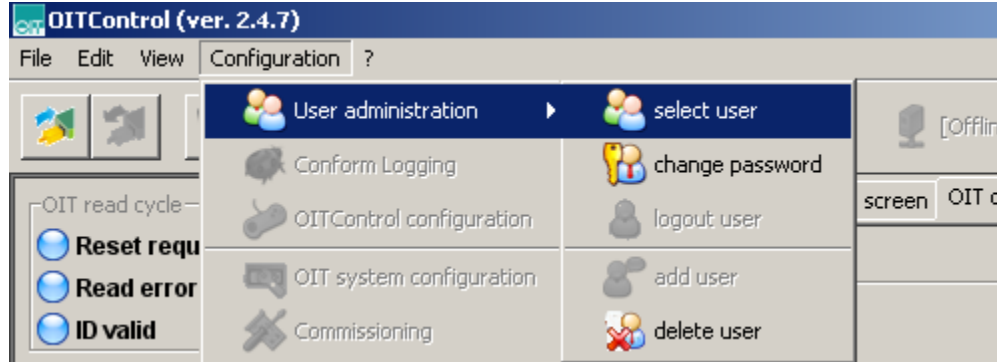
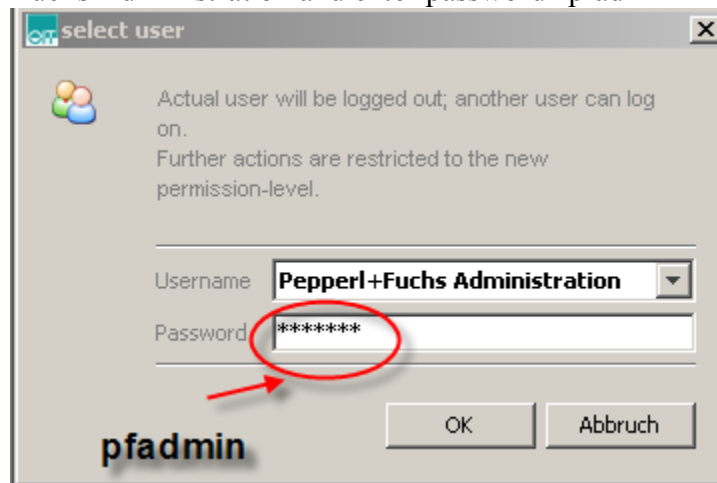


In the OITControl software, first logon as an administrator. Choose Configuration > User Administration > Select User.



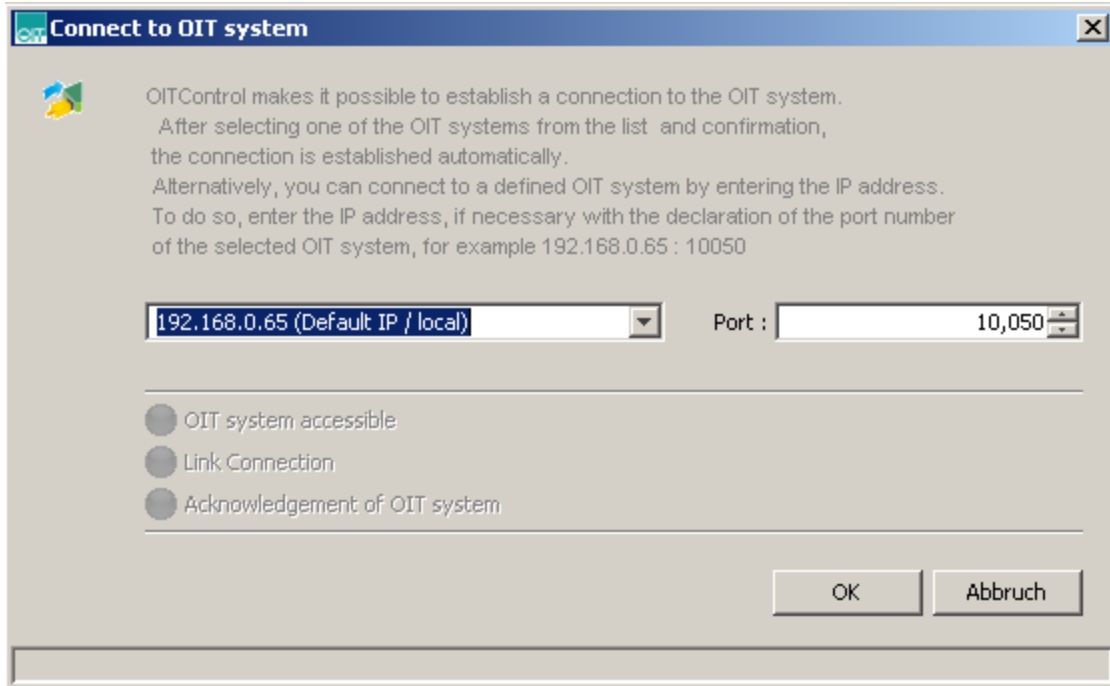
Choose Pepperl+Fuchs Administration and enter password “pfadmin”



