TURCK

Industrial Automation

# How to Replace a FDN20 Device

HOW TO

G1015
Revised 11/05/2013

# INTRODUCTION

The purpose of this document is to provide instructions for the replacement of a device on the DeviceNet™ network with the same device that has a different major firmware revision. The document also shows how to create a new configuration file and download data to the scanner. It is important to emphasize that:

- IO data map is not changed during this process
- IO data size and bit map stay the same

The only requirement is that the EDS files of all devices present on the network are available during service. The same procedure may be used for the replacement of any two devices of any manufacturer where the only difference between devices is the major firmware revision number.

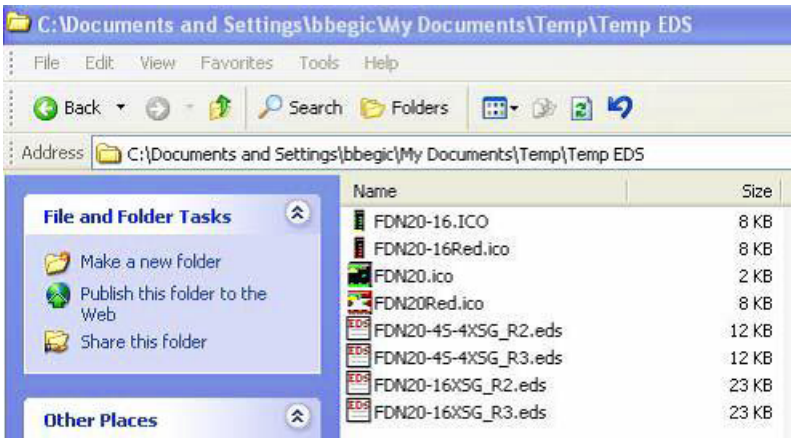
The replacement procedure described in this document is based on the example of swapping FDN20-4S-4XSG and FDN20-16XSG devices that have firmware revision 2.6 with the devices that have firmware revision 3.2 or greater. The tools used for network configuration are standard Rockwell Automation applications for DeviceNet network configuration: RSLinx™ and RSNetWorx™.

The replacement procedure includes following steps:

- Install EDS files and icons
- Save old configuration file
- Replace devices
- Power-up network
- Resolve device's mismatch
- Download new configuration
- Save new configuration file

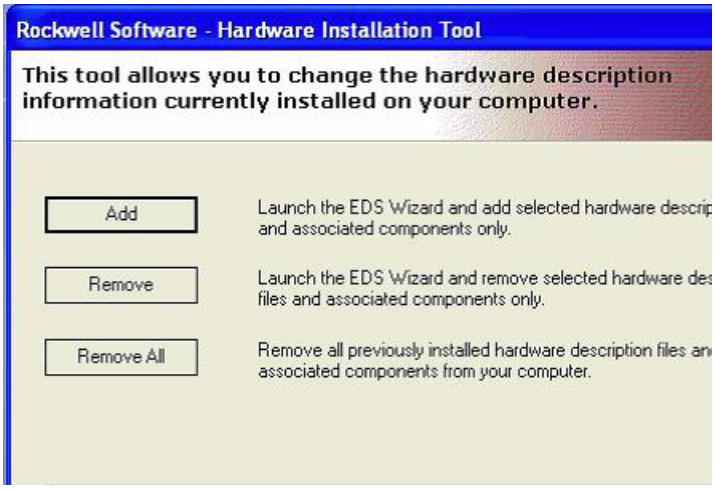
### *EDS files and icons*

EDS and icon files for the devices with firmware revision 2.x have been modified. These icons are shown in RED to make it easier to distinguish between the different revisions.




Installation of the EDS files is done using the standard "EDS Hardware Installation Tool" by Rockwell Software. Make sure that all Rockwell Software applications on your computer are closed before installing EDS files.

