

MEDICAL INNOVATIONS
CUSTOMIZED TO YOUR NEEDS!

ChipOx

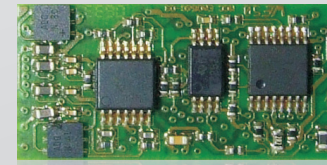
Miniaturized pulse oximetry module

The oxygen saturation of the blood is a standard medical parameter. It is determined by the procedure of pulse oximetry, a fast and, most importantly, non-invasive measuring method. Hereby, monitors for continuous monitoring as well as handheld and spot-check devices are used. Typically, the devices are used in anesthesia, in ICUs, in sleep diagnostics or in rescue services.

The pulse oximetry module ChipOx was especially designed for use in mobile devices. It offers proven pulse oximetry technology within one of the smallest amounts of space offered industry-wide and impresses with its low current consumption. Therefore it is particularly suitable for battery-operated devices, mobile applications and multiparameter monitors.

Besides the pulse oximetry-related measurements (SpO_2 and pulse) a number of additional parameters can be determined with the ChipOx. Its extensive protocol allows it to be used in a wide range of applications and is the basis for extensive analyses, offline and in real-time. This way, parameters such as the pulse transit time, for example, can be easily calculated based on the available raw plethysmogram. Status bits, quality parameters, pulsation rates and transmission values provide constant feedback about the reliability and quality of the measurements. The sensitivity can also be optimally adapted to the ambient conditions via various measuring modes.

As a manufacturer of cutting-edge cardiovascular technology, it is our declared objective not only to provide service for the usual applications, but especially to offer new ideas for niche products and special applications and a highly integrated basic module for research areas. We achieve this with an extensive protocol, various firmware variants with the focus on different applications and a modular structure. This way, we can easily react to customer needs in a short amount of time and offer an optimal price-to-performance ratio.



Features

- Filtered infrared plethysmogram
- Raw infrared plethysmogram (in real-time)
- Various measuring modes
- Integrated warning and error message system
- Numerous sensor types available
- Development kit available

Technical Information

- Dimensions: 31 mm x 14 mm x 5 mm
- Supply voltage: 3.3 V +/- 0.1V
- Current consumption: 12 mA – 28 mA
- Interface: UART
- SpO_2 measurement: 45 – 100 %
- Pulse frequency measurement: 20 – 300 bpm
- Filtered infrared plethysmogram: 0 – 2^8 LSB (data rate: approx. 240 Hz)
- Raw infrared plethysmogram: 0 – 2^{24} LSB (data rate: approx. 80 Hz)
- Signal quality indicator: 0 – 100 %

Supported standards

- DIN EN 60601-1
- DIN EN 60601-1-2
- DIN EN ISO 14971
- IEC 80601-2-61
- DIN EN 1789
- REACH / RoHS compliant

On request

- Suppression of motion artefacts
- Sample rate of 500 Hz
- Raw red and infrared plethysmogram
- High dynamic measurement range (e.g. low / high pulsation and absorption)