Setup home function on MD drive

I. Definition :

The homing allow to the system to determine the origin measures of the axis, this one being lost with each power off.
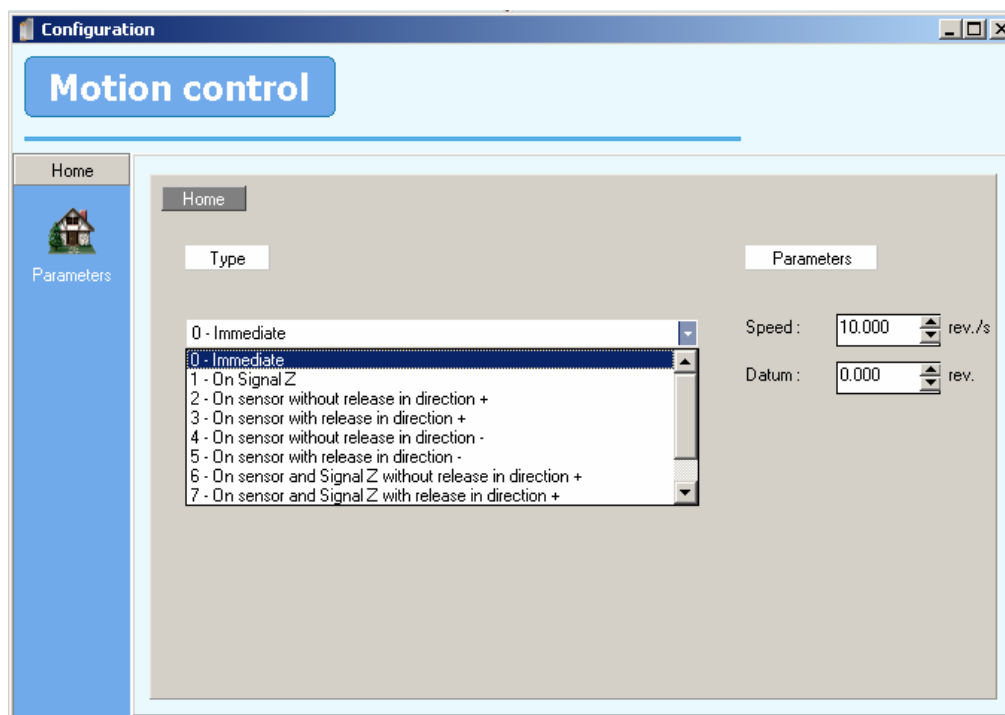The homing (HOME) allow to refer the motor position to the mechanics position.
Various types of HOME are available: immediate, on sensor, with release.
A cycle of HOME forces the counter position to a value of reference.

II. Setup the HOME in DPL:

Homing uses the parameters set on the screen **Motion control \ Home**

From this screen, one configures the type of HOME, the speed and the datum to be charged in the counter position.

Information:
- The type chosen in this screen is used only on HOME movement declared starting from Trajectories array when the driver works in mode "trajectories pre-stored"
- If you use the HOME instruction in a BASIC task, the type must be indicated inside the instruction.
  Example: HOME on signal Z - > HOME (1)
- The speed of the axis during the HOME corresponds at the speed seized in this screen. If during the HOME, VEL or VEL% instructions are executed, the speed of the axis is then modified.
- The HOME instruction is blocking for task DPL. If you want to stop the homing during his execution, it is necessary to do in another task: HALT of the task containing the HOME instruction, then a STOP of the axis.

III.HOME types :

A. Type 0 : immediate :

The counter position is forced with the value of reference in an immediate way.
Example: Datum = 100 in the Home screen
   HOME (0)   ` position engine = 100

B. Type 1 : On signal Z :

The motor don't make any movement, its position is recomputed compared to driving Signal Z and the value of datum. You obtain a position being located between +/- ½ turn or datum +/- ½ driving turn.

