

Sky Temperature Correction Model

The model to correct the sky temperature measured by the infrared sensor (T_s) is given in terms of the ambient temperature (T_a) by:

$$T_d = (K1 / 100) * (T_a - K2 / 10) + (K3 / 100) * (\text{Exp}(K4 / 1000 * T_a)) ^ (K5 / 100)$$

where T_d = Correction value (°C)
 T_a = Ambient temperature (°C)
 $K1, K2, K3, K4$ & $K5$ are the coefficients defined in the *Device* section of the *Setup* TAB

$\text{Exp}(\mathbf{n}) = e$ (the base of natural logarithms) raised to the power of \mathbf{n} .
 $\mathbf{a}^{\mathbf{b}} = \mathbf{a}$ raised to the power of \mathbf{b}

The corrected sky temperature (T_{sky}) is given by:

$$T_{sky} = T_s - T_d$$

where T_{sky} = Corrected Sky Temperature (°C)
 T_s = Infrared Sky Measured Temperature (°C)
 T_d = Correction value (°C)