DP/DP Coupler

User Description

Version V1.1b

11/1998

Liability Exclusion

We have checked the contents of this document for agreement with the hardware and software described. Nevertheless, deviations can't be excluded, and we are not assuming responsibility for complete agreement. The data in the document is checked regularly, however. Necessary corrections are included in subsequent editions. We gratefully accept suggestions for improvement.

Copyright

Subject to technical changes.

Description DP/DP Coupler

Table of Contents

1. Notes on CE Marking

1.1 EU Guideline EMC 89/336/European Economic Community

The following applies to the interface described in these operating instructions:
Products that bear the CE marking meet the requirements of the EU Guideline
89/336/EWG "Electromagnetic Compatibility" and the harmonized European standards
(EN) listed there.

According to the aforementioned EU Guideline, Article 10, the EU conformity
declarations are kept at the disposal of the proper agencies at the following location:

Siemens Aktiengesellschaft
Automation Engineering Division
AUT E147
Postfach 1954
D-92220 Amberg/Germany

1.2 Areas of Application

The interface modules are designed for industrial use, and meet the following requirements:

Area of Application	Requirements for	
	Emitted Interference	Interference Immunity
Industry	EN 50081-2 : 1993	EN 50082-2 : 1995

With an individual permit, the interface module can also be used in residential areas
(residential-, commercial- and trade sector, small industries).

Area of Application	Requirements for	
	Emitted Interference	Interference Immunity
Residential Area	Individual Permit	EN 50082-1 : 1992

You'll have to get the individual permit from an agency or a testing center. In Germany, the
Federal Agency for Postal Service and Telecommunication and its branches grant the
individual permits.

1.3 Following the Installation Guidelines

The DP/DP coupler meets the requirements if you do the following:

1. Follow the installation guidelines provided in the operating instructions for installation and operation.
2. In addition, follow the rules below for mounting the device and for working on cabinets.

1.3.1 Installing the Device

Interface modules have to be installed in electrical apparatus rooms or in enclosed casings (for example, control boxes made of metal or plastic).
In addition, you have to ground the device and the control box (metal box), or at least the top hat rail (plastic box) to which the interface was attached.

1.3.2 Working on Cabinets

To protect the modules from the discharge of static electricity, the employees have to discharge themselves electro-statically before opening cabinets or control boxes.

1.4 Note to the Manufacturer of Machines

1.4.1 General

The DP/DP coupler does not represent a machine in the sense of the EU Guideline "Machines". There is, for that reason, no conformity declaration regarding the EU Guideline "Machines" 89/392/EWG.

1.4.2 EU Guideline "Machines" 89/392/EWG

The EU Guideline "Machines" 89/392/EWG regulates the requirements for a machine. A machine is defined there as a totality of connected parts or devices (refer also to EN292-1, Paragraph 3.1).

The DP/DP coupler is part of the electrical equipment of a machine, and the machine manufacturer has to include it in the process of the conformity declaration.

2. General

The DP/DP coupler is used for connecting two PROFIBUS DP networks, and to thus transmit data from the master of the one network to the master of the other. The maximum volume of data that can be transmitted is, in sum, 256 bytes. A maximum of 244 bytes can be transmitted in one direction.

Customary configuring tools can be used for configuration. There, the DP/DP coupler is configured as a modular slave. With the configuring mask, the desired length of the input and output data can be set. The output data of the one slave is transferred as input data to the respective other slave, and vice versa.

The figure below shows the mode of operation in principle.
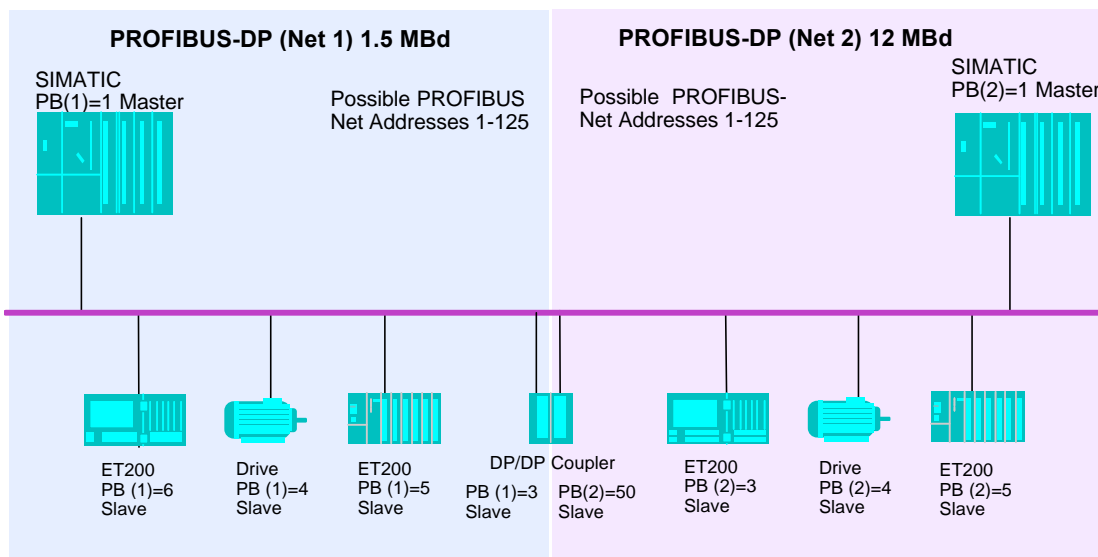
Figure 1: Interfacing Two PROFIBUS DP Networks with the DP/DP Coupler

The following example shows that both networks are independent of each other. This means: a separate address for each PROFIBUS DP network has to be set. In the figure below, this is Address "3" for Network 1, and Address "50" for Network 2. In addition, in each network you can process with a different baudrate, since it is a question of images. Network 1 fills the output buffer more slowly than it is emptied by Network 2. Network 2 thus reads the identical data several times in succession. It is the other way around in the direction from Network 2 to Network 1. The output buffer is overwritten several times before it is emptied by Network 1. The data written last is thus always available.

Note is to be taken that the input and output areas of both networks are harmonized with one another.

