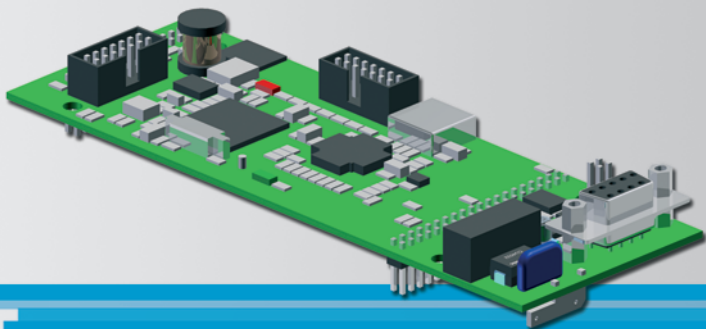# SD 700
Series

VARIABLE SPEED DRIVE

Communication Network

Profibus Communication

POWER ELECTRONICS

SD 700
Series

VARIABLE SPEED DRIVE

Profibus Communication
Communication Network

Edition: April 2008

SD70BC03AI Rev. A

INDEX

SAFETY INSTRUCTIONS

IMPORTANT!

- Safety instructions showed in this manual are useful to teach user how to use the product in a correct and safety way with the purpose of preventing possible personal injuries or property damages.
- Safety messages included here are classified as it follows:

⚠ **WARNING**

Be sure to take ESD (Electrostatic Discharge) protection measures when you touch the board.
Otherwise, the optional board may get damaged due to static charges.

Implement wiring change on the optional board after checking that the power supply is off.
Otherwise, there is a danger of connecting error and damage to the board.

Be sure to connect correctly the optional board to the inverter.
Otherwise, there is a danger of connecting error and damage to the board.

Do not remove the cover while the power is applied or the unit is in operation.
Otherwise, electric shock could occur.

Do not run the inverter with the front cover removed.
Otherwise, you may get an electric shock due to the high voltage terminals or exposure of charged capacitors.

Do not remove the cover except for periodic inspections or wiring, even if the input power is not applied.
Otherwise, you may access the charged circuits and get an electric shock.

Wiring and periodic inspections should be performed at least 10 minutes after disconnecting the input power and after checking the DC Link voltage is discharged with a meter (below 30VDC).
Otherwise, you may get an electric shock.

Operate the switches with dry hands.
Otherwise, you may get an electric shock.

Do not use cables with damaged insulation.
Otherwise, you may get an electric shock.

Do not subject the cables to the abrasions, excessive stress, heavy loads or pinching.
Otherwise, you may get an electric shock.

⚠ CAUTION

Install the inverter on a non-flammable surface. Do not place flammable material nearby.
Otherwise, fire could occur.

Disconnect the input power if the inverter gets damaged.
Otherwise, it could result in a secondary accident or fire.

After the input power is applied or removed, the inverter will remain hot for a couple of minutes.
Touching hot parts may result in skin burns.

Do not apply power to a damaged inverter or to an inverter with parts missing even if the installation is complete.
Otherwise, fire or accident could occur.

Do not allow lint, paper, wood chips, dust, metallic chips or other foreign matter into the drive.
Otherwise, fire or accident could occur.

 WARNINGS

RECEPTION

- Material of Power Electronics is carefully tested and perfectly packed before leaving the factory.

- In the even of transport damage, please ensure that you notify the transport agency and POWER ELECTRONICS: 902 40 20 70 (International +34 96 136 65 57) or your nearest agent, within 24hrs from receipt of the goods.

UNPACKING

- Make sure received merchandise corresponds with delivery note, models and serial numbers.

- Each board is supplied with a technical manual.

RECYCLING

- The packing of the drives must be recycled. For this reason it is necessary to separate different materials (plastics, paper, cardboard, wood,) and settle them in corresponding containers.

- The residual parts of electrical devices must be collected in a selective manner in order to warranty the correct environmental treatment.

SAFETY

- Before operating the inverter, read this manual thoroughly to gain and understanding of the unit. If any doubt exists then please contact POWER ELECTRONICS, (902 40 20 70 / +34 96 136 65 57) or your nearest agent.

- Wear safety glasses when operating the inverter with power applied and the front cover is removed.

- Handle the inverter with care according to its weight.

