# LadderWORK APPLICATION NOTES

**Code**     : APP-LW-002
**Title**    : A/D converter with hysteresis     **Date**     : 16 September 2000
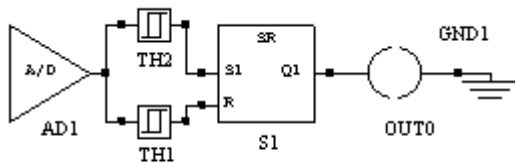**File Ref.** : applw002.doc     **Author**     : Furno Gianluca

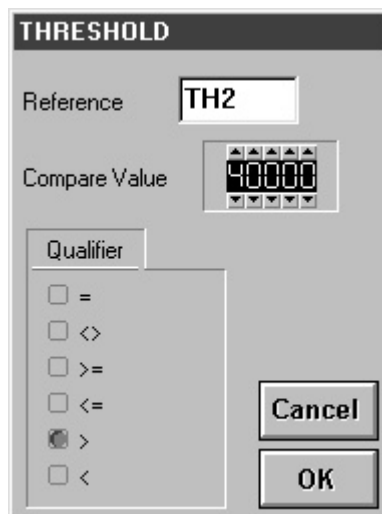## A/D CONVERTER HYSTERESIS CIRCUIT

This application note shows how to add an hysteresis circuit to the basic A/D component. The circuit is really simple and it takes just five components.
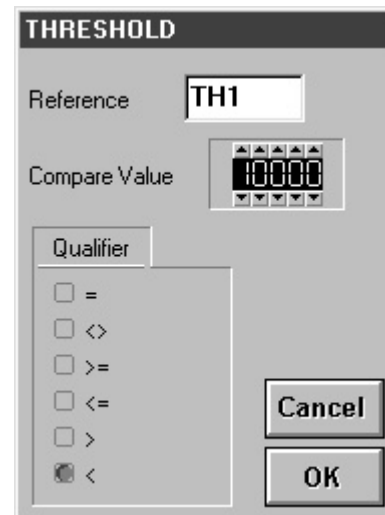


SAMPLE HYSTERESIS CIRCUIT

The circuit uses two comparators ( THRESHLD component ) to create the threshold gap.
For example, the high-side comparator (TH2) was programmed to be true when the input signal is greater of 40.000 and the low-side comparator was programmed for values less than 10.000. Remember that the values supplied by AD_CONV conponents are always normalized in the range 0-65535 independantly by the A/D circuit resolution.

Here is the property programming for the high-side THRESHLD component.



And here is the property programming for the low side THRESHLD component.



The signals coming from the comparators are connected to a SR block ( SET-RESET FLIP-FLOP WITH SET DOMINANT FEATURE ) and the Q output of this function block is suitable for load driving.
With respect with the example programmed values , the Q output will become active for values greater than 40.000 and will be released for values less than 10.000 .

Notes :

- The application requires LadderWORK release 1.2x or newer releases
- Refer to project applw002.pjn for schematic