Note:
When configuring the DP/DP coupler, please make sure that both networks are configured independent of each other.
Since this can be done with completely different tools, no consistency check is possible.
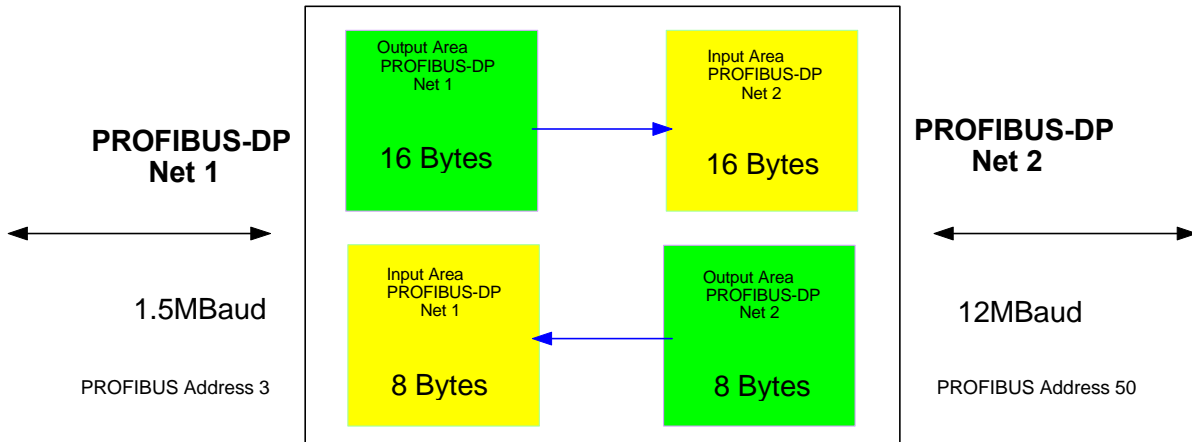

Figure 2: Mode of Operation in Principle - Example

3. Settings on the Module

3.1 Setting the Slave Address and Diagnostics

The slave address for the two slaves is set independent of each other with DIP switches that are located on the top side of the device. The addresses should be set between 1 and 125.

Example:

For DP Network 1, Address 3 is to be set. Diagnosis = Yes.
For DP Network 2, Address 50 is to be set.   Diagnosis = No.

Figure 3: Top Side of Device - Example for Setting the PROFIBUS Addresses
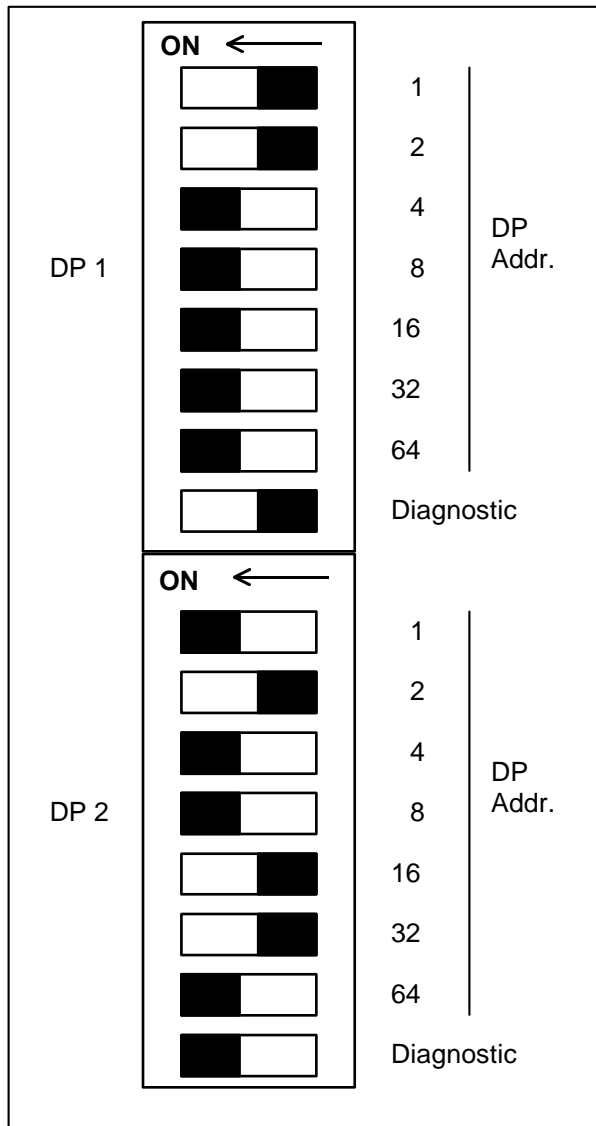
Explanation:

Net 1 = DP1.:
$3 = 2 + 1 = 2^0 + 2^1$
Diagnosis = YES = "1"

Net 2 = DP 2.:
$50 = 2 + 16 + 32 = 2^1 + 2^4 + 2^5$
Diagnosis = NO = "0"

Diagnostic:
Dip switch for diagnostic set to "1" means:
Indication for the master on either side(wherever selected) that data are valid. The indication is done in the LSB of the first byte within the data exchange. The LSB is always "1". If the communication to the device will be interrupted the LSB would be "0" within the master interface.
The purpose of this bit is an easy and fast control for the application programm to know about the status of the Slave. For more detailed information the diagnostic can be used. Depending on the application and the selected master system this method of reporting a simple status information is an easy was to report "device existing or not". By using a master system which is able to handle diagnostic data this bit is not recommended to use.
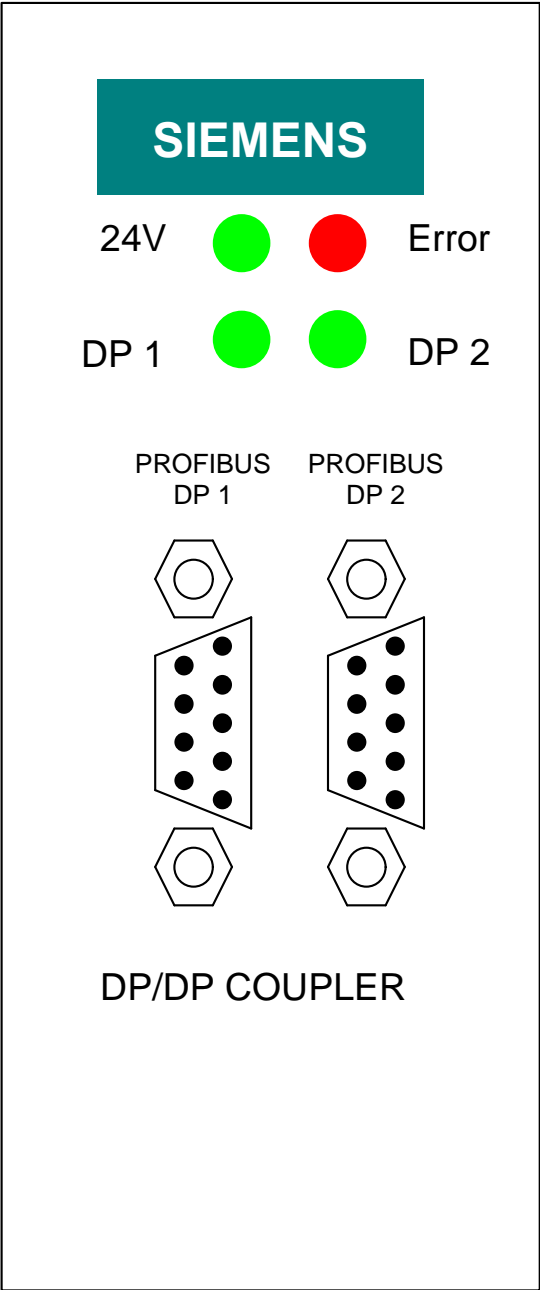
3.2 LED Displays

Figure 4: Front Side of the DP/DP Coupler with LEDs and PROFIBUS DP Connections

The LEDs on the front side of the DP/DP coupler have the following meaning:

LED	Color	Meaning	Possible Causes for the Error, and Remedy
24V	green	Check 24V Supply	**ON:** 24V supply is applied and is OK **OFF:** No 24V supply voltage
Error	red		**ON:** The device is still in the initialization phase. Grave error in device (exchange HW if necessary). Operation is not possible. **OFF:** Device is running; operation possible.
DP1	green	Bus Activity Network 1	**ON:** Messages are running on the PROFIBUS DP Network 1 (w/o fault) **OFF:** No messages are running on Network 1
DP2	green	Bus Activity Network 2	**ON:** Messages are running on PROFIBUS DP Network 2 (w/o fault) **OFF:** No messages are running on Network 2

3.3 Setting the Data Length

The data length is set during configuration. No settings whatsoever are required on the hardware.

