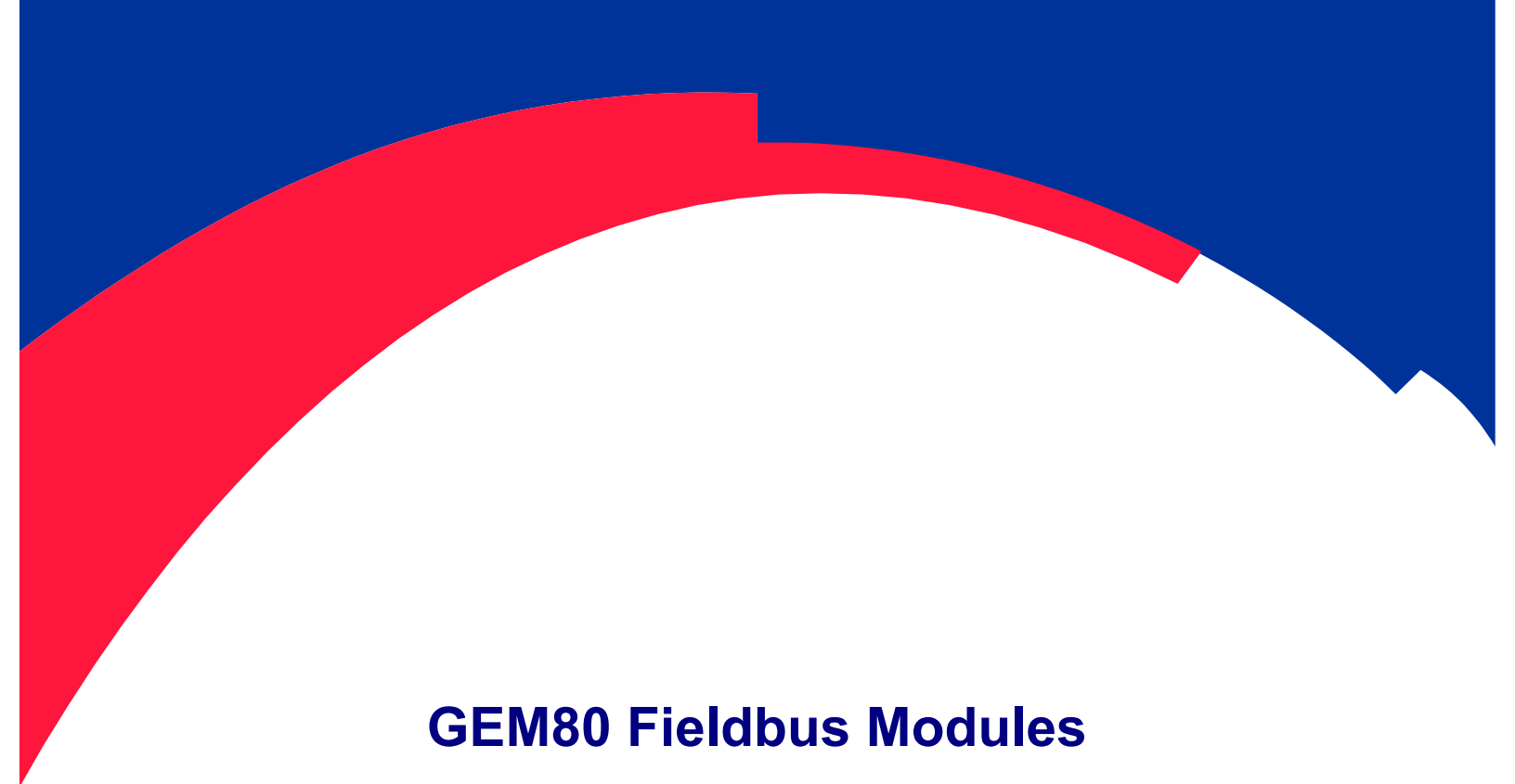




GEM80 Fieldbus Modules

Technical Manual

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ALSTOM

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1. Introduction

1.1 Preface

This manual provides the information necessary to configure and install various Fieldbus modules into GEM80 Controllers. The manual covers the modules' technical and physical specifications, installation, operation and general use. Examples and application notes are also included.

1.2 Introduction to Fieldbus

Fieldbus is a generic term for communication between a GEM80 Controller and plant input and output. The currently supported protocols are Profibus FMS/DP, CANopen and DeviceNET. Master functionality is supported in each case.

The Fieldbus plug-in modules are peripherals of the GEMLAN-T compatible processor module. Up to two modules in any combination are supported per controller. A power converter module must also be fitted; this can power up to two Fieldbus modules simultaneously.

Each Fieldbus module has a front panel to permit connection to the Fieldbus network and to a diagnostic serial link. Ribbon cables connect the module and the panel. The panel also has LED indicators, which mimic the Fieldbus module's on-board indicators. The GEM80-500 can support up to 5 plug-in modules; each Fieldbus module fitted consumes one from this allowance.

2. Common Technical Specification

2.1 Electrical

Power Consumption	650mA from host GEM80 +5v
LED Indication	Green LED - Run Yellow LED - Ready / Communication Red LED - Error

2.2 Physical

Dimensions	90 x 96 x 23 (L x W x H)
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2.3 Environmental

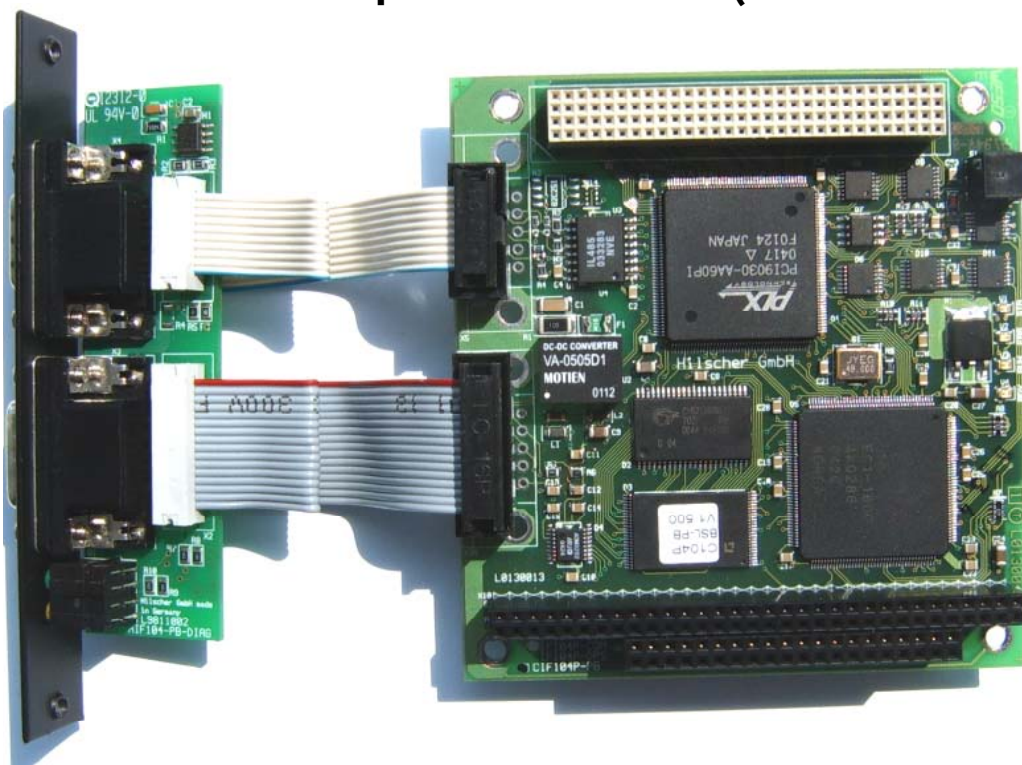
Operating Temperature	0 to +55 deg. C
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2.4 Standards

Noise Immunity	EN50082 - 2
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3. Hardware Layout

Fieldbus Front panel and Module (Profibus shown)



Module
Identification
Rotary Switch
Section 4.3



Fieldbus front panel



Power Converter

4. Installation

4.1 Introduction

The Fieldbus Modules contain electrostatic sensitive devices. Handling precautions must be observed.

