

**Are you looking for an extremely flexibly usable potentiometer for position detection? Altmann offers the series AFP. The types AFP-L and AFP-R are splendidly suitable for linear and rotary position measurement.**

The variety let the AFP stand out from other position sensors: linear, rotary, medically sealing.

The AFP-potentiometer is operating as a short contact assembly. Its sealed construction operates as an endlessly variable analogue voltage divider.

ALTMANN customers have used the potentiometers for medical sensors, injections, light dimmers, test laboratories, linear actuators and many other applications. The AFP-potentiometer can be actuated by a human finger or a mechanical device. Continuous power can be achieved either by a sampler and a hold-circuit or a permanent mechanical actuator. Both constructions provide for long-life cycle and reliability.

### AFP Design and Construction:

The AFP is a sealed slider-potentiometer and suitable for protection class IP66. It has 3 conductor paths coming out of the active resistance area, one operates as slider, a further conductor path shows the voltage on one side of the potentiometer and the third on the other side of the active area, as shown in the diagram.

- The AFP operates as voltage divider as soon as the top and bottom circuits close, by sending resistance signals from the contact point in opposite directions, using separate lower conductor paths.
- A Rheostat only has 1 conductor path on the bottom layer.

### Specifications

The AFP is a conductive plastic membrane potentiometer. By using pressure on the slider a contact is established between the upper and lower elements and a consequential analogue voltage will be tapped by the slider.

Only in rare cases a strong voltage device will be necessary in order to produce an established quality potentiometer. Gentle voltage devices allow low installation costs with the variety of custom-made manufacture. This advantage applies for retrofitting or updating equipments in the same way.

### Construction:

Some specifications are variable, depending on customer request. The scope of resistance, linearity, part-to-part – whether you are an industrial professional or new in the AFP-technology, ALTMANN's construction and sales teams will be happy to get the opportunity to discuss your specific needs. We can demonstrate the AFP-basics, send you samples or let you have laser-cut models for test purposes. If you are working with electronic files, we are normally using the following graphic and layout software:

**Software:** Auto-Cad, Adobe Illustrator, Corel Draw  
**File formats:** pdf, dxf, dwg, ai, cdr, eps, dwf, wmf, emf, ps, jpg, gif, tif, tiff, bmp

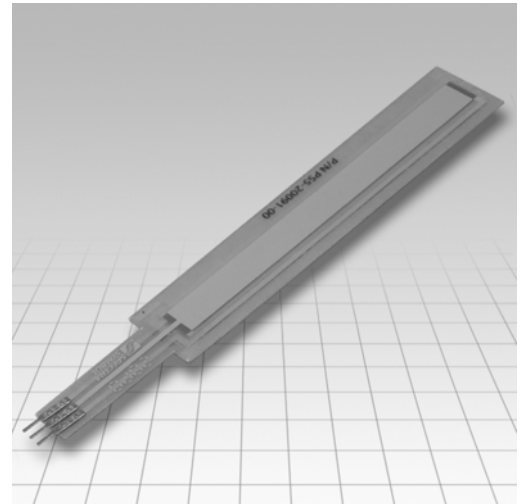
If you do not have files, we can help you to define the product quality you need. Many customers approach us with little more than an approximate sketch. As soon as we have determined a construction, we will establish a quotation for you and will guide you through the further purchasing process.

ALTMANN are bringing a long-term perspective into every customer relation. We are competitive and aggressive in order to achieve your price and quality demands – today and in 5 years' time.

### Medically pleasant

Many medical companies have used the AFP in specialized applications due to its possibilities to operate in medical surroundings.

