

Resistance values for platinum temperature sensors

according to DIN EN 60751

Calculation basis:	
$t \geq 0$	$t < 0$
$R_t = R_0 \cdot (1 + At + Bt^2)$	$R_t = R_0 \cdot [1 + At + Bt^2 + C(t - 100^\circ\text{C})t^3]$
with constants:	with constants:
$A = 3.9083 \cdot 10^{-3} \text{ }^\circ\text{C}^{-1}$	$A = 3.9083 \cdot 10^{-3} \text{ }^\circ\text{C}^{-1}$
$B = -5.775 \cdot 10^{-7} \text{ }^\circ\text{C}^{-2}$	$B = -5.775 \cdot 10^{-7} \text{ }^\circ\text{C}^{-2}$
	$C = -4.183 \cdot 10^{-12} \text{ }^\circ\text{C}^{-4}$

Nominal value $R_0 = 200 \text{ } \Omega$ below $0 \text{ }^\circ\text{C}$

Temp.	Resistance R [Ω] at temperature t [$^\circ\text{C}$]										
t [$^\circ\text{C}$]	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	
-200	37.04										
-190	45.65	44.79	43.93	43.08	42.22	41.35	40.49	39.63	38.77	37.90	
-180	54.19	53.34	52.49	51.64	50.78	49.93	49.08	48.22	47.36	46.51	
-170	62.67	61.83	60.98	60.13	59.29	58.44	57.59	56.74	55.89	55.04	
-160	71.09	70.25	69.41	68.57	67.73	66.89	66.04	65.20	64.36	63.51	
-150	79.45	78.61	77.78	76.94	76.11	75.27	74.44	73.60	72.76	71.93	
-140	87.75	86.92	86.10	85.27	84.44	83.61	82.78	81.94	81.11	80.28	
-130	96.01	95.19	94.36	93.54	92.71	91.89	91.06	90.23	89.41	88.58	
-120	104.22	103.40	102.58	101.76	100.94	100.12	99.30	98.48	97.66	96.83	
-110	112.39	111.57	110.76	109.94	109.12	108.31	107.49	106.67	105.86	105.04	
-100	120.51	119.70	118.89	118.08	117.27	116.45	115.64	114.83	114.01	113.20	
-90	128.60	127.79	126.98	126.18	125.37	124.56	123.75	122.94	122.13	121.32	
-80	136.65	135.85	135.04	134.24	133.43	132.63	131.82	131.02	130.21	129.41	
-70	144.67	143.87	143.07	142.27	141.47	140.66	139.86	139.06	138.26	137.45	
-60	152.66	151.86	151.06	150.26	149.46	148.67	147.87	147.07	146.27	145.47	
-50	160.61	159.82	159.02	158.23	157.43	156.64	155.84	155.05	154.25	153.45	
-40	168.54	167.75	166.96	166.17	165.37	164.58	163.79	162.99	162.20	161.41	
-30	176.44	175.65	174.86	174.08	173.29	172.50	171.71	170.91	170.12	169.33	
-20	184.32	183.53	182.75	181.96	181.17	180.38	179.60	178.81	178.02	177.23	
-10	192.17	191.39	190.60	189.82	189.03	188.25	187.46	186.68	185.89	185.11	
0	200.00	199.22	198.44	197.65	196.87	196.09	195.31	194.52	193.74	192.96	