In the manual, configuring examples that deal with this topic are provided for the COM PROFIBUS and STEP7.

The coupler handles 256 Bytes as a maximum for Input and Output data. However the restriction on PROFIBUS is a maximum of 244 Bytes in one direction.

256 Bytes can be shared between In- and Outputs in demand of your application needs. As example:

240 Bytes Input, 16 Bytes Output or
20 Bytes Input, 80 Bytes Output or
2 Bytes Input, 12 Bytes Output or
128 Bytes Input, 128 Bytes Output or any other configuration up to a maximum of 256 Bytes.

4. Commissioning

Note:
Only trained personnel is to commission the DP/DP coupler, under adherence of the safety rules.

4.1 Components Needed

To commission the DP/DP coupler, you need the following components:

- 1 x DP/DP coupler
- 2 x connector for PROFIBUS DP (refer to Catalog ST PI)
- PROFIBUS DP bus cable (refer to Catalog ST PI)
- 1 x 24VDC supply voltage
- Configuring tool for the DP master/s of both PROFIBUS DP networks

4.2 Installation

The DP/DP coupler has the degree of protection IP20. It is thus suitable for installation in cabinets or control boxes. The device is simply snapped onto a 35mm top hat rail.

4.3 Commissioning

In order to ensure correct operation and faultless functioning of the DP/DP coupler, the steps listed below must absolutely be followed for commissioning:

- *Setting the PROFIBUS Address*

The slave address for both slaves is set independent of each other, with the DIP switch that is located on the top side of the unit.

Note:
Please be sure that you are setting Addresses 1 to 125 only. Other addresses are not permitted on PROFIBUS DP.
Please be also sure that the addresses set on the hardware agree with those used in the software.

- *Connection to the PROFIBUS DP Networks*

Connect the DP/DP coupler to the two networks at the two PROFIBUS DP interfaces.

- *Connecting the 24V Supply Voltage*

Connect the 24V supply voltage to the terminals (X3) provided for this.

- *Shield Connection*

For connection to PROFIBUS DP, use only the connectors (refer to Catalog ST PI) intended for this. Via these connectors, faultless grounding of the shield is ensured.
In addition, the shield of the bus cable has to be intercepted on a shield terminal immediately after entering the cabinet or the control box, and to be grounded large-surfaced. In addition to this, take note of the pertinent installation guidelines for PROFIBUS DP.

- *Configuring*

For configuring the DP/DP coupler, a Device Description Data File is included with the unit. Integrate this device description data file into your configuring tool. This procedure is described in more detail for STEP7 and COM PROFIBUS, the two configuring tools by Siemens.

Note:
The current device description data file is included with the DP/DP coupler on a diskette.
If needed, the device description data file can also be loaded free of charge through:

- Mailbox: *(++49) 0911 / 73 79 72*
- Internet: *http://www.aut.siemens.de*

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5. Configuring with COM PROFIBUS

5.1 Handling the Device Description Data File and the Type File

With the DP/DP coupler, a diskette is included which contains the device description data file and the type file.

You need these files for integrating the DP/DP coupler in COM. The following assignment applies:

File	Version	To be Used for
SIEM8070.GSD *(Device Description Data File)*	GSD_Revi-sion = 1 (15 Sep 1997)	COM PROFIBUS starting with Version V3.0
SI8070AX.200 *(Type File)*	V5.x (16 June1997)	COM ET200 Windows V2.1

So that you can utilize the DP/DP coupler together with the COM, copy the file *SIEM8070.GSD* from the diskette to directory *C:\COMPB3x\GSD* (destination directory where you installed the COM PROFIBUS).

5.2 Configuration Example

Using an IM308-C, assigning parameters to and configuring the DP/DP coupler with COM
PROFIBUS is explained below.