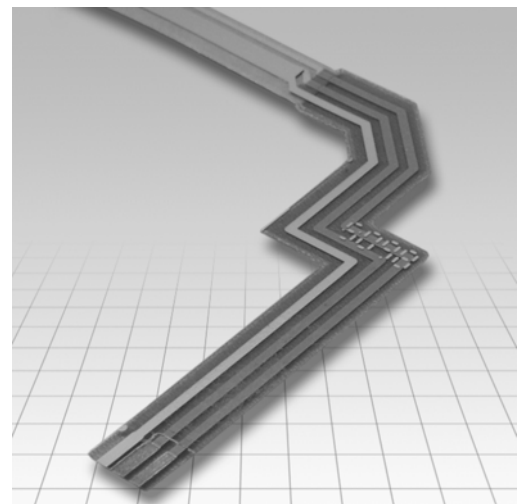
Radiation, accidents with water, blood or other liquids have not affected the AFP, where other sensors degenerate or get a malfunction. The companies consider our sensor as a great advantage in such surroundings.



AFP-L



AFP-R



AFP-Connection example

**Applications:**

- Linear actuators
- Control valves
- Automotive: airbag systems, seating position
- hospital beds
- Input/ Set-Point Devices
- many comparable applications

**Function:**

AFP is operating like a potentiometer, as voltage divider. Completely encapsulated and immediately operable. It is actuated by a plastic slider or by a finger. The fitting into smallest installation spaces is possible that way. Complex adaptations of element and slider are not necessary.

**Special Characteristics:**

- very thin 0,45 - 0,65 mm
- very tight construction, only 7,5 mm possible
- flexible lengths, 10 - 2400 mm
- easy handling: high-grade 3M foil for adhesive bonding on almost every base surface
- AFP can also be used on round bodies (as from R = ca. 30-60 mm, depending on design)
- individual connections possible

**Technical Data:**

Resistance	SoftPot 1K...10K-Ohm ± 10%, ± 20% and individual
Resolution	HotPot 5K...10K-Ohm ± 10%, ± 20% and individual
Resistance curve	0,05 to 0,15 mm
Power Rating	linear
Storage temperature	1W max. (MIL-STD-202F #312)
Operating temperature	-65 °C till +85 °C (with fiber glass up to +150 °C)
Linearity	-40 °C till +50 °C (HotPot up to +125 °C)
Lifetime	± 3% linear, ± 5% rotative and individual
	SoftPot > 1 Mio. cycles
	HotPot > 10 Mio. cycles

**Slider:**

Slider Material Plastic or Metal for Hotpot

Recommended slider pressure

	SoftPot	HotPot
-40°C	0,8-1,8N	3,0-5,0N
-25°C	0,8-1,8N	2,0-5,0N
+23°C	0,6-1,5N	0,8-2,0N
+75°C	0,5-1,4N	0,7-1,8N

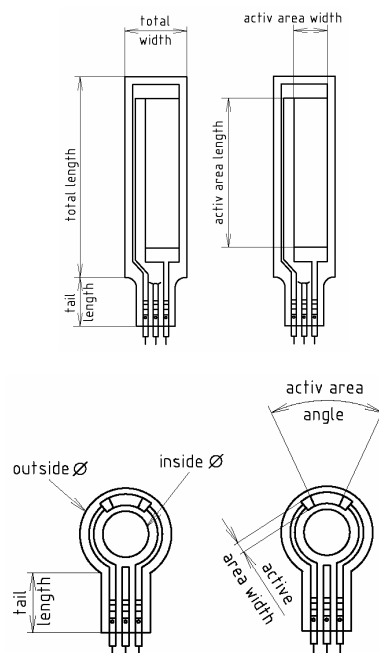
Geometry R=2,5 mm  
Slider types Pin, roller/ mill, turning ball

**Others:**

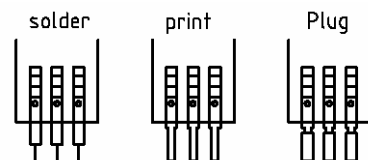
Individual labelling of the foil (e.g. your article reference or a scale, all Pantone colours)

**Tip for mounting/ adjusting the foil:** Pollinate the bar with water (Ratio: 1 litre of water + 2 drops of detergent). Now you stick the element and for a short time you can exactly position the foil.

**Sizes as per customer request**



**Types of connection**



**Functional principle**