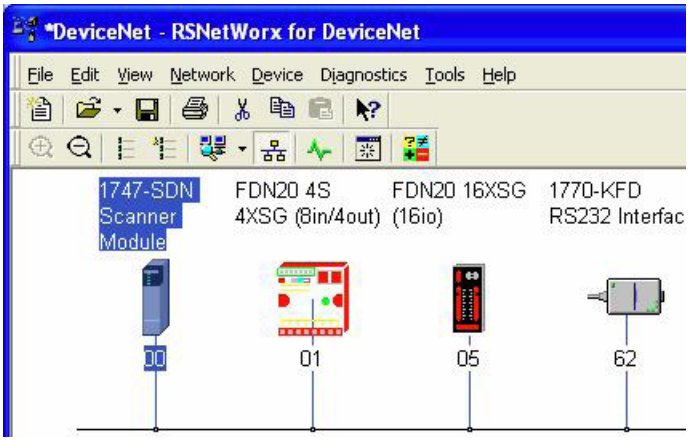
To start the EDS Hardware Installation Tool, select "Add" and follow program instruction:




RED icons indicate devices having firmware revision 2.
GREEN icons indicate devices having firmware revision 3.

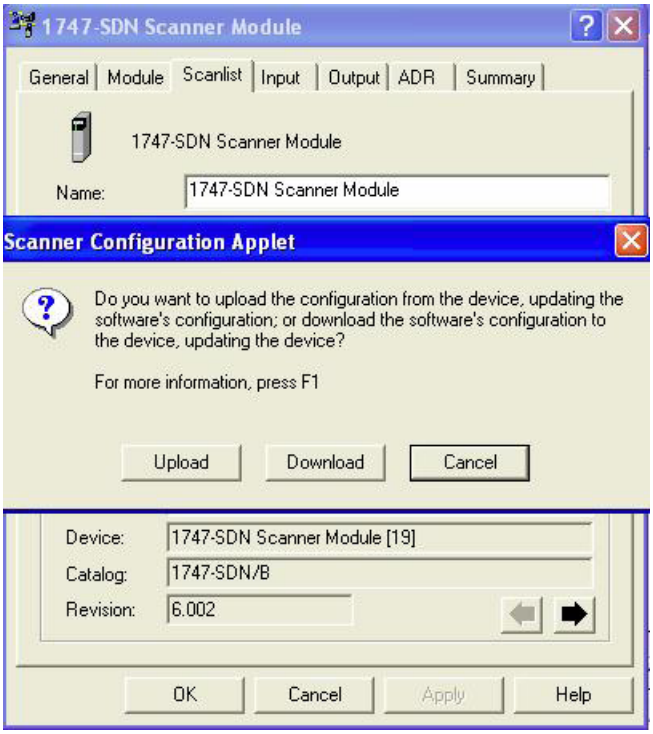

## SAVE OLD CONFIGURATION FILE

Start RSNetWorx, open new project and browse network. Nodes 1 and 5 will be replaced by the devices that have firmware revision 3.xxx.