If it is necessary, in the case of repair, to return any PCBs, they must be enclosed in a static shielding bag, e.g. 3M Type 2100, be suitably protected by foam plastic wrapping, and packed in a box labelled 'Caution Static Sensitive PCBs

CAUTION

This equipment contains solid state devices, which may be affected by electrostatic discharge. Observe static handling precautions.

4.2 Module Installation

The Fieldbus Modules are peripherals of the TCP/IP Ethernet module (9716-4020). Prior to the installation of any Fieldbus modules, ensure that a TCP/IP Ethernet module is correctly installed and configured. Refer to the GEM80-500 Series Controller Technical Manual for installation instructions and the GEMLAN-T Technical Manual for configuration instructions for the TCP/IP Ethernet module.

Before installation, the Fieldbus module must be hardware configured by setting the Module Identification rotary switch. Refer to section 4.3.

With the controller powered down **remove the front panel mains and watchdog connector**. Move the controller to a suitable location and proceed as follows, noting that all references to left and right refer to the controller when viewed from the front.

- (a) Release the upper right-hand side cover and power supply assembly. Lay the controller down on its left-hand side and remove the four M3 Pozi-pan head earthing/grounding screws. Retain for re-assembly.
- (b) Lift the cover and slide the louvered side under the controller.
- (c) The TCP/IP Ethernet module should now be visible. This is retained using four M3 x 6 mm screws and spring washers. Remove these screws and washers and retain for re-assembly.
- (d) Secure the TCP/IP Ethernet module in position by substituting 4 mounting pillars for the M3 x 6mm screws.
- (e) The site is now ready to receive a Fieldbus module.
- (f) Check that the connector pins on the underside of the Fieldbus module are correctly aligned. Orientate the module so that the matching connectors are in line. Gently push the connector halves together until the module sits flat on the mounting pillars.
- (g) Insert the front panel mounted Fieldbus and diagnostic ribbon cables to their associated headers.
- (h) Secure the Fieldbus module in position using 4 more mounting pillars.
- (i) If all required Fieldbus modules are now fitted proceed at instruction (j), otherwise continue at instruction (e).
- (j) The site is now ready to receive the power converter module.

- (k) Check that the connector pins on the underside of the power converter module are correctly aligned. Orientate the module so that the matching connectors are in line and the mounting holes correspond with the two mounting pillars nearest to the front of the controller. Gently push the connector halves together until the module sits flat on the mounting pillars.
- (l) Secure the power converter module in position with 2 of the screws and washers removed at instruction (c). The unused screws and washers may be stored in the other two mounting pillars.
- (m) Remove a blanking panel from the front of the controller, to make space for each of the Fieldbus module front panels. The blanking panels are secured with two M3 Pozi-pan screws, remove and retain the screws.
- (n) Secure the Fieldbus front panel(s) in position using the screws removed at instruction (m).
- (o) Replace the upper right-hand side cover and power supply assembly. Secure in position using the screws removed at instruction (a).

WARNING

Insertion or removal of modules with the equipment energised will cause malfunction of the equipment.

4.3 Module Identification

A rotary switch located on the fieldbus module PCB achieves module identification. A maximum of two fieldbus modules can be installed into a GEM80-500, each identified in the system by reserved rotary switch position 2 or 3.

The GEM80-500 Fieldbus driver will find the module with the lowest switch position and use the configuration parameters from Pn to configure this module, this is referred to as Module #1. The next module if fitted will use parameters from Pn+16, this referred to as Module #2 (see section 5.2).

If a single Fieldbus module is fitted, the rotary switch must be set to position 2 (Module #1). If two modules are fitted, one rotary switch must be set to positions 2 (Module #1) and the other to position 3 (Module #2).

If a module is removed, ensure that the remaining module's rotary switch is set to position 2 and that the configuration data starting at Pn are suitable for the application. N.B. If two modules are fitted, setting the rotary switch to the same position will cause malfunction of both modules. Selecting any position other than 2 or 3 will cause malfunction of the host processor.

5. Operation

5.1 Introduction

CAUTION

The inclusion and configuration of one or more **FIELDBUS** modules grants read and write access to **GEM80** data tables. It is the user's responsibility to ensure that adequate safeguards are used to prevent dangerous situations arising.

5.2 Module Configuration Parameters

An Advanced GEM80 Programmer (or equivalent) must be used to supply the module configuration parameters. These parameters must be entered into the P-table of the host GEM80 Controller by the user before the module can be used. The GEMLAN-T Module accesses these parameters on behalf of the Fieldbus module(s) after completion of its boot procedure. The GEMLAN-T Module takes approximately one minute to complete its boot procedure.

Note:

If the parameters are subsequently altered, they will be recognised and validated by the GEMLAN-T Module following a recompilation. During the validation, Fieldbus communication is halted. If the validation should fail, the communication remains halted.

Remember that P-table entries above P149 will only exist if specifically declared in the user program.

For the GEMLAN-T module to access the configuration data successfully, a value must be written into P74. This value acts as a pointer to the P-table location containing the configuration parameters for Fieldbus module #1. Fieldbus module #2 parameters follow those of module #1 in the P-table.

E.G. if P74 contains a value of 300, the configuration parameters start at P300.

Inserting a value of 0 into P74 renders inactive all Fieldbus modules of the host controller.

A detailed description of each configuration parameter is provided in the following paragraphs. Table 5-1 provides a reference table. Table 5-2 is an example of the use of the P-tables.

Table 5-1 P Table Configuration Parameters

Table	Function	Comment
P74	Pointer to configuration data.	e.g. 300 = parameters start at P300
	MODULE #1 parameters	
Pn	Validity flag	@4801 (Must be this value)
Pn+1	Device type (HIGH)	Safety Check
Pn+2	Device type (LOW)	
Pn+3	Scan Rate	Rate in ms, 0 = free running
Pn+4	Input table letter	In LS byte, MS byte =0.
Pn+5	Input table offset	
Pn+6	Input table quantity	
Pn+7	Output table letter	In LS byte, MS byte =0.
Pn+8	Output table offset	
Pn+9	Output table quantity	
Pn+10	Version table letter	In LS byte, MS byte =0.
Pn+11	Version table offset	
Pn+12	Version table quantity	
Pn+13	Reserved	(Must be 0)
Pn+14	Reserved	(Must be 0)
Pn+15	Reserved	(Must be 0)
	MODULE #2 parameters	
Pn+16	Validity flag	@4802 (Must be this value)
Pn+17	Device type (HIGH)	Safety Check
Pn+18	Device type (LOW)	
Pn+19	Scan Rate	Rate in ms, 0 = free running
Pn+20	Input table letter	In LS byte, MS byte =0.
Pn+21	Input table offset	
Pn+22	Input table quantity	
Pn+23	Output table letter	In LS byte, MS byte =0.
Pn+24	Output table offset	
Pn+25	Output table quantity	
Pn+26	Version table letter	In LS byte, MS byte =0.
Pn+27	Version table offset	
Pn+28	Version table quantity	
Pn+29	Reserved	(Must be 0)
Pn+30	Reserved	(Must be 0)
Pn+31	Reserved	(Must be 0)

