

## **Installation of the LDS3000 INFICON EDS-File for the 2-Port EtherNet/IP BM1000 Module**

An example of configuring an INFICON BM1000 EtherNet/IP Module will be shown using an Allen-Bradley CompactLogix L24ER QB1B PLC controller and the RSLogix5000 software from Rockwell. This example is written with the understanding that the customer already has an EtherNet/IP capable controller and a working EtherNet/IP network.

Before you begin to incorporate the BM1000 Module in the network please check the software versions and settings in the **LDS3000** leak detector.

- 1. Settings in LDS3000:** Please check in the **LDS3000** Menu if the correct **software version** is installed

**Current MSB SW Version:**        **at least V2.38 or higher**

**Current CU1000 SW Version:**   **at least V2.34 or higher**

Select the correct **Bus - Module**:

In the **LDS3000** Menu under Main Menu\Settings\Setup\Interfaces\Device Selection please select "**Bus**"

Select the correct **Profile**:

In the **LDS3000** Menu under Main Menu\Settings\Setup\Interfaces\Bus Module\Profile please select "**Inficon**"

Select the correct **Interface Protocol**:

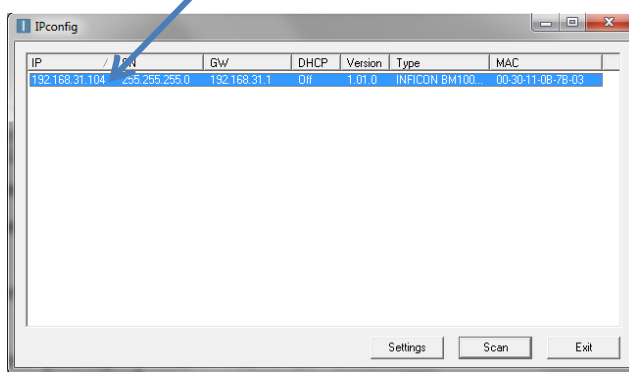
In the **LDS3000** Menu under Main Menu\Settings\Setup\Interfaces\I/O-Module\Protocol please select "**LD**"

The next step in the configuration of the BM1000 module is the assignment of an IP address.

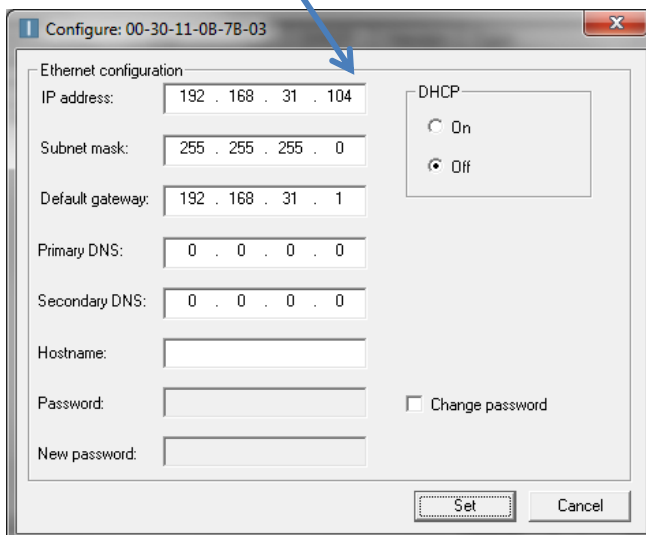
## 2. Setting the IP Address of the BM1000 Module

Each BM1000 Module is delivered by INFICON with BOOTP and DHCP modes active and a unique MAC address. Therefore you can communicate with the module in order to configure it for your network. Before you can use the module on your network you must first assign it an unused IP address on your network. The BM1000 module is delivered with an IP address of 0.0.0.0. In the following example the **Ipconfig** program from HMS is used to assign a new IP address to a BM1000 module. After starting the **Ipconfig** program it will scan the network and it will only display the BM1000 module if there is one on the network. It will display the existing IP and MAC address of the module.

By clicking on the displayed IP address another window will open.



In this new window the existing IP address can be changed and the IP address of a possible gateway can also be entered.



