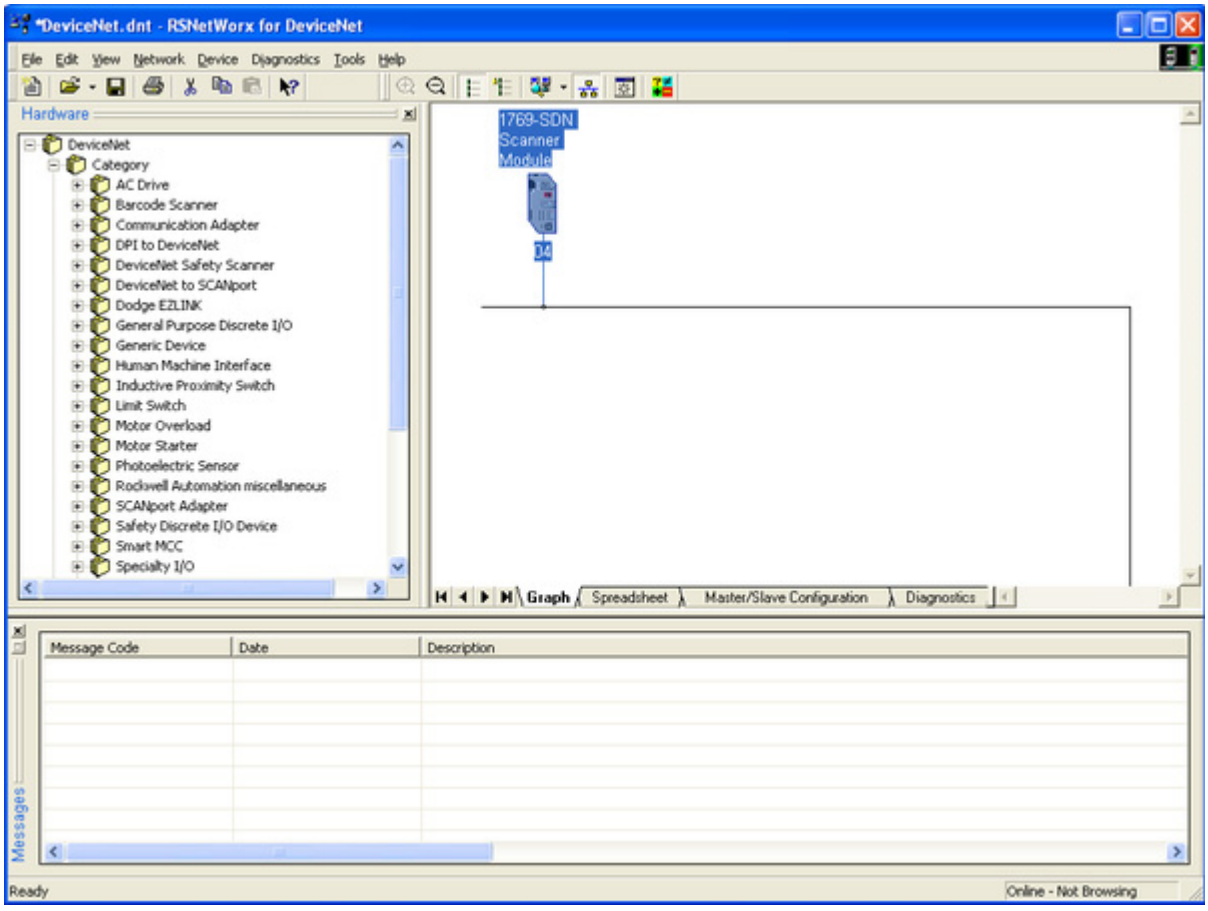
Pluto Gateway Rockwell PLC Integration Manual (RSNetWorx for DeviceNet)



Revision history:

Version	Date	Change
1A	2008-10-08	First release.
2A	2010-11-29	Changed to ABB style
2B	2011-12-20	Changed title

Reference:

REF	Document
A	Pluto Gateway User Manual (PlutoGatewayManual-Eng-xx)

Table of contents:

1 Introduction

This document will give information how to integrate Pluto DeviceNet Gateway GATE-D1 with an Allen-Bradley PLC using RSNetWorx for DeviceNet.