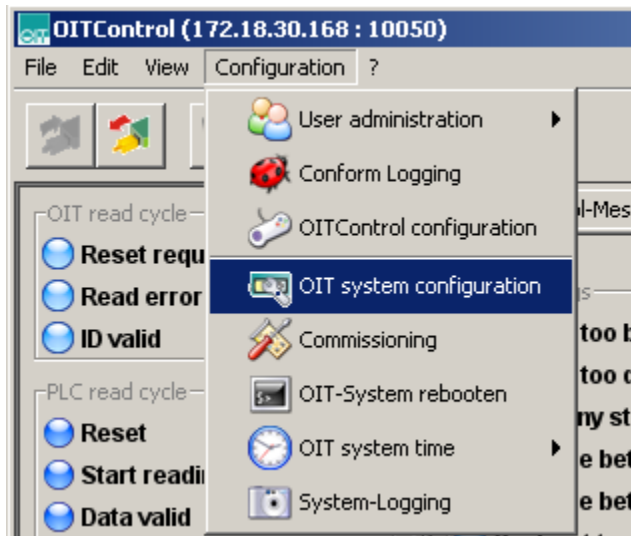
Now connect to the OIT500 using the File > Connect to OIT system.



Choose OK



To change the IP address go to the menu option Configuration > OIT system configuration.



Enter the new IP address, subnet mask, and gateway and press “Write parameter data”. Once you are done. Cycle power on the OIT500 and reconfigure your PC network settings. To verify that the OIT500 has the right IP address, ping the device from your command prompt.

```

C:\WINDOWS\system32\cmd.exe - ping 172.18.30.168
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

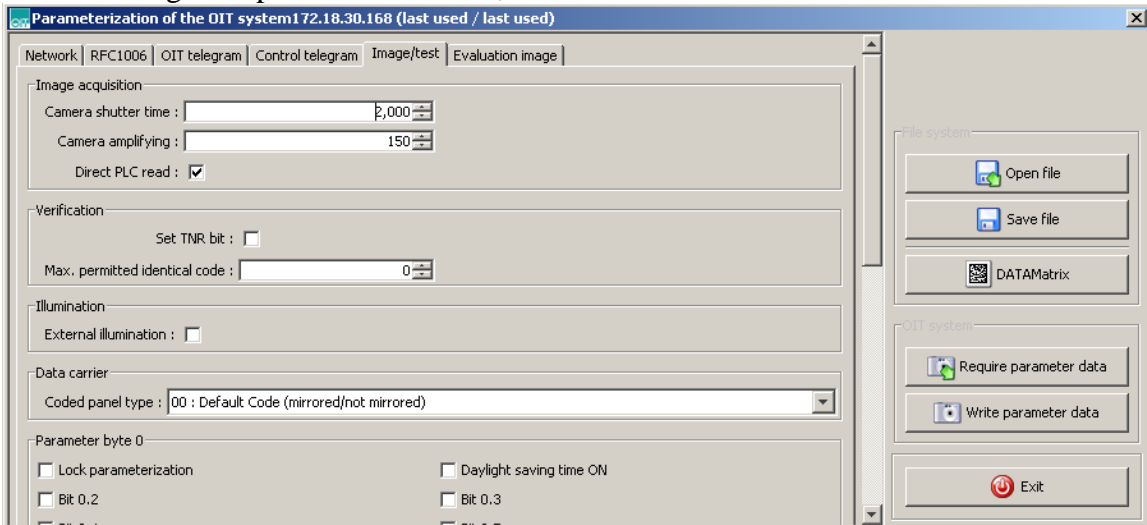
C:\Documents and Settings\tcicerchi>ping 172.18.30.168

Pinging 172.18.30.168 with 32 bytes of data:
Reply from 172.18.30.168: bytes=32 time<1ms TTL=64
Reply from 172.18.30.168: bytes=32 time<1ms TTL=64

```

Configure OIT500

The OITControl software can also be used for configuration. The only configuration parameters available are the camera shutter time and the camera gain. Use the default settings unless it is necessary to change them. This menu is in Configuration > OIT System Configuration > Image/test TAB. In this menu you can also write all of the system parameters and IP address configuration to a DATAMatrix code. This code can be used to configure replacement readers.,



The only other settings are on the OIT500 itself. The default distance from the code plate to the OIT500 face is 350mm ±50mm. If you want the code plate farther away or close then remove the cover and adjust the illumination slide bar. The camera does not need to be adjusted unless the image is out of focus. [See manual for details.](#)