First, start the COM Profibus and set up a new master system via the menu *<File>, <New>.*
Then, select the IM308-C. On the menu bar located to the right, select the key *"Other"* . A
window will open in which the DP/DP coupler is located. Select the coupler by double
clicking on the line " DP-Gateway 6ES7 158 - 0AD00-0XA0".
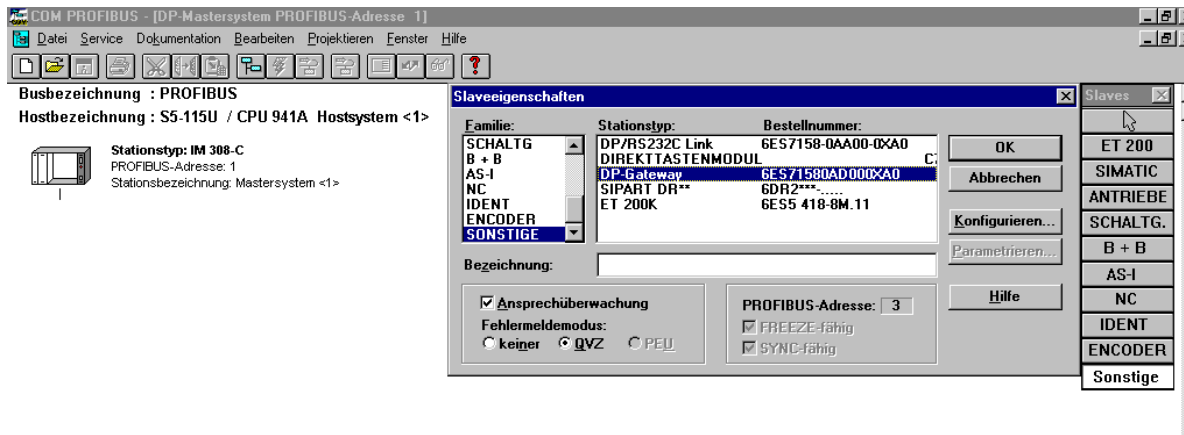
As a result, the station is interfaced with the master system. By double clicking on this
station, the window with the *Slave Features* is opened. Now, activate the button
"Configuring". As a result, the window "*Configuring DP Gateway*" will appear on the screen.
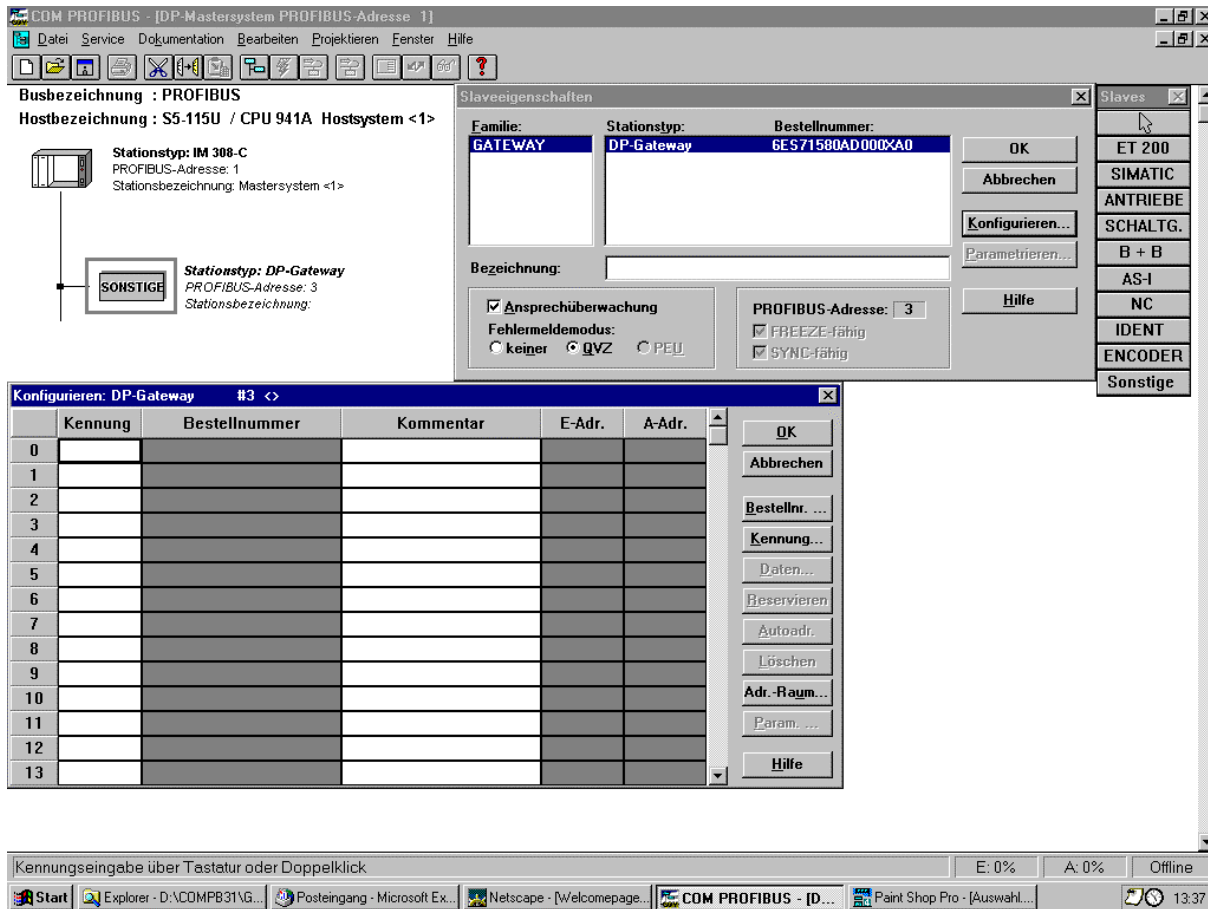
Now, position the cursor on the field *"Identification 0"*, and then activate the button *"Order Number"*. This will open the window *"Selection via Order Number for Slot 0"*. Here, you can set up the input and output areas for the DP/DP coupler. In our example, a DP/DP coupler is defined that is to have 16 bytes output and 8 bytes input in this network (here Network 1). This means, the master of this network (IM308-C) can send 16 bytes to the second network, and it can receive 8 bytes from this second network.

