A, B, C Coefficients for Steinhart-Hart Equation

The table of A, B, and C coefficients listed below were derived from the following Steinhart-Hart equation explicit in T:

$$1/T = A + B(\ln R_T) + C(\ln R_T)^3$$

where

R_T = the resistance value in ohms at Kelvin temperature T.

The resistance ratio values included in the R/T Curve Manufacturing Tolerance Tables and the 1 °C Resistance Ratio vs. Temperature Tables found in the Technical Information Section were calculated by using the A, B, and C coefficients listed below in the following Steinhart-Hart equation explicit in R.

$$R = e(\exp)\left[\left(Y-\left\langle\frac{X}{2}\right\rangle\right)^{\frac{1}{3}} - \left(Y+\left\langle\frac{X}{2}\right\rangle\right)^{\frac{1}{3}}\right]$$

where

$$X = \frac{A-\frac{1}{T}}{C} \quad \text{and} \quad Y = \left(\left\langle\frac{B}{3C}\right\rangle^3 + \frac{X^2}{4}\right)^{\frac{1}{2}}$$

For an expanded version of the equation, refer the Steinhart-Hart Equation explanation found in the About Thermistors section.

Important Note: To optimize interpolation accuracy of the resistance vs. temperature data, the A, B, C coefficients of the Steinhart-Hart equation shown above were calculated specifically for the temperature spans and resistance values listed below. The Cornerstone Sensors resistance ratio vs. temperature tables were created by dividing the resistance value at each temperature by the appropriate resistance at 25 °C. For more information on how to use the equation to calculate data for other resistance values and/or temperature ranges, please contact the factory.

R/T Curve	Temperature Range (°C)	Coefficients for the Steinhart-Hart Equation		
		A	B	C
B	-50 to 0	1.439114856904070E-03	2.693066430764570E-04	1.653440958554570E-07
	0 to 50	1.440548920932420E-03	2.690725842060890E-04	1.661922621891600E-07
	50 to 125	1.440327988425520E-03	2.690459927836250E-04	1.679441362548790E-07
D	-50 to 0	1.133136854163360E-03	2.336519292538650E-04	8.849976714136810E-08
	0 to 50	1.124974037152450E-03	2.347653241229690E-04	8.546325084516770E-08
	50 to 100	1.119828875495430E-03	2.360897740308300E-04	7.508299550946710E-08
	100 to 150	1.120748323248730E-03	2.353531346746540E-04	8.909503408745950E-08
E	-50 to 0	9.329599574968520E-04	2.214235932652170E-04	1.263286697870110E-07
	0 to 50	9.327935342661280E-04	2.214507360140700E-04	1.262325823098370E-07
	50 to 100	9.315712556993570E-04	2.216946671543180E-04	1.249321433697330E-07
	100 to 150	9.266934080778390E-04	2.228124367891810E-04	1.167171733506130E-07
F	-50 to 0	1.028525291852400E-03	2.392327985577990E-04	1.562478971912460E-07
	0 to 50	1.029194767422500E-03	2.391275183977950E-04	1.566277149730310E-07
	50 to 100	1.028687651810930E-03	2.391866941635480E-04	1.566594211560540E-07
	100 to 150	1.026416673809340E-03	2.397397615551010E-04	1.518913935501530E-07
G	-40 to 0	8.630777018579910E-04	1.999086501945880E-04	1.244201049853700E-07
	0 to 50	8.436437679500710E-04	2.021008350641180E-04	1.203143775299850E-07
	50 to 100	8.331470500361880E-04	2.032624244467480E-04	1.188714921067930E-07
	100 to 150	8.356070132533520E-04	2.027581789531380E-04	1.217977002758560E-07
R	-50 to 0	8.312653413479670E-04	2.083082877047050E-04	8.162433729410980E-08
	0 to 50	8.274918692383500E-04	2.087547277229870E-04	8.069870440386500E-08
	50 to 100	8.252715954912970E-04	2.090759654020190E-04	7.970254981668580E-08
	100 to 150	8.169484569941060E-04	2.105821263402370E-04	7.242814459308220E-08
V	-50 to 0	1.912033993648160E-03	3.064159978007270E-04	2.861356543672190E-07
	0 to 50	1.938993181772380E-03	3.004098484042120E-04	3.234005399703990E-07
	50 to 100	1.953893905132090E-03	2.945030434912480E-04	4.609116815442370E-07
W	-50 to 0	1.328734000368390E-03	2.871918721144560E-04	1.257114168390270E-07
	0 to 50	1.328156656857180E-03	2.873061594285200E-04	1.250512619348640E-07
	50 to 100	1.300117357404990E-03	2.943269678705660E-04	5.985964560607700E-08