

Pluto Gateway Rockwell PLC Integration Manual (RSNetWorx for DeviceNet)

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Hardware Har	
H ← H\Graph & Spreadsheet & Master/Slave Configuration & D	liagnostics
Message Code Date Description	
W	X
Ready	Online - Not Browsing

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
А	Pluto Gateway User Manual (PlutoGatewayManual-Eng-xx)

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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...".

Rockwell Software's EDS Wizard
Options What task do you want to complete?
Register an EDS file(s). This option will add a device(s) to our database.
C Unregister a device. This option will remove a device that has been registered by an EDS file from our database.
C Change a device's graphic image. This option allows you to replace the graphic image (icon file) associated with a device.
Create an EDS file. This option creates a new EDS file that allows our software to recognize your device.
Upload EDS file(s) from the device. This option uploads and registers the EDS file(s) stored in the device.
< <u>F</u> öregående <u>N</u> ästa > Avbryt

Figure 2

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

Rockwell Software's EDS Wizard	
Registration Electronic Data Sheet file(s) will be added to your system for use in Rockwell Software applications.	I)
Register a gingle file Register a girectory of EDS files <u>N</u> amed:	
W:\A_pluto_gateway\Document\Gateway_CD\Version_2007-12-10_ver	
* If there is an icon file (,ico) with the same name as the file(s) you are registering then this image will be associated with the device. To perform an installation test on the file(s), click	Next
< <u>F</u> öregående <u>N</u> ästa > Avb	eyt

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.



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Hardware	X 1769-SDN Scanner Module T769-SDN Scanner Module General Module	PLUTO PLUTO Gateway Gateway DeviceNet DeviceI	vy Vet-1
SCANport Adapter Sofety Discrete I/O Device Smart MCC Specialty I/O Discrete I/O Device Smart MCC Discrete I/O Device Sofety Device Discrete Type 47354 Orenor Sofety Device Discrete Device Dist	Available Devices:	Scanist 02, PLUTO Goteway Dev 03, PLUTO Goteway Dev	
Message Code Date DNET:0101 2008-05-2 CNET:0103 2008-05-2	Automap on Add Upload from Scannet Download to Scannet Edit I/O Parameters	Node Active Electronic Key: Device Type Vendor Product Code Major Revision Minor or higher	figuration Diagnostics I Diagn
saðesa	OK Avbryt	Verkställ Hjälp	
Allen-Bradley 1769-SDN Scanner Module			Online - Not Browsing

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.

Edit I/O Parameters : 03, PLUTO Gateway	y DeviceNet-1 👘 🛜 🔀
 Strobed: Input Size: Use Output Bit: Input Size: 128 → Bytes Output Size: 128 → Bytes Output Size: Poll Rate: Every Scan 	ge of State / Cyclic ange of State Cyclic ize: Bytes Size: Bytes eat Rate: 250 mmsec Advanced
OK Cancel	Restore I/O Sizes
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	Input assembly instance (ID 3 in Figure 8)			
(ID 1 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.

🛿 1769-SDN Scanner Module 🛛 🔹 💽
General Module Scanlist Input Output ADR Summary
Node Type Size Map 02, PLUTO Gate Polled 128 130.0 03, PLUTO Gate Polled 128 66.0
Advanced
Options
Memory: Discrete 💌 Start Word: 0 🐳
Bits 15 - 0 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 🔨
66 03, PLUTO Gateway DeviceNet-1
67 03, PLUTO Gateway DeviceNet-1
68 03, PLUTO Gateway DeviceNet-1
CONTRACT DI Contractional de la contraction
70 US, PLOTO Gateway DeviceNet-1
72 03, PLUTO Gateway DeviceNet-1
73 03, PLUTO Gateway DeviceNet-1
74 03 PLUTO Gateway DeviceNet-1 🗠
OK Avbryt Verkställ Hjälp

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.





Figure 8