- Install the inverter according to the instructions within this manual.

- Do not place heavy objects on the inverter.

- Ensure that the mounting orientation is correct.

- Do not drop the inverter or subject it to impact.

- The SD700 inverters contain static sensitive printed circuits boards. Use static safety procedures when handling these boards.

CONNECTION PRECAUTIONS

- To ensure correct operation of the inverter it is recommended to use a SCREENED CABLE for the control wiring.

- For EMERGENCY STOP, make sure supply circuitry is open.

- Do not disconnect motor cables if input power supply remains connected. The internal circuits of the drive will be damaged if the incoming power is connected and applied to output terminals (U, V, W).

- It is not recommended to use a 3-wire cable for long distances. Due to increased leakage capacitance between conductors, over-current protective feature may operate malfunction.

- Do not use power factor correction capacitors, surge suppressors, or RFI filters on the output side of the inverter. Doing so may damage these components.

- Always check whether the DC Link LED is OFF before wiring terminals. The charge capacitors may hold high-voltage even after the input power is disconnected. Use caution to prevent the possibility of personal injury.

COMMISSIONING

- Follow the steps described in this manual.

- Always apply voltage and current signals to each terminal that are within levels indicated within this manual. Otherwise, damage to the optional board may result.

OPERATION PRECAUTIONS

- When the Auto Restart function is enabled, keep clear of driven equipment, as the motor will restart suddenly after a fault is reset.

- The "STOP / RESET" key on the keypad is active only if the appropriate function setting has been made. For this reason, install a separate EMERGENCY STOP push button that can be operated at the equipment.

- If a fault reset is made with the reference signal still present then a restart will occur. Verify that it is permissible for this to happen, otherwise an accident may occur.

- Do not modify or alter anything within the drive.

- Before programming or operating the SD700 Series, initialise all parameters back to factory default values.

EARTH CONNECTION

- The inverter is a high frequency switching device, and leakage current may flow. Ground the inverter to avoid electrical shock. Use caution to prevent the possibility of personal injury.

- Connect only to the dedicated ground terminal of the inverter. Do not use the case or the chassis screw for grounding.

- When installing, grounding wire should be connected first and removed last.

- The earth cable must have a minimal cross sectional area that meets local country electrical regulations.

- Motor ground must be connected to the drive ground terminal and not to the installation's ground. We recommend that the section of the ground connection cable should be equal or higher than the active conductor.

- Installation ground must be connected to the inverter ground terminal.

1. INTRODUCTION

1.1. Description of Profibus Board

The Profibus Board for SD700 allows integrating these drives of Power Electronics into Profibus networks easily and comfortably.

Its useful design will allow you to know the operating status of the board all the time.

1. Profibus network connector
2. Connector for drive
3. Status leds
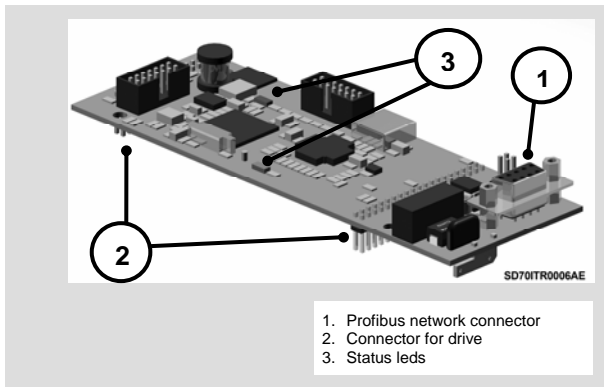
Figure 1.1 Description for Profibus Board

2. TECHNICAL CHARACTERISTICS

2.1. General Information

2.1.1. Contents of Profibus Board Kit

The kit of the Profibus board contents:

- o   1 Profibus board.
- o   1 Technical manual.

2.1.2. Interfaces

- o   Profibus – DP 9 Pin D-SUB / F Connector.

2.1.3. Local Indications

Profibus board includes 2 leds (D308 and D101) that supplies
information about the power supply of the board, network detection
and communication status. To obtain more detailed information
about leds, please, see section *'3.2.1. Description of Connectors
and Leds'* .

