TEMPERATURE

FLOW

HUMIDITY

CONDUCTIVITY

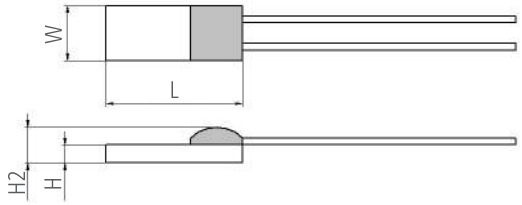
300 °C series
Nickel sensor with wires
For high temperatures

INNOVATIVE SENSOR TECHNOLOGY

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[1)]



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:[1)]	1 mA at 100 Ω		
1) Self-heating must be considered	0.5 mA at 500 Ω		
	0.3 mA at 1000 Ω		
Other alternatives:*	Metalized backside		
	Substrate thickness		

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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
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

TEMPERATURE

FLOW

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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

	Document name:
Application note:	ATN_E

TEMPERATURE

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HUMIDITY

CONDUCTIVITY

Order Information
Nickel Sensor
Secondary reference

INNOVATIVE SENSOR TECHNOLOGY

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 Ω 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

ISO 9001

RoHS

INNOVATIVE SENSOR TECHNOLOGY
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