



VPC3+ Demo-Software

Revision 5.00

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This document is subject to technical changes.

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Demo Software:

DPV1AFFE: Software demo for PROFIBUS DPV1. For this software the software licence PROFIBUS DPV1 (Order No.: PA007062) is necessary.

This demo software supports following features:

- Modular station with 6 modules
- DPV1
 - one master class 1 channel
 - three master class 2 channel
 - alarm handling with process- and diagnostic alarm

DPV0AFFE: Software demo for PROFIBUS DP.

This demo software supports following features:

- Modular station with 6 modules
- Diagnostic with Status message

EASY4711: Software demo for PROFIBUS DP

This demo software supports following features:

- Fixed configuration with 2 byte input and 2 byte output

EASYADAC: Software demo for PROFIBUS DP

This demo software supports following features:

- Modular station with 20 modules (max 244 byte input, 244 byte output)

1 Introduction

Notes:

2.1 Introduction

This software demo simulates a PROFIBUS DPV1 device with six modules.

2.2 Starting Up with Hilscher (SyCon)

2.2.1 Install GSD-File

Install the GSD-File (DPV1AFFE.gsd) in the PROFIBUS configuration tool, make a new project and insert the master and the slave.

DPV1AFFE.gsd - gsd-file for PROFIBUS DPV1

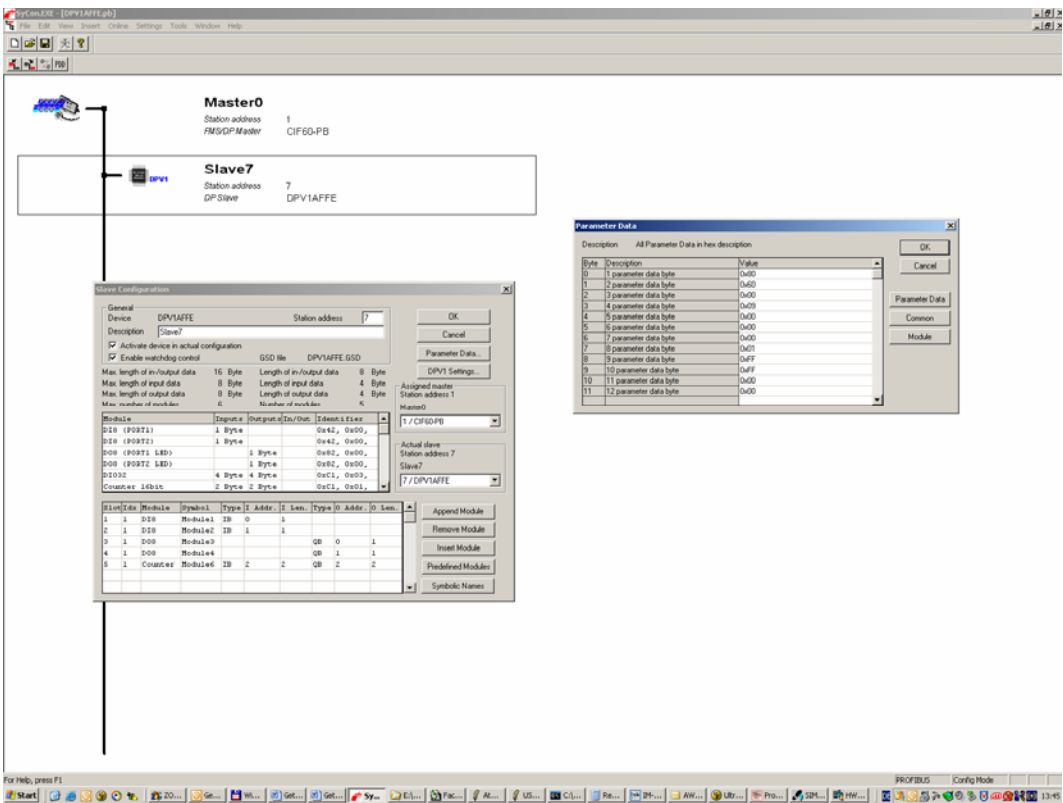


Figure 2-1: Sycon Project

2 DPV1AFFE

The slave needs following sequence of module configuration:

Slot1: DI8 (PORT1)
Slot2: DI8 (PORT2)
Slot3: DO8 (PORT1 LED)
Slot4: DO8 (PORT2 LED)
Slot5: DIO32
Slot6: Counter 16bit

The slave needs following parameter data:

0x80, 0x60, 0x00
0x09, 0x00, 0x00, 0x00, 0x01, 0xFF, 0xFF, 0x00, 0x00

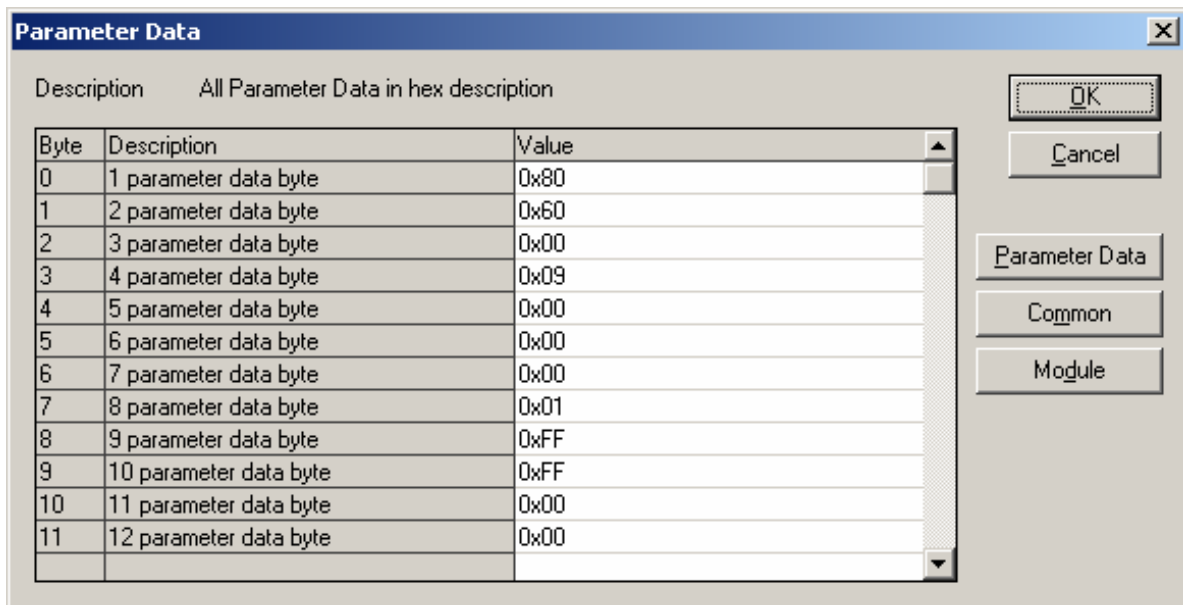


Figure 2-2: Parameter data

After configuration and parameterization of the slave, save the project and make a download to the Hilscher card(Menu: Online, MenuItem: Download)
Now, the master starts up the slave.

2.2.2 Lifelist

The Lifelist is a special feature of the SyCon program (select the master, Menu: Online, MenuItem: LifeList)

Notice: The LifeList generation has problems with small baudrates like 9.6 and 19.6kBaud)

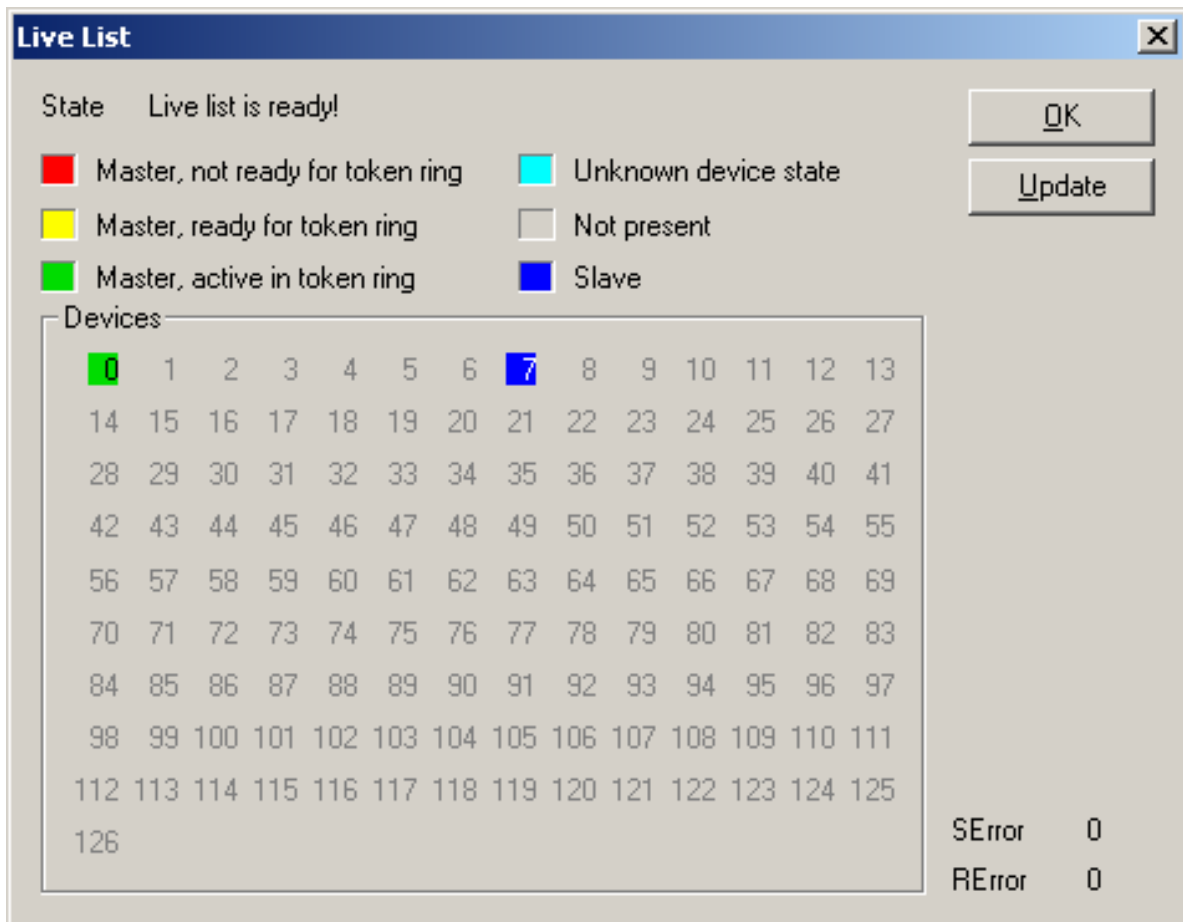


Figure 2-3: LifeList

2 DPV1AFFE

2.2.3 Debug monitoring

Over the debug monitoring the user has the possibility to check the state and the diagnostic of the slave (select the master, Menu: Online, MenuItem: Start Debug Mode)

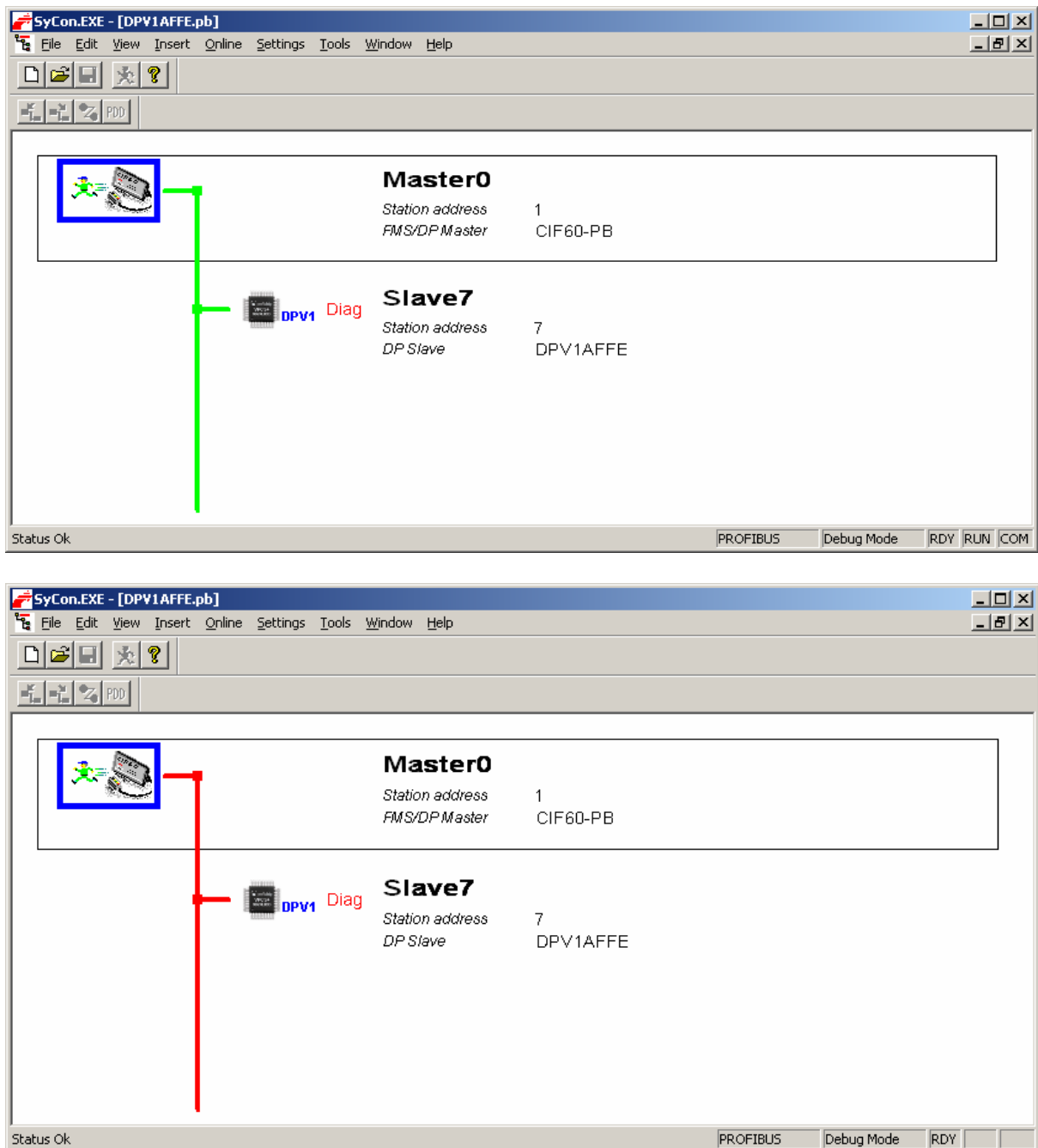


Figure 2-4: Debug Mode

If the line red, the slave isn't in the state DataExchange. With double click on the slave, the SyCon opens the dialogbox "Diagnostic". This dialogbox shows the last diagnostic message of the slave.

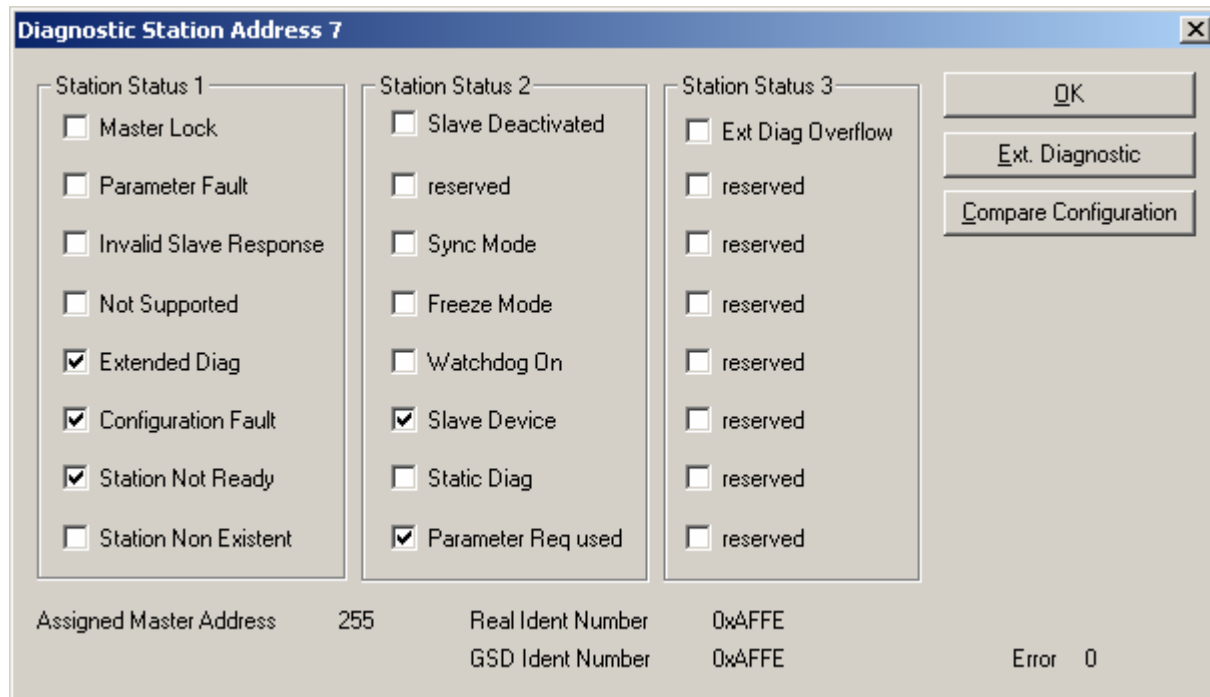


Figure 2-5: Diagnostic message

2 DPV1AFFE

Over the button Compare Configuration the slave configuration data can be checked.