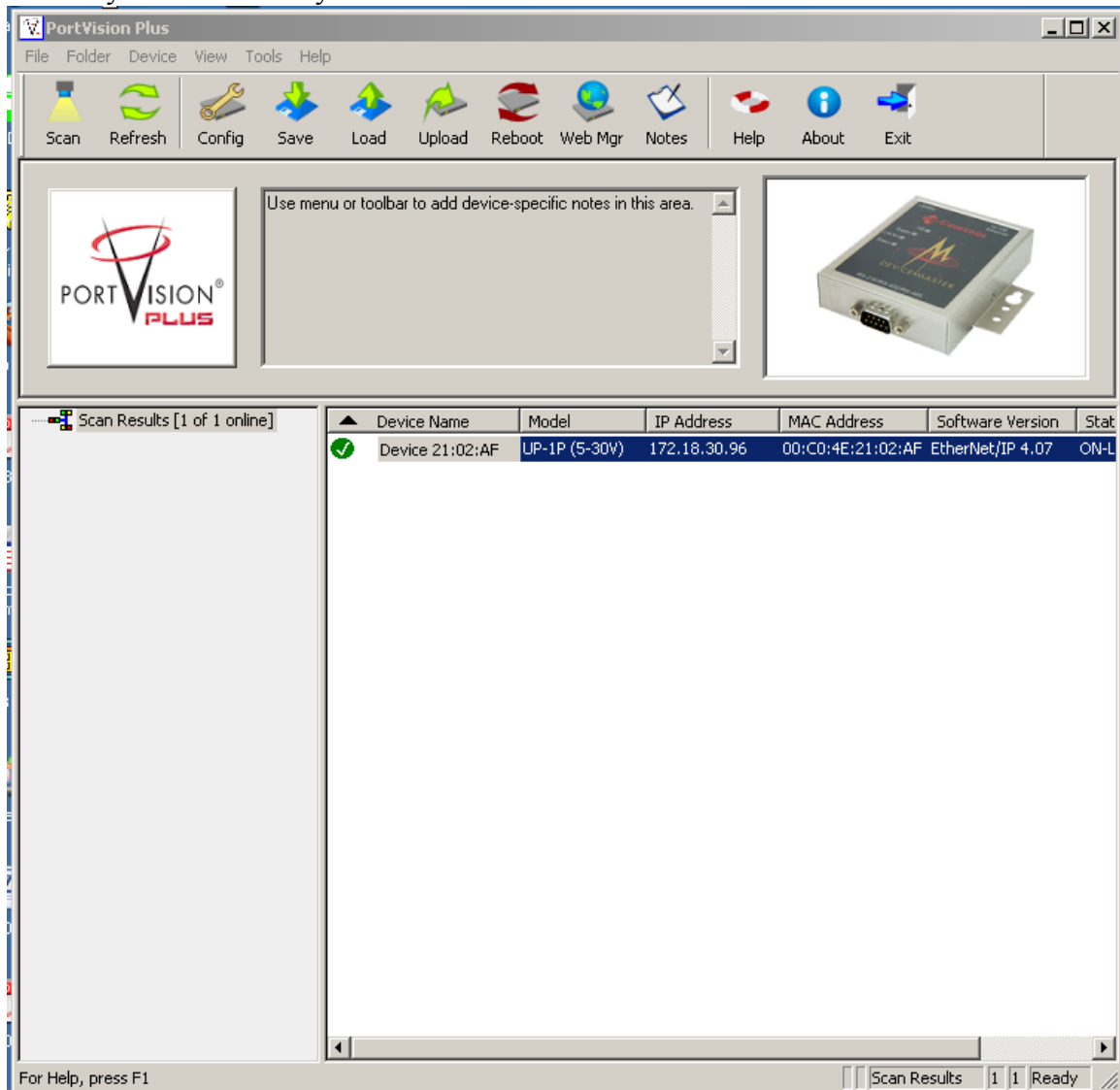
Configure RTS-UP-... Ethernet/IP adapter

Load Ethernet/IP firmware

The RTS-UP unit comes with socket server firmware. If you want other firmware for industrial busses like Ethernet/IP, PROFINET, or Modbus/TCP then download this firmware from our web site and send the firmware to the unit using PortVision.

[Download and install Portvision](#)

