Basic Value Series Pt 100
according to DIN EN 60751

Resistance and tolerance Pt 100					
measuring temperature °C	basic value	tolerance class A		tolerance class B	
			°C		°C
-200	18.520	0.238	0.55	0.562	1.30
-100	60.256	0.142	0.35	0.324	0.80
0	100.000	0.059	0.15	0.117	0.30
100	138.505	0.133	0.35	0.303	0.80
200	175.856	0.202	0.55	0.478	1.30
300	212.051	0.267	0.75	0.641	1.80
400	247.092	0.327	0.95	0.793	2.30
500	280.977	0.383	1.15	0.933	2.80
600	313.708	0.434	1.35	1.061	3.30
650	329.640	0.458	1.45	1.121	3.55
700	345.283	-	-	1.178	3.80
800	375.704	-	-	1.283	4.30
850	390.481	-	-	1.332	4.55

Equation for basic values

The following equations are used to calculate the basic values of Pt 100 according to DIN EN 60751:

For Pt 100 in temperature ranges from 0 to 850 °C:

$$R_t = R_0 (1 + At + Bt^2)$$

For Pt 100 in temperature ranges from -200 to 0 °C:

$$R_t = R_0 [1 + At + Bt^2 + C (t - 100\ °C)\ t^3]$$

In the equation:
R_0 is the resistance in at 0 °C
R_t is the resistance in at temperature t
t is the temperature in °C

Constants (according to DIN EN 60751):
$A = 3.9083 \times 10^{-3}\ °C^{-1}$
$B = -5.775 \times 10^{-7}\ °C^{-2}$
$C = -4.183 \times 10^{-12}\ °C^{-4}$

The tolerances for resistors Pt 100 are defined by the following equations:
Class A: tolerance in °C = (0.15 + 0.002 x [t])
Class B: tolerance in °C = (0.3 + 0.005 x [t])

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