Need for integration is a correct installed Pluto DeviceNet Gateway GATE-D1,

- Check node (MAC) address setting of the gateway.
- Check bus speed setting of the gateway.
- Check power connection to the gateway.
- Check Pluto bus connection to the gateway.
- Check DeviceNet connection to the gateway.
- Check that it has software version 1.4 or higher.

If right connected to the DeviceNet bus the gateway MNS LED shall flash green.
This indicates that the device is connected to DeviceNet with correct bus speed and with a unique node (MAC) address.

After configuration of the bus with RSNetWorx for DeviceNet the gateway MNS indicator will be fixed green, which indicates that IO connection with the DeviceNet scanner (bus master).

2 RSNetWorx for DeviceNet

2.1 Open RSNetWorx for DeviceNet

Inside the Rockwell RSLogix 5000 under the DeviceNet scanner you can open the RSNetWorx for DeviceNet which is used to configure the DeviceNet bus.

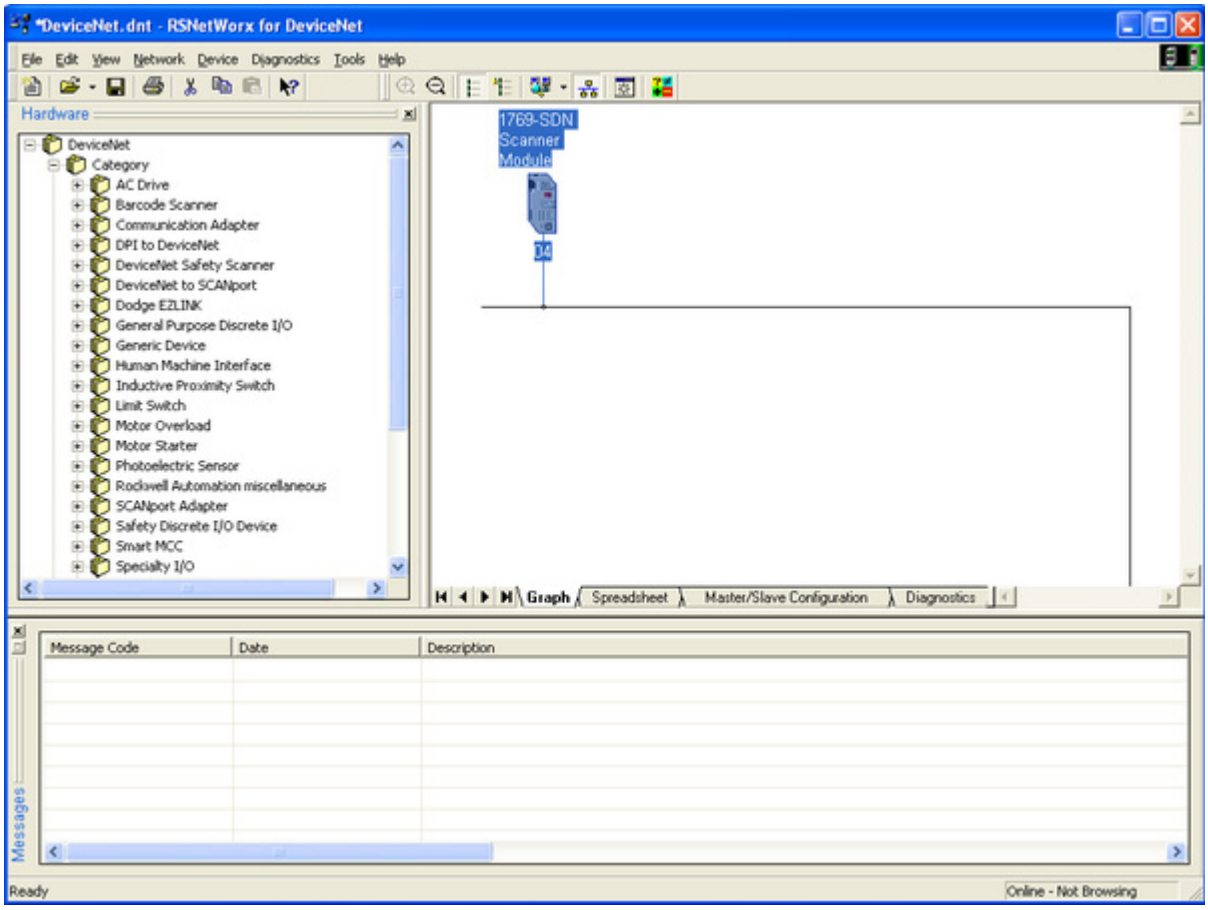


Figure 1

2.2 Install EDS file

Before doing anything we need to install the EDS file for the Pluto DeviceNet gateway. This is done by selecting “Tools” and “EDS Wizard…”.

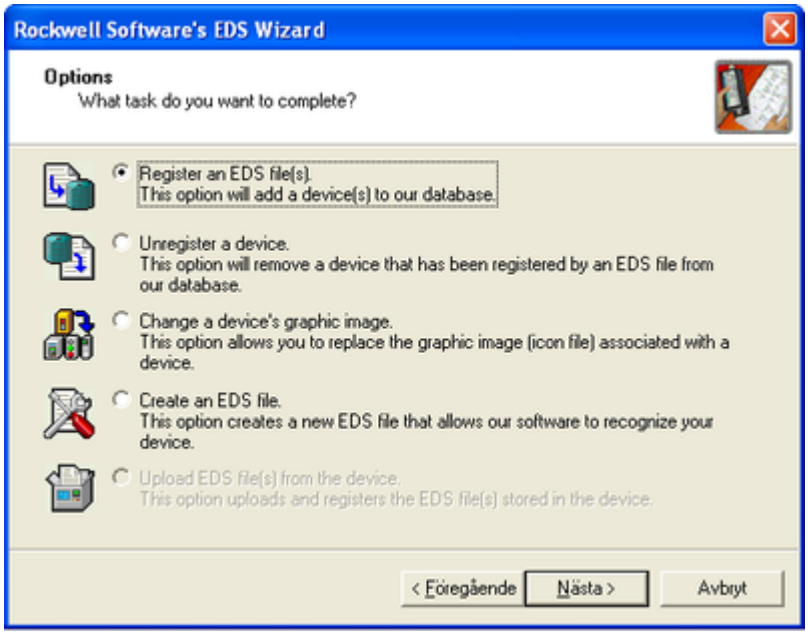


Figure 2

Select “Register an EDS file(s).” and press “Next”.

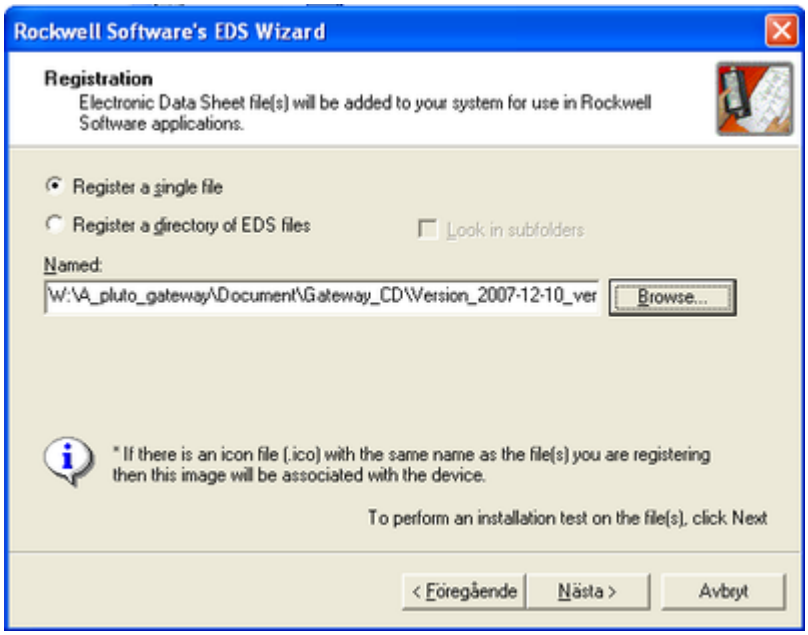


Figure 3

Select the file and finish the installation.

