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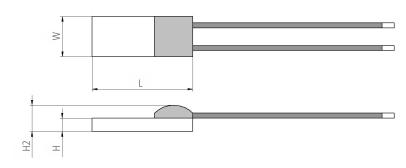
# **150 °C Series** Nickel sensor with wires For low temperatures

### Benefits & Characteristics

- Excellent long-term stability
- Insulated wires
- Easy interchangeability
- Small dimensions

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

- Simple linearization
- Vibration and temperature shock resistant
- Customer-specific sensor available upon request



1) For actual size, see dimensions

### Technical Data

Operating temperature range:	-60 °C to +150 °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 $T > 0 °C$
1) For tolerances <0°C please check application note	A 0.2 + 0.0035 x  t
	B 0.4 + 0.007 x  t
	C 0.8 + 0.014 x  t
Connection:*	Enameled Cu-wire, Ø 0.2 mm (solderable, weldable)
	Enameled Cu-wire, Ø 0.15 mm (solderable, weldable)
	Enameled Cu-wire, Ø 0.25 mm, metallized backside (solderable, weldable)
Alternative wire construction:*	Inverted welding



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Recommended applied current:2)	1 mA at 100 Ω	
2) Self-heating must be considered	0.5 mA at 500 Ω	
	0.3 mA at 1000 Ω	
Other alternatives:*	Metallized backside	
	Substrate thickness	

\* Customer-specific alternatives available

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

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

## Order Information - 1E (enameled Cu-wire, Ø 0.2 mm)

Size	Dimensions (L x W x H / H2 in mm)	Class A	Class B
6180 ppm/K (Nickel ND)			
Nominal resistance: 100 $\Omega$	2 at 0 °C		
232 Order code	2.3 x 2.0 x 0.65 / 1.3	Upon request	ND0K1.232.1E.B.025 Upon request
Nominal resistance: 1000			
232 Order code	2.3 x 2.0 x 0.65 / 1.3	Upon request	ND1K0.232.1E.B.025 Upon request
520 Order code	5.0 x 2.0 x 0.65 / 1.3	Upon request	ND1K0.520.1E.B.025 Upon request
5000 ppm/K (Nickel NL)			
Nominal resistance: 1000	Ω at 0 °C		
520	5.0 x 2.0 x 0.65 / 1.3	Upon request	NL1K0.520.1E.B.025
Order code			Upon request
Order Information -	· 1K (enameled Cu-wire, Ø 0	).15 mm)	
Size	Dimensions (L x W x H / H2 in mm)	Class A	Class B
6180 ppm/K (Nickel ND)			
Nominal resistance: 100 $\Omega$	2 at 0 °C		
232	2.3 x 2.0 x 0.65 / 1.3	Upon request	ND0K1.232.1K.B.007
Order code			Upon request

