641M – DNP3

1. Introduction

1.1 Overview

This document contains information regarding the configuration and of Modbus to DNP3 on the Elpro 641M Ethernet Router.

This guide has been written for use by technically competent personnel with a good understanding of the communications technologies used in the product, and of the requirements for their specific application.

1.2 Compatibility

This application note applies to :

Models Shown: 641M series.

Firmware Version: V1.0.0 (903.0) or newer

1.3 Version

Updates between document versions are cumulative. Therefore, the latest document will include all the content of previous versions.

Release Date	Doc. Version	Firmware Version	Change Description
2020/07/17	V1.0.0	V1.1. 4 0c0c9fa	First released

1.4 Corrections

Appreciate for corrections or rectifications to this application note, and if any request for new application notes please email to: support@elpro.com.au

2. Topology

1. 641M Router is configured as a Modbus to DNP3 converter, it acts as a Modbus Master and a DNP3 Outstation.
2. A serial device support Modbus protocol and acts as Modbus Slave. It connected to 641M router via serial Ethernet port.
3. 641M router polls the Modbus data from end device (Modbus Slave), then sends the date to the remote DNP3 Master.
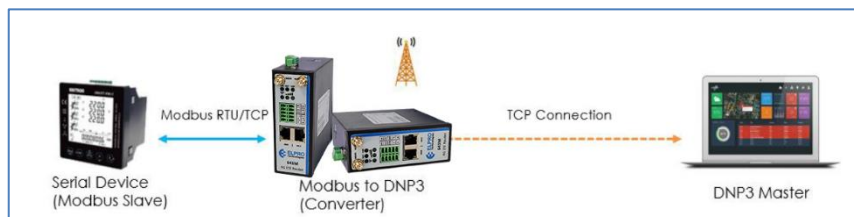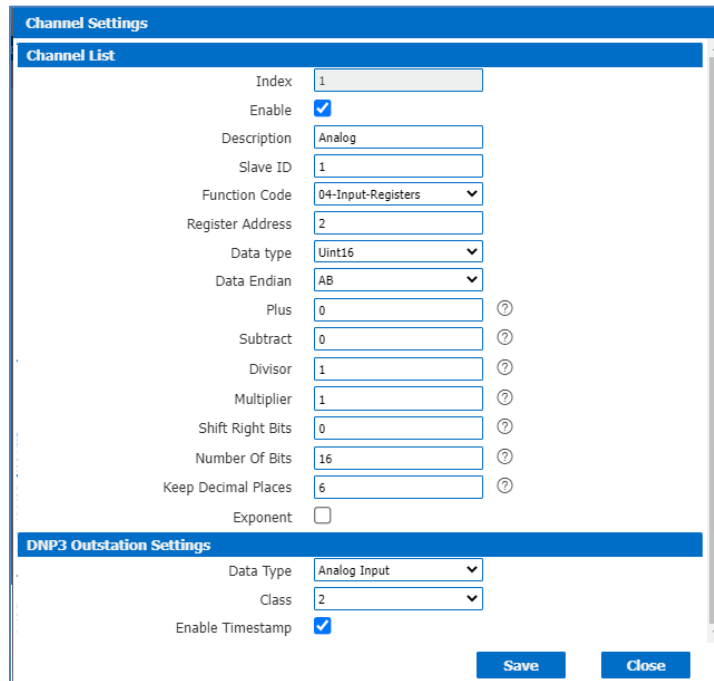
3. Configuration

