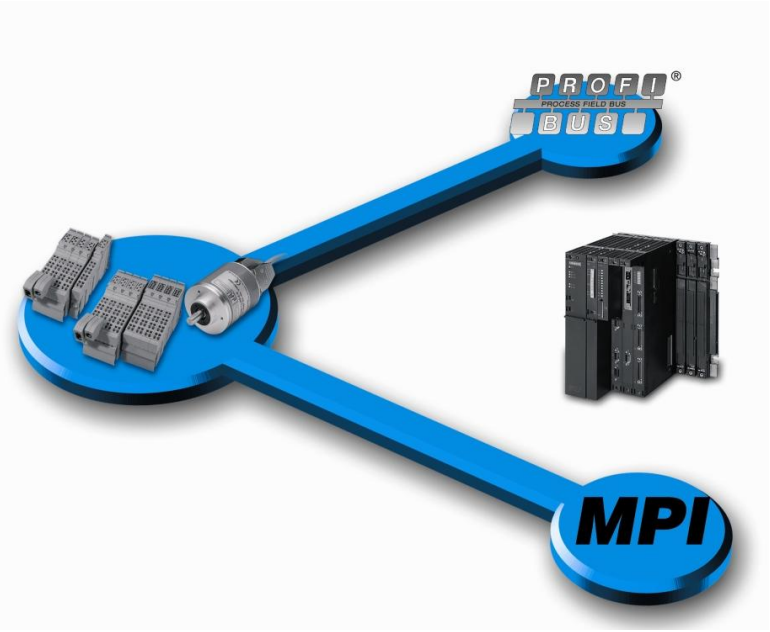
Deutschmann

your ticket to all buses

Instruction manual
LOCON 100 / 200 and
ROTARNOCK 80 / 100
with Fieldbus connection



Deutschmann Automation GmbH & Co. KG
www.deutschmann.com | wiki.deutschmann.de

Manual Art.-No. V3526E

1 Introduction

1.1 On this manual

This manual documents installation, functions and operation of the Deutschmann unit specified on the cover sheet and in the header.

1.1.1 Symbols

Particularly **important text sections** can be seen from the adjacent pictogram.

You should **always** follow this information since, otherwise, this could result in malfunctions or operating errors.

1.1.2 Concepts

The expressions ‘LOCON’ and ’TERM’ are frequently used throughout this manual with no further model specifications. In such cases, the information applies to the entire model series.

1.1.3 Suggestions

We are always pleased to receive suggestions and wishes etc. and endeavour to allow for these. It is also helpful if you bring our attention to any errors.

1.2 Product program of Deutschmann Automation

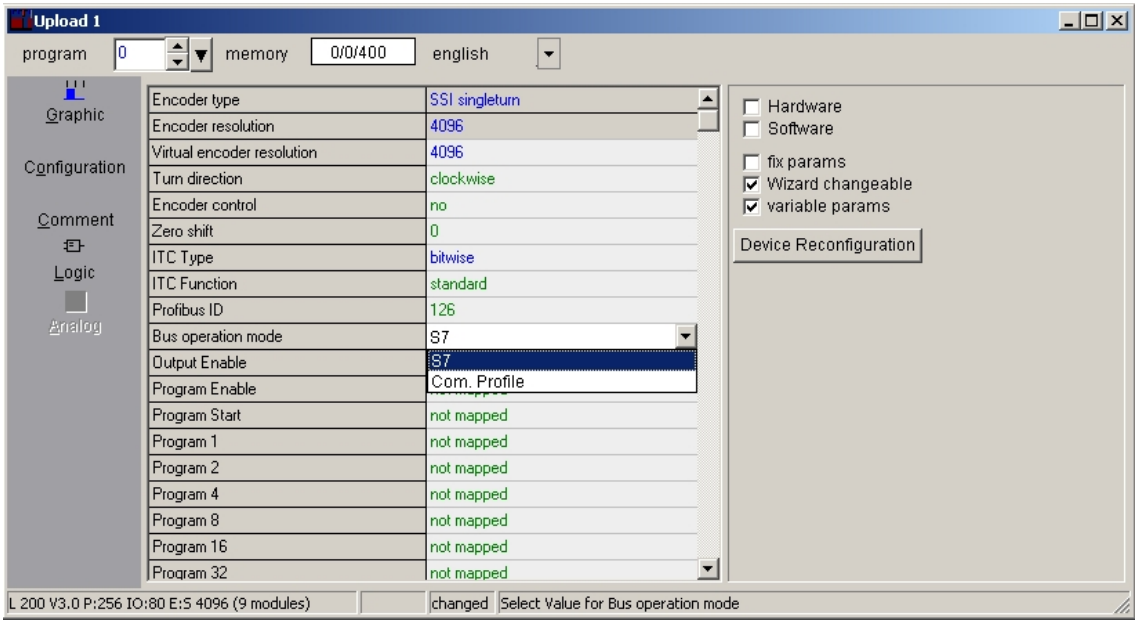
A detailed and topical outline of our product range can be found on our homepage at http://www.deutschmann.de

2 Introduction

DEUTSCHMANN cam controls with PROFIBUS-interface can easily be operated at a PLC. For this it is necessary that the protocol S7 (status on delivery) is set at the cam control. All parameters from a cam control can be processed by the S7-protocol.
The S7-protocol allows the processing of the most important parameters in the cam control (see chapter 5 "Table-types of the parameter-data-table" on page 11).
This table form makes a parameterization easier.

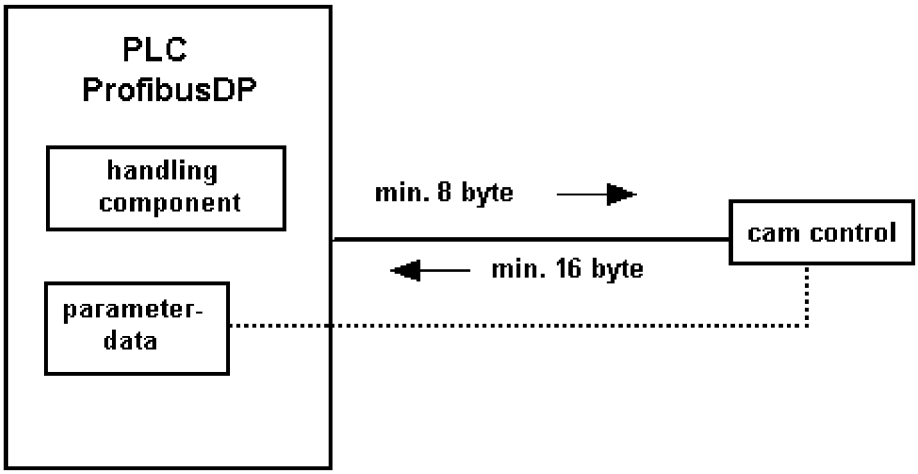
This instruction manual describes the S7-protocol, see comment in chapter 8.1 "Protocol: S7" on page 17.

Besides, the devices ROTARNOCK 100, LOCON 100 and LOCON 200 support the „Com. Profile“ protocol. For it the device is addressed in the PROFIBUS in accordance with the Deutschmann communication profile (see instruction manual „Communication Profile“).



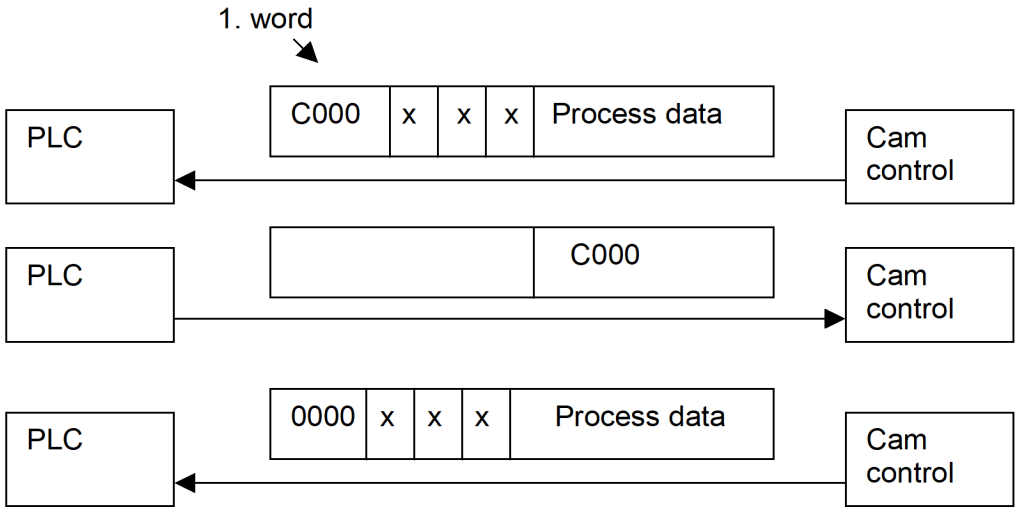
3 Program

At a PLC with PROFIBUS the transfer of the parameter data to the cam control is taken over by a PLC program (handling component).
The cam control transfers the process data back in every PROFIBUS cycle. The length of the process data is dependent on the cam control and the selected module of the GSD-file (see chapter "Explanation:" on page 15).