2.3 Install a gateway

Installing a gateway in the DeviceNet bus can be done online or offline. Normally it is easy to use the online mode there the system scans the system for all connected devices. Those devices not found with online mode can after this step be added in offline mode.

2.3.1 Online mode

Select “Network” and “Online” or press the  button.
After scan of the system, found devices will be shown in the network like below picture.

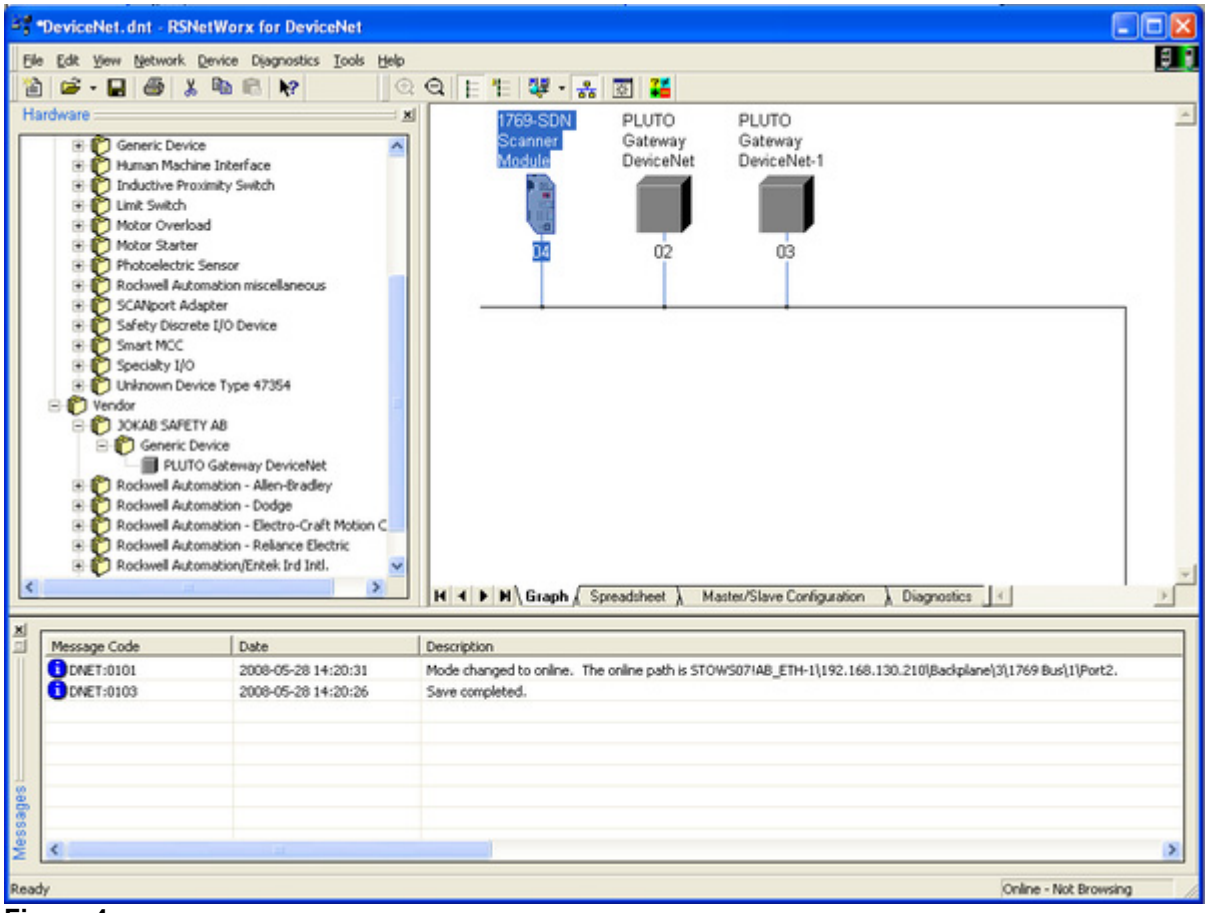


Figure 4

2.3.2 Offline mode

By selecting the JOKAB SAFETY gateway unit in the hardware tree it is possible to add new device on the bus without going online.