Nominal value $R_0 = 200 \text{ } \Omega$ above $0 \text{ }^\circ\text{C}$

Temp.	Resistance R [Ω] at temperature t [$^\circ\text{C}$]										
t [$^\circ\text{C}$]	0	1	2	3	4	5	6	7	8	9	
0	200.00	200.78	201.56	202.34	203.12	203.91	204.69	205.47	206.25	207.03	
10	207.81	208.58	209.36	210.14	210.92	211.70	212.48	213.25	214.03	214.81	
20	215.59	216.36	217.14	217.92	218.69	219.47	220.25	221.02	221.80	222.57	
30	223.35	224.12	224.89	225.67	226.44	227.22	227.99	228.76	229.54	230.31	
40	231.08	231.85	232.63	233.40	234.17	234.94	235.71	236.48	237.25	238.02	
50	238.79	239.56	240.33	241.10	241.87	242.64	243.41	244.18	244.95	245.72	
60	246.48	247.25	248.02	248.79	249.55	250.32	251.09	251.85	252.62	253.38	
70	254.15	254.92	255.68	256.45	257.21	257.97	258.74	259.50	260.27	261.03	
80	261.79	262.56	263.32	264.08	264.84	265.61	266.37	267.13	267.89	268.65	
90	269.41	270.17	270.94	271.70	272.46	273.22	273.97	274.73	275.49	276.25	
100	277.01	277.77	278.53	279.29	280.04	280.80	281.56	282.32	283.07	283.83	
110	284.59	285.34	286.10	286.85	287.61	288.36	289.12	289.87	290.63	291.38	
120	292.14	292.89	293.64	294.40	295.15	295.90	296.66	297.41	298.16	298.91	
130	299.66	300.42	301.17	301.92	302.67	303.42	304.17	304.92	305.67	306.42	

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

The accuracy of the information is not guaranteed by YAGEO Nexensos GmbH.

Nominal value $R_0 = 200 \Omega$ above 0°C

Temp. t [°C]	Resistance R [Ω] at temperature t [°C]									
	0	1	2	3	4	5	6	7	8	9
140	307.17	307.92	308.67	309.42	310.16	310.91	311.66	312.41	313.16	313.90
150	314.65	315.40	316.14	316.89	317.64	318.38	319.13	319.87	320.62	321.36
160	322.11	322.85	323.60	324.34	325.09	325.83	326.57	327.32	328.06	328.80
170	329.54	330.29	331.03	331.77	332.51	333.25	333.99	334.74	335.48	336.22
180	336.96	337.70	338.44	339.18	339.92	340.65	341.39	342.13	342.87	343.61
190	344.35	345.08	345.82	346.56	347.30	348.03	348.77	349.50	350.24	350.98
200	351.71	352.45	353.18	353.92	354.65	355.39	356.12	356.85	357.59	358.32
210	359.06	359.79	360.52	361.25	361.99	362.72	363.45	364.18	364.91	365.64
220	366.38	367.11	367.84	368.57	369.30	370.03	370.76	371.49	372.21	372.94
230	373.67	374.40	375.13	375.86	376.58	377.31	378.04	378.77	379.49	380.22
240	380.95	381.67	382.40	383.12	383.85	384.57	385.30	386.02	386.75	387.47
250	388.20	388.92	389.64	390.37	391.09	391.81	392.54	393.26	393.98	394.70
260	395.42	396.15	396.87	397.59	398.31	399.03	399.75	400.47	401.19	401.91
270	402.63	403.35	404.07	404.79	405.50	406.22	406.94	407.66	408.38	409.09
280	409.81	410.53	411.24	411.96	412.68	413.39	414.11	414.82	415.54	416.25
290	416.97	417.68	418.40	419.11	419.82	420.54	421.25	421.96	422.68	423.39
300	424.10	424.82	425.53	426.24	426.95	427.66	428.37	429.08	429.79	430.50
310	431.22	431.92	432.63	433.34	434.05	434.76	435.47	436.18	436.89	437.60
320	438.30	439.01	439.72	440.43	441.13	441.84	442.55	443.25	443.96	444.66
330	445.37	446.08	446.78	447.49	448.19	448.89	449.60	450.30	451.01	451.71
340	452.41	453.12	453.82	454.52	455.22	455.93	456.63	457.33	458.03	458.73
350	459.43	460.13	460.83	461.53	462.23	462.93	463.63	464.33	465.03	465.73
360	466.43	467.13	467.83	468.52	469.22	469.92	470.62	471.31	472.01	472.71
370	473.40	474.10	474.79	475.49	476.19	476.88	477.58	478.27	478.96	479.66
380	480.35	481.05	481.74	482.43	483.13	483.82	484.51	485.20	485.90	486.59
390	487.28	487.97	488.66	489.35	490.04	490.73	491.43	492.12	492.81	493.49
400	494.18	494.87	495.56	496.25	496.94	497.63	498.32	499.00	499.69	500.38
410	501.07	501.75	502.44	503.12	503.81	504.50	505.18	505.87	506.55	507.24
420	507.92	508.61	509.29	509.98	510.66	511.34	512.03	512.71	513.39	514.08
430	514.76	515.44	516.12	516.80	517.49	518.17	518.85	519.53	520.21	520.89
440	521.57	522.25	522.93	523.61	524.29	524.97	525.65	526.32	527.00	527.68
450	528.36	529.04	529.71	530.39	531.07	531.74	532.42	533.10	533.77	534.45
460	535.12	535.80	536.47	537.15	537.82	538.50	539.17	539.85	540.52	541.19
470	541.87	542.54	543.21	543.88	544.56	545.23	545.90	546.57	547.24	547.91
480	548.59	549.26	549.93	550.60	551.27	551.94	552.61	553.28	553.94	554.61
490	555.28	555.95	556.62	557.29	557.95	558.62	559.29	559.96	560.62	561.29
500	561.96	562.62	563.29	563.95	564.62	565.28	565.95	566.61	567.28	567.94
510	568.61	569.27	569.93	570.60	571.26	571.92	572.58	573.25	573.91	574.57
520	575.23	575.89	576.55	577.22	577.88	578.54	579.20	579.86	580.52	581.18
530	581.84	582.49	583.15	583.81	584.47	585.13	585.79	586.44	587.10	587.76
540	588.42	589.07	589.73	590.39	591.04	591.70	592.35	593.01	593.66	594.32
550	594.97	595.63	596.28	596.94	597.59	598.24	598.90	599.55	600.20	600.86
560	601.51	602.16	602.81	603.46	604.12	604.77	605.42	606.07	606.72	607.37
570	608.02	608.67	609.32	609.97	610.62	611.27	611.92	612.56	613.21	613.86
580	614.51	615.16	615.80	616.45	617.10	617.74	618.39	619.04	619.68	620.33
590	620.97	621.62	622.26	622.91	623.55	624.20	624.84	625.49	626.13	626.77
600	627.42	628.06	628.70	629.34	629.99	630.63	631.27	631.91	632.55	633.19
610	633.84	634.48	635.12	635.76	636.40	637.04	637.68	638.31	638.95	639.59
620	640.23	640.87	641.51	642.15	642.78	643.42	644.06	644.69	645.33	645.97
630	646.60	647.24	647.88	648.51	649.15	649.78	650.42	651.05	651.69	652.32
640	652.95	653.59	654.22	654.85	655.49	656.12	656.75	657.38	658.02	658.65
650	659.28	659.91	660.54	661.17	661.80	662.43	663.07	663.70	664.32	664.95
660	665.58	666.21	666.84	667.47	668.10	668.73	669.35	669.98	670.61	671.24
670	671.86	672.49	673.12	673.74	674.37	675.00	675.62	676.25	676.87	677.50
680	678.12	678.75	679.37	679.99	680.62	681.24	681.86	682.49	683.11	683.73
690	684.36	684.98	685.60	686.22	686.84	687.46	688.09	688.71	689.33	689.95
700	690.57	691.19	691.81	692.43	693.04	693.66	694.28	694.90	695.52	696.14