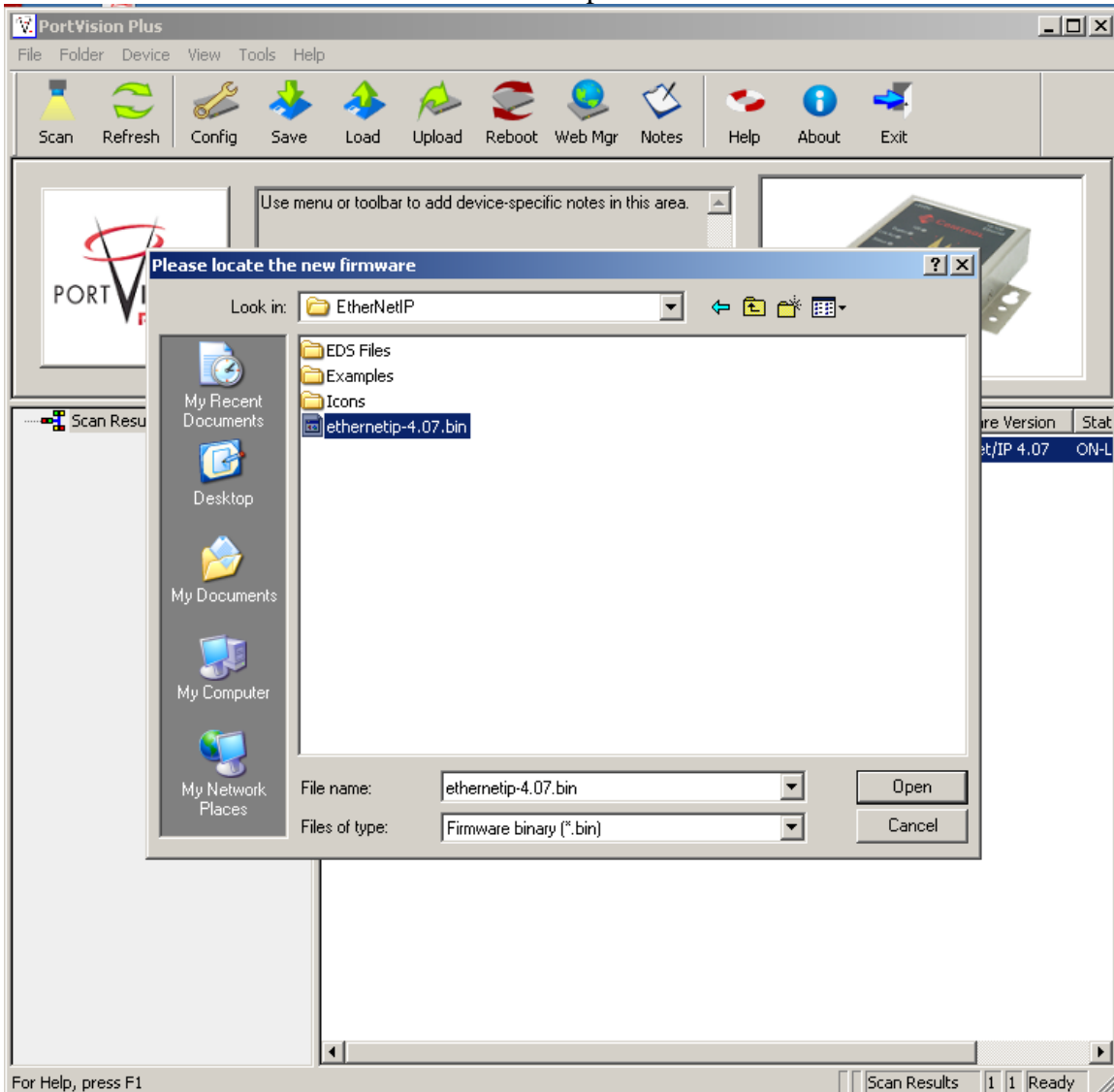
You may have to reboot your PC to see the RTS unit. Click “Scan”.



Scanning for RTS-UP... devices

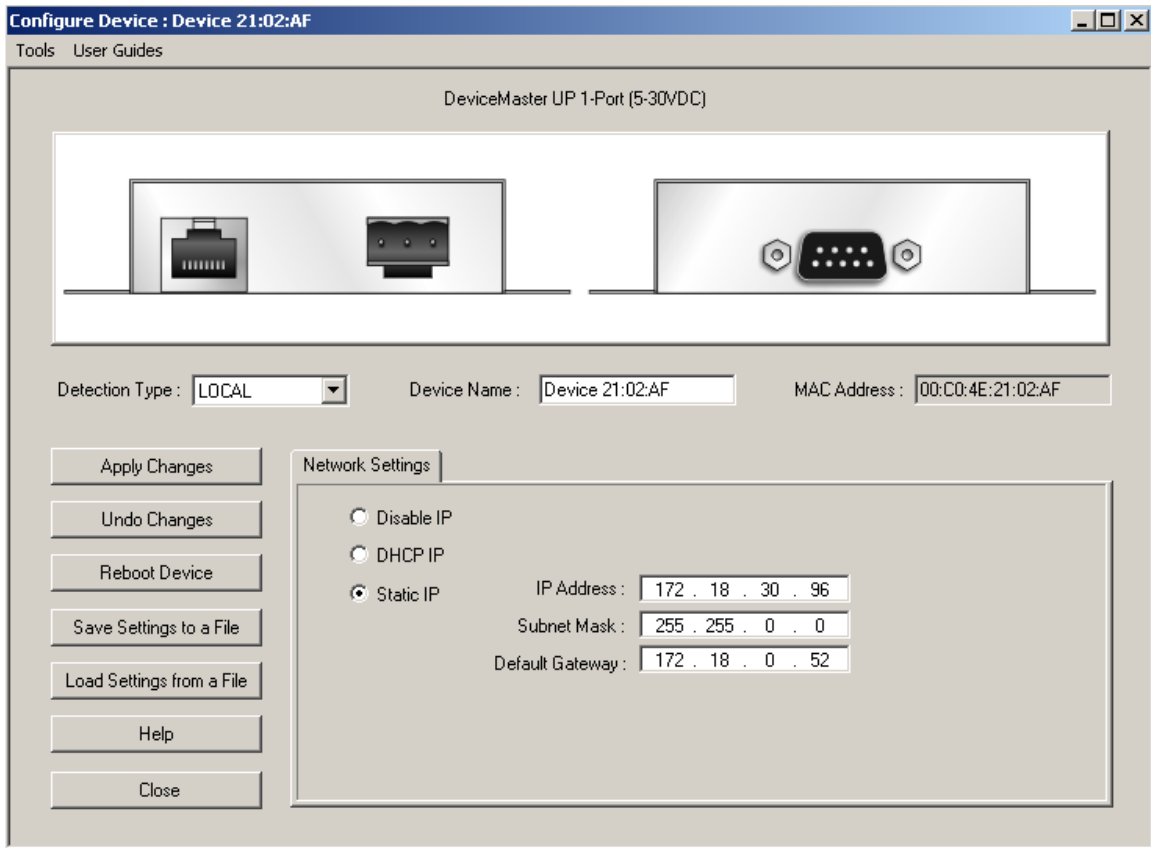
[Download the Ethernet/IP firmware](#)