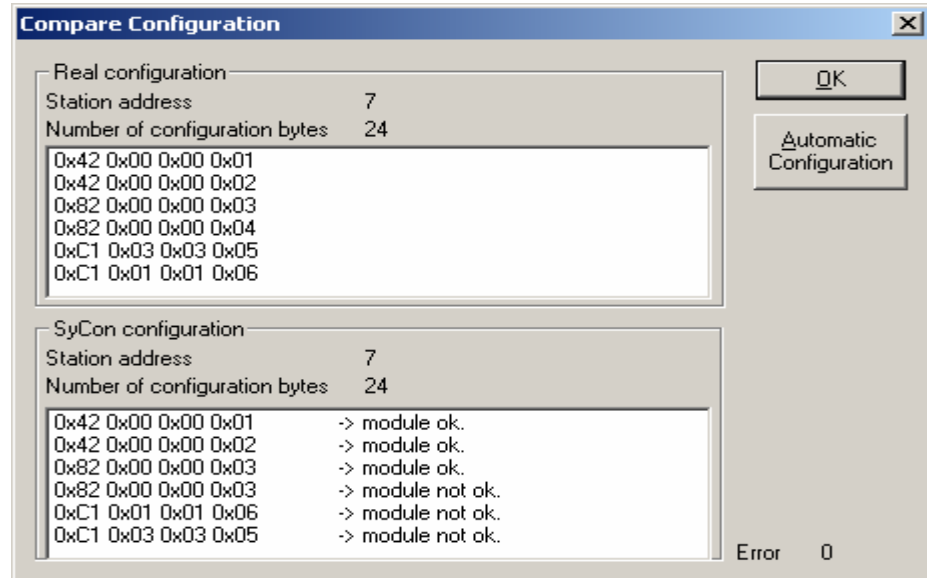


Figure 2-6: Compare Configuration

2.2.4 Process image

The DP-slave receives 8 Byte output data from the DP-master.

Output data (Byte)	Value:	
0		DO8 (PORT1 LED)
1		DO8 (PORT2 LED)
2..5		Virtuell DIO32 module
6..7	Byte 6: 1: start counter 2: clear counter	Virtuell Counter module

Figure 2-7: Table Output data

The DP-slave sends 8 Byte input data to the DP-master.

Input data (Byte)	Value:	
0		DI8 (PORT1)
1		DI8 (PORT2)
2..5		Virtuell DIO32 module
6..7		Virtuell Counter module

Figure 2-8: Table input data

2.2.5 I/O Monitor

I/O Monitor

Input data

dec	0	1	2	3	4	5	6	7	8	9
0	3	199	66	77	88	99	70	124	0	0
1	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0
3	0	0								
4										
5										
6										
7										

Output data

dec	0	1	2	3	4	5	6	7	8	9
0	33	44	66	77	88	99	1	0	0	0
1	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0
3	0	0								
4										
5										
6										
7										

OK

DEC/HEX

Update

Error 0

Figure 2-9: I/O Monitor

2.2.6 Diagnostic

With Key1 and Key2 the user can send diagnostic messages.

The slave sends following diagnostic messages:

Key	Diag.resp	Meaning
KEY 1 down	08 0C 00 02 AF FE	Normdiagnostic with ExtDiag-bit
	84 C1 82	Channeldiagnostic, Slot 5
	09 01 05 11 01 07 0F 67 33	Diagnosticalarm, Slot 5, coming event
KEY 1 up	00 0C 00 02 AF FE	Normdiagnostic
	09 01 05 1A 01 00 0F 00 00	Diagnosticalarm, Slot 5, going event
KEY 2 down	08 0C 00 02 AF FE	Normdiagnostic with ExtDiag-bit
	85 C1 82	Channeldiagnostic, Slot 6
	09 01 06 21 01 07 0F 67 33	Diagnosticalarm, Slot 6, coming event
KEY 2 up	00 0C 00 02 AF FE	Normdiagnostic
	09 01 06 2A 01 00 0F 00 00	Diagnosticalarm, Slot 6, going event

Figure 2-10: Table Diagnostic Messages

Example of diagnostic message:

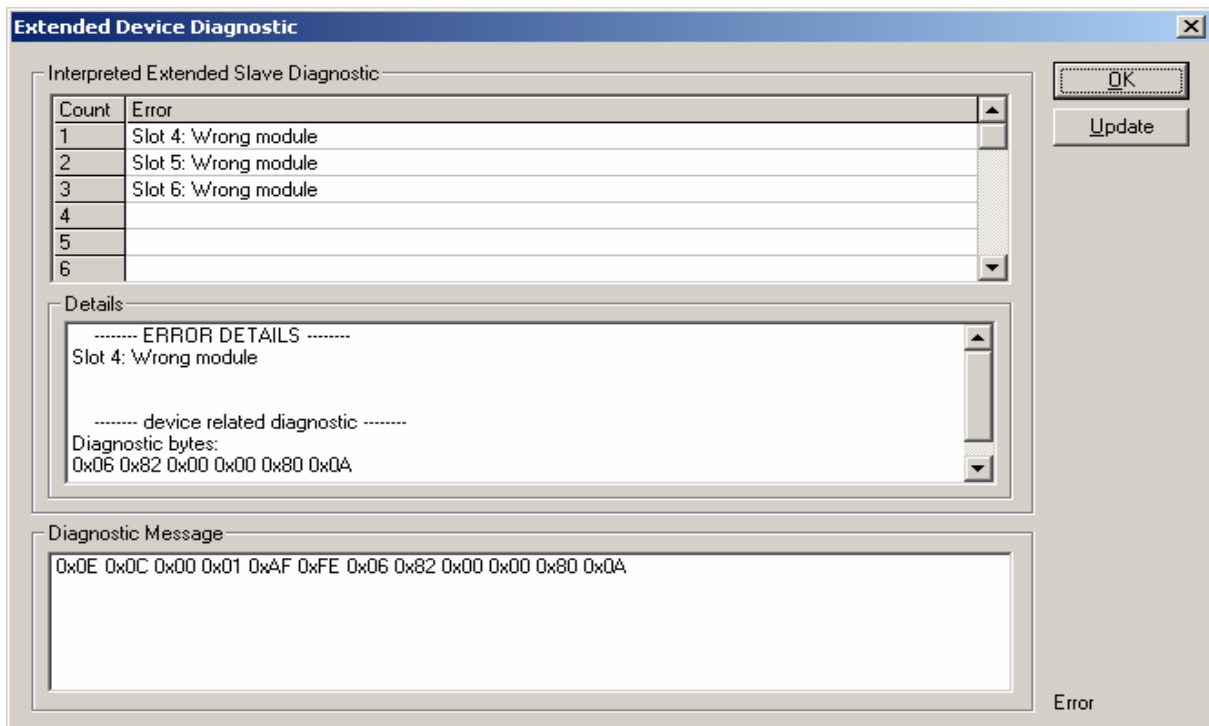


Figure 2-11: Example Diagnostic Message

2.2.7 DPV1 services

Read:

Slot number	Index	Length (Byte)	
0	2	1..44	DPV1 rw buffer
0	255		I&M Function
1	2	1	DI8 (PORT 1)
2	2	1	DI8 (PORT 2)
3	2	1	DO8 (LED PORT 1)
4	2	1	DO8 (LED PORT 2)
5	2	8	Virtuell DIO32 module 4Byte input 4Byte output
6	2	11	Virtuell Counter module 2Byte input counter 2Byte output counter 7 Byte parameter data

Figure 2-12: Table DPV1 Read

Write:

Slot number	Index	Length (Byte)	
0	2	1..44	DPV1 rw buffer
0	255		I&M Function
6	2	7	Virtuell Counter module 7 Byte parameter data

Figure 2-13: Table DPV1 Write

Structure of counter parameter data:

Byte	
0	Process-, diagnostic alarm
1	Counter mode
2	Timebase
3,4	high-limit
5,6	low-limit

Figure 2-14: Counter Parameter Data

2 DPV1AFFE

2.2.8 Demo: C1-Write Slot 0, Index 2

Message Monitor - [C1WRI02.MSG *]

File Edit View

MESSAGE OUTPUT Counter 17

Message Header

RX	10	TX	03
LN	08	NR	A1
A	11	F	00
B	00	E	00

Telegram Header

Device Adr.	07	Data Area	00
Data Adr.	0000	Data Idx.	02
Data Count	08	Data Type	0A
Function	02	<input checked="" type="checkbox"/> enable	

Receive data

	0	1	2	3	4	5	6	7	8	9
0										
10										
20										
30										
40										
50										
60										
70										

MESSAGE INPUT Counter 17

Message Header

RX	03	TX	10
LN	10	Auto NR <input checked="" type="checkbox"/>	NR A2
A	00	F	00
B	11	E	00

Telegram Header

Device Adr.	07	Data Area	00
Data Adr.	0000	Data Idx.	02
Data Count	8	Data Type	0A
Function	02	<input checked="" type="checkbox"/> enable	

Send data

	0	1	2	3	4	5	6	7	8	9
0	01	02	03	04	05	06	07	08		
10										
20										
30										
40										
50										
60										
70										

☐ Put cyclic

PutMessage

OK

Figure 2-15: Demo C1-Write

2.2.9 Demo: C1-Read Slot 0, Index 2

Message Monitor - [C1REA02.MSG]

File Edit View

MESSAGE OUTPUT Counter 27

Message Header

RX	10	TX	03
LN	10	NR	25
A	11	F	00
B	00	E	00

Telegram Header

Device Adr.	07	Data Area	00
Data Adr.	0000	Data Idx.	02
Data Count	08	Data Type	0A
Function	01	<input checked="" type="checkbox"/> enable	

Receive data

	0	1	2	3	4	5	6	7	8	9
0	01	02	03	04	05	06	07	08		
10										
20										
30										
40										
50										
60										
70										

MESSAGE INPUT Counter 27

Message Header

RX	03	TX	10
LN	08	Auto NR <input type="checkbox"/>	NR 25
A	00	F	00
B	11	E	00

Telegram Header

Device Adr.	07	Data Area	00
Data Adr.	0000	Data Idx.	02
Data Count	8	Data Type	0A
Function	01	<input checked="" type="checkbox"/> enable	

Send data

	0	1	2	3	4	5	6	7	8	9
0										
10										
20										
30										
40										
50										
60										
70										

☐ Put cyclic PutMessage

OK

Figure 2-16: Demo C1 Read

2 DPV1AFFE

2.2.10 Demo: C1-Read Slot 5, Index 2

Message Monitor - [C1REA52.MSG *]

File Edit View

MESSAGE OUTPUT Counter 29

Message Header

RX	10	TX	03
LN	13	NR	25
A	11	F	00
B	00	E	00

Telegram Header

Device Adr.	07	Data Area	00
Data Adr.	0005	Data Idx.	02
Data Count	08	Data Type	0A
Function	01	<input checked="" type="checkbox"/> enable	

Receive data

	0	1	2	3	4	5	6	7	8	9
0	5C	E4	01	00	00	00	01	FF	FF	00
10	00									
20										
30										
40										
50										
60										
70										

MESSAGE INPUT Counter 29

Message Header

RX	03	TX	10
LN	08	Auto NR <input type="checkbox"/> NR	25
A	00	F	00
B	11	E	00

Telegram Header

Device Adr.	07	Data Area	00
Data Adr.	0005	Data Idx.	02
Data Count	11	Data Type	0A
Function	01	<input checked="" type="checkbox"/> enable	

Send data

	0	1	2	3	4	5	6	7	8	9
0										
10										
20										
30										
40										
50										
60										
70										

☐ Put cyclic PutMessage

OK

Figure 2-17: Demo C1 Read

2.2.11 Demo: Initiate

With the SyCon we can also send Class 2 services to the slave.
Please change the slave address (new address: 3) on the evaluation board
and press reset.
Now the master is a Class2 master for the slave.

Message Monitor - [C2INI03.MSG]

File Edit View

MESSAGE OUTPUT Counter 1

Message Header

RX	10	TX	03
LN	0F	NR	25
A	20	F	00
B	00	E	00

Telegram Header

Device Adr.	Data Area
Data Adr.	Data Idx.
Data Count	Data Type
Function	<input type="checkbox"/> enable

Receive data

	0	1	2	3	4	5	6	7	8	9
0	03	01	00	00	00	00	00	00	02	00
10	02	00	00	00	00					
20										
30										
40										
50										
60										
70										

MESSAGE INPUT Counter 1

Message Header

RX	03	TX	10
LN	11	Auto NR <input type="checkbox"/> NR	25
A	00	F	00
B	20	E	00

Telegram Header

Device Adr.	Data Area
Data Adr.	Data Idx.
Data Count	Data Type
Function	<input checked="" type="checkbox"/> enable

Send data

	0	1	2	3	4	5	6	7	8	9
0	00	00	02	00	02	00	00	00	00	
10										
20										
30										
40										
50										
60										
70										

☐ Put cyclic PutMessage

Figure 2-18: Initiate

2.2.12 Demo: C2-Write Slot 0, Index 2

Message Monitor - [C2WRI02.MSG *]

File Edit View

MESSAGE OUTPUT Counter 12

Message Header

RX	10	TX	03
LN	08	NR	25
A	21	F	00
B	00	E	00

Telegram Header

Device Adr.	03	Data Area	00
Data Adr.	0000	Data Idx.	02
Data Count	08	Data Type	0A
Function	02	<input checked="" type="checkbox"/> enable	

Receive data

	0	1	2	3	4	5	6	7	8	9
0										
10										
20										
30										
40										
50										
60										
70										

MESSAGE INPUT Counter 12

Message Header

RX	03	TX	10
LN	10	Auto NR <input type="checkbox"/>	NR 25
A	00	F	00
B	21	E	00

Telegram Header

Device Adr.	3	Data Area	00
Data Adr.	0000	Data Idx.	02
Data Count	8	Data Type	0A
Function	02	<input checked="" type="checkbox"/> enable	

Send data

	0	1	2	3	4	5	6	7	8	9
0	3	4	5	6	7	8	1	2		
10										
20										
30										
40										
50										
60										
70										

☐ Put cyclic PutMessage

OK

Figure 2-19: Demo C2-Write

2.2.13 Demo: C2-Read Slot 0, Index 2

Message Monitor - [C2REA02.MSG]

File Edit View

MESSAGE OUTPUT Counter 1

Message Header

RX	16	TX	3
LN	16	NR	37
A	33	F	0
B	0	E	0

Telegram Header

Device Adr.	3	Data Area	0
Data Adr.	0	Data Idx.	2
Data Count	8	Data Type	10
Function	1	<input checked="" type="checkbox"/> enable	

Receive data

	0	1	2	3	4	5	6	7	8	9
0	3	4	5	6	7	8	1	2		
10										
20										
30										
40										
50										
60										
70										

MESSAGE INPUT Counter 1

Message Header

RX	3	TX	16
LN	8	Auto NR <input type="checkbox"/>	NR 37
A	0	F	0
B	33	E	0

Telegram Header

Device Adr.	3	Data Area	0
Data Adr.	0	Data Idx.	2
Data Count	8	Data Type	10
Function	1	<input checked="" type="checkbox"/> enable	

Send data

	0	1	2	3	4	5	6	7	8	9
0										
10										
20										
30										
40										
50										
60										
70										

☐ Put cyclic

PutMessage

OK

Figure 2-20: Demo C2 Read

2.2.14 Demo C2: Abort

Message Monitor - [C2ABT03.MSG *]

File Edit View

MESSAGE OUTPUT Counter 0

Message Header

RX	00	TX	00
LN	00	NR	00
A	00	F	00
B	00	E	00

Telegram Header

Device Adr.	Data Area
Data Adr.	Data Idx.
Data Count	Data Type
Function	<input checked="" type="checkbox"/> enable

Receive data

	0	1	2	3	4	5	6	7	8	9
0										
10										
20										
30										
40										
50										
60										
70										

MESSAGE INPUT Counter 3

Message Header

RX	03	TX	10
LN	08	Auto NR <input type="checkbox"/>	NR 25
A	00	F	00
B	2F	E	00

Telegram Header

Device Adr.	Data Area
Data Adr.	Data Idx.
Data Count	Data Type
Function	<input type="checkbox"/> enable

Send data

	0	1	2	3	4	5	6	7	8	9
0	01	00	00	00	00	00	00	00		
10										
20										
30										
40										
50										
60										
70										

☐ Put cyclic PutMessage

OK

Figure 2-21: Abort

2.3 Starting Up with SIEMENS (STEP7)

2.3.1 Install GSD-File

Install the GSD-File (DPV1AFFE) in the PROFIBUS configuration tool, make a new project and insert the master and the slave.

