

**PA-CONTROL
S7 - function block
of Profibus-connection**

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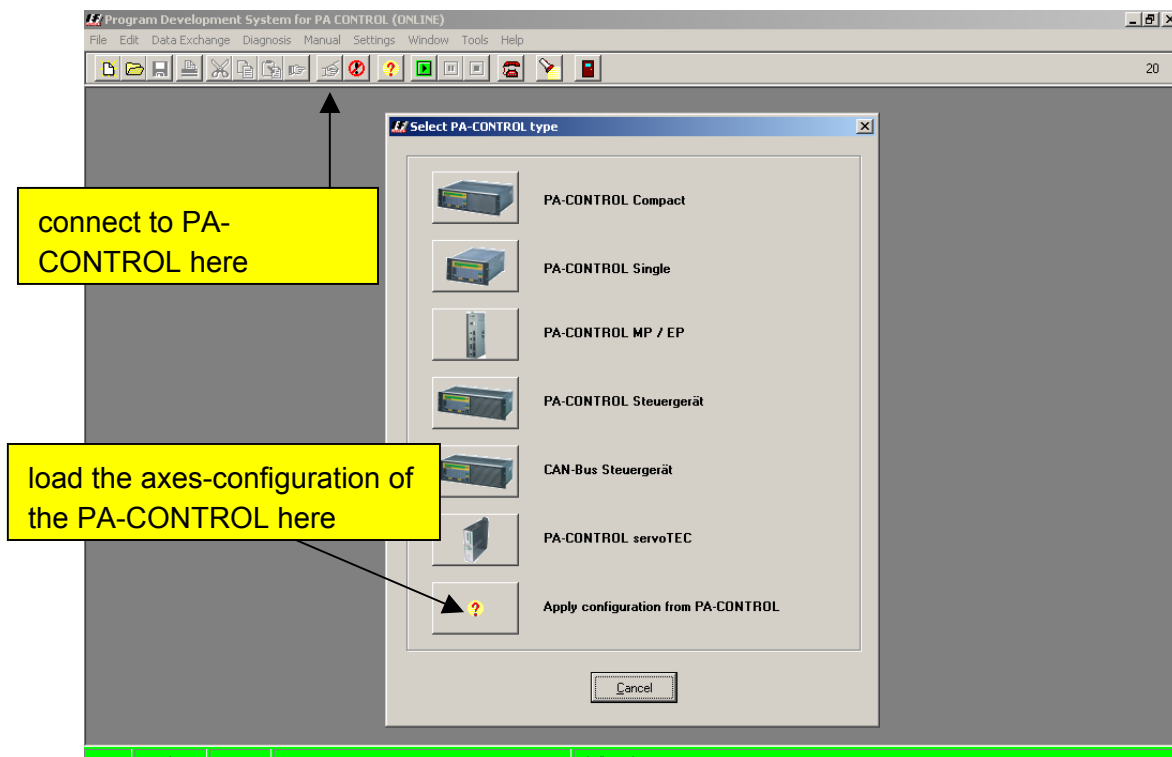
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Configuration of Profibus-connection

Proceeding at PA-CONTROL (Winpac)