If the Scan Results do not show a device with Ethernet/IP firmware; then highlight the device and go to the menu “Device > Upload Firmware” and update the RTS unit with the right firmware. When you install the Ethernet/IP firmware above the .bin file will be in the folder Control > Ethernet/IP > Ethernetip-x.xx.bin



Loading the Ethernet/IP firmware into the RTS-UP...

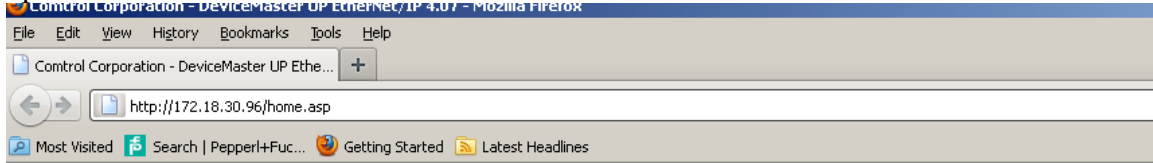
Using PortVision you can also double click on the scanned unit and configure the IP Address, subnet mask, and gateway.



IP address configuration screen for RTS-UP...

Configure the RTS and OIT to work together

Put the IP address of the RTS-UP... unit in a web browser. You will configure the rts-up... unit here.



Server Configuration

Software: EtherNet/IP 4.07
Serial Number: 9011 - 518
IP Config: Static
IP Address: 172.18.30.96
IP Netmask: 255.255.0.0
IP Gateway: 172.18.0.52

[Serial Device Configuration](#)
[Ethernet Device Configuration](#)
[Communication Statistics](#)
[Display Serial Logs](#)
[Display Ethernet Device Logs](#)
[PLC Interface Diagnostics](#)
[Configure Network](#)

Reboot



Go to Ethernet Device Configuration and open up socket 1. Make the configuration changes you see below. Some settings you will have to customize yourself.

Things you will need to know to make these settings:

- PLC IP address
- PLC controller slot number(Usually 0)
- Control tag variable, SINT array, where the read data will be placed. My example has a variable called OIT500[30] that is an SINT array.

