Device for measuring gas concentration relates to control and measuring technology. Device comprises a gas-sensitive resistor, a first resistor, a direct voltage source, a blocking capacitor, a bipolar transistor, an inductance. Additionally, a field-effect transistor and second, third and fourth resistors are introduced. Under an action of gas concentration on the gas-sensitive resistor, a capacitive component of an impedance on electrodes changes: a drain of the field-effect transistor and a collector of the bipolar transistor, which causes an effective change in a frequency of an oscillatory circuit. Technical result: increasing sensitivity and accuracy of measuring gas concentration due to converting the gas concentration into frequency.