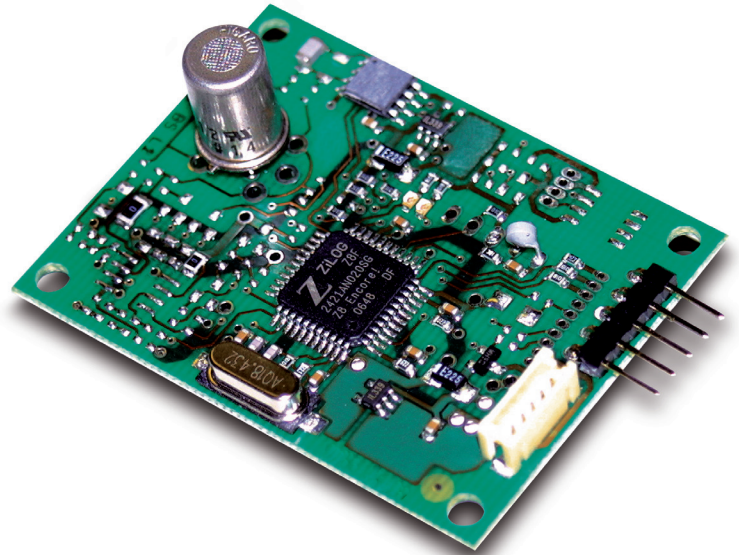


# Gas Sensor Modules for Alarm Applications to Detect Gas Leakages

## USM 5.1

The UNITRONIC sensor module USM 5.1 based on an innovative measurement method of the semiconductor gas sensor, measures not only the common ohmic resistance but further the charge drift in the sensitive semiconductor layer of the sensor itself. This innovative technology provides exact and very quick measurements of even very low gas concentrations and provides much better long term stability compared to the common resistive measurement.



Generally the gas sensors are not so easy to handle products due to need of a lot of experience as well as additional technical equipment and know-how. The USM5.1 modules are already plug & play products which don't need to be calibrated.

**The principle is very easy:** the modules have to be power supplied by 5VDC. There is a digital output which could be used for switching purposes, for example to switch on an alarm or ventilation. The module fits perfect in scenarios where leakage of gas or over travel of a certain gas concentration has to be detected quick and steady.

The modules are equipped with a lot of different gas sensors for the special needed target gas and concentration. In the table you can find the predefined target gases with the associated concentration.

These modules are available „out of box“		
Type	Gas	Alarm Level
-001	Methane	> 5.000 ppm
-002	LPG	> 2.160 ppm
-003	Ethanol (Alcohol)	> 250 ppm
-004	Hydrogen	> 200 ppm
-005	Carbon Monoxide	> 30 ppm

### Features:

- Cost-effective
- Smallest dimensions
- Wide variety of applications
- Very high measurement reproducibility
- Easy assembling
- Ultra-sensitive
- Long-term stable
- Calibrated to a certain gas concentration

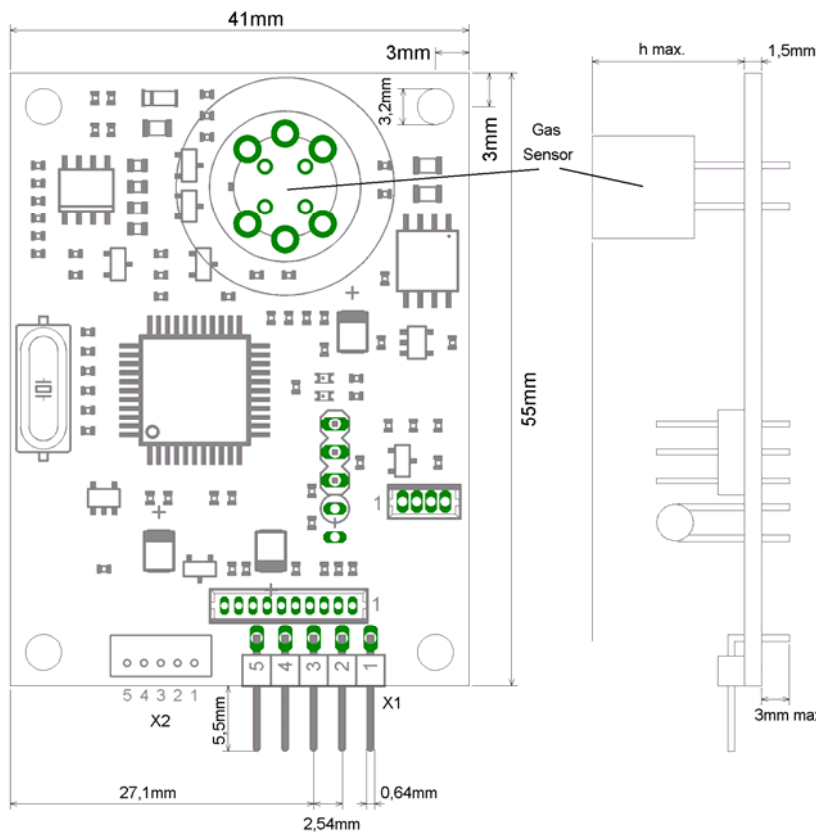


Fig. 1 Dimensions

Pin. Nr. X1 and X2	Name	Description
1	GND	Common ground / Power supply -
2	N.C. / Opt. In.	Optional input – do not connect
3	N.C. / Opt. Out	Optional output – do not connect
4	D1 OC	Digital output – open collector
5	+5V	Power supply +5VDC $\pm$ 0,2V

Connector X2, type: B5B-ZR-SM4-TF, Manufacturer JST

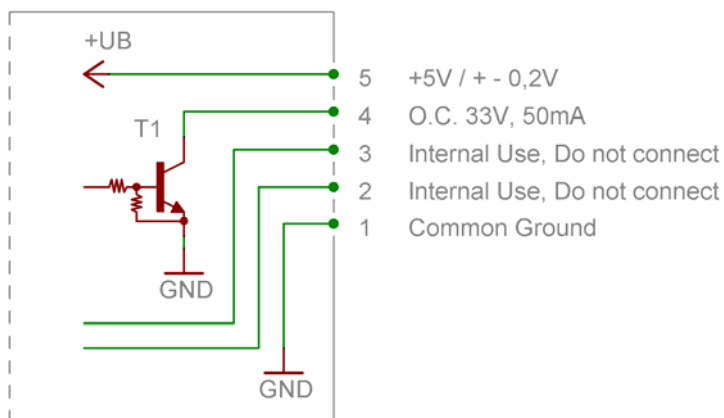


Fig. 2 Output circuit diagram

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