## 3. Installation of INFICON EtherNet/IP EDS - File

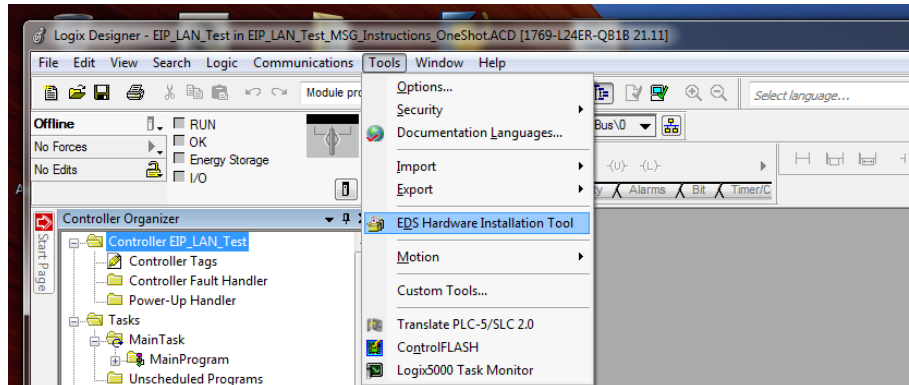
Filename of EDS - File: **INFICON\_BM1000\_EIP\_V1.3.eds**

Filename of the Bitmap – File: **BM1000.bmp**

This Bitmap - File for the BM1000 Icon must be in the same directory as the corresponding EDS - File

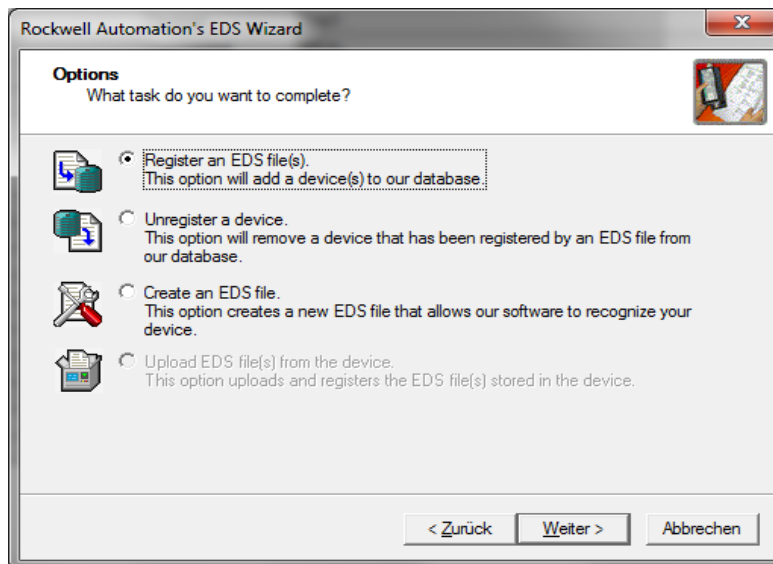
Open the **RSLogix 5000** software interface