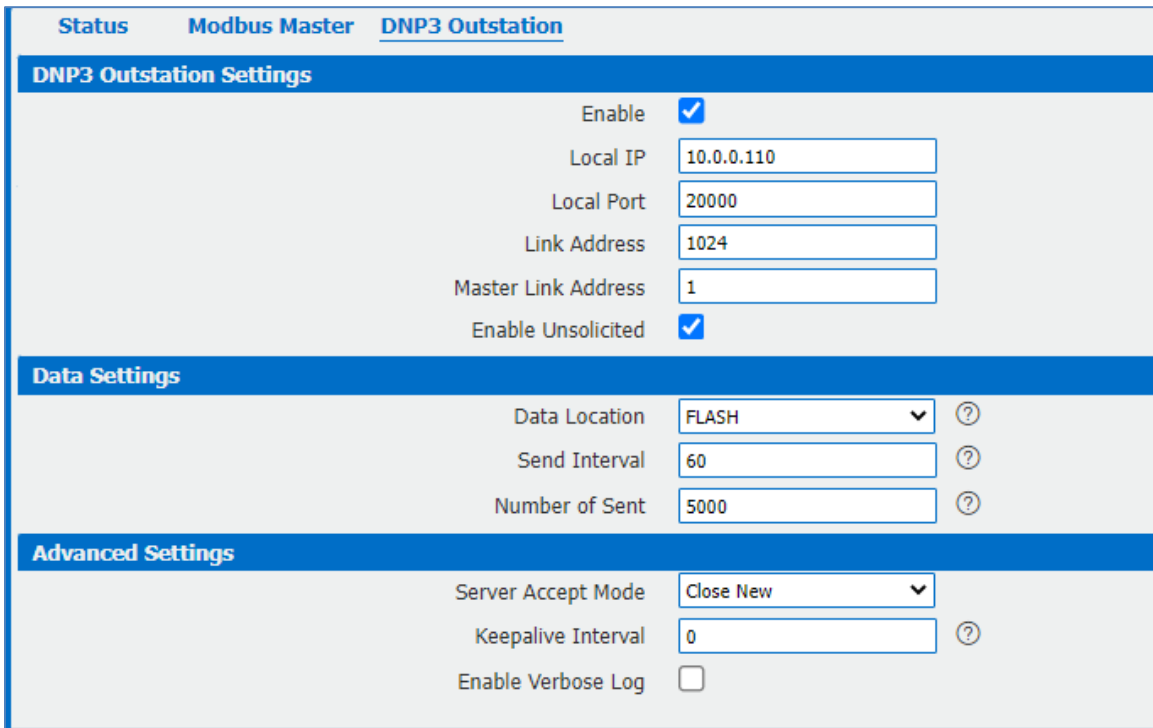## 3.1 Modbus Master Configuration

1. Go to **Applications/Modbus To DNP3/Modbus Master**, specify the connection settings you are using to connect to the Modbus Slave, in this example we are using TCP but you could use RS232 or RS485 serial interface:
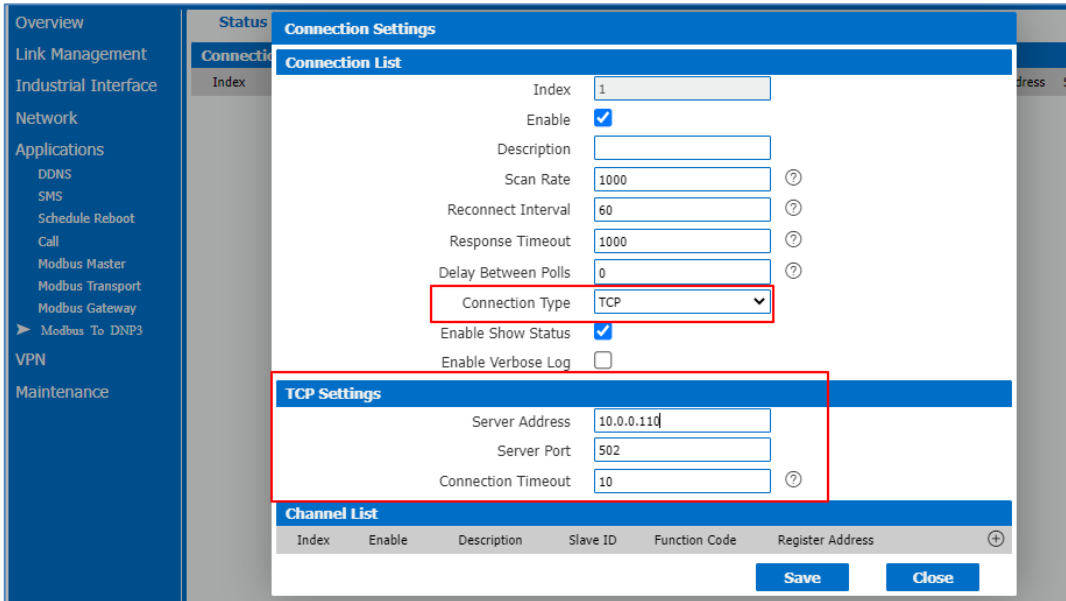
2. Go to **Applications/Modbus To DNP3/Modbus Master/Channel List**, specify the Modbus Master connection settings and the DNP3 data type:

3. Go to **Applications/Modbus To DNP3/DNP3 Outstation**, specify the DNP3 outstation settings like below:
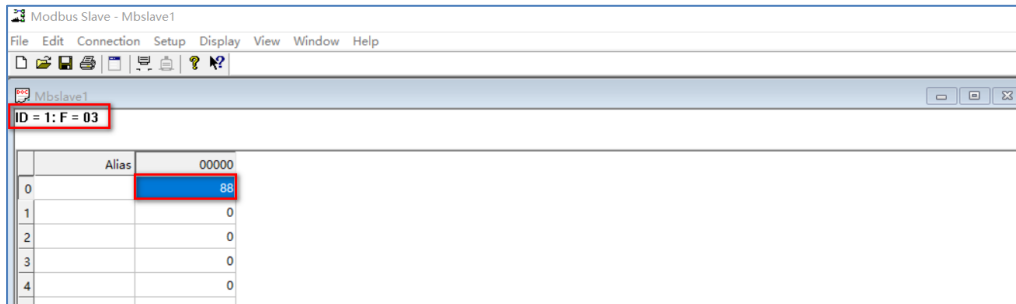
4. Click Save & Apply

3.2 Configuration of Modbus Slave.
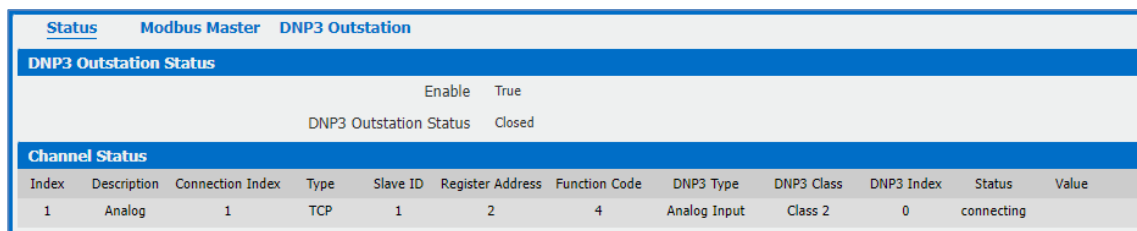
1. Set Slave ID as "1", Function Code of "03 Holding Registers" and enter a value of 88 into regater location 0.

2. 641M had polled the data from Modbus Slave successfully:

| Index	Description	Connection Index	Type	Slave ID	Register Address	Function Code	DNP3 Type	DNP3 Class	DNP3 Index	Status	Value
1	Analog	1	TCP	1	2	4	Analog Input	Class 2	0	connecting	

4. Testing

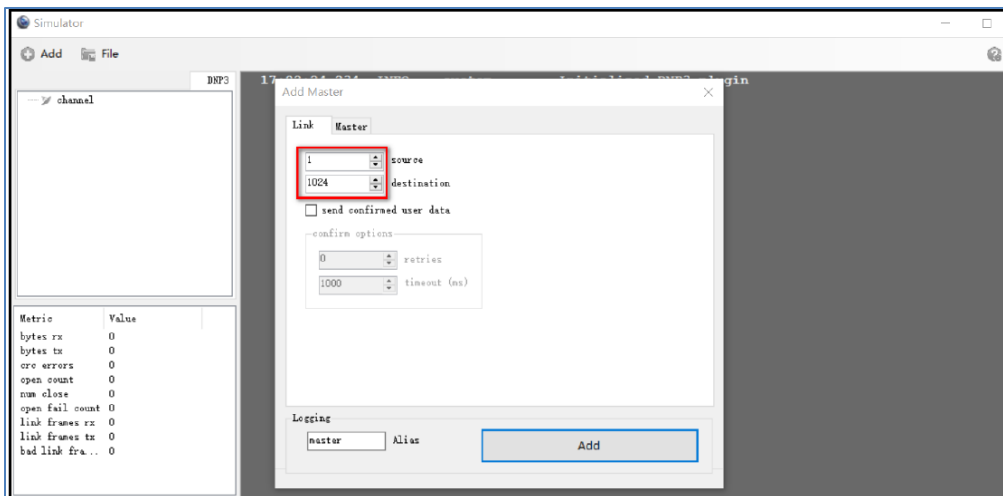Here used the DNP3 Simulator "OpenDNP3" to do the testing.