2.4 Scanner Configuration

Next step is scanner configuration. Double-click on the “1769-SDN Scanner Module” (or similar) to open the scanner configuration and press the “Scanlist” tab. You will be asked to upload/download/cancel by pressing the “Scanlist” tab. Normally the upload way is select.

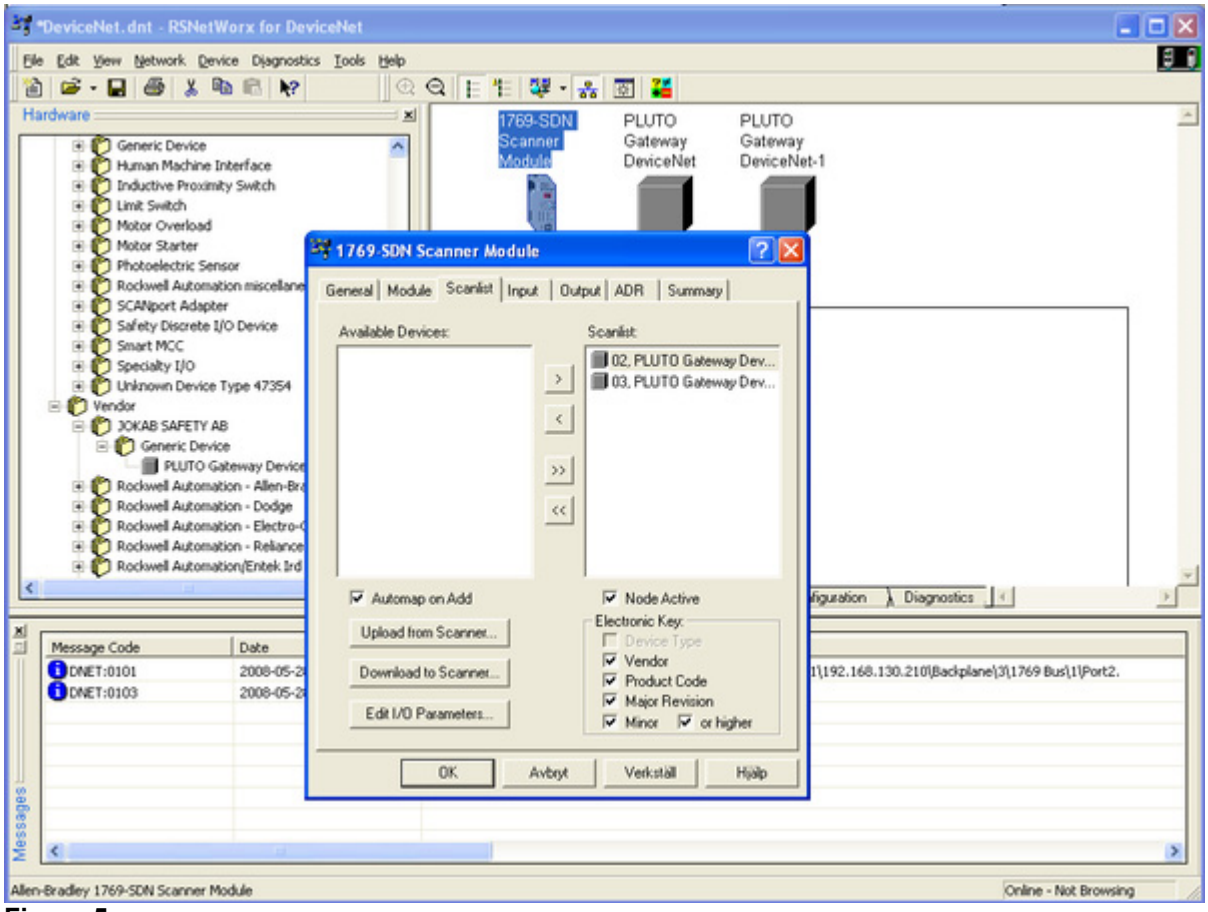


Figure 5

Add wanted devices to the scanlist as shown above.

