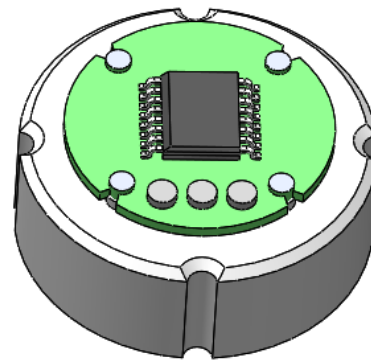


PSCT Piezoresistive ceramic Pressure transducer

The PSCT pressure sensors feature a monolithic ceramic cell and operate based on the piezoresistive principle. The Wheatstone bridge is screen-printed on the ceramic cell using thick film technology, with signal conditioning electronics providing integrated amplified output. Pressure and temperature calibration is handled electronically via the on-board ASIC, with offset and span corrections for temperature variations. The sensors offer long-term stability, are EMC-compliant, and include an EEPROM for traceability and custom calibration. The Al₂O₃ ceramic ensures excellent resistance to aggressive media.



Features

- Outstanding corrosion and abrasion resistance
- Fully integrated signal conditioning
- Compliant with EMC standards
- Thermally compensated for enhanced performance

Advantages

- High integration and compact size
- High precision and excellent stability
- Fast response, low power consumption, and superior consistency

Applications

- Process control
- Environmental control
- Meters and instruments
- Medical instrument

Absolute maximum ratings

Symbol	Parameter	Min.	Max.	Unit
T_a	Ambient operating temperature	-40	125	°C
T_s	Storage temperature range	-40	135	°C

Performance Specifications

Symbol	Charateristic	Test condition	PSCT005B	PSCT010B	PSCT020B	PSCT050B	Unit
P_n	Pressure range gauge		0..5	0..10	0..20	0..50	bar
P_m	Prove pressure		0..10	0..20	0..40	0..100	bar
P_b	Burst pressure		0..20	0..35	0..60	0..140	bar
CV	Vacuum capability		-0.9	-1	-1	-1	bar
T_R	Response time		≤1				ms
T_{EB}	Total error band	@ $V_{CC}, T_a = 25^{\circ}C$	<1				%
		@ $V_{CC}, T_a = -40^{\circ}C...125^{\circ}C$	<1.5				
E_L	Accuracy include linearity, hysteresis and repeatability errors		<0.5				%
LTS	Long term stability		<0.15				%FS/Year

Electrical Specifications

Charateristic	Ratiometric output	Current output
	A	B
Output value	0.5..4.5 VDC	4..20 mA
Operating supply voltage	5±0.25 VDC	12..30 VDC

*1 Transducer will not produce valid output when supply voltage is outside of operating range.

Materials

Symbol	Parameter	Value	Unit	Comment
m-s	Sensor material	Ceramic Al ₂ O ₃ 96%		
m	Mass	≤6	grams	(Excluding connections)

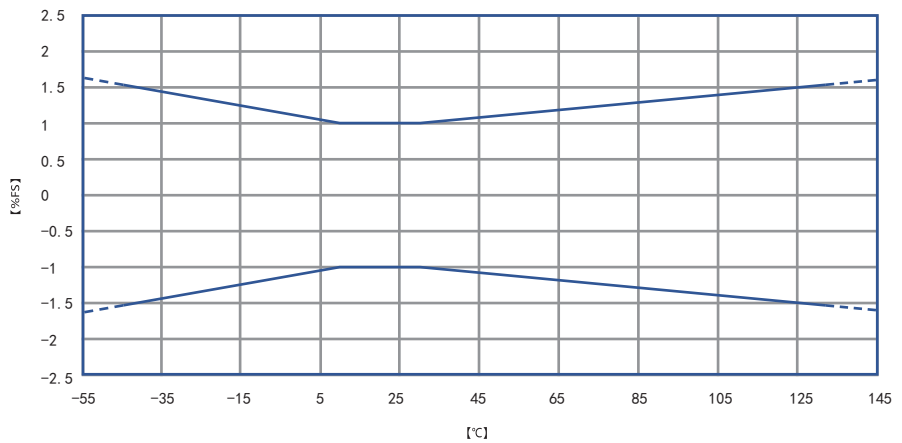
Environmental and mechanical characteristics

Test	Standard
Electrostatic discharge immunity	IEC/EN 61000-4-2(2009)
Radiated electromagnetic field immunity	IEC/EN 61000-4-3(2006)
Electrical fast transient (burst) immunity	IEC/EN 61000-4-4(2004)
Surge immunity	Not applicable
Conducted RF immunity immunity	IEC/EN 61000-4-6(2014)

