



**Seven in one blow** ➔

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### ALASCA XT, the first Multi-Application Sensor for increased safety and comfort on the road

Hamburg – Increasing traffic levels and more powerful cars are accompanied by increased demands on driver attention – but also on the technological development of safety accessories.

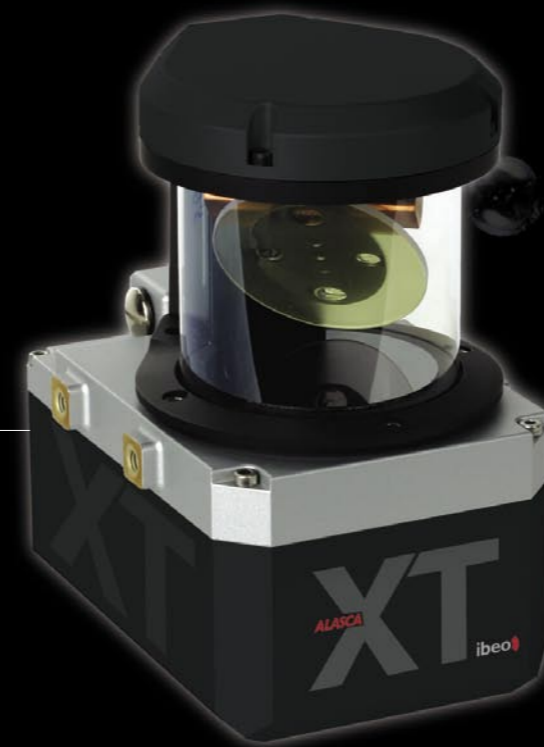
In the form of Alasca XT, Ibeo Automobile Sensor GmbH is now presenting the first Multi-Application Sensor with high-resolution laser technology. Its aperture of 240° visibility and a range of 30 centimetres to 200 metres are

hailing a new generation of ADAS sensors for the automobile industry. Optimum eye safety is guaranteed by laser class 1.

The products display ideal suitability in poor weather conditions – a challenge which was eminently solved by forward-looking Quadruple Echo Technology.

Six different applications are currently integrated in a single attractive device representing

savings both in terms of space and money and ensuring optimum compatibility of its features. Furthermore, Alasca XT can be integrated in any car body and for any visual range. Alasca XT makes driving a car safer and more comfortable.



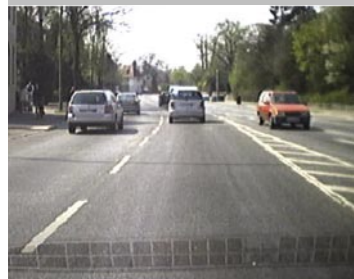
# ALASCA XT

#### Technical data:

- Scan frequency: 12.5 Hz or 25 Hz
- Wide horizontal angle: 240° field of view
- Range: 0.3 m to 200 m
- Resolution: range 4cm, angle 0.1° to 1°
- Eye-safe: laser class 1
- Full automatic pitch compensation:
  - 4 layer in parallel and simultaneous scanning
  - vertical field of view of 3.2°
- Weather performance:
  - Multi Echo Technology (up to 4 echos per laser shot)
  - Multi Target Technology (up to 4 targets per laser shot)

## The ALASCA XT – the laser scanner revolution

With its latest model, the ALASCA XT, Ibeo Automobile Sensor has accomplished a technological breakthrough in the field of laser scanners. It was achieved by combining three pioneering developments in a brand-new optical measuring concept:



### The first revolution – twice the laser output:

The Ibeo research team has succeeded in increasing the performance of the ALASCA laser scanner so efficiently that it now offers ample reserve power. The range has been increased to more than 200 m and remains constant and reliable even in harsh weather. Among the many benefits of this greater range is the ability to detect objects and issue warnings earlier. This allows all of the scanner's applications to run more easily across the vehicle's full speed range (e.g. high-speed ACC). As you would expect, the ALASCA XT remains absolutely safe to the eyes.



