Hoffmann+ Krippner

CASE STUDY

Membrane potentiometers for medical devices

Motion tracking with SENSOFOIL®


Armeo®Spring

THE REQUIREMENTS

Modern physical therapy for recovery of motor skills requires unique approaches to generate a solution, specifically in cases of neurological conditions and injuries.

The Hocoma AG is specialized in robotic equipment for the medical industry and a recognized worldwide leader in developing and manufacturing automated therapy equipment for the rehabilitation necessary for neurological movement disorders.

To ensure development of the Armeo®Spring, therapy equipment for patients with arm and hand impairment caused by strokes, the system implementation required reliable, accurate, and customizable linear and rotary sensors adaptable to restricted installation environments.

THE IMPLEMENTATION

SENSOFOIL® is the ideal sensor for the intended implementation. Due to its flat design, the membrane potentiometer by Hoffmann + Krippner provides an ideal solution for restricted installation conditions.

Due to the potentiometric, and therefore absolute, measuring system, SENSOFOIL® has the ability to emit reliable signals. Therefore, a system reboot is not necessary in the case of a potential power outage. Throughout further developmental stages, the sensor was customized to adhere to unique geometrical requirements and optimized accordingly.

The semi-rotary sensor features connectors on two sides, adding distinctiveness to the design. The two-sided connection provided by the potentiometer enables SENSOFOIL® to be implemented both on the left and the right side, which significantly contributes to an immediate decline in cost by reducing the necessary supply in replacement parts.

THE RESULT

The Armeo®Spring therapy concept developed by Hocoma enables a great number of playful motion exercises within a virtual environment. A motion sequence is displayed for the patient during the excercise, simulating common daily activities. The functional task is clearly indicated and the patient's performance immediately evaluated. This enables patients with more severe conditions to take advantage of the rehabilitation process at its full potential without relying on the constant presence of a physical therapist.

Due to the implementation of Hoffmann + Krippner's SENSOFOIL® membrane potentiometer, accurate and reliable measurements are provided, which are essential for task-specific and computer-generated movement therapy.

INNOVATION MADE IN GERMANY
HOFFMANN + KRIPPNER.

Hoffmann+ Krippner

TECHNICAL INNOVATION AT THE HIGHEST LEVEL

Hoffmann + Krippner opens up new vistas, solves problems and realizes visions in the three main business areas complex input devices, ultra-flat position sensors and industrial PC systems.

In business for more than 35 years, we now have become the leading manufacturer of customized keyboards and complex input systems and are a market leader in Europe.

We develop and produce innovative input devices, control units and sensors for international customers in numerous industries, from consumer electronics, medical technology and aviation to mechanical engineering and military technology..

Hoffmann + Krippner's product portfolio meets the highest expectations, from simple membrane keyboards to complex designs including enclosure, electronics and software.

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