

Table with deviations for class F 0.6 / F 0.3 / F 0.15 / F 0.1

according to DIN EN 60751

Calculation basis:		Notes on the table $R_0 = 1000 \Omega$
$t \geq 0$	$R(t) = R_0 \cdot (1 + At + Bt^2)$	X.XX This range applies to sensors of type C220, C420 and C416 (cryo) (X.XX) Only theoretical values (not covered by DIN EN 60751)
$t < 0$	$R(t) = R_0 \cdot (1 + At + Bt^2 + C(t - 100^\circ\text{C})t^3)$	
with constants:	with constants:	
$A = 3.9083 \cdot 10^{-3} \text{ } ^\circ\text{C}^{-1}$ $B = -5.775 \cdot 10^{-7} \text{ } ^\circ\text{C}^{-2}$	$A = 3.9083 \cdot 10^{-3} \text{ } ^\circ\text{C}^{-1}$ $B = -5.775 \cdot 10^{-7} \text{ } ^\circ\text{C}^{-2}$ $C = -4.183 \cdot 10^{-12} \text{ } ^\circ\text{C}^{-4}$	

Class	Validity range [°C]	Tolerance value [°C]
F 0.1 (1/3B)	0 to +150	$\Delta t = \pm(0.1 + 0.0017 \cdot t)$
F 0.15 (A)	-50 to +300	$\Delta t = \pm(0.15 + 0.002 \cdot t)$
F 0.3 (B)	-70 to +550	$\Delta t = \pm(0.3 + 0.005 \cdot t)$
F 0.6 (2B)	-70 to +600	$\Delta t = \pm(0.6 + 0.01 \cdot t)$

Nominal value $R_0 = 1000 \Omega$

$R_0 = 1000 \Omega$		F 0.6 (2B)		F 0.3 (B)		F 0.15 (A)		F 0.1 (1/3B)	
Temp.	Nominal Resistance	Resistance deviation	Temperature deviation	Resistance deviation	Temperature deviation	Resistance deviation	Temperature deviation	Resistance deviation	Temperature deviation
T [°C]	R [Ω]	[±Ω]	[±K]	[±Ω]	[±K]	[±Ω]	[±K]	[±Ω]	[±K]
-200	185.20	11.23	2.60	5.62	1.30	(2.38)	(0.55)	(1.90)	(0.44)
-190	228.25	10.71	2.50	5.36	1.25	(2.27)	(0.53)	(1.81)	(0.42)
-180	270.96	10.20	2.40	5.10	1.20	(2.17)	(0.51)	(1.73)	(0.41)
-170	313.35	9.71	2.30	4.85	1.15	(2.07)	(0.49)	(1.64)	(0.39)
-160	355.43	9.22	2.20	4.61	1.10	(1.97)	(0.47)	(1.56)	(0.37)
-150	397.23	8.74	2.10	4.37	1.05	(1.87)	(0.45)	(1.48)	(0.36)
-140	438.76	8.28	2.00	4.14	1.00	(1.78)	(0.43)	(1.40)	(0.34)
-130	480.05	7.82	1.90	3.91	0.95	(1.69)	(0.41)	(1.32)	(0.32)
-120	521.10	7.37	1.80	3.68	0.90	(1.60)	(0.39)	(1.24)	(0.30)
-110	561.93	6.92	1.70	3.46	0.85	(1.51)	(0.37)	(1.17)	(0.29)
-100	602.56	6.48	1.60	3.24	0.80	(1.42)	(0.35)	(1.09)	(0.27)
-90	643.00	6.05	1.50	3.03	0.75	(1.33)	(0.33)	(1.02)	(0.25)
-80	683.25	5.62	1.40	2.81	0.70	(1.25)	(0.31)	(0.95)	(0.24)
-70	723.35	5.20	1.30	2.60	0.65	(1.16)	(0.29)	(0.88)	(0.22)
-60	763.28	4.78	1.20	2.39	0.60	(1.08)	(0.27)	(0.81)	(0.20)
-50	803.06	4.37	1.10	2.18	0.55	0.99	0.25	(0.73)	(0.19)
-40	842.71	3.96	1.00	1.98	0.50	0.91	0.23	(0.66)	(0.17)
-30	882.22	3.55	0.90	1.77	0.45	0.83	0.21	(0.60)	(0.15)
-20	921.60	3.15	0.80	1.57	0.40	0.75	0.19	(0.53)	(0.13)
-10	960.86	2.74	0.70	1.37	0.35	0.67	0.17	(0.46)	(0.12)
0	1000.00	2.34	0.60	1.17	0.30	0.59	0.15	0.39	0.10
10	1039.03	2.73	0.70	1.36	0.35	0.66	0.17	0.46	0.12
20	1077.94	3.11	0.80	1.55	0.40	0.74	0.19	0.52	0.13
30	1116.73	3.49	0.90	1.74	0.45	0.81	0.21	0.58	0.15
40	1155.41	3.86	1.00	1.93	0.50	0.89	0.23	0.65	0.17
50	1193.97	4.23	1.10	2.12	0.55	0.96	0.25	0.71	0.19
60	1232.42	4.61	1.20	2.30	0.60	1.04	0.27	0.78	0.20
70	1270.75	4.97	1.30	2.49	0.65	1.11	0.29	0.84	0.22
80	1308.97	5.34	1.40	2.67	0.70	1.18	0.31	0.90	0.24
90	1347.07	5.71	1.50	2.85	0.75	1.26	0.33	0.96	0.25