2.4.1 I/O Parameter Configuration

For each unit it's now time to configure the I/O size. This is done by highlight the wanted device and press the "Edit I/O Parameters" button.

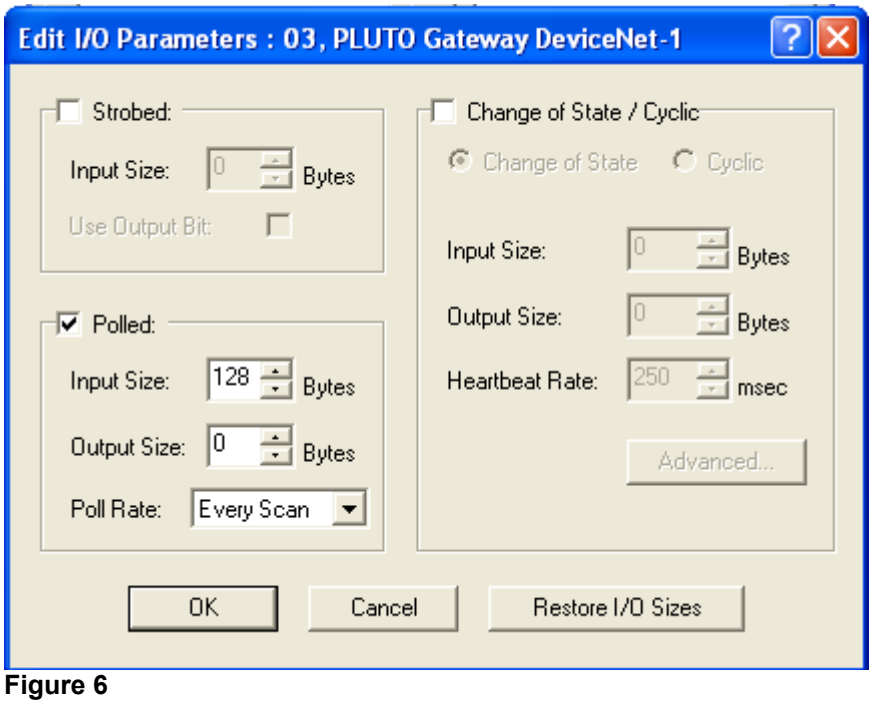


Figure 6

Input size is depending on input assembly instance (ID 3 in Figure 8) and the number of Pluto which is set by the expected nods (ID 1 in Figure 8) for the unit. Table below give a number for this setting. Note that the expected nods setting will give a amount of Pluto which shall be used in the table.

Amount of Pluto (ID 1 in Figure 8)	Input assembly instance (ID 3 in Figure 8)		
	Status Only	Data Only	Status and Data
0	4	0	4
1	4	4	8
2	4	8	12
3	4	12	16
4	4	16	20
5	4	20	24
6	4	24	28
7	4	28	32
8	4	32	36
9	4	36	40
10	4	40	44
11	4	44	48
12	4	48	52
13	4	52	56
14	4	56	60
15	4	60	64
16	4	64	68
17	4	68	72
18	4	72	76
19	4	76	80
20	4	80	84
21	4	84	88
22	4	88	92
23	4	92	96
24	4	96	100
25	4	100	104
26	4	104	108
27	4	108	112
28	4	112	116
29	4	116	120
30	4	120	124
31	4	124	128
32	4	128	132

Output size is depending on output assembly instance (ID 4 in Figure 8). Table below gives a number for this setting.

Output assembly instance	Output size (ID 4 in Figure 8)
No data to Pluto	0
Data to Pluto	24

2.4.2 I/O Verification

After the I/O confirmation of each device it is good to verify the input and output mapping by selecting the input and output tab of the “1769-SDN Scanner Module” window.