Table 5-2 P-Table Example

P74	300	Pointer to P300
P300	@4801	Module #1
P301	@7910	Profibus Master
P302	@9040	
P303	100	100 ms scan
P304	@0047	G Table
P305	1000	G1000
P306	100	Length 100 entries, 200 bytes.
P307	@0048	H table
P308	2000	H2000
P309	50	Length 50 entries, 100 bytes
P310	@0046	F Table
P311	500	F500
P312	25	Length 25 entries, 50 bytes.
P313	0	
P314	0	
P315	0	
P316	@4802	Module #2
P317	@7910	DeviceNet Master
P318	@9051	
P319	0	Free running
P320	@0047	G Table
P321	1100	G1100
P322	50	Length 50 entries, 100 bytes.
P323	@0048	H table
P324	2050	H2050
P325	100	Length 100 entries, 200 bytes
P326	@0046	F Table
P327	F525	F525
P328	25	Length 25 entries, 50 bytes
P329	0	
P330	0	
P331	0	

@ Denotes a Hexadecimal Value, .i.e. all other values are decimal

5.2.1 Validity Flag (Pn and Pn+12)

The first P-table entry of each module's configuration data contains a validity flag. Its function is to prevent an uninitialised 'P'-table from being used as configuration parameters. The user must insert the hexadecimal value @4801 (module #1) or @4802 (module #2) into the relevant table entry to signify that the module configuration data is valid.

The insertion of any other value into the table entry renders inactive the associated Fieldbus module.

5.2.2 Device Type (Pn+1 to Pn+2 and Pn+17 to Pn+18)

These parameters are used to check that the number of modules fitted and their types correspond to that expected by the user. It is recommended to program an F1 trip should this safety check fail. Refer to section 6.1.1

Protocol	Board Ref.	Device Type (HIGH)	Device Type (LOW)
Profibus Master	CIF104P-PB\V	@7910	@9040
DeciveNet Master	CIF104P-DNM\V	@7910	@9051
CANopen Master	CIF104P-COM\V	@7910	@9050
Profibus Slave			
DeciveNet Slave			
CANopen Slave			

5.2.3 Scan Rate (Pn+3 and Pn+19)

This parameter is used to control the repetition rate of transfers (both input and output) between the GEM80 tables and the respective Fieldbus module. Scan rates for each module may be set independently. The value entered represents a rate in milliseconds, but the rate will limit to 2000 milliseconds. A value of 0 selects free running and a transfer will occur between each scan of the ladder program.

5.2.4 Input Buffer (Pn+4 to Pn+6 and Pn+20 to Pn+22)

These 3 entries, table letter, offset and quantity together define a buffer for the receipt of plant data. The table must exist, have write access and have sufficient entries to cater for the quantity requested. If the buffer does not exist, then the configuration fails.

5.2.5 Output Buffer (Pn+7 to Pn+9 and Pn+23 to Pn+25)

These 3 entries, table letter, offset and quantity together define a buffer for the source of plant data. The table must exist, have read access and have sufficient entries to cater for the quantity requested. If the buffer does not exist, then the configuration fails.

5.2.6 Version Buffer (Pn+10 to Pn+12 and Pn+26 to Pn+28)

These 3 entries, table letter, offset and quantity together define a buffer for the receipt of module version information. If the table letter contains 0, it is assumed that the user does not wish to read this information, in which case the offset and quantity are ignored. If the table letter contains any other value, the table must exist, have write access and have sufficient entries to cater for the quantity requested.

5.2.7 Reserved Parameters

All parameters marked as reserved are for future expansion and must contain the value 0.

5.3 System Configuration

Having correctly installed and configured the Fieldbus modules it is then possible to configure the Fieldbus system using the Hilscher SyCon tool. A detailed description of the use of this tool is beyond the scope of this manual, although an operation guide is included in section 7. For full instructions refer to the Hilscher documentation provided on the CD.

This Windows based tool can communicate with the Fieldbus module using a serial link or over an Ethernet network using TCP/IP. We recommend that you use TCP/IP and the guide in section 7 follows this route.

The serial link method bypasses the GEM80-500 completely by communicating directly with the Fieldbus module. This method is suitable for monitoring the network operation but **should not** be used for system configuration downloading. As it communicates directly, new system configurations will be downloaded whether or not the host GEM80 controller is in a running or halted state.

The TCP/IP method connects directly to the GEM80 TCP/IP Ethernet module. As a result the GEM80 Ethernet module is able to examine the commands sent from the SyCon tool before passing them to the associated Fieldbus module. The running state of the host GEM80 is also examined by the Ethernet module, attempts to modify important system parameters will be refused if the host GEM is in the running state. This results in an error code of 170 at the SyCon tool. The TCP/IP method is also suitable for monitoring the network operation.

See section 7 for further information on the operation of the SyCon tool.

6. Maintenance and Fault Finding

6.1 Fixed F-Table

This section contains general guidance for the maintenance of a controller containing Fieldbus modules.

Each module is allocated 14 fixed F-Tables, used to report errors and statistical information.

F-Table Module 1	F-Table Module 2	Description	Notes
F372	F386	Error Code	See section 6.1.1
F373	F387	Pointer 1	
F374	F388	Pointer 2	
F375	F389	Exchange Mode	See section 6.1.2
F376	F390	Exchange Counter (LS word)	See section 6.1.3
F377	F391	Exchange Counter (MS word)	
F378	F392	Presence Indication	See section 6.1.4
F379	F393		
F380	F394		
F381	F395		
F382	F396		
F383	F397		
F384	F398		
F385	F399		

6.1.1 Error Code

The Error Code field and the associated pointers are used to identify problems with the configuration data or failure of the associated Fieldbus module. On power-up these fields are cleared. On recompilation, syntax checking is performed on the configuration and problems are reported as follows.

Error Code		Fault/Warning	Condition	Comment
Value	States On			
5	2 & 0	Fault	Table Fault	The parameter indicated by Pointer 1 is a disallowed table. OR The parameters indicated by Pointers 1 & 2 would cross the table boundary. Modify user program.
9	3 & 0	Fault	Parameter Fault	The parameter indicated by Pointer 1 is out of range. Modify user program.
17	4 & 0	Fault	Module	No module of the selected type is

			Fault	fitted or the module has failed. Check Pn+1 or Pn+17 or replace the module.
34	5 & 1	Warning	Input Truncation	The parameters indicated by Pointers 1 & 2 produce a buffer which is too small to receive the configured Fieldbus data. Check the Fieldbus requirements and extend the buffer.
66	6 & 1	Warning	Output Truncation	The parameters indicated by Pointers 1 & 2 produce a buffer which is too small for the source of the configured Fieldbus data. Check the Fieldbus requirements and extend the buffer.
-32767	15 & 0	Fault	Watchdog Timeout	Scan rate is too slow or the watchdog time is too fast or the module has failed. Check Pn+3 or Pn+19 against the SyCon watchdog time, reconfigure and power-cycle the GEM80 or replace the faulty Fieldbus module

The following rungs of ladder program will cause a user requested F1 trip if any configured module should fail. An F1 trip will also be produced if the module type does not match with the safety values entered in the configuration data.

```

---] [----- ( ) ---
F372.4                                F1.0

---] [----- ( ) ---
F386.4                                F1.1

```

6.1.2 Exchange Mode

The Exchange Mode LS byte contains the communications state indicator in bit 0. This is set to 1 if the Fieldbus is performing transfers; otherwise it is cleared to 0. The remainder of the byte is reserved and is cleared to 0.

The Exchange Mode MS byte contains the process data handshake mode as configured by SyCon.

