Pressure Sensor Film – White Paper

OVERVIEW

An intelligent plastic film, used as a large area sensor for weight and position detection – an awarded innovation - developed, produced and marketed by plastic electronic.

The weight is measured by the mechanical action released by placing an object on the pressure sensor film. The placing pressure produces an electrical signal and the pressure of the object on the plastic film can be measured. After removing the object from the pressure sensor film, it goes back to the original state. This process can be repeated arbitrarily and immediately following the previous measurement. The position is detected by the allocation of marked electrodes on the predefined, matrix arranged raster.
Objects can be identified, exactly located and its shape can be defined. This information can be accessed in real time.

PRODUCT BENEFITS

The plastic electronic pressure sensor film is a particular lightweight, customisable and cost efficient solution; which offers many advantages for several of business branches.
The robust surface and the possibility to produce a large area sensor in mass production distinguish the plastic electronic pressure sensor film from competitive products.

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Summarized, the main advantages of the pressure sensor film by plastic electronic:

- thin
- robust
- light
- energy efficient
- large area measurements
- mass production possible
- individually configurable (resolution, shape and dimension)

MARKET & COMPETITOR

The potential for the pressure sensor film of plastic electronic is rated high. The use of the pressure sensor film allows on the one hand an improvement of established products because of the weight reduction, increased reliability, robustness and reduced manufacturing costs. On the other hand, innovative products with new design and shape, for large areas and with a higher flexibility can be realised.

The **competitive advantage** is high, because plastic electronic is the owner of the protected technology (patent nr A 1739/2006 and A 1505/2007, which protects the capacitive measurement method, used for the plastic electronic pressure sensor film), the know-how and competent cooperation partners for the production of the pressure sensor film.

The **capacitive measurement process** has the lots of advantage over the resitive measurement technology, used by several competitors. For the technical realisation of resistive measurement processes, expensive materials have to be used, the plastic electronic pressure sensor film with its capacitive technology only uses capacitors, built up on cost effective plastic films. The manufacturing costs for those large area pressure sensor films are 100 times under below from competitors.

Up to now, large area pressure sensors like the plastic electronic pressure sensor film are neither offered in the dimension nor in this price segment.

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APPLICATION

Intelligent Shelve:

In retail to avoid an out-of-shelf situation and as anti-thief protection device for vending products. The intelligent pressure sensor film identifies a decrease in the inventory in time and gives a signal in case the stock level has fallen below a defined minimum level. The costs for the ongoing service of the shelves and the reaction time can be drastically reduced by this automation.

Picking Jobs:

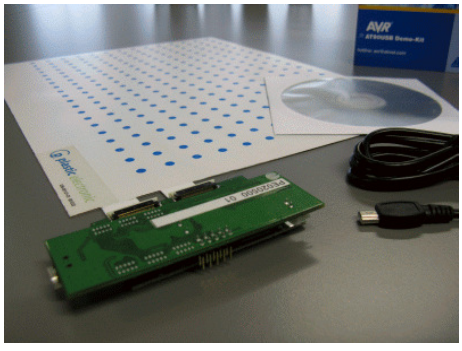
Controlling picking jobs, whether the right articles and the right number of articles were taken. With the pressure sensor film from plastic electronic, each picking job is checked on its plausibility by the number and the total weight of the objects. Employees can be warned easily and quickly in case an error occurred.

Intelligent Drawer:

Detecting the inventory of a drawer. Not only the number of products in a drawer can be recorded, also the input or output time and location. An ongoing inventory control is provided by the plastic electronic pressure sensor film.

EVALUIERUNGSKIT PRESSURE SENSOR:

In advance you can test the functions with the evaluation kit, a complete system with sensor, readout device, software, driver and documentation. You can easily integrate it by USB-device. The software is ready for use in just a few minutes. We recommend installing the evaluation kit, to get a quick overview over the characteristic of the pressure sensor film.



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