4 Synchronization (starting phase)

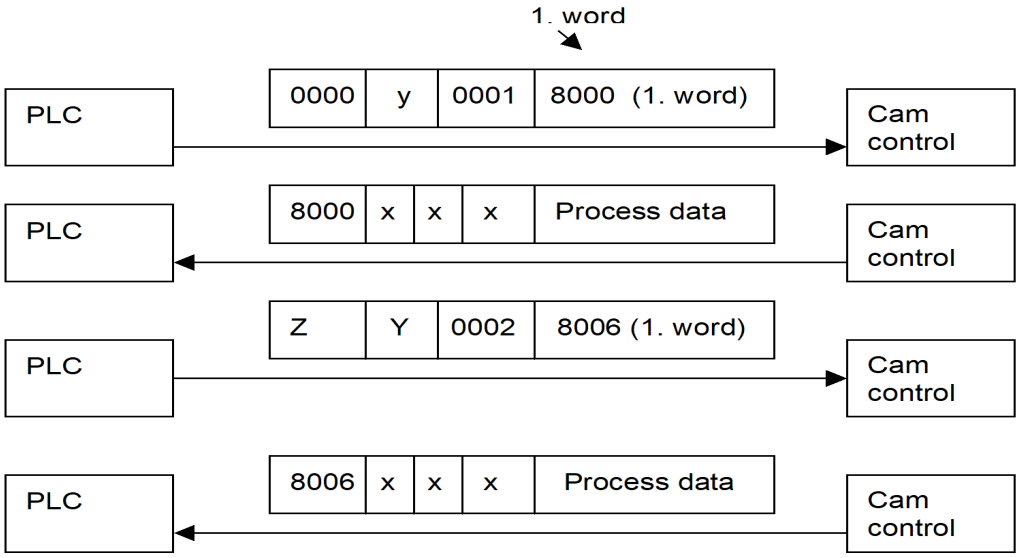
After switching on the cam control, the PLC and the cam control synchronize themselves. Afterwards the parameter data are copied to the cam control cyclically.
After switching on, the cam control sends a 0xC000 (bit 15 and 14 set in the 1. word) until it gets this word back from the PLC as an echo. After that the cam control sends a 0x0000 (bit 15 and 14 deleted in the 1. word) and ends the synchronization with it.
From that point on the handling component copies always 3 subsequent words from the parameter data table, from the address word via the bus to the cam control (see chapter 4.2 "Data structure of a request (from PLC to cam control)" on page 9).



Values in hex
x = not used

4.1 Data exchange

Now the PLC sends 0x8000 (bit 15 write-req set) with start address of the first word from the table and the first three words from the parameter table.
A parameter table always starts with the address 0. All data have always to be copied in intervals of 6 byte to the cam control. As a confirmation the PLC waits for the first word of the request (0x8000 hex).
The second data record, that is sent from the PLC to the cam control is 0x8006 hex in the first word and the next three words from the parameter table.
Consequently the start address always has to be a multiple of 6. Reaching the end of the table the copy process starts again from the address 0.
As a confirmation the PLC waits for the first word of the request (0x8006 hex).
Besides the PLC always gets the process data back (see chapter 4.3 "Process data in Multiturn-format" on page 10).



x = Not used
Y = Number of bytes of the offset table
Z = Start address of the parameter data, e. g. from type 2

4.2 Data structure of a request (from PLC to cam control)

1. word			2. word	3. word	4. word	5. word
Bit 15 Command	Bit 14 Command	13 ..... 0 Address pointer	15 ... 0 Data	15 ... 0 Data	15 ... 0 Data	only for logic function
0 0 1 1	0 1 0 1	not used not used write-request sync (starting phase)	6 byte data from address pointer			16 bit logic

Note: With regard to the logic function, the following must be observed when using the 16 inputs:

* ROTARNOCK 4-PROFIBUS: The 1st input is in the 10 byte in the 5th word in the PROFIBUS.

* ROTARNOCK 100-PROFIBUS: The 1st input is in the 9 byte in the 5th word in the PROFIBUS.

4.3 Process data in Multiturn-format

From the 5. word on the process data are permanently provided.

Data structure of a response from the cam control to the PLC:

Word Byte No.	1. word Byte 0, 1	2. word Byte 2, 3	3. word Byte 4, 5	4. word Byte 6, 7	5. word Byte 8, 9	6. word Byte 10, 11	7. word Byte 12 , 13	.....
Bit	15 .. 0	15 .. 0	15 .. 0	15 .. 0	31 .. 16	15 .. 0	15 .. 0	.....
	Copy of the 1. word from the PLC as confirma-tion of receipt	__	__	__	Position		Speed	.....

.....	Byte 14	Byte 15	Byte 16	Byte 17	Byte 18	Byte 19	.....
.....	7 .. 0	7 .. 0	7 .. 0	15 .. 8	7 .. 0	7 .. 0	.....
.....	ActProgr	Error No.	Output 1 to 7	Output 9 to 16	Output 17 to 24	Output 25 to 32	.....

Assignment of the outputs to bits

Example:

MSB Bit 7	...	LSB Bit 0
Output 8	...	Output 1

The status information on the outputs start from byte 16 on. Here that amount of outputs is transfered that is supported by the cam control.

5 Table-types of the parameter-data-table

Description	Fixed value	Table-type	Length
OFFSET_TYPE	0x0001	Offset always starts at table-address 0	WORD
IDLE_TYPE	0x0004	Idle time table	WORD
CONTROL_TYPE	0x0005	Config-parameter table	WORD
CAM_MT_TYPE	0x0007	Cams for Multiturn devices	WORD
DIRECTIONCAM_TYPE_NEW	0x000F	Direction cams	WORD
AT_CAM_ST_TYPE	0x000B	Angle-time cams	WORD
LOGIC_TYPE	0x000C	Logic function	WORD

6 Offset-table

In the offset-table three words are reserved in each case for the description of a parameter table. The first three words urgently have to be located at the beginning of this parameter table, they, themselves declare the offset-table.
The first word contains the key sign for this offset-table (0x0001), the second word contains the number of required bytes of the table and the third word contains the start address of the table.
The start address of the offset-table always equals zero.
The entries in the offset-table enable already existing tables to be extended or new ones to be added. The parameter table always starts with the offset declaration (example).

Description	Value in the PLC	Function	Length
Offset_Type	1		WORD
Offset_Length	To be calculated		WORD
Offset_ Address	0		WORD

Thereupon the declaration of each table follows by means of the offset-table.

6.1 Offset-table for idle time

Description	Value in the PLC		Length
Idle_Type	4		WORD
Idle_Length	Number of required idle times by 6		WORD
Idle_Address	Address of the first idle time entry		WORD

6.2 Idle time: IDLE

Structure	Value	Function	Length
ProgNo			BYTE
Output		0_n und OFF = 0 => this idle time will be deleted	BYTE
IdleT_On			WORD
IdleT_Off			WORD

Any further required idle time will be lined up gaplessly.
In order to automatically program the cam control, the programmer of the PLC only has to change the corresponding values in the structure-table.

