

## DATASHEET

### Sensofoil® FR4-PET

#### Resistive track printed on circuit board

Features:

- Rotary designs
- Flat, durable and fully sealed
- Operating temperature -25 °C to +55 °C
- Various connector options



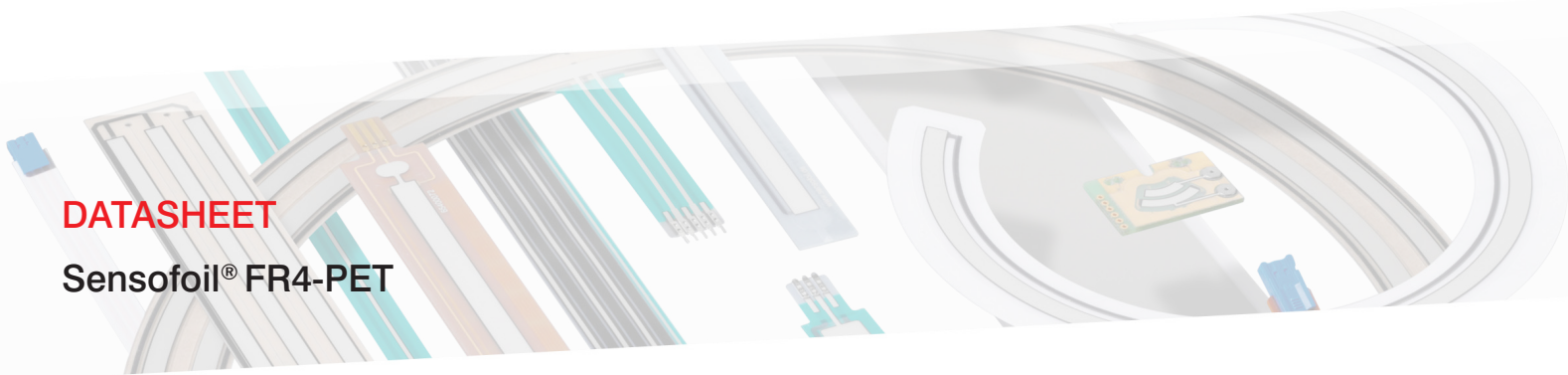
#### How does it work? Sensofoil® FR4-PET

A Sensofoil® membrane potentiometer FR4-PET consists of a resistive track printed onto a circuit board and a collector track printed onto the top PET foil layer. These layers are separated by a so-called spacer. Only when the layers connect through mechanical pressure using a wiper a signal is produced.

Ideally, a low DC voltage is connected to the resistive track and tapped at the collector track in the form of a voltage divider. A linear relation exists between the length of the resistive track, or the angle of the resistive track for rotary sensors, and the applied voltage. At 50% of distance traveled, 50% of the applied voltage is measured.

Quality characteristics of the Sensofoil® membrane potentiometers are resistance values, their corresponding tolerances and the non-linearity. The non-linearity represents the actual deviation of the output signal to an ideal reference line and is expressed as a percentage of the applied supply voltage.

**DATASHEET**  
**Sensofoil® FR4-PET**



**Part Numbers (standard portfolio)**

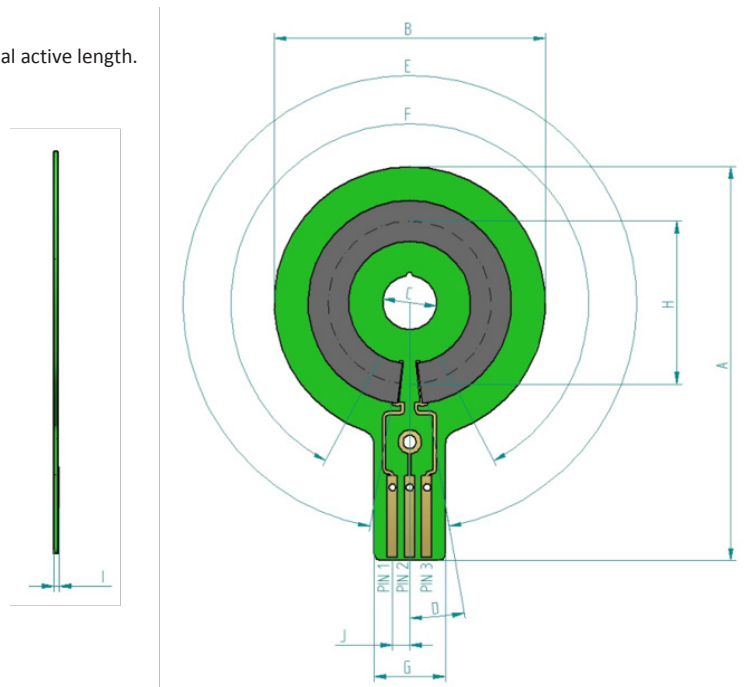
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**Mechanical Data** (at room temperature) <sup>(1)</sup>