Always connect duration

Device TCP Connection Configuration		
Enable:	<input checked="" type="checkbox"/>	Enable
Listen:	<input type="checkbox"/>	
Listen Port:	8000	
Connect To Mode:	Connect-Always	Always connect
Connect Port:	10100	
Connect IP Address:	172.18.30.168	OIT500 Easymode port
Disconnect Mode:	Never	
Idle Timer:	0 (msec)	Disconnect Never
Socket Packet ID Settings		
Rx Timeout Between Packets:	100 (ms)	
STX (Start of Transmission) Rx Detect:	one byte Byte 1: 35 Byte 2: (dec)	One prefix character # = 35decimal
ETX (End of Transmission) Rx Detect:	two bytes Byte 1: 13 Byte 2: 10 (dec)	Two Suffix characters carriage return = 13dec Line feed = 10dec
PLC Specific Settings		
STX (Start of Transmission) Tx Append:	none Byte 1: Byte 2: (dec)	
ETX (End of Transmission) Tx Append:	none Byte 1: Byte 2: (dec)	
Strip Rx STX/ETX:	<input type="checkbox"/>	
Application Specific Settings		
STX (Start of Transmission) Tx Append:	none Byte 1: Byte 2: (dec)	
ETX (End of Transmission) Tx Append:	none Byte 1: Byte 2: (dec)	
Strip Rx STX/ETX:	<input type="checkbox"/>	
EtherNet/IP Settings		
Rx (To PLC) Ethernet Transfer Method:	Write-to-Tag/File	Writes the OIT500 data directly to PLC memory
PLC IP Address:	172.18.30.7	PLC IP address
PLC Controller Slot Number (ControlLogix Family):	0	Slot the controller is in (Not the ethernet card)
Maximum PLC Update Rate (Write-To-Tag/File):	40 (msec)	
Maximum Rx Data Packet Size:	30 (bytes)	
Oversized Rx Packet Handling:	Truncate	
Rx (To PLC) Produced Data Tag/File Name:	OIT500	Variable Where the data will be placed in the PLC Must be type SINT
<small>Note: File names for SLC/PLC-5 must begin with a "\$" (i.e. \$N10:0). Note: File names for MicroLogix must begin with a "#" (i.e. #N10:0).</small>		
Tx Sequence Number Checking:	<input type="checkbox"/>	
Disable Non-Filtered To PLC Rx Queue:	<input type="checkbox"/>	
(PLC-5/SLC) Rx MS Byte First:	<input type="checkbox"/>	
(PLC-5/SLC) Tx MS Byte First:	<input type="checkbox"/>	
Filtering/Data Extraction Configuration		
To PLC Filter Mode:	Off	
To PLC Filter Options (RFID Only):	<input type="checkbox"/> Antenna <input type="checkbox"/> Filter Value <input type="checkbox"/> Serial Number	
To PLC Filter Options (RFID/Barcode):	<input type="checkbox"/> Company <input type="checkbox"/> Product/Location <input type="checkbox"/> Encoding/Numbering	
To Application Filter Mode:	Off	
To Application Filter Options (RFID Only):	<input type="checkbox"/> Antenna <input type="checkbox"/> Filter Value <input type="checkbox"/> Serial Number	
To Application Filter Options (RFID/Barcode):	<input type="checkbox"/> Company <input type="checkbox"/> Product/Location <input type="checkbox"/> Encoding/Numbering	
RFID Antenna Grouping:	None	
RFID Reader Interface Type:	Unspecified	
Barcode UPC/EAN Standard 12-14 Digit Format:	None	
Barcode UPC/EAN Eight Digit Format:	None	
Filter Age Time (Time filtered after last read):	0 (min) 0 (sec) 100 (msec)	
Discard Unrecognized Data (RFID/Barcode):	Off	

Port configuration screen for RTS-UP...

Once all settings have been made, choose "Submit" at bottom of page. Wait for unit to reboot.

How will you know it is working?

Go back to the web configuration screen of the RTS-UP... unit and now go to the PLC Interface Diagnostics screen. Hardware trigger the OIT500. Refresh screen and the "Messages/Responses Sent to PLC" will count up on the PLC Interface Diagnostics screen. Also at the bottom you will see "No Error Detected"

PLC Interface Diagnostics

[Server Configuration Home](#)

[Serial Device Configuration](#)

[Ethernet Device Configuration](#)

[Communication Statistics](#)

[Display Serial Logs](#)

EtherNet/IP Interface Statistics	<input type="button" value="Reset Statistics"/>
Messages/Responses Received From PLC:	3
Broadcasts Received From PLC:	0
Messages/Responses Sent To PLC:	3
Request Messages From PLC:	0
Bad Responses to Msgs Sent To PLC:	0
Invalid Network Path Errors:	0
No Response From PLC Errors:	0
Pending Request Limit Errors:	0
Unexpected Event Errors:	0
Unsupported CIP Request Instance Errors:	0
Unsupported CIP Request Service Errors:	0
Unsupported CIP Request Class Errors:	0
Unsupported CIP Request Attribute Errors:	0
Improper Configuration Errors:	0
Invalid Message Data Errors:	0
System Resource Errors:	0
Oversized Received Data Packet Errors:	0
Writes To Offline Ethernet Device on Socket1:	0
First Error Description:	No Error Detected

In the PLC the data will also appear. Make the size of the variable in the PLC 30. Or SINT[30]

...

The amount of data from the OIT500 will always be exactly 14 bytes. There will be a four byte header in the PLC that will be used by your PLC program to figure out when new messages arrive. Your program should look for the counter

See below what the tag data will look like in the PLC.

-OIT500	{...}	ASCII	SINT[30]
+ OIT500[0]	12	Decimal	SINT
+ OIT500[1]	0	Decimal	SINT
+ OIT500[2]	14	Decimal	SINT
+ OIT500[3]	0	Decimal	SINT
+ OIT500[4]	'#'	ASCII	SINT
+ OIT500[5]	'0'	ASCII	SINT
+ OIT500[6]	'0'	ASCII	SINT
+ OIT500[7]	'0'	ASCII	SINT
+ OIT500[8]	'0'	ASCII	SINT
+ OIT500[9]	'2'	ASCII	SINT
+ OIT500[10]	'2'	ASCII	SINT
+ OIT500[11]	'\$00'	ASCII	SINT
+ OIT500[12]	'\$00'	ASCII	SINT
+ OIT500[13]	'\$00'	ASCII	SINT
+ OIT500[14]	'\$00'	ASCII	SINT
+ OIT500[15]	'#'	ASCII	SINT
+ OIT500[16]	'\$r'	ASCII	SINT
+ OIT500[17]	'\$1'	ASCII	SINT