By double clicking on the entry "16 Bytes Output", you define the length of the first slot. The fields "Identification" and "Order Number" are then filled in automatically. In addition, a wildcard for the output address is set up.
Next, specify the input range by double clicking on the line "8 Bytes Input". Here also, the fields "Identification" and "Order Number" are filled in automatically, and a wildcard for the input address is set up.
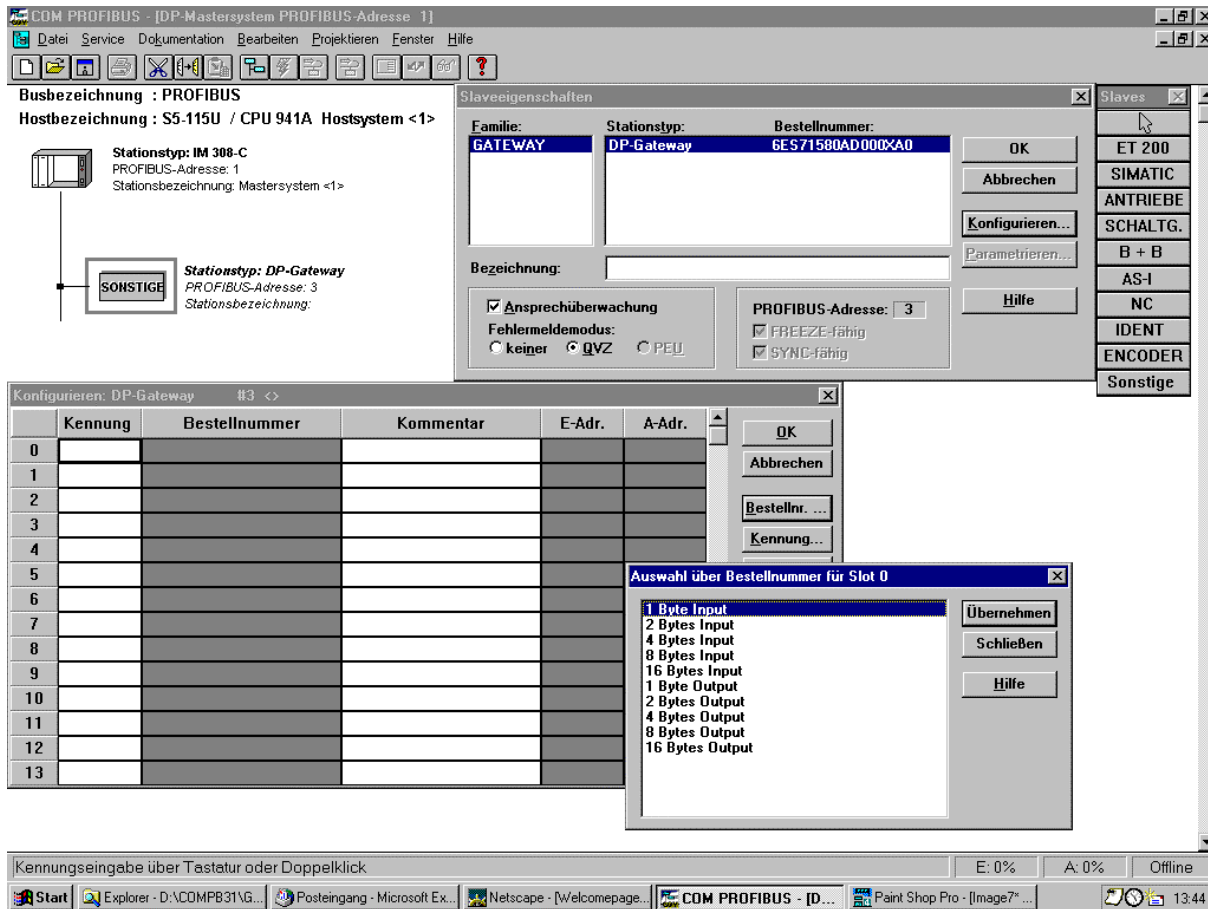
Now, you can manually fill in the reserved fields for the input- and output address, or utilize COM's automatic addressing. Automatic addressing has the advantage that the COM manages the addresses itself, and optimum utilization of the address space is guaranteed. For this, first position the cursor on the button *"I-Addr"* and then on the button *"Auto-Addr"*. The COM will now automatically enter the next free address. Then, repeat this operation for the output address.
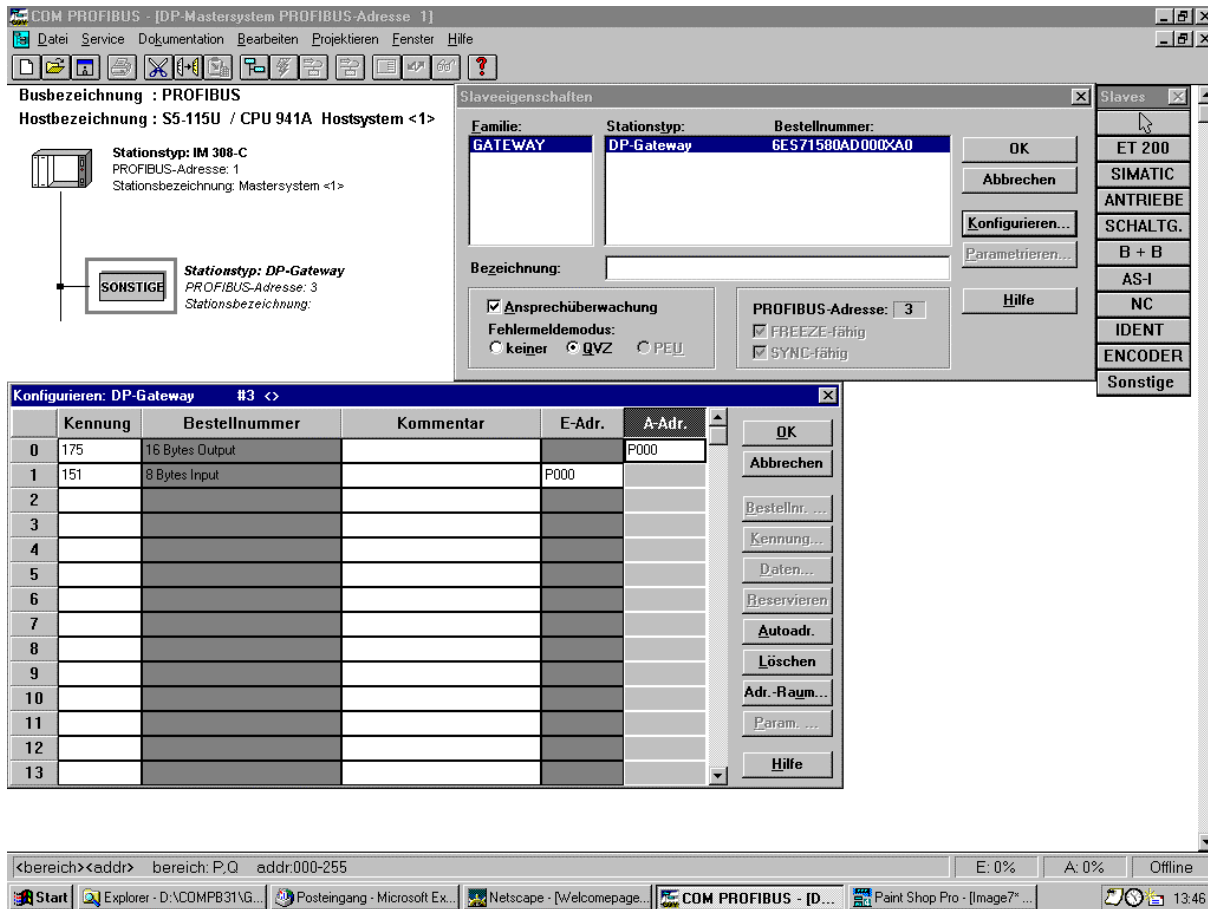
You are now done configuring the DP/DP coupler. Close all windows and save the file.

If the second network is also equipped with an IM308-C as master, set up a second file and repeat the steps mentioned above.

Next, the configuration in a network with a SIMATIC S7 control is discussed. It is assumed that the first network, as described above, exists.

6. Configuring with STEP7

6.1 Handling the Device Description Data File

With the DP/DP coupler, a diskette is included that contains the device description data file and the type file.
These files are needed for integrating the DP/DP coupler in STEP7. The following assignment applies:

File	Version	To be used for
SIEM8070.GSD *(Device Description Data File)*	GSD_Revi- sion = 1 (15 Sept. 1997)	STEP7 starting with Version V3.0
SI8070AX.200 *(Type File)*	V5.x (16 June 1997)	STEP7 up to Version V3.0

So that you can utilize the DP/DP coupler together with STEP7, copy the file *SIEM8070.GSD* from the diskette to directory *C:\STEP7\S7DATA\GSD* (destination directory where you installed STEP7).

6.2 Configuring Example

Using STEP7 V4.0, configuring the DP/DP coupler is demonstrated. It is assumed that it is the second network that is to process appropriately with the network which was generated previously with the COM PROFIBUS.