2.1.4. Profibus-DP Interface

Profibus – DP Interface.
Transmission speed Auto-detected at 12Mb.
Diagnosis data length of 13 Bytes (maximum).
Data length of Set up of 176 Bytes (maximum).
Configuration data length of 8 Byte (maximum).
Polling length of 120 Bytes (maximum).
File GSD PWE_06DD.GSD.

3. INSTALLATION AND CONNECTION

3.1. Installation of Profibus Board

Profibus board is directly connected to the drive of the SD700 Series from Power Electronics (through two connectors) with the purpose of integrating the equipment in an Profibus network. Therefore, it will be necessary one Profibus board for each equipment which is going to be connected to this network.

⚠ **CAUTION**

Motor controllers of Power Electronics operate with a high electric energy.
Make sure the power supply has been disconnected and wait for at least 10 minutes to guarantee that DC Link voltage is discharged, before installing the Ethernet board. Otherwise, you may get personal injuries or an accident could occur.

SD70ITR0009AE
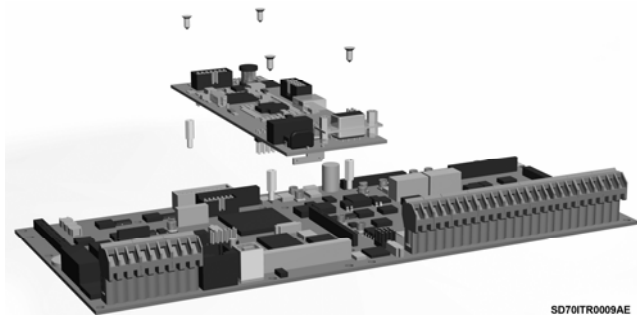
Figure 3.1 Installation of Profibus board in the drive

3.2. Connections for Profibus Board

3.2.1. Description of Connectors and Leds

In the Profibus board there are two connectors used to connect the board to the SD700 drive. The other connector (9 Pin D-SUB / F) is used for the connection to the Profibus network. On the other hand, the leds supply information about the input power of the board, network detection and communication status

SD70ITR0012AE
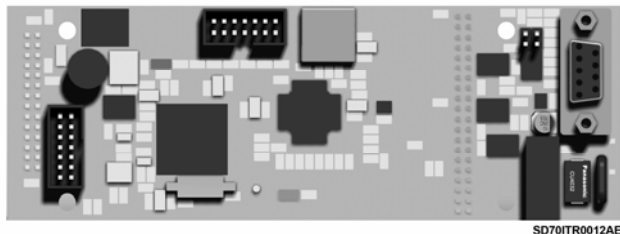
Figure 3.2 Location of connectors and leds on Profibus board

TERMINALS	DESCRIPTION
J201 (PROFIBUS)	Connector SUB-D 9 pins to connect the signals of the Profibus network.
J301 (Earth)	Connector available to provide the connection of the board to the Earth system.
JP201, JP202 (Jumpers)	To connect the ending resistors of the network. If it is not necessary to enable the ending resistor of the network, the jumper will be not connected. Otherwise, the jumper will be connected and so these resistors will be enabled.
D308 (Led)	Green. "ON" led. If it is lit indicates that the board is power supplied.

TERMINALS	DESCRIPTION
D101 (Led)	Red. It provides information depending on the number of blinking.

Number of blinks	Description
1	CAN communication error
2	Profibus Configuration error
3	VPC3 fault
4	Profibus not yet configured
5	Device in data exchange mode

3.2.2. Profibus Connections

For Profibus connection, a standard connector SUB-D 9 pins is used according to the definition of the standard EN 50170. The wiring for the connector of nine pins is shown in the attached figure.
If additionally, more information is required, refer to "Installation Guide of PROFIBUS DP/FMS" of the Profibus users group, where you can find more detailed information about the connection.
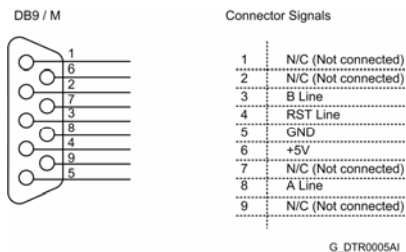
Figure 3.3 Connections of the connector SUB-D 9 pins

3.3. Setting of Profibus Network Parameters

To set the Profibus address of the SD700 it is necessary to access to G20.5 PROFIBUS. Please, push "*" key to go into this group. Changing the value in parameter G20.5.1 we will set the address for the slave, the address range is from 1 to 255, both included.

