



SmartTrak 100 Profibus DP



SmartTrak[®] 100 Profibus DP

Instruction Manual

Profibus DP Device Specification for SmartTrak[®]
Models: 100, 101 and 140
Mass Flow Meters & Controllers



Part Number: IM-100ProfibusDP Rev.V1
May 2013



SIERRA[®]
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TRADEMARKS

SmartTrak® is a trademark of Sierra Instruments, Inc. Other product and company names listed in this manual are trademarks or trade names of their respective manufacturers.

Warnings and Cautions

Note and Safety Information

We use caution and warning statements throughout this book to draw your attention to important information.



Warning!

This statement appears with information that is important to protect people and equipment from damage. Pay very close attention to all warnings that apply to your application.



Caution!

This statement appears with information that is important for protecting your equipment and performance. Read and follow all cautions that apply to your application.



Warning! Agency approval for hazardous location installations varies between flow meter models. Consult the flow meter nameplate for specific flow meter approvals before any hazardous location installation.

Warning! All wiring procedures must be performed with the power off.

Warning! To avoid potential electric shock, follow National Electric Code safety practices or your local code when wiring this unit to a power source and to peripheral devices. Failure to do so could result in injury or death. All AC power connections must be in accordance with published CE directives.

Warning! Do not power the flow meter with the sensor remote (if applicable) wires disconnected. This could cause over-heating of the sensors and/or damage to the electronics.

Warning! Before attempting any flow meter repair, verify that the line is de-pressurized.

Warning! Always remove main power before disassembling any part of the mass flow meter/controller.



Caution! Before making adjustments to the device, verify the flow meter/controller is not actively monitoring or reporting to any master control system. Adjustments to the electronics will cause direct changes to flow control settings.

Caution! When using toxic or corrosive gases, purge the line with inert gas for a minimum of four hours at full gas flow before installing the meter.

Caution! The AC wire insulation temperature rating must meet or exceed 80°C (176°F).

Caution! Printed circuit boards are sensitive to electrostatic discharge. To avoid damaging the board, follow these precautions to minimize the risk of damage:

- before handling the assembly, discharge your body by touching a grounded, metal object
- handle all cards by their edges unless otherwise required
- when possible, use grounded electrostatic discharge wrist straps when handling sensitive components

Receipt of System Components

When receiving a Sierra mass flow meter, carefully check the outside packing carton for damage incurred in shipment. If the carton is damaged, notify the local carrier and submit a report to the factory or distributor. Remove the packing slip and check that all ordered components are present. Make sure any spare parts or accessories are not discarded with the packing material. Do not return any equipment to the factory without first contacting Sierra Customer Service.

Technical Assistance

If you encounter a problem with your flow meter, review the configuration information for each step of the installation, operation, and setup procedures. Verify that your settings and adjustments are consistent with factory recommendations. Installation and troubleshooting information can be found in the SmartTrak 100 Series manual.

If the problem persists after following the troubleshooting procedures outlined in the SmartTrak 100 Series manual, contact Sierra Instruments by fax or by E-mail (see inside front cover). For urgent phone support you may call (800) 866-0200 or (831) 373-0200 between 8:00 a.m. and 5:00 p.m. PST. In Europe, contact Sierra Instruments Europe at +31 (0)72-5071400. In the Asia-Pacific region, contact Sierra Instruments Asia at +86-21-58798521. When contacting Technical Support, make sure to include this information:

- The flow range, serial number, and Sierra order number (all marked on the meter nameplate)
- The software version (visible at start up)
- The problem you are encountering and any corrective action taken
- Application information (gas, pressure, temperature and piping configuration)

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Chapter 1: Introduction

This manual will explain how to add a Sierra flow meter or controller equipped with Profibus DP to your network. This interface allows access to all relevant data available in the flow meter.

Set Up Quick Step Plan

To successfully add the flow meter to a Profibus DP network you need the following:

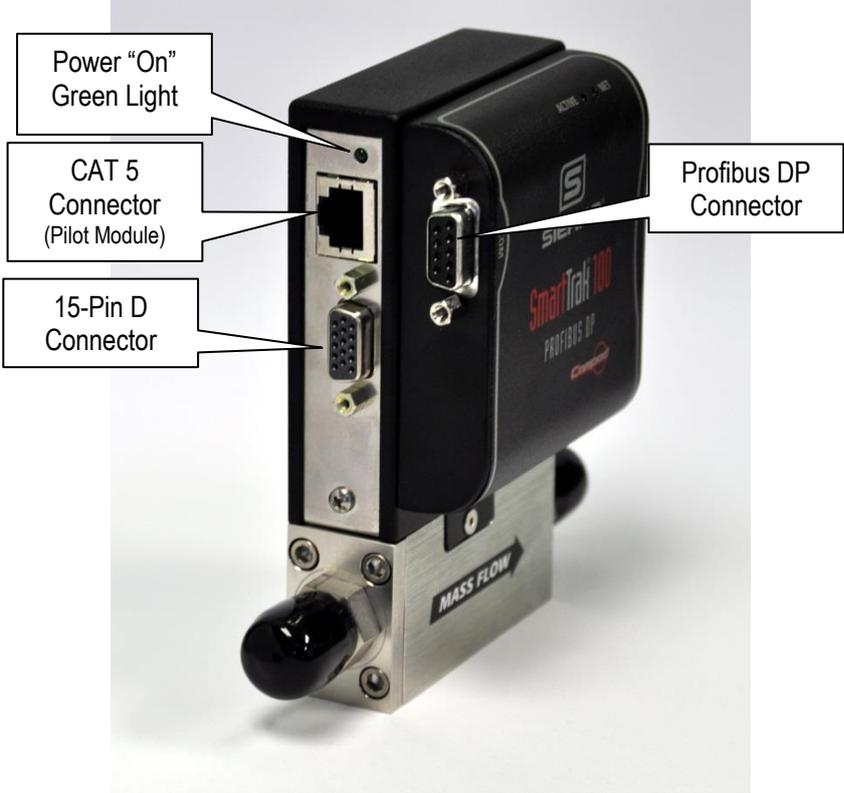
- Profibus network with a DP master
- GSD file
- Bitmap files
- Connection cables
- Power supply (for the flow meter)

Setup steps:

- Load GSD
- Copy bitmaps
- Add slave device to system
- Set slave configuration
- Set slave station address
- Download configuration
- Test configuration

Chapter 2: Field Bus Installation

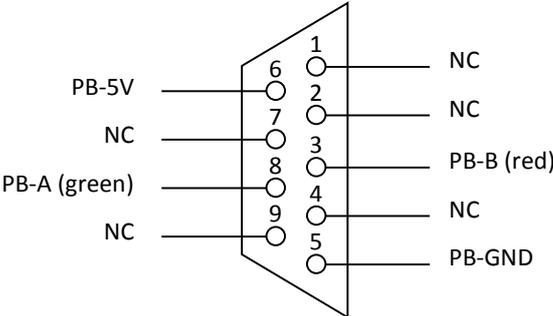
All electrical connections for your SmartTrak® Instrument and Profibus DP are made on the left (inlet) side:



Note: The CAT 5 connector is not an Ethernet connector

Fieldbus Connector

The Profibus DP network is connected to the Profibus DP using an approved Profi-DP DB9 connector. The connector has the following pin configuration:



Cable

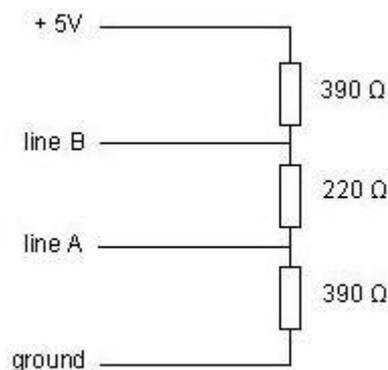
Profibus cables are shielded twisted-pair copper cables which differ from each other in the type of wire (fixed/flexible) and/or sheath. The two inner cores of a Profibus cable have green and red insulation. The specifications in this chapter are primarily intended to provide a general introduction and describe the cable properties to be considered (see also IEC 61784-5-3). A Profibus wiring guide can be found at: http://verwertraining.com/wp-content/uploads/InstallationGuideV9_2.pdf

The cable must conform to the following specifications:

- Impedance: 150 Ohm (nominal) at frequencies from 3 to 20 MHz.
- Cable capacitance: < 30 pF per meter.
- Core diameter: > 0.34 mm², corresponds to AWG 22.
- Cable type: twisted pair cable. 1x2 or 2x2 or 1x4 lines.
- Resistance: < 110 Ohm per km.
- Signal attenuation: max. 9 dB over total length of line section.
- Shielding: CU shielding braid or shielding braid and shielding foil.
- Max. Bus length: 200 m at 1500 Kbit/s, up to 1.2 km at 93.75 Kbit/s.

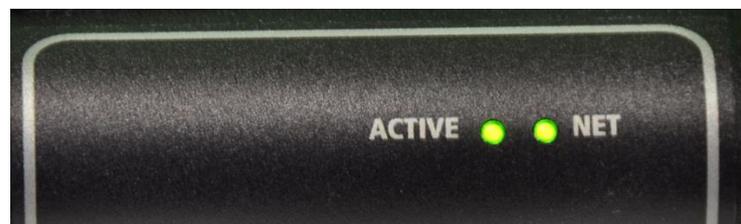
Termination

The Profibus physical layer is based on RS-485, and therefore termination resistors are needed at both ends of the network. Many Profibus DB 9 connectors have built-in switchable terminators that can be powered from the Profibus DP. The schematic below shows the internal wiring of a terminator:



Status LEDs

The interface has two multi-color LEDs mounted on top of the enclosure to indicate the status.



The left LED is used to show the status of the interface the right LED shows the network status.

Status LED

Status	Description
Flashing green/red	Initializing
Steady green	Device operational
Flashing red	Recoverable hardware failure
Steady red	Hardware failure – attention required

Network LED

Status	Description
Off	Not online – waiting for configuration
Steady green	Data exchange
Flashing red	Connection lost

Slave Address

The Profibus DP slave address of the interface can be set. Default instruments will be delivered with slave address 126 (all DIP switches to off). This address has been agreed by the PROFIBUS organization to be free for installing new devices to the bus. Changing the station address is done in two ways, either through a dip switch or through the master.

Dip Switch

The dip switch is located on the right side of the interface. Remove the cover to expose the switch:



The dip switch is binary encoded with the LSB (lowest bit) on the left side. The switch is only read during power-up.



The switch becomes active when the slider is moved upwards. Here some examples of some addresses (1 = on/up, 0 = off/down):

Address ID	Dip Switch #							
	1	2	3	4	5	6	7	8
1	1	0	0	0	0	0	0	0
14	0	1	1	1	0	0	0	0
60	0	0	1	1	1	1	0	0
125	1	0	1	1	1	1	1	0

Note: An address set with the dip switch has the highest priority and the slave address will use this address when powering up!

