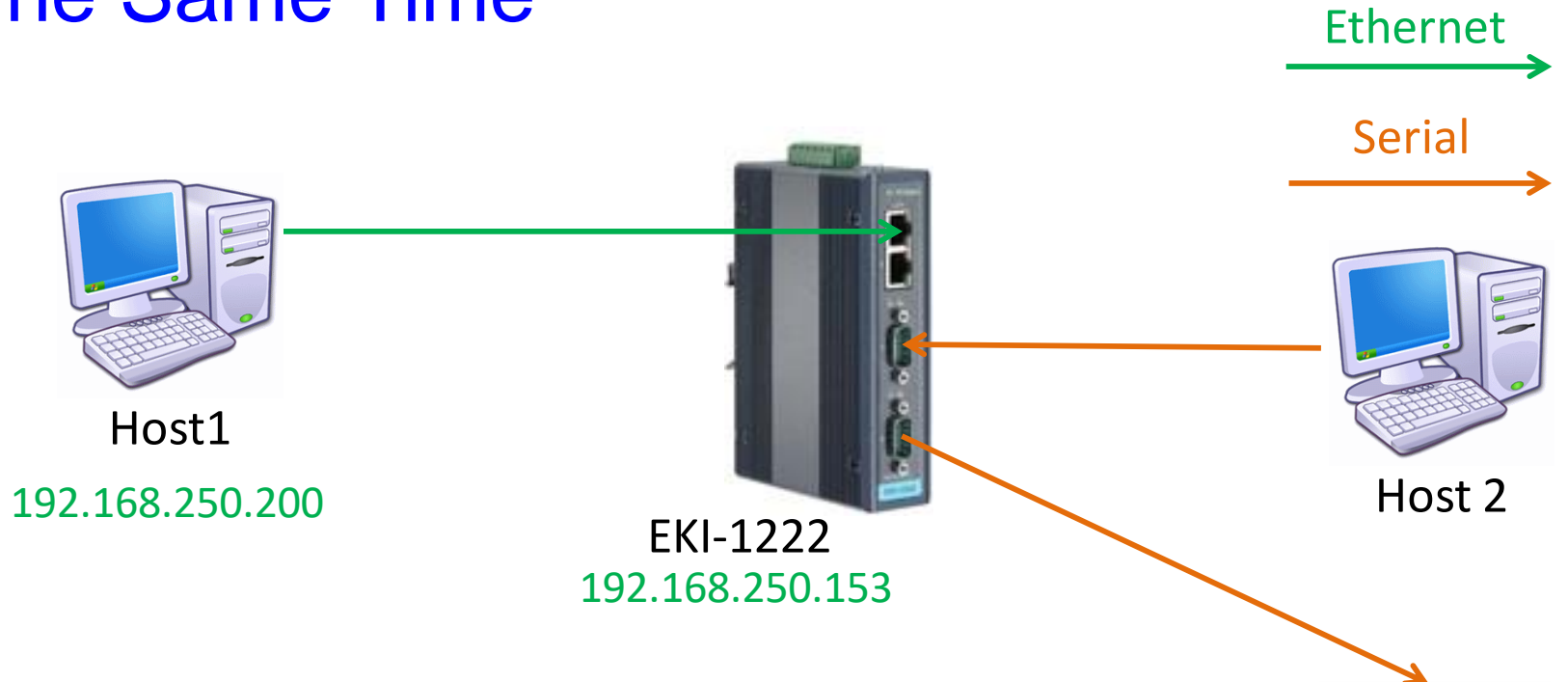


Modbus TCP/RTU Polling Server Node At The Same Time

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Modbus TCP/RTU Polling Server Node At The Same Time