- Value = 1. Bus synchronous, device controlled.
- Value = 2. Buffered, device controlled.
- Value = 3. Non-consistent, uncontrolled.
- Value = 4. Buffered, host controlled (recommended).
- Value = 5. Bus synchronous, host controlled.

The recommended setting is buffered host controlled. This will have the least impact on the controller's scan rate.

All device controlled or uncontrolled settings should be avoided as the Fieldbus communication will start as soon as power is applied, without waiting for the Ethernet module (9716-4020) to initialise. The Fieldbus slaves will therefore not be under the control of the GEM80.

6.1.3 Exchange Counter

This unsigned 32-bit variable contains the count of transfers between the GEM80 and the Fieldbus module.

6.1.4 Presence Indication

The Fieldbus module maintains a bit array of the active devices detected on the communications link. It is recommended that the application monitors this bit array and takes appropriate action on loss of I/O. Word 0 bit 0 represents the master itself and will always contain 0. Word 0 Bit 1 represents the device with address 1 etc. Presence Words 4 to 7 are not required when using DeviceNET and should be ignored.

Module 1	Module 2	Description
F378	F392	Presence Word 0 (Addresses 0 to 15)
F379	F393	Presence Word 1 (Addresses 16 to 31)
F380	F394	Presence Word 2 (Addresses 32 to 47)
F381	F395	Presence Word 3 (Addresses 48 to 63)
F382	F396	Presence Word 4 (Addresses 64 to 79)
F383	F397	Presence Word 5 (Addresses 80 to 95)
F384	F398	Presence Word 6 (Addresses 96 to 111)
F385	F399	Presence Word 7 (Addresses 112 to 127)

6.2 Version Buffer

The version buffer is optional; it is disabled by clearing Pn+10 for module 1 or Pn+26 for module 2. When configured, information about the associated module's hardware and software is copied to the buffer. The copy occurs once when the controller is powered-up and again on recompilation of the controller. If insufficient entries are allocated by the user the report will truncate.

Note. The information presented will be required when contacting the ALSTOM customer support department.

Table (BYTE) Offset	Content	Format	Example	Interpretation
0	Manufacture Date	BCD	@0501	01/05/2003
2			@0320	
4	Device Type	BCD	@7910	10794090
6			@9040	
8	Serial Number	BCD	@0000	00000022
10			@2200	
12	Memory size	BYTE	@08	8Kbytes
13	Type	BYTE	@03	Type 3
14	Model	ASCII	@31	Model '1'
15	Identification	ASCII	@43	'CIF'
16			@49	
17			@46	
18	Firmware Name	ASCII	@4250	'PB-COMBIC104P-PB'
20			@432D	
22			@404F	
24			@4942	
26			@3143	
28			@3430	
30			@2D50	
32			@4250	
34	Firmware Version	ASCII	@3056	'V01.070' '19.10.02'
36			@2E31	
38			@3730	
40			@2030	
42			@3931	
44			@312E	
46			@2E30	
48			@3230	

6.3 Fixed V-Table

The GEM80-500 controller has five V-Table entries (V67 to V71 inclusive) reserved for plug-in module identifiers. The Fieldbus modules will also present their identifiers in these table entries. The values presented are the lower half of the device type as read from the Fieldbus module. These values follow on from the modules fitted directly to the base board. These table entries are reported in the order that they are found by the driver.

7. Hilscher System software (SyCon)

7.1 Preface

This section provides a guide to the use of the Hilscher System Software supplied with the various Fieldbus modules that can be installed in the GEM80-500 Controller. It illustrates the configuration and down load of a **PROFIBUS** configuration to a GEM80-500 PROFIBUS MASTER (Part Number 9723-4020) using the supplied Hilscher System software.

For other Fieldbus modules the steps taken will be similar, but the selected module and slave specific data will change.

Detailed information on the operation of this software can be found in the Hilscher documentation provided on the CD.

7.2 Introduction to the Hilscher System software.

The Hilscher System software is **supplied unlicensed** and as such can only be used to generate a configuration with **one slave**.

It can be used however, to download multi-slave configurations that have already been created on a licensed copy.

Once installed you can license your copy at any time by selecting HELP / LICENSING, filling in your details and printing the order form. A charge will apply.

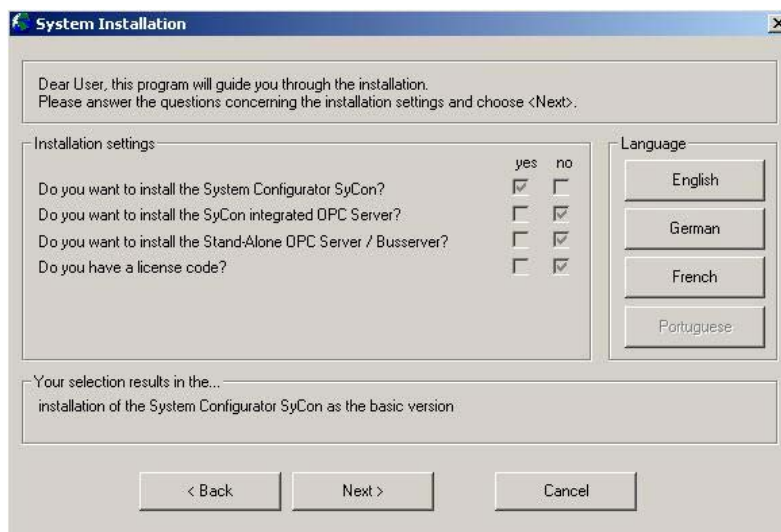
7.3 Installation of the Hilscher System software

To install the Hilscher System software insert the installation CD into the appropriate drive of the computer, the installation should auto run.

Should it fail to auto run, use Windows Explorer to select the installation program "autorun.exe". This will start the installation process and prompt you as to what actions to take in order to install the required software and drivers.

The installation process will prompt you to select the component you require.

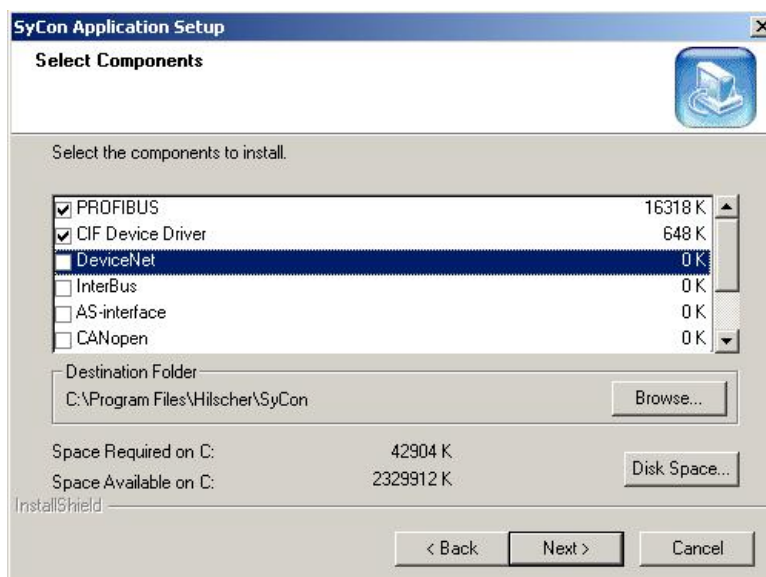
You will be presented with the following window.



Select the options shown above, then **NEXT** to continue.

You will be presented with the **Welcome to Configuration window**, proceed with **NEXT**.

Select Components to load window



You require the CIF Device Driver and your selected Fieldbus. All other options can be de-selected to save disk space if required. For this example we have selected PROFIBUS.