6.3 Offset table for control table

Description	Value in the PLC	Length
Control_Type	5	WORD
Control_Length	here fixed on 6	WORD
Control_Address	Address of the first control entry (New_Prog)	WORD

6.4 Devices control-table: CONTROL_TYPE

In this table those bytes and flags are set by the PLC programmer, that carry out a specific configuration in the cam control. The table consist of six bytes:

Description	Value	Function	Length
New_Prog	0..15	Select new program	BYTE
ConfigFlags: Teach _In_Zero	Bit 0	Teach-In Zero Point (high active)	BOOL
Invert_Encoder	Bit 1	Invert-Encoder-Countdir (0=not inverted, 1=inverted)	BOOL
Error_Quit	Bit 2	Error-Quit	BOOL
Res_03 ... Res_07	Bit 3 - 7	Res_03_Res_07	BOOL
Res_0			BYTE
Res_1			BYTE
Res_2			BYTE
Res_3			BYTE

6.5 Offset table for (Multiturn) cams

Description	Value in the PLC	Length
CAM_MT_Type	7	WORD
CAM_MT_Length	Amount of required cams by 12	WORD
CAM_MT_Address	Address of the first MT-entry	WORD

6.6 Cams (for Multiturn): CAM_MT

Structure	Value	Function	Length
ProgNo			WORD
Output		0 = deletes the cam in the device	WORD
On			DWORD
Off			DWORD

6.7 Offset table for direction cams

Description	Value in the PLC	Length
Direction_Cam_NewType	F	WORD
Direction_Cam_Length	6 byte	WORD
Direction_Cam_Address	Address of the first direction-cam-entry	WORD

6.8 Direction cams: DIRECTION_CAM_NEW

The length of the direction cams-table is determined by the last output, which is used for the function of the direction cams. In the example below output 3 is the last output used for a direction evaluation. The table's length always has to be a multiple of 6 bytes. Therefore 3 „dummy"-bytes have been added.

Structure	Value	Length
Direction_Cam_New_Table.Direction_Cam_New[1].Output 0 Byte	0	Byte
Direction_Cam_New_Table.Direction_Cam_New[2].Output 1 Byte	1	Byte
Direction_Cam_New_Table.Direction_Cam_New[3].Output 2 Byte	2	Byte
Direction_Cam_New_Table.Direction_Cam_New[4].Reserved 0 Byte	0	Byte
Direction_Cam_New_Table.Direction_Cam_New[5].Reserved 0 Byte	0	Byte
Direction_Cam_New_Table.Direction_Cam_New[6].Reserved 0 Byte	0	Byte

The following values are possible:
0 = Update always (both directions) = default
1 = Update positive
2 = Update negative

6.9 Offset table for angle-time cams

Description	Value in the PLC	Length
AT_CAM_ST_Type	0x0B	WORD
AT_CAM_ST_Length	Amount of required cams by 6	WORD
AT_CAM_ST_Address	Address of the first angle-cam-entry	WORD

6.10 Angle-time cams: AT_CAM_ST

Structure	Value	Function	Length
ProgNo			BYTE
Output			BYTE
On			WORD
Duration	0x0001 - 0x7EF4	ms	WORD

6.11 LOGIC-function: LOGIC

Structure	Value	Function	Length
ProgNo	from 0 to MAX_PROG		BYTE
DestNo	from 1 to 16	0 deletes complete logic function	BYTE
DestType	0 = hardware output 1 = flag 2 = hardware output inverted 3 = flag inverted		BYTE
OpNo1	1 - 32		BYTE
OpType1	0 = internal cam control output 1 = input: hard-/software 2 = flag 3 = SR (shift register) 4 = PB (only LOCON 200)	input	BYTE
LogicFct1-2	0 = none 1 = or 2 = and 3 = or not 4 = and not		BYTE
OpNo2	1 - 32		BYTE
OpType2	see OpType1		BYTE
LogicFct2-3	see LogicFct1-2		BYTE
OpNo3	1 - 32		BYTE
OpType3	see OpType1		BYTE
LogicFct3-4	see LogicFct1-2		BYTE
OpNo4	1 - 32		BYTE
OpType4	see OpType1		BYTE
OutputDelay	ms	at present max. 255	WORD
OutputTrigger	0 = leading edge 1 = trailing edge		BYTE
Module number (only LOCON 200)	0 basis x I/O-module number		BYTE

6.12 GSD-modules for PROFIBUS cam control

GSD-file	Module	Cam control
R80	“S7DB(universal)“	ROTARNOCK 80
R100	“S7DB(universal)“	ROTARNOCK 100
R100	“S7DB(uni.)+logic16“	ROTARNOCK 100 with logic
L100	“S7DB(universal)“	LOCON 100
L100	“S7DB(uni.)+logic8“	LOCON 100 with 8 logic inputs
L100	“S7DB(uni.)+logic16“	LOCON 100 with 16 logic inputs
L200	“L200-Basis(S7-mode)“	LOCON 200 (incl. logic)
L200 IO8	“L200-IO8“	LOCON 200-IO8-expansion

6.13 Example: Parameter-table

Address in dez	Description	Length	Value in dez
0	Offset_Type	WORD	1
2	Offset_Length	WORD	12
4	Offset_Address	WORD	0
6	Cam_MT_Type	WORD	3
8	Cam_MT_Length	WORD	6
10	Cam_MT_Address	WORD	12
12	Cam_MT_Cam (1).ProgNo	WORD	0
14	Cam_MT_Cam (1).Output	WORD	4
16	Cam_MT_Cam (1).On	DWORD	20
18	Cam_MT_Cam (1).Off	DWORD	40

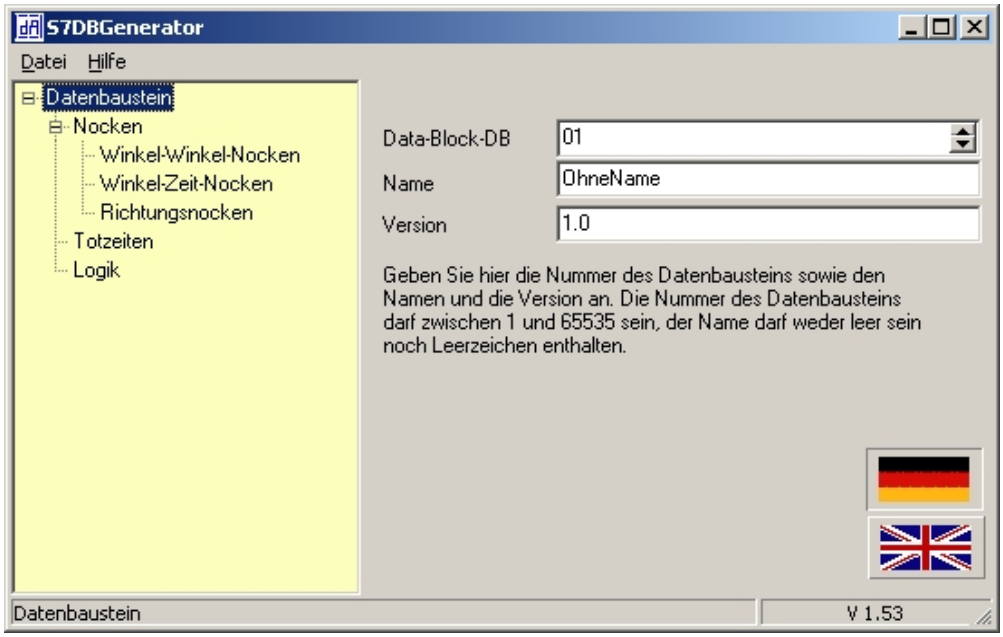
In this example the output 4, Cam_MT_Cam(1).Output is set in the program 0, Cam_MT_Cam(1).ProgNr., between position 20, Cam_MT_Cam(1).On and 40, Cam_MT_Cam(1).Off. The value Cam_MT_Length is the amount of bytes and is calculated as follows: Amount of cams multiplied by six.
Offset_Length is the amount of bytes of the offset parameters, always starting at zero and ending at the address 10 in this example.