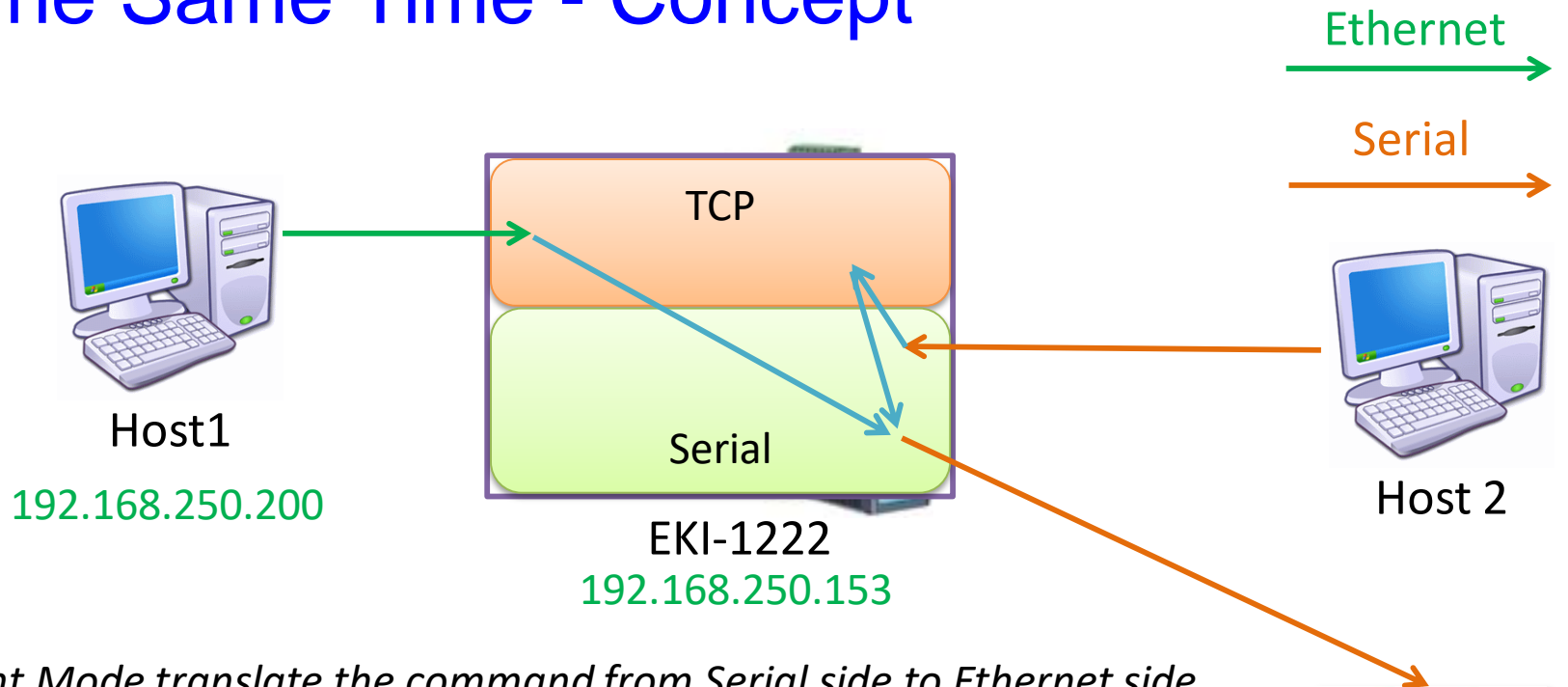
Taking it step by step:

1. *Configure EKI's COM Port2 as Server Mode*
2. *Configure EKI's COM Port1 as Client Mode*
3. *Host 1 performs "ModScan" and polls data from ADAM-4150*
4. *Host 2 performs "ModScan" and polls data from ADAM-4150*