DPV1AFFE - gsd-file for PROFIBUS DP

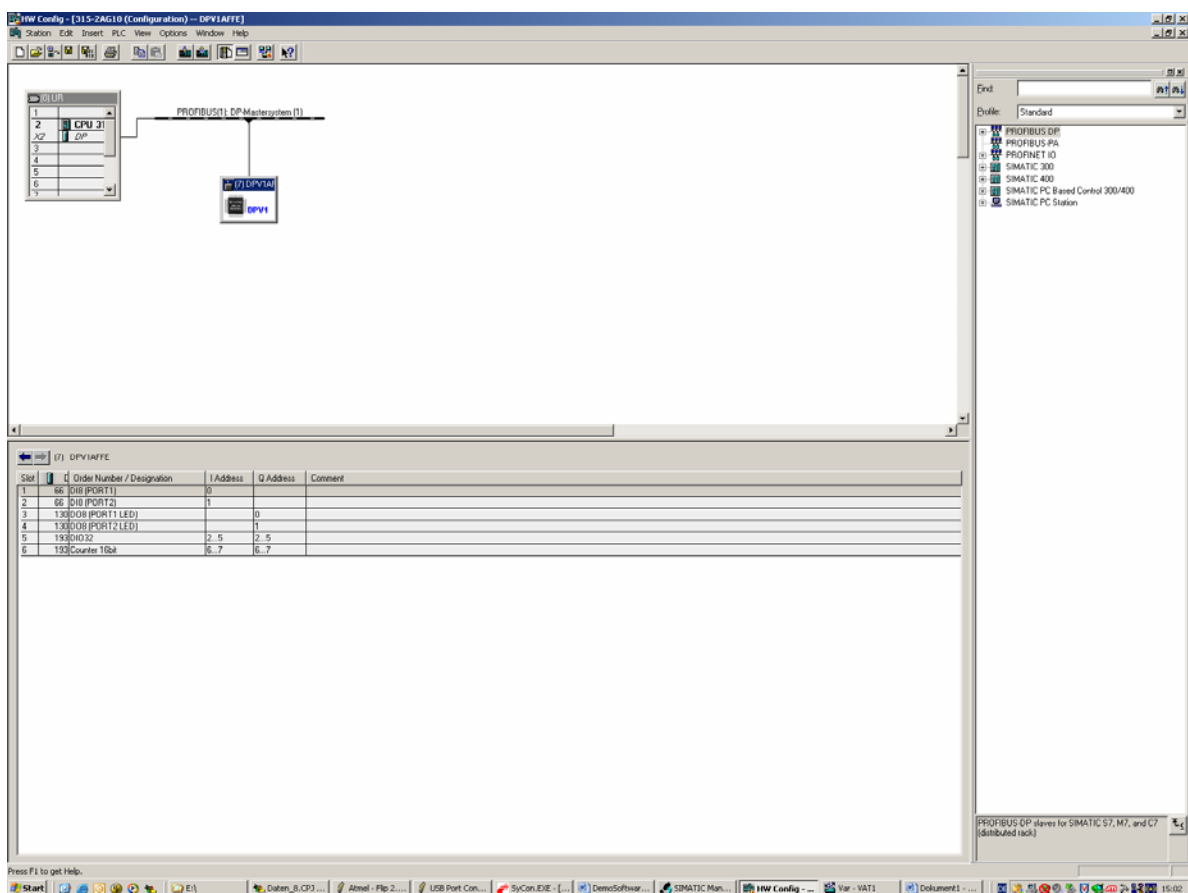


Figure 2-22: STEP7 Project

2.3.2 Configuration, Parameterization

Parameter assignment of the DPV1-Slave:

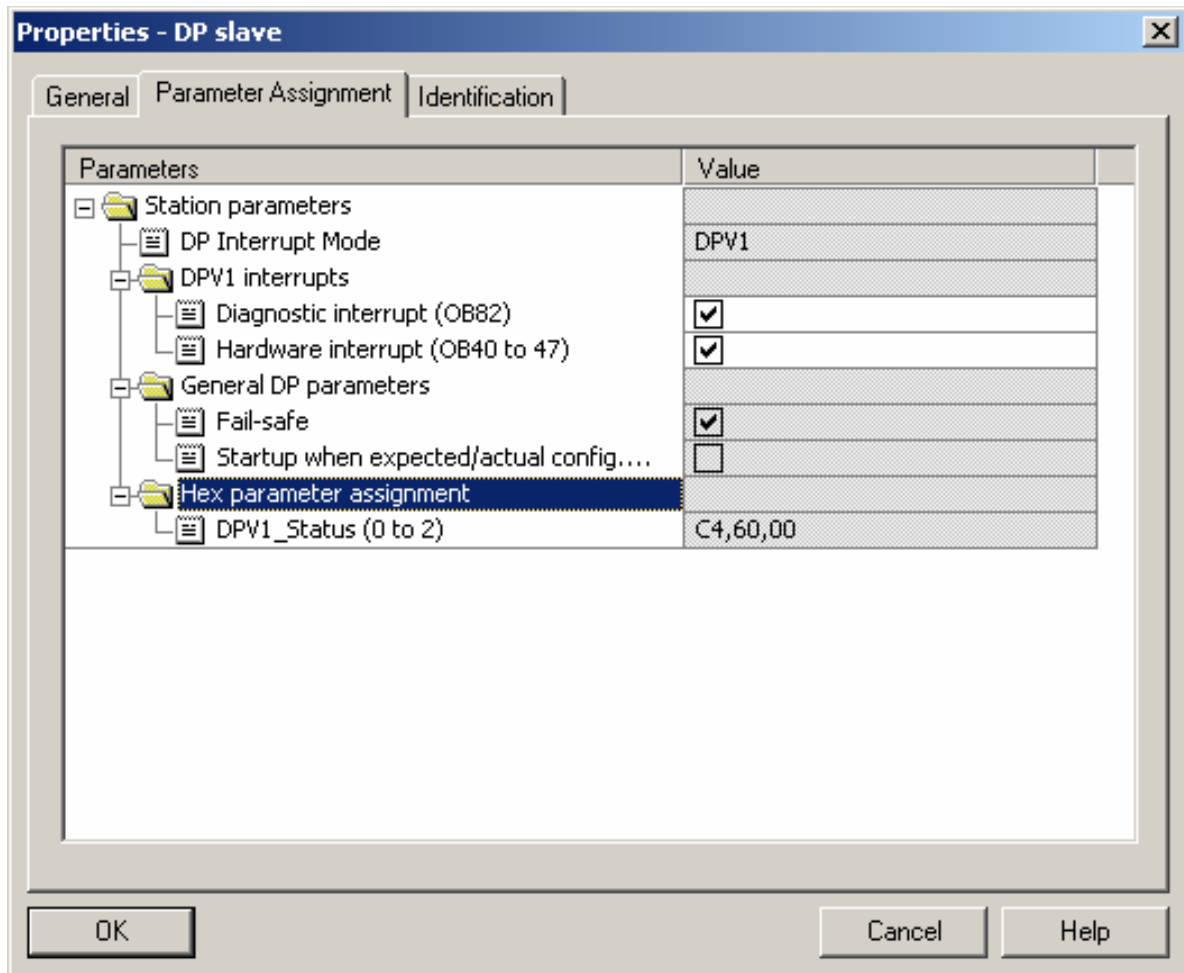


Figure 2-23: Parameter Assignment

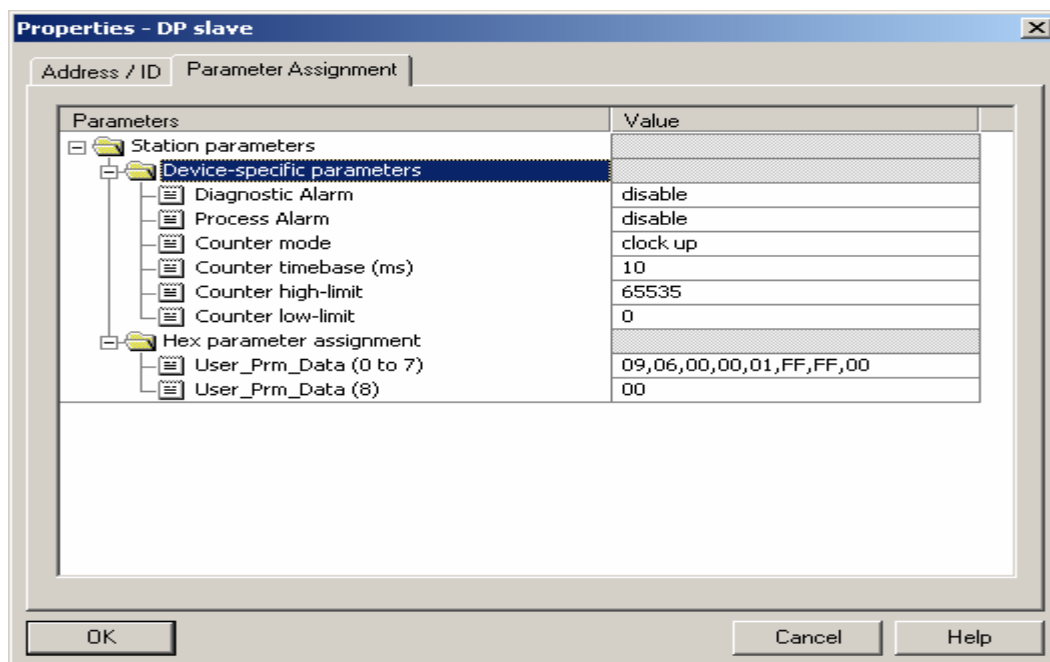


Figure 2-24: Parameter Assignment of Counter module

2.3.3 Process image

The DP-slave receives 8 Byte output data from the DP-master.

Output data (Byte)	Value:	
0		DO8 (PORT1 LED)
1		DO8 (PORT2 LED)
2..5		Virtuell DIO32 module
6..7	Byte 6: 1: start counter 2: clear counter	Virtuell Counter module

Figure 2-25: Table Output data

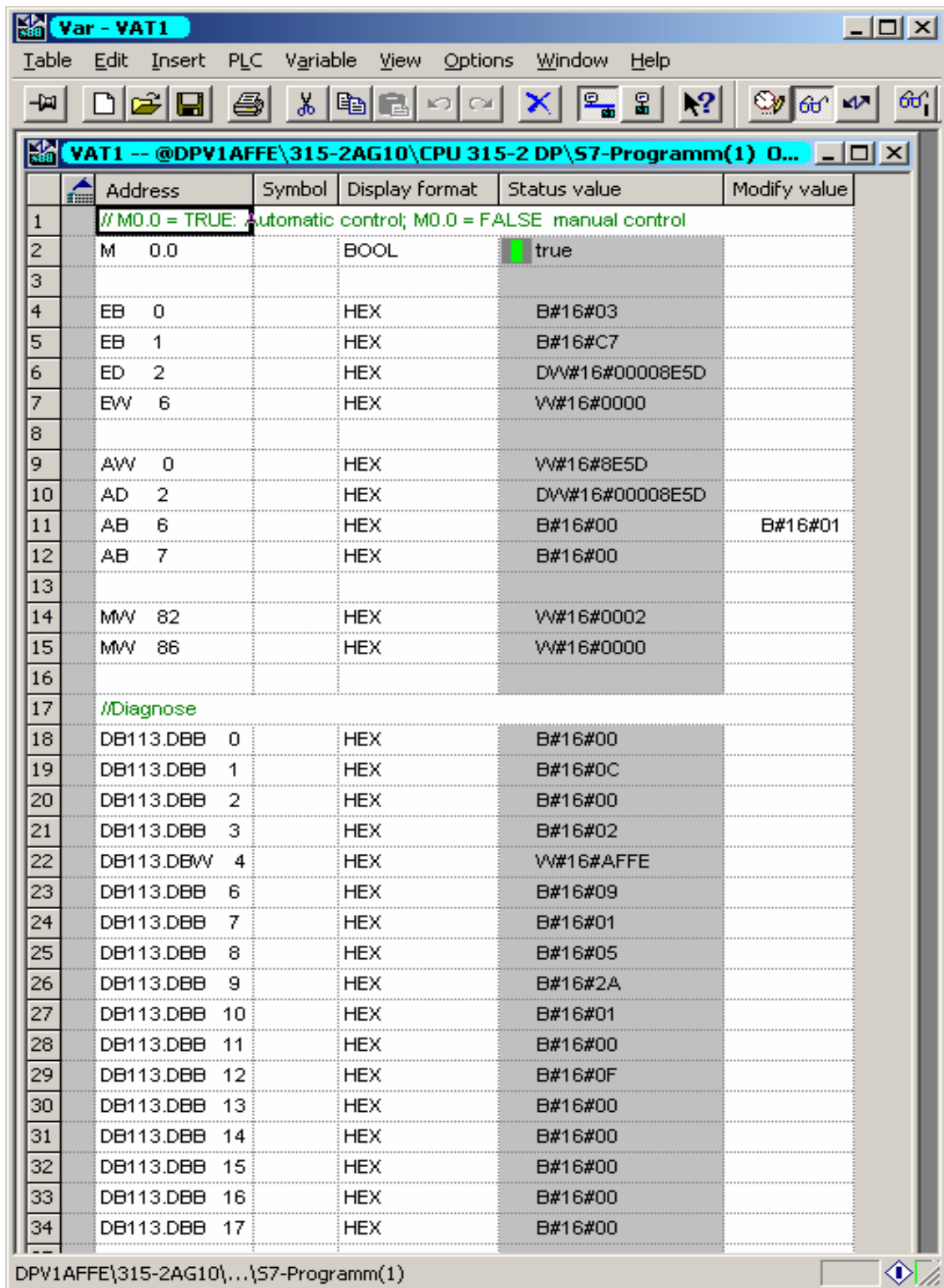
The DP-slave sends 8 Byte input data to the DP-master.

Input data (Byte)	Value:	
0		DI8 (PORT1)
1		DI8 (PORT2)
2..5		Virtuell DIO32 module
6..7		Virtuell Counter module

Figure 2-26: Table input data

2 DPV1AFFE

2.3.4 Monitor/Modify variables



	Address	Symbol	Display format	Status value	Modify value
1		// M0.0 = TRUE: Automatic control; M0.0 = FALSE manual control			
2	M 0.0		BOOL	true	
3					
4	EB 0		HEX	B#16#03	
5	EB 1		HEX	B#16#C7	
6	ED 2		HEX	DVW#16#00008E5D	
7	EW 6		HEX	VW#16#0000	
8					
9	AW 0		HEX	VW#16#8E5D	
10	AD 2		HEX	DVW#16#00008E5D	
11	AB 6		HEX	B#16#00	B#16#01
12	AB 7		HEX	B#16#00	
13					
14	MW 82		HEX	VW#16#0002	
15	MW 86		HEX	VW#16#0000	
16					
17		//Diagnose			
18	DB113.DBB 0		HEX	B#16#00	
19	DB113.DBB 1		HEX	B#16#0C	
20	DB113.DBB 2		HEX	B#16#00	
21	DB113.DBB 3		HEX	B#16#02	
22	DB113.DBW 4		HEX	VW#16#AFFE	
23	DB113.DBB 6		HEX	B#16#09	
24	DB113.DBB 7		HEX	B#16#01	
25	DB113.DBB 8		HEX	B#16#05	
26	DB113.DBB 9		HEX	B#16#2A	
27	DB113.DBB 10		HEX	B#16#01	
28	DB113.DBB 11		HEX	B#16#00	
29	DB113.DBB 12		HEX	B#16#0F	
30	DB113.DBB 13		HEX	B#16#00	
31	DB113.DBB 14		HEX	B#16#00	
32	DB113.DBB 15		HEX	B#16#00	
33	DB113.DBB 16		HEX	B#16#00	
34	DB113.DBB 17		HEX	B#16#00	

Figure 2-27: Monitor/Modify Variables

2.3.5 Diagnostic

With Key1 and Key2 the user can send diagnostic messages.

The slave sends following diagnostic messages:

Key	Diag.resp	Meaning
KEY 1 down	08 0C 00 02 AF FE	Normdiagnostic with ExtDiag-bit
	84 C1 82	Channeldiagnostic, Slot 5
	09 01 05 11 01 07 0F 67 33	Diagnosticalarm, Slot 5, coming event
KEY 1 up	00 0C 00 02 AF FE	Normdiagnostic
	09 01 05 1A 01 00 0F 00 00	Diagnosticalarm, Slot 5, going event
KEY 2 down	08 0C 00 02 AF FE	Normdiagnostic with ExtDiag-bit
	85 C1 82	Channeldiagnostic, Slot 6
	09 01 06 21 01 07 0F 67 33	Diagnosticalarm, Slot 6, coming event
KEY 2 up	00 0C 00 02 AF FE	Normdiagnostic
	09 01 06 2A 01 00 0F 00 00	Diagnosticalarm, Slot 6, going event

Figure 2-28: Table Diagnostic Messages

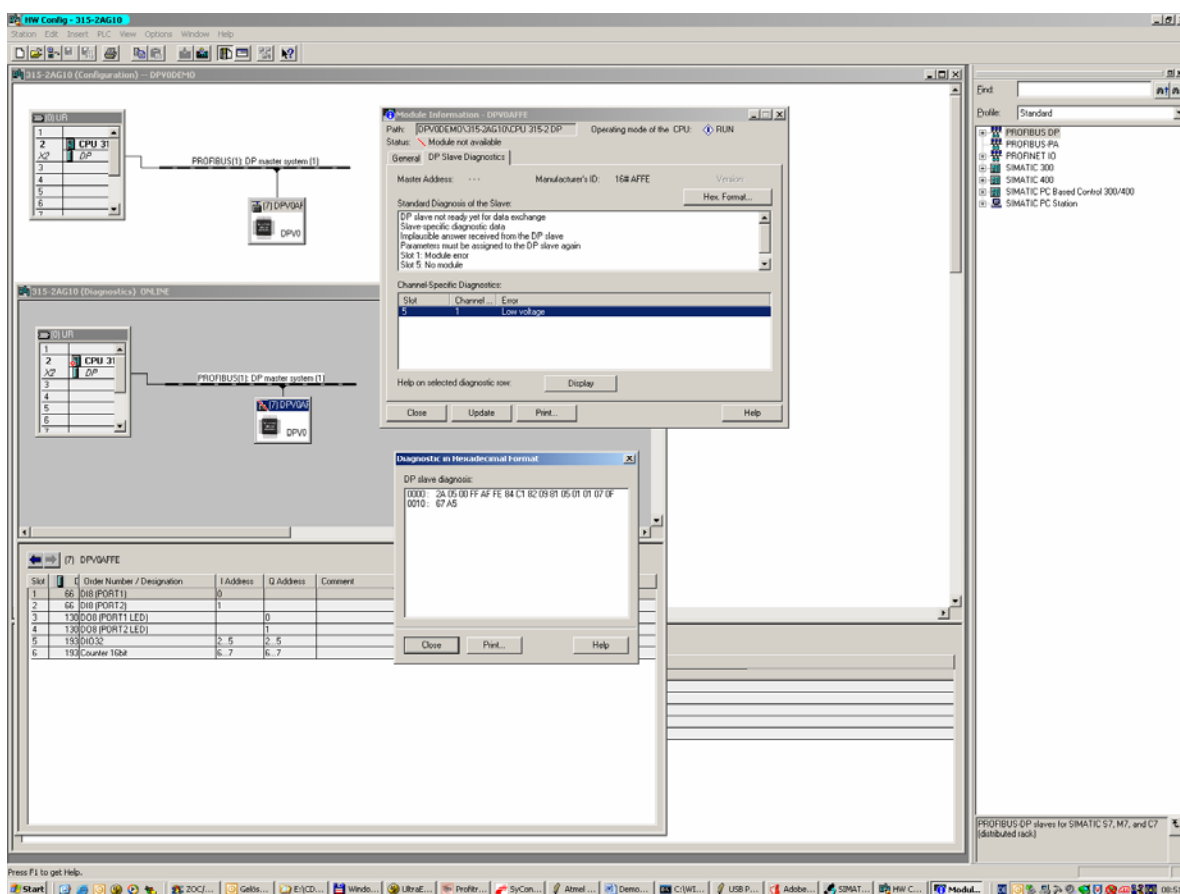


Figure 2-29: Diagnostic Message

2 DPV1AFFE

Notes:

3.1 Introduction

This software demo simulates a PROFIBUS DPV0 device with six modules.