Server Assigned Address

It is possible to change the address of the unit through the server. Perform the following steps to change the address:

1. Assign a new address from the server
2. Set the dip switch to 128 (pin 8 on) or higher.

The assigned address will be used each time that the unit is powered.

Set Address (126)

It is possible to force the address of the unit to 126. Set the dip switch to zero and power cycle the unit. The address is set to 126. The address can be changed by the Master if needed. Do keep in mind that if the dip switch remains set to zero, the address will be set to 126 at each power-up.

Chapter 3: Configuration

GSD File

Each Profibus DP instrument comes with its own GSD-file. The GSD file contains the instrument specifications telling the master configuration software which facilities/features the instrument offers to the Profibus system. The GSD file can be download from

<http://www.sierrainstruments.com/userfiles/file/SIER0E12.GSD> .

The GSD-file is a text-file containing:

- Identification info:
 - Model name: “SmartTrak 100S - Profibus”
 - Vendor name: “Sierra Instruments Inc.”
 - Identification number: 0x012E
 - Bitmap device: “100S_dev”
 - Bitmap diagnostics: “100S_dia”
 - Bitmap SF: “100S_spf”
(Bitmap files are used in configuration software to indicate instrument status)
- Revision numbers
- Hardware characteristics:
 - VPC3+C dependable properties
- Software characteristics:
 - Supported features of Profibus: Freeze, Sync, auto baud rate detection
- Maximum bus data lengths
- Size of used data buffers

Cyclic Data Overview

The following table shows the cyclic input & output buffer supported by the device. The cyclic data is in 2 Modules. Module 1 has 32 bytes in of process data in, and 24 bytes out. Module 2 has 14 bytes in of device info. The actual data address will depend on preceding devices on your bus. The matrix example below shows the actual data addresses, assuming the Profibus DP is the first device on your Profibus network.

Incoming Cyclic Data (Module 1 slave to master)

Data Address	Description	Size (bytes)	Format
0	Flow	4	REAL
4	Set point	4	REAL
8	Valve mode	2	INT
10	Valve power	2	INT
12	User full scale	4	REAL
16	Factory full scale	4	REAL
20	Flow unit	2	INT
22	Set point source	2	INT
24	Gas span	4	REAL
28	Gas index	2	INT
30	Status	2	INT

32 bytes

Outgoing Cyclic Data (Module 1 master to slave)

Data Address	Description	Size (bytes)	Format
0	Set point	4	REAL
4	Valve mode	2	INT
6	User full scale	4	REAL
10	Flow unit	2	INT
12	Set point source	2	INT
14	Gas span	4	REAL
18	Gas index	2	INT
20	Zero unit	2	INT
22	Factory reset	2	INT

24 bytes

Device info: (Module 2 master to slave)

Data Address	Description	Size (bytes)	Format
32	Serial number	8	ASCII
40	Device type (set to 100)	2	INT
42	Firmware revision	4	REAL

14 bytes

Cyclic Data Explained

Flow (R):

Data type: 32 bit floating point also called REAL (LSB – MSB)

Description: The flow as measured by the instrument

Set Point (R/W):

Data type: 32 bit floating point (LSB – MSB)

Description: When using a controller the set point is shown. Writing to this register will set the set point. When a set point is entered which is beyond the full scale of the instrument then the set point will be changed automatically to the full scale value.

User Full Scale (R/W):

Data type: 32 bit floating point (LSB – MSB)

Description: The user full scale value allows you to re-range the instrument. Any value between 50% and 100% of the factory full scale is allowed. The new value will also redefine the analog outputs of the instrument (when used). The 20mA/5 VDC will represent the new full scale value.

Factory Full Scale (R):

Data type: 32 bit floating point (LSB – MSB)

Description: Factory full scale value of the instrument.

Valve Mode (R/W):

Data type: 16 bit integer

Description: Mode at which the valve of the controller will operate. The table shows the available values:

Value	Mode
1	Automatic
2	Closed
3	Purge

Valve Power (R):

Data type: 16 bit integer

Description: Value representing the power injected into the valve (when using a controller). The value will range between 0 and 3200 (4095 when purging the valve).

Flow Unit (R):

Data type: 16 bit integer

Description: The value indicates the selected engineering flow unit on the instrument. The table shows the available values:

Value	Unit
1	Sc/s
2	Sc/m
3	Sc/h
4	Ncc/s
5	Ncc/m
6	Ncc/h
7	SCF/s
8	SCF/m
9	SCF/h
10	NM3/s
11	NM3/m
12	NM3/h
13	SM3/s
14	SM3/m
15	SM3/h
16	SI/s
17	SI/m
18	SI/h
19	NI/s
20	NI/m
21	NI/h
22	g/s
23	g/m
24	g/h
25	Kg/s
26	Kg/m
27	Kg/h
28	Lb/s
29	Lb/m
30	Lb/h

Set Point Source (R/W):

Data type: 16 bit integer

Description: Value indicates the source for the set point. The table shows the available values:

Value	Source
1	Digital (Profibus)
2	0 – 5 volts
3	0 – 10 volts
4	1 – 5 volts
5	4 – 20 mA
6	0 – 20 mA (SmartTrak 2 or higher)

**CAUTION!**

Select digital as source when the set point needs to be controlled through the network. The other settings are for analog inputs on the DB15 connector

Gas Span (R/W):

Data type: 32 bit floating point (LSB – MSB)

Description: The gas span value allows you to linearly adjust the calibration of each available gas, factory value is 1 and can range between 0.5 and 2.0.

Gas Index (R/W):

Data type: 16 bit integer

Description: Value shows which gas is selected on the instrument. Value can range between 1 and 10.

Zero Unit (R/W):

Data type: 16 bit integer

Description: Writing the value 0xA5 to this register will set the zero the instrument (not available on the SmartTrak 1). See the SmartTrak 2 manual for more information.

Factory Reset (R/W):

Data type: 16 bit integer

Description: Writing the value 0xA5 to this register will reset all custom settings to factory defaults. The zero value and gas span values are also reset.

Serial Number (R):

Data type: 16 bits ASCII

Description: Serial number of the instrument expressed as an eight character string.

Firmware Revision (R):

Data type: 32 bit floating point (LSB – MSB)

Description: Firmware revision number of the instrument.

Device Type (R):

Data type: 16 bit integer

Description: Number which represents the flow meter series (100 = 100S, 640 = 640S)

Status (R):

Data type: 16 bit integer

Description: Status indicates if the quality of the data in the registers (0 = bad, 1 = good).

Chapter 4: Sycon software

Sycon is a tool for the configuration of a Fieldbus network using a Hilscher CIF50-PB master. You may be using a different configuration software and hardware Master, however, you will need to accomplish the same functions. No specific slave DTMs of the Profibus DP are available.

Online diagnostic indicators and auto-scan function for the reading of network participants assist in the commissioning of the network.

This guide will explain step by step how to configure the system to support various Profibus slaves on a Hilscher CIF50-PB master.

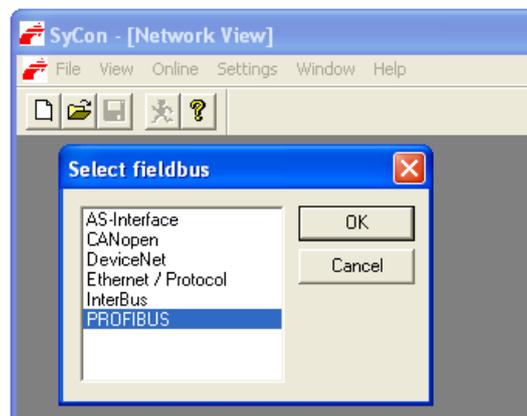
Before starting make sure that the necessary device description files (GSD and bit maps) are available in your device catalog. These are available on our web site.

Import Device Description (GSD) Files

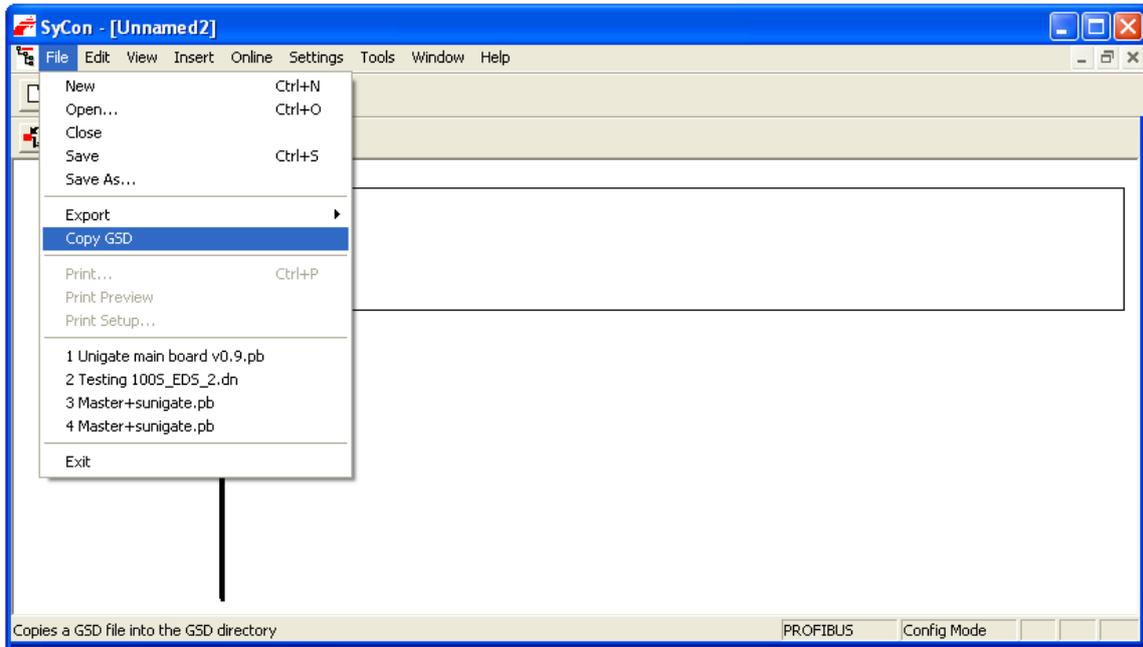
In order to use a fieldbus device its properties need to be added to the CIF50-PB Master. This is done by importing the device description files (GSD) into Sycon.

