Measuring systems based on the roundtrip time of emitted and reflected infrared laser beams can calculate the speed of vehicles precisely. Cameras take pictures of the vehicle and driver if they have committed a traffic offence.

**SPEED CAMERA COLUMN UNIT**

- Camera unit
- Laser measuring unit

**SPEED CAMERA COLUMN**

- Measuring area of laser
- Area camera 1
- Area camera 2

Simultaneous measuring of cars in several lanes
Measuring systems based on the roundtrip time of emitted and reflected infrared laser beams can calculate the speed of vehicles precisely. Cameras take pictures of the vehicle and driver if they have committed a traffic offence.

Light impulses emitted from the speed camera column are reflected by the passing car and received again by the device.

**infrared laser light:**
- over 100 laser beams
- 100 times per second

**maximum measuring distance:** 75 m
Intelligent LED lights, camera-based assistance systems, and information displays ensure a greater security in all driving situations.

Rear view camera

Dynamic LED indicator

Rear-view mirror camera

LED interior lighting (color temperature and brightness can be chosen)

LED reading lights

LED rear lights

Interior light sensor
Intelligent LED lights, camera-based assistance systems, and information displays ensure a greater security in all driving situations.
CAR HEADLIGHTS

Seeing further ahead: the combination of LED and laser light sources enables an optimum for roadway illumination in every traffic situation.

LIGHT CONE OF HEADLIGHTS

LED headlights
intelligent illumination to prevent glaring for oncoming traffic

LED high beams
large-scale illumination of the traffic situation

laser high beams
wide illumination for an optimal vision

LASER HIGH BEAMS

deflection mirror
beam combiner

3 blue laser diodes
parabolic mirror
color converter
LED vs Halogen

<table>
<thead>
<tr>
<th></th>
<th>LED</th>
<th>Halogen</th>
</tr>
</thead>
<tbody>
<tr>
<td>hours shelf life</td>
<td>60,000</td>
<td>2,500</td>
</tr>
<tr>
<td>typical connected load per lamp (W)</td>
<td>18</td>
<td>65</td>
</tr>
</tbody>
</table>

The PAPI display signals the correct approach angle.

- too high (more than 3.5°)
- slightly too high (from 3.2°)
- correct approach angle (3°)
- slightly too low (from 2.8°)
- too low (more than 2.5°)

The PAPI display signals the correct approach angle.