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Size  Dimensions (L x W x H 7 H2 in mu)  Class A  Class B    Nominal resistance: 100-2  3.3 x 2.0 x 0.65 / 1.3  Upon request  ND1K0.232.1K.B.007    Order code  5.0 x 2.0 x 0.65 / 1.3  Upon request  DD1K0.520.1K.B.007    Order code  5.0 x 2.0 x 0.65 / 1.3  Upon request  DD1K0.520.1K.B.007    So00 ppm/K (Nickel NL)  -  -  -  -    Nominal resistance: 100-2  -  -  -  -  -    So10 ppm/K (Nickel NL)  -  <
232  2.3 x 2.0 x 0.65 / 1.3  Upon request  ND1K0.232.1K.B.007    Order code  Upon request  Upon request    520  5.0 x 2.0 x 0.65 / 1.3  Upon request    Order code  VD1K0.520.1K.B.007  Upon request    5000 ppm/K (Nickel NL)  Vpon request  Vpon request    Nominal resistance: 1000 Ω at 0 °C  5.0 x 2.0 x 0.65 / 1.3  Upon request    520  5.0 x 2.0 x 0.65 / 1.3  Upon request    6370 ppm/K (Nickel NJ)  V  Vpon request    Nominal resistance: 891 Ω = C  Vpon request  Vpon request    S38  5.0 x 3.8 x 0.65 / 1.3  NJ891.538.1K.K.076    Order code  VJ891.538.1K.K.076  103197
232  2.3 x 2.0 x 0.65 / 1.3  Upon request  ND1K0.232.1K.B.007    Order code  Upon request  ND1K0.520.1K.B.007    520  5.0 x 2.0 x 0.65 / 1.3  Upon request    Order code  Upon request  ND1K0.520.1K.B.007    Order code  Upon request  ND1K0.520.1K.B.007    S000 ppm/K (Nickel NL)  Upon request  Upon request    Nominal resistance: 1000 Ω at 0 °C  S0 x 2.0 x 0.65 / 1.3  Upon request    S20  5.0 x 2.0 x 0.65 / 1.3  Upon request    S20  5.0 x 2.0 x 0.65 / 1.3  Upon request    S20  S.0 x 2.0 x 0.65 / 1.3  Upon request    S20  S.0 x 2.0 x 0.65 / 1.3  Upon request    S20  S.0 x 2.0 x 0.65 / 1.3  Upon request    G370 ppm/K (Nickel NJ)  Vision request  Vision request    Nominal resistance: 891 Ω at 0 °C  S  S    S38  S.0 x 3.8 x 0.65 / 1.3  NJ891.538.1K.K.076    Order code  S  NJ891.538.1K.K.076    Order code  S  NJ3197
Order code  Upon request  Upon request    520  5.0 x 2.0 x 0.65 / 1.3  Upon request    Order code  Upon request  Upon request    5000 ppm/K (Nickel NL)
520  5.0 x 2.0 x 0.65 / 1.3  Upon request  ND1K0.520.1K.B.007    Order code  Upon request  Upon request    5000 ppm/K (Nickel NL)  Soort 2.0 x 0.65 / 1.3  Upon request    Nominal resistance: 1000 Δ at 0 °C  Soort 2.0 x 0.65 / 1.3  Upon request    520  5.0 x 2.0 x 0.65 / 1.3  Upon request    6370 ppm/K (Nickel NJ)  VICKel NJ)  Upon request    6370 ppm/K (Nickel NJ)  Soort 2.0 x 0.65 / 1.3  Upon request    Nominal resistance: 891 Ω at 0 °C  Soort 2.0 x 0.65 / 1.3  Upon request    Soort 2.0 x 0.65 / 1.3  Upon request  Soort 2.0 x 0.65 / 1.3    Order code  Soort 2.0 x 0.65 / 1.3  Upon request    Soort 2.0 x 0.65 / 1.3  Upon request  Upon request    Soort 2.0 x 0.65 / 1.3  Upon request  Upon request    Soort 2.0 x 0.65 / 1.3  Upon request  Upon request    Soort 2.0 x 0.65 / 1.3  NIS91.538.1K.K.076  NIS91.538.1K.K.076    Order code  Soort 2.0 x 0.65 / 1.3  NIS91.538.1K.K.076
Order code  Upon request    5000 ppm/K (Nickel NL)
5000 ppm/K (Nickel NL)
Nominal resistance: 1000 Ω at 0 °C    520  5.0 x 2.0 x 0.65 / 1.3  Upon request    Order code  Upon request    6370 ppm/K (Nickel NJ)  V    Nominal resistance: 891 Ω + C  V    538  5.0 x 3.8 x 0.65 / 1.3  NJ891.538.1K.K.076    Order code  103197
520  5.0 x 2.0 x 0.65 / 1.3  Upon request  NL1K0.520.1K.B.007    Order code  Upon request  Upon request    6370 ppm/K (Nickel NJ)  S38 x 0.65 / 1.3  NJ891.538.1K.K.076    Nominal resistance: 891 Q *C  S10 x 3.8 x 0.65 / 1.3  NJ891.538.1K.K.076    Order code  103197
Order codeUpon request6370 ppm/K (Nickel NJ)Nominal resistance: 891 Q °C5385.0 x 3.8 x 0.65 / 1.3NJ891.538.1K.K.076Order code103197
6370 ppm/K (Nickel NJ)    Nominal resistance: 891 Ω at 0 °C    538  5.0 x 3.8 x 0.65 / 1.3    Order code  NJ891.538.1K.K.076    103197
Nominal resistance: 891 Ω at 0 °C    538  5.0 x 3.8 x 0.65 / 1.3    Order code  NJ891.538.1K.K.076    103197
Order code 103197
Former order code 020.00514
Order Information - 1K (enameled Cu-wire, Ø 0.25 mm, metallized backside)
Size Dimensions (L x W x H / H2 in mm) Class A Class B
5000 ppm/K (Nickel NL)
Nominal resistance: 1000 $\Omega$ at 0 °C
520 5.0 x 2.0 x 0.65 / 1.3 NL1K0.520.1K.B.300.M

Order code

Former order code

Application Note:

Additional Documents



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# Order Information Nickel sensors Secondary reference

	TC	R																		
			ANSI 67	720 ppr	n/K	J	=	6370	) ppm/k	<										
	В						=	5696	i ppm/k	<										
	D	1 M M					=													
	L	= 5000 ppm/K S				=	speci	al												
		Res	sistance i	in Ω at	0 °C															
			Size ir	ח mm																
				Opera	ting t	emp	eratu	ire ran	ige											
								50 °C	5											
				2 =	-60	°C t	o +2	00 °C												
				3 =	-60	°C t	:0 +3	00 °C												
					С	onne	ectio	ſ												
					S		= S				FK	=	flat w	ire cust	omer-s	spe	ecifio	2		
					Ι		= ir	nsulate	ed wire		К			mer-spe						
					V	V	= v	vire			Е			eled Cu						
					F١	W	= fl	at wire	e											
							Tole	erance	class (	T > 0	°C)									
							А	= 0	.2 + 0.	0035	5 x  t									
							В	= 0	.4 + 0.	007 >	x [t]									
							С	= 0	.8 + 0.	014 >	x  t									
							К	= C	ustome	er-spe	ecific									
								Wir	e lengt	h in r	mm									
									Specia	al										
											ostrat	e th	ickness	s 0.25 m	nm N	Л	=	metalli	zed ba	cksid
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Innovative Sensor Technology IST AG, Stegrütistrasse 14, 9642 Ebnat-Kappel, Switzerland Phone: +41 71 992 01 00 | Fax: +41 71 992 01 99 | Email: info@ist-ag.com | www.ist-ag.com

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