Click on the **Tools** menu and select **EDS Hardware Installation Tool**

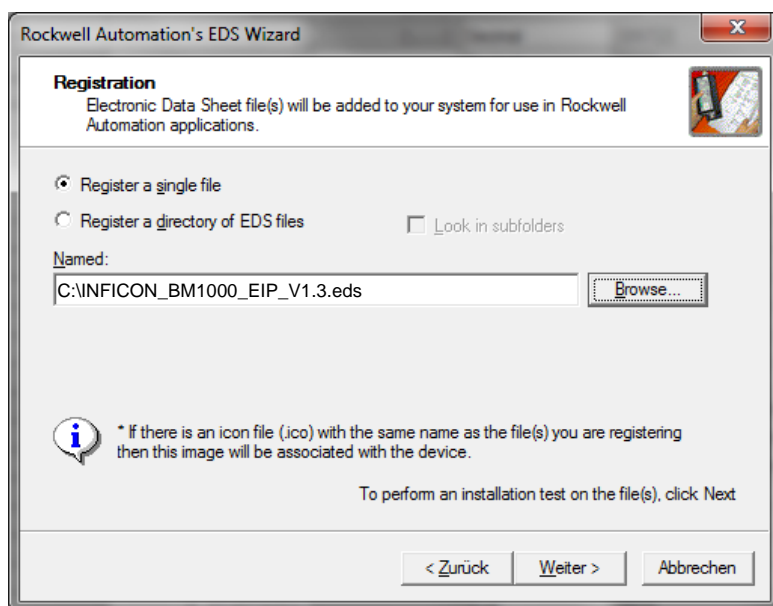


The "EDS Wizard" Window opens , click **Next** , in the "Options" window select **Register an EDS file (s)** and click **Next**



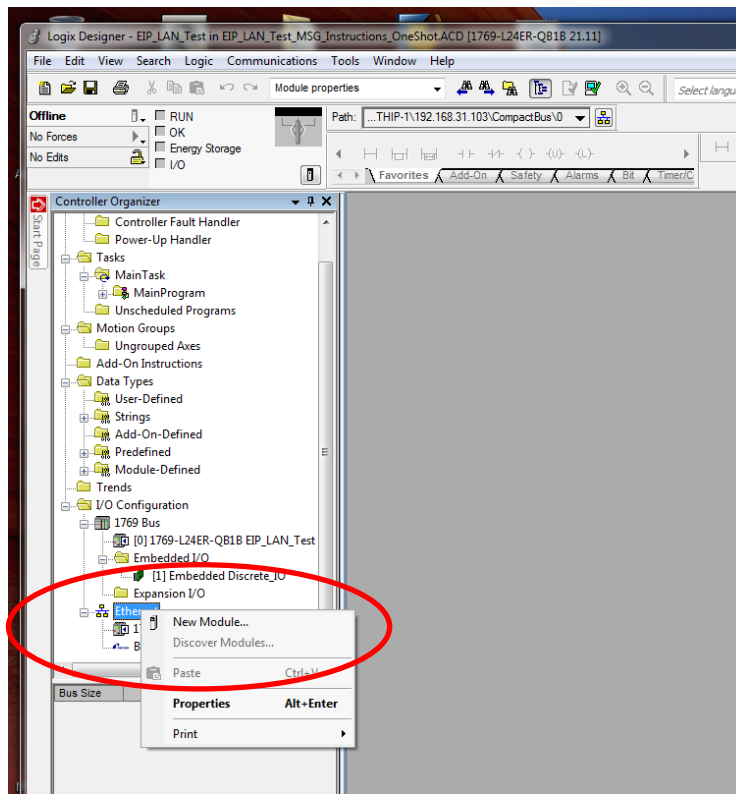


The registration window opens, click **Browse** and select the **EDS file** provided with the module.