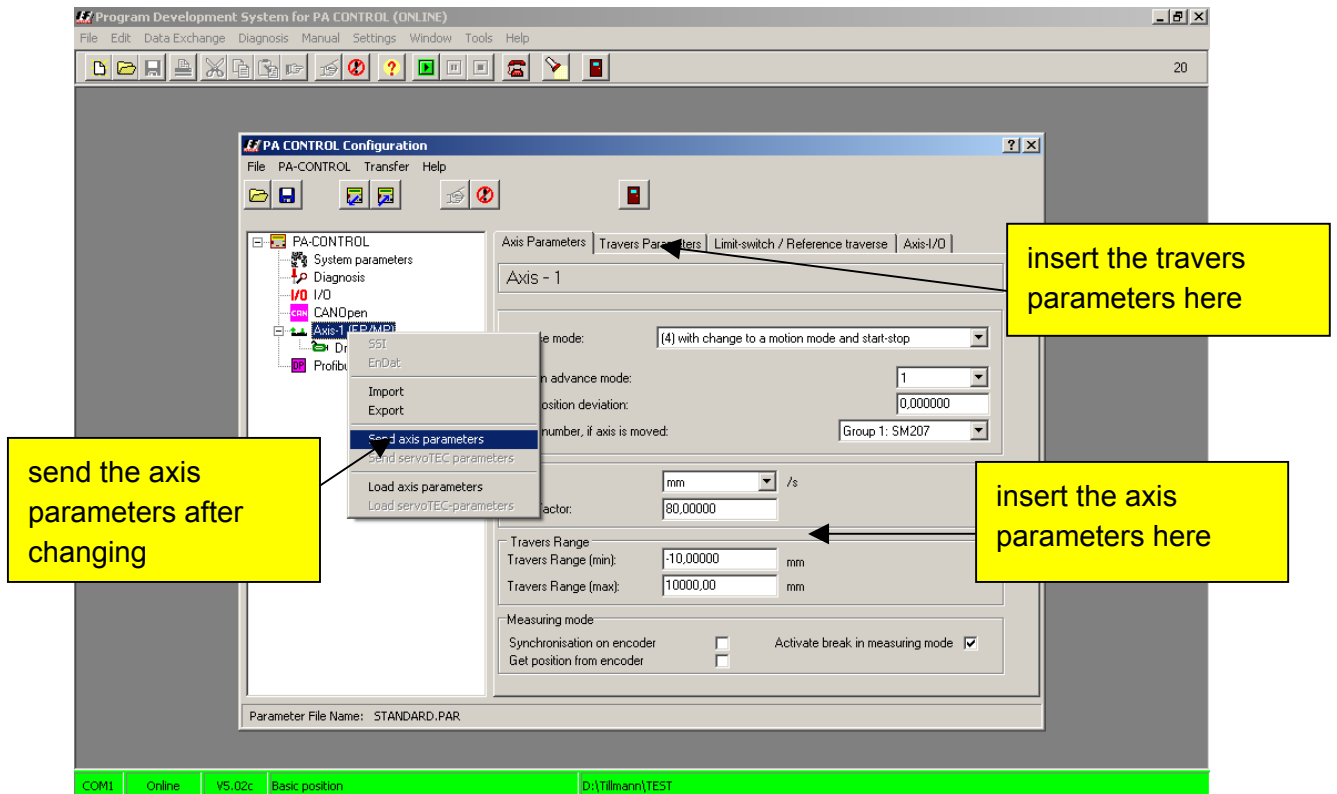
The PA-CONTROL has to be reinitialized (axis-configuration), for the controller identifies the right hardware.

1. First chose the correct project-directory (→ File → Project Folder...)
2. Now connect the PA-CONTROL via the diagnostic-interface to your PC (reference to your PA-CONTROL manual)
3. click the button “Connect To PA-CONTROL” to connect.
4. Open the configuration-window (→ settings → PA-CONTROL ...) With the button “Apply configuration from PA-CONTROL” you can load the parameters from the controller. If this is not yet configured, chose your controller, to open the configuration.-window.



Is the number of axes and the parameter-set correct? (The parameter-set for your machine was delivered with the project.) Correct the settings of the axes where required. At the field Profibus-DP you can set the address for the Profibus-DP. At the PA-CONTROL MP the address has to be set through S2/S3 on the hardware.