C. Type 2: On sensor, in direction +, without release

The drive launches an infinite movement in positive direction and awaits a growing edge of the entry HOME.
The position is then forced with the value of datum and the motor stops on this position.
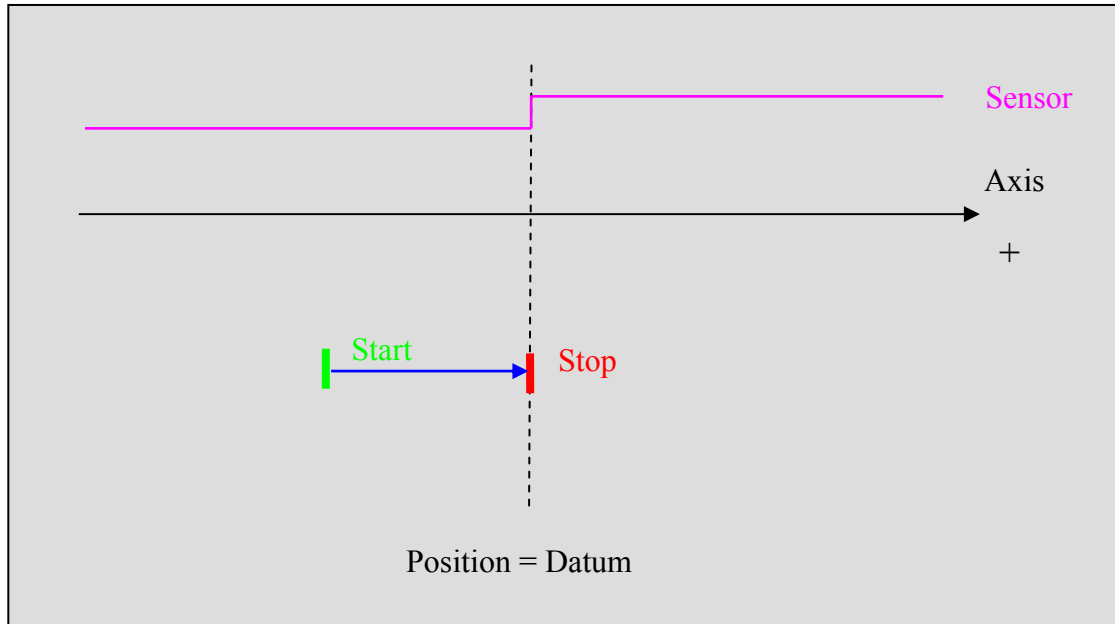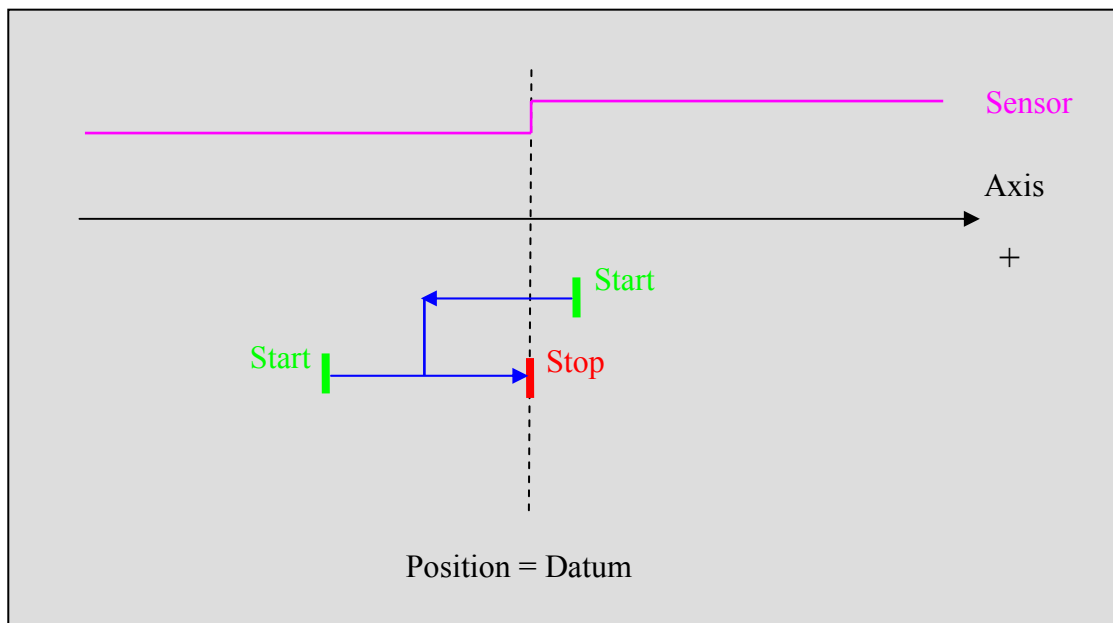