3.2 Starting Up with Hilscher (SyCon)

3.2.1 Install GSD-File

Install the GSD-File (DPV0AFFE) in the PROFIBUS configuration tool, make a new project and insert the master and the slave.

DPV0AFFE.gsd - gsd-file for PROFIBUS DP

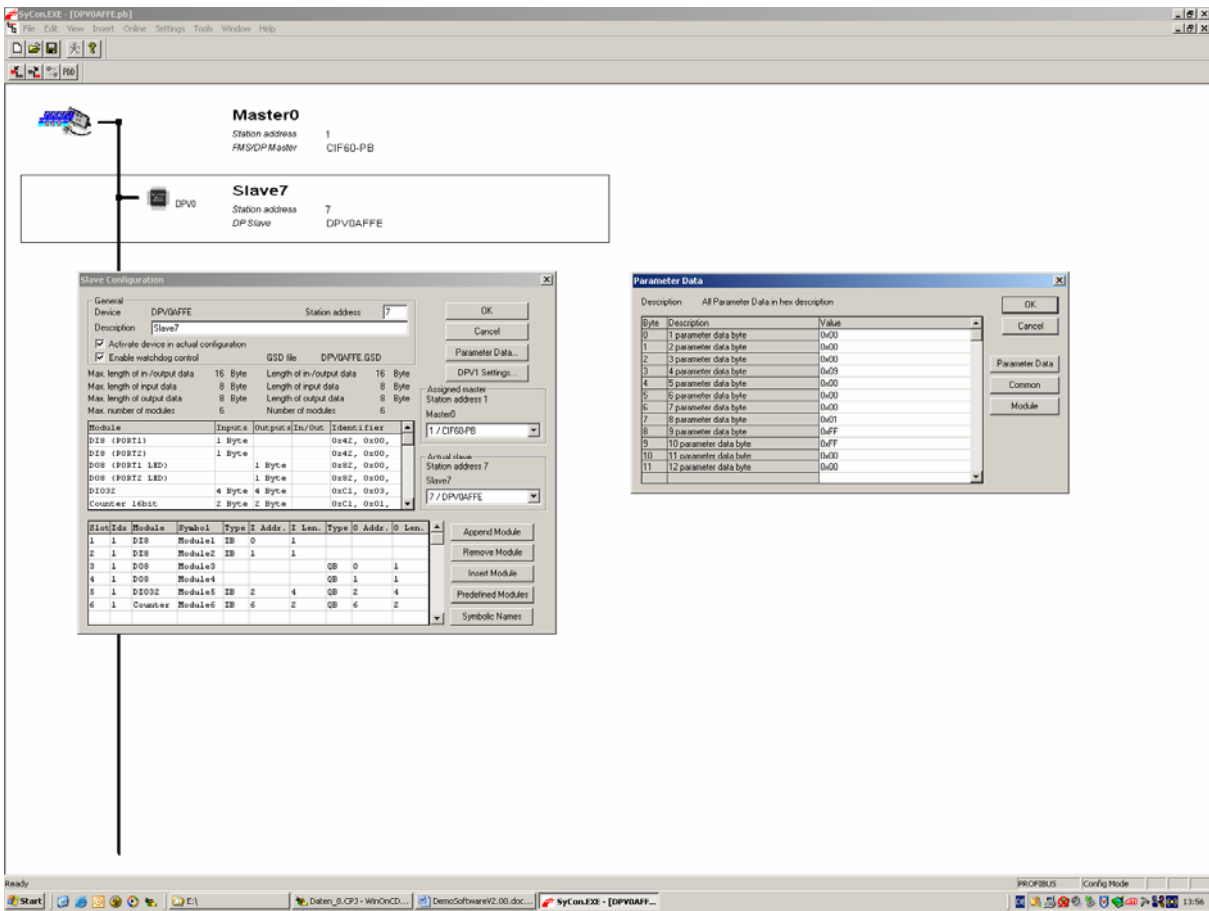


Figure 3-1: Sycon Project

3 DPV0AFFE

The slave needs following sequence of module configuration:

Slot1: DI8 (PORT1)
Slot2: DI8 (PORT2)
Slot3: DO8 (PORT1 LED)
Slot4: DO8 (PORT2 LED)
Slot5: DIO32
Slot6: Counter 16bit

The slave needs following parameter data:

0x80, 0x60, 0x00
0x09, 0x00, 0x00, 0x00, 0x01, 0xFF, 0xFF, 0x00, 0x00

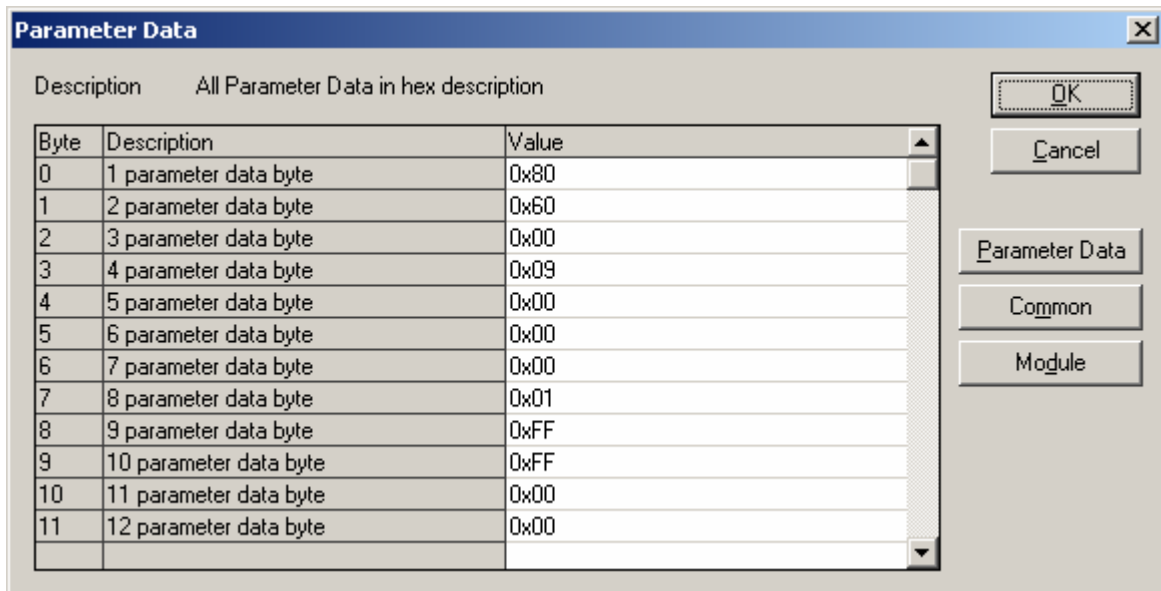


Figure 3-2: Parameter data

After configuration and parameterization of the slave, save the project and make a download to the Hilscher card(Menu: Online, MenuItem: Download)
Now, the master starts up the slave.

3.2.2 Lifelist

The Lifelist is a special feature of the SyCon program (select the master, Menu: Online, MenuItem: LifeList)

Notice: The LifeList generation has problems with small baudrates like 9.6 and 19.6kBaud)

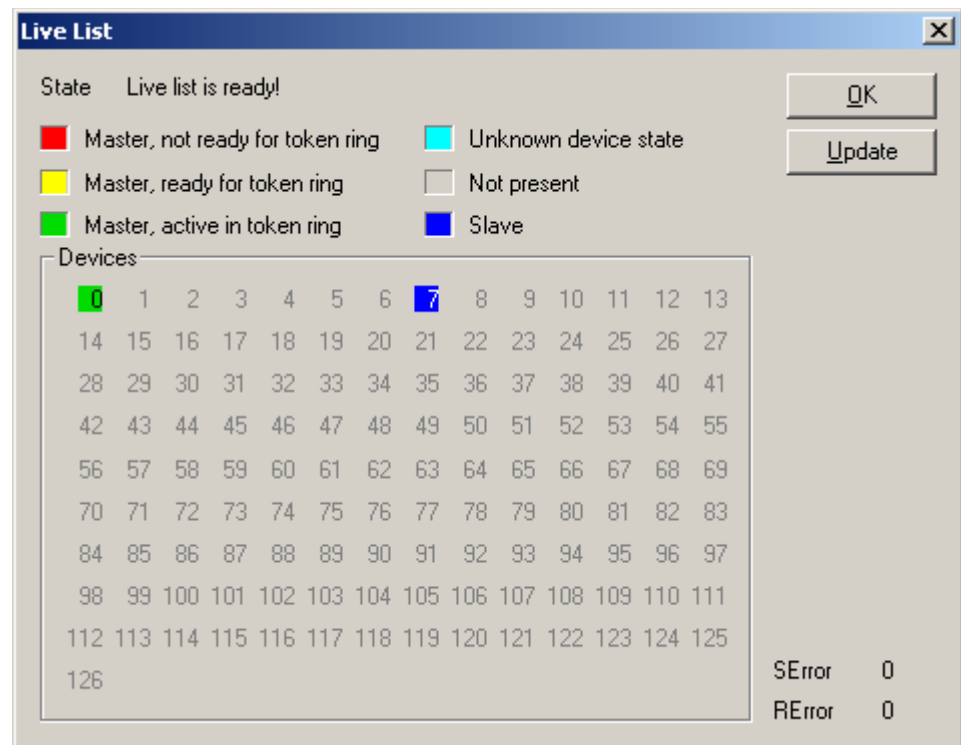


Figure 3-3: LifeList

3 DPV0AFFE

3.2.3 Debug monitoring

Over the debug monitoring the user has the possibility to check the state and the diagnostic of the slave (select the master, Menu: Online, MenuItem: Start Debug Mode)

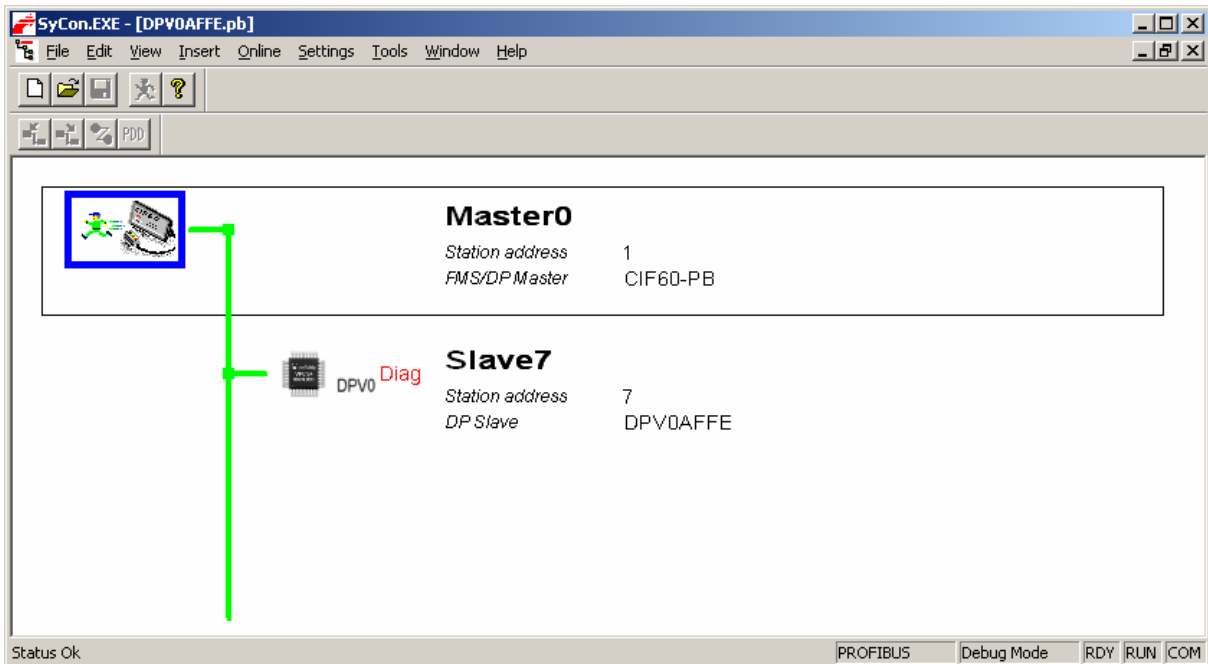


Figure 3-4: Debug monitoring

If the line red, the slave isn't in the state DataExchange. If the line green the slave is in DataExchange. With double click on the slave, the SyCon opens the dialogbox "Diagnostic". This dialogbox shows the last diagnostic message of the slave.

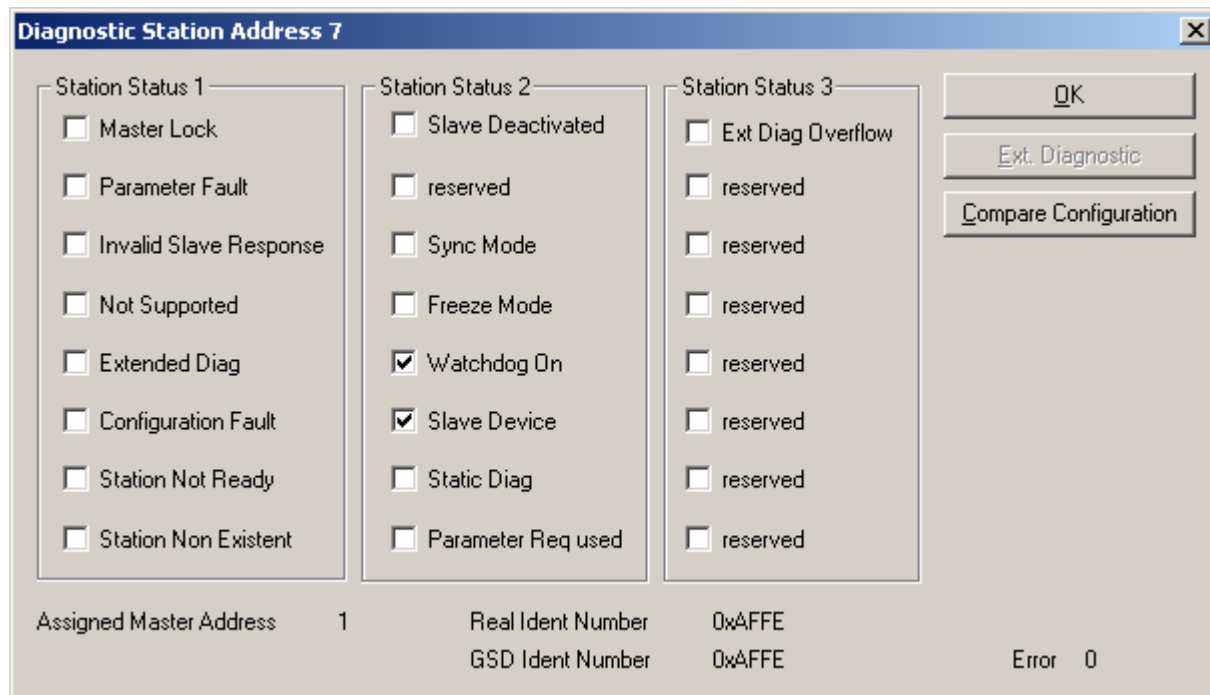


Figure 3-5: Diagnostic message

Over the button Compare Configuration the slave configuration data can be checked.

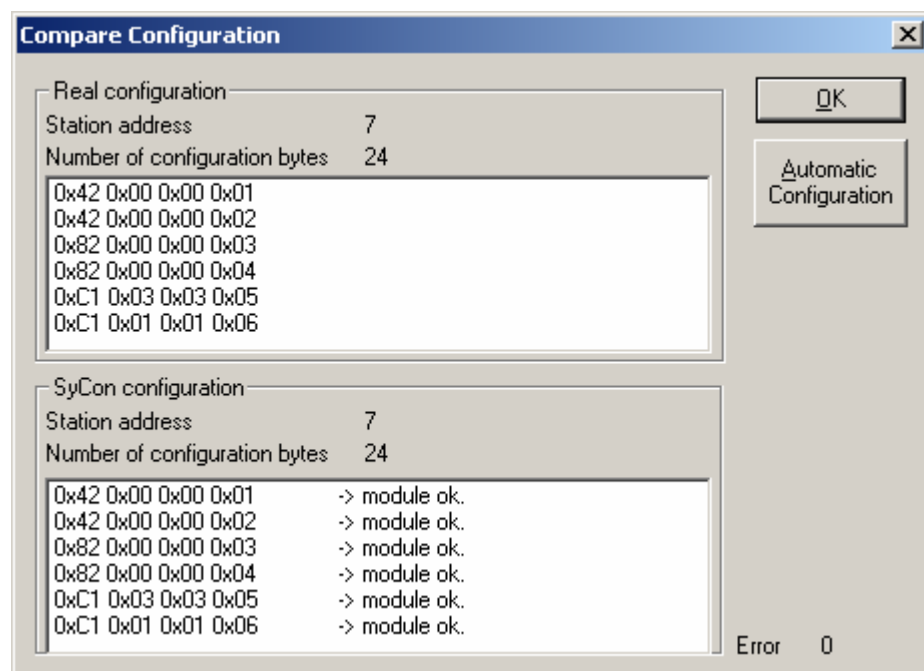


Figure 3-6: Configuration

3 DPV0AFFE

3.2.4 Process image

The DP-slave receives 8 Byte output data from the DP-master.

Output data (Byte)	Value:	
0		DO8 (PORT1 LED)
1		DO8 (PORT2 LED)
2..5		Virtuell DIO32 module
6..7	Byte 6: 1: start counter 2: clear counter	Virtuell Counter module

Figure 3-7: Table Output data

The DP-slave sends 8 Byte input data to the DP-master.

Input data (Byte)	Value:	
0		DI8 (PORT1)
1		DI8 (PORT2)
2..5		Virtuell DIO32 module
6..7		Virtuell Counter module

Figure 3-8: Table input data

3.2.5 I/O Monitor

I/O Monitor

Input data

dec	0	1	2	3	4	5	6	7	8	9
0	3	199	66	77	88	99	29	189	0	0
1	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0
3	0	0								
4										
5										
6										
7										

Output data

dec	0	1	2	3	4	5	6	7	8	9
0	33	44	66	77	88	99	1	0	0	0
1	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0
3	0	0								
4										
5										
6										
7										

OK
DEC/HEX
Update

Error 0

Figure 3-9: I/O Monitor

3.2.6 Diagnostic

With Key1 and Key2 it's possible to send diagnostic messages.