- Start Sycon and create a new document (File -> New)

A dialog window appears asking to select a fieldbus. For this example select Profibus:

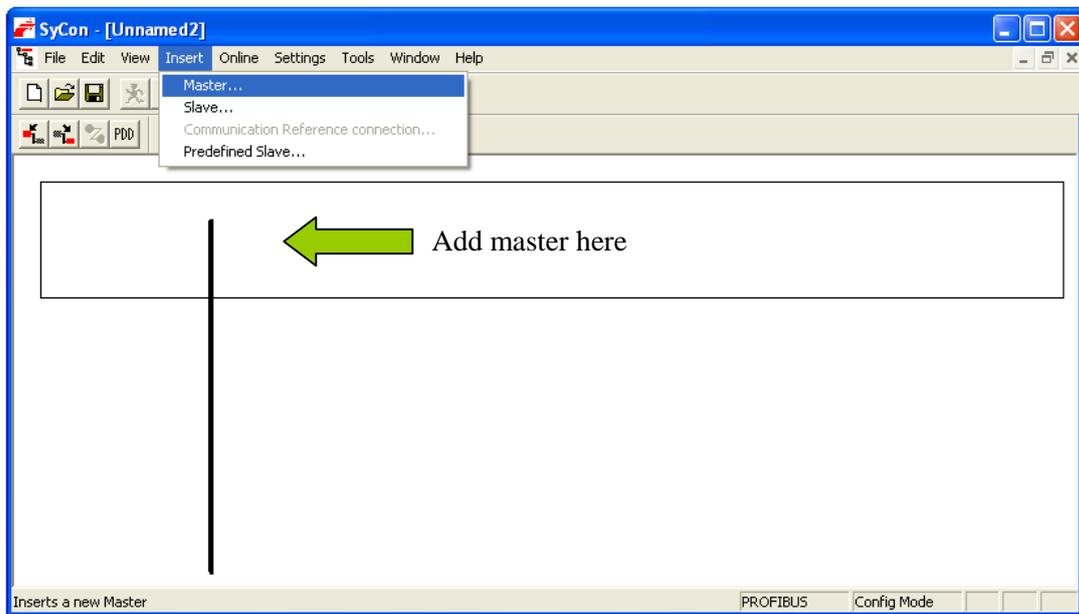


The main window is loaded. Go to the file menu and select "Copy GSD":



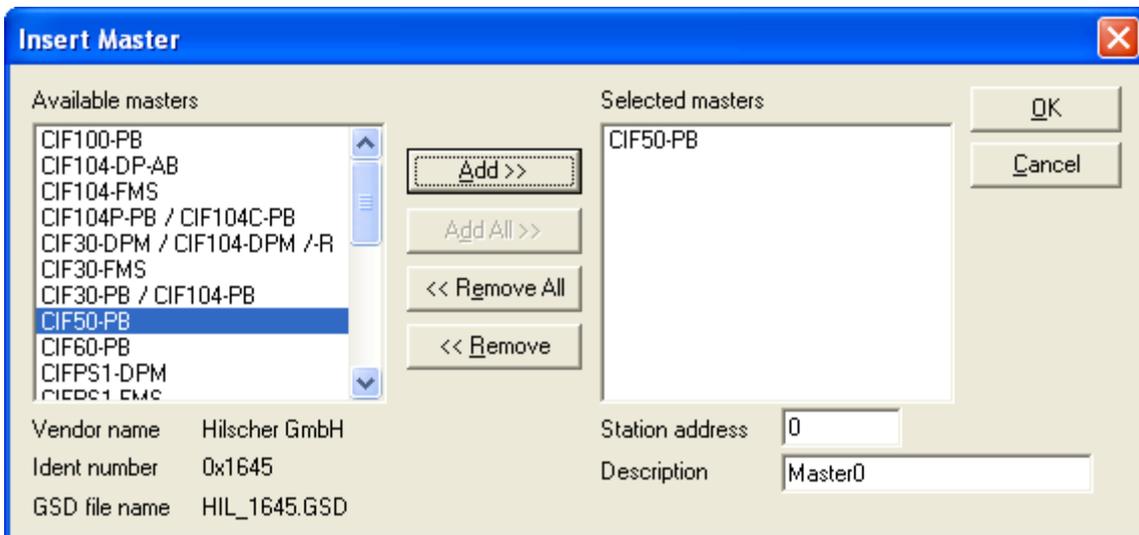
Locate the desired GSD file and load it. You will also be prompted to “import the corresponding bitmap files”, click Yes. Load all 3 bitmap files. The GSD data is added to the Sycon library but it isn’t available yet. Quit the program and restart it to refresh the catalog.

Configure A Slave



Create A New Document And Insert A Master:

Place the master at the top of the line. A dialog window appears where a master needs to be selected from a list. The list shows every type of master supported by Sycon. Select the Profibus master which has been installed on the PC:



Leave the station address set to zero. Press the “Add” button and then the “OK” button.

A window pops up showing the driver linked to the selected master. Press “Yes” to use the hardware.

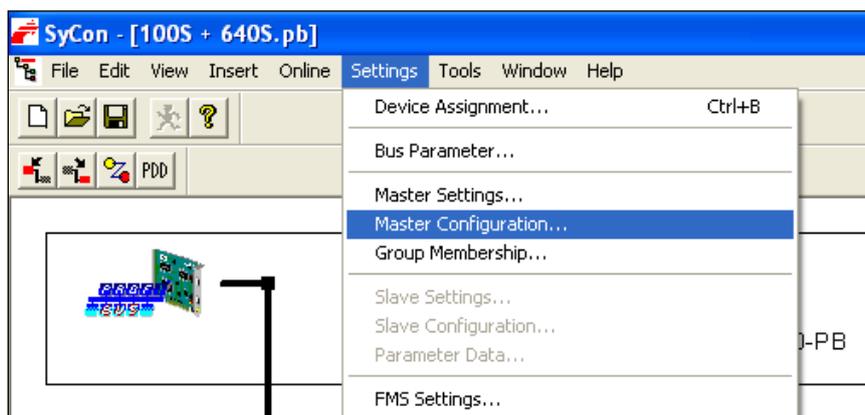


Note: The board ID number changes when extra PCI cards are added to the PC. Older configurations must be checked before trying to run them.

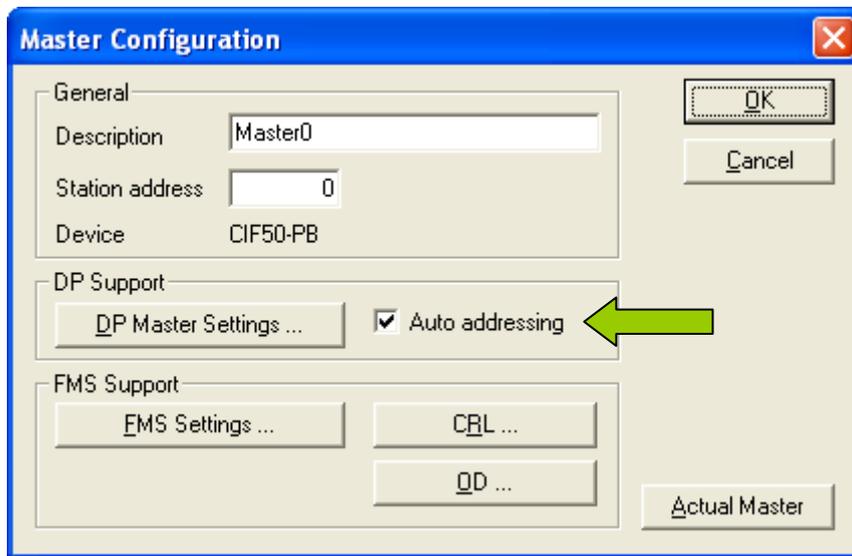
Auto Addressing

The master needs to be set to auto addressing.

