

### Inhalt

General programming.....	1
PCD2.H15x.....	2
PCD2.H21x.....	2
PCD2.H31x.....	2
PCD2.H32x.....	3

### General programming

---

#### 1. Why are the parameters in the FBs defined as register and not as constant?

A constant can have a value up to 16383 (→14 bit). Unlike a constant, a register can hold a 31 bit value (signed). Since the values of the parameters can be up to 31 bits, it is required to use registers to hand over the parameters to the FB

#### 2. The new FBs PG5 need the directives \$GROUP and \$ENDGROUP

In a graftec structure (SB) these directives have to be set before the first (\$GROUP) and after the last (\$ENDGROUP) symbol defined in the \*.equ file of the corresponding FB.

When modifying the user program, the \$ENDGROUP can by accident be moved and is not set in the last step or transition anymore. As a result, symbols used after the \$ENDGROUP are no longer recognised and the user program doesn't work any more.

How to solve this problem:

Take away the \$ENDGROUP before any modification. Then after the modification, perform the command 'renumber' in GRAFTEC and set \$ENDGROUP into the last step or transition.

#### 3. General remark concerning PCD2.M480

In nearly every example provided together with the PG5 or the FB library, the instruction DSP (display register content on the Display PCD7.F510) is occurring. Since the PCD2.M480 doesn't support this instruction any more, the CPU will crash if you don't remove the DSP instructions in the example files.

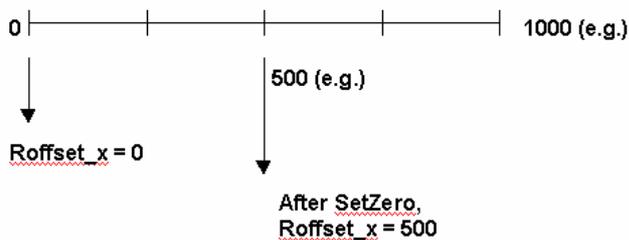
## PCD2.H15x

---

**When the PCD2 is switched off right after the function 'Set Zero' (FB SetZero), the module PCD2.H150 reads bad value at the next power ON of the PCD2. Why?**

The FB 'SetZero' and the FB 'Ini't are using the same internal register for offset position. When the function 'SetZero' is used, the actual position will be set to zero and its position will be copied into the register for offset position. Therefore, if the FB 'SetZero' is used, do not overwrite the register 'Roffset\_x' in order to avoid non-valid position reading after a restart cold (e.g. restart with value of 'Roffset\_x' right after the 'SetZero' function and not with 0 anymore). See also description page A-4 in the PCD2.H150 manual.

Example:



## PCD2.H21x

---

**1. During the FB HOME (FBs version 2.01), the CPU is blocked.**

This problem is now fixed from version 2.02 which can be downloaded from PCD-Support Website.

**2. Set the absolute position to 0:**

It is possible to set a reference position zero at any point with the following command:

```
LD      rPosAbs_x
        <x value>
```

## PCD2.H31x

---

**1. PCD2.H310 - Bad capture of Index Position.**

New setting of the filter improves now the capture of the Index position (Hardware version A2).

**2. PCD2.H311 - Bad reading of position when using linear encoder with high resolutions.**

New setting of the filter allows now working with linear encoder with high resolution to avoid bad reading of position (Hardware version A2).

### 3. Flag « Ondest\_X »

The Flag “Ondest\_x” indicates that the position of the integrator has been reached (theoretical position) It does not mean the actual position is reached.

Ondest\_x → Theoretical position – position error

- To reduce the position error, you have to adjust the PID parameters.
- You have the possibility to select a breakpoint for a selected position (same value as setpoint position).

In that case you have to execute the command “LdBrkPtAbs” or “LdBrkPtRel”.  
When the breakpoint is reached, the flag “fBrkPt\_x” becomes high.

### 4. Procedure after an emergency stop.

After an emergency stop, the power of the driver must be switched off! You also have to stop the motion from the axis module H31x.

First way :

set high the parameter 8 in the FB init in order to stop the motion in case of exceeding position tolerance.

Second way :

Connect the emergency stop to a digital input and execute the command “StopUrg”.

## PCD2.H32x

---