

**Titel:** „Fiber Optic Knob“

**Autor/en:** Piotr Kijewski

**Unternehmenseinheit:** Diehl AKO Stiftung & Co. KG

**Description:**

Fiber Optic Knob

This idea suggests an optical transfer system. The optical transfer system transmits an image of a display located behind electronics of a front panel to the surface of a knob located on the front panel.

The content of the display, e.g. TFT, LED, etc., is transferred by (by example) a fiber optic taper to the knob surface, where the biggest cross-section dimension of the fiber optic taper is located.

The shape of the display is not limited to a round, elliptical or similar shape to match inside of the knob. Any geometric shape may be used, e.g. square, polygon, trapezoid, irregular shape, etc. This applies for the cross-section of the fiber optic taper as well.

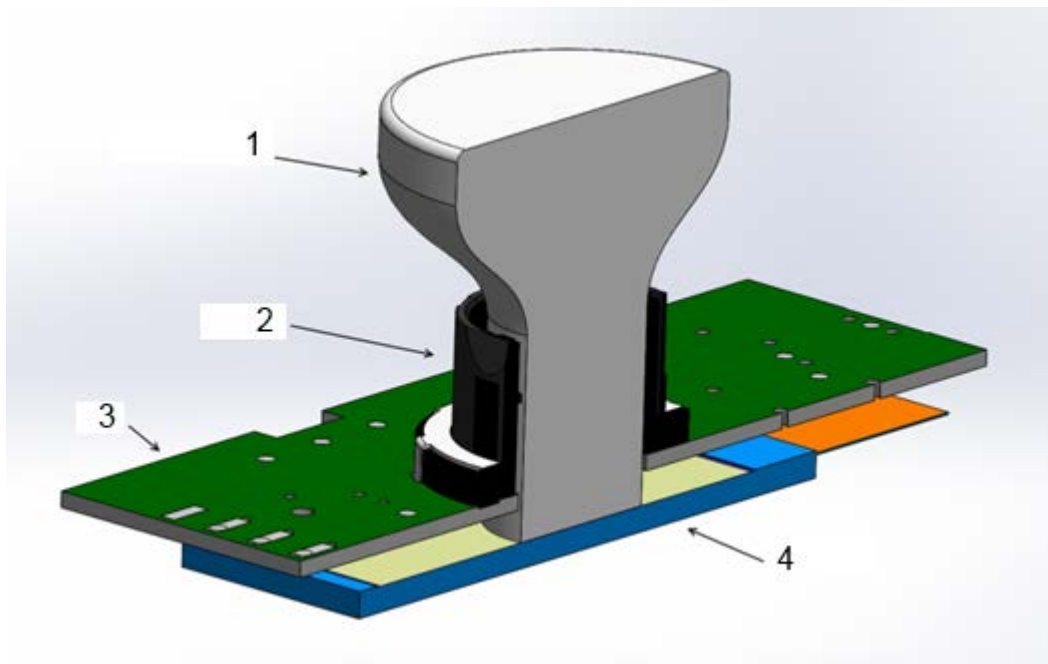
One advantage of the optical transfer system is that the display size can be freely chosen and offers possibility of using a cheap display from the shelf. Another advantage is an easy construction of the knob, without any electrical connection inside of knob. A further advantage is the frame around displayed content can be reduced - in theory to zero.

Using an optical system to transfer the image of the display to the knob surface instead of direct displaying offers further degrees of freedom for layout design of a front panel.

Instead of optical fiber taper, any optical system which is able to transfer displayed content can be used – by example suitable lens system.

The drawing shows a knob with a display on its surface for a washing machine as the only display in the device.

**Drawing:**



1. Knob with optical system inside (in this example fiber optic taper) to provide the image from display to knob surface
2. Device for providing information about knob rotation (by example mechanical encoder)
3. User Interface PCB
4. TFT display