The mentioned table values were calculated to the polynomial of DIN EN 60751 with microsoft excel.

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Nominal value R ₀ = 1000 Ω									
R ₀ = 1000 Ω		F 0.6 (2B)		F 0.3 (B)		F 0.15 (A)		F 0.1 (1/3B)	
Temp.	Nominal Resistance	Resistance deviation	Temperature deviation	Resistance deviation	Temperature deviation	Resistance deviation	Temperature deviation	Resistance deviation	Temperature deviation
T [°C]	R [Ω]	[±Ω]	[±K]	[±Ω]	[±K]	[±Ω]	[±K]	[±Ω]	[±K]
100	1385.06	6.07	1.60	3.03	0.80	1.33	0.35	1.02	0.27
110	1422.93	6.43	1.70	3.21	0.85	1.40	0.37	1.09	0.29
120	1460.68	6.78	1.80	3.39	0.90	1.47	0.39	1.15	0.30
130	1498.32	7.14	1.90	3.57	0.95	1.54	0.41	1.21	0.32
140	1535.84	7.49	2.00	3.75	1.00	1.61	0.43	1.27	0.34
150	1573.25	7.84	2.10	3.92	1.05	1.68	0.45	1.33	0.36
160	1610.54	8.19	2.20	4.10	1.10	1.75	0.47	(1.39)	(0.37)
170	1647.72	8.53	2.30	4.27	1.15	1.82	0.49	(1.44)	(0.39)
180	1684.78	8.88	2.40	4.44	1.20	1.89	0.51	(1.50)	(0.41)
190	1721.73	9.22	2.50	4.61	1.25	1.95	0.53	(1.56)	(0.42)
200	1758.56	9.56	2.60	4.78	1.30	2.02	0.55	(1.62)	(0.44)
210	1795.28	9.89	2.70	4.95	1.35	2.09	0.57	(1.68)	(0.46)
220	1831.88	10.23	2.80	5.11	1.40	2.16	0.59	(1.73)	(0.47)
230	1868.36	10.56	2.90	5.28	1.45	2.22	0.61	(1.79)	(0.49)
240	1904.73	10.89	3.00	5.45	1.50	2.29	0.63	(1.84)	(0.51)
250	1940.98	11.22	3.10	5.61	1.55	2.35	0.65	(1.90)	(0.53)
260	1977.12	11.54	3.20	5.77	1.60	2.42	0.67	(1.96)	(0.54)
270	2013.14	11.86	3.30	5.93	1.65	2.48	0.69	(2.01)	(0.56)
280	2049.05	12.18	3.40	6.09	1.70	2.54	0.71	(2.06)	(0.58)
290	2084.84	12.50	3.50	6.25	1.75	2.61	0.73	(2.12)	(0.59)
300	2120.52	12.81	3.60	6.41	1.80	2.67	0.75	(2.17)	(0.61)
310	2156.08	13.13	3.70	6.57	1.85	(2.73)	(0.77)	(2.23)	(0.63)
320	2191.52	13.44	3.80	6.72	1.90	(2.80)	(0.79)	(2.28)	(0.64)