ADAM-4150

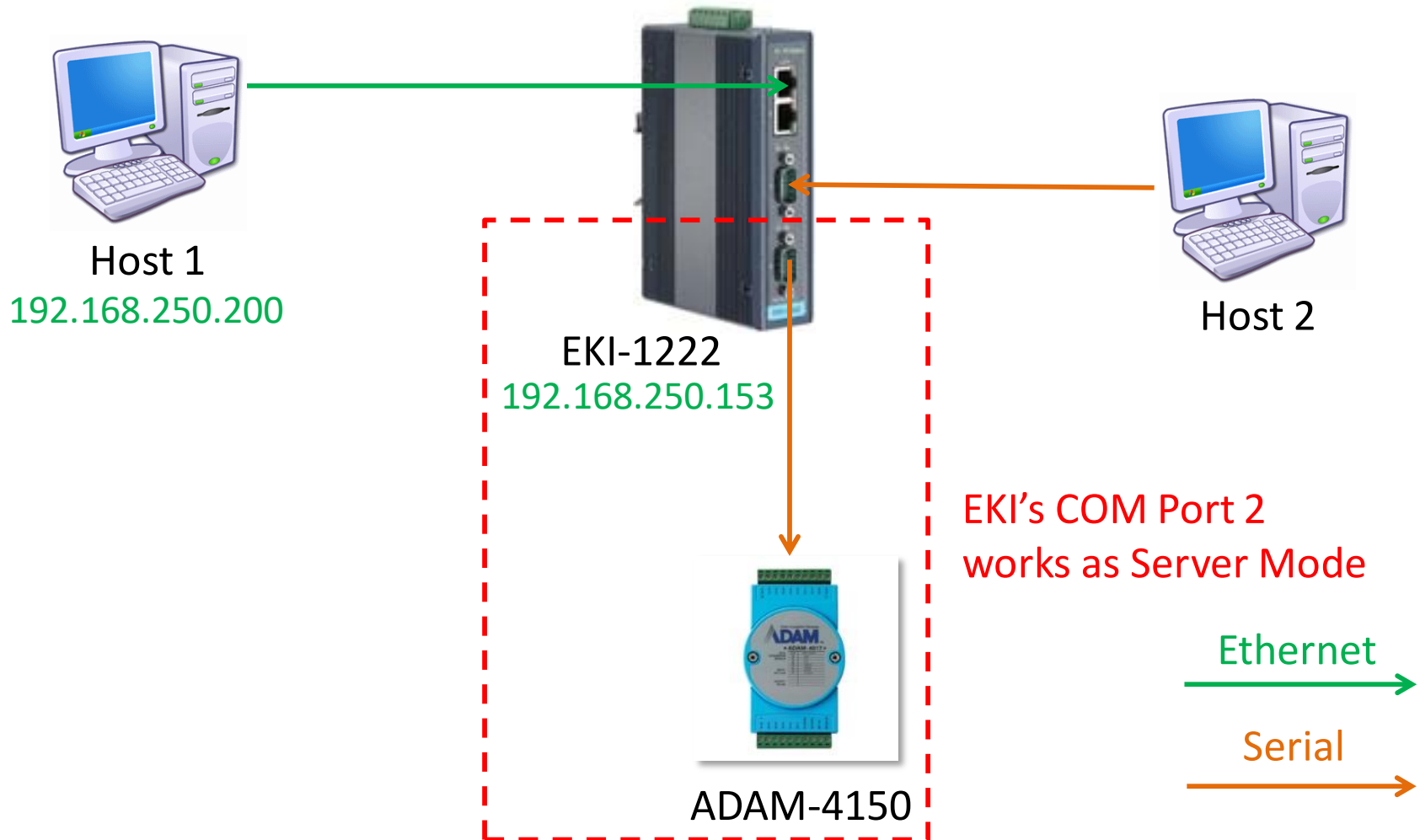
Modbus TCP/RTU Polling Server Node At The Same Time - Concept



ADAM-4150

- The Client Mode translate the command from Serial side to Ethernet side. Normally, the target IP addresses would be some other hosts on Ethernet network.
- By targeting the destination IP address to **the EKI itself**, it can query the Modbus Server Nodes on its Serial ports.
- Please refer to the other SOP documents for detail of Client/Server mode configuration. They will not be described in this document.