As soon as the optional board is connected to the drive the software will recognize it and the following parameters will be available:

Parameter	Description	Range	Default value	Modbus Address	Function
1 NODE ADDR=XX NODE ADDRESS	G20.5.1 / Profibus address	OFF=0 1 – 255	10	40852	Setting of the Profibus address assigned to the equipment in the network of the user. This address must be provided by the network administrator of the own user.

4. TRIAL RUN

4.1. Introduction

Profibus board is a Profibus-DP slave with the following characteristics:

- Modular station with 4 modules.
- Diagnosis with status message.

Before beginning the information exchange between the slave and the Profibus network, the slave should be configured by the master. There are several main services that are described below.

4.1.1. Diagnosis

Between the standard continuous cycles of communication and in the beginning stage of the network, the master sends continuous diagnosis messages. These messages allow the master to know if a new slave has been configured by reading the status in the network of the drive.

The master supplies the required parameters and configurations that still have not been installed.

Once the slave is into the network, diagnosis data exchange is only used by the slave to notify the master a change in the operation status. The use of these messages is extensive to notify errors in the communication board.

4.1.2. Set up

The set up messages are frames (up to 244 bytes of length) that contain all of the configuration parameters of the Profibus board. The board uses this information to configure the Modbus communication before entering in data exchange mode.

4.1.3. Configuration

Configuration message indicates the size of the I/O transference messages to the slave.
The modules that can be configured are the following ones:

ProfiPower SD700 Type 1
Specific module for Variable Speed Drive SD700.
5 output registers, 5 input registers.

ProfiPower SD700 Type 2
Specific module for Variable Speed Drive SD700.
60 output registers, 60 input registers.

ProfiPower SD700 Type 3
Pre-defined module for SD700 Series.
5 output registers, 2 input registers.

ProfiPower SD700 Type 4
Pre-defined module for SD700 Series.
27 output registers, 23 input registers.

The Profibus board reports the Profibus Master the possible errors that can be produced in it. For that, it uses the frames of diagnosis notification that can be visualized by any Profibus Master Software. The errors that can be notified are the following ones:

4.1.4. Errors referred to the configuration

The user diagnostics area starts at the offset byte 6. Bytes 0 through 5 are reserved for the standard diagnostics information as follows:

Byte 0 – Station Status_1
Byte 1 – Station Status_2
Byte 2 – Station Status_3
Byte 3 – Diag.Master_Add
Byte 4 – Ident_Number_High
Byte 5 – Ident_Number_Low

The extended diagnostics information is 12 bytes long (including the size field) and starts at Byte offset 6.

Byte 6: Length of the Buffer

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
0	0	0	0	1	1	0	0

Size of the extended diagnostics information including this byte.
Fixed at 0x0C (12).

Byte 7 - Bit encoded for several errors.

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
SYS_SCE N_READ	SYS_SCEN_ WRITE	CONFIG _FRAME	MODBU_ DEVICE	SCEN_ NUM	PARM _LEN	RD_REG _NUM	WR_RE G_NUM

The bits are set if the corresponding error prevails.

o   BIT 0 = Err. WR REG. NUMBER

This BIT can be set for the following error conditions:

a)   The number of the registers configured for writing operation in the write scenarios exceeds the limit specified by the configuration type.

b) Any of the MODBUS addresses configured in writing scenarios is not within the valid MODBUS address range.

o   BIT 1 = Err. RD REG. NUMBER

Number of reading registers is not valid.