Total error band

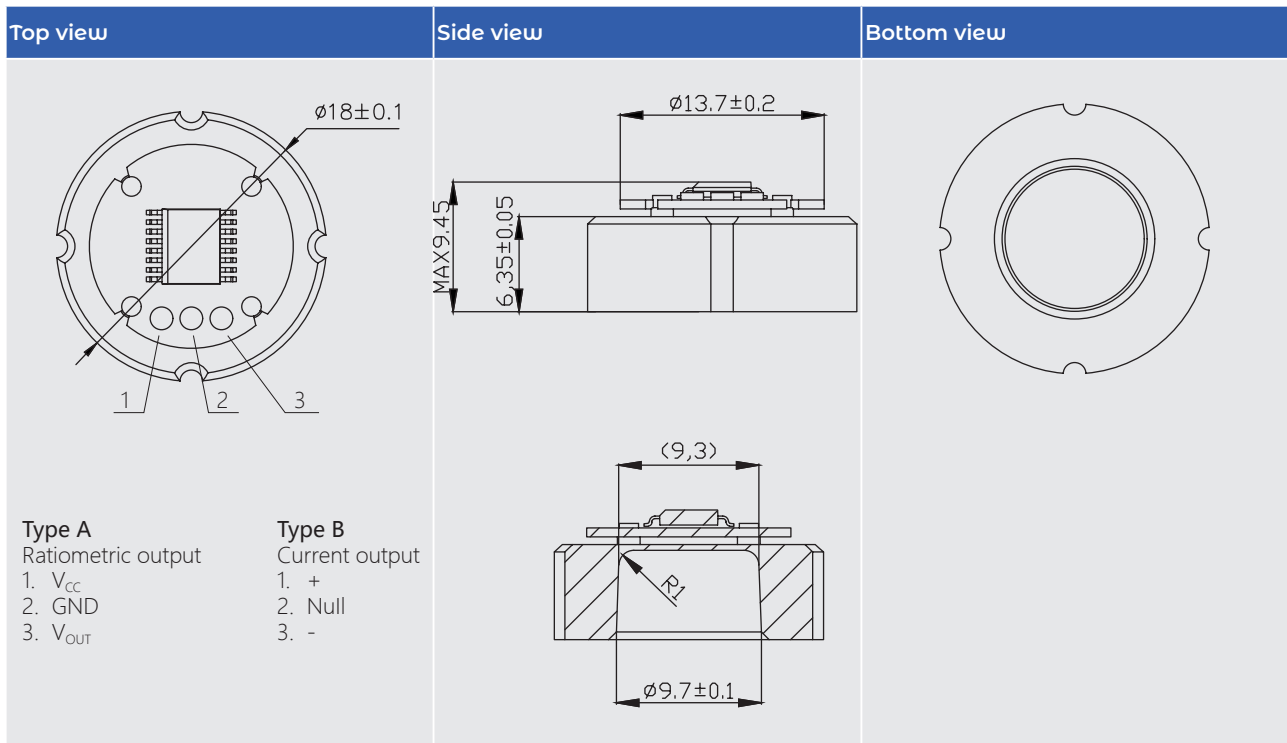
The chart illustrates the maximum deviation across the entire medium temperature range (-40...125 °C) for the PSCT series.

In the defined pressure and temperature parameters, the maximum total error remains consistently at ± 1 %FS (25 °C) or ± 1.5 %FS (-40...125 °C).



Dimensions (mm)

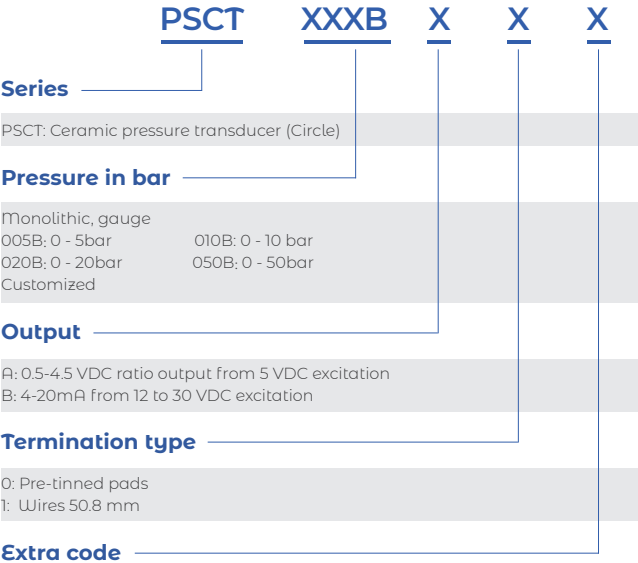
Pre-tinned pads dimensions



Electrical terminations



Name Guide Description



Notes

The content of this document is subject to revision without notice. Luksens shall have no liability for any error or damage of any kind resulting from the use of this document.

Safety and Environment



The product is to be installed by manufacturer trained personnel or competent person trained in accordance with manufacturer installation instructions.

With respect to applicable standards IEC 61010-1/ EN 61010-1 *safety requirements for electrical equipment for measurement, control and laboratory use part 1 general requirements*, the product should be used in limited energy secondary circuits.



Risk of electrical shock

Certain parts of the module can carry hazardous voltage during the operation process of the product because hazardous live voltage of primary conductor, power supply occurs, injury and/or serious damage will be caused if this warning is ignored.

Conducting parts must be inaccessible after installation of the product. Additional protection including shield or protective housing could be used according to IEC 60664 Insulation coordination for equipment within low-voltage supply systems.

Disconnection of the main supply will protect against possible injury and serious damage.



ESD protection

Damage from an ESD event will occur if the personnel is not well grounded when handling.

Important notice

Luksens reserves the right to change the specifications, including all statements and data appearing in Luksens' catalogues, data sheets and advertisements, without notice. Luksens will publish the modified specifications on its website. If such changes to specifications are made, Luksens shall have no obligation to provide the change on Products previously purchased. The information included herein is believed to be accurate and reliable. However, since additional design, measure, production, quality control take effect in the end product, therefore Luksens shall have no liability for any potential hazards, damages, injuries or less of life resulting from the end product. Luksens products are not to be used in any equipment or system, including but not limited to life support equipment or systems, where failure of Luksens products may cause bodily harm.