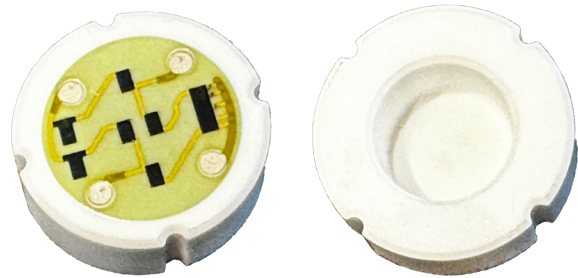


# PSC Piezoresistive ceramic Pressure sensor

The PSC series pressure sensors feature a ceramic cell using the piezoresistive principle. A Wheatstone bridge is screen-printed on one side of the ceramic diaphragm via thick film technology, while the other side directly contacts the measured medium. The  $Al_2O_3$  ceramic offers excellent chemical resistance, eliminating the need for additional protection. The monolithic design with a reinforced outer area allows O-ring mounting in housings. PSC sensors ensure reliability under temperature changes, provide precise linearity and minimal hysteresis.



## Features

- Exceptional resistance to corrosion and abrasion
- Optimized for high pressure applications
- Easy mounting
- Customizable to meet specific requirements

## Advantages

- High-pressure measurement range up to 50 bar
- Mounted directly in a plastic or metallic case by using O-ring
- The  $Al_2O_3$  ceramic ingress protection rating for chemical resistance (aggressive gases, most of solvents and acids, etc.)