D. Type 3: On sensor, in direction +, with release

If the entry HOME is already to 1 then the drive launches in first an infinite movement in negative direction to emerge from the HOME sensor.
Then the drive launches an infinite movement in positive direction and awaits a growing edge of the entry HOME.
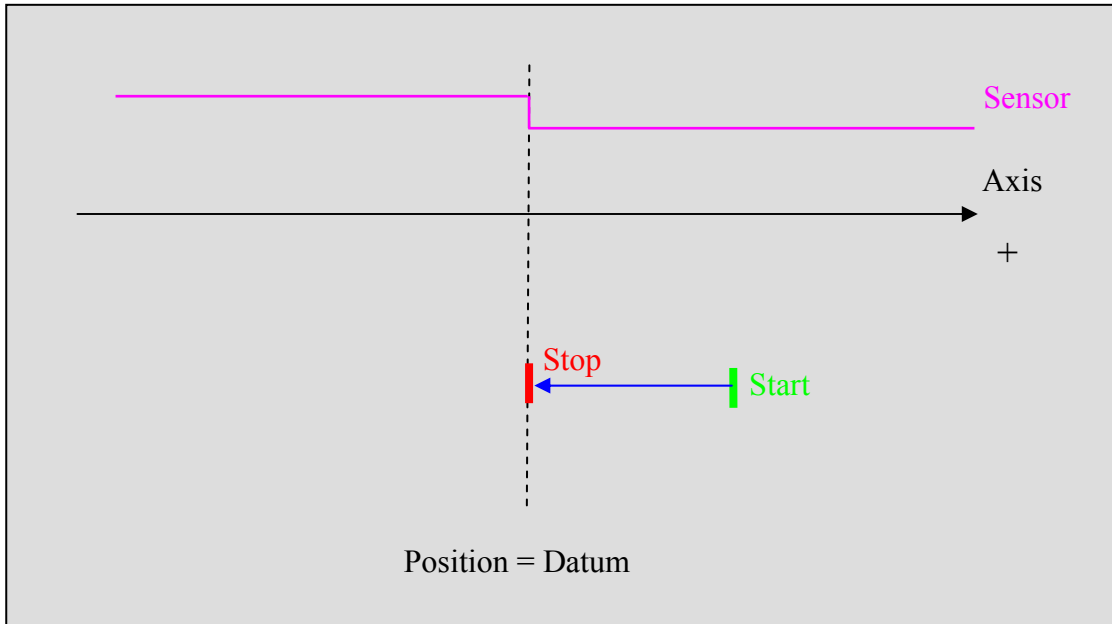The position is then forced with the value of datum and the motor stops on this position.

E. Type 4: On sensor, in direction -, without release

The drive launches an infinite movement in negative direction and awaits a growing edge of the entry HOME.
The position is then forced with the value of datum and the motor stops on this position.
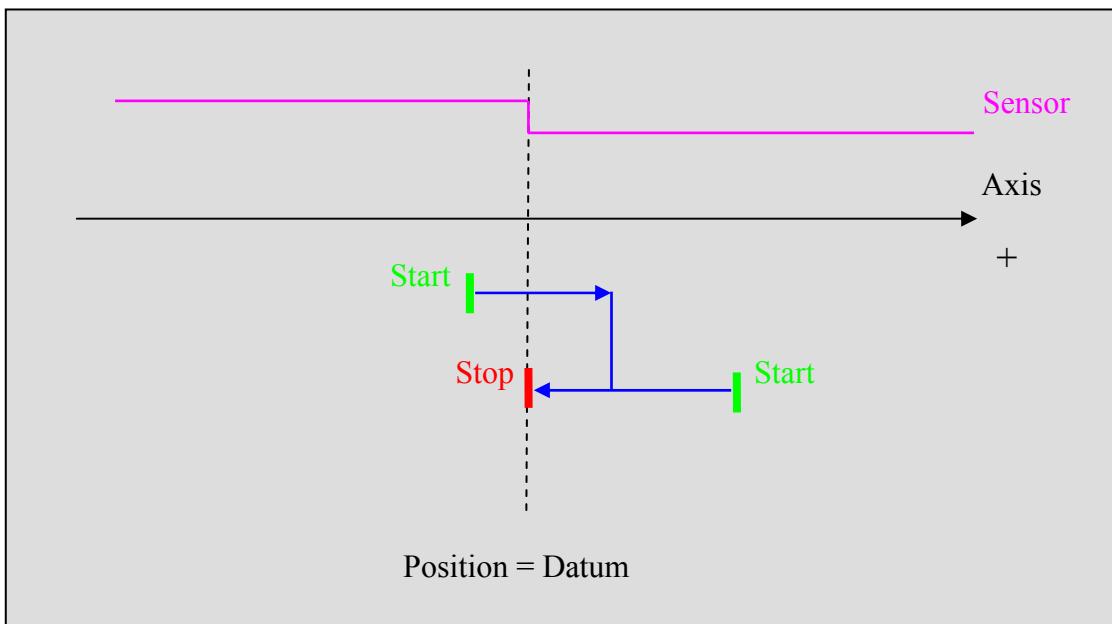