Select the required options then **NEXT** to continue.

Select an appropriate program folder location, **NEXT** to continue.

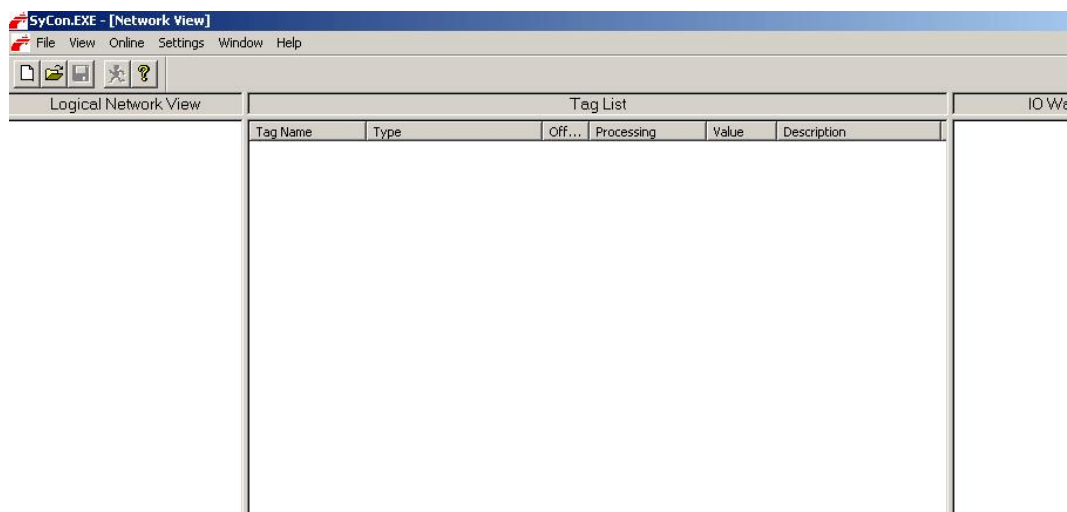
At this point installation will commence for the items you selected. You will be prompted before each selection is installed.

7.4 Hilscher Profibus System software (SyCon) Operation Guide

To run the utility select SyCon from program files



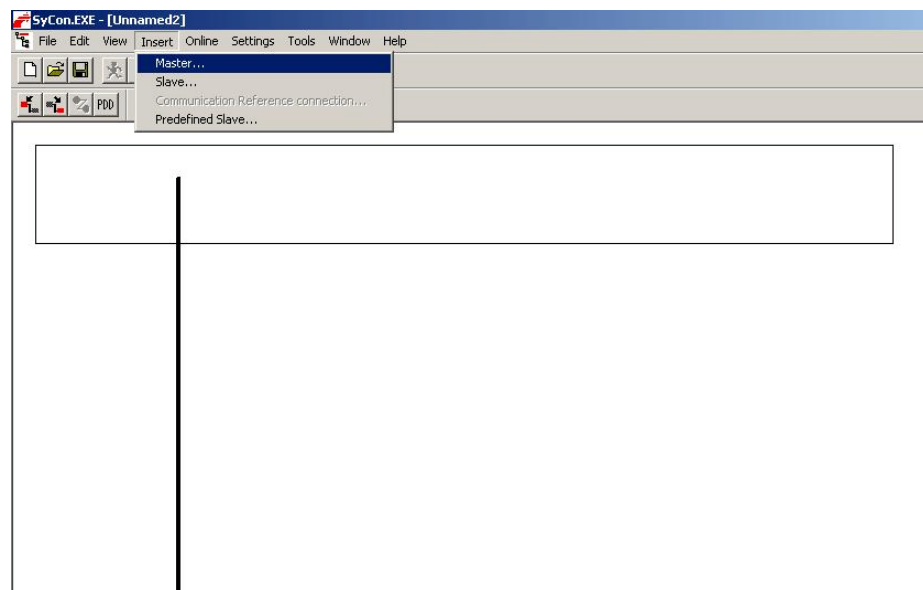
This will launch the SyCon.EXE Main Window (Network View) shown below.



From this window select – **FILE** then **NEW**

This creates a blank configuration file, a container to hold the representation of your Fieldbus system.

7.4.1 Start to build a representation of your Fieldbus system.

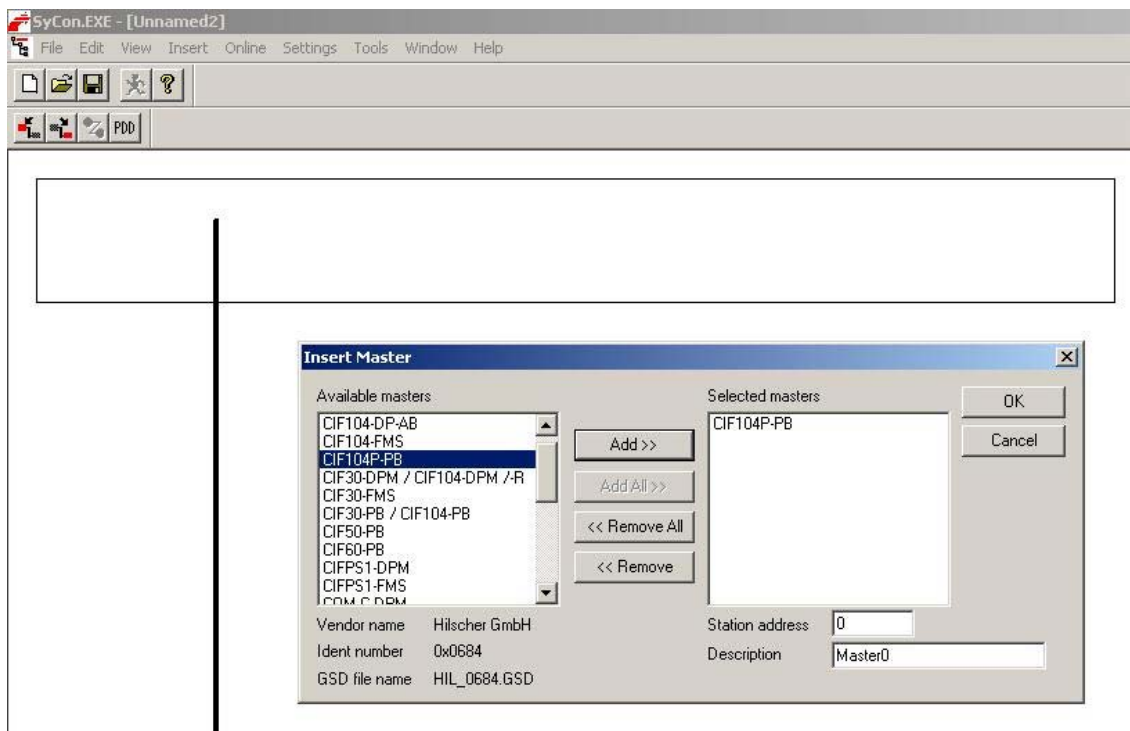


Start by inserting the Fieldbus master module. This represents the module installed in GEM80-500.

