



# THIN-FILM RESISTANCE ELEMENTS TYPES PRE/K

## DESCRIPTION:

A ceramic substrate supports a structured platinum layer covered with glass. The connection lead contacts are shear force resistant.

## FEATURES:

- Small dimensions available
- High electrical insulation is guaranteed by non-conductive edges and sides.
- Short response times

## APPLICATIONS:

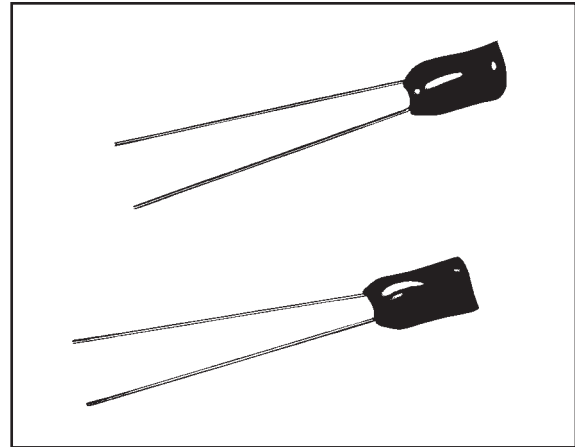
- Especially suited for surface measurement
- Installation on printed circuit boards
- Application in the auto industry, domestic appliances.
- Resistance elements selected in tolerance groups for calorimetry
- Large quantity applications

## OPTIONS:

*Special versions on request. (Please take into account longer delivery time and minimum order quantity).*

*Examples of possible variations are:*

- Narrower IEC tolerances (indicate measurement point or range)
- Temperature up to 600°C
- Metallizations of the back of the substrate
- Longer or shorter connection wires
- Connection wires in opposite direction: U shape or S shape (chip surface completely covered with fixation paste for improved wire connection)
- Silver connection leads ( $\varnothing 0.3\text{mm}$ ) which allows an easy soft solder (temp. range -70°C to +250°C)
- Extension of the connection wires with all types of cables.



## DATA:

### Nominal resistance value:

100 Ohms, 500 Ohms, 1000 Ohms at 0°C

### Tolerance Grade:

A and B according to IEC 751 and narrower tolerances in restricted temperature ranges. (-40°C to +150°C)

### Temperature range:

-70°C to +500°C

### Connection material:

Platinum coated nickel wire

### Temperature stability:

Slight hysteresis possible after temperature shocks.

### Vibration Resistance:

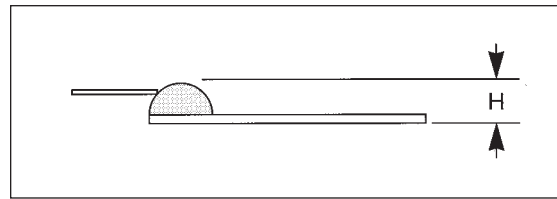
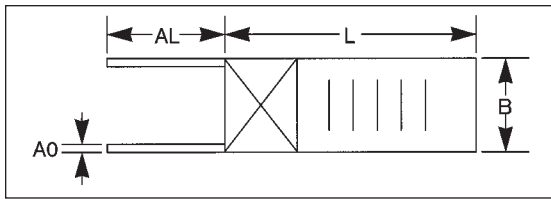
High resistance to vibration and shocks.

### Mechanical Stability:

Insensitive to uniform pressure, but sensitive to twisting and bending. Care must be taken when housing the elements; excessive stress may affect nominal resistance.

### Environmental Conditions:

Unhoused, for dry environment only.



Part Number	Nominal Resistance $\Omega$ @ 0°C	L	B	H	AL	AO	Self-Heating k/mW air stream v=1 m/s	response time in seconds			
								water current v=0.4 m/s		air stream v=1 m/s	
								t 0.5	t 0.9	t 0.5	t 0.9

### CLASS B

PT101K1003B1	100	9.5	2.9	0.9	10	0.2	0.15	0.2	0.5	5.4	17.9
PT501K1003B1	500	9.5	2.9	0.9	10	0.2	0.15	0.2	0.5	5.4	17.9
PT102K1003B1	1000	9.5	2.9	0.9	10	0.2	0.15	0.2	0.5	5.4	17.9
PT101K1002B1	100	9.5	1.9	0.9	10	0.2	0.20	0.2	0.4	4.2	12.7
PT501K1002B1	500	9.5	1.9	0.9	10	0.2	0.20	0.2	0.4	4.2	12.7
PT102K1002B1	1000	9.5	1.9	0.9	10	0.2	0.20	0.2	0.4	4.2	12.7
PT101K0403B1	100	3.9	2.9	0.9	10	0.2	0.35	0.2	0.5	4.1	13.6
PT501K0403B1	500	3.9	2.9	0.9	10	0.2	0.35	0.2	0.5	4.1	13.6
PT102K0403B1	1000	3.9	2.9	0.9	10	0.2	0.35	0.2	0.5	4.1	13.6
PT101K0402B1	100	3.9	1.9	0.9	10	0.2	0.50	0.2	0.5	3.4	10.7
PT501K0402B1	500	3.9	1.9	0.9	10	0.2	0.50	0.2	0.5	3.4	10.7

### CLASS A

PT101K1003D1	100	9.5	2.9	0.9	10	0.2	0.15	0.2	0.5	5.4	17.9
PT101K1002D1	100	9.5	1.9	0.9	10	0.2	0.20	0.2	0.4	4.2	12.7
PT101K0403D1	100	3.9	2.9	0.9	10	0.2	0.35	0.2	0.5	4.1	13.6
PT101K0402D1	100	3.9	1.9	0.9	10	0.2	0.50	0.2	0.5	3.4	10.7

### CLASS 1/3 DIN B

PT101K1003B3	100	9.5	2.9	0.9	10	0.2	0.15	0.2	0.5	5.4	17.9
PT101K1002B3	100	9.5	1.9	0.9	10	0.2	0.20	0.2	0.4	4.2	12.7
PT101K0403B3	100	3.9	2.9	0.9	10	0.2	0.35	0.2	0.5	4.1	13.6
PT101K0402B3	100	3.9	1.9	0.9	10	0.2	0.50	0.2	0.5	3.4	10.7

### CLASS B

PT101K2002B1	100	2.3	1.9	0.9	10	0.2	1	0.3	0.8	3	9
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### CLASS A

PT101K2002A1	100	2.3	1.9	0.9	10	0.2	1	0.3	0.8	3	9
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### CLASS 1/3 DIN B

PT101K2002B3	100	2.3	1.9	0.9	10	0.2	1	0.3	0.8	3	9
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Dimensional tolerances: L (length of body) and B (width) =  $\pm 0.15\text{mm}$ , H (height, includes 0.4mm substrate thickness) = maximum  $\pm 0.2\text{mm}$  /  $-0.1\text{mm}$ , AL, (connection wire length) =  $\pm 1.0\text{mm}$ , AO (connection wire diameter) =  $\pm 0.02\text{mm}$ .

The measuring point for the basic value is situated at 8 mm from the end of the sensor body.