The slave sends following diagnostic messages:

Key	Diag.resp	Meaning
KEY 1 down	08 0C 00 02 AF FE	Normdiagnostic with ExtDiag-bit
	84 C1 82	Channeldiagnostic, Slot 5
	09 81 05 11 01 07 0F 67 33	Statusmessage, Slot 5, coming event
KEY 1 up	00 0C 00 02 AF FE	Normdiagnostic
	09 81 05 1A 01 00 0F 00 00	Statusmessage, Slot 5, going event
KEY 2 down	08 0C 00 02 AF FE	Normdiagnostic with ExtDiag-bit
	85 C1 82	Channeldiagnostic, Slot 6
	09 81 06 21 01 07 0F 67 33	Statusmessage, Slot 6, coming event
KEY 2 up	00 0C 00 02 AF FE	Normdiagnostic
	09 81 06 2A 01 00 0F 00 00	Statusmessage, Slot 6, going event

Figure 3-10: Table Diagnostic Messages

Example of diagnostic message:

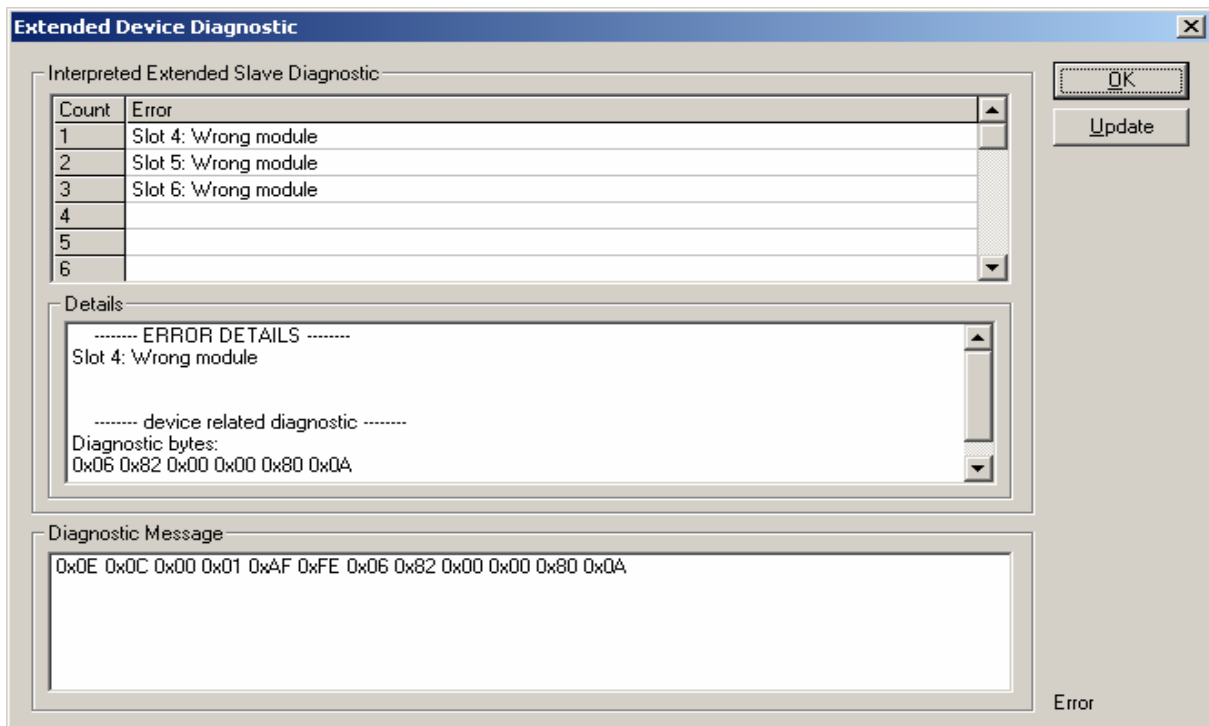


Figure 3-11: Example Diagnostic Message

3.3 Starting Up with SIEMENS (STEP7)

3.3.1 Install GSD-File

Install the GSD-File (DPV0AFFE.gsd) in the PROFIBUS configuration tool, make a new project and insert the master and the slave.

DPV0AFFE - gsd-file for PROFIBUS DP

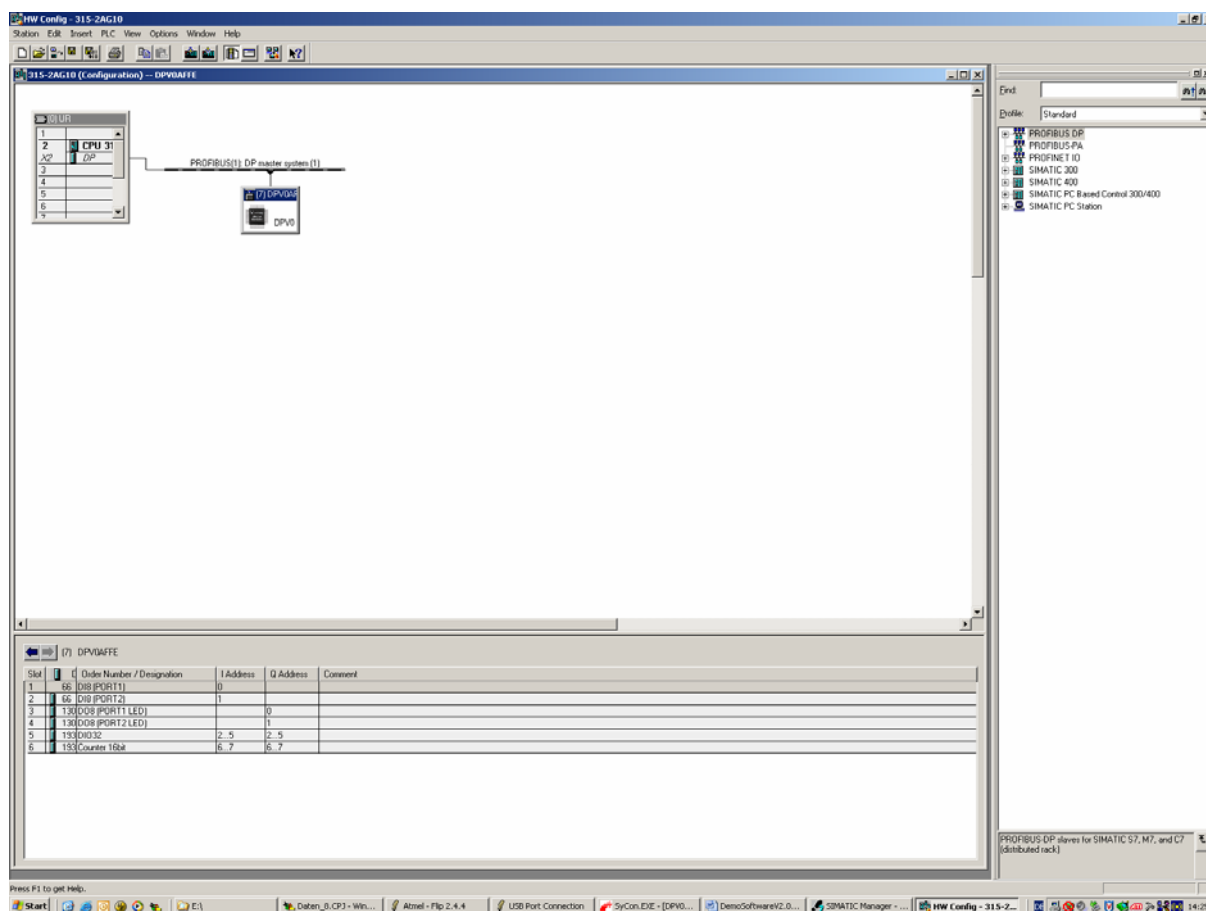


Figure 3-12: STEP7 Project

3 DPV0AFFE

3.3.2 Configuration, Parameterization

Parameter assignment of the DPV0-Slave:

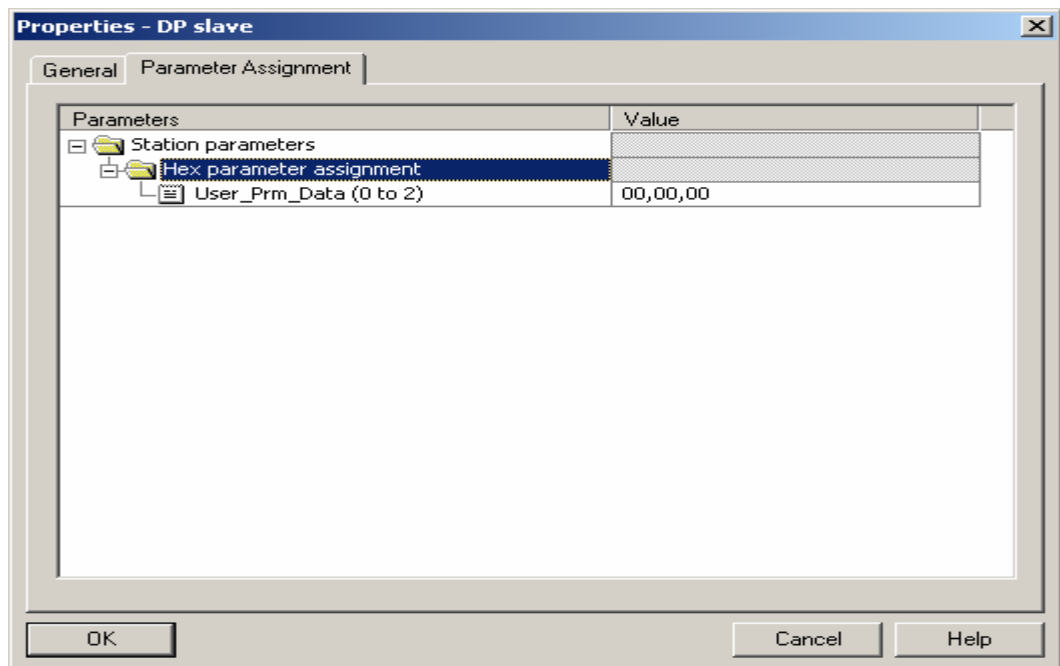


Figure 3-13: Parameter Assignment

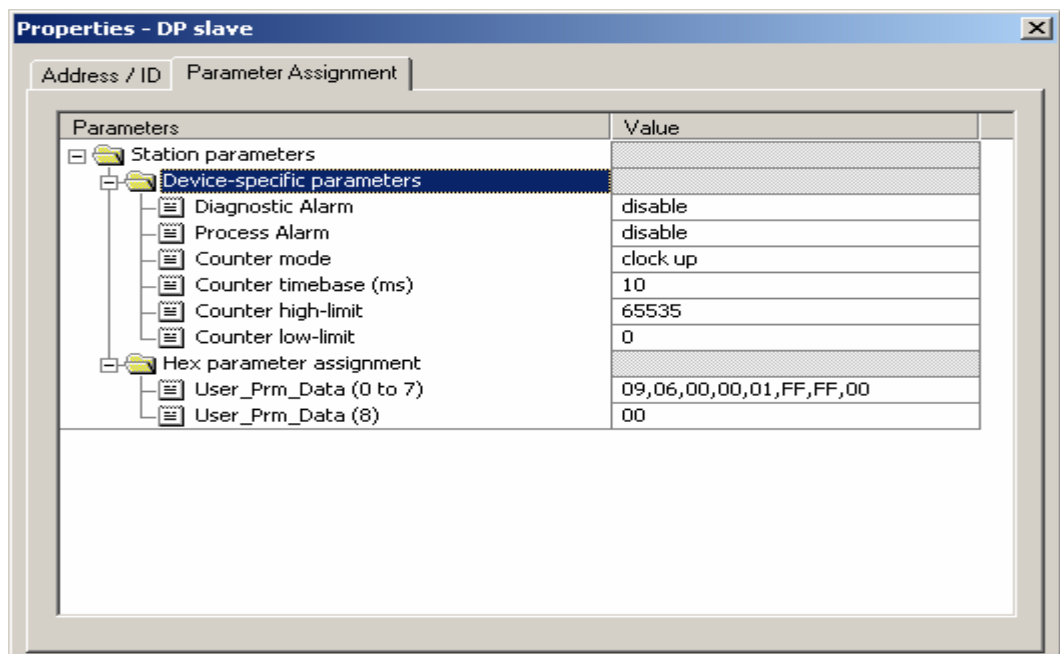


Figure 3-14: Parameter Assignment of Counter module

3.3.3 Process image

The DP-slave receives 8 Byte output data from the DP-master.

Output data (Byte)	Value:	
0		DO8 (PORT1 LED)
1		DO8 (PORT2 LED)
2..5		Virtuell DIO32 module
6..7	Byte 6: 1: start counter 2: clear counter	Virtuell Counter module

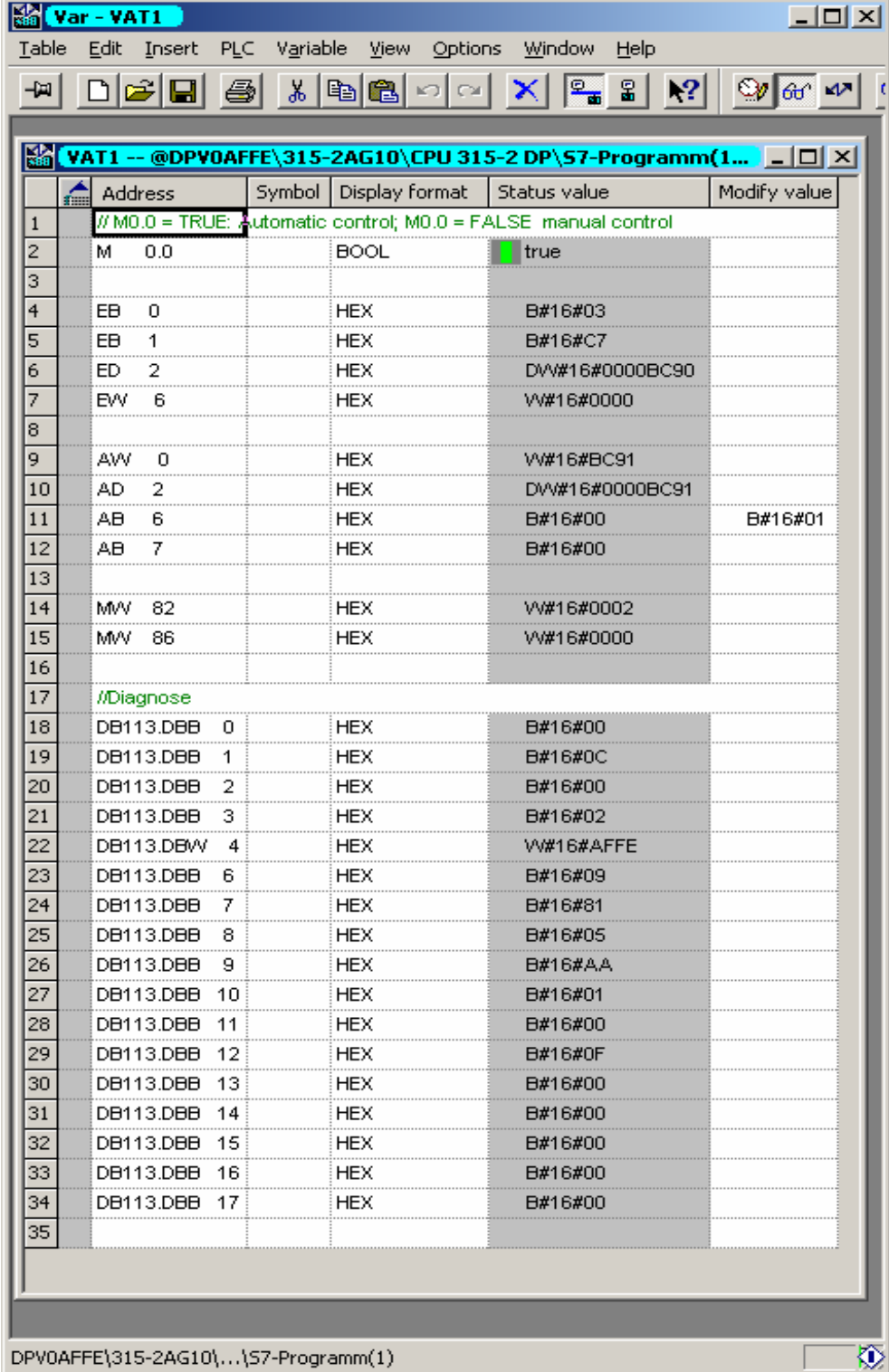
Figure 3-15: Table Output data

The DP-slave sends 8 Byte input data to the DP-master.

Input data (Byte)	Value:	
0		DI8 (PORT1)
1		DI8 (PORT2)
2..5		Virtuell DIO32 module
6..7		Virtuell Counter module

Figure 3-16: Table input data

3.3.4 Monitor/Modify variables



	Address	Symbol	Display format	Status value	Modify value
1	// M0.0 = TRUE: automatic control; M0.0 = FALSE manual control				
2	M 0.0		BOOL	true	
3					
4	EB 0		HEX	B#16#03	
5	EB 1		HEX	B#16#C7	
6	ED 2		HEX	DV#16#0000BC90	
7	EV 6		HEX	VW#16#0000	
8					
9	AV 0		HEX	VW#16#BC91	
10	AD 2		HEX	DV#16#0000BC91	
11	AB 6		HEX	B#16#00	B#16#01
12	AB 7		HEX	B#16#00	
13					
14	MW 82		HEX	VW#16#0002	
15	MW 86		HEX	VW#16#0000	
16					
17	//Diagnose				
18	DB113.DBB 0		HEX	B#16#00	
19	DB113.DBB 1		HEX	B#16#0C	
20	DB113.DBB 2		HEX	B#16#00	
21	DB113.DBB 3		HEX	B#16#02	
22	DB113.DBW 4		HEX	VW#16#AFFE	
23	DB113.DBB 6		HEX	B#16#09	
24	DB113.DBB 7		HEX	B#16#81	
25	DB113.DBB 8		HEX	B#16#05	
26	DB113.DBB 9		HEX	B#16#AA	
27	DB113.DBB 10		HEX	B#16#01	
28	DB113.DBB 11		HEX	B#16#00	
29	DB113.DBB 12		HEX	B#16#0F	
30	DB113.DBB 13		HEX	B#16#00	
31	DB113.DBB 14		HEX	B#16#00	
32	DB113.DBB 15		HEX	B#16#00	
33	DB113.DBB 16		HEX	B#16#00	
34	DB113.DBB 17		HEX	B#16#00	
35					

Figure 3-17: Monitor/Modify Variables

3.3.5 Diagnostic

With Key1 and Key2 it's possible to send diagnostic messages.

