



# 300 °C Series

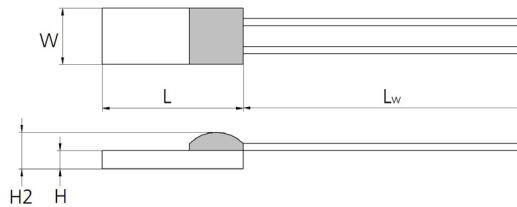
## Nickel sensor with wires

### For high temperatures

#### 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) <sup>1):</sup> *	IST AG reference	T > 0 °C
<small>1) For tolerances &lt;0°C please check application note</small>	A	0.2 + 0.0035 x  t
	B	0.4 + 0.007 x  t
	C	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>2)</sup>	1 mA at 100 Ω 0.5 mA at 500 Ω 0.3 mA at 1000 Ω	
<small>2) Self-heating must be considered</small>		



Other alternatives:*	Metallized backside
	Substrate thickness

\* 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: 120 Ω at 0 °C

232	2.3 x 2.0 x 0.65 / 1.3	NA120.232.3W.K.007	
Order code		103170	
Former order code		020.00346	
420	4.0 x 2.0 x 0.65 / 1.3	NA120.420.3W.K.007	
Order code		103216	
Former order code		020.00588	

#### 6180 ppm/K (Nickel ND)

##### Nominal resistance: 100 Ω at 0 °C

232	2.3 x 2.0 x 0.65 / 1.3	ND0K1.232.3W.A.010	ND0K1.232.3W.B.010
Order code		103253	103076
Former order code		020.00658	020.00007

#### 5000 ppm/K (Nickel NL)

##### Nominal resistance: 100 Ω at 0 °C

520	5.0 x 2.0 x 0.65 / 1.3	Upon request	NL0K1.520.3W.B.010
Order code			103256
Former order code			020.00665

##### Nominal resistance: 1000 Ω at 0 °C

520	5.0 x 2.0 x 0.65 / 1.3	Upon request	NL1K0.520.3W.B.010
Order code			103163
Former order code			020.00324
520	5.0 x 2.0 x 0.65 / 1.3	Upon request	ND1K0.520.3W.B.010
Order code			103135
Former order code			020.00186



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

6720 ppm/K (Nickel NA)

**Nominal resistance: 120 Ω at 0 °C**

232	2.3 x 2.0 x 0.65 / 1.3	NA120.232.3K.K.007	NA120.232.3K.K.010
Order code		103132	103178
Former order code		020.00179	020.00355
420	4.0 x 2.0 x 0.65 / 1.3	NA120.420.3K.K.007	
Order code		103200	
Former order code		020.00526	

Additional Documents

Application note:	Document name: ATN_E
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# Order Information

## Nickel Sensor

### Secondary reference

#### Material

N = Nickel

S = special

#### TCR

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

B = Balco M = 5696 ppm/K

D = 6180 ppm/K C = 4280 ppm/K (GOST 6651-2009)

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 (T > 0 °C)

A =  $0.2 + 0.0035 \times |t|$

B =  $0.4 + 0.007 \times |t|$

C =  $0.8 + 0.014 \times |t|$

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 A 120. 420. 3 K. B. 007



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