

## 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)