1. Click on the master and from the file menu select “Settings -> Master configuration”:

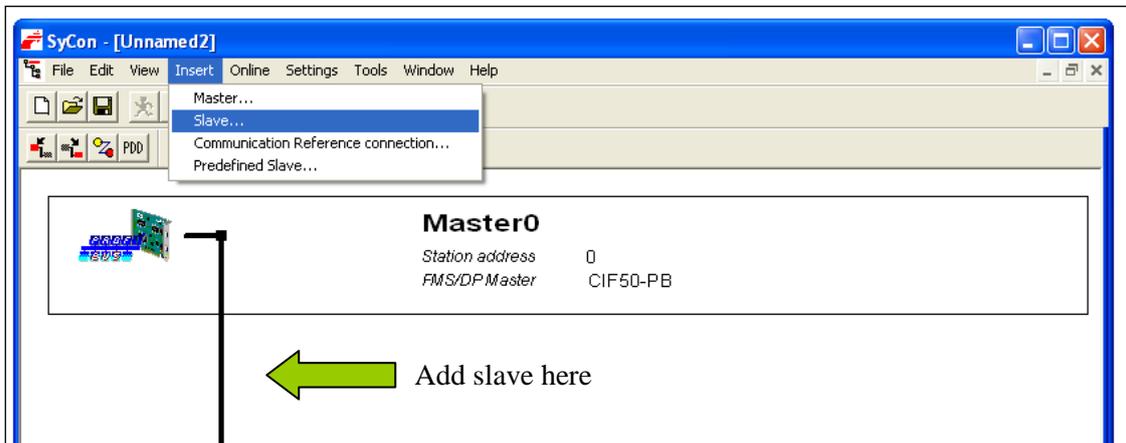


2. Make sure the “Auto addressing” is checked:

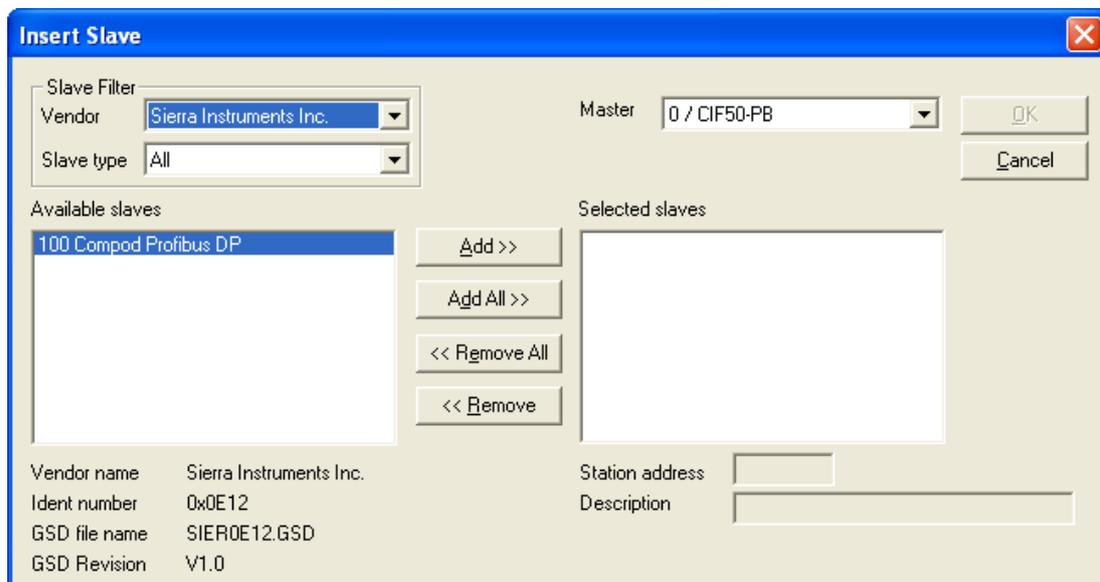


Insert a Slave To The System

1. File menu: Insert -> Slave. Place it below the master:

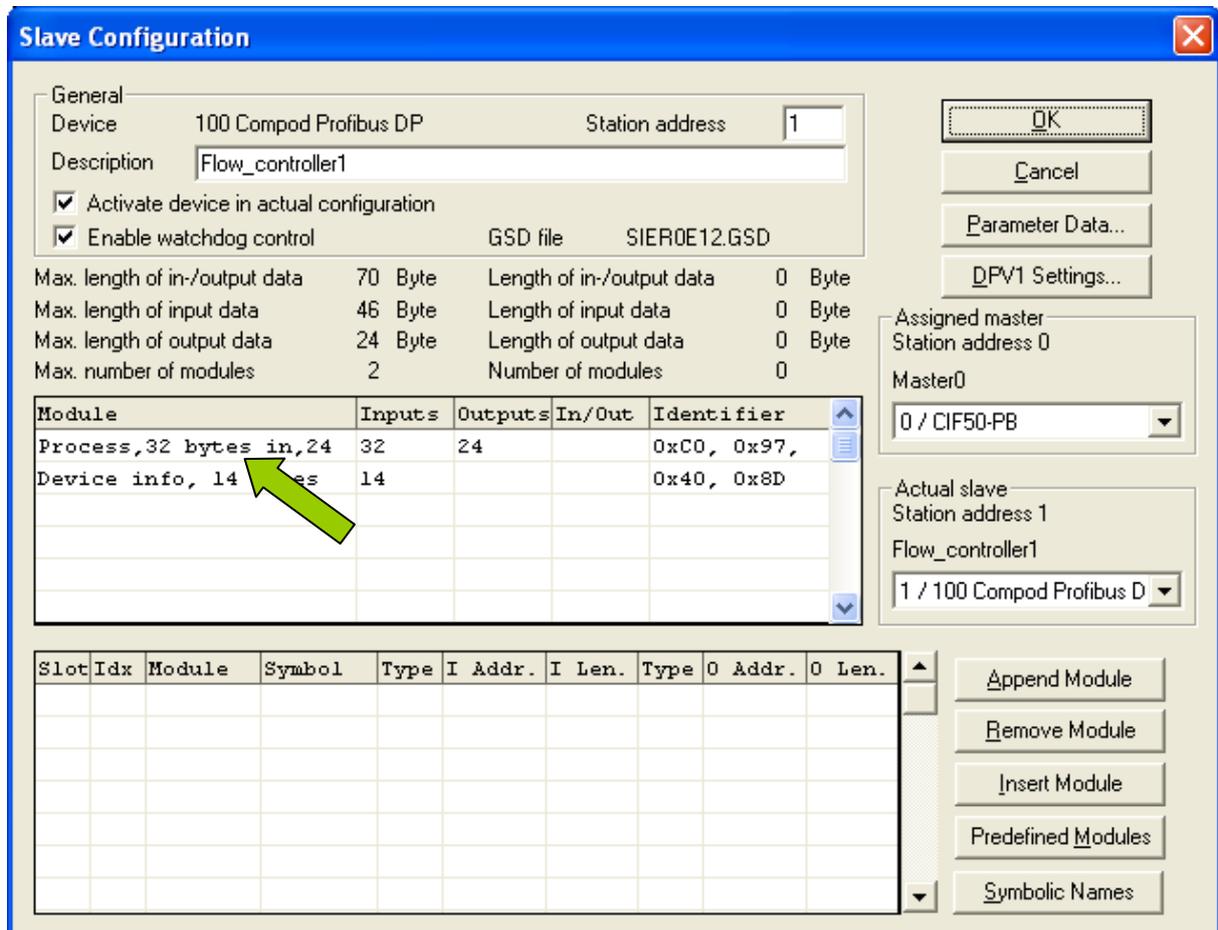


2. Set the slave filter to "Sierra Instruments Inc." Select the desired GSD file, press the "Add" button, set the slave address and description to match the slave and press the "OK" button.



Note: If no slave device appears in the window then the GSD file hasn't been copied into the Sycon catalog.

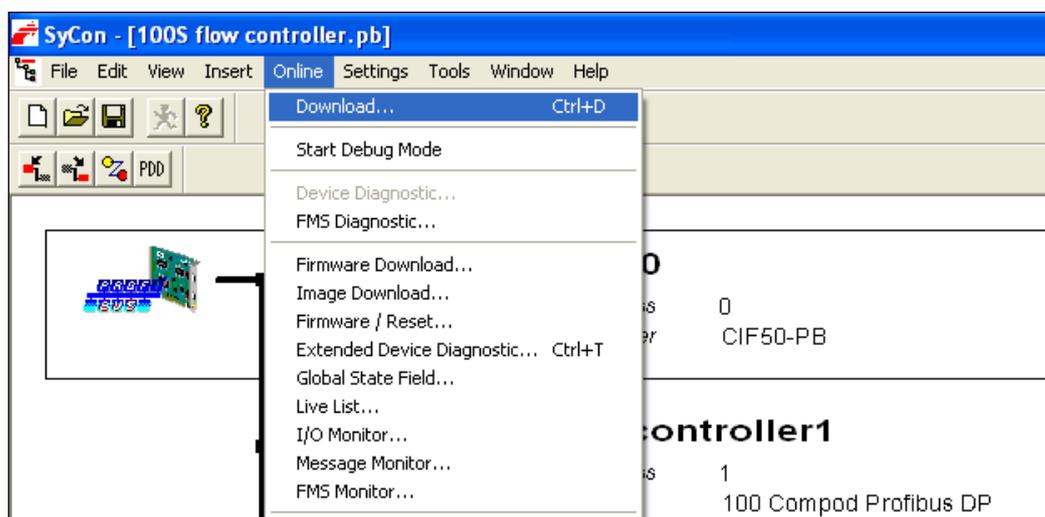
3. Double click on the added slave in the main window. The slave configuration window appears:



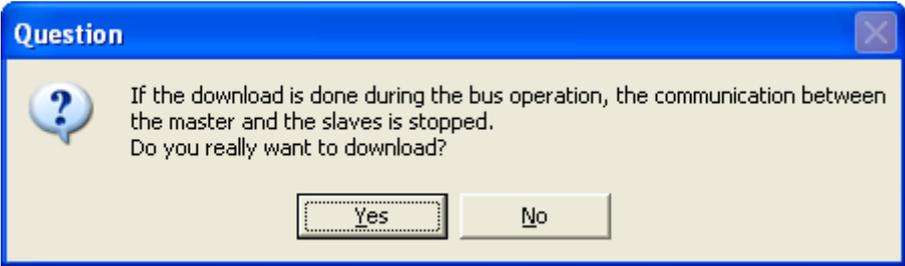
4. Select the desired modules by double clicking on the module name. Press the “OK” button.

Download Configuration

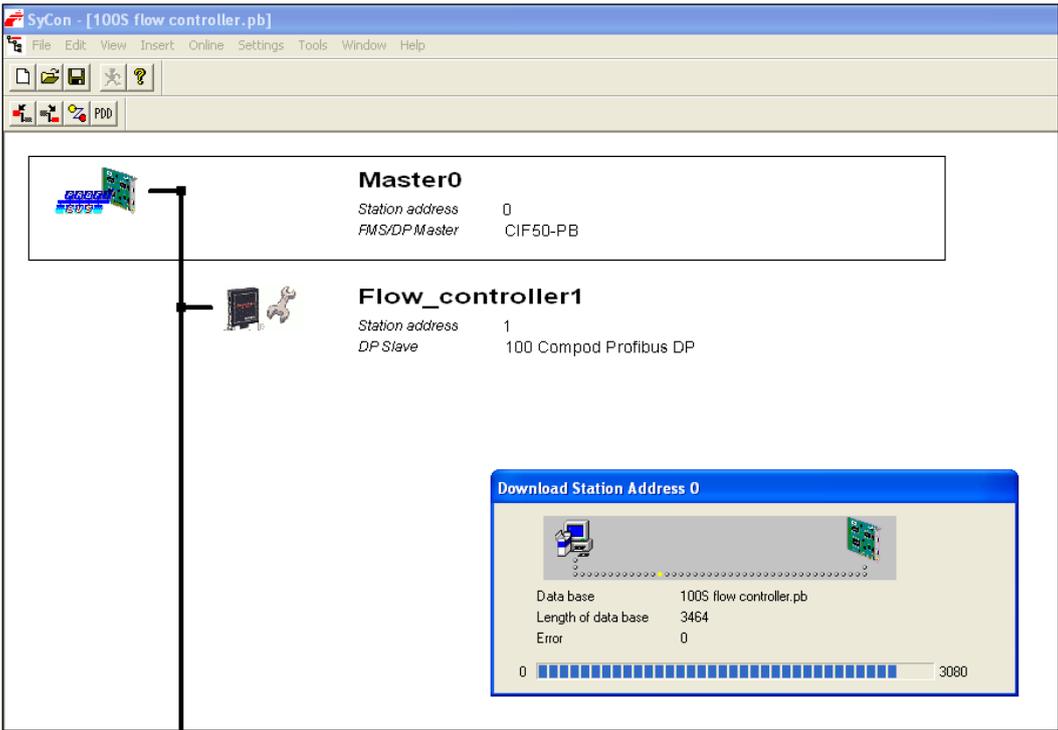
The configuration needs to be downloaded to the master (Online -> Download):



A pop-up may appear warning you that the communication may stop:



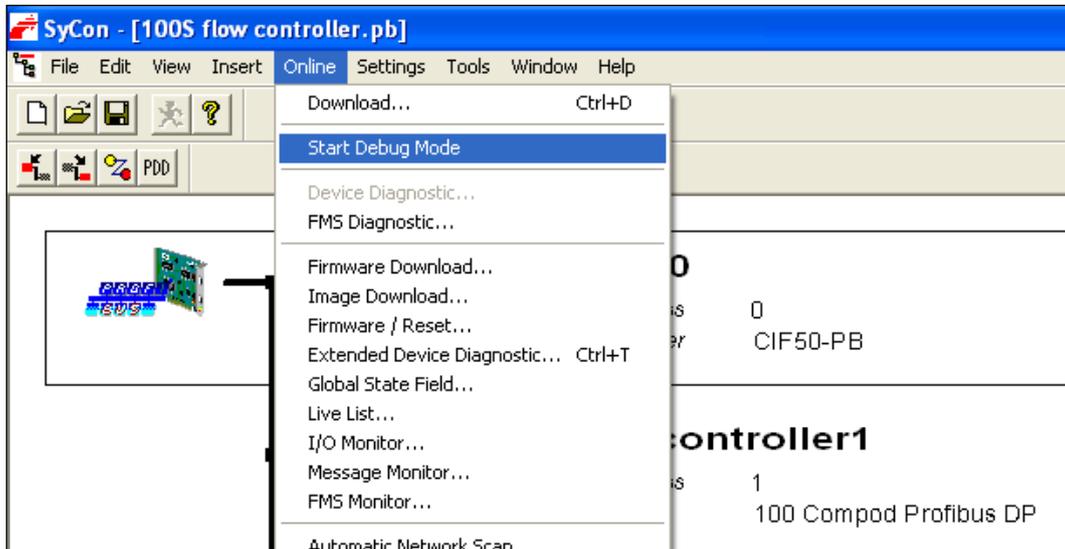
Press "Yes" to continue. The data is downloaded to the master:



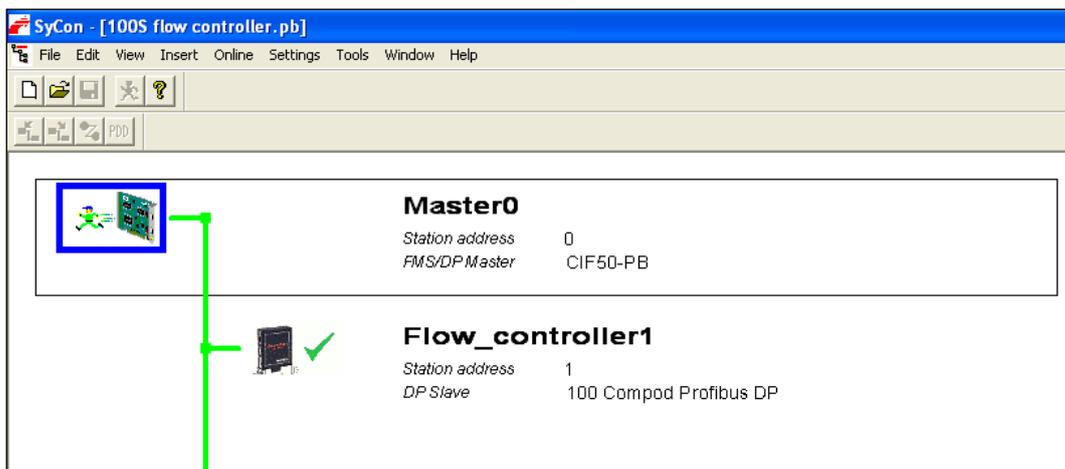
When done save the new configuration to disk (File -> save as). Put the .pb file where your server can get it later. The system is ready to be used.

Check The Configuration

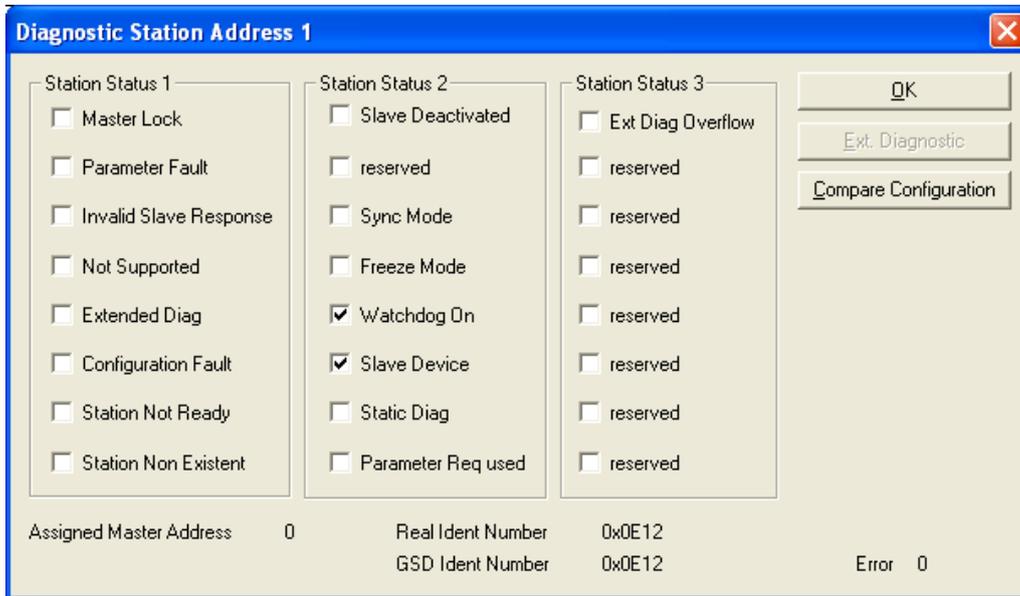
To make sure things are working, start the debug mode:



If everything is working correctly then the line between the master and the slave will be green and the bit map shows a green check:

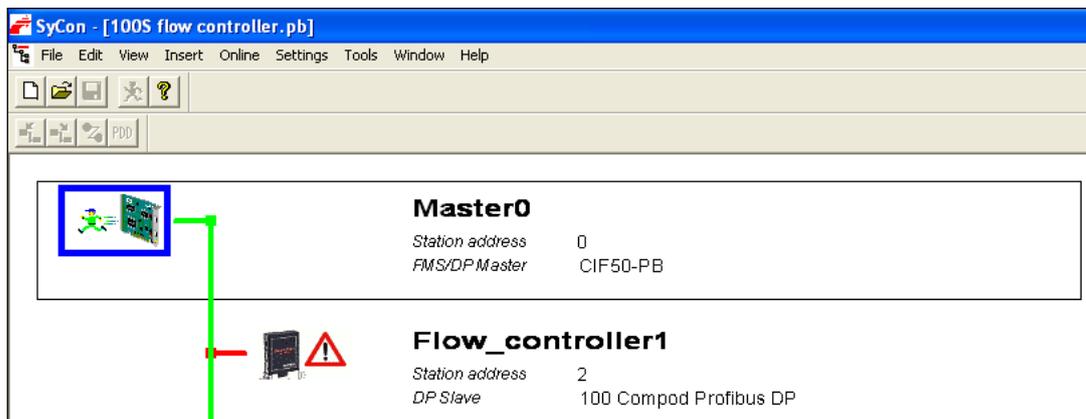


Double click on the slave to see the diagnostic status:

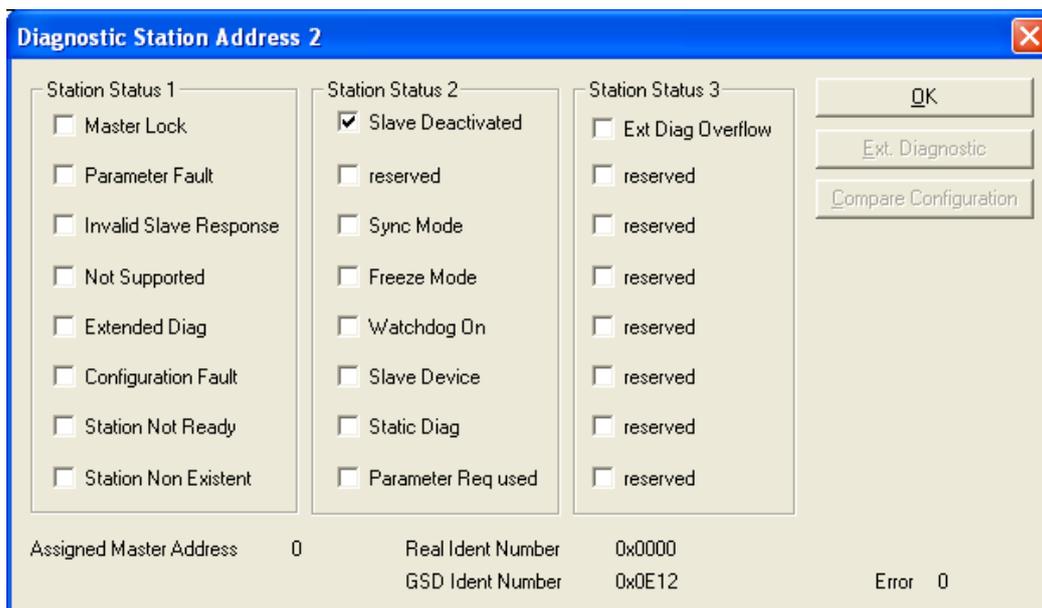


Press the “OK” button and leave the debug mode (Online -> Stop Debug Mode).

Should the line be red (error) then double click the slave to find out what the problem is:



The diagnostic window gives an indication of the problem:



In this case the slave is deactivated. Check the address of “Slave1” to see if it matches with the physical address of the hardware slave.

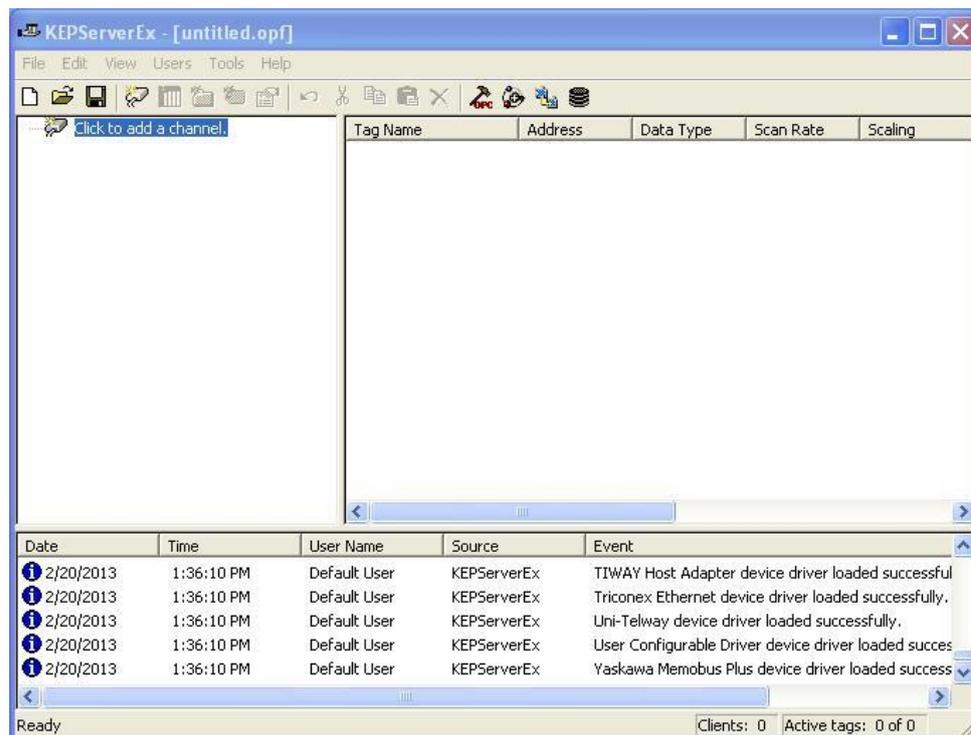
Correct any error. If the slave address in the configuration is incorrect, adjust it and download the configuration again.