### The second revolution –four-echo technology:

At the same time Ibeo developed a method for optimizing object detection. With the number of echoes per plane increased from two to four, the ALASCA XT disposes of an impressive sixteen echoes per measurement. The result is absolutely resilient and reliable object detection. The scanner not only precisely analyzes relevant object data, but also recognizes irrelevant data, typically arising from a dirty cover, fog, snow or heavy rain. These artifacts are removed by filtering, so that flawless operation is ensured.

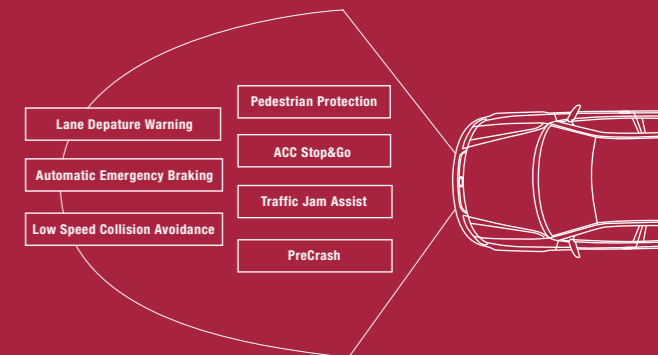


### The third revolution – flexible angular resolution:

The ALASCA XT is available with three different angular resolutions. This makes very good sense because the ideal angular resolution within the scan area depends on the application. For ACC (automatic cruise control), for example, the angular resolution in the direction of travel can be increased to as much as 1/10°, so that distant objects can be reliably detected. For less critical applications, the resolution can be decreased. Close-proximity applications (such as pedestrian protection) demand a consistently high angular resolution across the entire scan area. Ibeo responds to your individual needs by implementing the desired setting upon purchase.



ALASCA XT Applications Overview



In combination, these developments give the ALASCA XT an extended range, intelligent resolution AND an all-weather capability. Coupled with the customarily large field of vision around the front of the vehicle, of up to 240°, they give rise to no fewer than seven resilient applications.

#### Seven in one:

The most recent product launched by Ibeo is the first multi-application sensor worldwide. On request, it can combine seven different applications in one space and cost-saving unit. The dream of accident-free motoring is very nearly becoming true.

#### Pedestrian Protection

A child runs onto the road from behind a parked car - a situation that calls for vehicles to offer protection. The Alasca XT detects all persons in the range 0.3 to 30 meters in front of the vehicle. It analyzes the object outline, speed

and leg movement, and reliably distinguishes people from other objects. If a collision cannot be avoided, the Ibeo sensor issues an advance warning of 300 ms to activate safety systems (e.g. airbags in the bumper) and thus protect the pedestrian, and even save his life, BEFORE initial contact is made.

#### ACC Stop&Go:

Those who drive a lot will much

appreciate the ACC of the ALASCA XT, which offers a speed range from 0 to 200 km/h and full automatic go functionality. The vehicle moves forward without any action on the part of the driver, adjusts its speed and, if necessary, brakes to a halt. Its large area of view enables the scanner timely to detect vehicles cutting in and quickly to evaluate their lateral speed. The Ibeo scanner thus ensures a very comfortable ride.



#### Lane Departure Warning:

The ALASCA XT laser scanner detects the lane markings and carriageway limits in front of the vehicle, as well as potential obstacles. The position of the vehicle on the road is calculated at the same time. If the car is about to stray from its lane, a pre-emptive warning is issued immediately. This system provides an effective weapon against any inattentiveness behind the wheel.

#### AEB

##### (Automatic Emergency Braking):

The AEB application developed by Ibeo seeks to save lives without wresting control from the driver. The built-in ALASCA XT reliably detects all stationary and moving obstacles in front of the car and recognizes their outline. But the AEB system is not activated until the driver is no longer able to avoid a collision, whereupon it brings the vehicle to a standstill by applying maximum braking pressure. It

substantially reduces the impact velocity and thus significantly mitigates the consequences of an accident for all those involved.