330	2226.85	13.75	3.90	6.88	1.95	(2.86)	(0.81)	(2.33)	(0.66)
340	2262.06	14.05	4.00	7.03	2.00	(2.92)	(0.83)	(2.38)	(0.68)
350	2297.16	14.36	4.10	7.18	2.05	(2.98)	(0.85)	(2.44)	(0.70)
360	2332.14	14.66	4.20	7.33	2.10	(3.04)	(0.87)	(2.49)	(0.71)
370	2367.01	14.96	4.30	7.48	2.15	(3.10)	(0.89)	(2.54)	(0.73)
380	2401.76	15.25	4.40	7.63	2.20	(3.16)	(0.91)	(2.59)	(0.75)
390	2436.40	15.55	4.50	7.78	2.25	(3.22)	(0.93)	(2.64)	(0.76)
400	2470.92	15.84	4.60	7.92	2.30	(3.27)	(0.95)	(2.69)	(0.78)
410	2505.33	16.13	4.70	8.07	2.35	(3.33)	(0.97)	(2.74)	(0.80)
420	2539.62	16.42	4.80	8.21	2.40	(3.39)	(0.99)	(2.79)	(0.81)
430	2573.79	16.70	4.90	8.36	2.45	(3.45)	(1.01)	(2.83)	(0.83)
440	2607.85	16.99	5.00	8.50	2.50	(3.50)	(1.03)	(2.88)	(0.85)
450	2641.79	17.27	5.10	8.64	2.55	(3.56)	(1.05)	(2.93)	(0.87)
460	2675.62	17.54	5.20	8.78	2.60	(3.61)	(1.07)	(2.98)	(0.88)
470	2709.33	17.82	5.30	8.91	2.65	(3.67)	(1.09)	(3.03)	(0.90)
480	2742.93	18.09	5.40	9.05	2.70	(3.72)	(1.11)	(3.07)	(0.92)
490	2776.41	18.37	5.50	9.19	2.75	(3.78)	(1.13)	(3.12)	(0.93)
500	2809.78	18.63	5.60	9.32	2.80	(3.83)	(1.15)	(3.16)	(0.95)
510	2843.03	18.90	5.70	9.46	2.85	(3.88)	(1.17)	(3.21)	(0.97)
520	2876.16	19.17	5.80	9.59	2.90	(3.94)	(1.19)	(3.25)	(0.98)
530	2909.18	19.43	5.90	9.72	2.95	(3.99)	(1.21)	(3.30)	(1.00)
540	2942.08	19.69	6.00	9.85	3.00	(4.04)	(1.23)	(3.34)	(1.02)
550	2974.87	19.94	6.10	9.98	3.05	(4.09)	(1.25)	(3.39)	(1.04)
560	3007.54	20.20	6.20	(10.11)	(3.10)	(4.14)	(1.27)	(3.43)	(1.05)
570	3040.10	20.45	6.30	(10.23)	(3.15)	(4.19)	(1.29)	(3.47)	(1.07)
580	3072.54	20.70	6.40	(10.36)	(3.20)	(4.24)	(1.31)	(3.52)	(1.09)
590	3104.87	20.95	6.50	(10.48)	(3.25)	(4.29)	(1.33)	(3.56)	(1.10)
600	3137.08	21.20	6.60	(10.60)	(3.30)	(4.34)	(1.35)	(3.60)	(1.12)

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