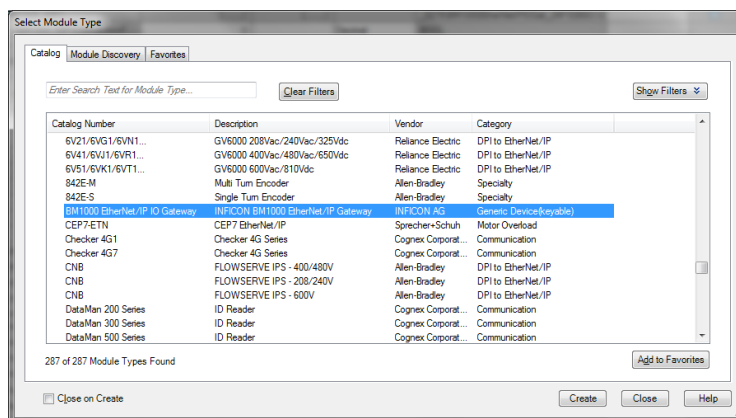


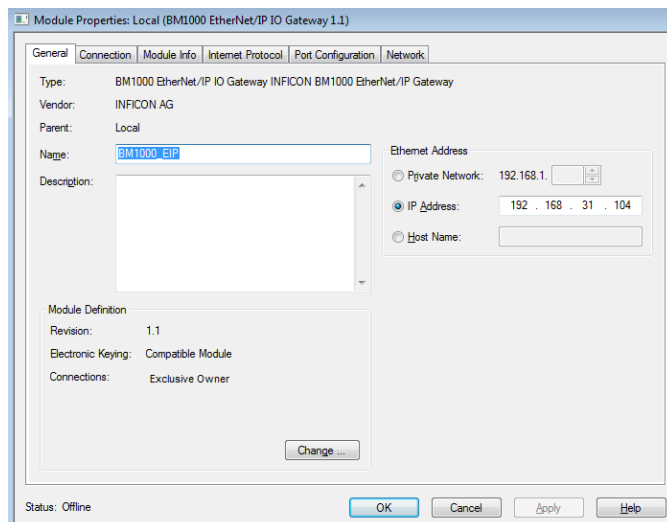
Click **Next** and follow the instructions of the program.  
After completing the EDS wizard return to the main window of RSLogix5000.

In the Controller Organizer sidebar, expand the I/O Configuration tree and right-click your network. Select **New Module**.

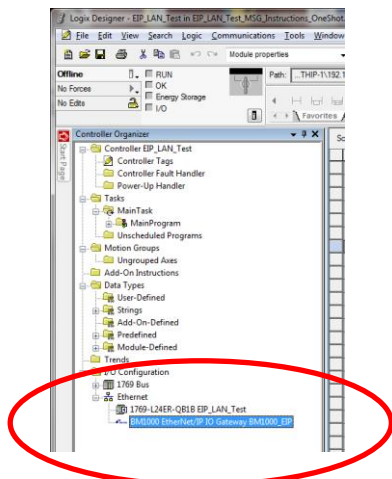