First, establish a project in the known manner. In our example, the DP master is to be a CPU315-2DP. The description starts after all necessary preparatory work has been completed, and the master system is opened.
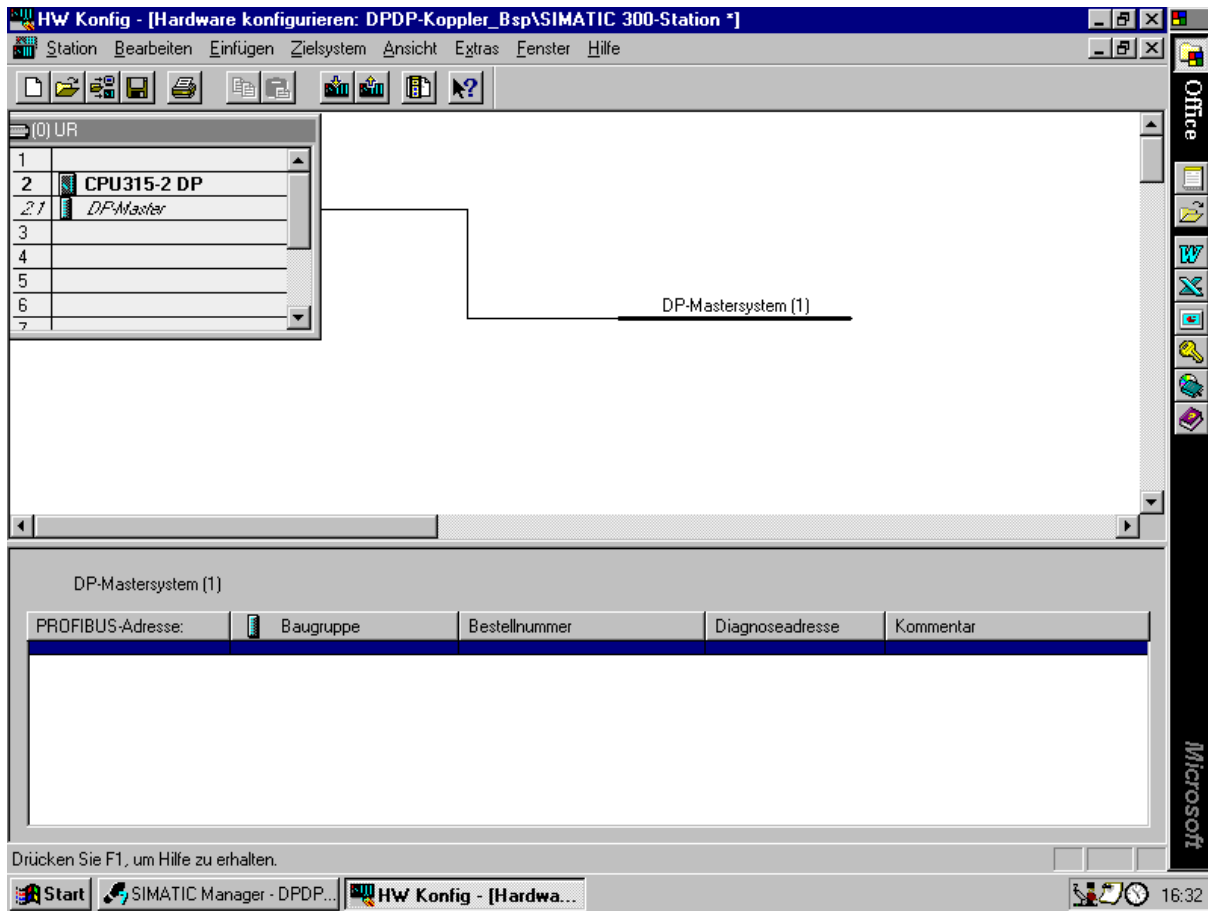
Note:
Please take note that you have to update the STEP7 module catalog after transferring the device description data file. After starting *"HW-Config"*, select the menu *<Extras>, <Update Device Description Data Files>*. After this process is concluded, the DP/DP coupler appears in the module catalog.
This has to be done only when working with the DP/DP coupler **for the first time**.

Now, open the module catalog. The DP/DP coupler is filed under the following structure:

PROFIBUS DP

      └─── Additional FIELD DEVICES

               └───DP Gateway

With "Drag&Drop", drag the DP/DP coupler designated "DP Gateway" out of the module catalog to the master system. It will be connected automatically, and the configuring window will be opened. In addition, a window is opened where you set the address and the bus parameters. In our example, Address 50 is selected for the DP/DP coupler.
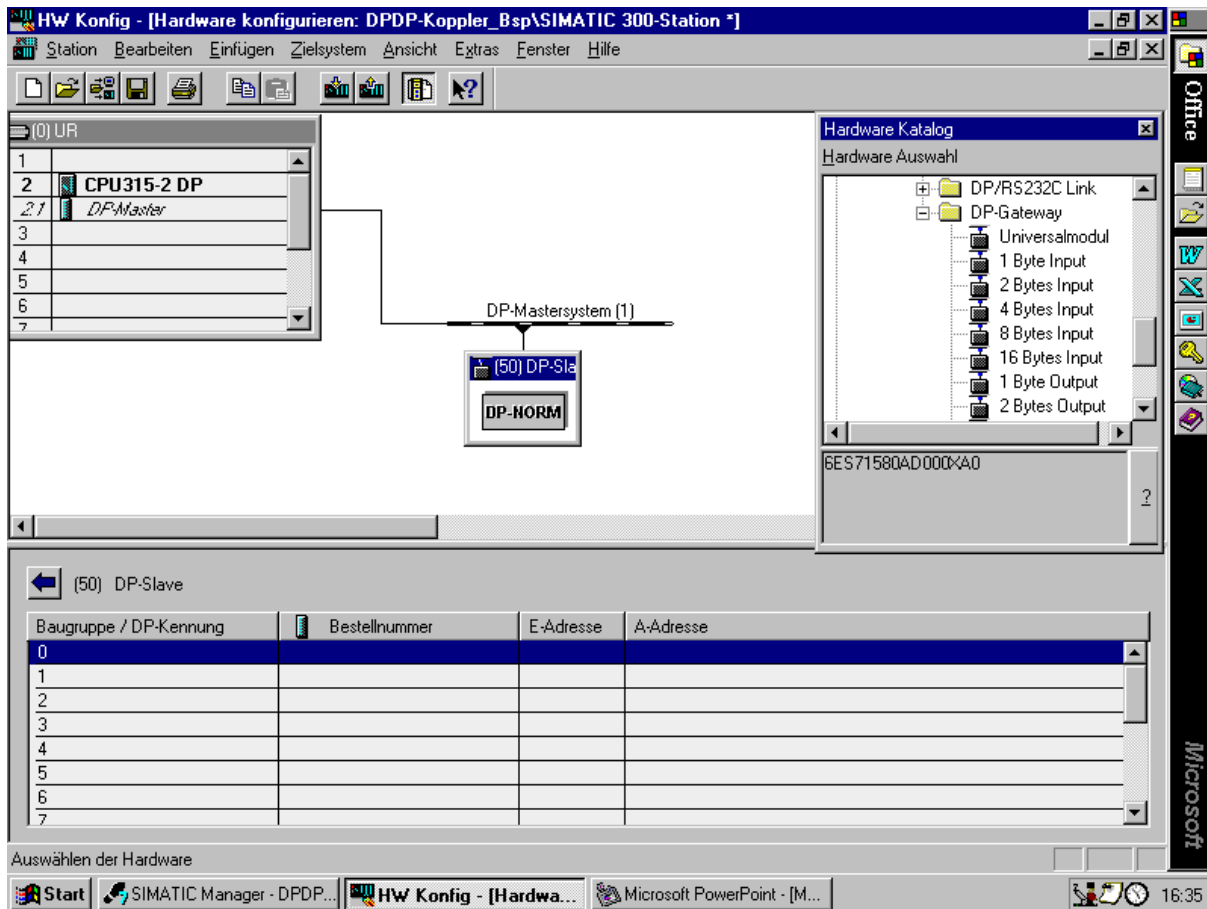
Specify the input and output ranges. As has been specified previously in the configuring example for the COM PROFIBUS, Network 1 has 16 bytes output data and 8 bytes input data. This means that Network 2 has to have the opposite: 16 bytes input data and 8 bytes output data. With Drag&Drop, drag the corresponding "modules" from the module catalog to the configuration window. The addresses are now assigned automatically. You can subsequently change them manually.

