

Guides :

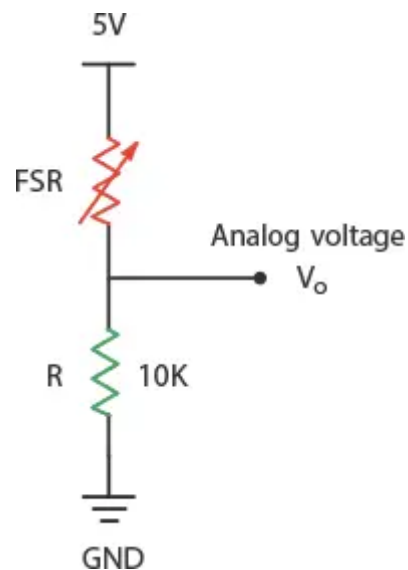
<https://lastminuteengineers.com/fsr-arduino-tutorial/>

<https://learn.adafruit.com/force-sensitive-resistor-fsr/using-an-fsr>

Documentation du capteur :

<https://cdn.sparkfun.com/assets/c/4/6/8/b/2010-10-26-DataSheet-FSR406-Layout2.pdf>

“The simplest way to read the FSR is to combine it with a static resistor to form a voltage divider, which produces a variable voltage that can be read by the analog-to-digital converter of a microcontroller.”



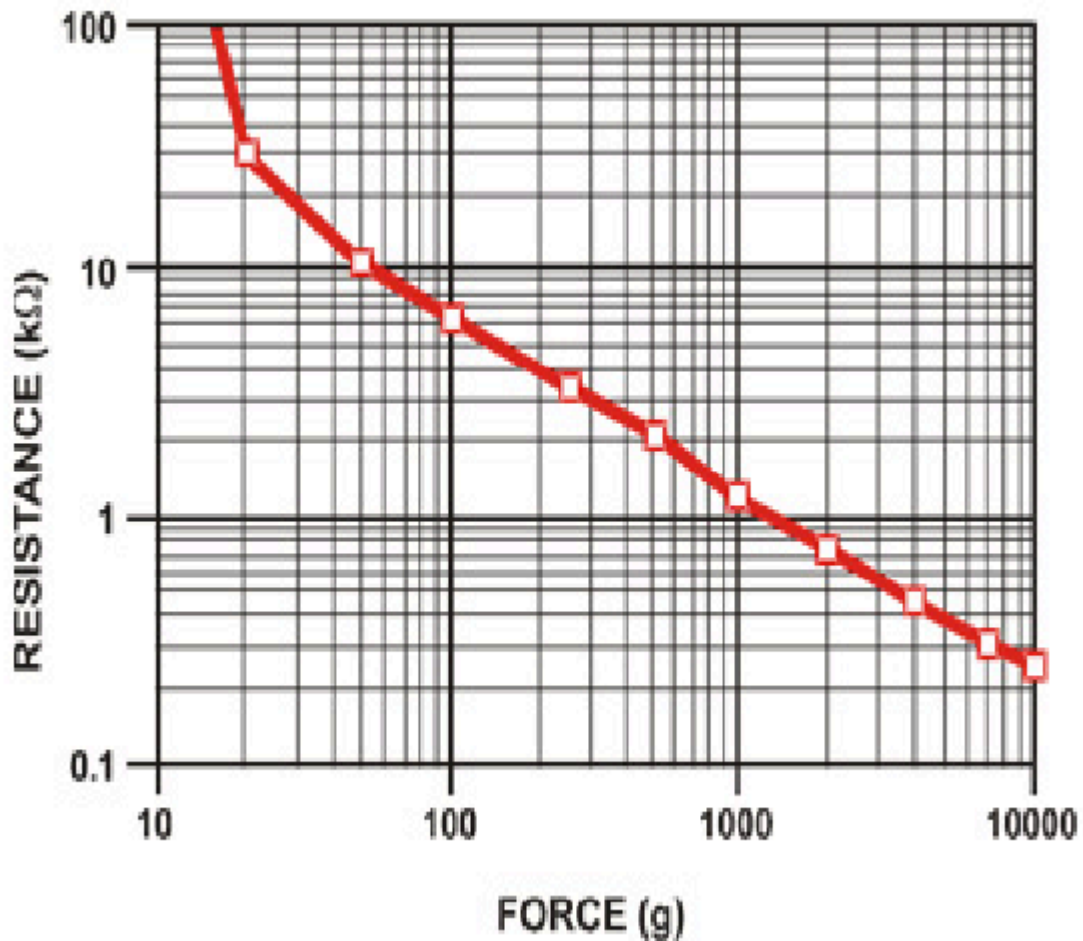
Équation :

$$V_{out} = R * V_{CC} / (R + R_{FSR})$$

Donc :

$$R_{FSR} = R * (V_{CC} - V_{out}) / V_{out}$$

Puis on en déduit la force en approximant les courbes du FSR 406 par deux droites.



Soit F la force en N et R_{FSR} la résistance en $k\Omega$.

- Pour $\log(F) > 25$, on approxime $\log(R_{FSR}) = 2.1434 - 0.6826 * \log(F)$. Donc en Ω , $R_{FSR} = 0.008528 * \exp(-0.6826 * \log(F)) = 0.008528 * F ^ (-0.008528)$.
- Pour $\log(F) < 25$, on approxime $\log(R_{FSR}) = 11.3685 - 6.7086 * \log(F)$. Donc en Ω , $R_{FSR} = 86.5520 * \exp(-6.7086 * \log(F)) = 86.5520 * F ^ (-6.7086)$.