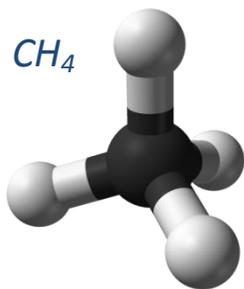


CH<sub>4</sub>

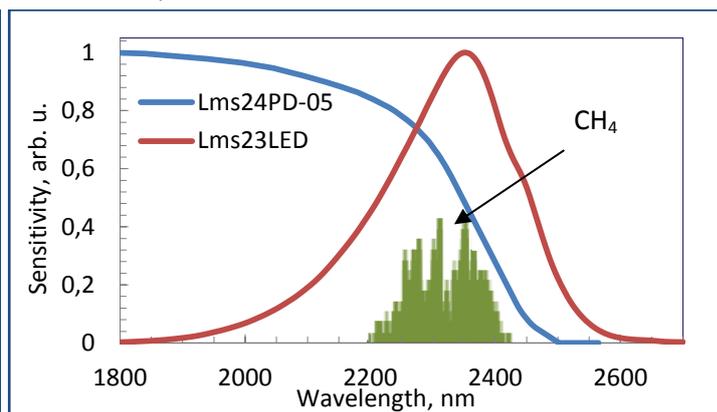
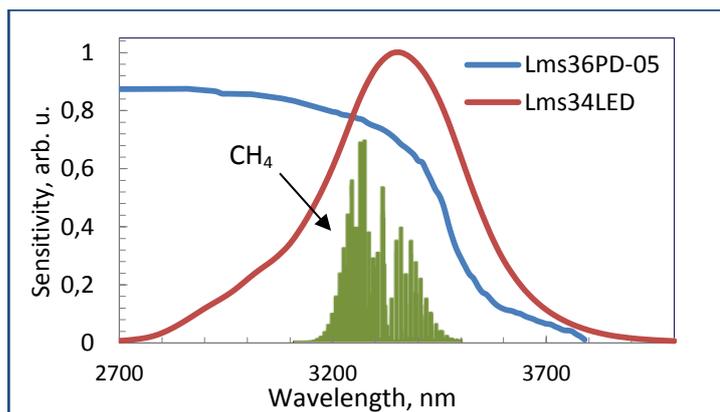


**Methane** is produced by many **natural** and **human-influenced sources**. There are several different techniques of methane detection. We offer method of mid-infrared optical absorption based on LED-PD optopair.

Methane has the main absorption band at **3200-3400 nm**. Weaker absorption bands that can be used for detection are located around **2300 nm** and **1650 nm** (the data are taken from HITRAN Catalogue). So, we recommend using:

- for **compact** measuring cells and/or for detection of **low CH<sub>4</sub> concentrations**: light emitting diode **Lms34LED** and **Lms36PD** series photodiode;
- for **long-path** measuring cells and/or for **high CH<sub>4</sub> concentration** detection: light emitting diode **Lms23LED** and **Lms24PD** series photodiode.

The features of **LEDs** and **PDs** for CH<sub>4</sub> detection:



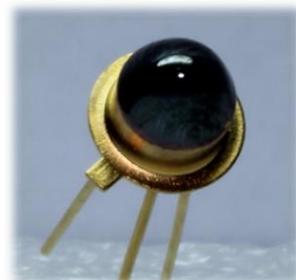
**Advantages** of our devices:

- ▶ Possibility to arrange a **compact design** of an optical cell thanks to compact size of the LED chip – **0.35 × 0.35 mm**
- ▶ No need in additional optical filters – LED emission band width is comparable to absorption band width of CH<sub>4</sub>
- ▶ **Low power consumption (<1 mW)**
- ▶ **Short response time (10–50 ns)**, modulation **ranges** of up to **100 MHz**
- ▶ Operation temperatures up to **+150°C**
- ▶ **Lifetime of 80 000 hours**

LED-PD based **Evaluation systems** for methane

For quick start we offer **out-of-the-box** solutions that can be launched with minimal effort – **evaluation systems**:

- **MDK** and evaluation kit with modular design that include:
  - Light emitting diode Lms34LED-RW (other LED is available) with an LED driver
  - Photodiode Lms36PD-05-RW (other PD is available) with a preamplifier
  - SDM synchronous detector
  - Any additional component(s) can be added by request
- **NEW MDK-c** evaluation kit with modular design that include:
  - LED Lms34LED-CG-R (LED with a special glass covering) with an LED driver
  - Photodiode Lms36PD-05-CG-R (PD with a special glass covering) with a preamplifier
  - SDM synchronous detector
  - Any additional component(s) can be added by request
- **NEW MDS-5** system with a compact optical cell that incorporates an LED and a photodiode with a special glass covering. It includes all the needed circuitry for quick setup: LED driver, photodiode preamplifier, synchronous detector.
- **NEW MDS-4 methane sensor module** – a low-cost “on-board” system with very low power consumption that includes a compact optical cell and electronics for LED power supply and PD signal amplification all-in-one.



*New LEDs and PDs with a special glass covering (present in MDK-c/MDS-4/MDS-5)*



*optical cell included in MDS-4/MDS-5*



*MDS-4 methane sensor module*