To do so select - **INSERT** then **MASTER**

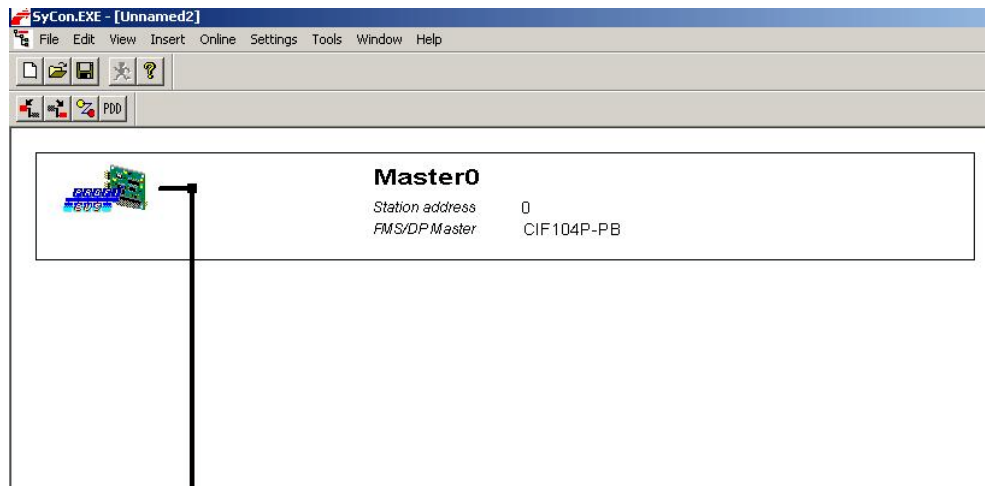
Position the master module at top of the line representing the network cable, the area above enclosed by the rectangle, right click to drop.

Next select the required master module.

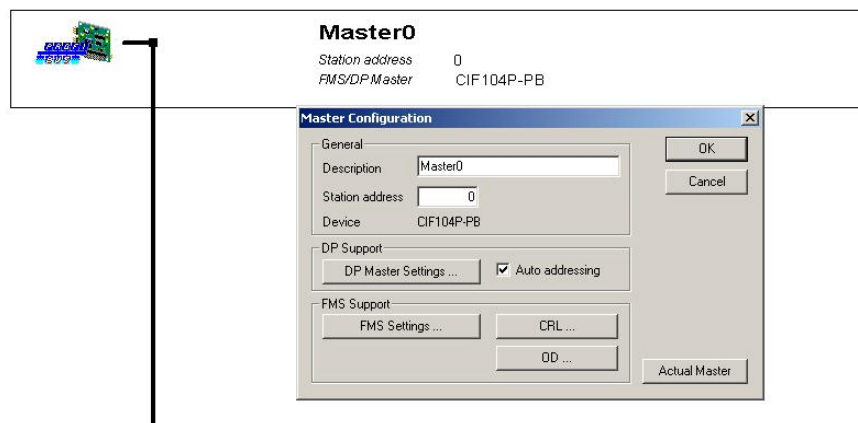


For this example, highlight the CIF104P-PB as the required master module (Profibus). Use **ADD** to select the master and **OK** to confirm. A list of module types and associated board reference numbers is given in section 5.2.2

The master is now added to the configuration file.



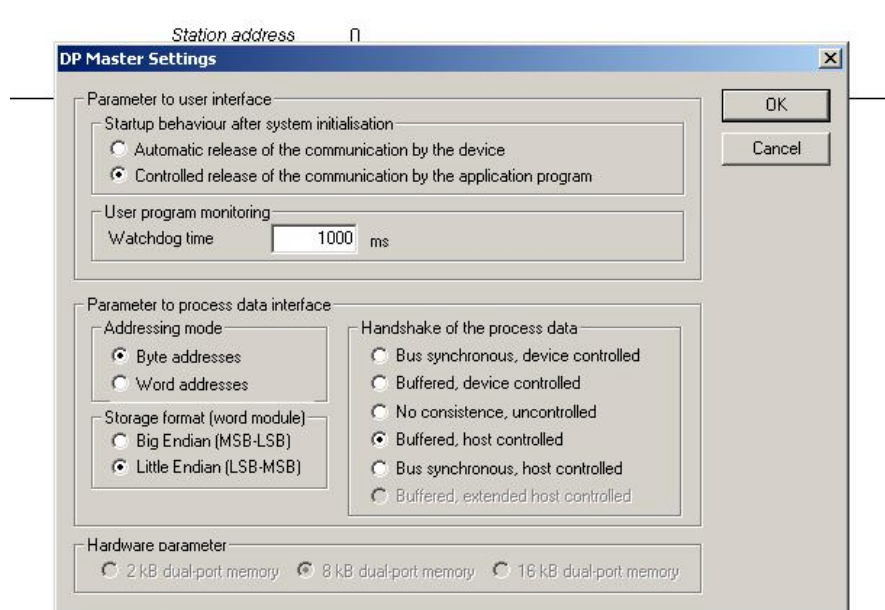
Next edit the master parameters for operation with the GEM80. Double click the master to launch the Master Configuration window shown below.



Note: you can change the master station address from the default of 0 if required at this stage.

Select - **DP MASTER SETTING**

This will open the DP Master Settings window.



MUST HAVE

1. Controlled release of the communication by application program
2. Byte addresses
3. Little Endian
4. Buffered, host controlled

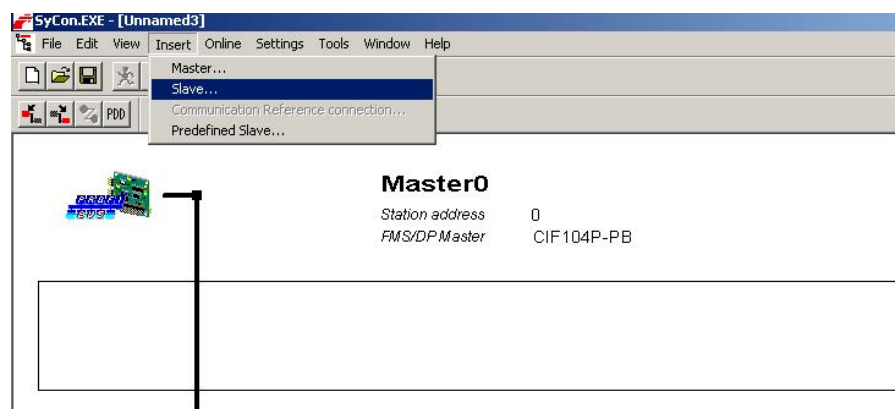
The Watchdog Time can be adjusted to suit your application (default 1000ms). It should not be set to a value lower than twice the longest GEM80-500 Ladder scan rate.

Once configured **OK** to return to network overview.

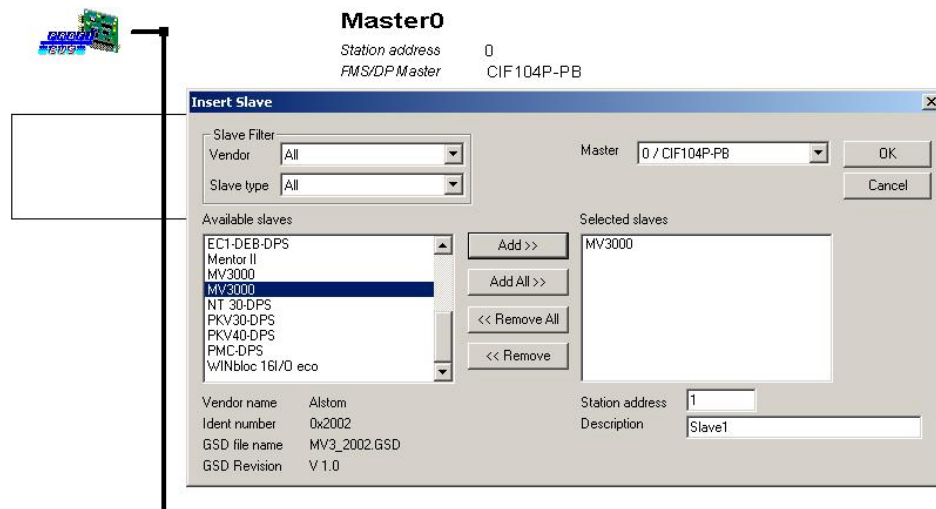
7.4.2 Inserting Slaves

To do so select - **INSERT** then **SLAVE**

Use the mouse to position slave on the line representing the network cable, right click to drop.



