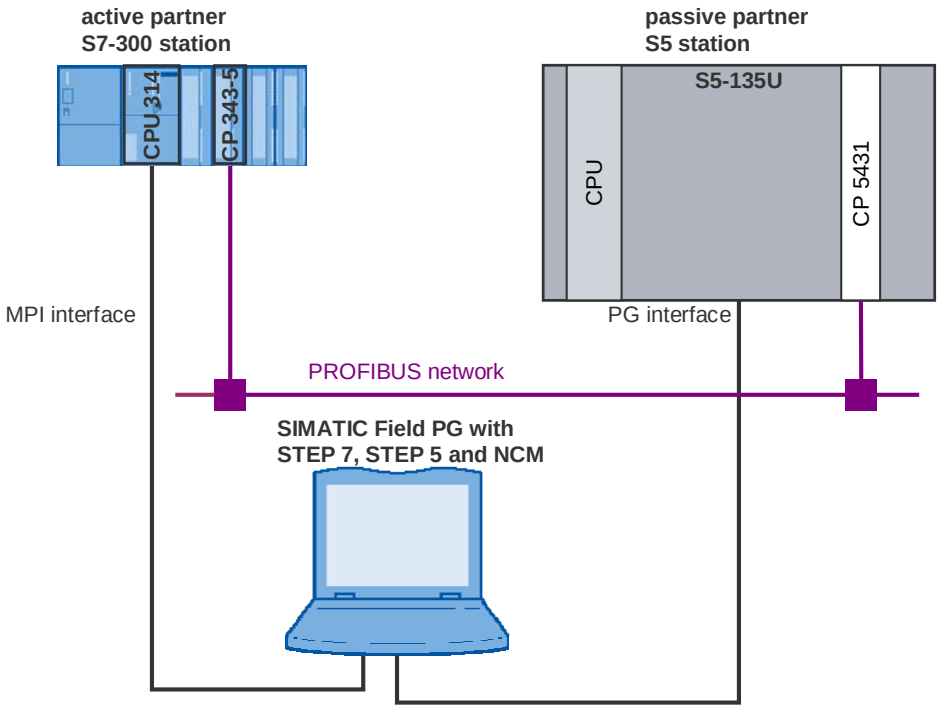
2 Overview of the Sample Program

Plant Configuration

Figure 2-1



Checking the function of the sample program

You can see whether the sample program is functioning correctly from variable table of the active S7-300 station. The variable table is included in the block folder of the STEP 7 project.

The data sent and received changes its value constantly (see chapter 5).

3 Plant Configuration

This chapter gives you an overview of the configuration and the hardware and software components used to create the sample program.

3.1 Overview

Table 3-1 gives an overview of the configuration used to create the sample program.

Table 3-1

Bus system	PROFIBUS
Communication protocol	FDL with free layer 2 access
FMS Client	SIMATIC S7
FMS Server	SIMATIC S5
Communications processors	CP342-5 and CP5431
Services	SDA (Send Data with Acknowledge)

In this sample program the SDA (Send Data with Acknowledge) service and the free layer 2 access of the FDL protocol are used for data communication between a SIMATIC S7 and a SIMATIC S5.

In the active partner S7-300 station a CP342-5 communications processor is used for data communication using the FDL protocol and the SDA (Send Data with Acknowledge) service.

A CP5431 communications processor is used in the passive partner S5 station.

3.2 Hardware and Software Components Used

Hardware components

The following modules in the active partner S7-300 station were used to create the sample program.

Table 3-2

Slot	Module	Order number
1	PS 307 10A	6ES7307-1KA00-0AA0
3	CPU314	6ES7314-1AE02-0AB0
4	CP342-5	6GK7342-5DA00-0XE0

The following modules in the passive partner S5 station were used to create the sample program.

Table 3-3

Slot	Module	Order number
1	S5-135U/155U (CPU 928)	6ES5 928-3UA12
2	CP5431	6GK1543-1AA01

Note

The sample project has been created with a specific hardware configuration. This must be maintained to ensure proper functioning.

If you use a different configuration, with a different CPU or CP, for example, then you must change the sample program accordingly.

4.4.5 FB40 "SEND>SDA"

The FB40 "SEND>SDA" is called cyclically in OB1.

Overview

Figure 4-10

```
Name      :SEND>SDA                send to remote-station 2 bytes

                  :A   F   45.7    "call-send-bit"
                  :JU FB 120
    Name : SEND
SSNR      :     KY 0,0
A-NR      :     KY 0,134           job number (ncm5431)
ANZW      :     FW  56
QTYP      :     KS DB              send buffer type is db
DBNR      :     KY 0,40            send buffer is db40
QANF      :     KF +1              send buffer offset is dw1
QLAE      :     KF +5              send length (5 words/10 bytes)
PAFE      :     FY  54
                  :
                  :A   F   57.2    anzw "job complete without err"
                  :AN  F   55.0
                  :=   F   55.1    edge flag "data transfer
                  :                completed"
                  :A   F   57.2
                  :=   F   55.0
                  :
                  :A   F   55.1    edge flag "data transfer
                  :                completed"
                  :AN  F   54.0    no pafe by send
                  :R   F   45.7    reset "call-send-bit"
                  :
                  :BE
```

Description

The FB40 "SEND_SDA" cyclically calls the function block FB120 "SEND" to transfer data.

In this example the FB120 "SEND" transfers 2 bytes of user data to the configured communication partner.

Depending on the data transfer and the value of the parameter "PAFE" the Send bit is reset and the function block FB40 is terminated.

Parameters

The table gives an overview of the parameters of FB120 "SEND".

Table 4-6

Parameter	Description
SSNR	Interface number of the CP5431.
A-NR	Job number which identifies the S/R connection of the CP5431.
ANZW	Job status.
QTYP	ID for the send buffer type.
DBNR	Number of the data block (DB).
QANF	Offset in the send buffer.
QLAE	Length of the area to be transferred.
PAFE	Error display of the block.

Parameters

Table 4-7

Parameter	Description
SSNR	Interface number of the CP5431.
A-NR	Job number which identifies the S/R connection of the CP5431.
ANZW	Job status.
ZTYP	ID for the receive buffer type.
DBNR	Number of the data block (DB).
ZANF	Offset in the receive buffer.
ZLAE	Length of the area to be transferred. If the ZLAE parameter has the value "-1", the length is determined when the data is received.
PAFE	Process picture error during processing of the function block FB121 "RECEIVE".

Table 6-2

Check	Remedy
Check whether the PROFIBUS bus cable is connected to the CP342-5 in the S7-300 station and to CP5431 in the S5 station. If the PROFIBUS bus cable is not connected to CP342-5 in the S7-300 station and to CP5431 in the S5 station, no connection can be established between the two stations. Data exchange is not possible.	Connect the PROFIBUS bus cable to the RS485 interface of the CP342-5 and to the L2 interface of the CP5431. Switch on the terminator of the PROFIBUS connector.
Check whether "Monitor variables" function is activated in the variable table.	Activate the "Monitor variable" function by means of the menu `Variable` → `Monitor`.

6.3 Control Values are Not Applied for the Variables in the Variable Table

If the control values for the variables in the variable table are not applied, then make the following checks and take the following measures to remedy the situation.

Table 6-3

Check	Remedy
Check whether the control value of the variable DB40.DBW6 is in the range of valid values.	Enter a control value for the variable DB40.DBW6 from the valid range of values of between 0 and 32767.

Note If these notes, tips and tricks etc. for the commissioning and working of the sample program have not been of assistance, then repeat the commissioning of the sample program.