



WEARIC

WEARIC - TEXTILE PRESSURE SENSOR DATASHEET

PRODUCT DESCRIPTION

The WEARIC textile pressure sensor is a very thin and breathable conductive circuit which can be easily integrated into every application. The sensor changes the electrical resistance when a force is applied onto the sensor. The conductive and pressure sensitive material in the middle of the sensor is very flexible and perfect for wearables and smart textiles applications. With 15mm press fasteners it is possible to connect your electronics fast and easy with the sensor. You only connect a Voltage divider between the sensor and the μC or you use the WEARIC expansion board to get unlimited possibilities - Do it!



APPLICATIONS

wearables, smart home, intelligent workwear, occupancy detection, weight measurement, robotics, shoes, wearables, chair, games

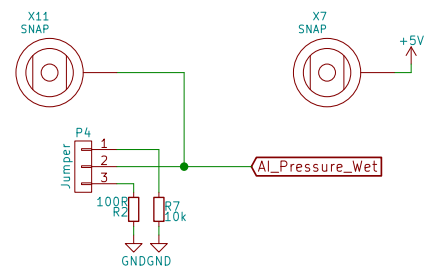
TECHNICAL DETAILS EXPANSION BOARD

Size	123 x 48mm
Thickness	1,25mm
Connectors	2 Snaps (15mm s-spring)
Sensing Area	27 x 27mm
Resistance Range	10 - 2.000 Ω
Force Range	5 - 200N
Textile Material	Polyester, Silver Yarn, Piezoresistive fabric
Measurement Circuit	voltage divider
Washability	limited washability

COMPATIBILITY WEARIC EXPANSION BOARD

Value ADU	0 - 1023
Jumper	P4: left position
Resistance voltage divider (R_x)	100 Ω

CIRCUIT DIAGRAM

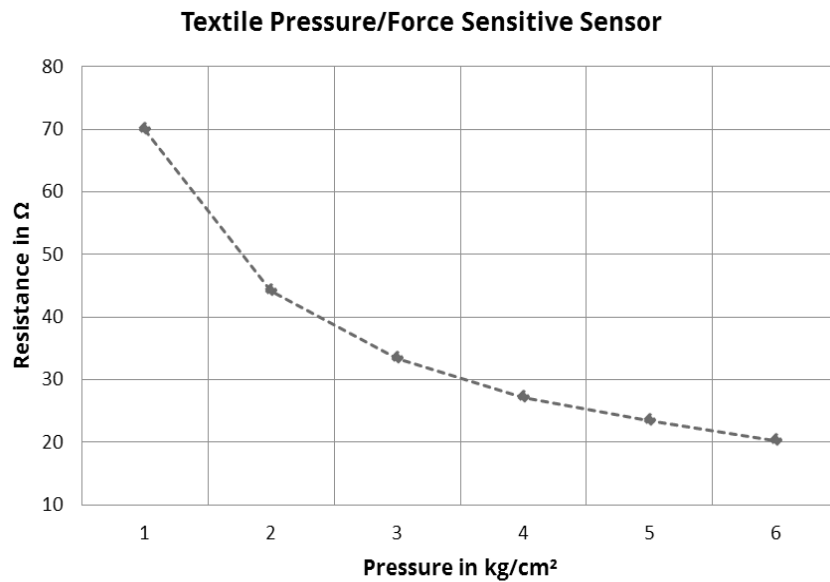


Calculation voltage divider:

$$U_x = \frac{(U_g \cdot R_x)}{(R_1 + R_x)}$$

CHARACTERISTIC CURVE

The graph below illustrates how resistance changes when a force is applied to roughly assess the characteristics of the sensor. Note: the graph shows a force which is applied with a stamp of 1 cm².



SAFETY INFORMATION

Do not power the pressure sensor with more than 5V, otherwise the sensor can become too hot and get destroyed.

DOWNLOADS

More informations, datasheets, PCB Layout, circuit diagrams, etc. you can find them in our download section on www.wearic.com

USED MATERIALS

You want to build your individual Smart Textile sensor? You need the following materials which are easily accesible in our Online-Shop:

Item	Item Nr.
Polyester non woven	WRC101
WEARIC - Piezoresistive fabric	WRC102
WEARIC - Silver Yarn	WRC021
15mm snap incl. tooling	WRC024