The slave sends following diagnostic messages:

Key	Diag.resp	Meaning
KEY 1 down	08 0C 00 02 AF FE	Normdiagnostic with ExtDiag-bit
	84 C1 82	Channeldiagnostic, Slot 5
	09 81 05 11 01 07 0F 67 33	Statusmessage, Slot 5, coming event
KEY 1 up	00 0C 00 02 AF FE	Normdiagnostic
	09 81 05 1A 01 00 0F 00 00	Statusmessage, Slot 5, going event
KEY 2 down	08 0C 00 02 AF FE	Normdiagnostic with ExtDiag-bit
	85 C1 82	Channeldiagnostic, Slot 6
	09 81 06 21 01 07 0F 67 33	Statusmessage, Slot 6, coming event
KEY 2 up	00 0C 00 02 AF FE	Normdiagnostic
	09 81 06 2A 01 00 0F 00 00	Statusmessage, Slot 6, going event

Figure 3-18: Table Diagnostic Messages

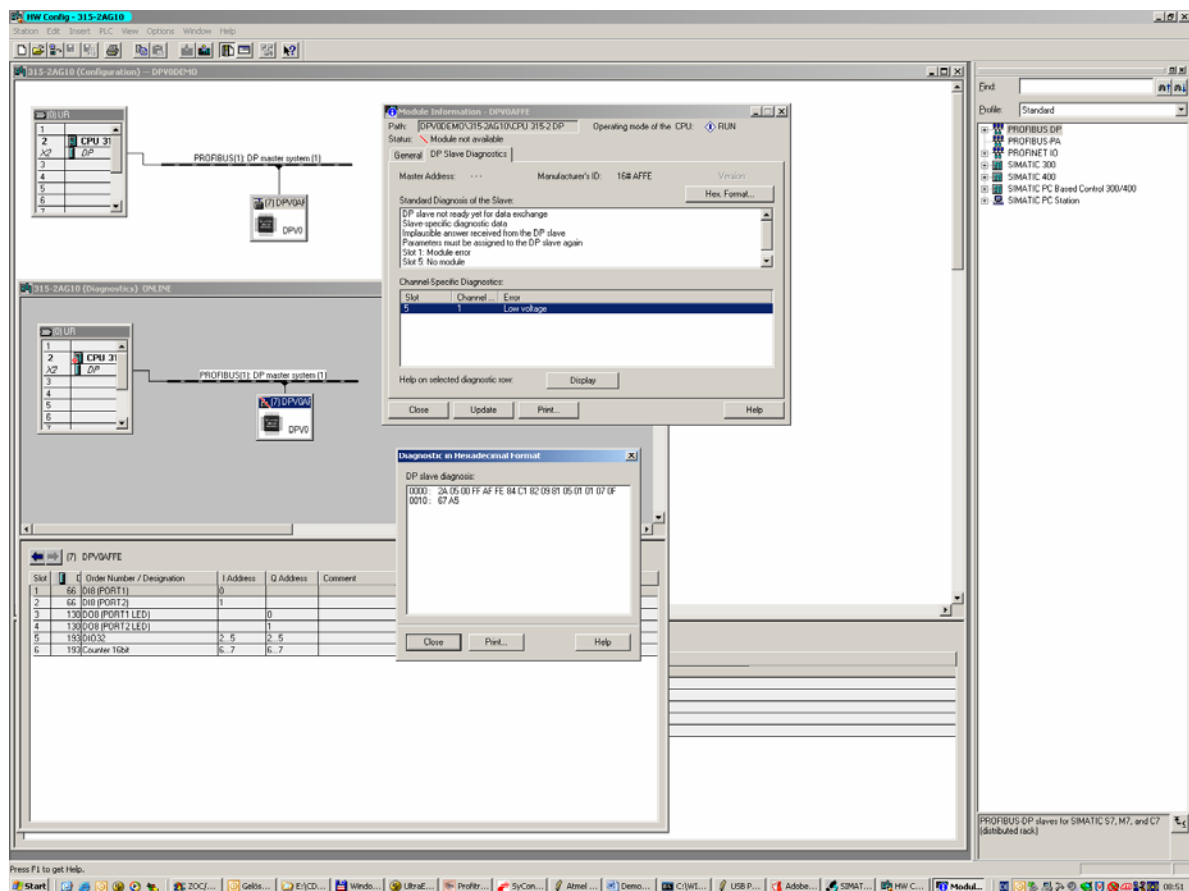


Figure 3-19: Diagnostic Messages

3 DPV0AFFE

Notes:

4.1 Introduction

This software demo simulates PROFIBUS DP device with 2 byte input and max 2 byte output data.

4.2 Starting Up with Hilscher (SyCon)

4.2.1 Install GSD-File

Install the GSD-File (EASY4711.gsd) in the PROFIBUS configuration tool, make a new project and insert the master and the slave.

EASY4711.gsd - gsd-file for PROFIBUS DP

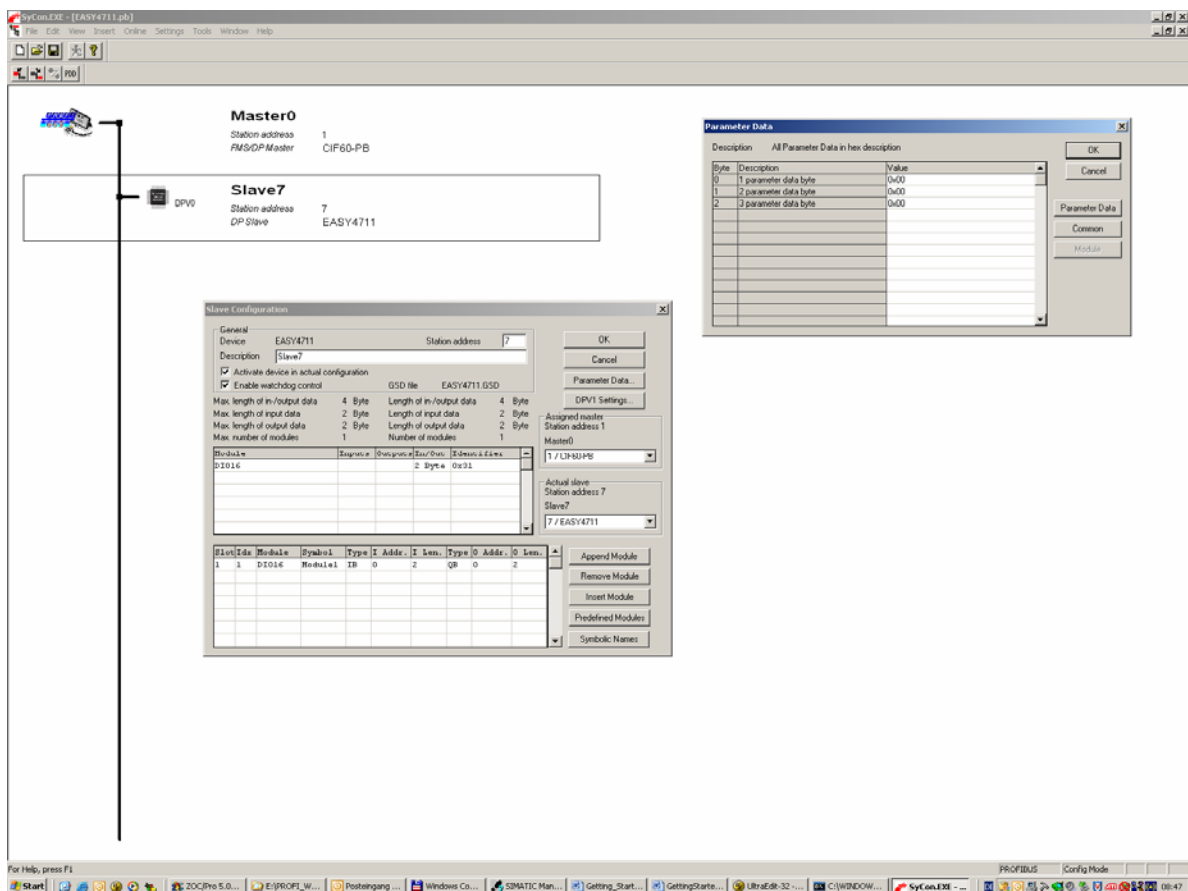


Figure 4-1: Sycon Project

4 EASY4711

The slave needs following sequence of module configuration:

Slot1: DIO16

The slave needs following parameter data:

0x00, 0x00, 0x00

After configuration and parameterization of the slave, save the project and make a download to the Hilscher card(Menu: Online, MenuItem: Download)
Now, the master starts up the slave.

4.2.2 Lifelist

The Lifelist is a special feature of the SyCon program (select the master, Menu: Online, MenuItem: LifeList)

Notice: The LifeList generation has problems with small baudrates like 9.6 and 19.6kBaud)

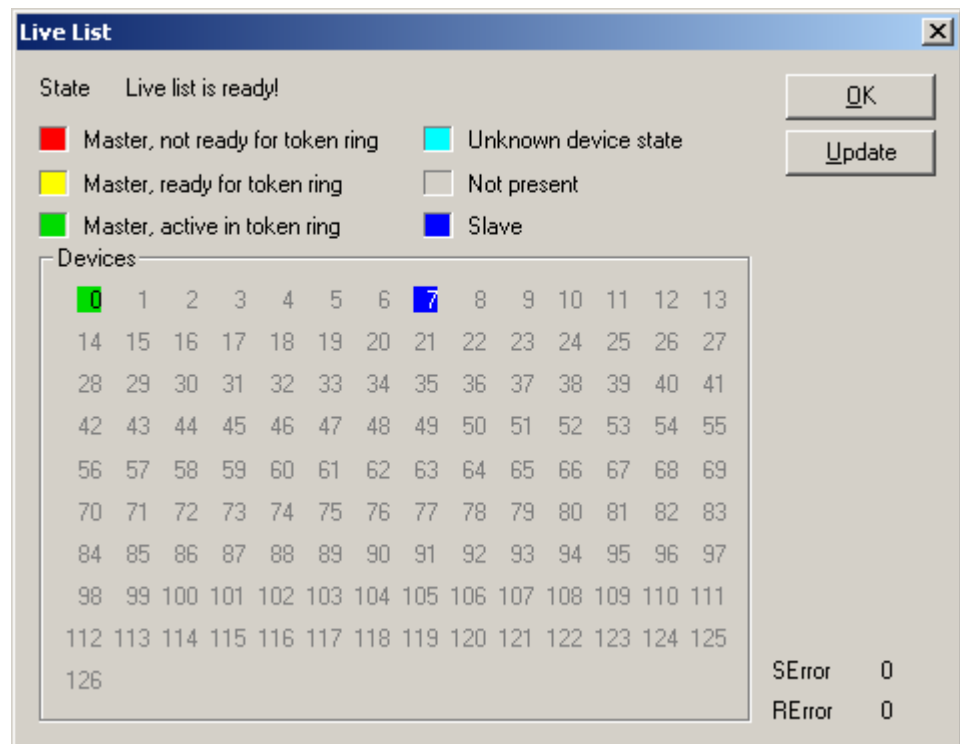


Figure 4-2: LifeList

4.2.3 Debug monitoring

Over the debug monitoring the user has the possibility to check the state and the diagnostic of the slave (select the master, Menu: Online, MenuItem: Start Debug Mode)

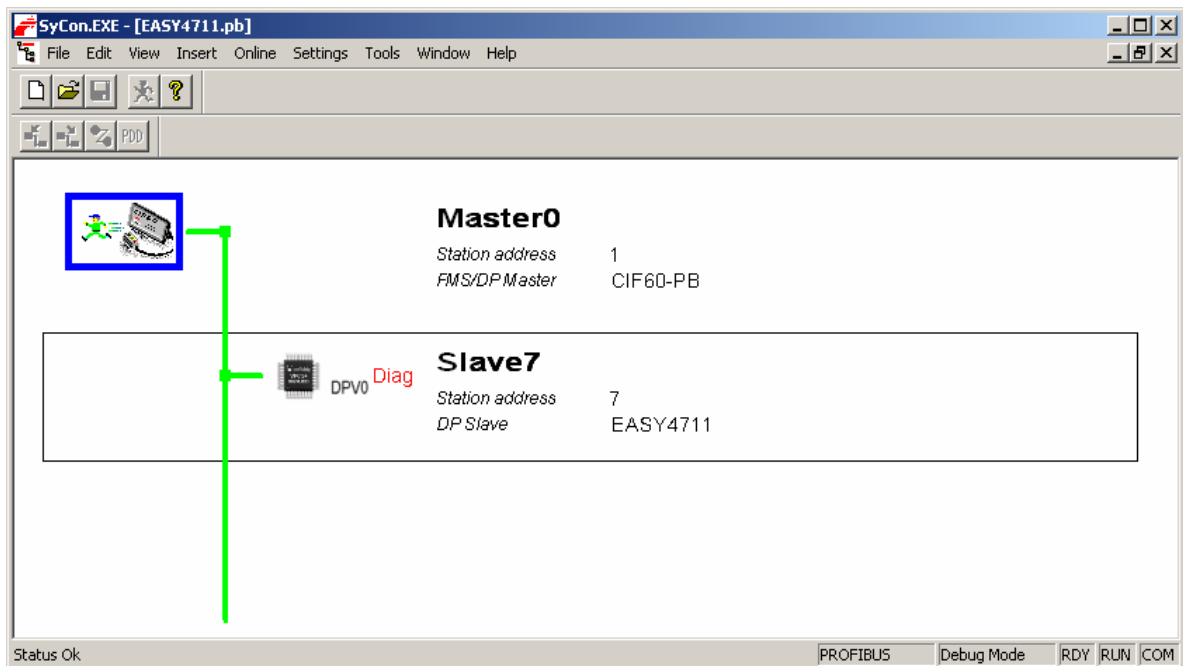


Figure 4-3: Debug Monitor

If the line red, the slave isn't in the state DataExchange. If the line green the slave is in DataExchange. With double click on the slave, the SyCon opens the dialogbox "Diagnostic". This dialogbox shows the last diagnostic message of the slave.

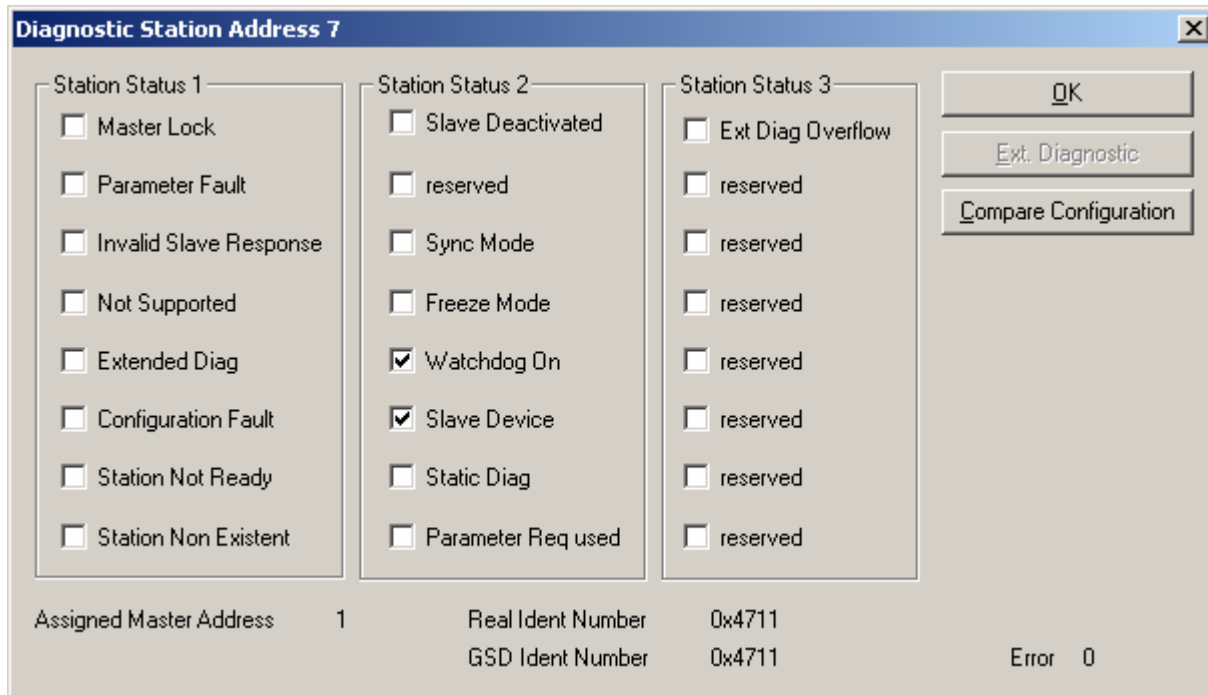


Figure 4-4: Diagnostic Message

Over the button Compare Configuration the slave configuration data can be checked.