## Applications

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

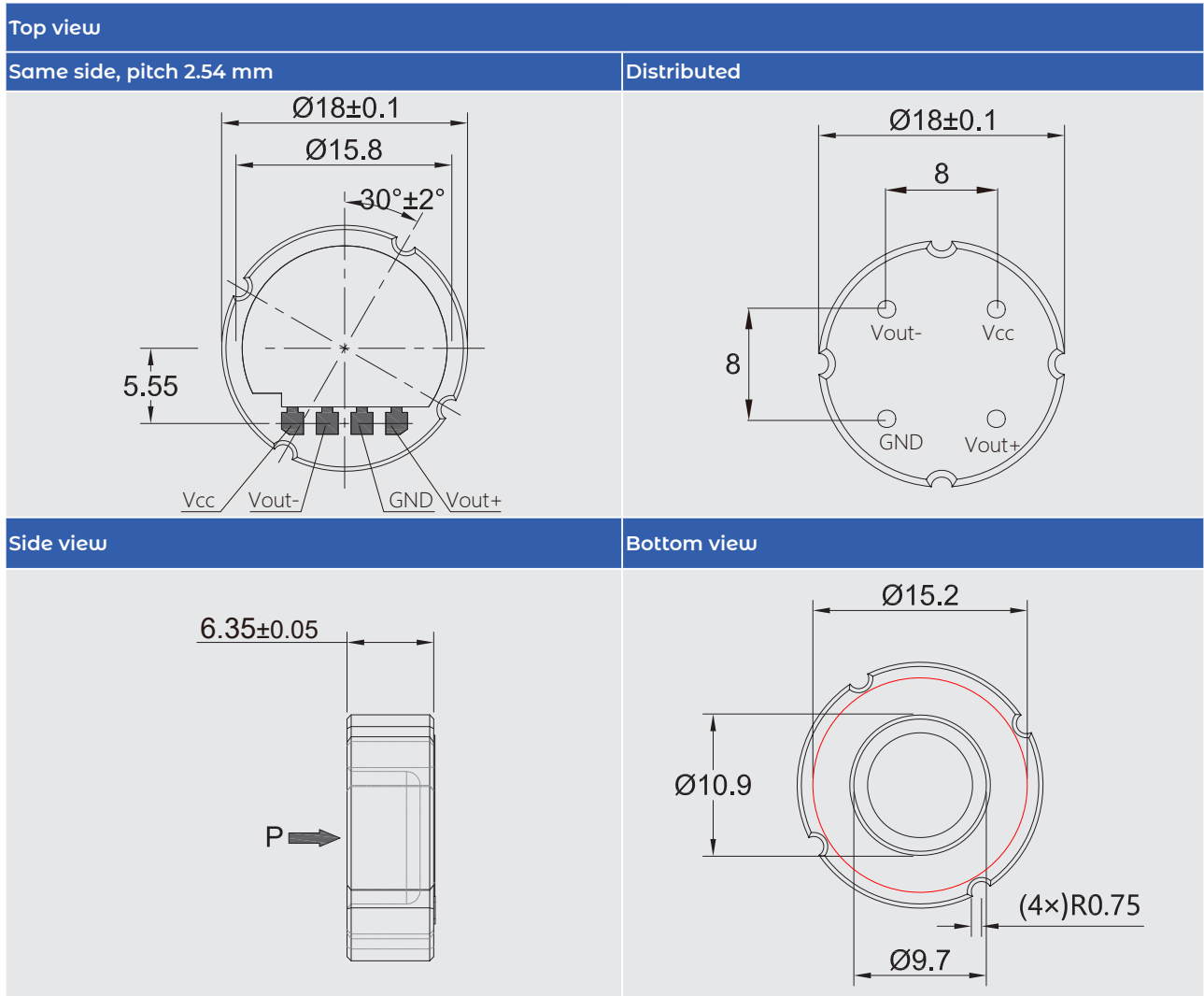
## Performance Specifications

Symbol	Charateristic	PSC005B	PSC010B	PSC020B	PSC050B	Unit
<b>P<sub>n</sub></b>	Pressure range gauge	0..5	0..10	0..20	0..50	bar
<b>P<sub>m</sub></b>	Prove pressure	0..10	0..20	0..40	0..100	bar
<b>P<sub>B</sub></b>	Burst pressure	0..20	0..35	0..60	0..140	bar
<b>D<sub>c</sub></b>	Cavity diameter	9.7	9.7	9.7	9.7	mm
<b>CV</b>	Vacuum capability	-0.9	-1	-1	-1	bar
<b>V<sub>DD</sub></b>	Supply voltage	2..10				V
<b>T<sub>a</sub></b>	Ambient operating temperature	-40..105				°C
<b>T<sub>s</sub></b>	Storage temperature range	-40..125				°C
<b>T<sub>R</sub></b>	Response time	≤1				ms
<b>V<sub>OE</sub></b>	Offset voltage of V <sub>0</sub>	≤6				mv/V
<b>G</b>	Nominal sensitivity	2.0..4.0				mv/V
<b>T<sub>cvo</sub></b>	Temperature coefficient of V <sub>0</sub> T <sub>a</sub> = -40°C ... 105°C	±0.025 max				%F.S/K
<b>E<sub>L</sub></b>	Accuracy include linearity, hysteresis and repeatability errors	≤±0.2				%F.S
<b>LC</b>	Lifecycle 0 bar to P <sub>n</sub> pressure cycles	5				Million cycles

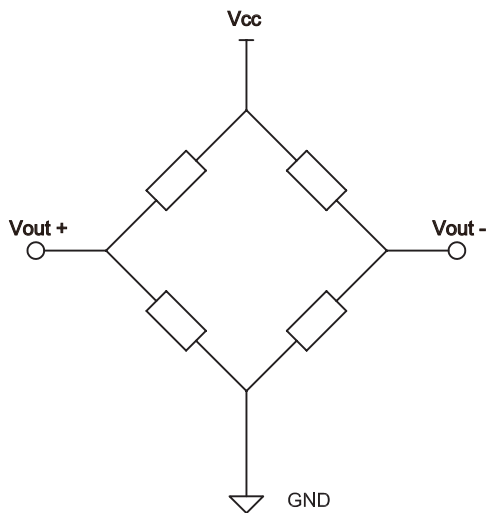
## Materials

Symbol	Parameter	Value	Unit	Comment
<b>m-s</b>	Sensor material	Ceramic Al <sub>2</sub> O <sub>3</sub> 96%		
<b>m</b>	Mass	≤5	grams	(Ceramic cell only)