This BIT can be set for the following error conditions:

a) The number of the registers configured for reading operation in the read scenarios exceeds the limit specified by the configuration type.

b) Any of the MODBUS addresses configured in reading scenarios is not within the valid MODBUS address range.

o   BIT 2 = Err. PARAM. LENGTH

Parameters length is not valid.

o   BIT 3 = Err. SCEN. NUMBER

Number of scenarios is not valid.

a) The number of registers configured for reading operation in reading scenarios exceeds the limit specified by the configuration type.

b) The number of the registers configured for writing operation in writing scenarios exceeds the limit specified by the configuration type.

c) The number of valid MODBUS address-length pairs provided with the parameter data exceeds the limit.

o   BIT 4 = Err. MODBUS DEVICE

This BIT is set if the drive fails responding over CAN interface.

o   BIT 5 = Err. CONFIG. FRAME

This BIT is set if the configuration data is not valid.

o   BIT 6 = Err. SYS SCEN. MODBUS WRITE

This BIT is set if some errors occur when trying to write in the internal system defined MODBUS address.

o   BIT 7 = Err. SYS SCEN. MODBUS READ

This BIT is set if some error occurs when trying to read from the internal system defined MODBUS address (like the Profibus slave address)

4.1.5. Scenarios Status

Byte 8

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Write Scenario 2 Status				Write Scenario 1 Status			

Byte 9

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Write Scenario 4 Status				Write Scenario 3 Status			

Byte 10

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Write Scenario 6 Status				Write Scenario 5 Status			

Byte 11

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Write Scenario 8 Status				Write Scenario 7 Status			

Byte 12

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Write Scenario 10 Status				Write Scenario 9 Status			

Byte 13

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Read Scenario 2 Status				Read Scenario 1 Status			

Byte 14

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Read Scenario 4 Status				Read Scenario 3 Status			

Byte 15

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Read Scenario 6 Status				Read Scenario 5 Status			

Byte 16

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Read Scenario 8 Status				Read Scenario 7 Status			

Byte 17

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Read Scenario 10 Status				Read Scenario 9 Status			

Each Scenario is accessed as a MODBUS frame. Hence the following error codes are defined.

STATUS VALUE	DESCRIPTION
0	1. Scenario is successfully read / written.
	2. The Scenario is not configured at all.
1	MODBUS Error: Illegal function.
2	MODBUS Error: Illegal Data address.
3	MODBUS Error: Illegal Data value.
4	MODBUS Error: Slave device failure.
5	MODBUS Error: Acknowledge.
6	MODBUS Error: Slave device busy.
7	Reserved
8	MODBUS Error: Memory Parity error.
9	Reserved
10	MODBUS Error: Gateway path unavailable.
11	MODBUS Error: Gateway Target device failed to respond.
12	Reserved
13	MODBUS CRC failure.
14	Unsupported MODBUS function.
15	MODBUS communication timeout.

4.1.6. Data Exchange

Once the Set up and Configuration telegrams have been accepted, the Profibus board goes into the information exchange mode with the Profibus master.

4.2. Trial Run with Siemens (Step 7 Set-up)

4.2.1. Installation of GSD File

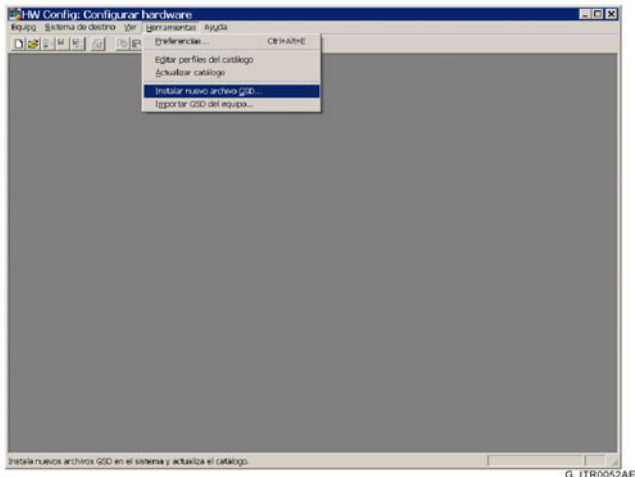Install GSD file with the hardware configuration tool of the SIMATIC administrator.

Figure 4.1 Screen 1 of GSD file installation

Select **PWE_O6DD.GSD** file.

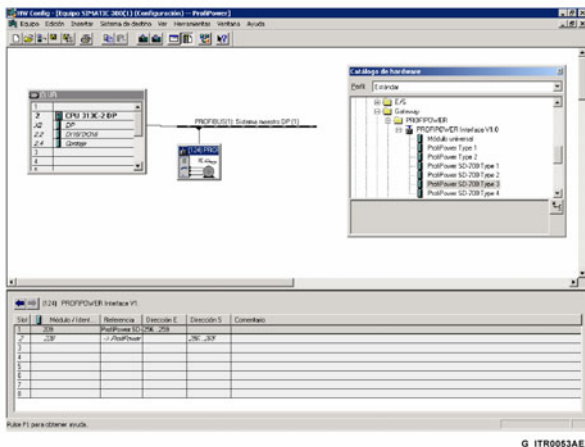Then, create a new project and insert a master and a slave.

