CASE STUDY

Membrane potentiometers for healthcare beds
Adjustment and memory functions with SENSOFOIL®
CASE STUDY  Membrane potentiometers for healthcare beds

THE REQUIREMENTS

Völker GmbH in Witten, Germany develops and manufacturers beds and healthcare furnishings for the institutional care sector, hospitals and the home care sector. Völker focuses on healthcare beds and hospital beds as pioneered medical products with innovative and often patented features.

The high-quality Völker-beds are equipped with electric adjustment and memory functions. In an emergency, an immediate adjustment through a reliable and fast mechanical release of the bed to a horizontal position must be guaranteed. This is commonly achieved by healthcare bed manufacturers through drive motors with integrated encoders. However, this solution has the disadvantage that the bed must be reset after each mechanical release as the encoder does not detect absolute position.

As a manufacturer of the highest quality beds, Völker required a sealed, linear potentiometer to be applied to the axis of adjustment.

THE IMPLEMENTATION

H+K initially faced the challenge to develop a solution that would fulfill Völker’s high level of safety standards. The potentiometer was to be reliable and durable, while preventing any change in output with the various mechanical loads at any time, even with mechanical displacement of the drive kinematics. Additionally, the signal was required to remain stable during vertical wiper movements to the center of the potentiometer.

H+K applied a customized potentiometer specifically developed for Völker. A linear, non-contact membrane potentiometer via magnetic operation was developed to allow the magnet to “float” in a transverse direction to the potentiometer, preventing any change in the output signal.

Völker had already been introduced to the basic principles of membrane potentiometers. H+K’s technical expertise as well as the initially proposed solution were convincing factors for Völker to move forward with this new development.

THE RESULT

Today H+K provides a membrane potentiometer with integrated cable and connector specifically adapted to the requirements set forth by Völker based on the model family SFL_FR4_M-PET_M_xxx.

This potentiometer features the advantage that the change in longitudinal movement is converted into an electrical, proportional signal - however, a movement on the transverse axis does not cause any signal change.

As this system has now been applied by Völker for several years while further drives have also been equipped with the same potentiometer, the confidence in H+K and their products remain strong.

INNOVATION MADE IN GERMANY
HOFFMANN + KRIPPNER
Innovative Input Devices

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.