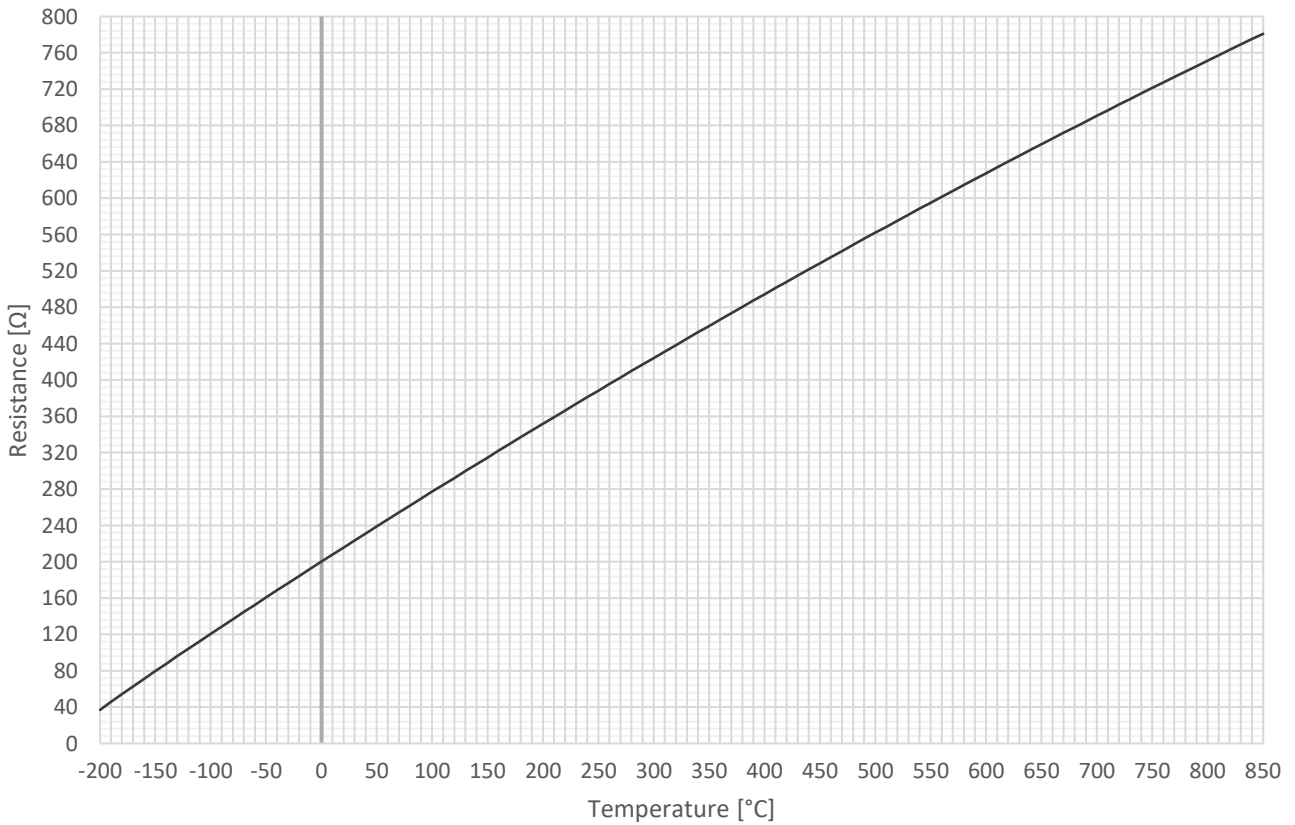
The mentioned table values were calculated to the polynomial of DIN EN 60751 with microsoft excel.

