

## Application Note of L4NTC Module

There are three files associated with this application note

1. L4NTC\_enu.pdw -- L4NTC sample ladder code
2. NTC\_TABLE\_enu.xls -- Spreadsheet to generate the NTC conversion table
3. L4NTC\_UN\_enu.pdf – this application note

### The usage of NTC\_TABLE\_enu.xls

The formula built in the working spreadsheet is based on the characteristic of a 10K ohm NTC of a specific-manufacture.

1	temperature x0.1℃	Resistance	A/D value
2	-500	725000	16161
3	-490	681700	16147
4	-480	638400	16131
5	-470	595000	16113
6	-460	551700	16092
7	-450	508400	16068
8	-440	478900	16049
9	-430	449400	16027
10	-420	419900	16003
11	-410	390400	15975
12	-400	360900	15942
13	-390	340600	15917
14	-380	320200	15888
15	-370	299900	15855
16	-360	279500	15818
17	-350	259200	15775
18	-340	245000	15741
19	-330	230800	15704
20	-320	216600	15661
21	-310	202400	15613

There are three columns in this spreadsheet. The left column is temperature ranged from 100.0℃ to -30.0℃ in 1℃ step. The value in the middle column is the corresponding resistance at the temperature on the left column while the right column is the derived A/D value for the NTC resistance at middle column value.

### Construction and usage of data lookup table:

1. Pick the temperature range that interesting. The wider the range you pick the bigger the lookup table will be. Just cover the enough range for your application needs.
2. Fill in the corresponding resistance value in middle column according to the characteristic table provided by manufacture. If the temperature step is bigger than 1℃ then remove the temperatures that can not be inferred.
3. Setup a temperature table based on the temperature column and a A/D value table based on the right column(A/D value) and apply these two tables in FCN34 MLC

instruction. Please refer the L4NTC\_enu.pdw as an example

Wiring Diagram