Explanation:

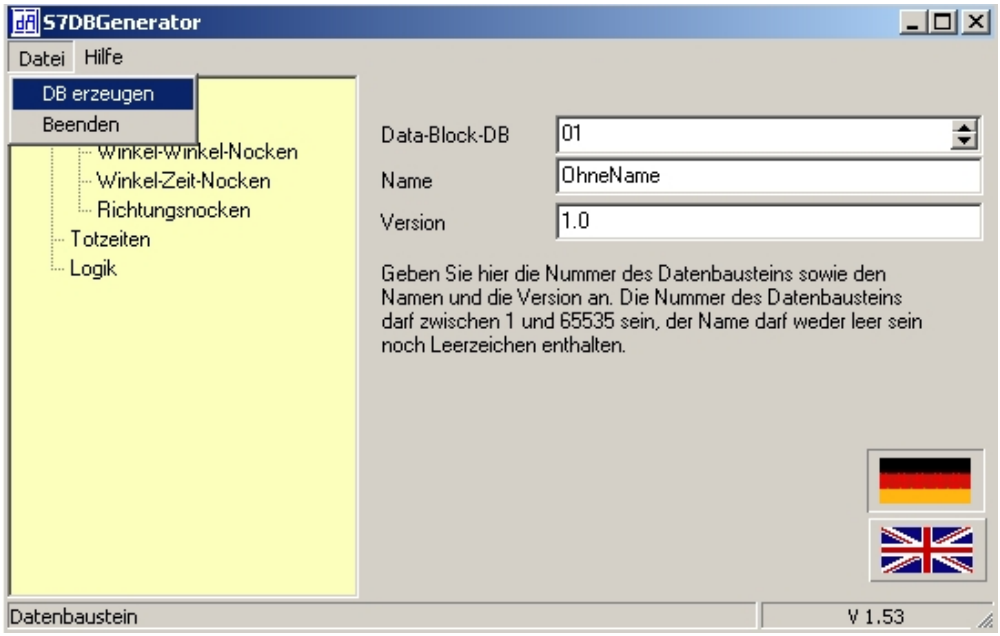
Type	Length
BOOL	1 bit
BYTE	8 bits
WORD	2 bytes
DWORD	4 bytes

7 Data component-generator

The generator generates a desired parameter-table (empty) automatically in the AWL-format. With it the user is relieved of the calculation of the length-values and start addresses. The program can be loaded from our homepage at http://www.deutschmann.de.



By a simple click on the flags you can select the language. Please execute the single points now one after the other (for further information please take a look at the help program).
In order to generate the data component, click on “File" -> "Generate data component" (see picture below); define the file name and save.



8 Example: Connecting LOCON 200 via PROFIBUS to a PLC

This example is based on our sample project "Nsw_v2_d.zip" with the project planning software "Step 7 V5.3 + SP2". The following chapters explain the handling with the project. The optional chapters basically apply for hardware differences or they show where which changes have to be made.

8.1 Protocol: S7

As described in this manual in chapter 2 in the protocol S7 has to be set.

Attention:
After a cold start all values in the cam control are deleted.

The PLC is master, therefore the programming can only be carried out through the PLC.

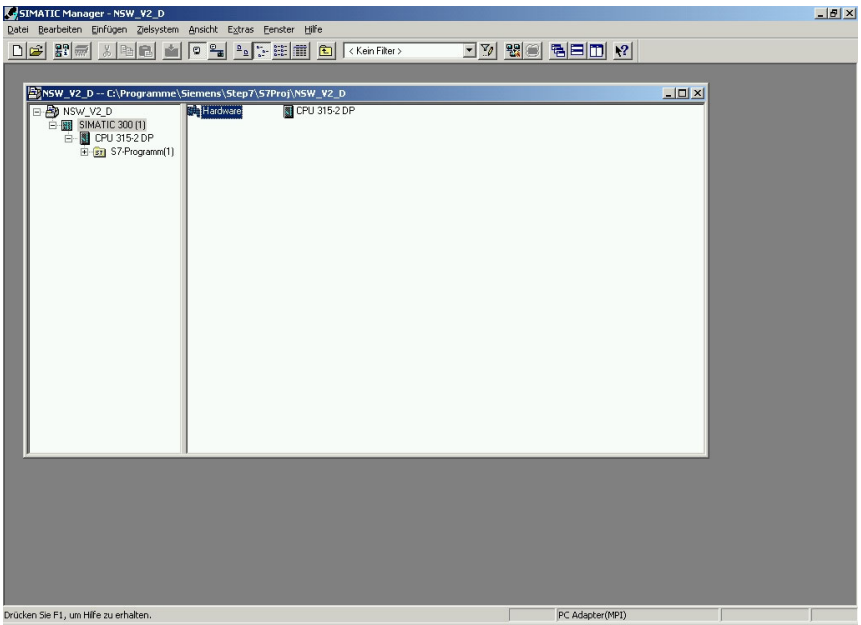
8.2 Configuring the PROFIBUS-ID

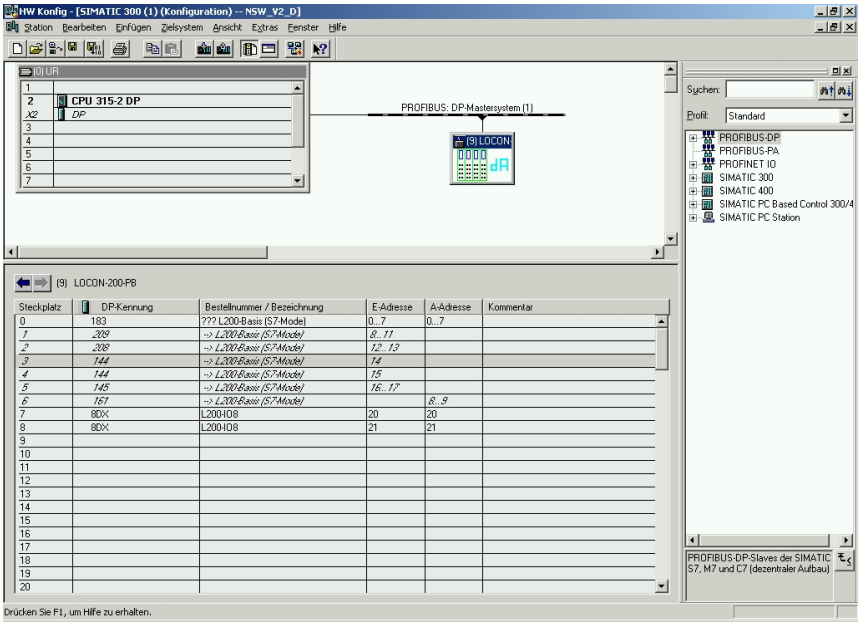
PROFIBUS Slave ID: 126 Dez default

In chapter 9 this manual shows the different possibilities how to set the PROFIBUS-slave-address.
In this example the PROFIBUS-ID is 9.

8.3 Adding or deleting IO8-expansions (optional)

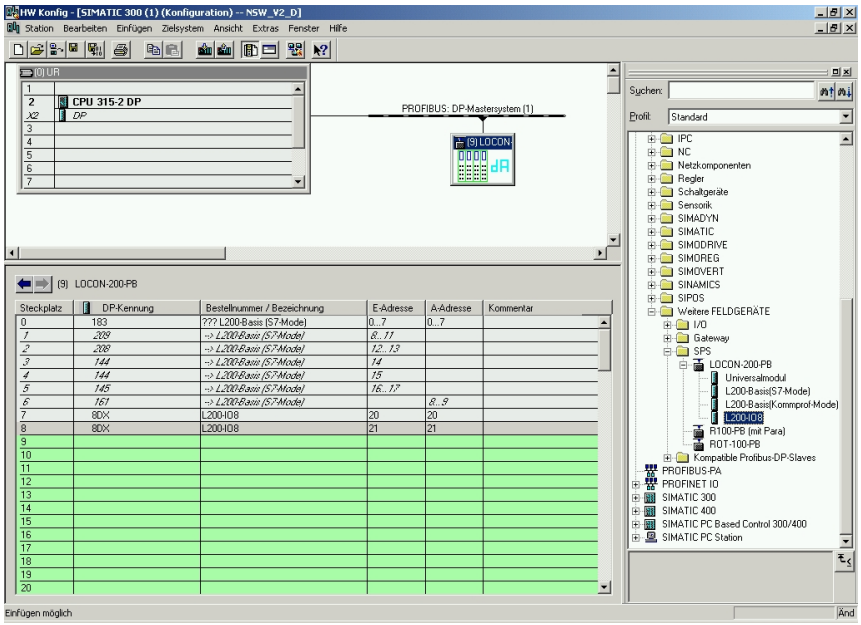
With a double click on *Hardware* you get to the overview. LOCON 200 + 2 IO8-expansions are default.





