BASIC VALUES OF RTDs

■ **Accuracy classes acc. to DIN EN 60751:2009-5**

class	validity range °C		limit deviation[a] °C
	leaded resistor	film resistor	
AA	-50 up to +250	0 up to +150	± (0,1 + 0,0017 [t])
A	-100 up to +450	-30 up to +300	± (0,15 + 0,002 [t])
B	-196 up to +600	-50 up to +500	± (0,3 + 0,005 [t])
C	-196 up to +600	-50 up to +600	± (0,6 + 0,01 [t])
[a] [t] = Value of temperature in °C without considering the sign.			

For resistance thermometers that belong to the above context, the temperature coefficient a is defined as:

$$\alpha = \frac{R_{100} - R_0}{100 \times R_0} = \text{and has the numerical value } 0{,}003851/°C$$

with: R_{100} is the resistance at 100°C and R_0 is the resistance at 0°C.

■ **Limit deviations for PT 100 thermometers**

abbreviation of RTD Pt 100 DIN EN 60751				
RTD material platinum				
application range -200 up to + 850 °C (class B)				
ITS 90 resistance and permitted deviation				
measuring temperature °C	basic value Ω	allowed deviation		
		class A		class B
		Ω	°C	Ω	°C
-200	18,52	±0,24	±0,55	±0,56	±1,30
-100	60,26	±0,14	±0,35	±0,32	±0,80
0	100,00	±0,06	±0,15	±0,12	±0,30
100	138,51	±0,13	±0,35	±0,30	±0,80
200	175,86	±0,20	±0,55	±0,48	±1,30
300	212,05	±0,27	±0,75	±0,64	±1,80
400	247,09	±0,33	±0,95	±0,79	±2,30
500	280,98	±0,38	±1,15	±0,93	±2,80
600	313,71	±0,43	±1,35	±1,06	±3,30
650	329,64	±0,46	±1,45	±1,13	±3,60
700	345,28	-	-	±1,17	±3,80
800	375,70	-	-	±1,28	±4,30
850	390,48	-	-	±1,34	±4,60
for the term "basic values" see DIN 16160 part 5.				

Resistance thermometers with different accuracy classes and validity ranges as for example acc. to DIN EN 60751: 2009-5 (class AA) are available on request.