The accuracy of the information is not guaranteed by YAGEO Nexensos GmbH.

Nominal value $R_0 = 200 \Omega$ above 0°C

Temp.	Resistance R [Ω] at temperature t [$^\circ\text{C}$]									
t [$^\circ\text{C}$]	0	1	2	3	4	5	6	7	8	9
710	696.76	697.37	697.99	698.61	699.22	699.84	700.46	701.07	701.69	702.30
720	702.92	703.54	704.15	704.76	705.38	705.99	706.61	707.22	707.84	708.45
730	709.06	709.67	710.29	710.90	711.51	712.12	712.74	713.35	713.96	714.57
740	715.18	715.79	716.40	717.01	717.62	718.23	718.84	719.45	720.06	720.67
750	721.28	721.88	722.49	723.10	723.71	724.32	724.92	725.53	726.14	726.74
760	727.35	727.95	728.56	729.17	729.77	730.38	730.98	731.59	732.19	732.79
770	733.40	734.00	734.61	735.21	735.81	736.41	737.02	737.62	738.22	738.82
780	739.42	740.03	740.63	741.23	741.83	742.43	743.03	743.63	744.23	744.83
790	745.43	746.03	746.63	747.22	747.82	748.42	749.02	749.62	750.21	750.81
800	751.41	752.00	752.60	753.20	753.79	754.39	754.99	755.58	756.18	756.77
810	757.37	757.96	758.55	759.15	759.74	760.33	760.93	761.52	762.11	762.71
820	763.30	763.89	764.48	765.07	765.67	766.26	766.85	767.44	768.03	768.62
830	769.21	769.80	770.39	770.98	771.57	772.16	772.75	773.33	773.92	774.51
840	775.10	775.69	776.27	776.86	777.45	778.03	778.62	779.21	779.79	780.38
850	780.96									

Characteristic Curve Pt200



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

The accuracy of the information is not guaranteed by YAGEO Nexensos GmbH.