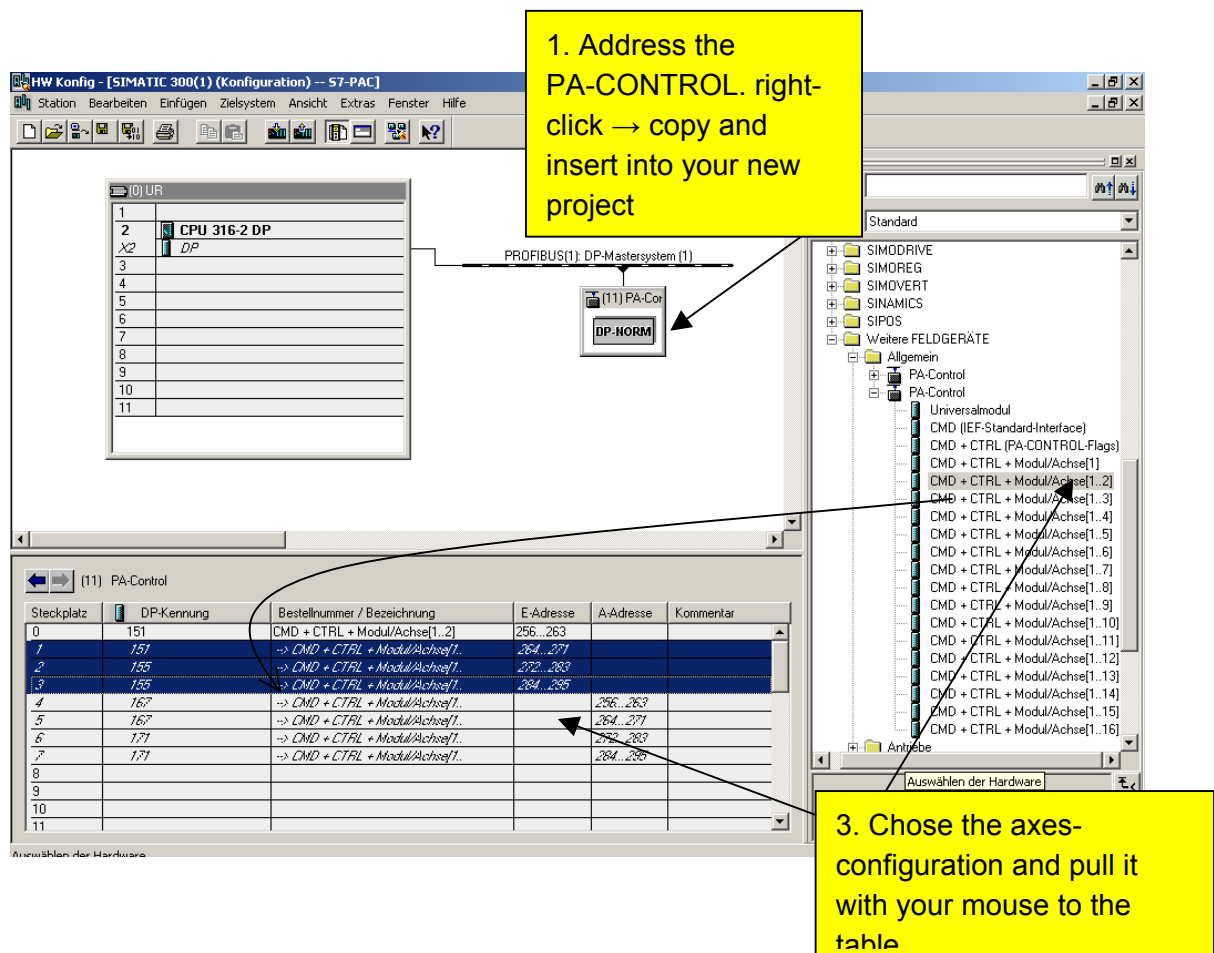
5. Save the parameters and send it back to the controller (right-click on the axis → send axis parameters).



More general information about the parameters you can find also in chapter 5 of your PA-CONTROL-manual.

At S7 proceed as follows:

1. Open the example-project and copy the PA-CONTROL under hardware (HW-Konfig) into the new project.
2. Refresh the catalog (in HW-Konfig → extras → refresh catalog)
3. Chose underneath „PROFIBUS-DP/ Weitere FELDGERÄTE/Allgemein/PA-Control“ the respective configuration (number of axes); insert via replacing (drag and drop).