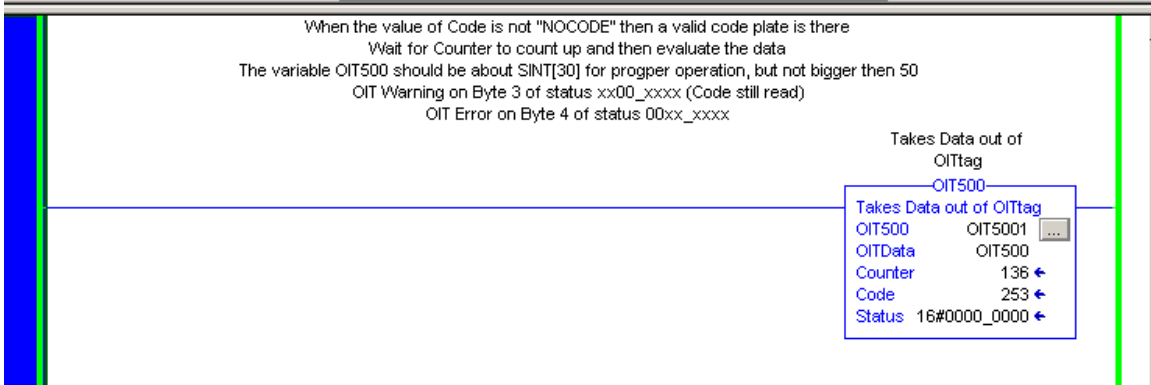
Reply counter
 Received Length
 Code
 Status
 Checksum
 Suffix

Response when code is present

-OIT500	{...}	ASCII	SINT[30]
+ OIT500[0]	13	Decimal	SINT
+ OIT500[1]	0	Decimal	SINT
+ OIT500[2]	14	Decimal	SINT
+ OIT500[3]	0	Decimal	SINT
+ OIT500[4]	'#'	ASCII	SINT
+ OIT500[5]	'N'	ASCII	SINT
+ OIT500[6]	'0'	ASCII	SINT
+ OIT500[7]	'R'	ASCII	SINT
+ OIT500[8]	'E'	ASCII	SINT
+ OIT500[9]	'A'	ASCII	SINT
+ OIT500[10]	'D'	ASCII	SINT
+ OIT500[11]	'\$00'	ASCII	SINT
+ OIT500[12]	'\$00'	ASCII	SINT
+ OIT500[13]	'\$00'	ASCII	SINT
+ OIT500[14]	'3'	ASCII	SINT
+ OIT500[15]	'\$03'	ASCII	SINT
+ OIT500[16]	'\$r'	ASCII	SINT
+ OIT500[17]	'\$1'	ASCII	SINT

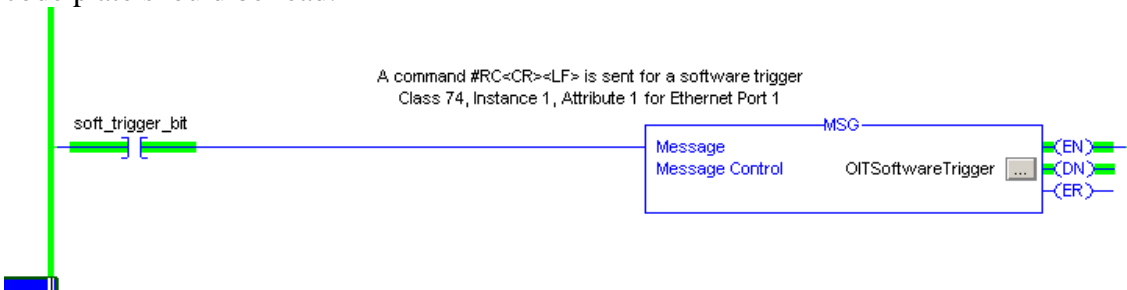
Response when no code is there

An Add-on instruction is also available. The instruction takes the 18 character string and breaks the data up into a counter, code, and status. The code is also converted from an ASCII string to a Double integer.