8.3.1 Adding further IO8-expansions (optional)

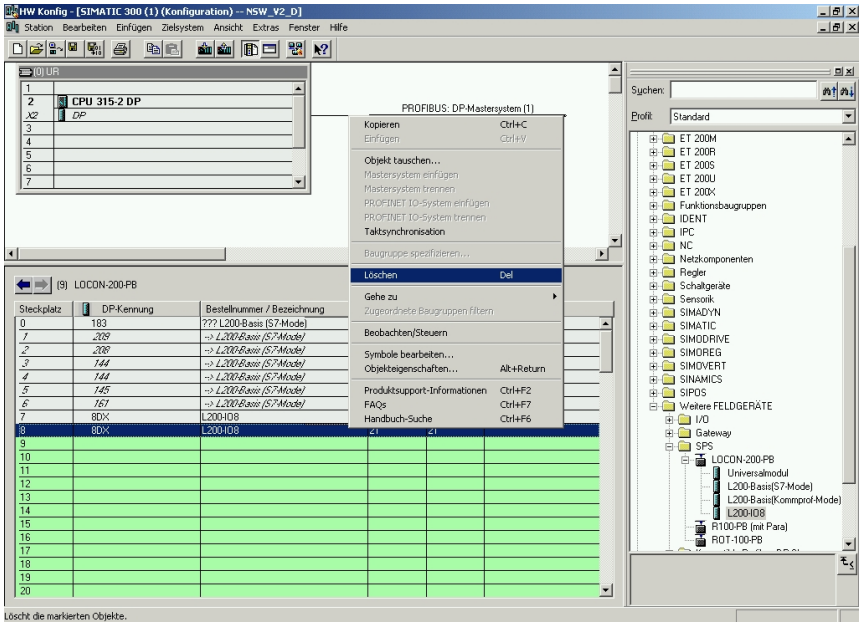
After installing the gsd-file "L200.gsd" you can find it (like all Deutschmann cam controls) under:
PROFIBUS-DP -> Further fielddevices -> PLC
Mark the existing Slave. An “L200-IO8“-expansion can now be added by using Drag + Drop.



Afterwards the IO-address can be defined.

8.3.2 Deleting IO8-modules

In order to delete the IO8-expansions select the last line, then press the right mouse button and choose “Delete“.

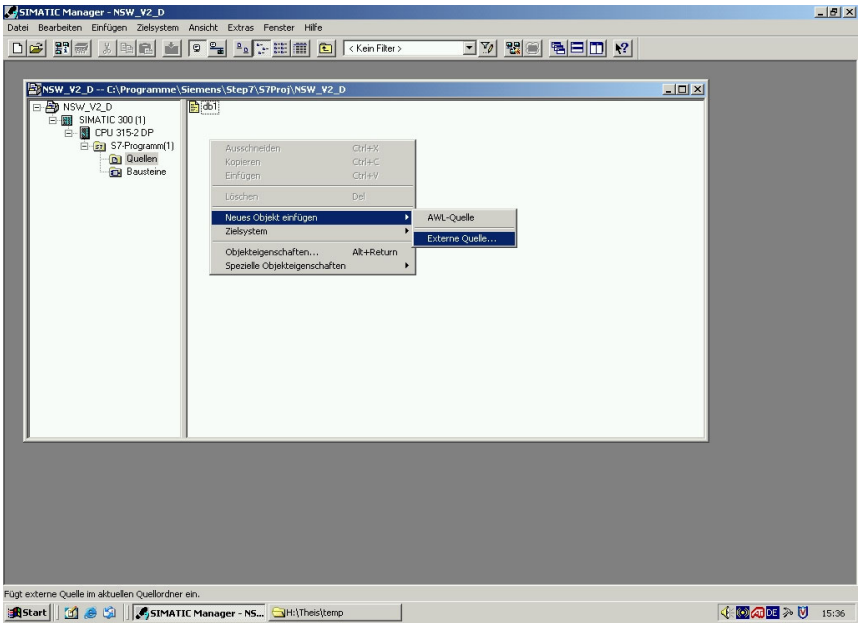


After confirming the security query the last line will be deleted.

8.4 Importing, defining and describing data component with values

8.4.1 Importing and translating data components (optional)

Under *sources -> right mouse button -> external sources* a data component, generated by the DBGenerator can be imported.



The new source (here “L200“) has to be translated now. For it click with the right mouse button on the new source -> *translate*. (Depending on the defined DB number in the software "DBGenerator" it will appear in the category "components".)

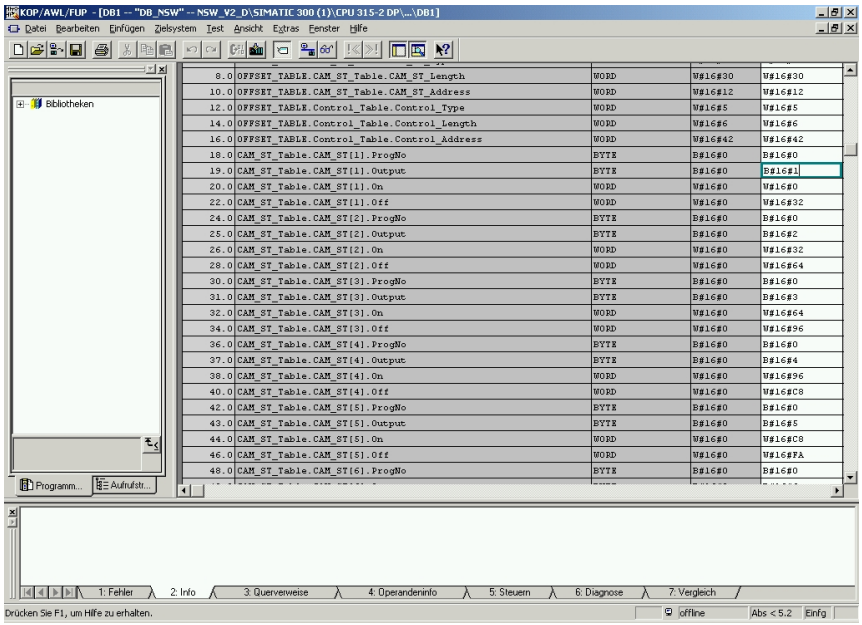
8.4.2 Defining data component (optional)

In the network 1 of the OB1 in line "DB_NUM_NSW:=W#16#1" (default = 1) the cam control data component is defined.

8.4.3 Defining values - setting cams

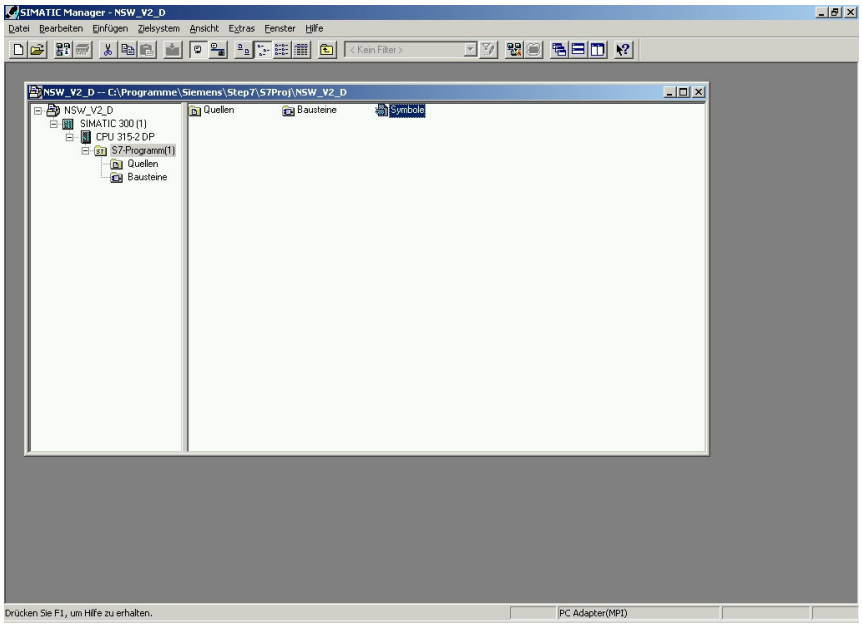
The data component (here DB1) defined in chapter 8.4.2 can be called by a double-click left. Under *View* change to *Data view*.

Attention:
The entry of all values is made in hexadecimal form!