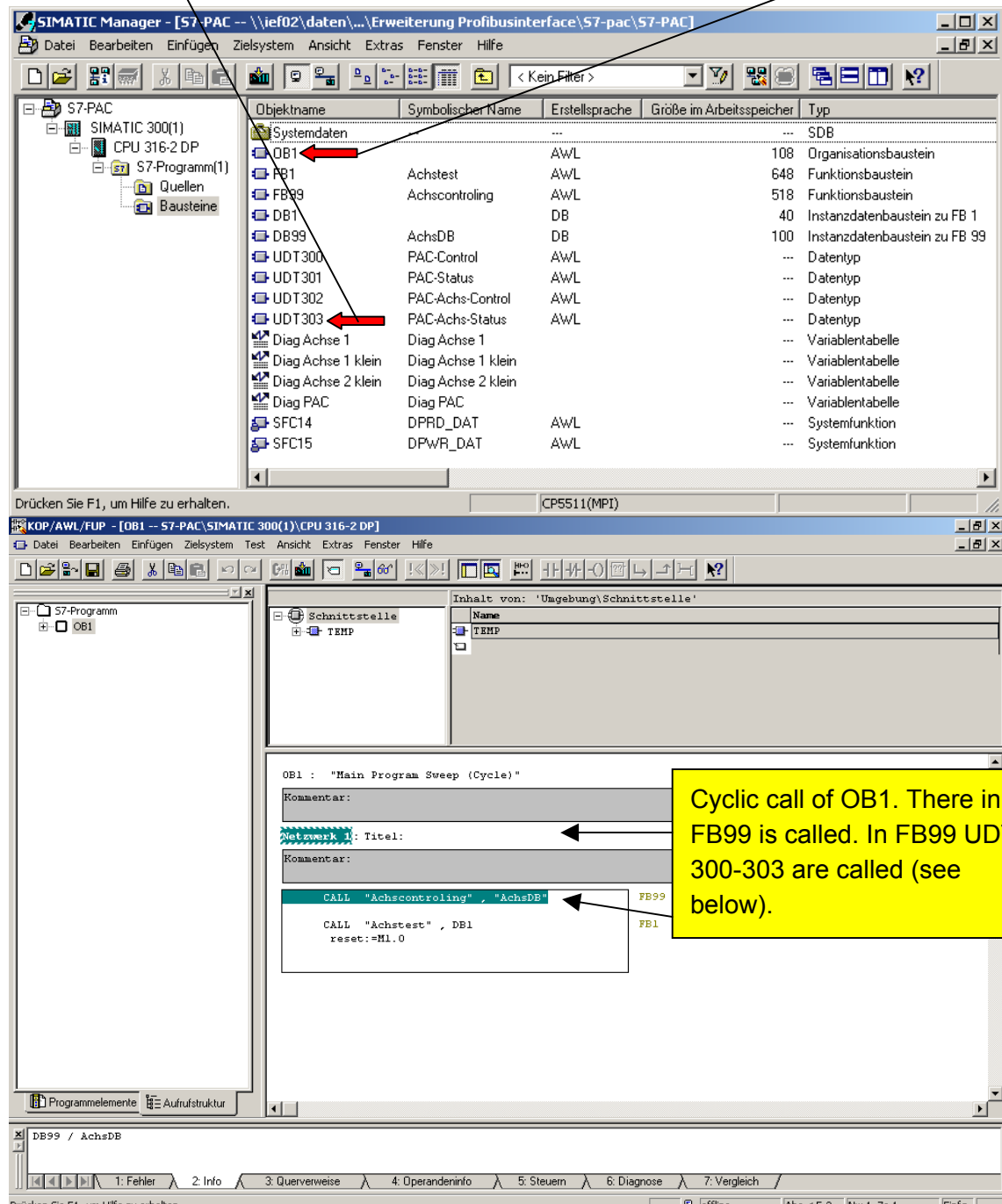
1. Address the PA-CONTROL. right-click → copy and insert into your new project

3. Chose the axes-configuration and pull it with your mouse to the table

Steckplatz	DP-Kennung	Bestellnummer / Bezeichnung	E-Adresse	A-Adresse	Kommentar
0	151	CMD + CTRL + Modul/Achse[1..2]	256...263		
1	151	-> CMD + CTRL + Modul/Achse[1..	264...271		
2	155	-> CMD + CTRL + Modul/Achse[1..	272...283		
3	155	-> CMD + CTRL + Modul/Achse[1..	284...295		
4	167	-> CMD + CTRL + Modul/Achse[1..	296...263		
5	167	-> CMD + CTRL + Modul/Achse[1..	264...271		
6	171	-> CMD + CTRL + Modul/Achse[1..	272...283		
7	171	-> CMD + CTRL + Modul/Achse[1..	284...295		
8					
9					
10					
11					