Total length	A	58 mm			
Outside Diameter	B	40 mm			
Inside Diameter	C	8 mm			
Beginning of active angle	D	10 °			
Total active angle	E	340 °			
Effective electrical angle <sup>(2)</sup>	F	320 °			
Width connector tail	G	10.5 mm			
Diameter wiper track	H	24 mm			
Height	I	0.9 mm			
Contact Spacing	J	2.54 mm			
Travel speed		≤ 3 m/s			
Life cycles (tested to date)		1 Million cycles			
Mounting type		self-adhesive foil			

Above values are based on internal tests and inspections and represent typical values.  
Hoffmann + Krippner does not guarantee completeness or absolute accuracy based on varying conditions.  
Test set up information and conditions can be obtained.

- (1) Tolerances based on DIN ISO 2768
- (2) Area in which the specified linearity is guaranteed. Approx. 90% of the total active length.



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**Environmental Conditions**

Operating temperature	-25°C to +55°C
Storage temperature	-25°C to +85°C
Protection Class <sup>(3)</sup>	IP 54

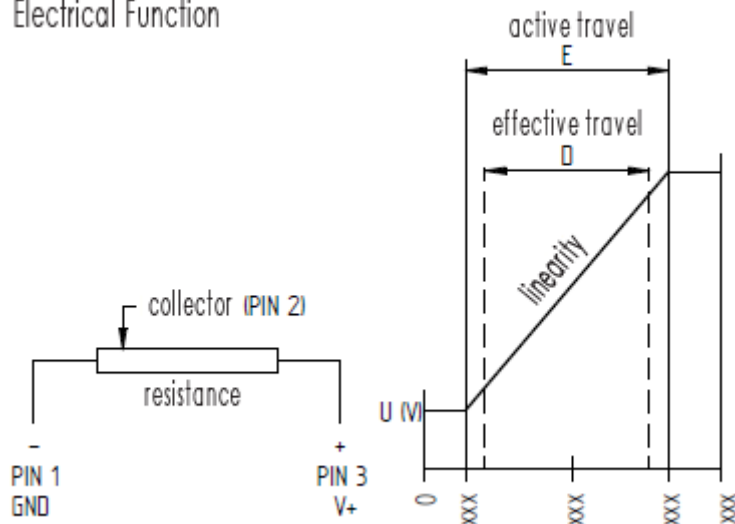
**Electrical Data (at room temperature)**

Resistance	10.0 kOhm
Tolerance	+/- 30%
Independent linearity	4%
max. wiper current in case of failure	0.1A
suggested wiper current during operation	0.1µA
Operating voltage	1-42 VDC

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(3) Protection class for sensor ONLY.

Electrical Function



**DATASHEET****Sensofoil® FR4-PET****Sensofoil® FR4-PET Accessories**

Wiper for membrane potentiometers with PET surface  
(datasheet available upon request)



Wiper H+K part number 60300001 (M6x1 thread)



Wiper H+K part number 60300009 (for mounting)

Contacts for membrane potentiometers with circuit board  
(datasheets available upon request)

- All common contacts solderable
- SMD contacts
- Cables or stranded wire soldered directly

Other connector and soldering options available upon request.