1. Run DNP3 simulator and enter the IP Address and P ort to make it connect to 641M(DNP3 Outstation):
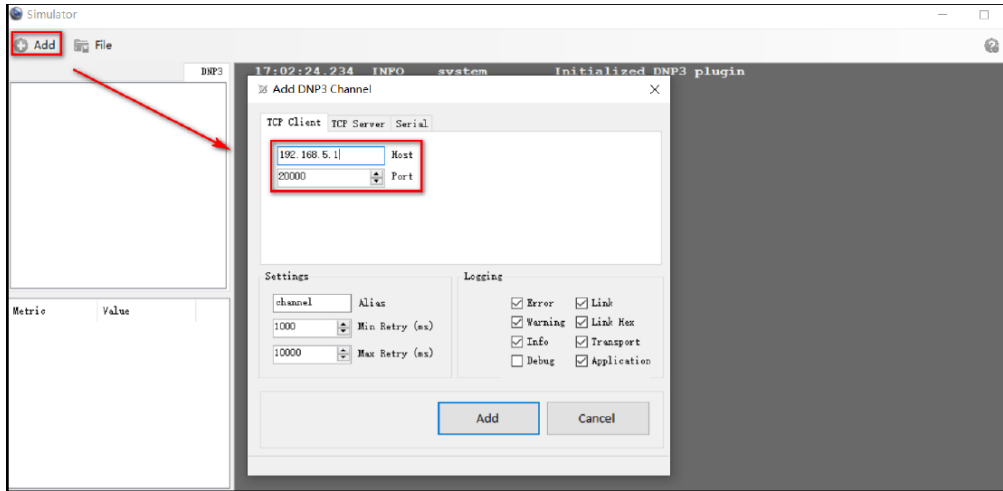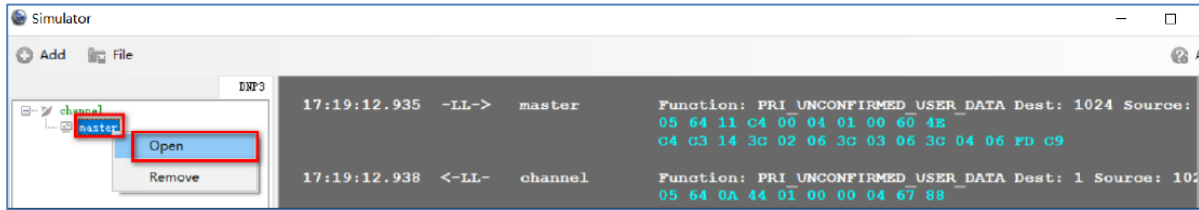

2. Right Click "channel", and Add Master:
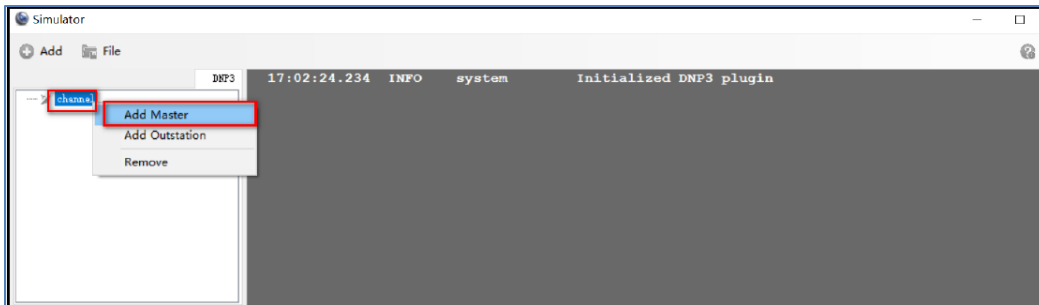
3. Specify the address on DNP3 Master, to make it match the settings on 641M (DNP3 Outstation).

4. Right Click "Master" and open it:

5. Select the data type as "Counter", then we can see the data had been sent to DNP3 Master from 641M (DNP3 Outstation) successfully: