Application Note

FESTO

Save offset to Encoder from PLC

Save offset position (zero position) to multiturn encoder with FPC (Festo Parameter Channel).

CMMP-AS-M0/M3

100064

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1 Components/Software used

Type/Name	Version Software/Firmware	Date of manufacture
CMMP-AS-M0/M3	4.0.1501.1.4	general

Table 1.1: 1 Components/Software used

2 Save offset to multiturn encoder with FCT

In case of using multiturn encoders, the absolute encoder position is always stored in the motor encoder.
The absolute encoder position can be changed with FCT (Festo Configuration Tool), to change the position
In the encoder the following steps needs to be executed.

- Take control of the drive via FCT and enable the drive, (checkbox “FCT” and checkbox “Enable”).

- Execute the selected “Homing method” with the button “Start Homing” under the tab “Homing”.
  The project zero point will now be present in FCT, if the drive is restated the “old” zero point will be loaded from the encoder and the homing needs to be carried out again.

- Save the values to the encoder after a successful homing.
  To be able to save the values to the encoder, the regulator of the motor needs to be turned off, disable the checkbox “Enable” and select the menu “Homing” in the tree structure, in tab “Homing method” the button “Save Offset to Encoder” will now be visible.
  Save the new zero point to the encoder by pressing the button “Save offset to Encoder”.

2.1 Save offset to multiturn encoder from PLC

The offset to the encoder can also be saved from a PLC using FHPP and FPC (Festo Parameter Channel). In case of change of motor, the new motor with multiturn encoder will have the wrong position saved in the encoder.
The homing method needs to be executed and we need to save the offset to the encoder, this can be done from the PLC without any needs of FCT. When following the steps below, FCT should be offline.

- Enable the drive using FHPP and the function block CMMP_AS_CTRL, Execute the homing method in the drive with “StartHoming”.

- When the homing procedure is done, the controller enable needs to be turned off, DIN5. (Release the 24v signal to digital input 5 of the drive, DIN5).

- Use the FHPP function block CMMP_AS_PRM_INIT and CMMP_AS_PRM_SINGLE or CMMP_AS_PRM_MULTI to write the following parameter to the drive.

- Use PNU ID 127, with subindex 6 and write in the value 3 to save the offset to the multiturn encoder.

- After command is send, wait at least 2 sec. before turn the controller enable, DIN5 (on).

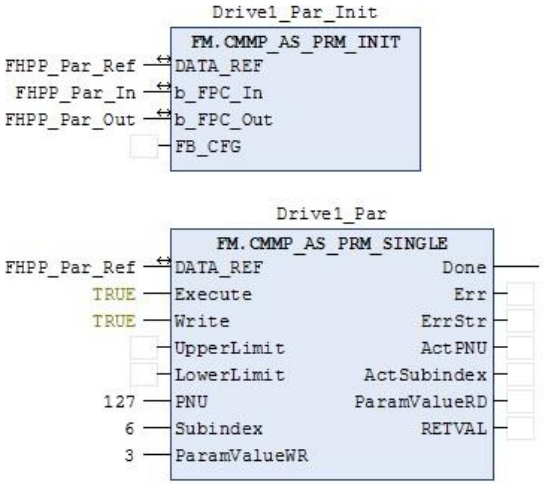
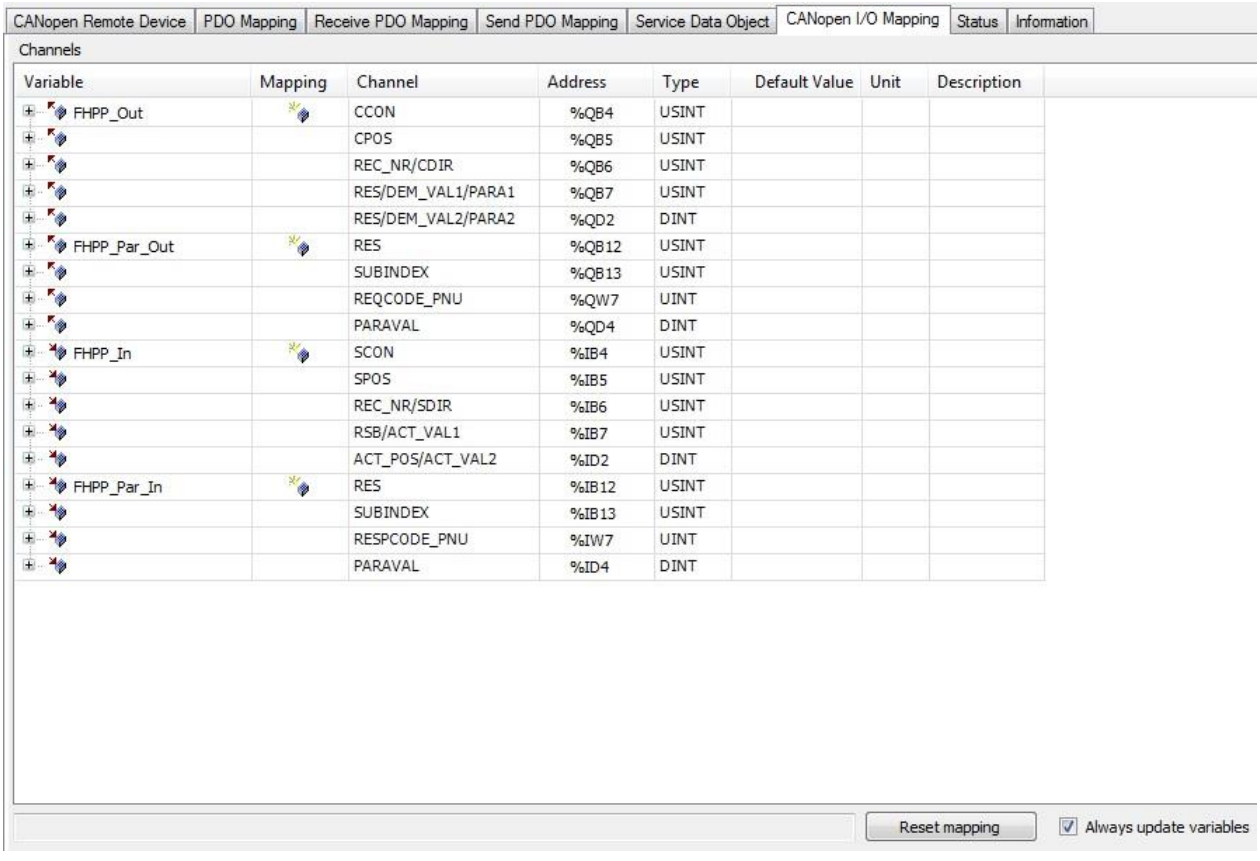
Encoder Data Memory Control

PNU 127, Subindex 6

Transfer of the encoder data between controller and encoder.

Values: 0x00 (0) : No action (for test purposes).

0x01 (1) : Loading of the parameters from the encoder.

0x02 (2) : Saving of the parameters in the encoder without zero offset.

0x03 (3) : Saving of the parameters in the encoder with zero offset.