At Slot 1 (Steckplatz 1) you find the general informations (hardware-address of the PA-CONTROL), at Slot 2 (Steckplatz 2) you find he information about the 1st axis, at Slot 3 (Steckplatz 3) about the 2nd axis, and so on ...

- Call the module FB99 (can be renamed) cyclically through the instance (here OB1). Call UDT 300-303 in the instance.



The screenshot displays the SIMATIC Manager interface. The top window shows the project tree on the left and a table of objects on the right. The table lists various modules and their properties:

Objektname	Symbolischer Name	Erstelsprache	Größe im Arbeitsspeicher	Typ
Systemdaten		...	...	SDB
OB1		AWL	108	Organisationsbaustein
FB1	Achstest	AWL	648	Funktionsbaustein
FB99	Achscontrolling	AWL	518	Funktionsbaustein
DB1		DB	40	Instanzenbaustein zu FB 1
DB99	AchsDB	DB	100	Instanzenbaustein zu FB 99
UDT300	PAC-Control	AWL	...	Datentyp
UDT301	PAC-Status	AWL	...	Datentyp
UDT302	PAC-Achs-Control	AWL	...	Datentyp
UDT303	PAC-Achs-Status	AWL	...	Datentyp
Diag Achse 1	Diag Achse 1	...	...	Variablen-tabelle
Diag Achse 1 klein	Diag Achse 1 klein	...	...	Variablen-tabelle
Diag Achse 2 klein	Diag Achse 2 klein	...	...	Variablen-tabelle
Diag PAC	Diag PAC	...	...	Variablen-tabelle
SFC14	DPRD_DAT	AWL	...	Systemfunktion
SFC15	DPWR_DAT	AWL	...	Systemfunktion