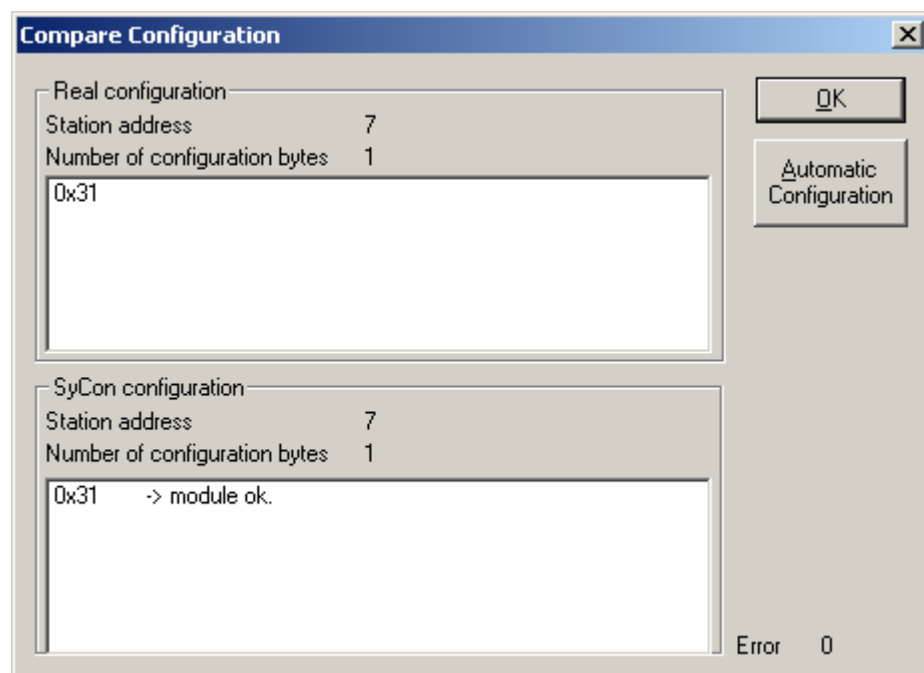


Figure 4-5: Configuration

4.2.4 Process image

The DP-slave receives 2 Byte output data from the DP-master.

Output data (Byte)	Value:	
0		LED (PORT1)
1		LED (PORT2)

Figure 4-6: Output Data

The DP-slave sends 2 Byte input data to the DP-master.

Input data (Byte)	Value:	
0		Dip switch (Port1)
1		Dip switch (Port2)

Figure 4-7: Input Data

4.2.5 I/O Monitor

The screenshot shows the 'I/O Monitor' window with two main sections: 'Input data' and 'Output data'. Each section contains a table with 10 columns (0-9) and 8 rows (0-7). The 'Input data' table shows values for rows 0-3, while the 'Output data' table shows values for rows 0-3. The 'Output data' table also includes a 'dec' column on the left. The window has a title bar, a close button, and buttons for 'OK', 'DEC/HEX', 'Update', and 'Error'.

Input data										
dec	0	1	2	3	4	5	6	7	8	9
0	31	63	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0
3	0	0								
4										
5										
6										
7										

Output data										
dec	0	1	2	3	4	5	6	7	8	9
0	33	55	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0
3	0	0								
4										
5										
6										
7										

Buttons: OK, DEC/HEX, Update, Error 0

Figure 4-8: I/O Monitor

4 EASY4711

4.3 Starting Up with SIEMENS (STEP7)

4.3.1 Install GSD-File

Install the GSD-File (EASY4711.gsd) in the PROFIBUS configuration tool, make a new project and insert the master and the slave.

EASY4711.gsd - gsd-file for PROFIBUS DP

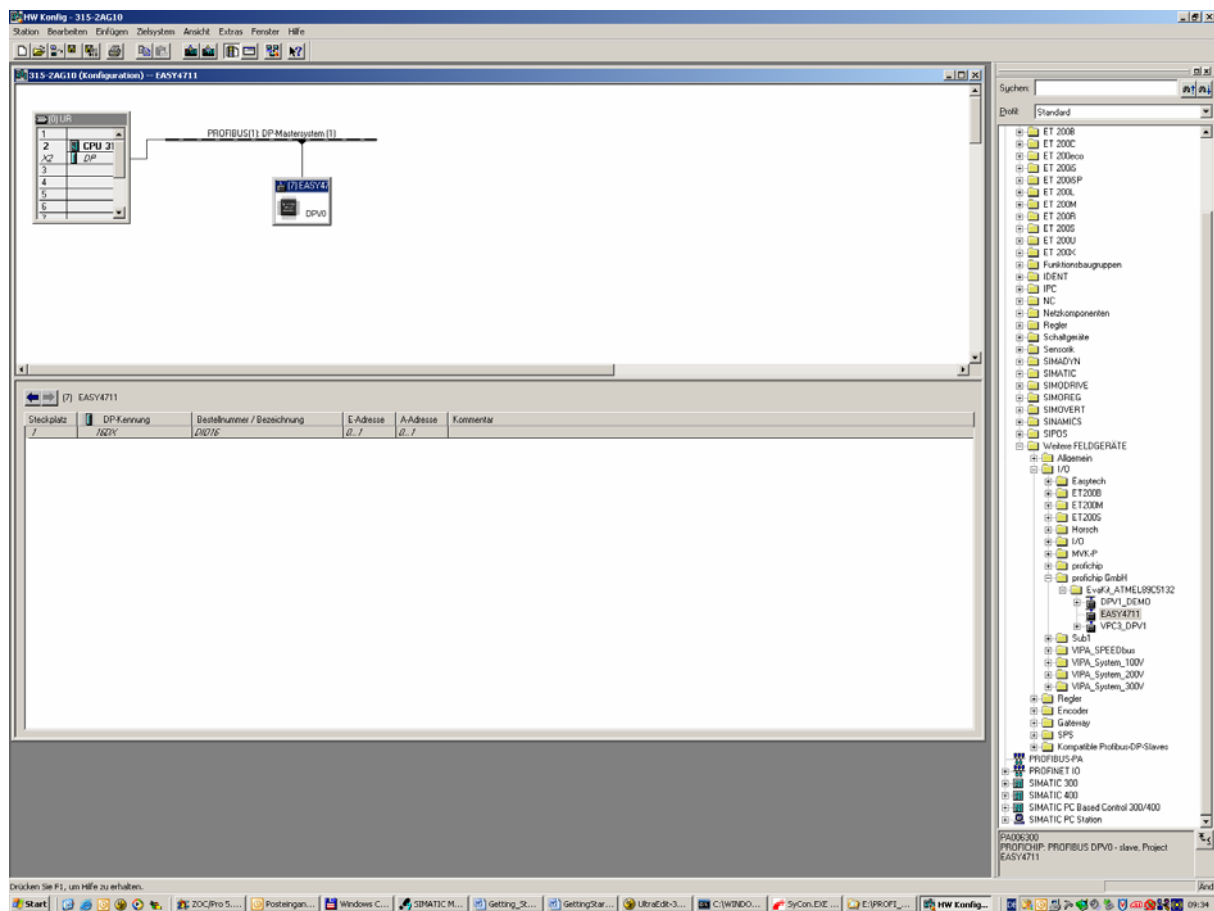


Figure 4-9: STEP 7 Project

4.3.2 Configuration, Parameterization

Parameter assignment of the DPV0-Slave:

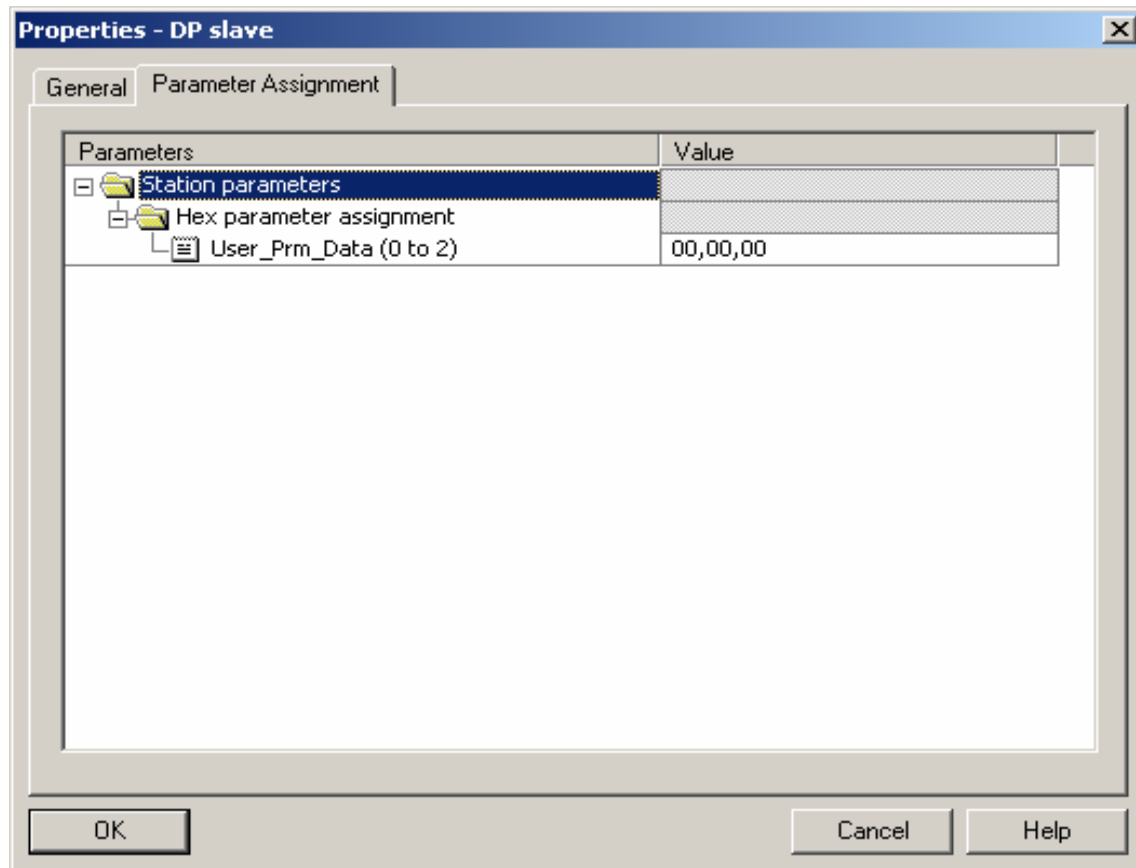


Figure 4-10: Parameter Assignment

4.3.3 Process image

The DP-slave receives 2 Byte output data from the DP-master.

Output data (Byte)	Value:	
0		LED (PORT1)
1		LED (PORT2)

Figure 4-11: Output Data

The DP-slave sends 2 Byte input data to the DP-master.

Input data (Byte)	Value:	
0		Dip switch (Port1)
1		Dip switch (Port2)

Figure 4-12: Input Data

4.3.4 Monitor/Modify variables

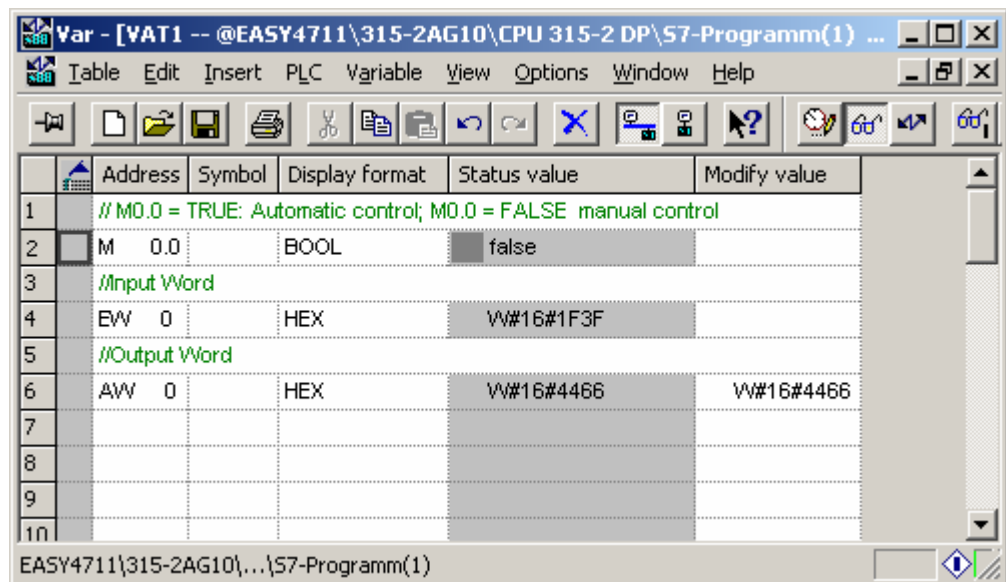


Figure 4-13: Monitor/Modify Variables

5.1 Introduction

This software demo simulates a modular PROFIBUS DP device with maximal 244 byte input and max 244 byte output data.

5.2 Starting Up with Hilscher (SyCon)

5.2.1 Install GSD-File

Install the GSD-File (EASYADAC.gsd) in the PROFIBUS configuration tool, make a new project and insert the master and the slave.

EASYADAC.gsd - gsd-file for PROFIBUS DP

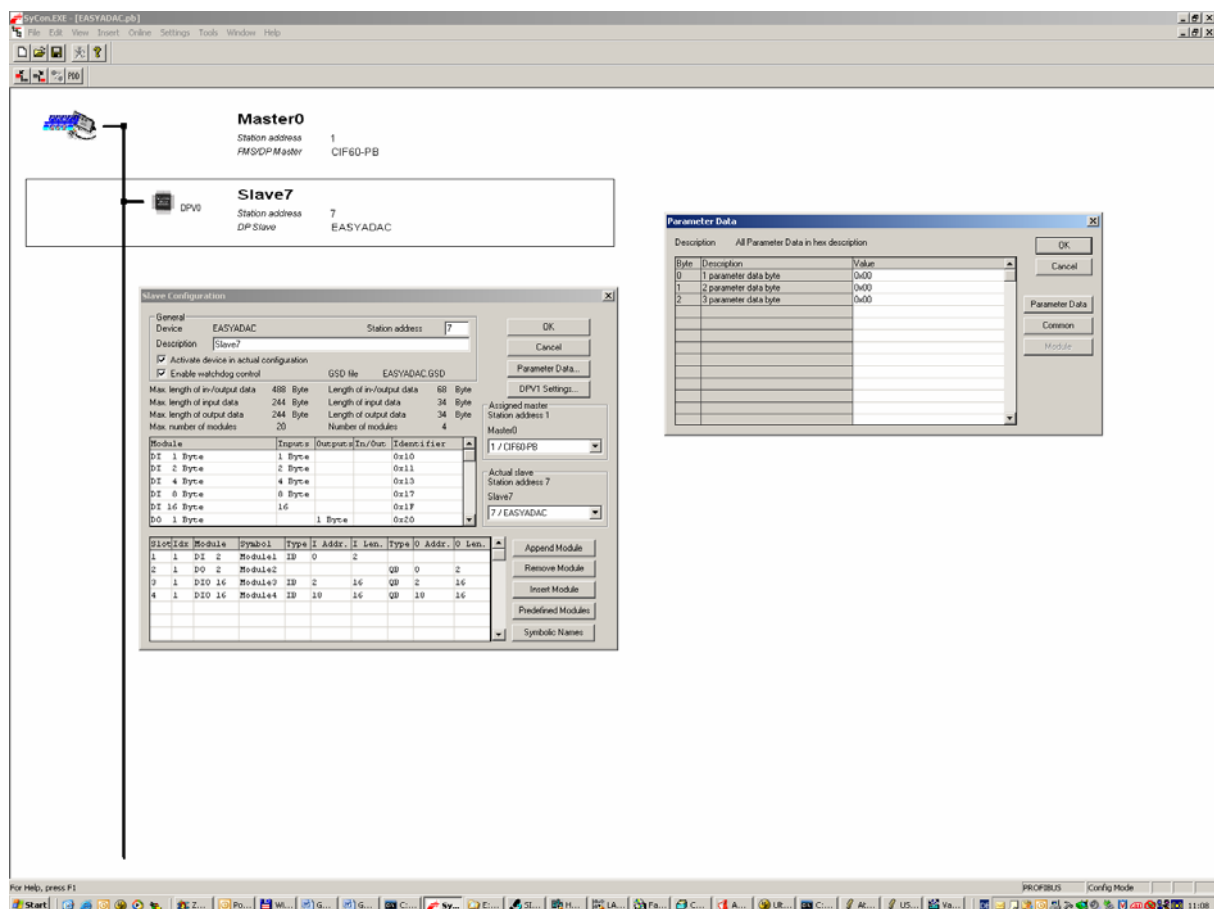


Figure 5-1: Sycon Project

5 EASYDAC

The slave needs following sequence of module configuration:

Depends on User

The slave needs following parameter data:

0x00, 0x00, 0x00

After configuration and parameterization of the slave, save the project and make a download to the Hilscher card(Menu: Online, MenuItem: Download)
Now, the master starts up the slave.