F. Type 5: On sensor, in direction -, with release

If the entry HOME is already to 1 then the drive launches in first an infinite movement in positive direction to emerge from the HOME sensor.
Then the drive launches an infinite movement in negative direction and awaits a growing edge of the entry HOME.
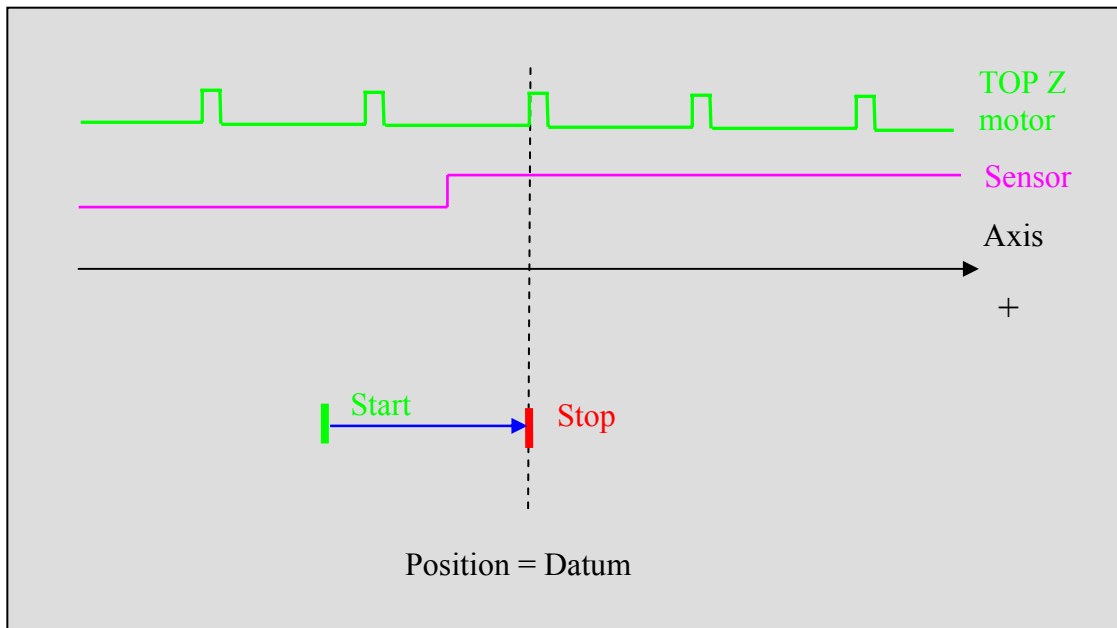The position is then forced with the value of datum and the motor stops on this position.

G. Type 6: On sensor and signal Z, in direction +, without release

The drive launches an infinite movement in positive direction and awaits a growing edge of the entry HOME then to pass behind the Signal Z.
The position is then forced with the value of datum and the motor stops on this position.
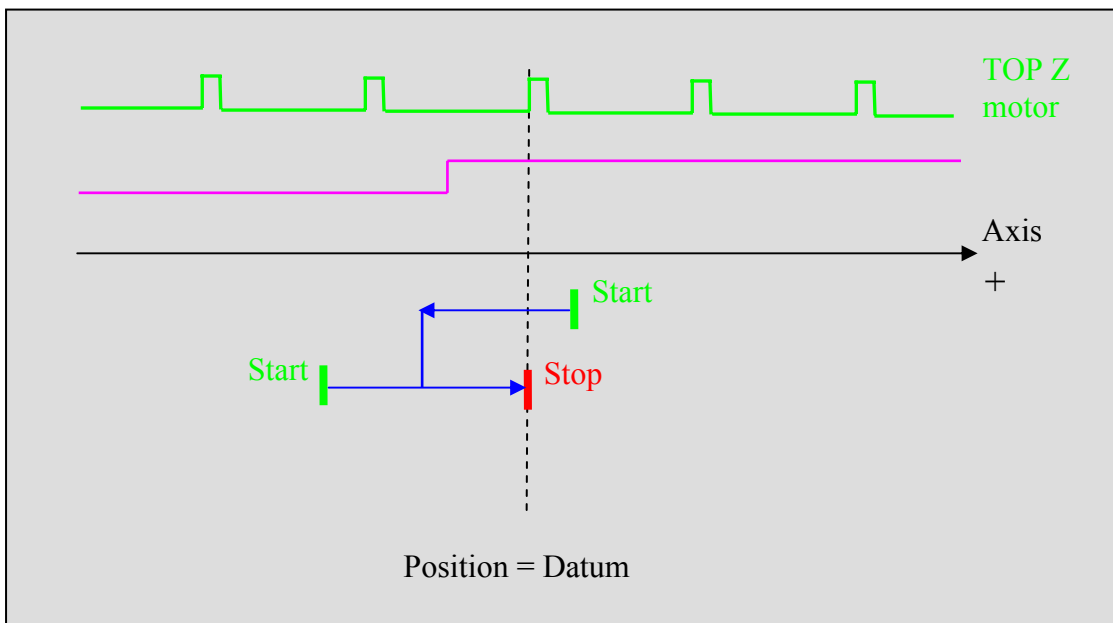