Configure COM 2 as Server Mode – 1/3



Configure COM 2 as Server Mode – 2/3

Launch Browser > Port Configuration > Basic

Configure the “Basic” part first, then “Save” it

The screenshot displays a web-based configuration interface for a device. On the left is a dark blue sidebar with navigation options: 'Ethernet Configuration', 'Port Configuration' (highlighted with a red box), 'Port 1', 'Port 2' (selected), 'Port 3', 'Port 4', 'Monitor', 'Syslogd', 'Tools', and 'Management'. The main area has two tabs: 'Basic' (active) and 'Operation'. Below the tabs is a header 'Port 2 configuration' with a gear icon. A red box highlights the configuration fields: 'Type' (RS485), 'Baud Rate' (9600), 'Parity' (None), 'Data Bits' (8), 'Stop Bits' (1), and 'Flow Control' (None). A 'Save' button is located at the bottom right of the configuration area.

Parameter	Value
Type	RS485
Baud Rate	9600
Parity	None
Data Bits	8
Stop Bits	1
Flow Control	None

Configure COM 2 as Server Mode – 3/3

Launch Browser > Port Configuration > Operation

Set up the **COM2** to **Server** Mode for conversion data from Modbus TCP to RTU

1. Select to Modbus Server Mode

Mode: Modbus Server Mode

Protocol: RTU

Server Timeout(ms): 1000

Delay Time(ms): 0

ASCII Timeout(ms): 10

Direct Access Port: 6001

RTS Control: ☒ Disable ☐ Enable

Peer for Receiving Data

Peer Number: 1

2. Add 1 Peer

3. Fill in the Server ID

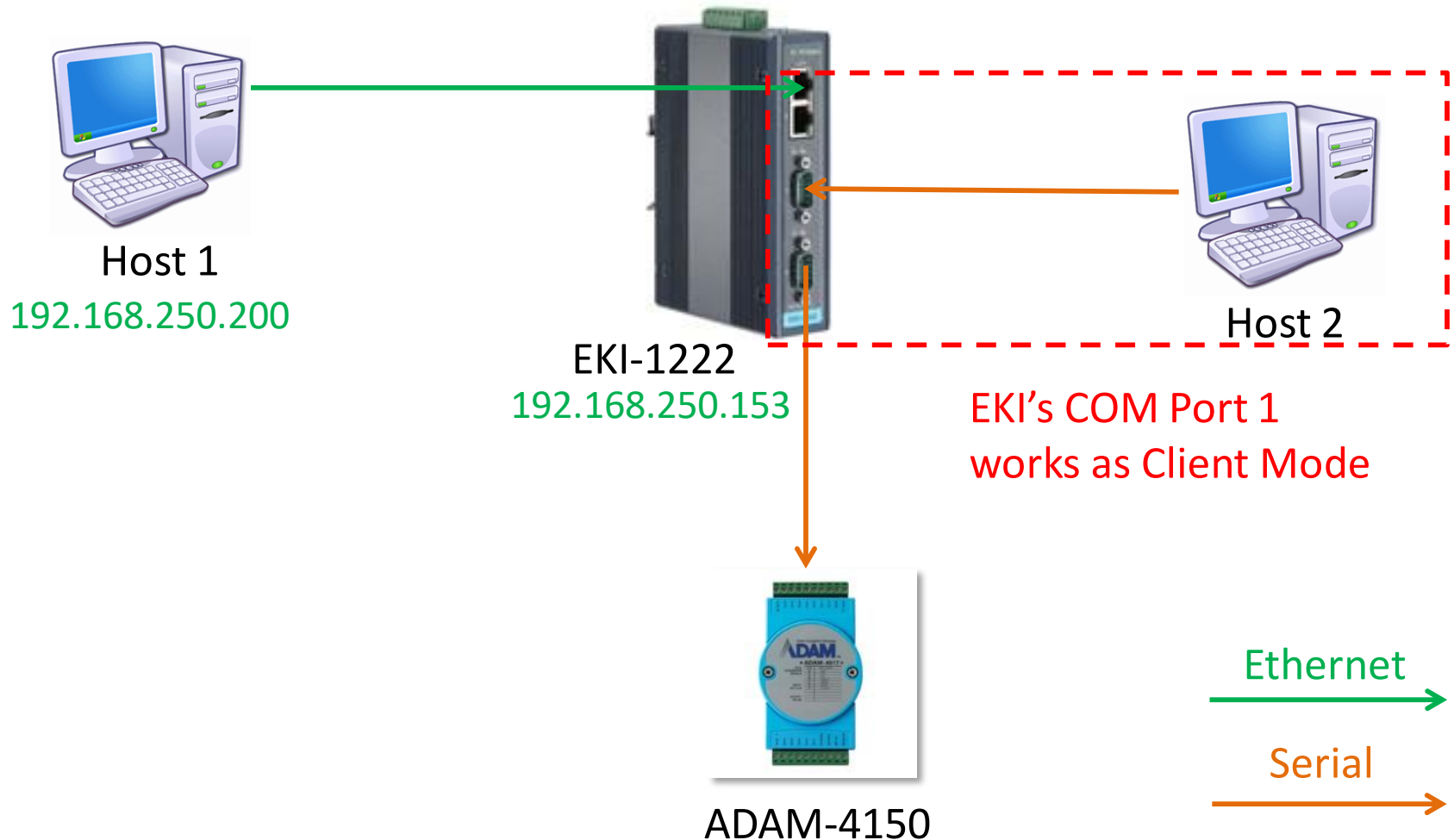
**Server ID is depending on end device*

#	Server ID	Description	Mapping ID AS
1	2		2

4. Save it

Save

Configure COM 1 as Client Mode – 1/4



Configure COM 1 as Client Mode – 2/4

Launch Browser > Port Configuration > Basic
Configure the “Basic” part first, then “Save” it