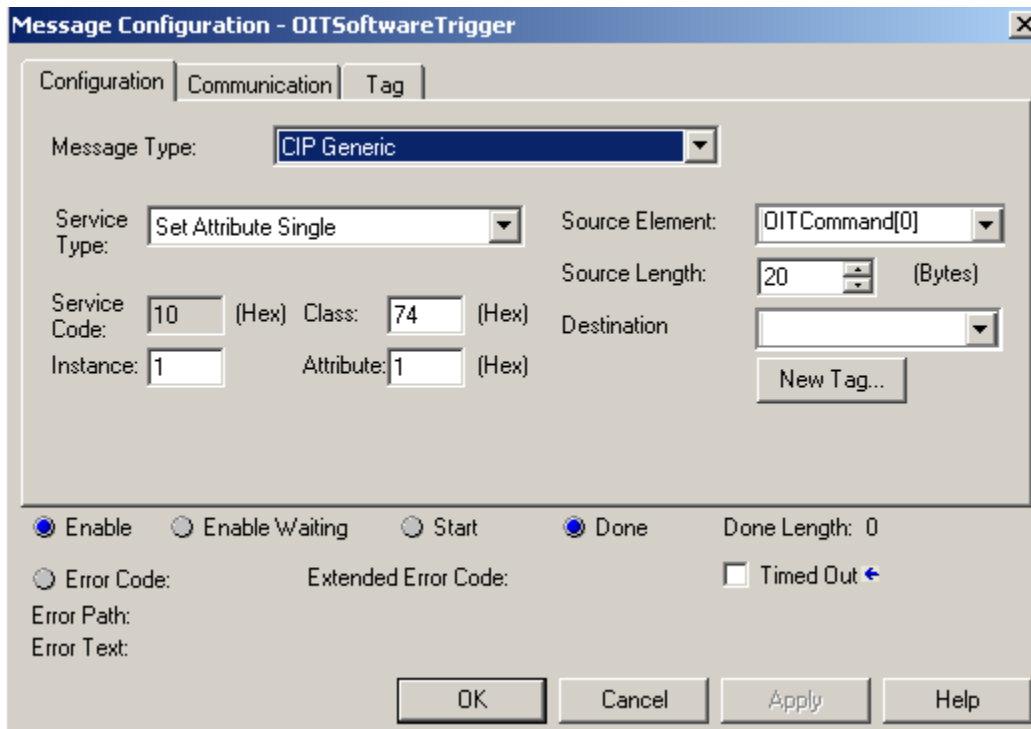


Software Trigger

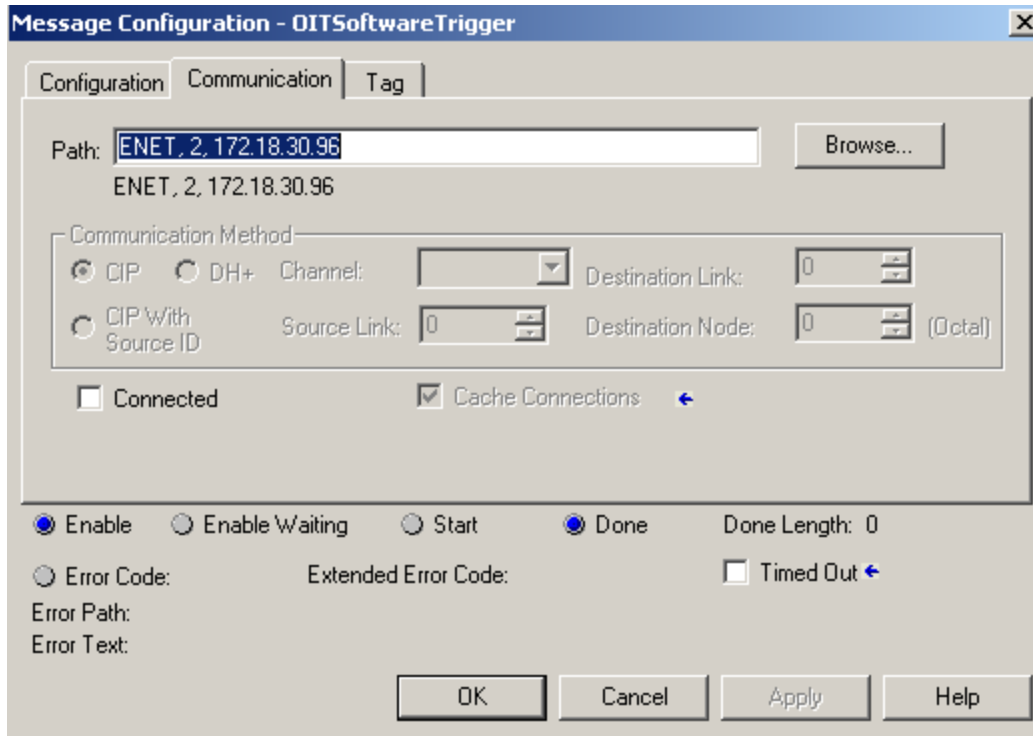
An alternative to a hardware trigger a command can also be sent from the PLC when a code plate should be read.



Enable rung whenever a software trigger is required



MSG configuration



Communication configuration

-OITCommand	{...}	Decimal	SINT[30]	
+OITCommand[0]	1	Decimal	SINT	
+OITCommand[1]	0	Decimal	SINT	
+OITCommand[2]	4	Decimal	SINT	
+OITCommand[3]	0	Decimal	SINT	
+OITCommand[4]	'#'	ASCII	SINT	
+OITCommand[5]	'R'	ASCII	SINT	
+OITCommand[6]	'\$r'	ASCII	SINT	
+OITCommand[7]	'\$1'	ASCII	SINT	
+OITCommand[8]	0	Decimal	SINT	
+OITCommand[9]	0	Decimal	SINT	
+OITCommand[10]	0	Decimal	SINT	
+OITCommand[11]	0	Decimal	SINT	
+OITCommand[12]	0	Decimal	SINT	
+OITCommand[13]	0	Decimal	SINT	

Structure of the command

Using the RTS with the OIT500 is very easy. If there are any questions please contact Tim Cicerchi at 330-486-0118

