

Thin Film Sensing Elements



Typical Applications

- Passive Device
- Hermetically Sealed to Media
- High Temperature Capability
- Rugged & Durable
- Compact & Light-weight
- Resistant to Chemical Attack
- Superior Long-Term Stability & Repeatability
- Medium to High Pressure Ranges

Features

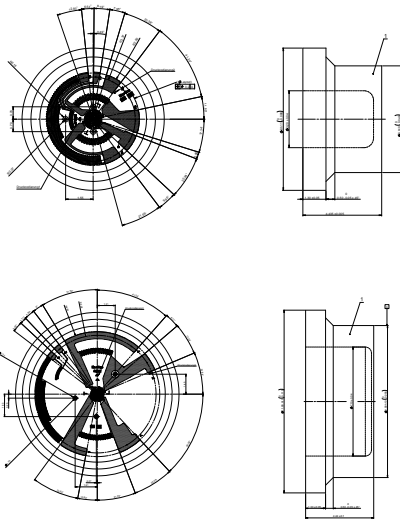
- Stainless Steel
- Independent Temperature and Pressure Sensing
- Integrated TitaniumOxyNitride Resistors

Description

Kavlico's thin film strain gage sensing elements are a versatile option for use in various pressure transducer configurations. The compact design, and light weight make it ideal for applications with space and weight limitations. It is hermetically sealed from the media with a seal-less design to survive the harshest environments and is resistant to almost all chemicals.

The thin film element can be used at high operating temperatures and when designed with Kavlico's integrated circuit technologies is fully temperature compensated.

The element provides superior long term stability and repeatability in medium and high pressure range applications and is also available with an integrated temperature measurement to provide a fully integrated solution. If your application requires a hermitically sealed, medium to high pressure sensing element contact the experienced Kavlico design team to support your specific needs.



Dimensions in: mm [inches]

Technical Specifications

		- low pressure ranges -					- medium pressure ranges -					- high pressure ranges -		
Pressure ranges from 0 to ...	bar (gage)	10	16	25	40	60	100	160	250	400	600	1000	1600	2500
Proof pressure	bar (gage)	20	32	50	80	120	200	320	500	800	1200	1500	2400	3750
Burst pressure	bar (gage)	30	48	75	120	180	300	480	750	1200	1800	2000	3200	5000
Temperature Resistor														
Resistance at RT		min: 5000Ω					max: 2000Ω					Typical: 1000Ω		
Temperature gradient		Ω %/°C: min: 0,3					max: 1					typical: 0,6		
Materials														
Wetted parts		Stainless steel 17-4 PH (1.4548)												
Electrical														
Output Signal														
at Zero		typ. 0 mV/V												
at Full Span		typ. 5 mV/V for pressure ranges ≥ 100 bar, typ. 4.5 mV/V for pressure ranges ≤ 60 bar												
Bridge resistance		typ. 3.0 kΩ												
Protection														
Isolation resistance		> 100 MΩ at 500V DC												
Max. voltage		10 VDC												
Accuracy *)		typ. 0.3 % of span												
Non-linearity **)		typ. 0.2 % of span												
Hysteresis		typ. < 0.1 % of span												
Non-repeatability		< 0.1 % of span												
1-year stability ***)		0.1 % of span												
*) Including non-linearity, hysteresis, non-repeatability, zero point and full scale error (corresponds to error of measurement per IEC 61298-2)														
**) BFSL according to IEC 61298-2														
***) with reference conditions to EN 61298-1														
Permissible temperature of														
Environmental		-40 °C to + 200 °C												
Rated temperature range		-40 °C to + 150 °C												
Temperature coefficients														
TC zero		typ. 0.1 % FC / 10 K												
TC range		typ. 0.1 % FS / 10 K												
Conformity														
RoHS		according to 2002/95/EC RoHS Directive												
Weight														
Low pressure ranges		1.5 grams												
Medium pressure ranges		1 gram												
High pressure ranges		< 1 grams												



Before installation and operation, ensure that the appropriate pressure sensor has been selected in terms of pressure range, design and specific measuring conditions. Non-compliance can result in serious injury and/or damage to the equipment.

Don't see what you want?
Call us at +49 571 3859-174 to customize this product to meet your application-specific needs!

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