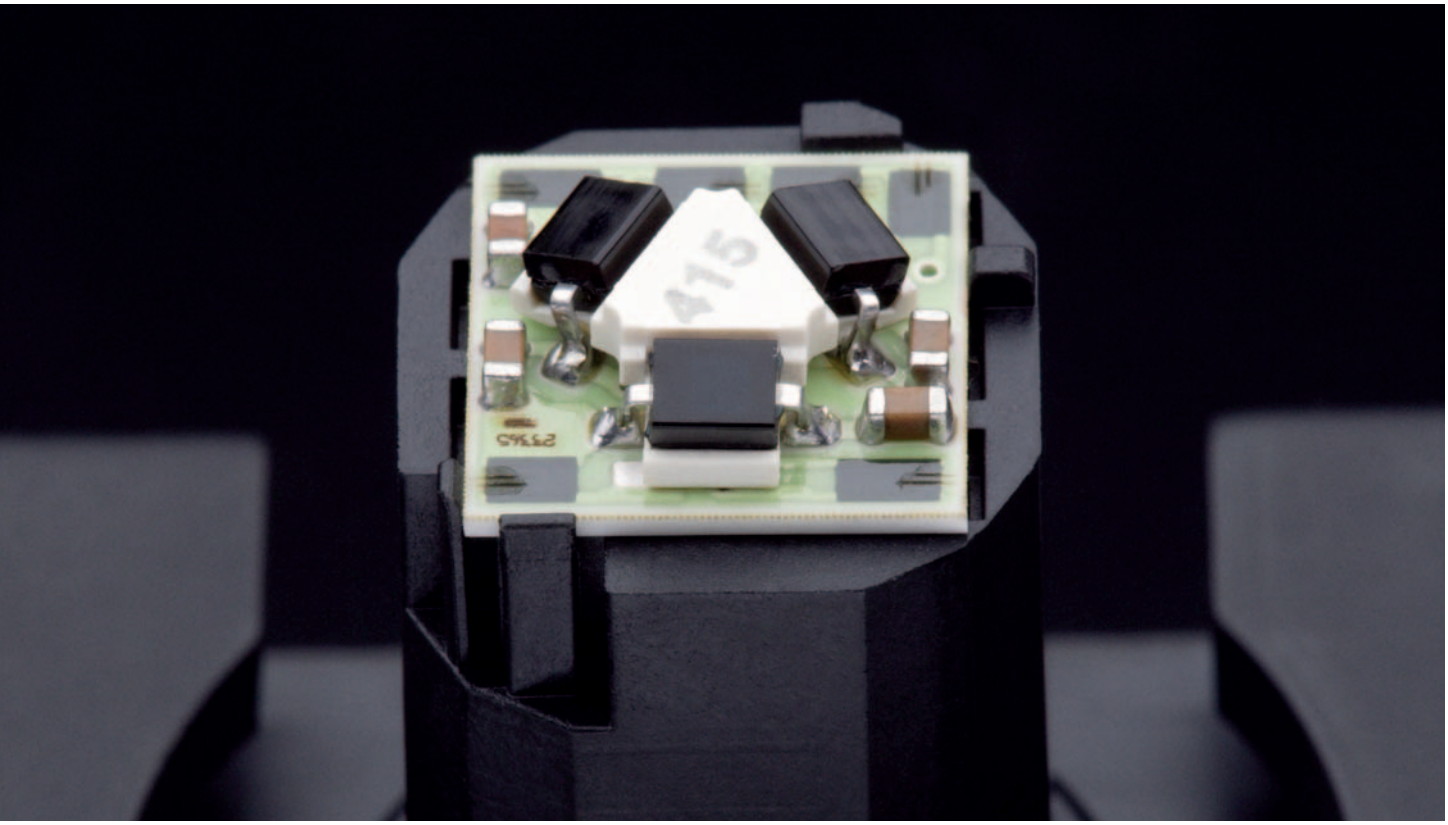
Intelligent Solar Sensor
ISOS



The effects of solar radiation on the passenger compartment can be an interfering variable to automatic temperature control, and should be compensated for. Generally, the level of solar radiation in the vehicle is measured using mono, dual or 4-quadrant solar sensors to meet different comfort demands. However, these types of sensors can suffer from ambiguity: for example, when the sun is low in the sky and intense, it can produce the same sensor signal as the radiation from the sun when it is high in the sky and weaker. The consequence of an imprecise sensor is sacrifice in comfort. The intelligent solar sensor, ISOS, solves this problem with a mathematically exact description of the solar radiation.