Figure 4.2 Screen 2 of GSD file installation

Once inserted the slave, a module should be assigned to this slave, and should be configured correctly. For that reason, it is fundamental to know how many registers are going to be written and how many registers are going to be read.

All of the modules available in the Profibus board are described in the following section.

4.3. Configuration and Set up.

⚠ **WARNING**

Modules Profipower Type 1 and Type 2 are not compatible with this Profibus board and must not be selected

4.3.1. Profipower SD700 Type 1 Module

For this module it can be defined up to 10 Scenarios, 5 for the write command and the other 5 for the read command. This module is specific for the SD700 drive, therefore, the Profibus board will be set up with the valid Modbus address for the SD700. User only must select the available Modbus registers.

The defined frames for this module are: 10 bytes of Data-Output and 10 bytes of Data-Input.

Therefore, the maximum number of selected Modbus registers will be 5 for the writing Scenarios and 5 for the reading Scenarios. That is, all the registers selected for the configured writing Scenarios do not exceed 5. And in the same way, all the registers selected for the configured reading Scenarios do not exceed 5.

The description of the Profibus frame will be determined by the realized set up of the scenarios.

The following figure shows an example of Scenarios set up for the
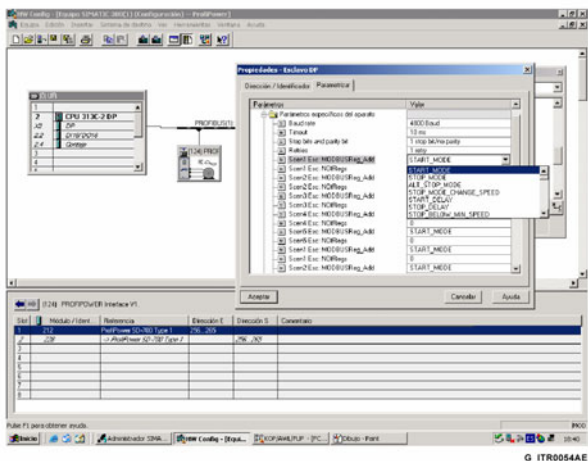Profipower SD700 Type 1 Module.

Figure 4.3 Configuration screen of Profipower SD700 type 1 Module

Once selected this module, it will not be necessary to introduce the
memory addresses, but rather it will be possible to work with the
name of the variables directly, such as the previous figure shows.

4.3.2. Profipower SD700 Type 2 Module

For this module it can be defined up to 20 Scenarios, 10 for the write command and the other 10 for the read command. This module is specific for the SD700 drive, and it will operate in the same way that the module described previously. The Profibus board will be set up with the valid Modbus address for the SD700. User only must to select the available Modbus registers.

The defined frames for this module are: 120 bytes of Data-Output and 120 bytes of Data-Input.

Therefore, the maximum number of selected Modbus registers will be 60 for the writing Scenarios and 60 for the reading Scenarios. That is, all the registers selected for the configured writing Scenarios do not exceed 60. And in the same way, all the registers selected for the configured reading Scenarios do not exceed 60.

The description of the Profibus frame will be determined by the realized set up of the scenarios.

4.3.3. Profipower SD700 Type 3 Module

This module and the next one are modules for the SD700 that already have the Modbus registers for reading and writing defined. User only must write the value of the registers.
Pre-defined registers for these modules are shown in the attached table.

The Profibus board receives 10 bytes of output data of the Profibus-DP Master.

Output Data (Word)	Variables
0	LOCAL_SPEED_REF
1	HOST_START_CONTROL
2	HOST_STOP_CONTROL
3	HOST_RESET_CONTROL
4	HOST_TRIP_CONTROL

The Profibus board sends 4 bytes of input data to the Profibus-DP Master.