Next select the required slave.



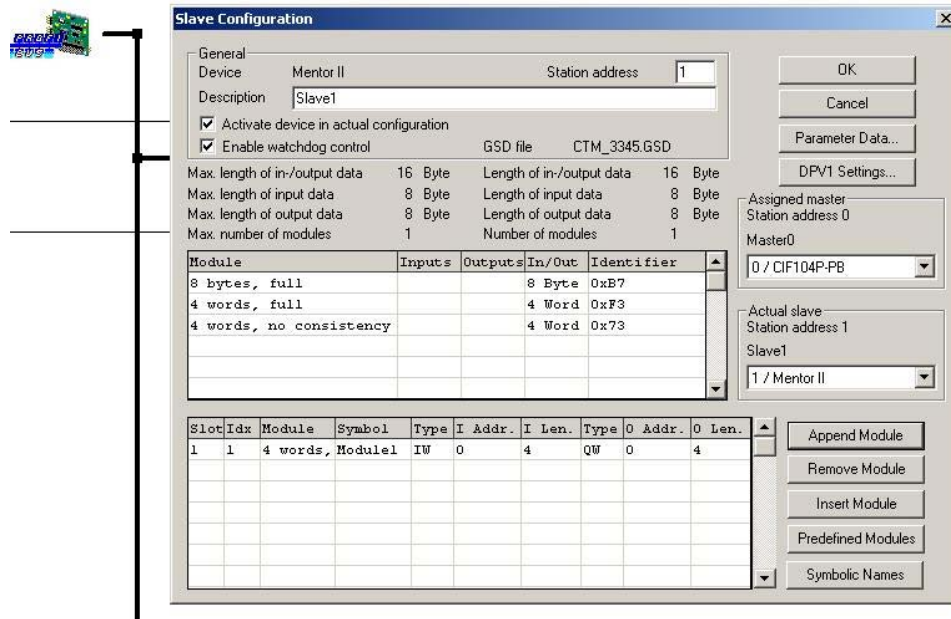
Use **ADD** to select the required slave, then **OK** to confirm.

If you can not find a suitable slave you need to import the configuration file supplied with the slave device. Importing these files is covered at the end of this document.

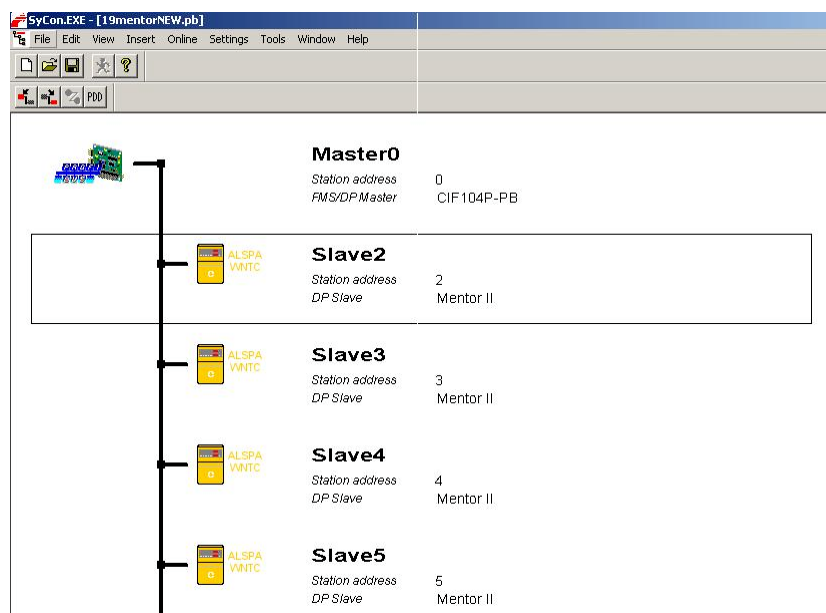
The slave is now added to the configuration file, but may require its configuration to be confirmed. This will depend upon the slave used.



To access the slave configuration double click on the slave which will open the Slave Configuration window.



Slaves will have different modes of operation, the explanation of which will be covered in the specific slave module documentation. To select the correct mode of operation for your application use the **Append Module** button.



Example of typical configuration

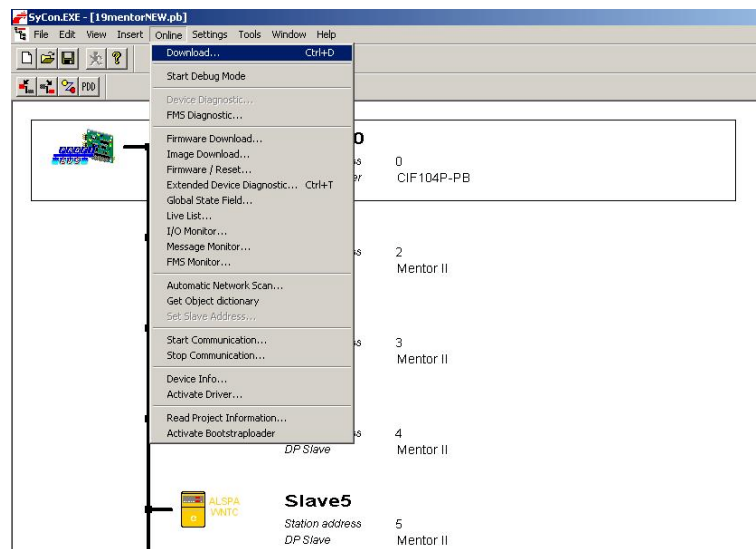
7.5 Download Configuration

The download of the completed configuration file is achieved using a TCP/IP connection over Ethernet. For this reason the GEM80-500 TCP/IP Ethernet module must be configured and operational.

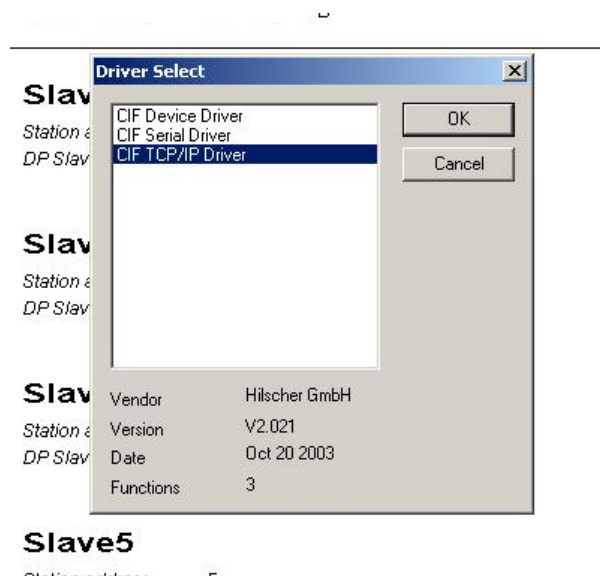
Refer to Publication T2011EN GEM80 Ethernet Modules Technical Manual for configuration and commissioning instructions.

The Sycon configuration tool automatically connects to the well known port number 1099, the user is not required to make a port selection. A correctly configured GEM80-500 TCP/IP Ethernet module will automatically create a port numbered 1099. It is not necessary to supply this port value in the Ethernet module configuration.