In the **Select Module Type** window, choose “BM1000 EtherNet/IP IO Gateway” and click **Create**





In the **New Module** window enter a name in the "Name" field, select the **IP Address** button and enter the **Fixed IP Address** that is assigned to the module. Click **Ok** and close the New Module window.



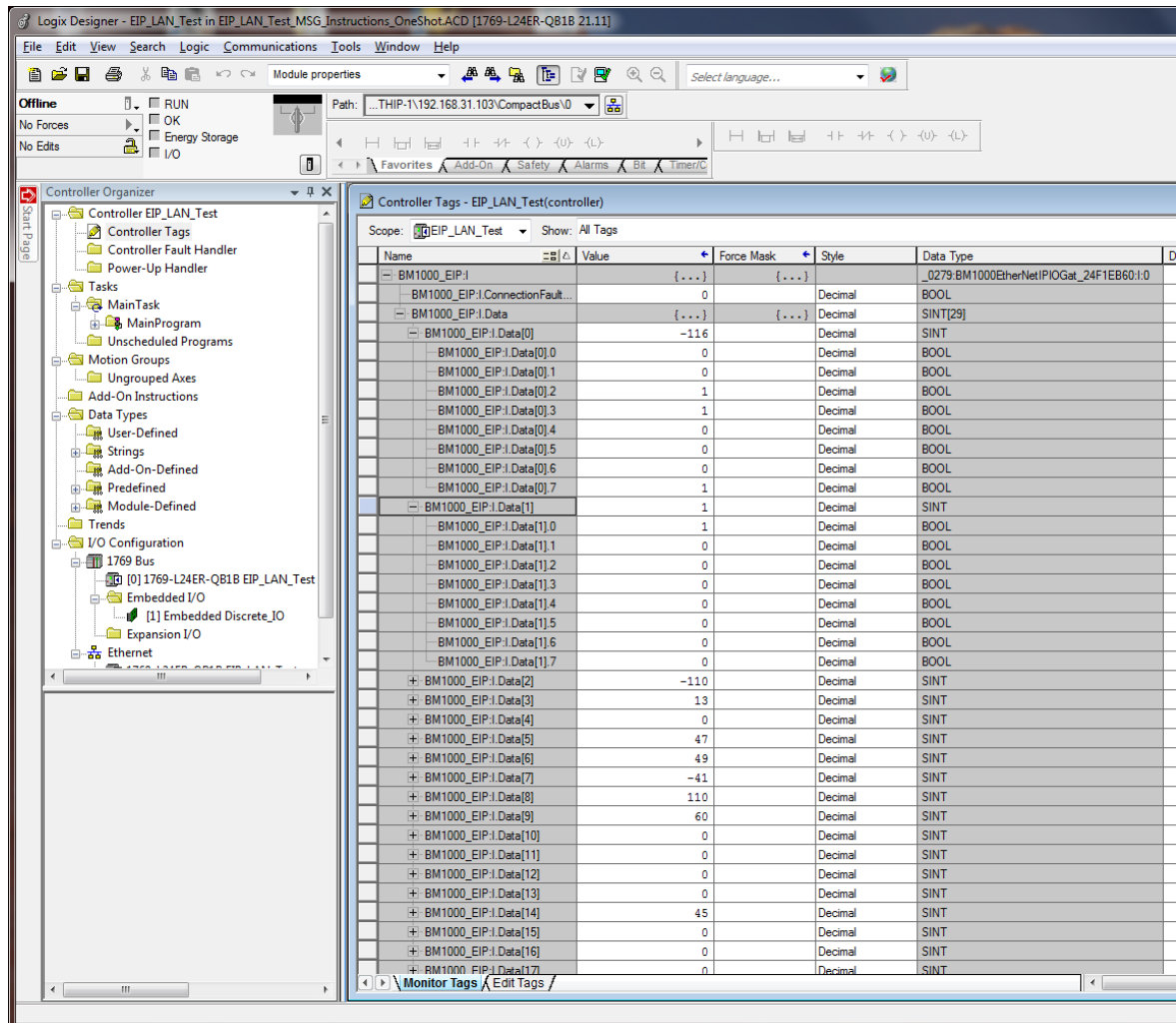
Verify that the new module is listed in the I/O Configuration tree