7. Diagnostic

The diagnosis consists of 11 bytes (mandatory 6 bytes and 5 bytes device related diagnosis).

7.1 DP Standard

The first 6 bytes are related to the DP standard, every DP-Slave device supports the same information.

Byte/Bit	Value	Meaning
Bit 0.0	1	Station non existent
Bit 0.1	1	Not ready for Data exchange
Bit 0.2	1	Wrong configuration data
Bit 0.3	1	Extended diagnostic reported
Bit 0.4	1	Service is not supported
Bit 0.5	1	Invalid Slave response
Bit 0.6	1	Wrong parameterization data
Bit 0.7	1	DP-Slave is locked by a different master
Bit 1.0	1	Slave requests new parameterization
Bit 1.1	1	Slave reports static diagnostic
Bit 1.2	1	not used
Bit 1.3	1	Watchdog is activated
Bit 1.4	1	Slave is in Freeze mode
Bit 1.5	1	Slave is in Sync mode
Bit 1.6	1	not used
Bit 1.7	1	Slave is not activated
Byte 2		not used
Byte 3		Station address of the master which controls the Slave (locked)
Byte 4	80 (Hex)	Slave identifikation number
Byte 5	70 (Hex)	Slave identifikation number

7.2 Device related Diagnostic

The following device related diagnostic is available.

Byte/Bit	Value	Meaning
Byte 6	05 (Hex)	Header including length information
Byte 7	00 (Hex) 01 (Hex)	supplied are not correct supplied data are correct
Byte 8	Anz. Eingänge (Hex)	Number of inputs byte of the opposite side
Byte 9	Anz. Ausgänge (Hex)	Number of output bytes of the opposite side
Byte 10		Condition of the opposite side (Freeze/Sync mode)
Byte 10.0	0	not used
Byte 10.1	1	opposite side is in Clear mode
Byte 10.2	1	Unfreeze
Byte 10.3	1	Freeze
Byte 10.4	1	Unsync
Byte 10.5	1	Sync
Byte 10.6	0	not used
Byte 10.7	0	not used

8. Ports

8.1 Connector Assignment of the RS485 Interfaces (X1, X2)

Pin No.	Name	Function
1	n.c.	reserved
2	n.c.	reserved
3	RxD/TxD-P	Data Line B
4	RTS	Request To Send
5	M5V2	Data Reference Potential (of station)
6	P5V2	Supply Plus (of Station)
7	n.c.	reserved
8	RxD/TxD-N	Data Line A
9	n.c.	reserved

8.2 Connector Assignment of the Power Supply (X3)

Pin No.	Name	Function
1	24V	24V Power Supply (plus)
2	GND	Ground

9. Technical Data

9.1 Electrical

Supply Voltage:	24V DC (18 ... 30V)
Current Input:	Typ. 170mA (100 ... 250mA)
Interfaces:	2 x RS485 for PROFIBUS-DP
both networks isolated from each other:	yes
EMC noise immunity:	According to EN 50082/2/95
EMC emitted interference:	According to EN 50081/1/93

9.2 Mechanical Assembly

Degree of Protection:	IP20
Dimensions (WxHxD):	40mm x 110mmm x 70mm
Weight:	Approx. 500g
Mounting:	Can be snapped onto 35mm top hat rail (according to DIN 50022)

9.3 Environmental Conditions

Operating temperature:	0°C to 55°C; operation without fan
Relative humidity:	15% to 95%; non-condensing
Storage temperature:	-20°C to 85°C
Mounting position:	Vertical

9.4 Order Number

DP/DP Coupler	6ES7 158 - 0AD00 - 0XA0

10. Contact Persons

10.1 Contact Persons

If you have questions about the product, please contact your local representative first.

If you have questions going beyond this, contact the following directly:

SIMATIC Hotline
Tel.: (++49) 0911 / 895 - 7000
FAX: (++49) 0911 / 895 - 7002   or -7001

or:

Product Marketing AUT V17
Gleiwitzer Straße 555
D-90475 Nürnberg/Germany

Tel.: (++49) 0911 / 895 - 2504
FAX: (++49) 0911 / 895 - 4025

Please have the following available:
- Order number of device
- Release of device
- Configuration of system structure, particularly the data for the DP master
- Order number and version of the configuring software used
- (Number of SIMATIC card for customers of the Premium Hotline)

10.2 Siemens Online

In addition, current information is available to you, regardless of place and time, via Intranet/Internet, as well as a via mailbox:

- Mailbox with current Device Description Data Files:
(++49) 0911 / 73 79 72

- Intranet (only within Siemens):
http://www.m30x.nbg.scn.de/extern/spiegeln

- Internet:
http://www.aut.siemens.de

10.3 Additional Addresses

PROFIBUS Schnittstellen-Center und Prüflabor <<PROFIBUS Interface Center and Test Lab>>
Würzburger Straße 121
D-90766 Fürth/Germany
Tel.: (++49) 0911 / 750 - 2002   or   -2072
FAX: (++49) 0911 / 750 - 2100

PROFIBUS Nutzerorganisation e.V. <<PROFIBUS User Organization>>
Haid-und-Neu-Straße 7
D-76131 Karlsruhe/Germany
Tel.: (++49) 0721 / 9658 - 590
FAX: (++49) 0721 / 9658 - 589
Internet: http://www.profibus.de

<<USA>>

11. Bibliography

If you would like know more about PROFIBUS in greater detail and are looking for more extensive information, we recommend the following literature:

11.1 German

PROFIBUS-DP Schnelleinstieg; M. Popp; PROFIBUS Nutzerorganisation e.V.; Best.-Nr. 4071.

Handbuch für PROFIBUS-Netze, deutsch; Siemens AG; Best.-Nr. 6GK1 970-5CA10-0AA0.

Europäische Norm EN50170 Volume 2.

11.2 English

The Rapid Way to PROFIBUS-DP; M. Popp; PROFIBUS Nutzerorganisation e.V.; Best.-Nr. 4072.

Manual for PROFIBUS Networks, English; Siemens AG; Order No. 6GK1 970-5CA10-0AA1.

EN50170 Volume 2.