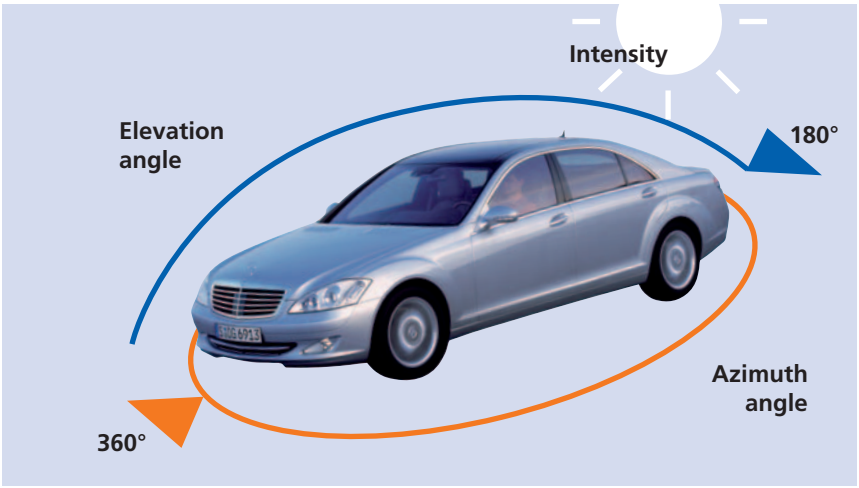
- Configuration of sensor hardware with three photosensitive components in a specific geometric formation
- Configuration of the photodiodes combines optimal signal behavior with maximum operating range
- Azimuth angle considered 0° to 360°, adjustable through installation position
- Elevation angle considered 0° to 180°, adjustable through installation position
- Software algorithm calculates the direction of the sunrays as a vector and their intensity as the result of this vector

BHTC
COMFORT IN MOTION

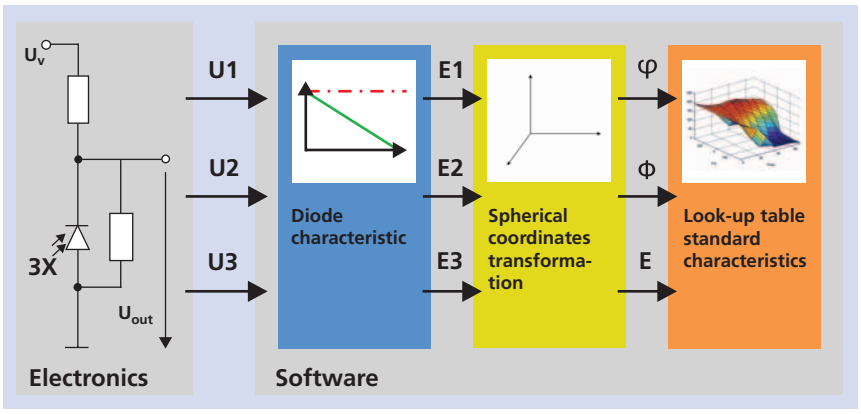
Intelligent Solar Sensor
ISOS

- Flexibility through software: the sensor can be provided with individually defined characteristics in the form of a multidimensional map that can be changed at any time, thus it is easily adaptable to mounting position and geometry of the vehicle.
- Additional features: By means of a calculation model the intensity of the radiation at the different areas of the body can be measured (BHTC comfort feature „PhysioControl"). Thus, automatic sun shades or roller blinds can be controlled based on sensor information knowing the direction and intensity of the radiation.

OUTPUT SIGNALS



OPERATING PRINCIPLE OF THE INTELLIGENT SOLAR SENSOR (ISOS)



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