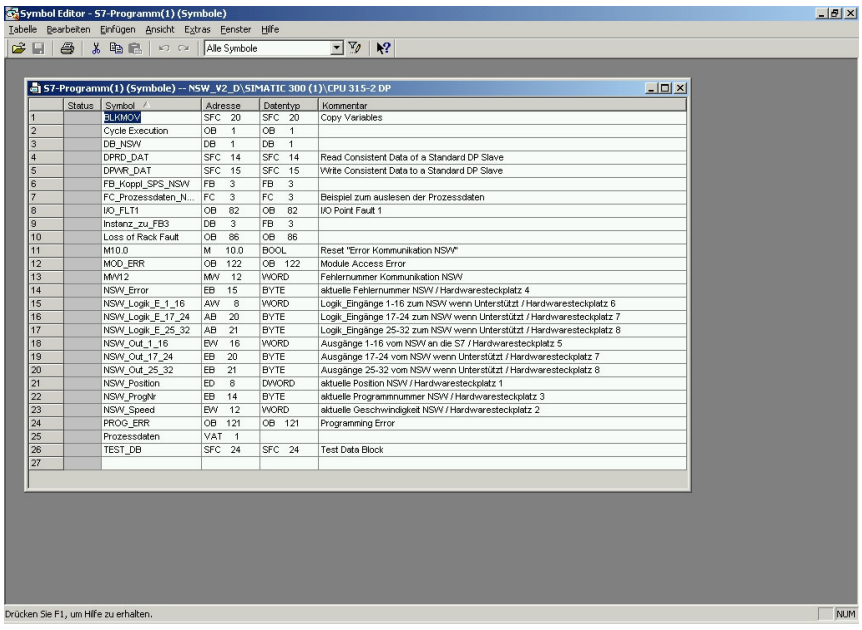


8.5 Defining or deleting symbols (optional)

If an IO8-expansion was added or deleted (chapter 8.4.1), then the symbolism is changed to *Symbols*.



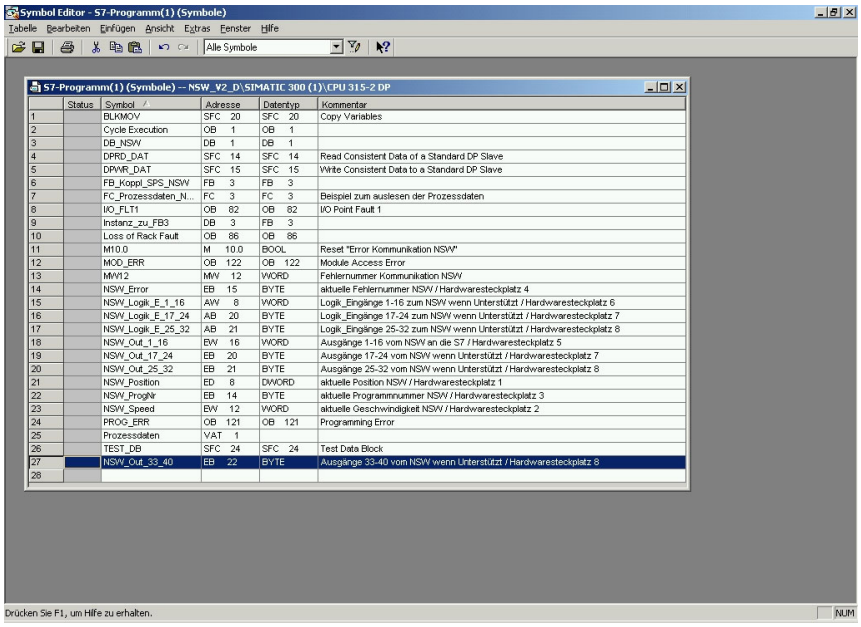
The following view comes up:



	Status	Symbol	Adresse	Datentyp	Kommentar
1		BLKMOV	SFC 20	SFC 20	Copy Variables
2		Cycle Execution	OB 1	OB 1	
3		DB_NSW	DB 1	DB 1	
4		DPRD_DAT	SFC 14	SFC 14	Read Consistent Data of a Standard DP Slave
5		DPWR_DAT	SFC 15	SFC 15	Write Consistent Data to a Standard DP Slave
6		FB_Koppl_SPS_NSW	FB 3	FB 3	
7		FC_Prozessdaten_N...	FC 3	FC 3	Beispiel zum auslesen der Prozessdaten
8		I/O_FLT1	OB 82	OB 82	I/O Point Fault 1
9		Instanz_zu_FB3	DB 3	FB 3	
10		Loss of Rack Fault	OB 86	OB 86	
11		M10.0	M 10.0	BOOL	Reset "Error Kommunikation NSW"
12		MOD_ERR	OB 122	OB 122	Module Access Error
13		MW12	MW 12	WORD	Fehlernummer Kommunikation NSW
14		NSW_Error	EB 15	BYTE	aktuelle Fehlernummer NSW / Hardwaresteckplatz 4
15		NSW_Logik_E_1_16	AW 8	WORD	Logik_Eingänge 1-16 zum NSW wenn Unterstützt / Hardwaresteckplatz 6
16		NSW_Logik_E_17_24	AB 20	BYTE	Logik_Eingänge 17-24 zum NSW wenn Unterstützt / Hardwaresteckplatz 7
17		NSW_Logik_E_25_32	AB 21	BYTE	Logik_Eingänge 25-32 zum NSW wenn Unterstützt / Hardwaresteckplatz 8
18		NSW_Out_1_16	EW 16	WORD	Ausgänge 1-16 vom NSW an die S7 / Hardwaresteckplatz 5
19		NSW_Out_17_24	EB 20	BYTE	Ausgänge 17-24 vom NSW wenn Unterstützt / Hardwaresteckplatz 7
20		NSW_Out_25_32	EB 21	BYTE	Ausgänge 25-32 vom NSW wenn Unterstützt / Hardwaresteckplatz 8
21		NSW_Position	ED 8	DWORD	aktuelle Position NSW / Hardwaresteckplatz 1
22		NSW_ProgNr	EB 14	BYTE	aktuelle Programmnummer NSW / Hardwaresteckplatz 3
23		NSW_Speed	EW 12	WORD	aktuelle Geschwindigkeit NSW / Hardwaresteckplatz 2
24		PROG_ERR	OB 121	OB 121	Programming Error
25		Prozessdaten	VAT 1		
26		TEST_DB	SFC 24	SFC 24	Test Data Block
27					

8.5.1 Adding a new symbol (optional)

For it the cursor is brought into the last line and a new symbolic name has to be defined.

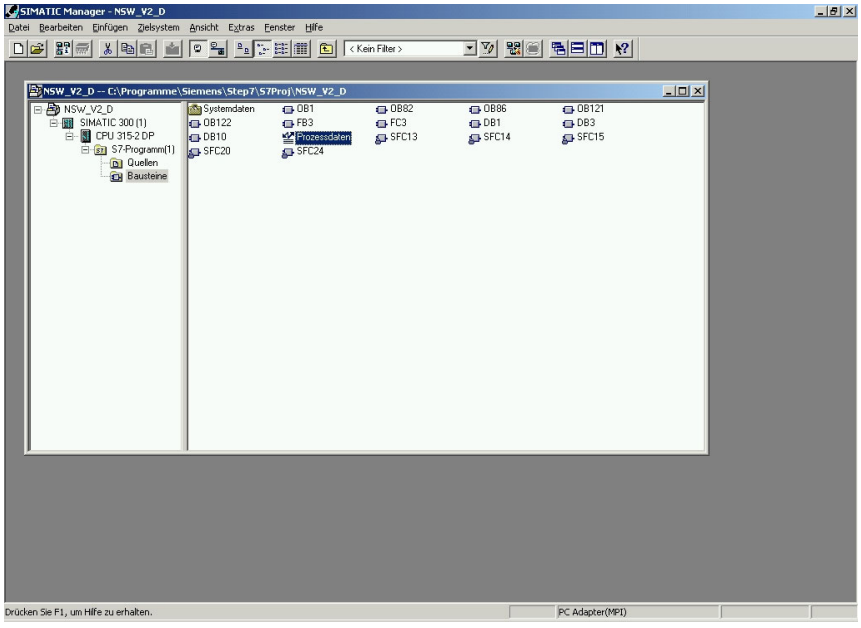


8.5.2 Deleting a symbol (optional)

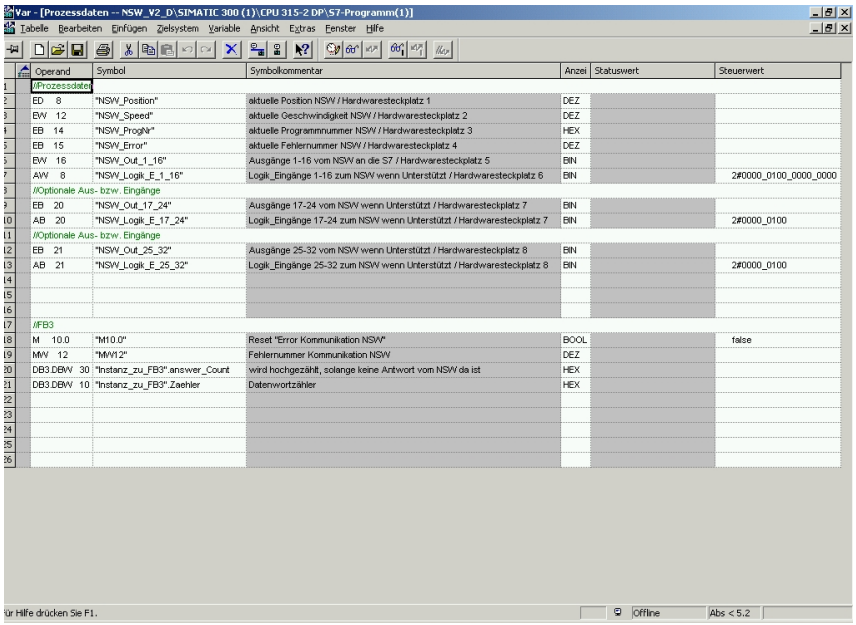
In order to delete a symbol mark the line with a left click on the line number and press *ENTF* on the keypad. After confirming the line is deleted.

