

The NTC thermistors used on the Velo modules have the following characteristics:

Semitec 103KT1608-1P

$R(T) = R_{25} * \text{Exp}\{B*(1/T - 1/T_{25})\}$ , where

R(T) : resistance in ohm at temperature T [K]

R\_25 : resistance at 25 degC, which is 10 kohm

B : a constant which is 3435 [K]

T\_25 : reference temperature, which is 298.15 [K]

Each Velo module has two sides read out by separate repeater boards. Each side of the module has four NTCs coming out on one RJ45 connector. Two of them are on the hybrid itself and two on the voltage regulators on the repeater board. It is a two-wire resistance measurement with the pin-out:

RJ45 pin	Function
1	NTC_hyb0+
2	NTC_hyb0-
3	NTC_hyb1+
6	NTC_hyb1-
4	NTC_vreg0+
5	NTC_vreg0-
7	NTC_vreg1+
8	NTC_vreg1-

The + and - denotes the two sides of the same thermistor, but obviously the polarity doesn't matter. Note the non-consecutive order of the pins, it is the same pairing as a standard Ethernet cable.

For the single NTC on the R&D modules, this comes out on the same Molex connector as the LV supply. So when I send you the pin-out of that you'll see which one to branch off to the temperature read-out.

(L.E., email April 2d 2008)