws, clamps                 |

CONNECTIVITY



|              | BCC02TL                               | BCC03KC                               | BCC03JW                               | BCC02N2                               |
|--------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Connection 1 | M8-female, straight, 4-pin, A-coded   | M8-female, angled, 4-pin, A-coded     | M8-female, straight, 4-pin, A-coded   | M8-female, straight, 4-pin, A-coded   |
| Connection 2 | M8-male, straight, 4-pin, A-coded     | M12-male, straight, 4-pin, A-coded    | M12-male, straight, 4-pin, A-coded    |                                       |
| Cable        | PUR black, 2 m, drag chain compatible | PUR black, 2 m, drag chain compatible | PUR black, 2 m, drag chain compatible | PUR black, 2 m, drag chain compatible |