8.6 Process data

In order to have the process data displayed they have to be opened.

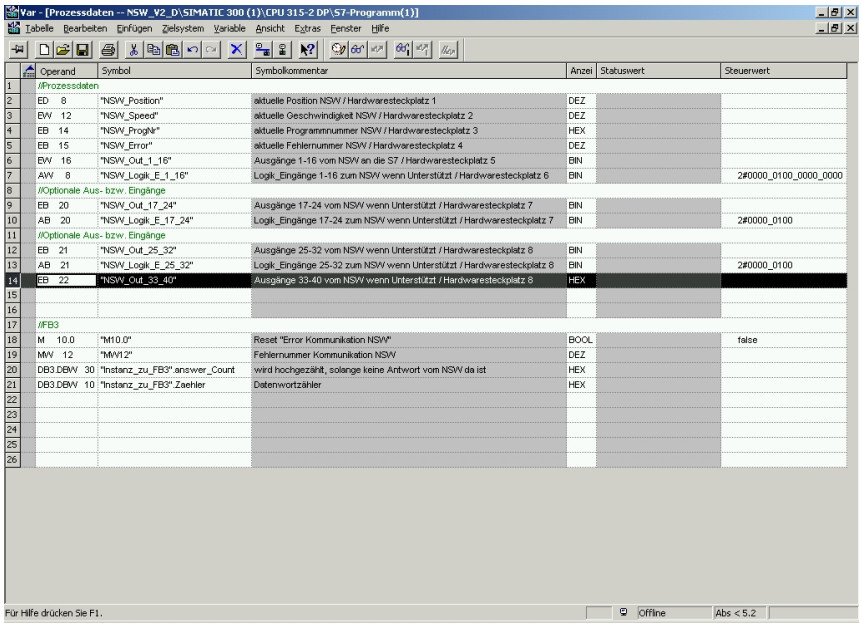


The following view comes up:



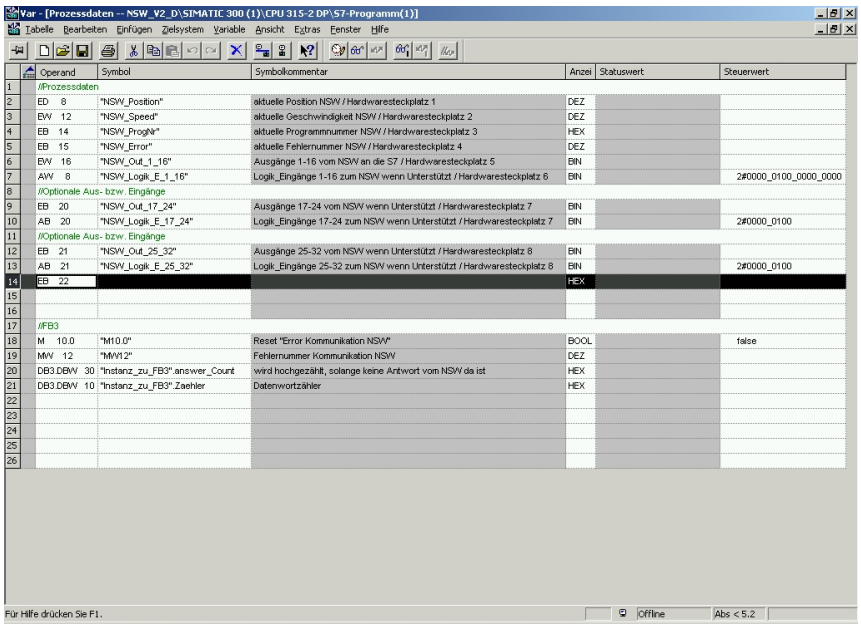
8.6.1 Extending the process data of an IO8-module (optional)

In order to make a new symbol visible (according to chapter 8.5.1), it has to be called here. For it it is sufficient to to enter the symbolic name into a free line in the column „Symbol". After pressing *ENTER* the line is brought up to date.



8.6.2 Deleting an entry of the process data (optional)

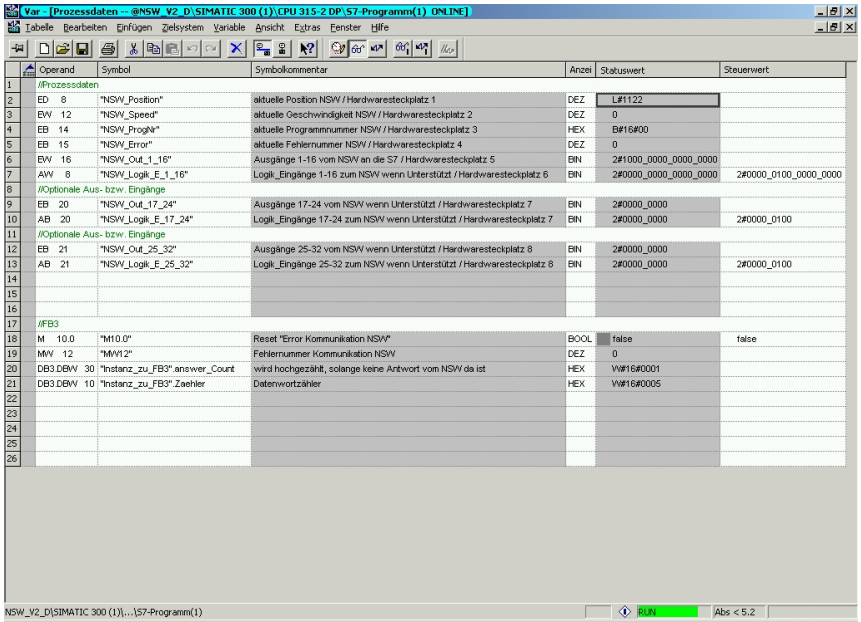
If a symbol was deleted according to chapter 8.5.2, then only the operand is placed at that location.



This entry can be deleted by simply marking the line and pressing *ENTF*.

8.6.3 Displaying the process data

In order to be able to see the process data, now the complete project has to be written into the PROFIBUS-Master. Besides, all electrical connection between LOCON and Master have to be established.
After the rotation of a connected encoder the item modification should have become visible after the *online function* was called .



9 Setting the PROFIBUS-ID at LOCON and ROTARNOCK

9.1 Setting the PROFIBUS-ID

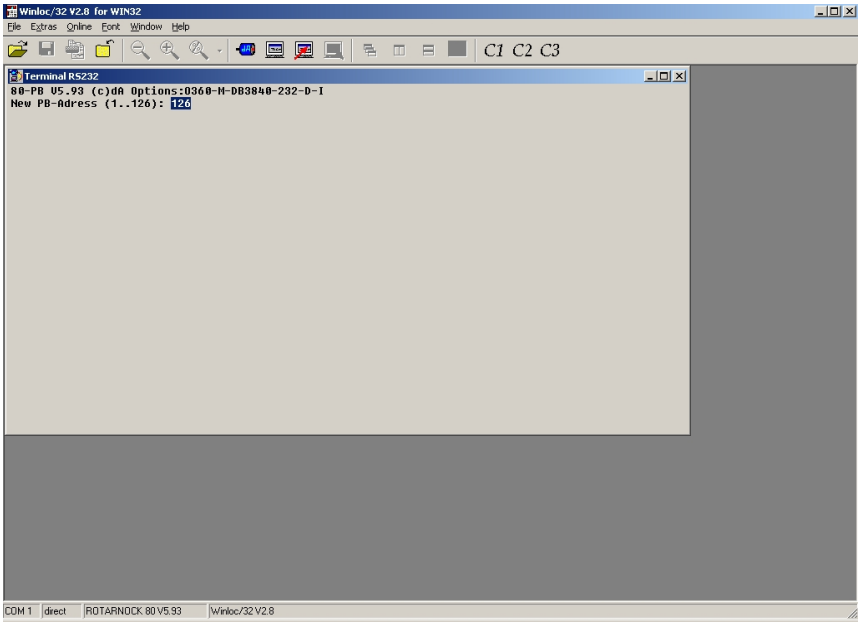
By default the PROFIBUS address is set to 126 Dez.
There are the following possibilities to change the ID:

9.1.1 Example for S7 with PC-adapter

The PROFIBUS-Slave is directly connected to the PC with the programming adapter. The ID can then be changed in the Simatic „Manager-target system-Change PROFIBUS-address“ by means of a projecting tool, e. g. Step 7 Software.