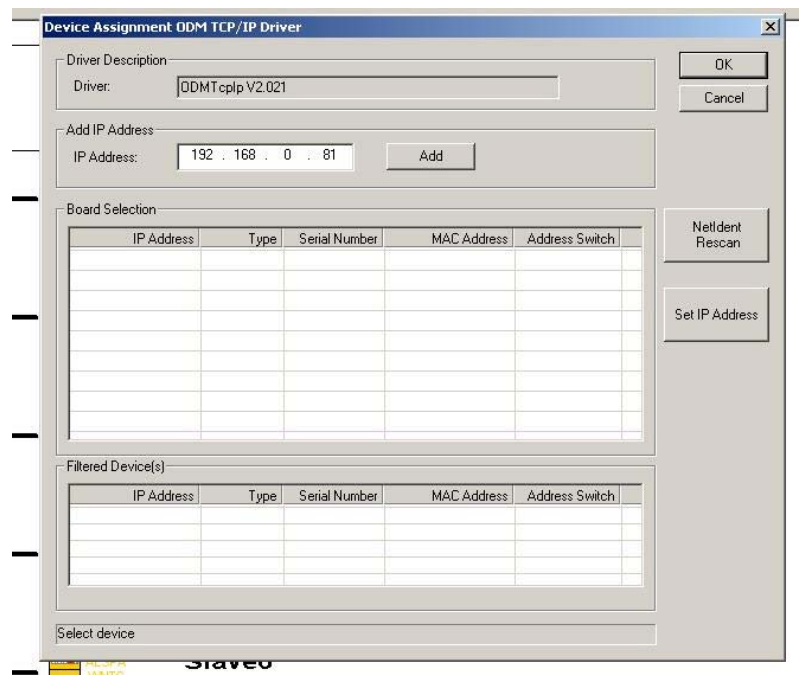
From the configuration window select – **ONLINE** then **DOWNLOAD**



Select the CIF TCP/IP Driver



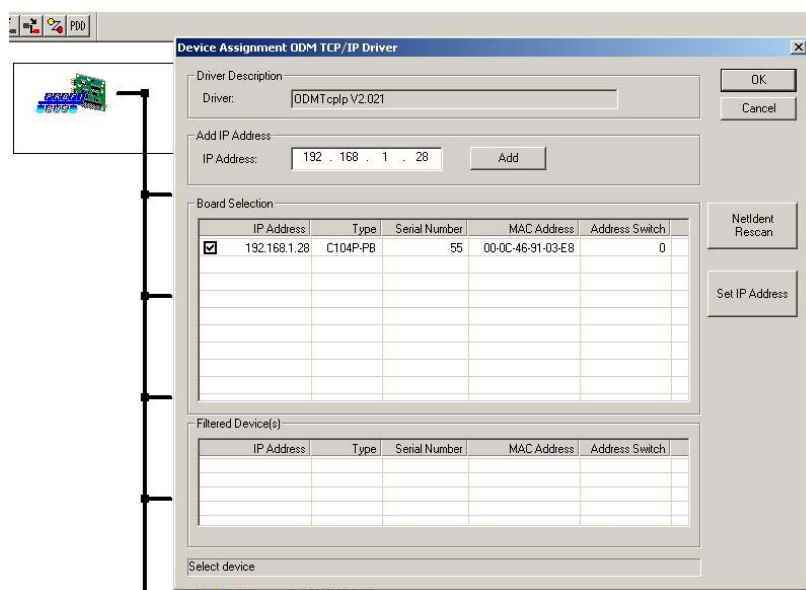
Enter the IP Address of the GEM80 500 TCP/IP module, the address below is an EXAMPLE only. Refer to Publication T2011EN GEMLAN-T Technical Manual.



Select - **ADD**

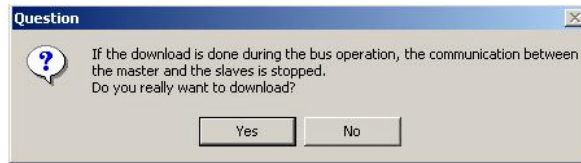
The software scans the hardware at the specified IP Address and lists **all** compatible Hilscher hardware found. You must select the target device for the configuration download (tick the box), Profibus is identified by type C104P-PB.

Note. SyCon supports a single connection to a module, whether using serial link or the TCP/IP Method. In order to attach to a different module it is necessary to deselect the current connection by removing the tick from the board selection field.



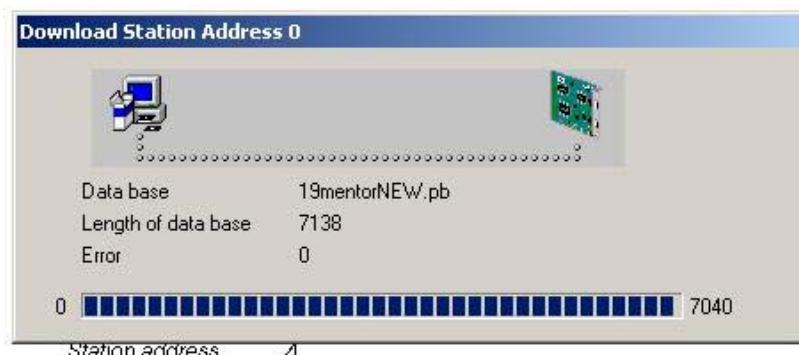
Select **OK** to continue.

Confirm your actions.

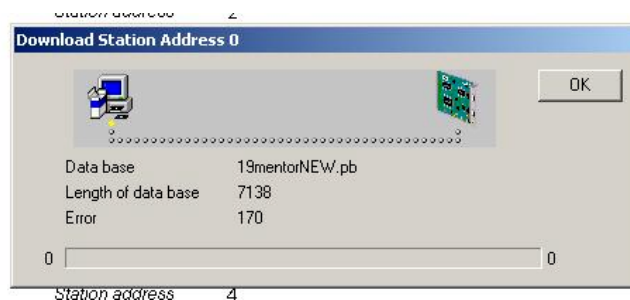


Note: All communication to any connected Slave device will STOP. The GEM80-500 must be halted before you download the configuration.

If you proceed the progress of the download will be shown, and if no problems are encountered, the progress window will clear automatically on completion.



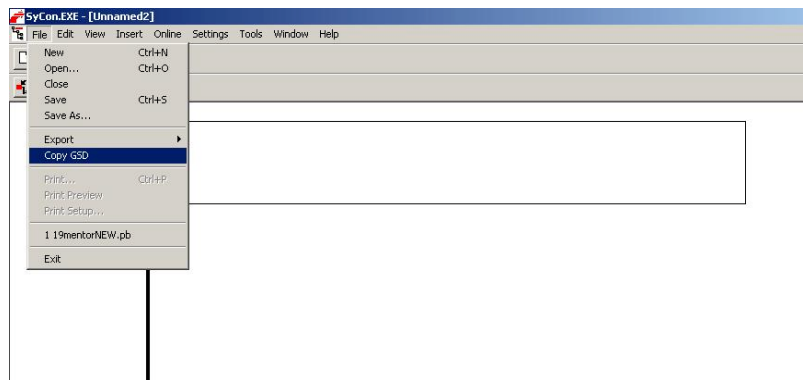
7.5.1 Common Error Message during Download – 170 – GEM80 RUNNING



Error 170 will occur if the host GEM80-500 Controller is running when a download is attempted. Use a suitable programming tool such as the Advanced GEM80 Programmer to Halt the GEM80 before you attempt the download.

7.6 Importing Slave Configuration Files (.GSD)

GSD Files and Bitmaps can be imported by selecting **FILE** then **Copy GSD** whilst in the network configuration window.



A standard window file browser will launch allowing you to select the GSD file to be imported.

8. Spares, Service and Support

For spares and support for this product please contact:

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