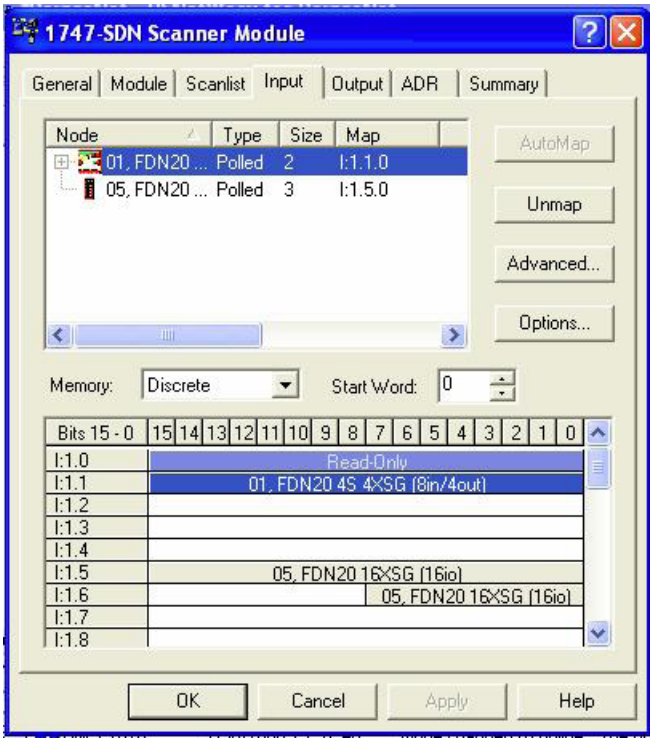


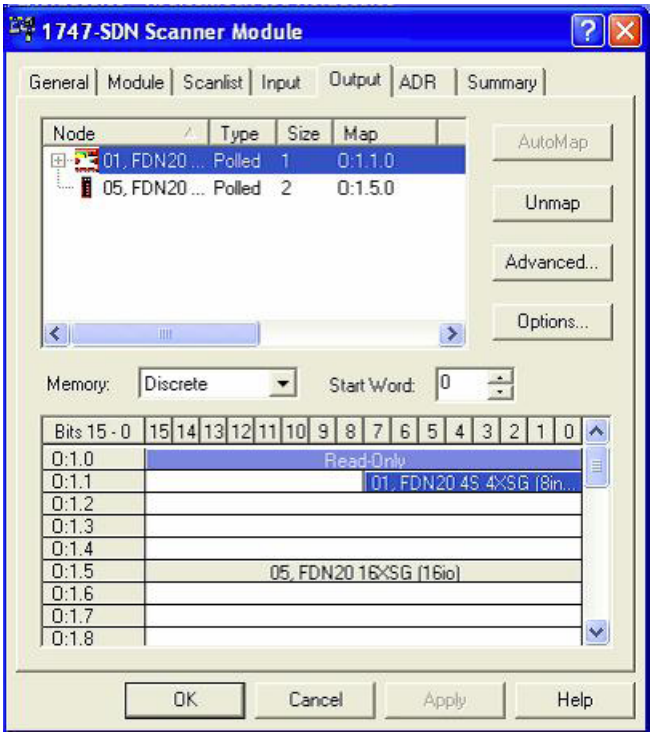
## UPLOAD SCANNER CONFIGURATION

Select the "Scanlist" tab of the scanner's properties window and upload the scanner's configuration:



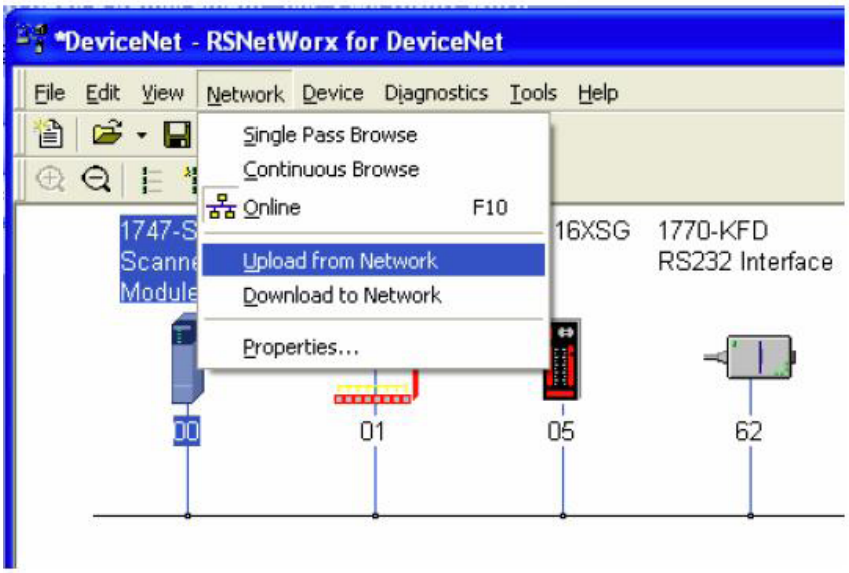

*Check input and output data maps. Do not change or modify any data.*

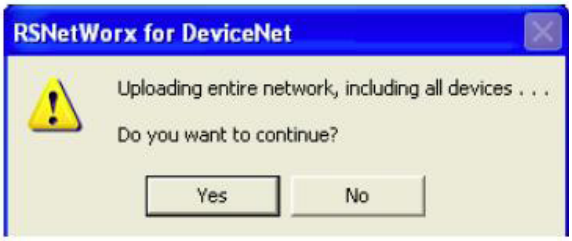


## UPLOAD DEVICE CONFIGURATION

Select "Upload from Network" menu function to upload all nodes identity information and current settings. "Upload from Network" will upload all device data that are defined by associated EDS to your application tool.



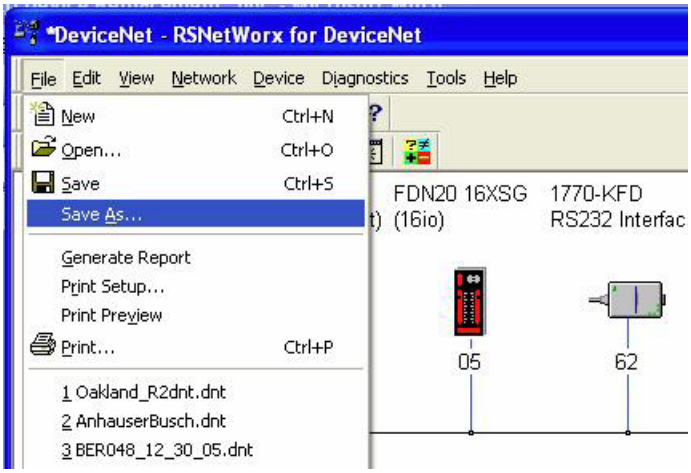




## SAVE CONFIGURATION FILE

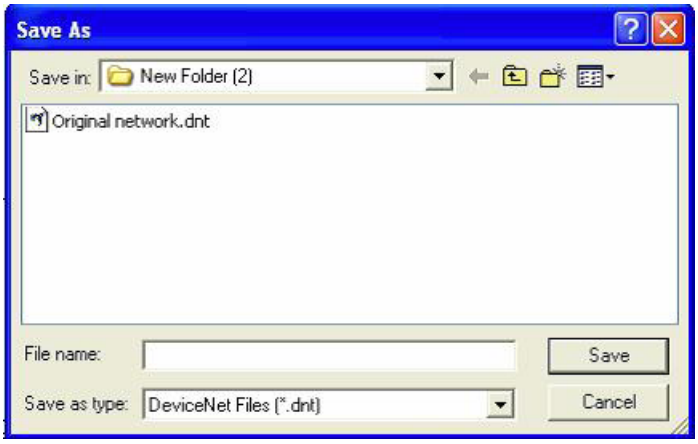
Use "Save As" function to save all configuration data into separate directory. This is your original network configuration file that includes:

- Scanner setup
- IO data map
- Device identity, associated parameters and electronic keys

The configuration file will be saved as:

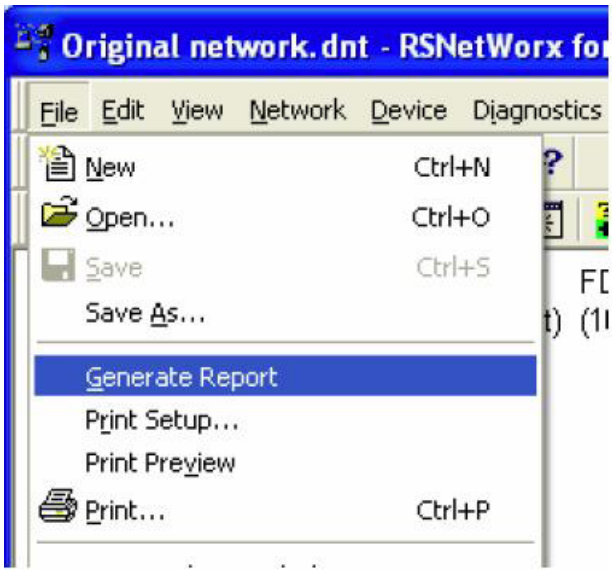


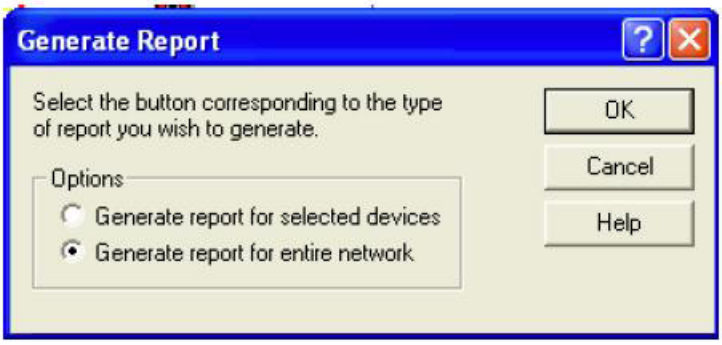

The configuration will be saved as:



## CREATE NETWORK REPORT

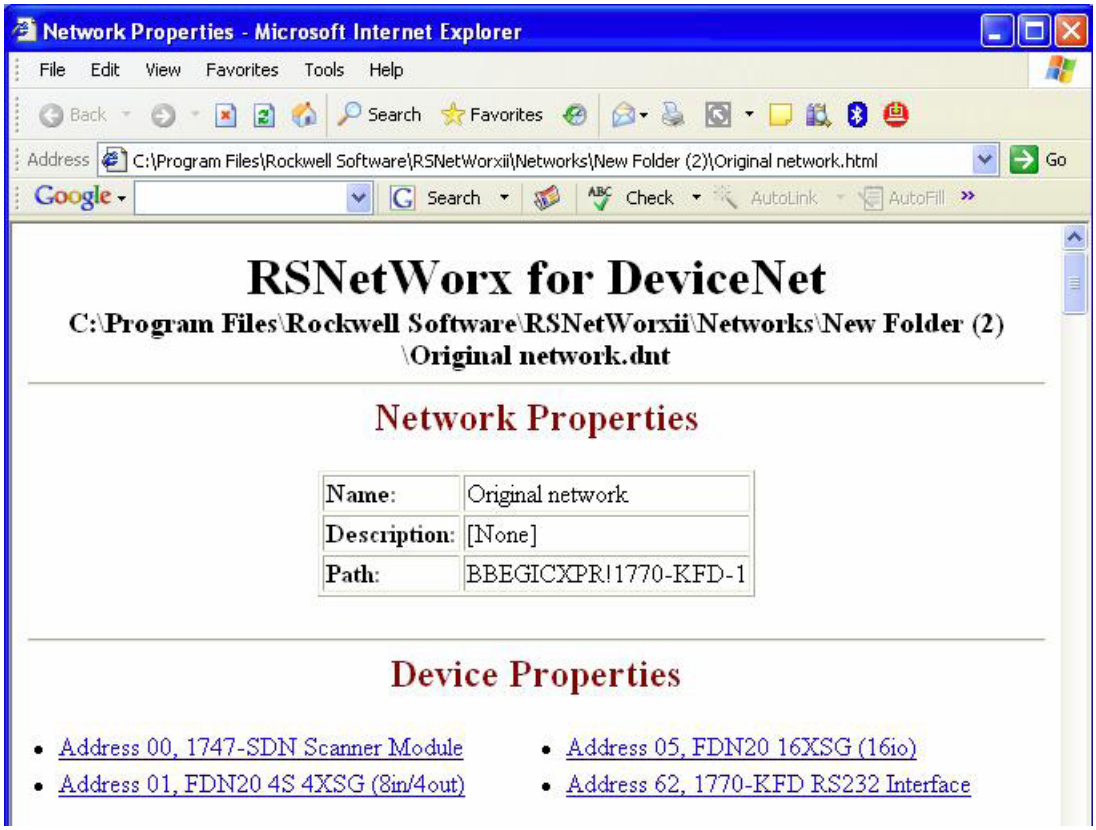
Create the network report for the entire network. It will provide a hard copy of all necessary configuration data in case of loss of the configuration file:




The network report provides information necessary for restoration of configuration file, such as:

- Scanner setup
- IO data maps
- Device identity and all parameters defined by EDS file



## DEVICE REPLACEMENT

Make a plan for device replacement. Network and product documentation must be available. Start replacement by closing Rockwell Software applications; put the controller in program mode, turn off DeviceNet power and place a label with the node address at each location where the replacement will take place. While swapping the device, make sure to set the proper node address and rewire all IO's per current project documentation (related mainly to FDN20-4S-4XSG). FDN20-16XSG has all IO's connectorized and it should not be any problem swapping the device. Once the devices are replaced, make sure that the network media is brought to its original state.

## NETWORK POWER-UP PROCEDURE

Make a plan for the network power-up. Verify that the scanner is set to program mode. You may power-up the entire network at once or a portion of network. The expected network behavior when all nodes are powered at once should be:

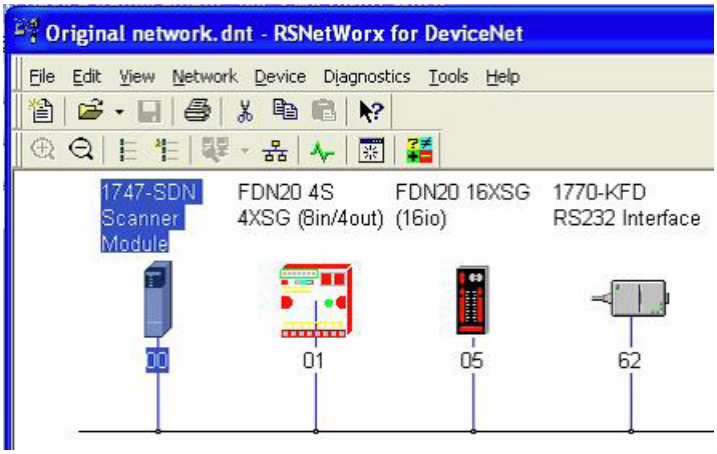
- All connected nodes will be allocated within a few seconds
- All FDN20-16XSG's MOD/NET LEDs should be solid GREEN
- No communication errors because DeviceNet connectors were not rewired

In case of communication errors which may be caused by miswiring of FDN-4S-4XSG, disconnect swapped nodes and then reconnect one by one. If the device is miswired, you will know immediately which one. Expected node behavior is:

- Solid GREEN MOD/NET LED means that node is allocated and works OK
- RED NET/MOD LED means duplicate node address detected i.e. node is set to wrong address
- Bus-off error on the scanner's display means miswiring problem on the device

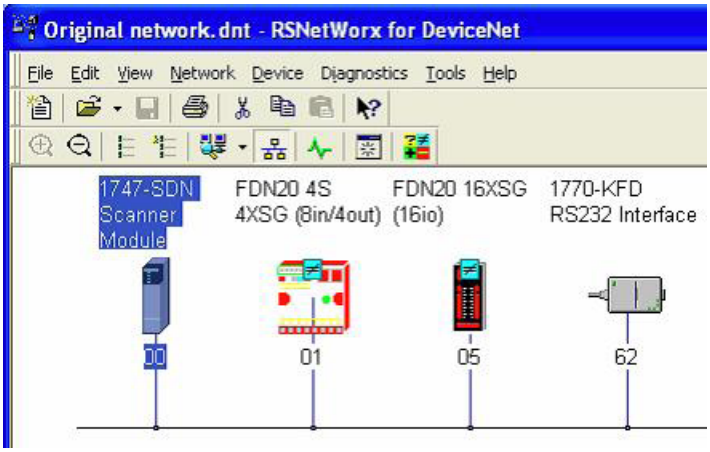
## RESOLVE DEVICE MISMATCH

When all nodes are connected and network communication has no errors, start RSNetWorx (do not go)