Input Data (Word)	Variables
0	ACTUAL_SPEED_REFERENCE
1	GENERAL_STATUS

4.3.4. Profipower SD700 Type 4 Module

This is also a pre-defined module, although broader than the previous one. A high number of Modbus registers for reading and writing has been defined. User only must write the value of the registers.

Pre-defined registers for these modules are shown in the attached table.

The Profibus board receives 54 bytes of output data of the Profibus-DP Master.

Output Data (Word)	Variables
0	LOCAL_SPEED_REF
1	HOST_START_CONTROL
2	HOST_STOP_CONTROL
3	HOST_RESET_CONTROL
4	HOST_TRIP_CONTROL
5	LIMIT1_MIN_SPEED
6	LIMIT2_MIN_SPEED
7	LIMIT1_MAX_SPEED
8	LIMIT2_MAX_SPEED
9	CURRENT_LIMIT
10	TORQUE_LIMIT
11	INVERTED_SPEED_ENABLED
12	NAMEPLATE_MOTOR_CURRENT
13	NAMEPLATE_MOTOR_POWER
14	ACCELERATION_RATE
15	ALT_ACCELERATION_RATE
16	DECELERATION_RATE
17	ALT_DECELERATION_RATE
18	ACC_BRAKE_SPEED
19	DEC_BRAKE_SPEED
20	CURRENT_LIMIT_TIMEOUT
21	STOP_TIMEOUT
22	TORQUE_LIMIT_TIMEOUT
23	SUPPLY_UNDER_VOLTAGE
24	SUPPLY_OVE_VOLTAGE
25	CURRENT_LIMIT
26	TORQUE_LIMIT

The Profibus board sends 46 bytes of input data to the Profibus-DP Master.

Input Data (Word)	Variables
0	ACTUAL_SPEED_REFERENCE
1	GENERAL_STATUS
2	OUTPUT_MOTOR_CURRENT
3	OUTPUT_MOTOR_TORQUE
4	OUTPUT_MOTOR_POWER
5	OUTPUT_MOTOR_VOLTAGE
6	OUTPUT_MOTOR_FREQUENCY
7	MOTOR_COS_PHI
8	MOTOR_SPEED_RPM
9	MOTOR_SPEED_PERCENTAGE
10	DC_BUS_VOLTAGE
11	INPUT_VOLTAGE
12	ANALOG_INPUT_1_VALUE
13	ANALOG_INPUT_2_VALUE
14	ANALOG_OUTPUT_1_VALUE
15	ANALOG_OUTPUT_2_VALUE
16	DIGITAL_INPUT_STATUS
17	DIGITAL_OUTPUT_STATUS
18	COMPARATOR1_STATUS
19	COMPARATOR2_STATUS
20	COMPARATOR3_STATUS
21	ACTUAL_CTRL_SETPOINT
22	ACTUAL_FEEDBACK

5. PROGRAMMING FOR STEP 7

The controller of the device that is going to be connected to the Profibus board will be realized by using the PDOs (Process Data Objects) defined as modules of different length, in the board configuration. These PDOs can be mapped in the data area of a PLC, in case of using this one like Master Profibus.

Since all of the modules (or PDOs) defined for the Profibus board have more than 3 or 4 bytes of length, the SFCs (special system functions) SFC14 DPRD_DAT and SFC 15 DPWR_DAT will be used for data transmission and reception.

The following table shows the SFCs that will be used according to the modules selected for the Profibus board.

Profibus Board	Access path for Step 7
Profipower SD700 type 1	SFC14 (10 bytes) SFC15 (10 bytes)
Profipower SD700 type 2	SFC14 (32 + 32 + 32 + 24 bytes) SFC15 (32 + 32 + 32 + 24 bytes)
Profipower SD700 type 3	SFC14 (4 bytes) SFC15 (15 bytes)
Profipower SD700 type 4	SFC14 (32 + 14 bytes) SFC15 (32 + 22 bytes)

5.1. Example of program for Step 7

In the following example, the Profibus board is configured with the Profipower SD700 Type 3 Module.
Two Data Blocks are created: DB1 (Data Block 1) with 5 registers and DB2 (Data Block 2) with 2 registers.

Input data are copied to the DB2 by calling SFC14. Output data are copied from DB1 by calling SFC15.

