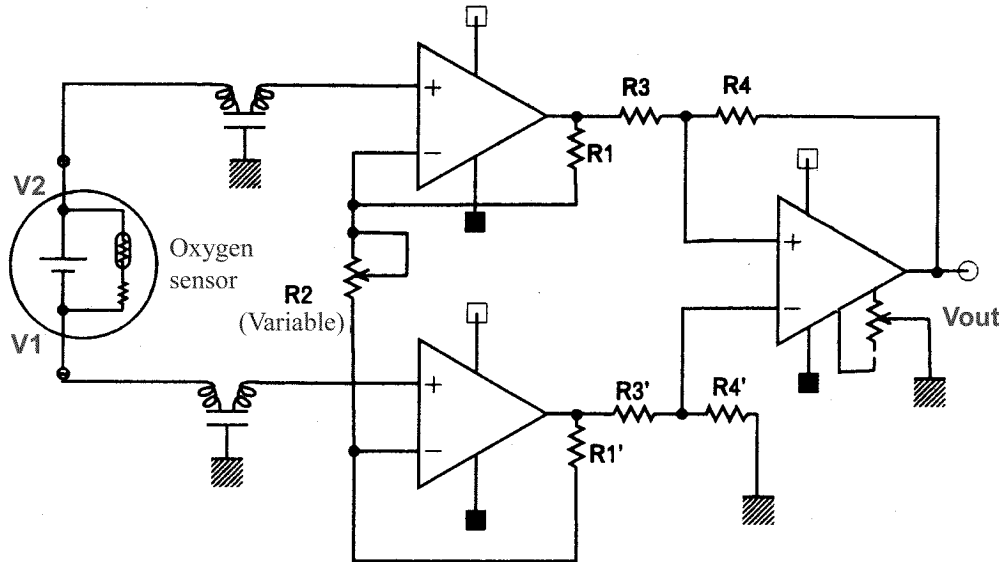


Circuit example of KE series Oxygen sensors

Note:

1. Since a sensor impedance is high, high impedance (more than 1M ohm) of operational amplifier should be used.
2. Backward voltage should not be applied to a sensor.
3. For higher accuracy, zero adjustment should be carried out.

(i) An example of accuracy-oriented circuit



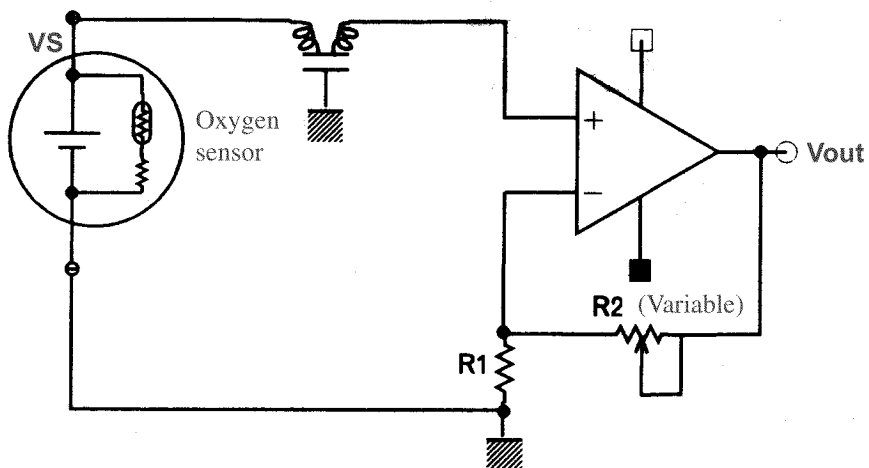
$$V_{out} = R4 / R3 \times (2R1 + R2) / R2 \times (V2 - V1)$$

$$* \text{Sensor output} = (V2 - V1)$$

$$* R1 = R1', R3 = R3', R4 = R4'$$

Note: Inductance value and capacitance value should be lower than 0.01 micro Henry and one micro Henry, respectively to prevent sensor damage by back electromotive force.

(ii) An example of cost-oriented circuit



$$V_{out} = (1 + R2/R1) \times V_S, V_S = \text{Sensor voltage}$$