Kepserver OPC Software

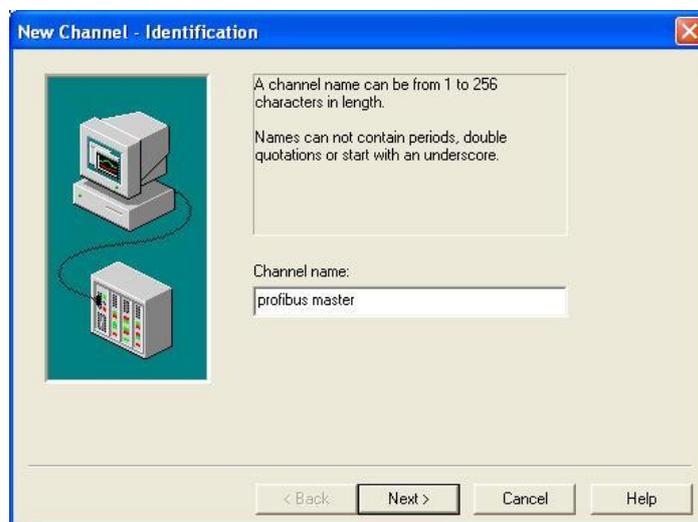
You may be using different server software or a PLC. This example shows how to use the KepserverEx (Legacy version) 4.0 free demo software on a windows PC. It can be downloaded at: <http://www.kepware.com/kepserverex/>.

After you have installed the Kepserver software start a new project.

1. Click to add a channel.



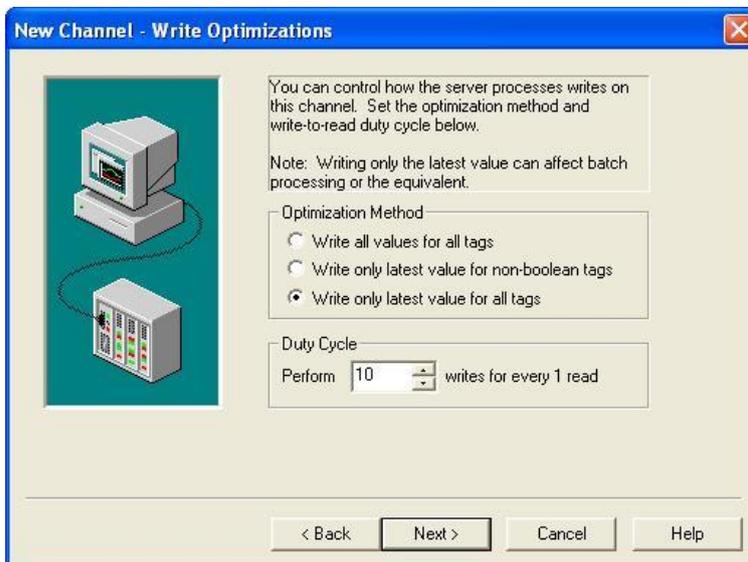
2. Give the channel a name. Click Next.



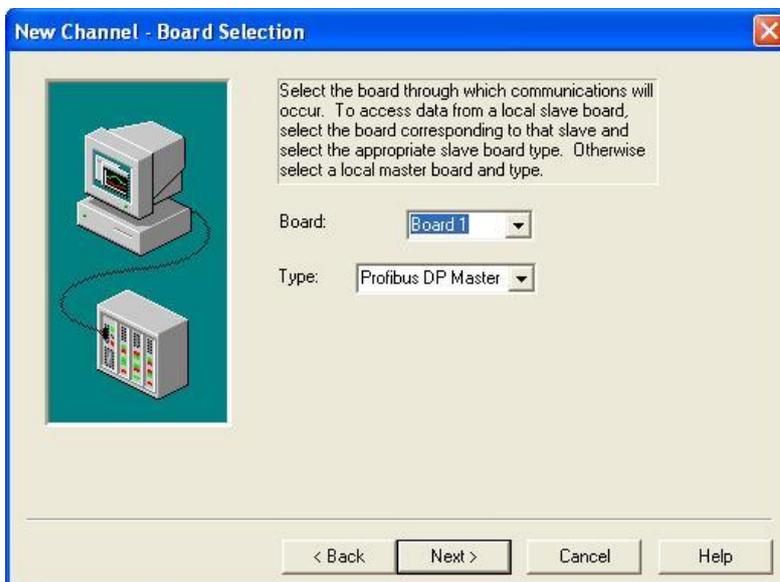
3. Choose a Master, we are using a Hilscher CIF50 master. Click, Next.



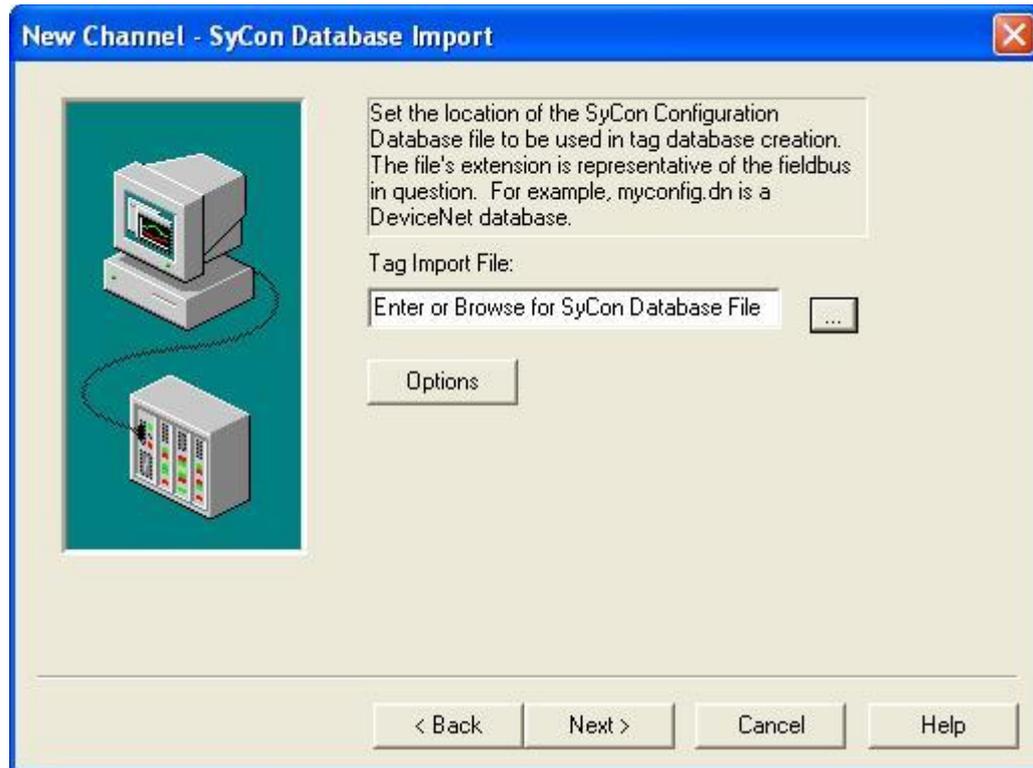
4. The defaults will work, click Next.



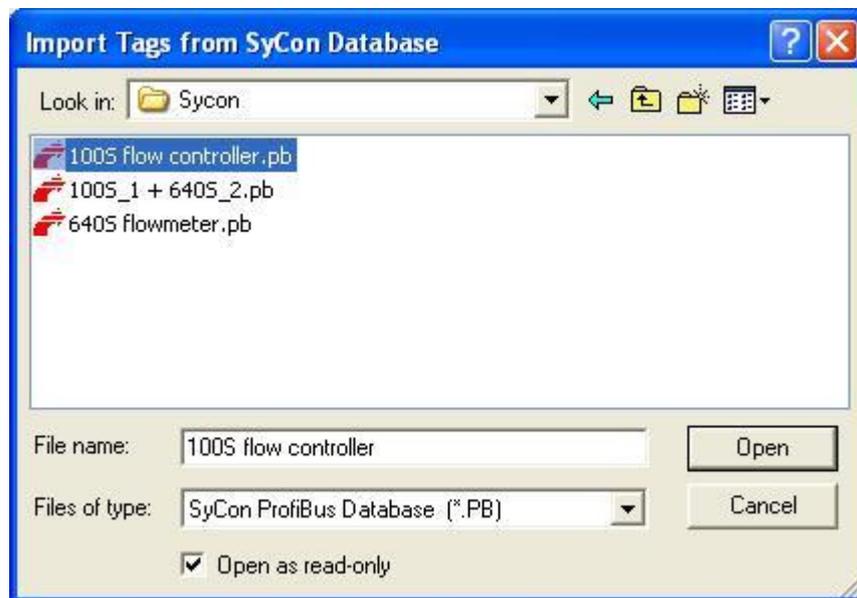
5. Chose the board and type, click next.



- You'll need to import the setup .pb file that we created earlier in Sycon. You may browse to the location where you saved it. Click Next.



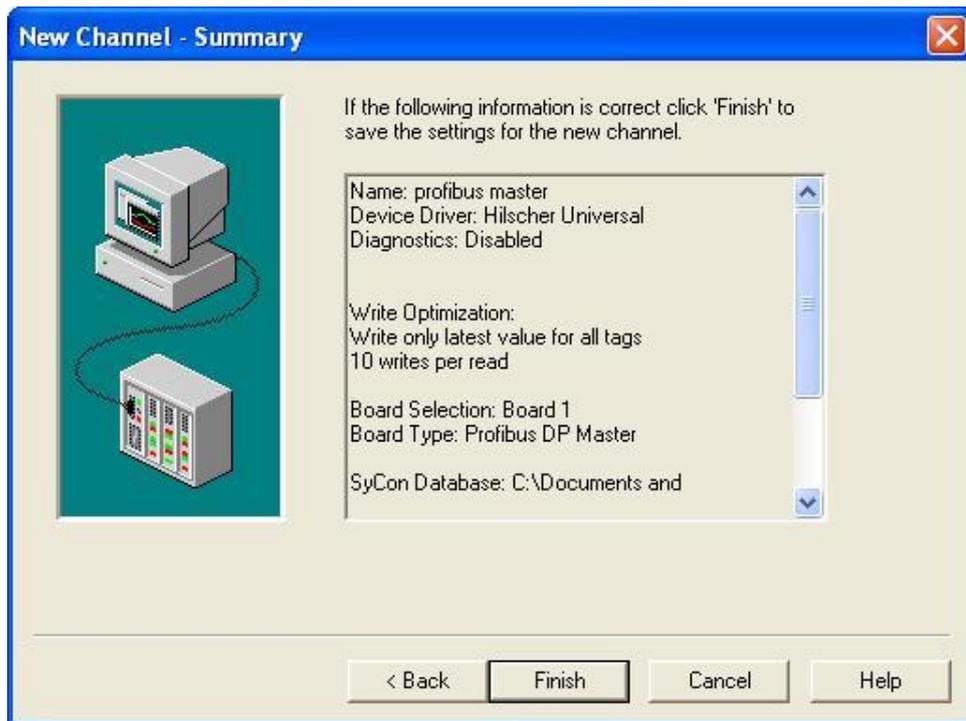
- Click OK.



