



# 300 °C series Nickel sensor with wires For high temperatures



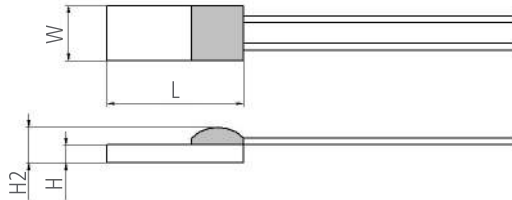
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## Benefits & Characteristics

- Very robust connections
- Easy interchangeability
- Small dimensions
- Simple linearization
- Vibration and temperature shock resistant
- Wide temperature range
- Inorganic glass passivation
- Customer specific sensor available upon request

## Illustration<sup>1)</sup>



1) For actual size, see dimensions

## Technical Data

Operating temperature range:	-60 °C to +300 °C		
Nominal resistance:*	100 Ω at 0 °C		
	500 Ω at 0 °C		
	1000 Ω at 0 °C		
Characteristics curve:*	6180 ppm/K (Nickel ND)		
	5000 ppm/K (Nickel NL)		
	6370 ppm/K (Nickel NJ)**		
	6720 ppm/K (Nickel NA)***		
Long-term stability:	< 0.1 % at 1000 h at maximal operating temperature		
Tolerance class (dependent on temperature range):*	IST AG reference	T < 0 °C	T > 0 °C
	A	0.2 + 0.014 x  t	0.2 + 0.0035 x  t
	B	0.4 + 0.028 x  t	0.4 + 0.007 x  t
	C	0.8 + 0.056 x  t	0.8 + 0.014 x  t
Connection:*	Ni-wire, Ø 0.2 mm (solderable, weldable, crimpable)		
	Pt/Ni-wire, Ø 0.2 mm (solderable, weldable, crimpable, brazeable)		
Alternative wire construction:*	Inverted welding		
Recommended applied current: <sup>1)</sup>	1 mA at 100 Ω		
	0.5 mA at 500 Ω		
	0.3 mA at 1000 Ω		
Other alternatives:*	Metalized backside		
	Substrate thickness		

<sup>1)</sup> Self-heating must be considered



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\* Customer specific alternatives available

\*\* 6370 ppm/K (Nickel NJ) 891 Ω at 0 °C only

\*\*\* 6720 ppm/K (Nickel NA) 120 Ω at 0 °C only

#### Order Information - 3W (Ni-wire, Ø 0.2 mm)

Size	Dimensions (L x W x H / H2 in mm)	Class A or class K - customer specific	Class B or class K - customer specific
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6720 ppm/K (Nickel NA)

Nominal resistance: 100 Ω at 0 °C

232	2.3 x 2 x 0.65 / 1.3	NA120.232.3W.K.007	
Order code		020.00346	
420	4 x 2 x 0.65 / 1.3	NA120.420.3W.K.007	
Order code		020.00588	

6180 ppm/K (Nickel ND)

Nominal resistance: 100 Ω at 0 °C

232	2.3 x 2 x 0.65 / 1.3	ND0K1.232.3W.A.010	ND0K1.232.3W.B.010
Order code		020.00658	020.00007
520	5 x 2 x 0.65 / 1.3	Upon request	ND1K0.520.3W.B.010
Order code			020.00186

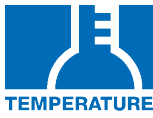
5000 ppm/K (Nickel NL)

Nominal resistance: 100 Ω at 0 °C

520	5 x 2 x 0.65 / 1.3	Upon request	NL0K1.520.3W.B.010
Order code			020.00665

Nominal resistance: 1000 Ω at 0 °C

520	5 x 2 x 0.65 / 1.3	Upon request	NL1K0.520.3W.B.010
Order code			020.00324



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#### Order Information - 3K (Pt/Ni-wire, Ø 0.2 mm)

Size	Dimensions (L x W x H / H2 in mm)	Class A or class K - customer specific	Class B or class K - customer specific
6720 ppm/K (Nickel NA)			

Nominal resistance: 100 Ω at 0 °C

232	2.3 x 2 x 0.65 / 1.3	NA120.232.3K.K.007	NA120.232.3K.K.010
Order code		020.00179	020.00355
420	4 x 2 x 0.65 / 1.3	NA120.420.3K.K.007	
Order code		020.00526	

#### Additional Documents

Application note:	Document name: ATN_E
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# Order Information

## Nickel Sensor

### Secondary reference



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#### Material

N = Nickel

S = special

#### TCR

A = ANSI 6720 ppm/K J = 6370 ppm/K

B = Balco M = 5696 ppm/K

D = DIN 6180 ppm/K C = 4280 ppm/K (GOST 8.625-2006)

L = 5000 ppm/K S = special

#### Resistance in $\Omega$ at 0 °C

#### Size in mm

#### Operating temperature range

1 = -60 °C to +150 °C

2 = -60 °C to +200 °C

3 = -60 °C to +300 °C

#### Connection

S = SIL FK = flat wire customer specific

I = insulated wire K = customer specific

W = wire E = enameled Cu wire

FW = flat wire

#### Tolerance class

A = GOST 8.625-2006 F0.15

B = GOST 8.625-2006 F0.3

C = GOST 8.625-2006 F0.6

K = customer specific

#### Wire length in mm

#### Special

T = substrate thickness 0.25 mm M = metallized backside

W = sintered powder U = inverted welding

S = special

N J 0K1. 520. 3 FW. B. 015. W



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