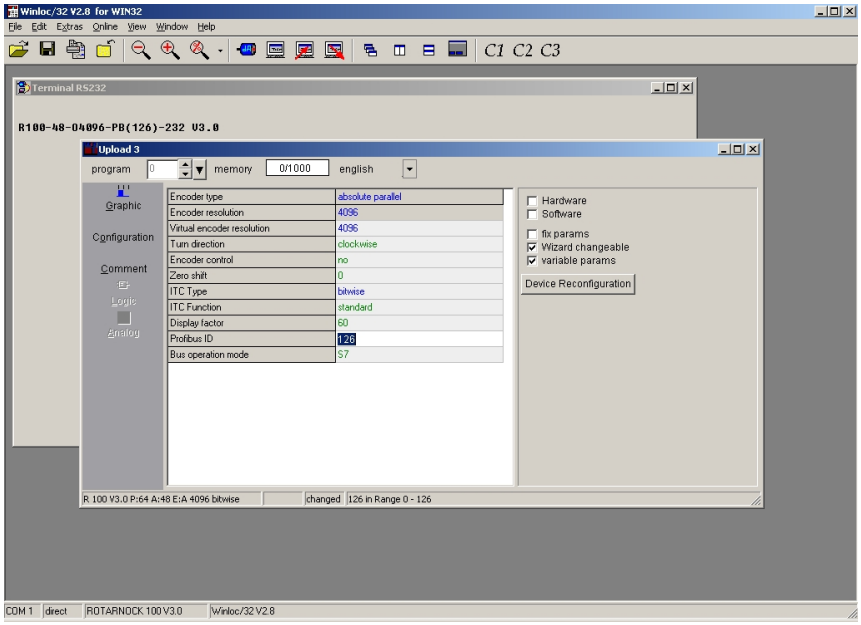
9.1.2 Example through RS232-interface via WINLOC32

The line of proceeding described in the following applies to ROTARNOCK 80 only. The device is connected to a PC’s RS232-interface with the 25-pole plug (also compare to chapter „Basic device ROTARNOCK“, subsection „25-pol. D-SUB“ in the manual „Electronic cam control ROTARNOCK“). In a simple terminal window, such as WINLOC32 the ID can be changed with the key combination „Clrg + N“ or „Strg + N“.



9.1.3 Example for WINLOC32-Upload

The device has to be connected with the PC via the RS232-connection. If WINLOC32 is started then only an „Upload“ has to be carried out afterwards. The desired PROFIBUS-ID can be entered into the „Configuration“ now.



A „Donwload“ has to be performed in order to take over the change. The device carries out a restart and with it the new ID is set.

9.1.4 External setting of the PROFIBUS-ID

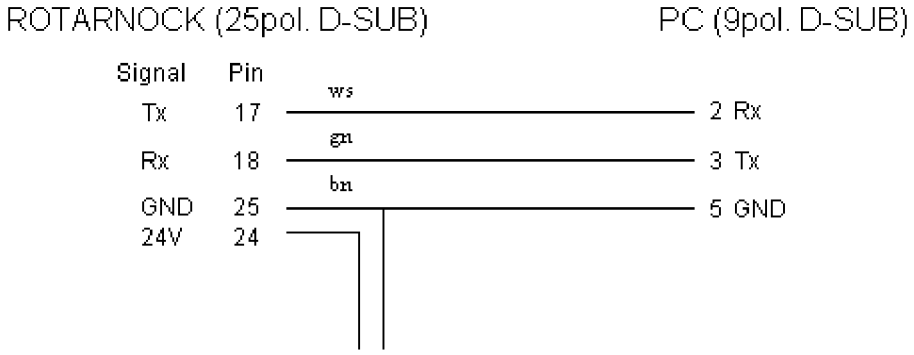
The devices LOCON 100 & LOCON 200 can be adjusted to the corresponding address through the rotary coding switches (hexadecimal) located at the bottom side.
At ROTARNOCK 100 it is also possible to select the PROFIBUS-ID externally. For further information please have a look at the manual „ROTARNOCK 100“.

10 History

Device	ROTARNOCK 80	ROTARNOCK 100	LOCON 100	LOCON 200
Supported table types				
1	x	x	x	x
2				
3	x	x	x	x
4	x	x	x	x
5	x	x	x	x
6				
7		[x]	x	x
8	x			
9				
A				
B		x	x	x
C		x	x	x
D				
E				

11 Programming cable for ROTARNOCK

The programming cable for ROTARNOCK PROFIBUS is available by the article no. V3467-n*, where n* = cable length in meters.
This cable is required for the configuration of the fieldbus parameters (ID, DB-number etc.) via the RS232-interface.



A voltage supply to the pins 24 (24V) and 25 (Gnd) has to be made externally.

12 Error messages

Complementary to the error messages (see chapter “Error messages“ in the instruction manual for ROTARNOCK or LOCON) the following error messages are possible for cam controls with fieldbus connection:

Error number	Meaning	Remark
9	Error in the internal communication between processor and fieldbus-chip	Restart the device or send it in
36	Addressed data component not existent in the S7	E. g. DB1 not existent at PROFIBUS
43	No connection between ROTARNOCK and S7	E. g. wrong setting of the ID Defective connection cable
80	Error in the structure of the S7-data component	DB-number might be set the wrong way. Generate the data component again with the generator
22	Error when saving a cam value	Wrong value (e. g. too big)
82	Logic confic error	Logic not configures

12.1 Status LED at the ROTARNOCK

In the operating state the LED lights up red to the „zero point“. A LED that flashes red (4 times as fast as in case of a “regular“ error) indicates an error, which can be analysed by means of the above stated table. The number can either be seen via the diagnosis data from PROFIBUS or via the RS232-interface of the WINLOC32-online-window.

13 Servicing

Should an error message occur, first off all please take all measures described in chapter Error messages.

Should questions occur that are not covered by this manual, please contact the responsible sales partner (see internet: http://www.deutschmann.de) or contact us directly.

Please keep the following information ready at hand when you call:

Device designation
Serial number (S/N)
Item No.
Error number and error description (see chapter 13.1 "Returning a unit")

You can reach us on the following Hotline number. Lines are open from

Monday to Thursday from 8 am to 12 pm and from 1 pm to 4 pm, Friday from 8 am to 12 pm.

Central office & sales department: +49-(0)6434-9433-0
Technical hotline: +49-(0)6434-9433-33

Fax Central office & sales department: +49-(0)6434-9433-40
Fax technical hotline: +49-(0)6434-9433-49

E-mail Technical hotline: hotline@deutschmann.de

13.1 Returning a unit

If you return a unit to us, we require as comprehensive a description of the error as possible. We require the following information in particular:

- What error no. is indicated
- How is the unit externally wired (outputs, ..)? Please state all connections of the unit.
- What were you last doing on the unit (error on power-up, ...)?

The more precise your information and error description, the more precisely we can check the possible causes.
For devices that are returned without an error description a standard test is made. We have to charge this standard test even if no error was found.

13.2 Internet

On our Internet-homepage (URL) various software can be loaded. Beyond that you will also find topical information on Deutschmann products, instruction manuals and a list of our distribution partners.
URL: www.deutschmann.de

S7 example project for:

Device	Project	PROFIBUS-ID
ROTARNOCK 80 / ROTARNOCK 100	NSW_v2_d.zip (German)	9
LOCON 100 / LOCON 200	NSW_v2_d.zip (English)	9