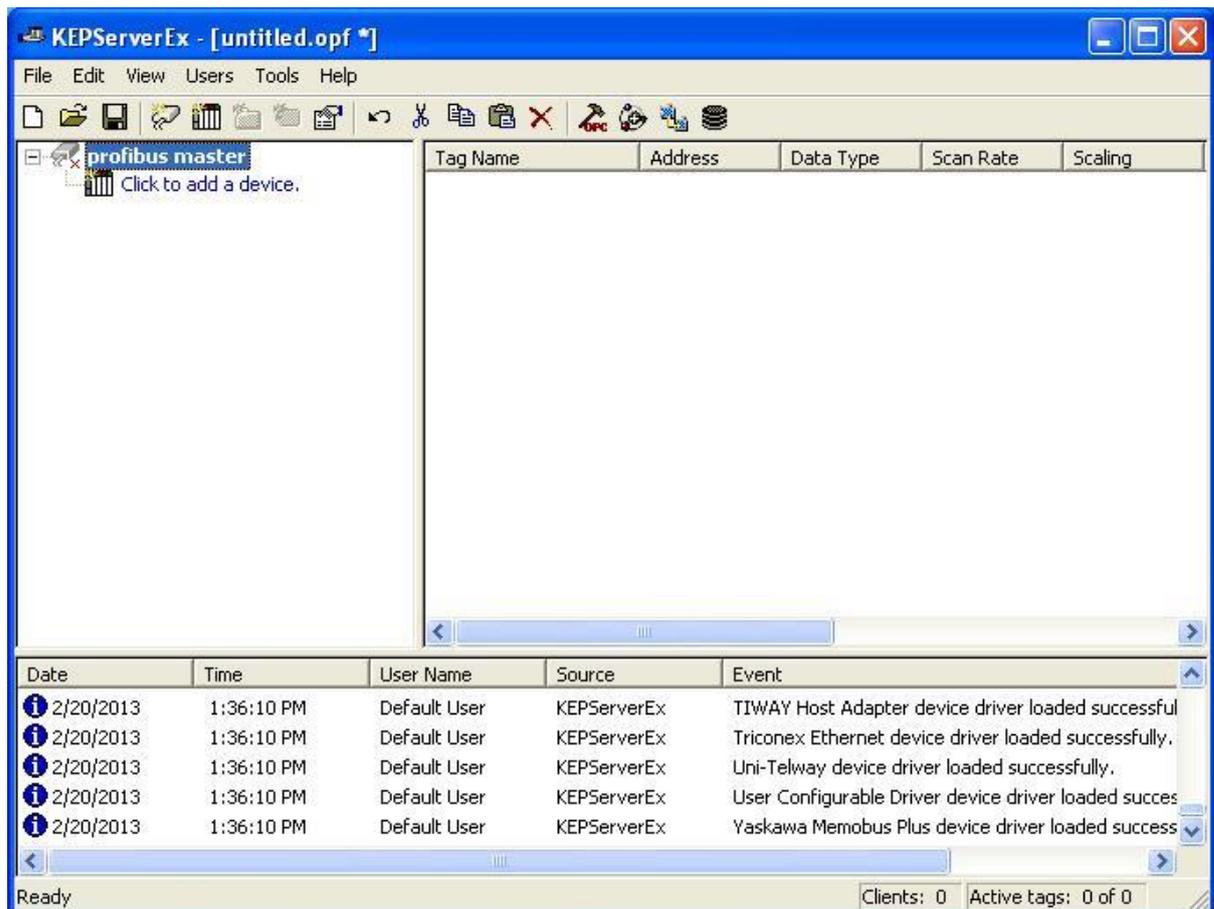
You should see this warning.



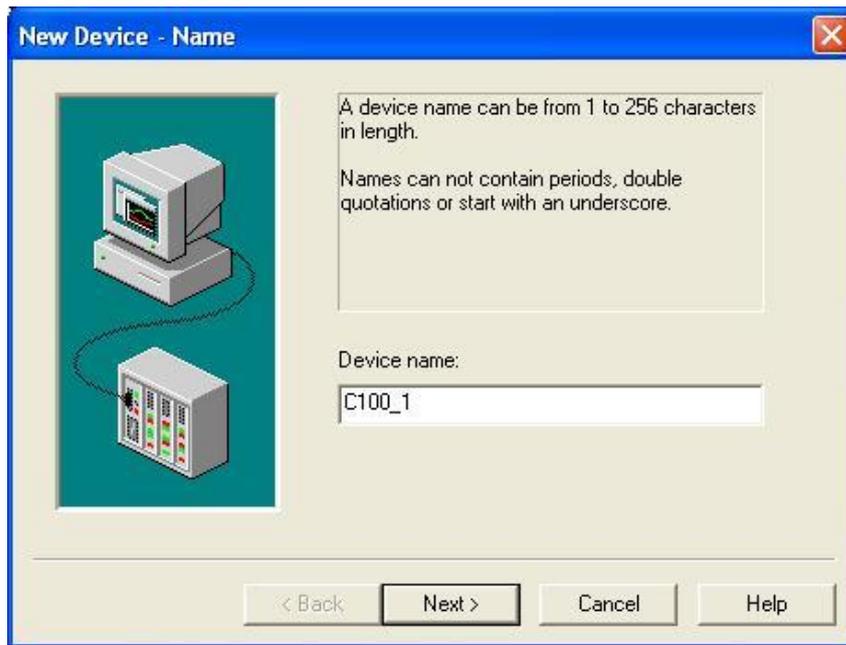
You can review the summary of the new channel you just created.



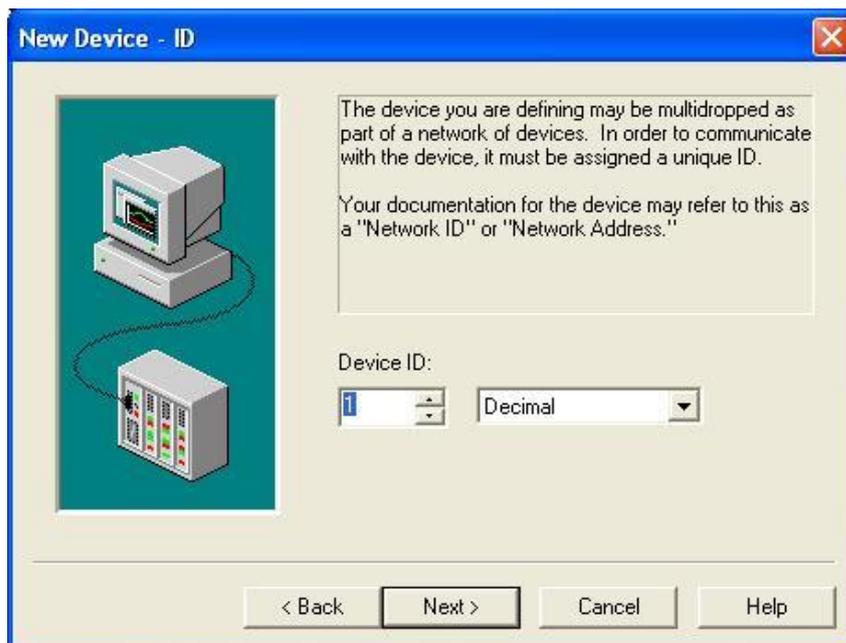
8. You may now add your first slave device. Click on “Click to add a device”



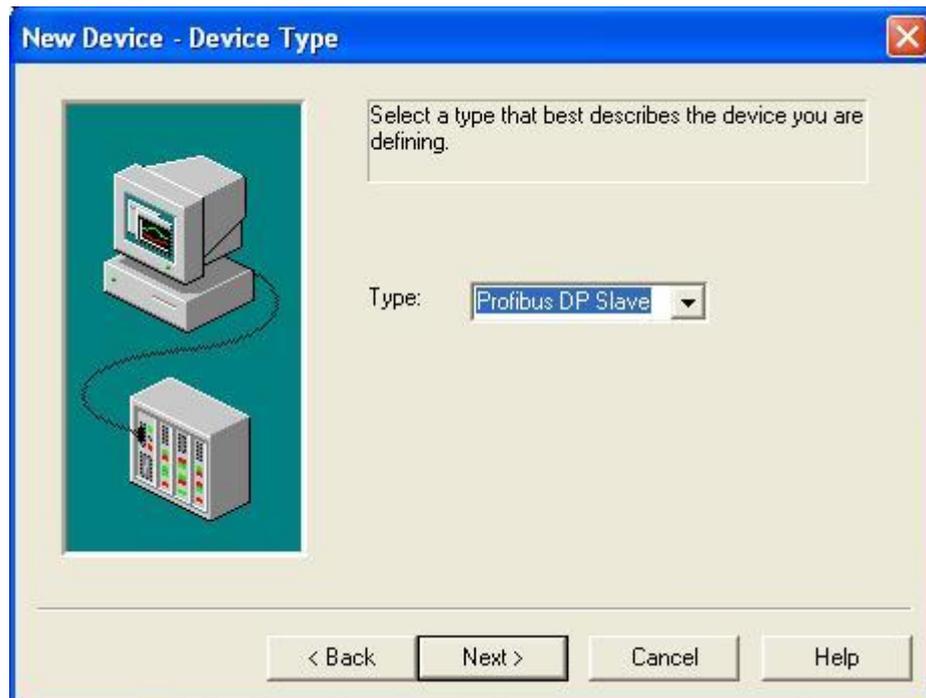
9. Give your new device a name.



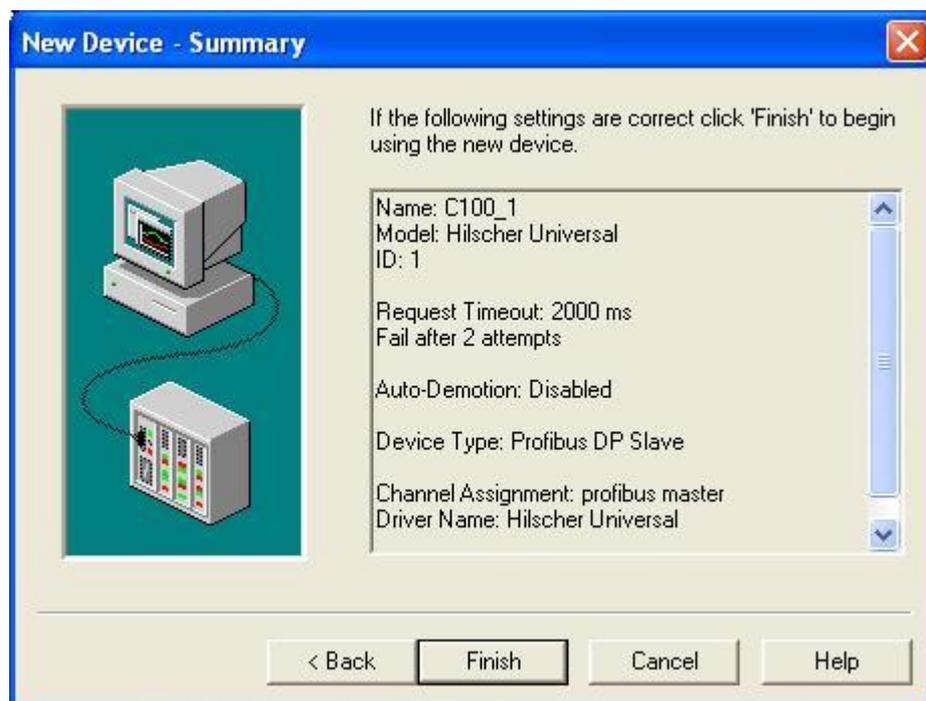
10. Set the device ID. ID# 0 was already used for the master, so chose #1.



