Programming the H210 module

Content

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Control Systems and Components

Project history

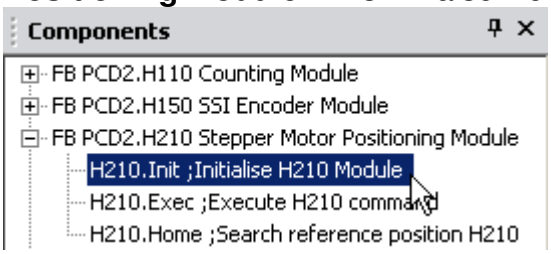
Datum	Author	Modification
07.05.2010	TCS / cd	Creation of documentation (version 1) und project for PG5 2.0.110

Introduction

This document serves as fast introduction for programming a PCD2.H210 or a PCD3.H210. For additional information please refer to the manual for the H210 (document number 26/760)

Initializing the module

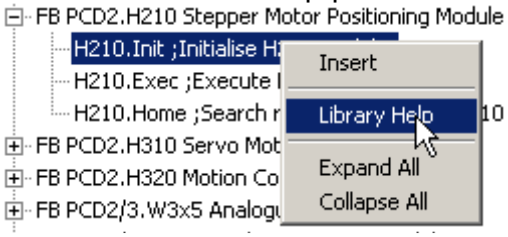
The H210 module is programmed in instruction list format (IL). PG5 2.0 already comes with ready-to-use FBs. The FB to be used is **PCD2.H210 Stepper Modor Positioning Module**. This FB also works for PCD1 and PCD3.



The H210.INIT function block is to be called for base initializatio of the module (e.g. called at start-up in XOB 16 or in the init step of a Graftec SB).

Sending commands to the module

When the H210.EXEC function block is called, three parameters must always be defined, even if two are sufficient. In this case, the third parameter is declared as not used ("H210.rNotUsed") or as a dummy register.
There is an online Help provided for each FB (right-click to access).



Module addressing

When the **PCD2.H210** FB is used, the **D2H210_B.mba** file is added to the project automatically. This file must not be linked. In this file, you need to indicate the number of H110 modules that has been implemented as well as their respective base address on the I/O bus.

The modules must be numbered in ascending order starting with "BA_1". For example, if 3 modules are used in the same project, they will be numbered "BA_1, BA_2 and BA_3". The user is free to decide on the location of the modules within the PCD.

Example:

```
NbrModules EQU 3  ; No of H110 modules used (0 to 16)
 ; Base addresses of the modules (only define those modules that are used)
BA_1 EQU 64       ; Base address of module 1
BA_2 EQU 208      ; Base address of module 2
BA_3 EQU 112      ; Base address of module 3
BA_4 EQU 0        ; Base address of module 4
```

The Graftec file "H210.sfc"

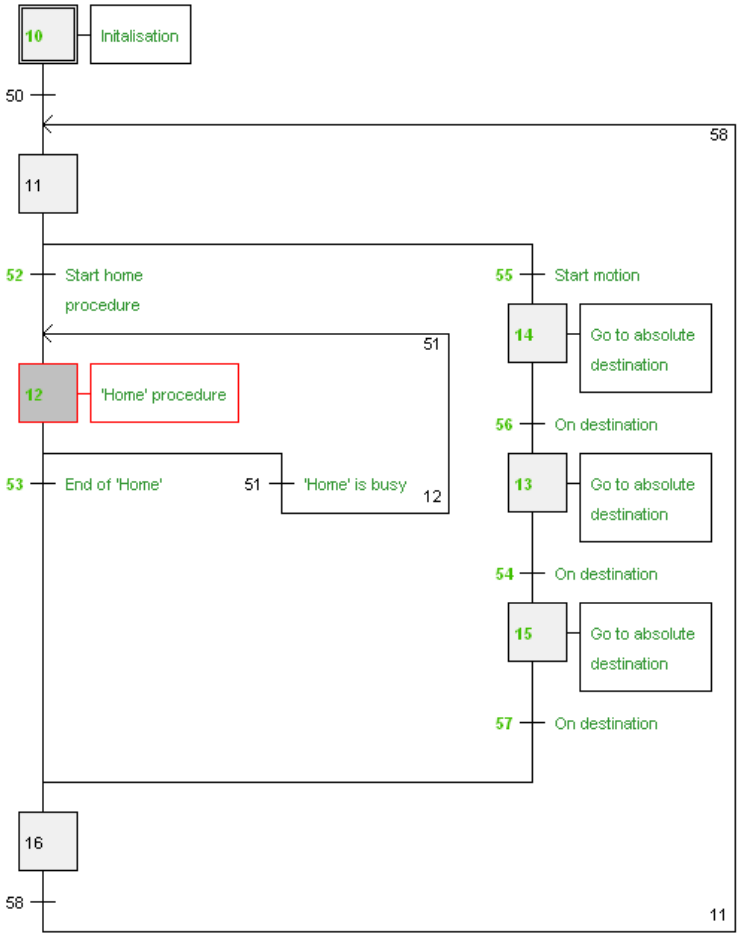
(Link **H210.sfc** and the file "Main.src")

In this example, an H210 module is used in slot 3 (base address 32, defined in the "Module Base Adress" file D2_H210_b.mba).

Initialisation
In the Initialisation step the module is configured (the minimal and maximal speed, the frequency range etc.)

Home Procedure
After the condition for starting the home procedure has been fullfilled, the FB for homing the module/motor is executed repeatedly.
After every call of the FB (in the Step 12) it is checked whether the homing procedure has been finished by checking the state of the flag "H210.fEndHome_1"

Moving to a position
After the condition in the Transition "Start motion" has been fulfilled, the motor is commanded forth and back. This is done by first loading a destination position and then starting the motion.



In the intermediate transitions, it is checked whether the postion has been reached by checking the flag "H210.OnDest_1" (which is written by the FB for the H210).