



Continental 3D Flash LiDAR

Heiko Leppin

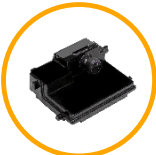
EPIC Online Technology meeting on ADAS and Autonomous Driving



Continental Group Structure



BU ADAS Product Portfolio



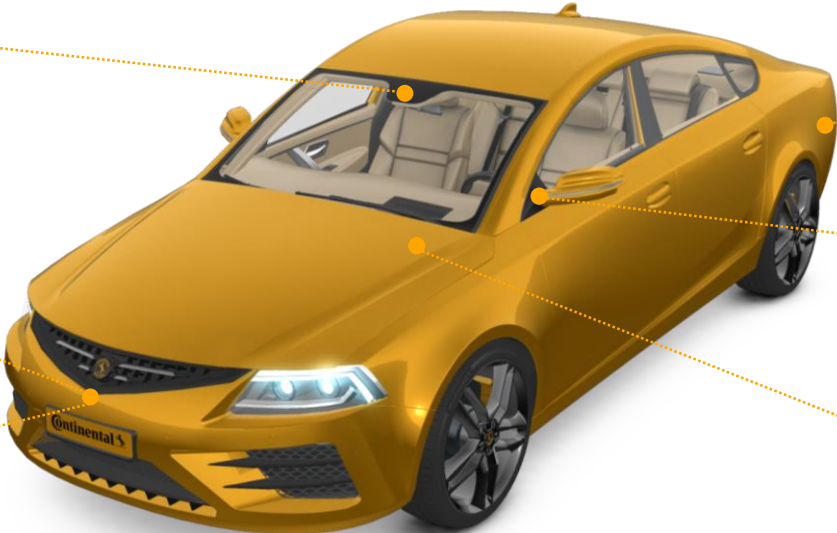
Smart Camera



Long Range Radar



High Resolution 3D Flash Lidar



Short Range Radar



Surround View



Assisted / Automated Driving Control Unit



Continental LiDAR product history



Long Range
Beam steering

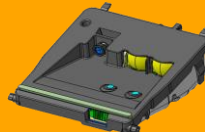
400k build in 4
Vehicles



Long Range
Beam steering
Developed up to
C-Sample



Short Range



Lidar + Mono
Cam. Fusion

More than 20 Million parts
@9 OEMs in 60 vehicles in the
field

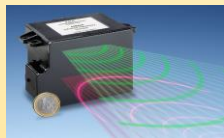


High Resolution Flash
solid state **Short Range**

1st to market, automotive grade,
SOP 2020



Concept study
Long Range
integrated in
headlamp – long
range



Laser Scanner
Developed up
to B-Sample



HIS
Concept study
Mid Range
integrated in
headlamp



ISF
Mid Range
Fix beam.
Developed up to
C-Sample

High Resolution
Long Range

Automotive grade
SOP 2024



HFL110 Short-Range Camera

DESCRIPTION

- › The innovative High-Resolution 3D Flash LIDAR is a future-proof solution that is combined with other ADAS sensors to achieve highly and fully automated driving functions.

BENEFITS & FEATURES

- › Solid-State Design
- › Contiguous Pixels – No data gaps
- › High-Vertical & Horizontal Resolution
- › Co-registered Range & Intensity
- › 30 Hz Operation
- › Low Intensity Return (10%) Capture
- › 3D Global Shutter™
- › Single pulse laser “Full Frame Scene”
- › Degraded Visual Environments (rain, dust, smoke, sun, fog)
- › Blockage detection
- › Integrated Heater
- › Optional Washing System
- › Auto alignment
- › Continuous Sample Mode
- › ASIL B (Functional Safety)

HFL110



Technical Information

- › Field of View (120° x 30°)
- › Resolution: 128 x 32 pixels
- › Dimensions: 100 x 120 x 65 mm
- › Mass: <600 g
- › Frame Rate: 30Hz
- › Exp. Temp. Range: -40° to +80°
- › Power consumption: 15W
- › Supply Voltage: 12V and 24V
- › Class 1 Eye-Safe 1064nm Laser

Automotive grade DPSS Laser

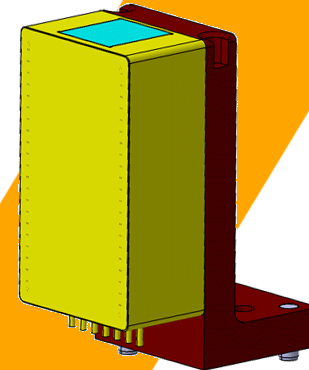
DESCRIPTION

- › 1st fully automotive qualified Nd:YAG Laser.
- › Delivering high peak power into a wide Field of View is key for a Flash LiDAR design. This DPSS Laser enables a FoV as wide and tall as 120° x 30°

BENEFITS & FEATURES

- › Single pulse laser “Full Frame Scene”
- › Enables 3D Global Shutter™
- › Solid-State Design
- › Proven Nd:YAG + Cr:YAG system
- › Reliable output power
- › Designed for wide temperature range
- › Compact design
- › Integrated monitoring
- › Integrated heat management
- › Fully encapsulated module
- › 10.000hrs @ 30Hz
- › Automotive qualified
- › Class 1 eye safe

HFL110 Laser



Safe and Dynamic Driving towards Vision Zero



SensePlanAct