12. Appendices

12.1 Appendix A - Device Description Data File

```
;==========================================
; Device Description Data File for DP Gateway
; Order No.: 6ES7 1580AD00 0XA0
; SIEMENS AG ANL-TD24
; Author : Linzmaier
; Version : 15 Sept 97
; ==========================================
;
#Profibus_DP
GSD_Revision      = 1              <<GSD = Device Description Data File>>
;
Vendor_Name       = "Siemens AG ANL-TD24"
Model_Name        = "DP-Gateway"
Revision          = "A1"
Ident_Number      = 0x8070
Protocol_Ident    = 0
Station_Type      = 0
FMS_supp          = 0
Hardware_Release  = "A2"
Software_Release  = "A2"
;
9.6_supp          = 1
19.2_supp         = 1
93.75_supp        = 1
187.5_supp        = 1
500_supp          = 1
1.5M_supp         = 1
3M_supp           = 1
6M_supp           = 1
12M_supp          = 1
;
MaxTsdr_9.6       = 60
MaxTsdr_19.2      = 60
MaxTsdr_93.75     = 60
MaxTsdr_187.5     = 60
MaxTsdr_500       = 100
MaxTsdr_1.5M      = 150
```

```
MaxTsdr_3M        = 250
MaxTsdr_6M        = 450
MaxTsdr_12M        = 800
;
Redundancy        = 1
Repeater_Ctrl_Sig   = 2
24V_Pins        = 0
Implementation_Type = "SPC3"
;
OrderNumber        = "6ES7 158 0AD00 0XA0"
Freeze_Mode_supp    = 1
Sync_Mode_supp      = 1
Auto_Baud_supp      = 1
Set_Slave_Add_supp  = 0
Min_Slave_Intervall = 3
;
Modular_Station     = 1
Max_Module        = 16
Max_Input_Len      = 244
Max_Output_Len      = 244
Max_Data_Len      = 244
Modul_Offset      = 0
;
Fail_Safe        = 1
Slave_Family      = 9
Max_Diag_Data_Len   = 11
;
Unit_Diag_Bit(0)   = "Data Valid 1 = Valid"
Unit_Diag_Bit(1)   = "reserved"
Unit_Diag_Bit(2)   = "reserved"
Unit_Diag_Bit(3)   = "reserved"
Unit_Diag_Bit(4)   = "reserved"
Unit_Diag_Bit(5)   = "reserved"
Unit_Diag_Bit(6)   = "reserved"
Unit_Diag_Bit(7)   = "reserved"
Unit_Diag_Bit(8)   = "Inputs of other DP LBS"
Unit_Diag_Bit(9)   = "Inputs of other DP 2nd LSB"
Unit_Diag_Bit(10)  = "Inputs of other DP 3rd LSB"
Unit_Diag_Bit(11)  = "Inputs of other DP 4th LSB"
Unit_Diag_Bit(12)  = "Inputs of other DP 4th MSB"
Unit_Diag_Bit(13)  = "Inputs of other DP 3rd MSB"
Unit_Diag_Bit(14)  = "Inputs of other DP 2nd MSB"
Unit_Diag_Bit(15)  = "Inputs of other DP MSB"
Unit_Diag_Bit(16)  = "Outputs of other DP LSB"
Unit_Diag_Bit(17)  = "Outputs of other DP 2nd LSB"
```

```
Unit_Diag_Bit(18)  = "Outputs of other DP 3rd LSB"
Unit_Diag_Bit(19)  = "Outputs of other DP 4th LSB"
Unit_Diag_Bit(20)  = "Outputs of other DP 4th MSB"
Unit_Diag_Bit(21)  = "Outputs of other DP 3rd MSB"
Unit_Diag_Bit(22)  = "Outputs of other DP 2nd MSB"
Unit_Diag_Bit(23)  = "Outputs of other DP MSB"
Unit_Diag_Bit(24)  = "reserved"
Unit_Diag_Bit(25)  = "Clear-Data Request other DP"
Unit_Diag_Bit(26)  = "Unfreeze Request other DP"
Unit_Diag_Bit(27)  = "Freeze Request other DP"
Unit_Diag_Bit(28)  = "Unsync Request other DP"
Unit_Diag_Bit(29)  = "Sync Request other DP"
Unit_Diag_Bit(30)  = "reserved"
Unit_Diag_Bit(31)  = "reserved"
;
;
Module = "1 Byte Input" 0x90
EndModule;
Module = "2 Bytes Input" 0x91
EndModule;
Module = "4 Bytes Input" 0x93
EndModule;
Module = "8 Bytes Input" 0x97
EndModule;
Module = "16 Bytes Input" 0x9F
EndModule;
Module = "1 Byte Output" 0xA0
EndModule;
Module = "2 Bytes Output" 0xA1
EndModule;
```

Module = "4 Bytes Output" 0xA3
EndModule;
Module = "8 Bytes Output " 0xA7
EndModule;
Module = "16 Bytes Output" 0xAF
EndModule;

12.2 Appendix B - Type File

Type File for ANL-TD24 16 June 97 <   >
V5.x;
DP-Gateway   ;
Siemens   ;
GATEWAY   ;
DPS   ;
DPS/CLASS1   ;
32880;
J;
J;
N;
J;
J;
N;
N;
N;
N;
N;
N;
J;
J;
N;
00003;
1111011111;
244;
244;
016;
011;
007;
PV000;
PSL000;
HTT000;
KX000;
SY;
DKM032;
DBO001"0"Data Valid 1 = Valid   "1";
DBO001"1"reserved   "1";
DBO001"2"reserved   "1";
DBO001"3"reserved   "1";
DBO001"4"reserved   "1";
DBO001"5"reserved   "1";

```
DBO001"6"reserved                   "1";
DBO001"7"reserved                   "1";
DBO002"0"Inputs of other DP LBS         "1";
DBO002"1"Inputs of other DP 2nd LSB     "1";
DBO002"2"Inputs of other DP 3rd LSB     "1";
DBO002"3"Inputs of other DP 4th LSB     "1";
DBO002"4"Inputs of other DP 4th MSB     "1";
DBO002"5"Inputs of other DP 3rd MSB     "1";
DBO002"6"Inputs of other DP 2nd MSB     "1";
DBO002"7"Inputs of other DP MSB         "1";
DBO003"0"Outputs of other DP LSB        "1";
DBO003"1"Outputs of other DP 2nd LSB    "1";
DBO003"2"Outputs of other DP 3rd LSB    "1";
DBO003"3"Outputs of other DP 4th LSB    "1";
DBO003"4"Outputs of other DP 4th MSB    "1";
DBO003"5"Outputs of other DP 3rd MSB    "1";
DBO003"6"Outputs of other DP 2nd MSB    "1";
DBO003"7"Outputs of other DP MSB        "1";
DBO004"0"reserved                   "1";
DBO004"1"reserved                   "1";
DBO004"2"reserved                   "1";
DBO004"3"WD on other DP             "1";
DBO004"4"Freeze Request other DP       "1";
DBO004"5"Sync Request other DP         "1";
DBO004"6"Unlock Request other DP       "1";
DBO004"7"Lock Request other DP         "1";
DKK000;
DP_NORM;
ISNONAME;
SO000;
244;
MLFB010;
"1 Input              "144"SP000";
"2 Inputs             "145"SP000";
"4 Inputs             "147"SP000";
"8 Inputs             "151"SP000";
"16 Inputs             "159"SP000";
"1 Output             "160"SP000";
"2 Outputs             "161"SP000";
"4 Outputs             "163"SP000";
"8 Outputs             "167"SP000";
"16 Outputs             "175"SP000";
```

LSK000;
000;
SPT000;
HTT000;
ETER000;
MRD000;