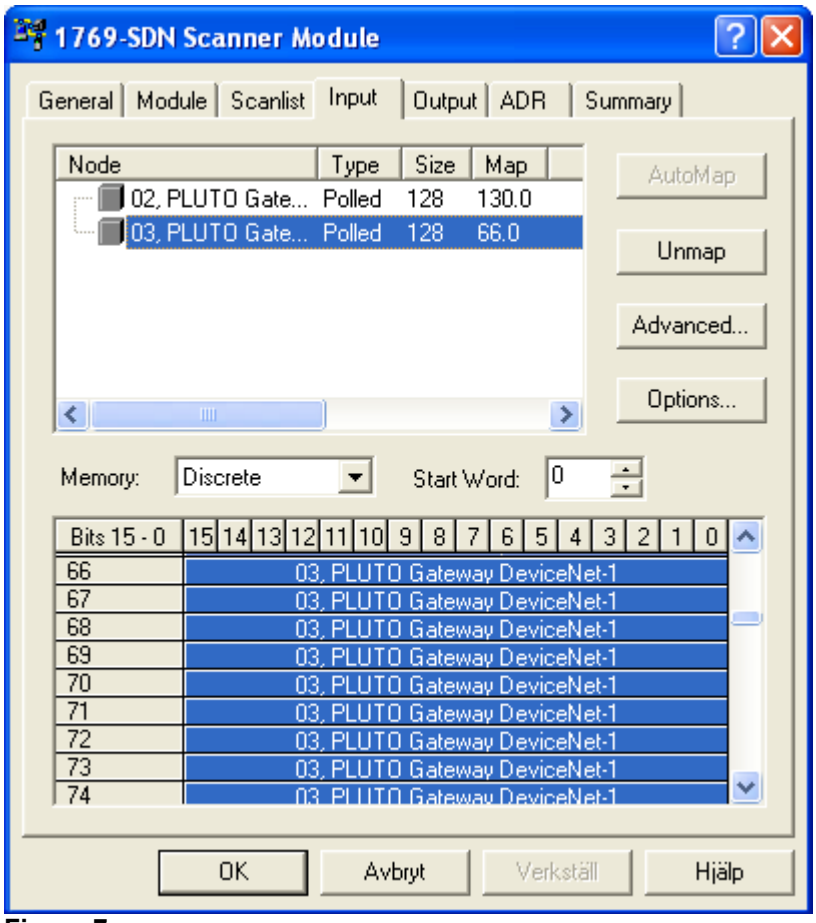


Figure 7

2.5 Device Configuration

Before leave the RSNetWorx for DeviceNet you may need to change the parameter for each device on the bus. By double-click on one of the device you will get a window with a tab named “Parameter”. Here you will find the unique parameters for each type of device.

For Pluto DeviceNet gateway you will find setting for “expected nodes”, “input assembly instance” and “output assembly instance”. If using “Data to Pluto” you must also “enable data to Pluto” and “Pluto timeout”. For more information see gateway manual and especially the EDS-file description for all details.