11. The next 2 screens will be fine as default, click next. Choose the device type. Click next.

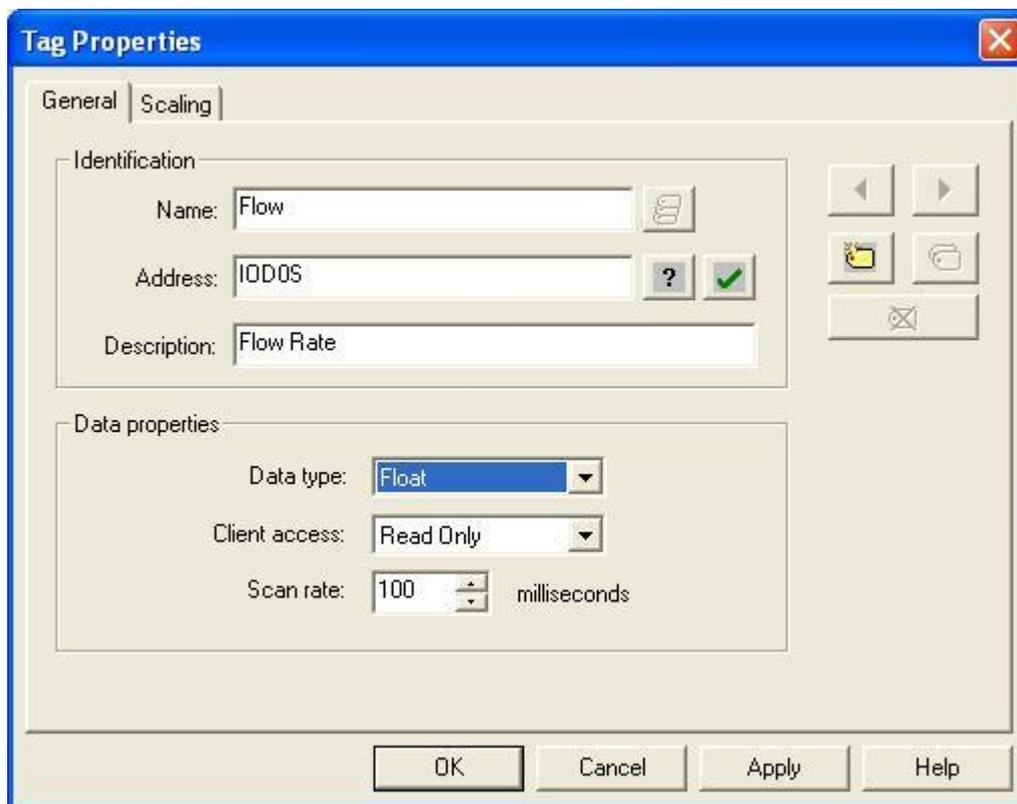


12. Review the new device summary, click next.



13. Click Finish, you have now created a new device for your network.

14. You will now need create a Tag to access each piece of Cyclic data, as specified in chapter 3.2. Click on “Click to add a static tag” and fill in the boxes as above.



The example above is for the flow.

Flow (R):

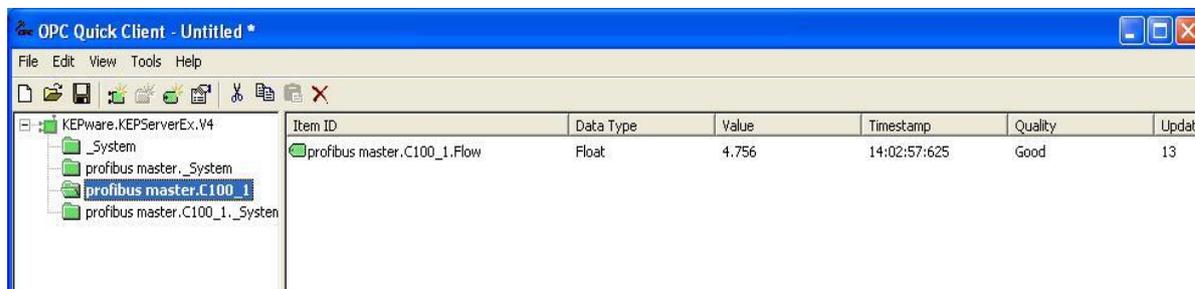
Data type: 32 bit floating point (LSB – MSB)

Description: The actual flow as measured by the instrument

Because you only have one device on your network, and the Flow is the first data, the Address would be 0. If there were other save devices in your network you would need to add the last Address of the previous device to the starting address of the new device.

Add a tag name. Address 0 with the data type, in this case IO D 0 S. (32 bit float, byte swapped). Add a description. Set the Client access to Read Only. Click OK.

Keptserver has a very simple Quick Client that can be used to read and write to device tags. Click the Hammer icon on the tool bar to start the quick client. When you highlight the “profibus master.C100_1 tag”, you can read the flow data (4.756) and quality of the communications. You have now successfully read the Flow data from the Smart Trak.



GSD File Text And Cert

```

#Profibus_DP
;
; Sierra Instruments Inc.
;
; Version 1.0
;
; This GSD-File is intended for the SmartTrak mass flow meter
; This Unit support DPV0, DPV1
;
; History:
; =====
; V1.0 January 2012 Initial version
;
; Incoming cyclic data:

; Process data:
; Instance ID      | Description      | Size (bytes)    | Format
;-----+-----+-----+-----
; 1                | Flow            | 4               | REAL
; 2                | Setpoint       | 4               | REAL
; 3                | Valve mode     | 2               | INT
; 4                | Valve power    | 2               | INT
; 5                | User full scale| 4               | REAL
; 6                | Factory full scale| 4             | REAL
; 7                | Flow unit      | 2               | INT
; 8                | Setpoint source| 2               | INT
; 9                | Gas Span       | 4               | REAL
; 10               | Gas Index      | 2               | INT
; 11               | Status         | 2               | INT
;
; Device Info:
; Instance ID      | Description      | Size (bytes)    | Format
;-----+-----+-----+-----
; 12               | Serial Number  | 12              | ASCII
; 13               | Device Type    | 2               | INT
; 14               | Firmware revision| 4              | REAL
;
; =====
; Outgoing Cyclic data (master to slave)
;
; Instance ID      | Description      | Size (bytes)    | Format
;-----+-----+-----+-----
; 15               | Setpoint       | 4               | REAL
; 16               | Valve mode     | 2               | INT
; 17               | User full scale| 4               | REAL
; 18               | Flow unit      | 2               | INT
; 19               | Setpoint source| 2               | INT
; 20               | Gas Span       | 4               | REAL
; 21               | Gas Index      | 2               | INT
; 22               | Zero unit      | 2               | INT
; 23               | Factory reset  | 2               | INT
;
;
; GSD_Revision     = 4
;
; Vendor_Name      = "Sierra Instruments Inc."
; Model_Name       = "SmartTrak 100S - Profibus"
; Revision         = "V1.0"
; Ident_Number     = 0x0e12
; Protocol_Ident   = 0
; Station_Type     = 0
; FMS_supp         = 0
; Hardware_Release = "V1.2"
; Software_Release = "V1.4"
;
; 9.6_supp         = 1
; 19.2_supp        = 1
; 45.45_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
;
MaxTsd_r_9.6  = 60
MaxTsd_r_19.2 = 60
MaxTsd_r_45.45 = 60
MaxTsd_r_93.75 = 60
MaxTsd_r_187.5 = 60
MaxTsd_r_500 = 100
MaxTsd_r_1.5M = 150
MaxTsd_r_3M = 250
MaxTsd_r_6M = 450
MaxTsd_r_12M = 800
;
Redundancy    = 0
Repeater_Ctrl_Sig = 0
24V_Pins      = 0
Implementation_Type = "VPC3+C"
Bitmap_Device  = "100S_De"
Bitmap_Diag    = "100S_Di"
Bitmap_SF      = "100S_Sf"
;
Freeze_Mode_supp = 1
Sync_Mode_supp   = 1
Auto_Baud_supp   = 1
Set_Slave_Add_supp = 1
Min_Slave_Intervall = 1
Publisher_supp   = 0
;
Modular_Station = 1
Max_Module      = 2
Max_Input_Len   = 46
Max_Output_Len  = 24
Max_Data_Len    = 70
Modul_Offset    = 0
;
Fail_Safe       = 0
Slave_Family     = 9
Max_Diag_Data_Len = 11
;
DPV1_Slave      = 1

;C1_Read_Write_supp = 0

;Max_Initiate_PDU_Length = 52

C2_Read_Write_supp = 1
C2_Max_Data_Len    = 80
C2_Response_Timeout = 300
C2_Read_Write_required = 1
C2_Max_Count_Channels = 2
;
DPV1_Data_Types    = 0
;
Max_User_Prm_Data_Len = 237 ;depending from used Hardware (9..237)
;
PrmText=1
Text(0)="disabled"
Text(1)="enabled"
EndPrmText

ExtUserPrmData=1 "DPV1mode"
Bit(7) 0 0-1
Prm_Text_Ref=1
EndExtUserPrmData

Ext_User_Prm_Data_Const(0) = 0x00,0x00,0x00
Ext_User_Prm_Data_Ref(0) = 1
;
;<Module-Definition-List>
Module          = "Process,32 bytes in,24 bytes out" 0xc0,0x97,0x9f
1
EndModule

Module          = "Device info, 14 bytes in" 0x40,0x8d
2
EndModule

```

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Fax: +49-721-96 58 589
E-mail: info@profibus.com
http://www.profibus.com



Confirmation

Registration of a PROFIBUS Device

Model name : 100 Compod Profibus DP
Release : 1
Manufacturer : Sierra Instruments Inc.

The following details have been registered by PNO for the device mentioned above:

Device type: Master Slave
Protocol type: DP-V0 DP-V1 DP-V2
ID Number : 0E12 HEX
GSD file : SIER0E12.GSD

Contact person:

Sierra Instruments Inc.
Mr. Evaristo Westplate
Engineering
Bijlmansweid 2
1934RE Egmond aan den Hoef
NIEDERLANDE
Tel.: 31 7250 71400
Fax: 31 7250 71401
E-Mail: e_westplate@sierrainstruments.nl

Karlsruhe, 2012-08-14
Place, Date

Business office of the PROFIBUS Nutzerorganisation e.V.

SIER0E12