Verify the length in bytes for the RECORD field must be the same as the configured module.

For additional information about the SFCs, consult the STEP 7 aid.

```
 // Data Input
 CALL  "DPRD_DAT"
      LADDR  :=W#16#100
      RET_VAL:=MW1
      RECORD :=P#DB2.DBX0.0 BYTE 4

 // Data Output
 CALL  "DPWR_DAT"
      LADDR  :=W#16#100
      RECORD :=P#DB1.DBX0.0 BYTE 10
      RET_VAL:=MW2
```

5.2. Monitoring and Modification of Modbus Registers

The following figure shows a value table created with Step7 for monitoring and modifying Modbus registers. This table corresponds to a Profibus board configuration with the Profipower SD700 Type 3 Module.
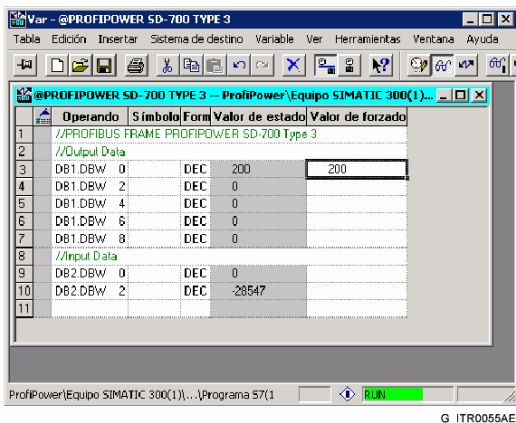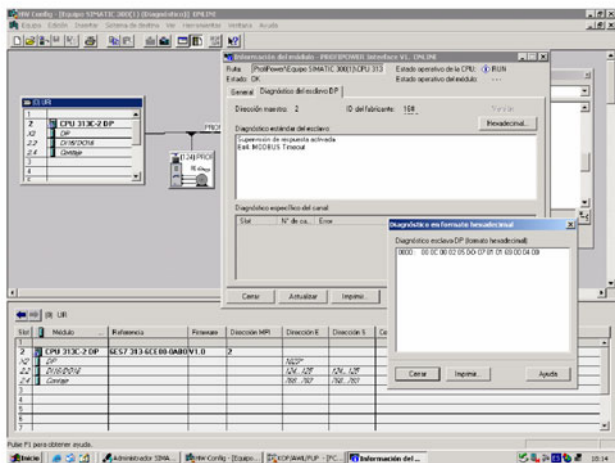

G_ITR0055AE

Figure 5.1 Monitoring and modification of Modbus registers

6. DIAGNOSIS

The Profibus board is able to send diagnosis messages.

The following figure shows an example of board diagnosis notification.
Concretely, it notifies a Modbus communication error due to TimeOut.

Figure 6.1 Sending of diagnosis messages

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24 Hours Technical Assistance 365 days a year   **902 40 20 70**

HEAD OFFICE	C/ Leonardo da Vinci, 24 - 26, Parque Tecnológico · 46980 · Paterna · VALENCIA Tel. (+34) 96 136 65 57 · Fax. (+34) 96 131 82 01
INTERNATIONAL BRANCHES:	
GERMANY	Power Electronics Deutschland GmbH Conradtystrasse, 41 · D-902441 · NÜRNBERG · GERMANY Tel. (+49) 911 99 43 99 0 · Fax (+49) 911 99 43 99 8
KOREA	Power Electronics Asia HQ Co. Room #305, SK Hub Primo Building 953-1, Dokok-dong, Gangnam-gu · SEOUL · 135-270 KOREA Tel. (+82) 2 3462 4656 · Fax (+82) 2 3462 4657
CHINA	IVEX BEIJING Citic Building · IVEX Beijing Representative Office 9D N.19 Jianguomenwei Dajie 100004 Beijing P.R. CHINA Tel. (+86 10) 65 25 41 47 · Fax (+86 10) 65 25 41 48
AUSTRALIA	Power Electronics Australia Pty Ltd U6, 30-34 Octal St, Yatala, Brisbane, Queensland 4207 · P.O. Box 3166 Browns Plains · Queensland 4118 · AUSTRALIA Tel. (+61) 7 3386 1993 · Fax. (+61) 7 3386 1997

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