The BM1000 Gateway is now added to the network, connected and ready to use.

#### 4. Configuring the BM1000 Controller Tags

##### I/O Tags

The I/O for the added device is automatically added to the Controller Tags (global scope). Inficon BM1000 Tags are shown below. These tags represent the I/O data which are periodically exchanged between the PLC and the BM1000 Module.



The screenshot displays the Logix Designer software interface. The 'Controller Organizer' on the left shows the project structure, including 'Controller EIP\_LAN\_Test' and 'Controller Tags'. The main workspace shows a table of tags for the 'BM1000\_EIP-I Data' scope. The table has columns for Name, Value, Force Mask, Style, and Data Type. The tags are organized into groups, including 'BM1000\_EIP-I Data[0]' through 'BM1000\_EIP-I Data[17]'. The 'Data Type' column indicates the type of data for each tag, such as 'SINT', 'BOOL', and 'SINT[29]'.

Name	Value	Force Mask	Style	Data Type
BM1000_EIP-I	{...}	{...}	Decimal	_0279-BM1000EtherNetPIOGat_24F1EB60:0
BM1000_EIP-I.ConnectionFault...	0		Decimal	BOOL
BM1000_EIP-I Data	{...}	{...}	Decimal	SINT[29]
BM1000_EIP-I Data[0]	-116		Decimal	SINT
BM1000_EIP-I Data[0].0	0		Decimal	BOOL
BM1000_EIP-I Data[0].1	0		Decimal	BOOL
BM1000_EIP-I Data[0].2	1		Decimal	BOOL
BM1000_EIP-I Data[0].3	1		Decimal	BOOL
BM1000_EIP-I Data[0].4	0		Decimal	BOOL
BM1000_EIP-I Data[0].5	0		Decimal	BOOL
BM1000_EIP-I Data[0].6	0		Decimal	BOOL
BM1000_EIP-I Data[0].7	1		Decimal	BOOL
BM1000_EIP-I Data[1]	1		Decimal	SINT
BM1000_EIP-I Data[1].0	1		Decimal	BOOL
BM1000_EIP-I Data[1].1	0		Decimal	BOOL
BM1000_EIP-I Data[1].2	0		Decimal	BOOL
BM1000_EIP-I Data[1].3	0		Decimal	BOOL
BM1000_EIP-I Data[1].4	0		Decimal	BOOL
BM1000_EIP-I Data[1].5	0		Decimal	BOOL
BM1000_EIP-I Data[1].6	0		Decimal	BOOL
BM1000_EIP-I Data[1].7	0		Decimal	BOOL
BM1000_EIP-I Data[2]	-110		Decimal	SINT
BM1000_EIP-I Data[3]	13		Decimal	SINT
BM1000_EIP-I Data[4]	0		Decimal	SINT
BM1000_EIP-I Data[5]	47		Decimal	SINT
BM1000_EIP-I Data[6]	49		Decimal	SINT
BM1000_EIP-I Data[7]	-41		Decimal	SINT
BM1000_EIP-I Data[8]	110		Decimal	SINT
BM1000_EIP-I Data[9]	60		Decimal	SINT
BM1000_EIP-I Data[10]	0		Decimal	SINT
BM1000_EIP-I Data[11]	0		Decimal	SINT
BM1000_EIP-I Data[12]	0		Decimal	SINT
BM1000_EIP-I Data[13]	0		Decimal	SINT
BM1000_EIP-I Data[14]	45		Decimal	SINT
BM1000_EIP-I Data[15]	0		Decimal	SINT
BM1000_EIP-I Data[16]	0		Decimal	SINT
BM1000_EIP-I Data[17]	0		Decimal	SINT

Controller Tags display for configured device

## BM1000 Module I/O Process Data Mapping for Cyclic Data Transfer

### Write Process Data (PLC => Leak Detector)

This data word (BM1000\_EIP:O.Data, 2 Bytes) is sent periodically from the programmable logic controller to the leak detector.

Byte 1 is high byte, byte 2 is low byte.

### Read Process Data (Leak Detector => PLC)

These 29 data bytes (BM1000\_EIP:I.Data) are send periodically from the leak detector to the programmable logic controller.

Controller Tag Name	Byte	Description
BM1000_EIP:O.Data[0] BM1000_EIP:O.Data[1]	1...2	Output 1 word Meaning: <b>Control word</b>
BM1000_EIP:I.Data[0] BM1000_EIP:I.Data[1]	1...2	Input 1 word Meaning: <b>Status word</b>
BM1000_EIP:I.Data[2] BM1000_EIP:I.Data[3] BM1000_EIP:I.Data[4] BM1000_EIP:I.Data[5]	3...6	Input 2 words Meaning: <b>Leak rate</b>
BM1000_EIP:I.Data[6] BM1000_EIP:I.Data[7] BM1000_EIP:I.Data[8] BM1000_EIP:I.Data[9]	7...10	Input 2 words Meaning: <b>Pressure</b>
BM1000_EIP:I.Data[10]	11...12	Input 1 word



BM1000_EIP:I.Data[11]		Meaning: <b>Error code</b>
BM1000_EIP:I.Data[12]	13	Input 1 Byte Meaning: <b>Trigger status 1, 2, 3, 4</b>
BM1000_EIP:I.Data[13]	14	Input 1 Byte Meaning: <b>Cal Status</b>
BM1000_EIP:I.Data[14]	15	Input 1 Byte Meaning: <b>DeviceID</b>
BM1000_EIP:I.Data[15] BM1000_EIP:I.Data[16] BM1000_EIP:I.Data[17] BM1000_EIP:I.Data[18]	16...19	Input 2 words Meaning: <b>Pressure p2</b>
BM1000_EIP:I.Data[19] BM1000_EIP:I.Data[20] BM1000_EIP:I.Data[21] BM1000_EIP:I.Data[22]	20...23	Input 2 words Meaning: <b>Pressure p3</b>
BM1000_EIP:I.Data[23] BM1000_EIP:I.Data[24] BM1000_EIP:I.Data[25] BM1000_EIP:I.Data[26]	24...27	Input 2 words Meaning: <b>Pressure p4</b>
BM1000_EIP:I.Data[27] BM1000_EIP:I.Data[28]	28...29	Input 1 word Meaning: <b>Device_specific_word</b>