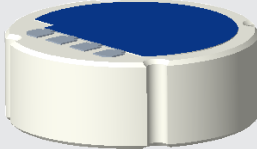
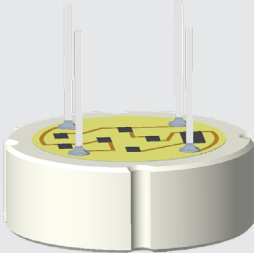
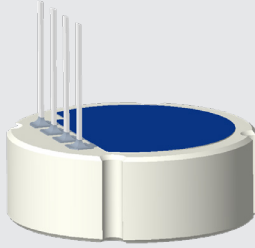
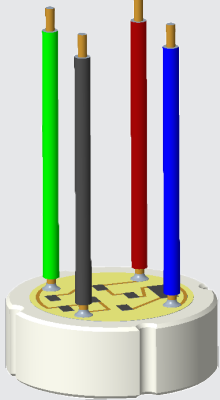
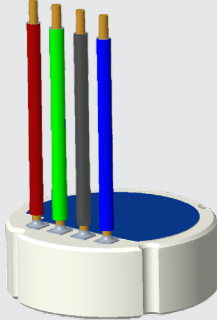
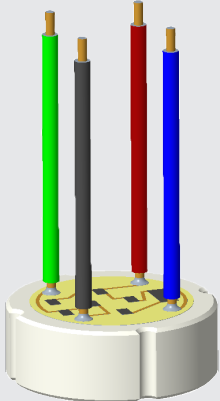
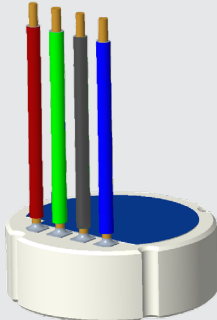
# Dimensions (mm)



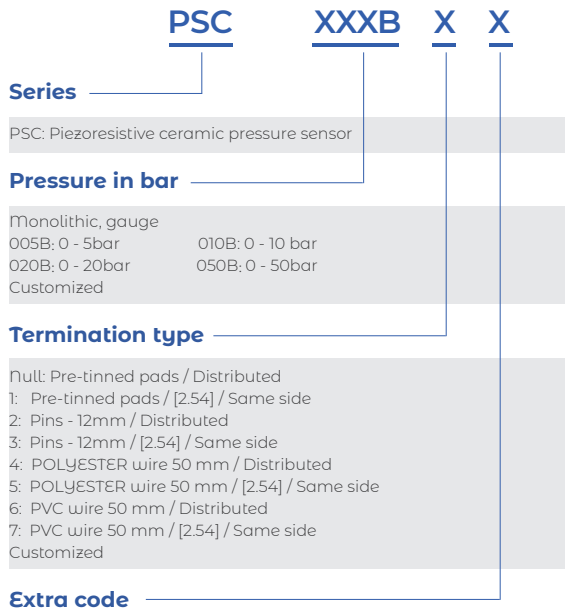
# Block diagram



## Electrical terminations

<p>Typical: Pre-tinned pads, distributed</p>	<p>Type 1: Pre-tinned pads, same side</p>
	 <p>Pitch: 2.54±0.05mm</p>
<p>Type 2: L = Pins 12mm, distributed</p>	<p>Type 3: Pins L = 12mm, same side</p>
	 <p>Pitch: 2.54±0.05mm</p>
<p>Type 4: Polyester wire, distributed</p>	<p>Type 5: Polyester wire, same side</p>
 <p> <math>V_{CC}</math>: Red  <math>V_{OUT-}</math>: Green  GND: Black  <math>V_{OUT+}</math>: Blue </p>	 <p> <math>V_{CC}</math>: Red  <math>V_{OUT-}</math>: Green  GND: Black  <math>V_{OUT+}</math>: Blue </p>
<p>Type 6: PVC wire, distributed</p>	<p>Type 7: PVC wire, same side</p>
 <p> <math>V_{CC}</math>: Red  <math>V_{OUT-}</math>: Green  GND: Black  <math>V_{OUT+}</math>: Blue </p>	 <p> <math>V_{CC}</math>: Red  <math>V_{OUT-}</math>: Green  GND: Black  <math>V_{OUT+}</math>: Blue </p>

# 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

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