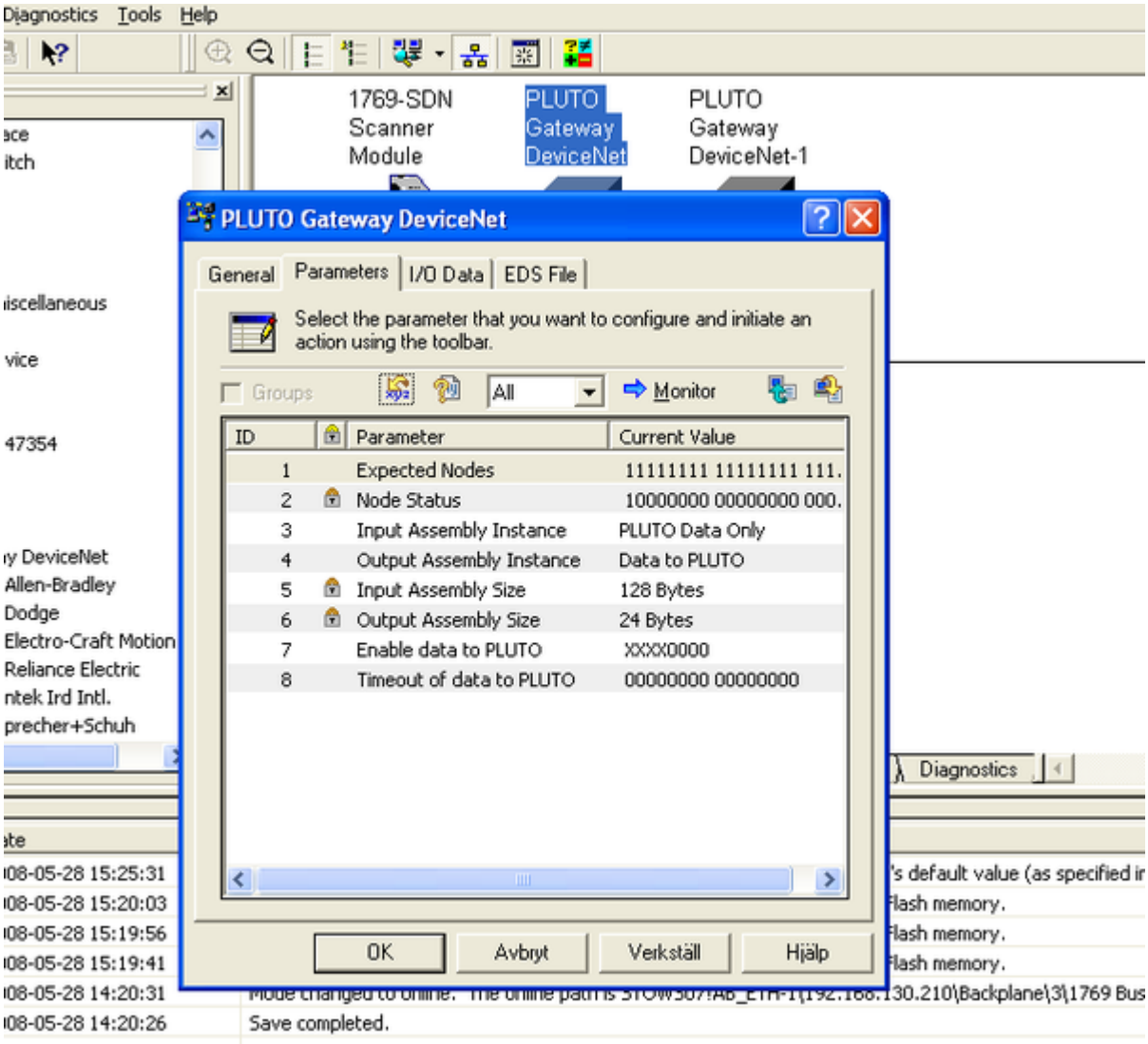

Diagnostics Tools Help
1769-SDN Scanner Module
PLUTO Gateway DeviceNet
PLUTO Gateway DeviceNet-1
PLUTO Gateway DeviceNet
General
Parameters
I/O Data
EDS File
Select the parameter that you want to configure and initiate an action using the toolbar.
Groups
All
Monitor
ID
Parameter
Current Value
1 Expected Nodes 11111111 11111111 111.
2 Node Status 10000000 00000000 000.
3 Input Assembly Instance PLUTO Data Only
4 Output Assembly Instance Data to PLUTO
5 Input Assembly Size 128 Bytes
6 Output Assembly Size 24 Bytes
7 Enable data to PLUTO XXXX0000
8 Timeout of data to PLUTO 00000000 00000000
OK
Avbryt
Verkställ
Hjälp
Diagnostics
08-05-28 15:25:31
08-05-28 15:20:03
08-05-28 15:19:56
08-05-28 15:19:41
08-05-28 14:20:31
08-05-28 14:20:26
Save completed.

Figure 8