#### PreCrash:

By evaluating all the scanned environmental data, the PreCrash function warns of an impending collision least 100 ms in advance, irrespective of the anticipated accident pattern (e.g. skidding). The ALASCA XT tenders reliable collision probabilities and determines the point of first contact. These data are used to deploy safety systems, such as airbags or belts, with exact positioning and extremely early.

#### Traffic Jam Assistant:

A remedy for commuters – banish the annoyance of constant stops and starts on the way home from work with the Traffic Jam Assistant of the ALASCA XT. The driver only has to steer the vehicle. This function has been perfected for

the typical traffic jam speed range of 0 - 30 km/h. The associated moderate acceleration and elevated deceleration (frequent braking), combined with the dependable detection of pedestrians, make this application particularly safe and very convenient.

#### Low Speed Collision Avoidance:

Just a moment's distraction is enough to cause a shunt on city streets. Thanks to this function, accidents of this kind, which are most common at speeds of up to 30 km/h, could become a thing of the past. The ALASCA XT monitors the area in front of the vehicle and analyzes the traffic situation. If the risk of a front-end collision arises, the vehicle is automatically braked. By avoiding such collisions, drivers more regularly reach their destination unscathed.

## ASD – Die perfekte Software Ergänzung

ASD (Automotive Sensor Display) is a program developed by Ibeo Automobile Sensor to depict the laser scan data. This software is essential if you wish to evaluate the raw data delivered by the ALASCA XT laser scanner in expressive graphics. ASD is available in two versions: Standard and Professional.

#### ASD Standard provides the three principal basic functions:

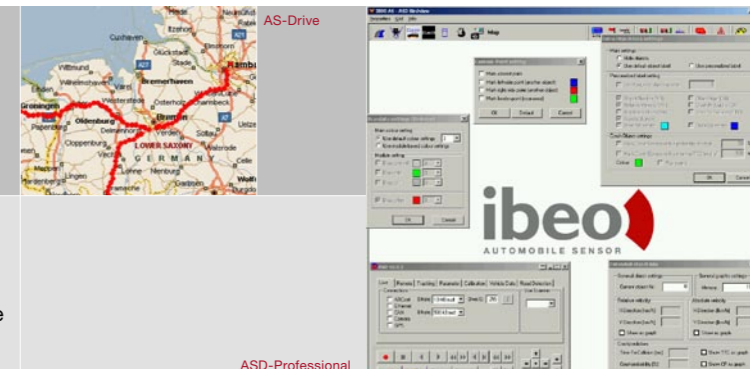
The Standard version of ASD processes scan and object data:

- The scan and object data are shown from a bird's eye view to facilitate quick and intuitive interpretation
- All data can be stored for viewing later in real time
- The parameters of the connected ECU (electronic computer unit) are configured

#### ASD Professional offers an abundance of additional functions:

The Professional version of the ASD software significantly extends the options by analyzing vehicle and GPS data as well as the scan and object data. The data are processed as follows:

- Comprehensive and detailed analysis
- Optional filtering and visualization in a variety of ways
- Transformation into dependable objects by means of the excellent integrated Ibeo Tracking
- Evaluation for efficient and detailed depiction in various graphs indicating object behavior (speed, position etc.)
- Optional automatic recording together with other vehicle data because ASD Professional can also receive CAN commands. This allows external



events, such as the emission of contact sensor signals, to be captured as well

- Recording in order to create objects offline if required. This function greatly facilitates optimal parameterization
- Import in text documents, such as spreadsheet programs, if desired

#### AS-Drive

A further highly practical supplement is already included in the ASD-Professional package. It is AS Drive, a program for processing GPS coordinates for the following purposes:

- Marking the current position of the vehicle on a geographic map
- Depicting the route traveled together with other markers
- Importing and merging the data from separate journeys to produce a (worldwide) map of all traveled routes

AS-Drive gives you a convenient, multi-color overview of all journeys at any time without requiring any additional input or laborious logging.



*Enjoy driving and leave safety to us!*

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