5.2.2 Lifelist

The Lifelist is a special feature of the SyCon program (select the master, Menu: Online, MenuItem: LifeList)

Notice: The LifeList generation has problems with small baudrates like 9.6 and 19.6kBaud)

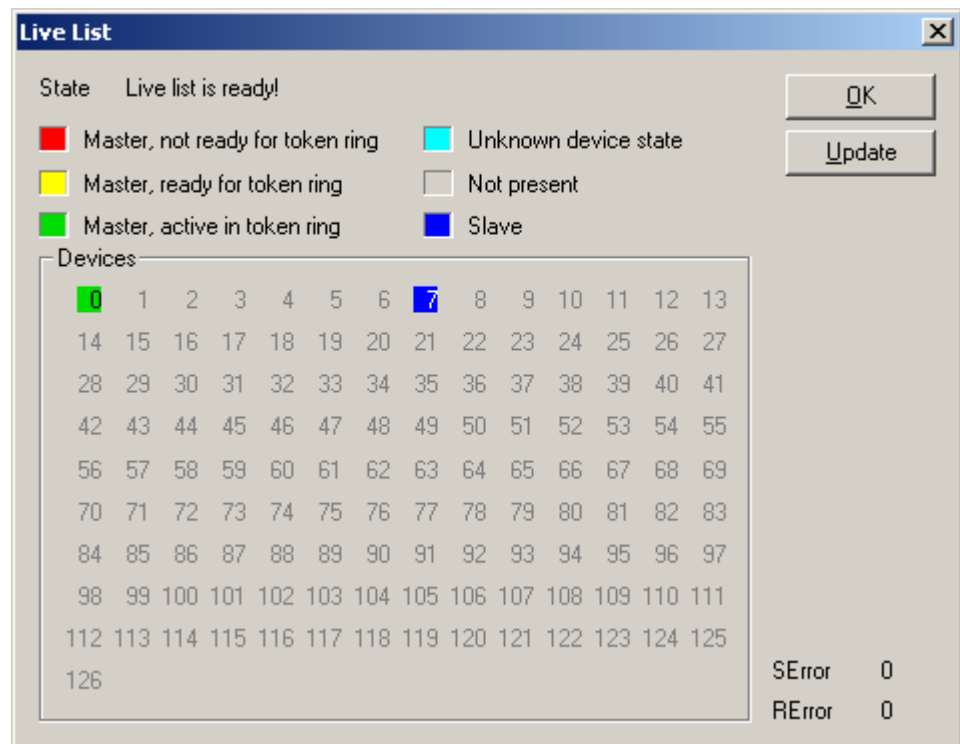


Figure 5-2: LifeList

5.2.3 Debug monitoring

Over the debug monitoring the user has the possibility to check the state and the diagnostic of the slave (select the master, Menu: Online, MenuItem: Start Debug Mode)

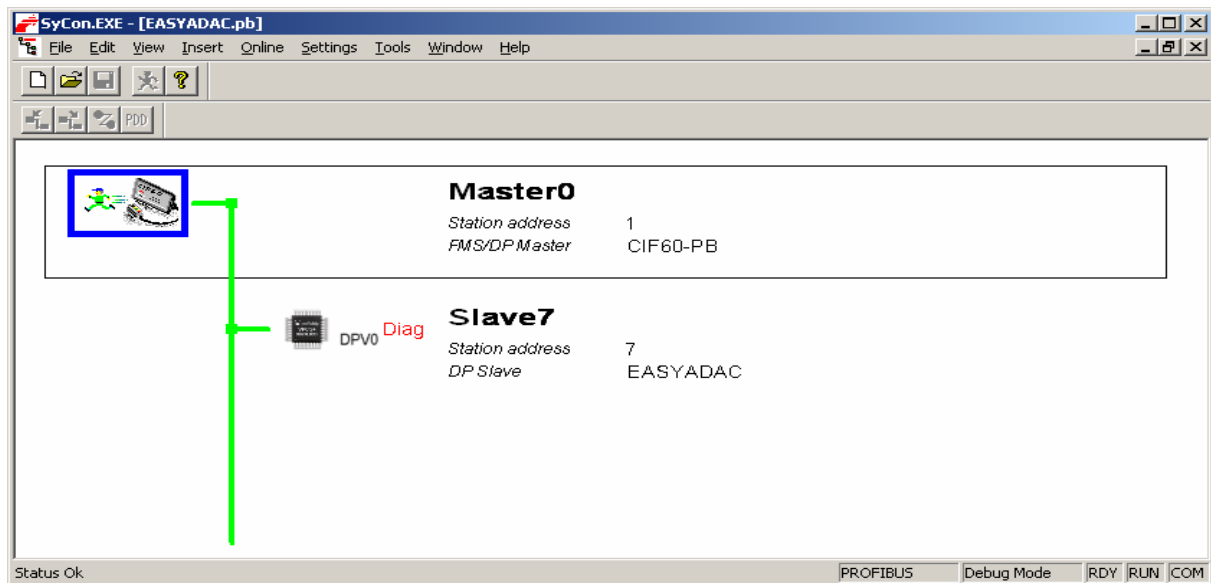


Figure 5-3: Debug monitoring

If the line red, the slave isn't in the state DataExchange. If the line green the slave is in DataExchange. With double click on the slave, the SyCon opens the dialogbox "Diagnostic". This dialogbox shows the last diagnostic message of the slave.

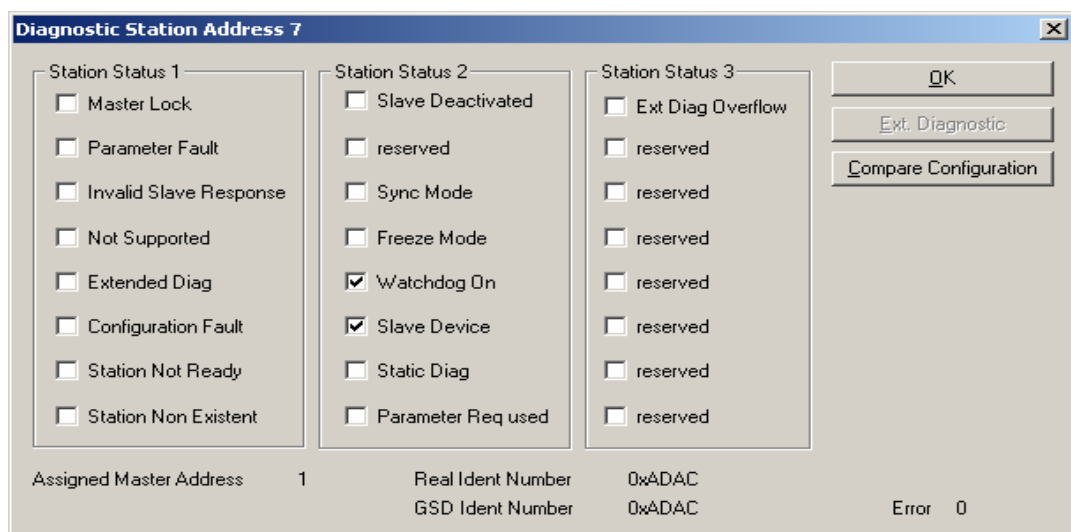


Figure 5-4: Diagnostic Message

5 EASYADAC

Over the button Compare Configuration the slave configuration data can be checked.

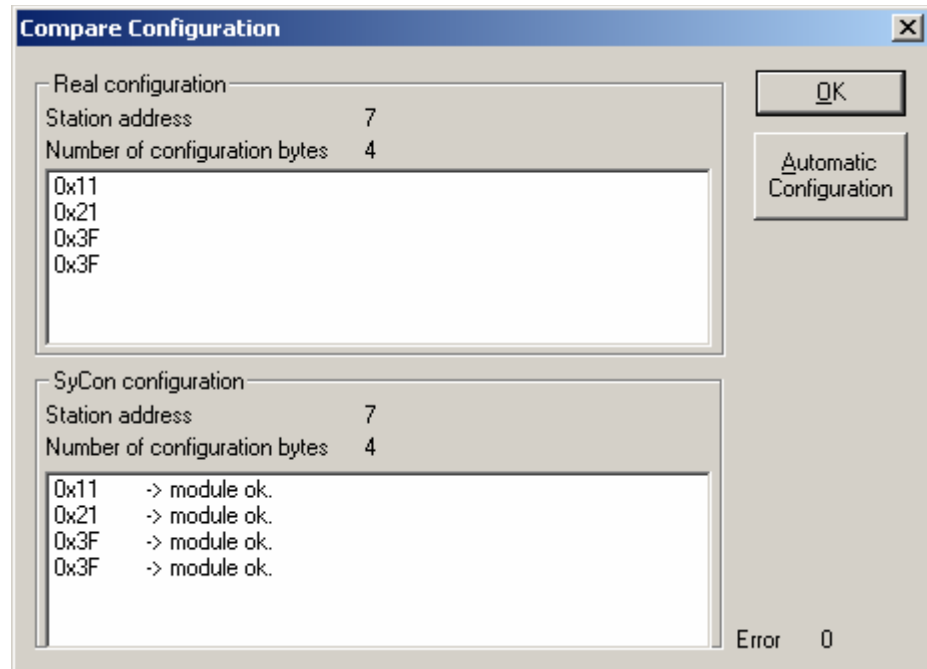


Figure 5-5: Configuration

5.2.4 Process image

The DP-slave receives 0..244 Byte output data from the DP-master.

Output data (Byte)	Value:	
0		LED (PORT1)
1		LED (PORT2)
2..244		Will be copied to input data

Figure 5-6: Output Data

The DP-slave sends 0..244 Byte input data to the DP-master.

Input data (Byte)	Value:	
0		Dip switch (Port1)
1		Dip switch (Port2)
2.244		Are copied from output data

Figure 5-7: Input Data

5.2.5 I/O Monitor

I/O Monitor

Input data

dec	0	1	2	3	4	5	6	7	8	9
0	0	7	3	4	5	6	7	8	9	11
1	23	45	66	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0
3	0	0								
4										
5										
6										
7										

Output data

dec	0	1	2	3	4	5	6	7	8	9
0	255	2	3	4	5	6	7	8	9	11
1	23	45	66	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0
3	0	0								
4										
5										
6										
7										

OK
DEC/HEX
Update
Error 0

Figure 5-8: I/O Monitor

5 EASYADAC

5.3 Starting Up with SIEMENS (STEP7)

5.3.1 Install GSD-File

Install the GSD-File (EASYADAC.gsd) in the PROFIBUS configuration tool, make a new project and insert the master and the slave.

EASYADAC.gsd - gsd-file for PROFIBUS DP

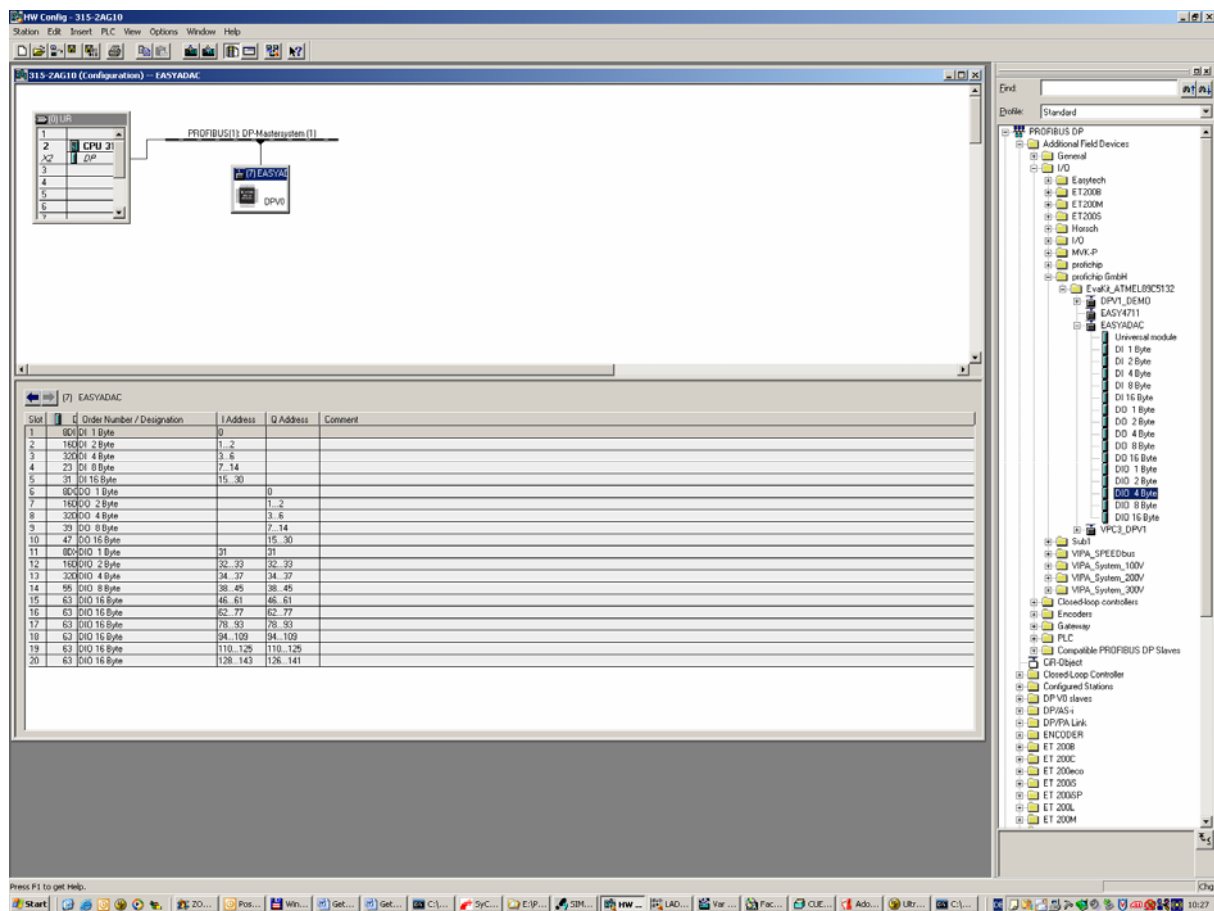


Figure 5-9: STEP7 Project

5.3.2 Configuration, Parameterization

Parameter assignment of the DPV0-Slave:

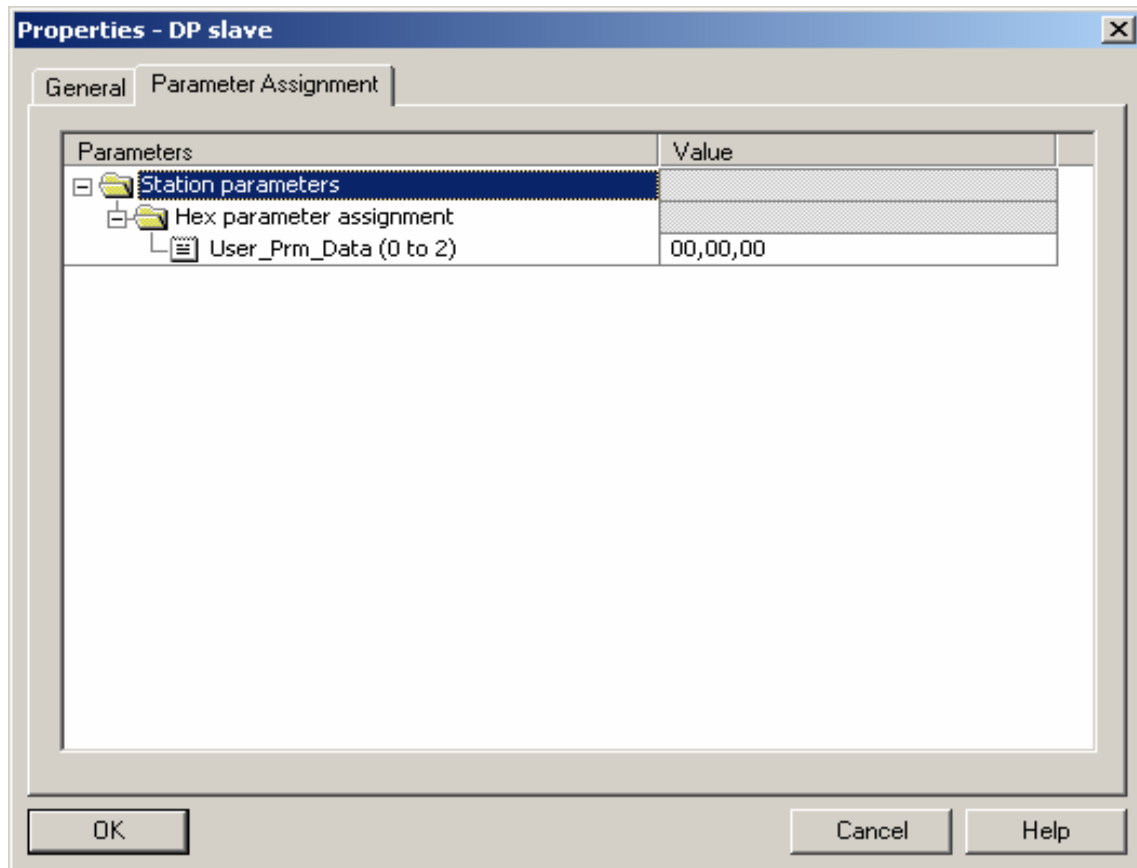


Figure 5-10: Parameter Assignment

5.3.3 Process image

The DP-slave receives 0..244 Byte output data from the DP-master.

Output data (Byte)	Value:	
0		LED (PORT1)
1		LED (PORT2)
2..244		Will be copied to input data

Figure 5-11: Output data

The DP-slave sends 0..244 Byte input data to the DP-master.

Input data (Byte)	Value:	
0		Dip switch (Port1)
1		Dip switch (Port2)
2..244		Are copied from output data

Figure 5-12: Input data

5.3.4 Monitor/Modify variables:

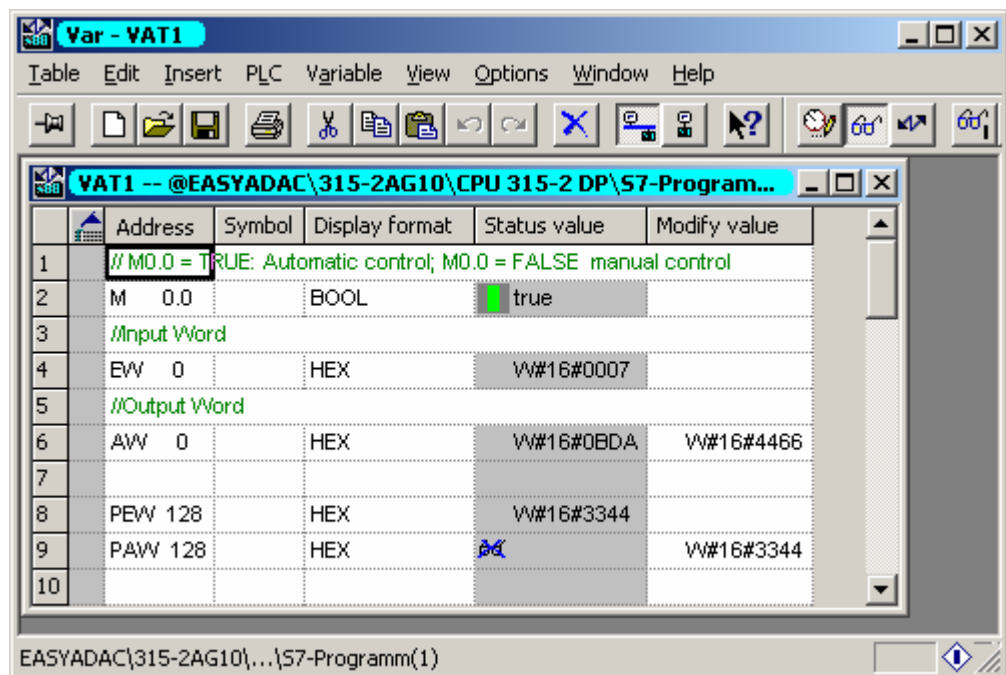


Figure 5-13: Monitor/Modify Variables

Revision History

Version	Date	Page	Remarks
V5.00	18.09.2005		

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