

## Product Data Sheet

# AMS



### Features:

- Laser-based absorption spectroscopy for high-precision and calibration-free gas analysis
- Compact measuring device for high-precision measurement of methane
- Extension for additional measurement of CO<sub>2</sub> and H<sub>2</sub>O possible
- Connection to the GSM network for wireless data transmission
- Stainless steel housing for use in harsh conditions
- Low power consumption
- Can be extended with solar module and battery management system for energy self-sufficient use in remote and difficult to access locations
- Easy handling of multiple devices by integrating the devices via the cloud

### Typical Applications:

- Stationary leak detection on oil drilling platforms and pipelines
- Drone based portable methane detection
- Environmental monitoring in places that are difficult to access

## 1. General Description

The AMS is a laser-based methane measuring device from Argos Messtechnik. It offers high-precision methane measurement for leak detection in the ppm range and is able to provide the measurement data either via a serial interface (USB) or via the mobile network and the MQTT protocol. Thanks to its robust design, it is very easy to handle and can be placed and operated energy self-sufficiently thanks to the solar extension.

If particularly high demands are placed on measuring accuracy, the AMS can be operated in temperature-controlled stationary mode.

The additional measurement of H<sub>2</sub>O and CO<sub>2</sub> is possible on request.

## 2. Technical Data

| Measured Variable                      |  |
|--|--|
| Traget Gas                             | Methan   |
| Measuring Range                        | 0 – 10.000 ppm   |
| Accuracy<br>(at +25°C and 1013 mbar)   | ±2 ppm / 2 % of<br>Measurement Range                     |
| Accuracy<br>(Entire Temperature Range) | tbd.   |
| Resolution                             | 0,1 ppm  |
| Detection Limit                        | < 1 ppm  |
| Measuring Frequenc                     | 1 Hz   |
| Additional Gases                       | Carbon dioxide CO <sub>2</sub><br>Water H <sub>2</sub> O |

| Ambient Conditions             |                                      |
|--------------------------------|--------------------------------------|
| Operating Temperature<br>Range | -10 bis 50 °C                        |
| Operating Humidity<br>Range    | 10 – 90 % RH<br>(non-<br>condensing) |
| Ambient Pressure               | 900-1100 mbar                        |
| Storage Temperature<br>Range   | -20 bis 50 °C                        |
| Storage Humidity Range         | 10 – 90 % RH<br>(non-<br>condensing) |
| IP Conformity                  | IP40                                 |
|                                |                                      |
|                                |                                      |

| Mechanical Data  |   |
|------------------|---|
| Dimension        | Ø 74 mm x 260 mm<br>(without connector<br>and antennas) |
| Housing Material | Edelstahl   |
| Filter           | Aluminium   |
| Weight           | ca. 1550 g  |

| Interfaces                                    |                         |
|---|-------------------------|
| USB-C   | Serial Interface        |
| Mobile Radio Network:<br>(SIM-Karte included) | LTE-M,<br>MQTT-Protocol |
| GNSS  | available               |
|   |                         |

## 3. Electrical Specifications

|                                       | Stationary Operation with<br>USB-C                    | Stationary Operation via<br>Phoenix plug              | Self-Sufficient Application<br>with solar cell and battery                             |
|---------------------------------------|---|---|--|
| Power Supply                          | 5 V   | 24 - 30 V   | PV-Module:<br>P ≥ 20W, U <sub>oc</sub> = 16-24 V                                       |
| Power Consumption<br>Measuring Device | P <sub>mittel</sub> = 1,2 W<br>P <sub>max</sub> ≤ 4 W | P <sub>mittel</sub> = 1,2 W<br>P <sub>max</sub> ≤ 4 W | ~0,3 W *<br>(*Average power<br>consumption with<br>transmission interval of 5<br>min.) |
| Power Consumption<br>Heating Module   | ---   | ≤ 40 W  | ---  |
| Transmission Frequency                | Adjustable 1/s – 1/ day                               |   |  |
| Battery Storage                       | ---   | ---   | LiFePO <sub>4</sub> , 48 Wh  |
| External Temperature<br>Sensor        | Pt100   |   |  |

## 4. Product Dimensions