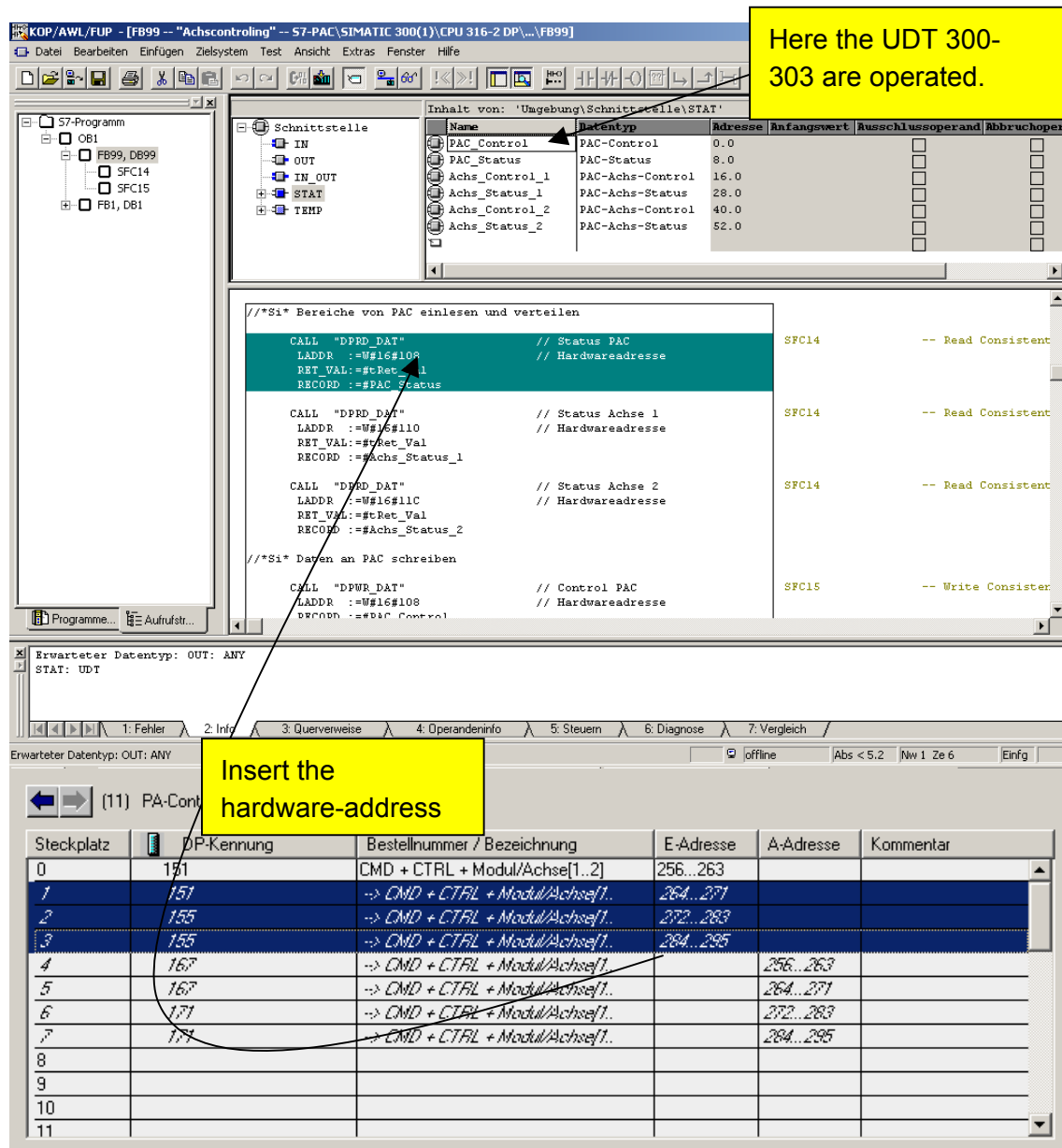
The bottom window shows the ladder logic for OB1. A yellow callout box highlights the following code:

```

OB1 : "Main Program Sweep (Cycle)"
Kommentar:
Netzwerk 1: Titel:
Kommentar:
CALL "Achscontrolling", "AchsDB"
CALL "Achstest", DB1
reset:=M1.0
  
```

The callout box contains the text: "Cyclic call of OB1. There in FB99 is called. In FB99 UDT 300-303 are called (see below)." Arrows point from this text to the corresponding code lines in the ladder logic.

- The instance operates the UDT 300-303 with the SFC 14 and 15.
Insert here the respective areas of the instance and the hardware-addresses of the HW-Konfig.



The screenshot shows the SIMATIC Manager interface. At the top, a yellow box points to the SFC table with the text: "Here the UDT 300-303 are operated." The SFC table lists the following:

Name	DatEntyp	Adresse	Anfangswert	Ausschlussoperand	Abbruchoper
PAC_Control	PAC-Control	0.0			
PAC_Status	PAC-Status	8.0			
Achs_Control_1	PAC-Achs-Control	16.0			
Achs_Status_1	PAC-Achs-Status	28.0			
Achs_Control_2	PAC-Achs-Control	40.0			
Achs_Status_2	PAC-Achs-Status	52.0			

Below the SFC table, the ladder logic code is visible, showing calls to DPWR_DAT and DPRD_DAT with hardware addresses. A yellow box points to the hardware address field in the code with the text: "Insert the hardware-address".

At the bottom, the hardware configuration table is shown:

Steckplatz	DP-Kennung	Bestellnummer / Bezeichnung	E-Adresse	A-Adresse	Kommentar
0	151	CMD + CTRL + Modul/Achse[1..2]	256...263		
1	151	-> CMD + CTRL + Modul/Achse[1..	264...271		
2	155	-> CMD + CTRL + Modul/Achse[1..	272...283		
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8					
9					
10					
11					

- After transmitting the configuration, and setting-up the bus-address at the PA-CONTROL, the return-values RET_VAL of the SFC 14 and 15 have to be 0.

