

Presse Release

Precision sensory in medical technology – the use of foil sensors in medical appliances

Korb, Germany, 2009-03-16

Sensor elements are used in numerous ways to measure and control changes and deviations. For many years Metallux AG, located in Korb near Stuttgart, supplies the medical industry with mostly custom specific products. The new flexible foil sensor MetaPot is used as a linear and angular sensor in custom specific applications. Safety, precision, soundness and reliability are a hallmark of this new generation of foil sensors.

Medical instruments and products need to comply with the highest demands. Be it for diagnose, treatment or as an aid to compensate for disability or ailments – sensor systems will be called upon in most instances. The medical technology consists of various areas. These are from diagnose and treatment of illness to therapy and rehabilitation up to improvement for people with disabilities and to support their mobility.

Following examples in diagnose, treatment, therapy and rehabilitation will show, how important sensory has become in medical technology.

Infusionpump syringes are used for consistent dosage of medication. It is important that dosage is always consistent. Sensors are used as precise measurement system to safeguard required dosage.

Continuous development and increased usage of hip- or knee joints, through which the patient can improve his mobility, is a further example of the usage of sensors in the medical technology. To compensate for disabilities and injuries, angular sensors placed in artificial joints, improve mobility and ensure well being of the patients. Artificial replacements as for example with electrical control of artificial limbs, exact positioning is possible with an angular sensor. A long lifespan is therefore necessary.

Exact positioning in dentist` chairs (sitting position, head- or leg rests) or in bed frames are regulated via linear and angular sensors. Incidentally next to high precision, special requirements regarding cleanliness and sterile conditions, e.g. hospital beds, are demanded from those sensors.

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Electrical wheel chairs enable people with impaired mobility to reclaim some mobility and independence, making life a bit easier. These wheel chairs are operated by precise and flexible multi-axial joysticks. The sensory in joysticks controls speed and direction of the wheelchair. The joysticks not only ensure easy manoeuvring but are also designed for comfortable steering. Convenience and multifunction are a stand out feature of our joysticks.

MetaPot, the flexible foil sensor by Metallux AG is now manufactured as either a linear or angular sensor in standard or custom specific variants and also as a sensor element in our own Metallux joysticks. Safety, precision and reliability, these are the characteristics of the new flexible foil sensor MetaPot. The MetaPot foil technology is already used in various applications in the medical technology. The system lends itself for highest demands in quality sensory for various applications.

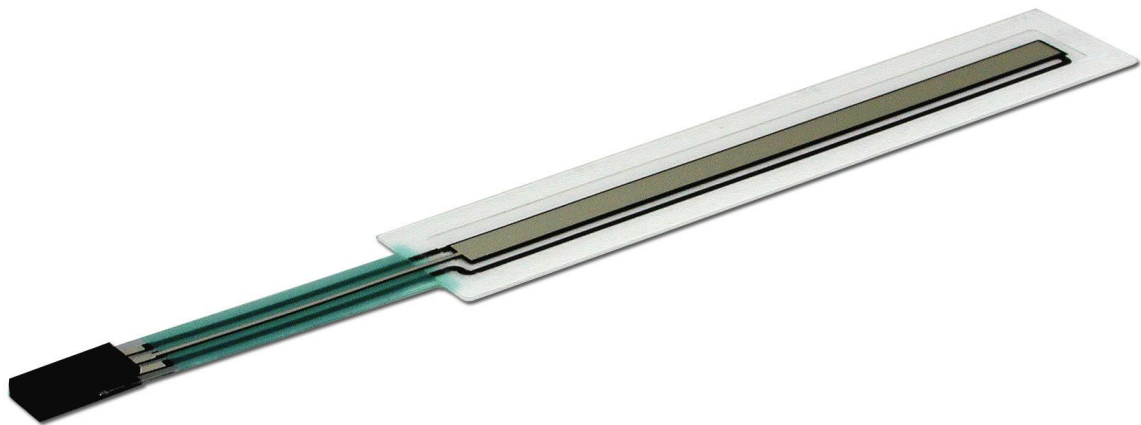


Photo: Metallux MetaPot- Foilsensors

Compared to conventional systems, MetaPot distinguishes itself through its flat design, easy installation possibilities as well as a wide temperature range

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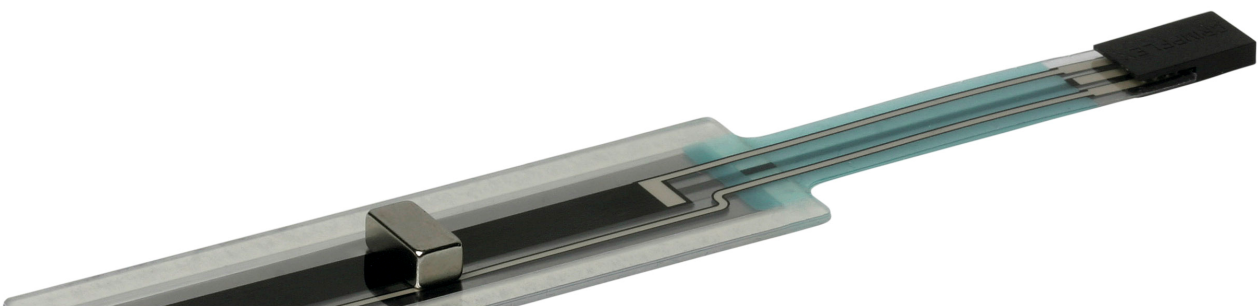
of -40°C up to 85°C, where safety, precision and a high degree of reliance is important.

MetaPot – Foiltechnology offers many advantages:

- § absolute measuring
- § easy analysis
- § analog technology offers high resolution
- § stroke up to 500mm
- § hermetically sealed
- § high life cycle [$>5.000.000$]
- § increased temperature range[-40°C to +85°C]
- § excellent price-performance ratio
- § extreme flat design [$< 1\text{mm}$]
- § easy installation
- § space saving
- § custom specific dimension possible[length, width, radii]
- § various electrical connections; on request
- § linearity of resistor track possible [$<0,25\%$]
- § sensor position is maintained in case of breakdown
-> no reference measure necessary

Furthermore Metallux developed a Foilpotentiometer with contactfree function - MMP

This efficient sensor will meet the high requirements in precision, demanded for applications in distance measurements from 50 to 500 mm. The MMP unites all advantages of this proven foil technology, with a contactfree and therefore absolutely wearless function.



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Photo: Metallux MMP

About Metallux

Metallux is a high performance manufacturer of electronic components in Tick-Film Technology. The comprehensive product portfolio consists apart from Standard Pressure-, Linear-, Rotary- as well as Foil Sensors, High Voltage- and Power Resistors to custom specific complete solutions as well as Potentiometers and Joysticks. Customer orientated solutions and the right ideas result in satisfied customers.

Innovative products together with long term experience – numerous well known customers ranging from the automotive, electrostatic, medical, industrial and sensoric industry rely for more than 22 years on the company situated near Stuttgart.

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