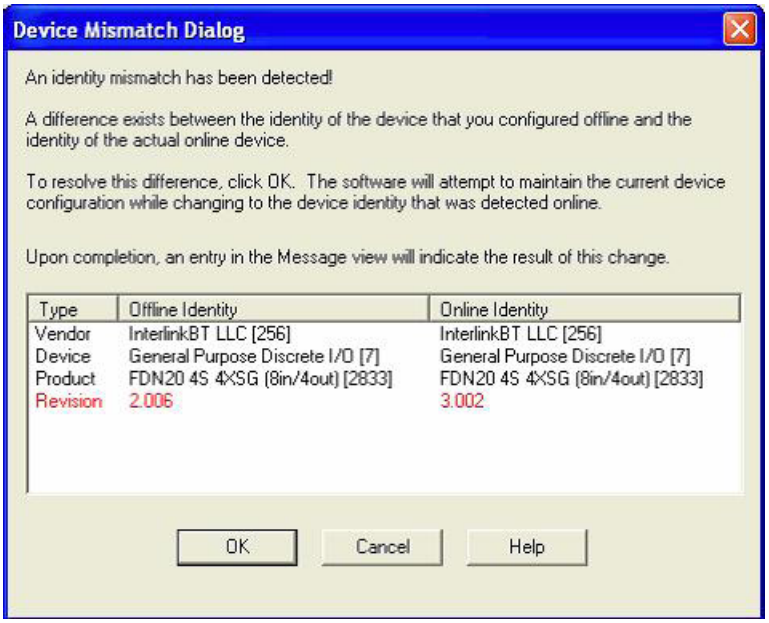


Go online


There will be device mismatch indicators on the swapped nodes:

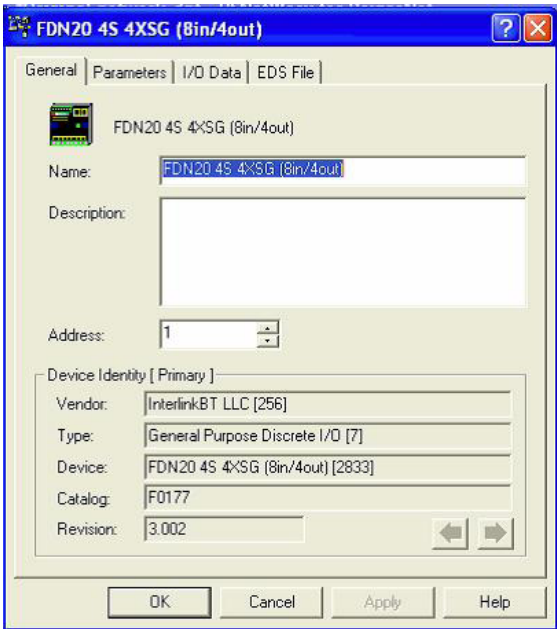



Double-click on the first device. "Device Mismatch Dialog" window appears. Click "OK" to resolve mismatch:

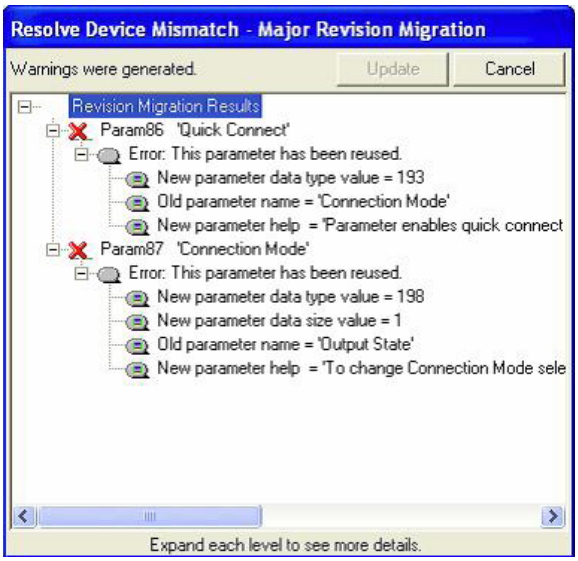



The result of mismatch resolution is displayed in the "Device Property" page. It means that RSNetWorx, or any other configuration tool, has updated device identity data in the configuration file. That file is not yet downloaded to the scanner.

Device mismatch resolution will sometimes result in additional warning messages that may be considered just a warning, as shown on the next figure.

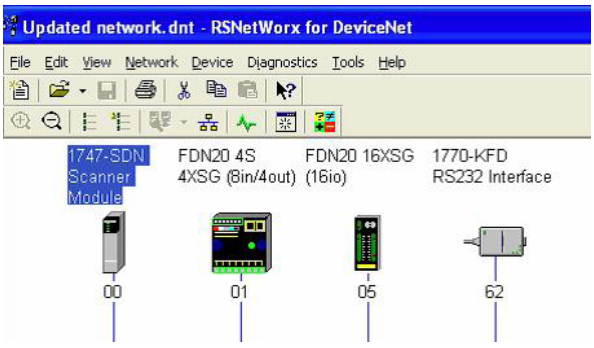



EDS files for different firmware revision of a device may contain different set of parameters and are not the same. The difference will be listed as follows:



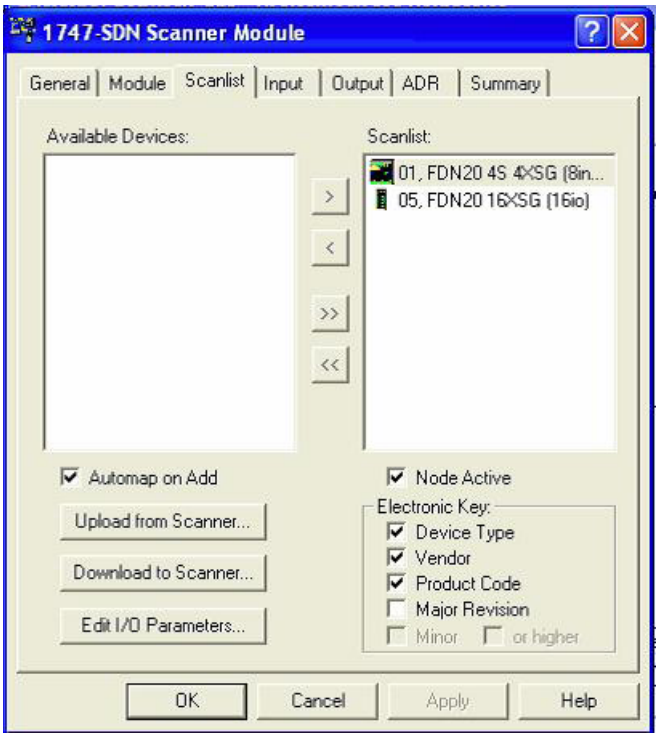

Click "CANCEL" to resolve the mismatch. Repeat the same procedure for each mismatched device.

New network configuration shows FDN20 devices that were replaced:



## DOWNLOAD NEW CONFIGURATION

Once the mismatch resolution phase is done for every replaced node on the network, the configuration data may be downloaded to the scanner. Notice that IO data has not been changed at any time during this procedure. Open "Scanlist" tab of the scanner's property page and download new configuration to the scanner.





## SAVE NEW CONFIGURATION

Upload device configuration from the network, the same way as it was done before. Go to file menu and "Save As" new configuration file as "Updated network" file. Create the network report for your records.