H. Type 7: On sensor and signal Z, in direction +, with release

If the entry HOME is already to 1 then the drive launches in first an infinite movement in negative direction to emerge from the HOME sensor.
Then the drive launches an infinite movement in positive direction and awaits a growing edge of the entry HOME and pass behind the signal Z.
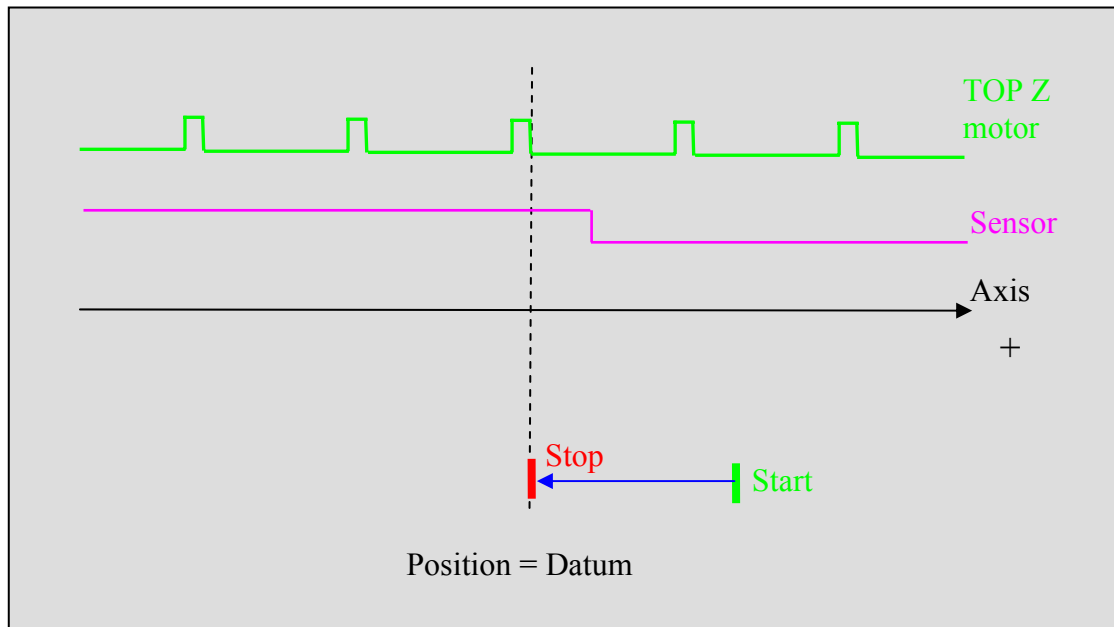The position is then forced with the value of datum and the motor stops on this position.

I. Type 8: On sensor and signal Z, in direction -, without release

The drive launches an infinite movement in negative direction and awaits a growing edge of the entry HOME then to pass behind the Signal Z.
The position is then forced with the value of datum and the motor stops on this position.

J. Type 9: On sensor and signal Z, in direction -, with release

If the entry HOME is already to 1 then the drive launches in first an infinite movement in positive direction to emerge from the HOME sensor.
Then the drive launches an infinite movement in negative direction and awaits a growing edge of the entry HOME and pass behind the signal Z.
The position is then forced with the value of datum and the motor stops on this position.