The screenshot displays a web-based configuration interface for a device. On the left is a dark blue sidebar with a menu. The 'Port Configuration' option is highlighted with a red box, and its sub-items 'Port 1', 'Port 2', 'Port 3', and 'Port 4' are also enclosed in a red box. The main content area has two tabs: 'Basic' (selected) and 'Operation'. Below the tabs is a header for 'Port 1 configuration'. A red box highlights the configuration fields: 'Type' (RS485), 'Baud Rate' (9600), 'Parity' (None), 'Data Bits' (8), 'Stop Bits' (1), and 'Flow Control' (None). A 'Save' button is located at the bottom right of the configuration area.

Field	Value
Type	RS485
Baud Rate	9600
Parity	None
Data Bits	8
Stop Bits	1
Flow Control	None

Configure COM 1 as Client Mode – 3/4

Launch Browser > Port Configuration > Operation

Set up the **COM1** to **Client** Mode for sending query from Modbus RTU to TCP

The screenshot shows the 'Port Configuration' interface with the 'Operation' tab selected. The 'Port 1 configuration' section is highlighted. The 'Mode' is set to 'Modbus Client Mode', 'Protocol' is 'RTU', 'Client Timeout(ms)' is '1500', and 'Frame Break(ms)' is '10'. The 'Peer for Receiving Data' section shows 'Peer Number' set to '1'. Below this is a table for mapping IDs. The first row is highlighted with a red box, showing IP '127.0.0.1', Port '502', and Mapped ID 'From' '2', 'To' '2', and 'Offset' '0'. A red arrow points from the 'Frame Break(ms)' field to the 'Peer Number' field. A 'Save' button is at the bottom.

1. Select to Modbus Client Mode

2. Add 1 Peer (target device)

3. Fill in the IP 127.0.0.1, TCP Port 502 and Server ID.
**This IP represents the EKI itself.*

#	IP	Port	Mapped ID		
			From	To	Offset
1	127.0.0.1	502	2	2	0

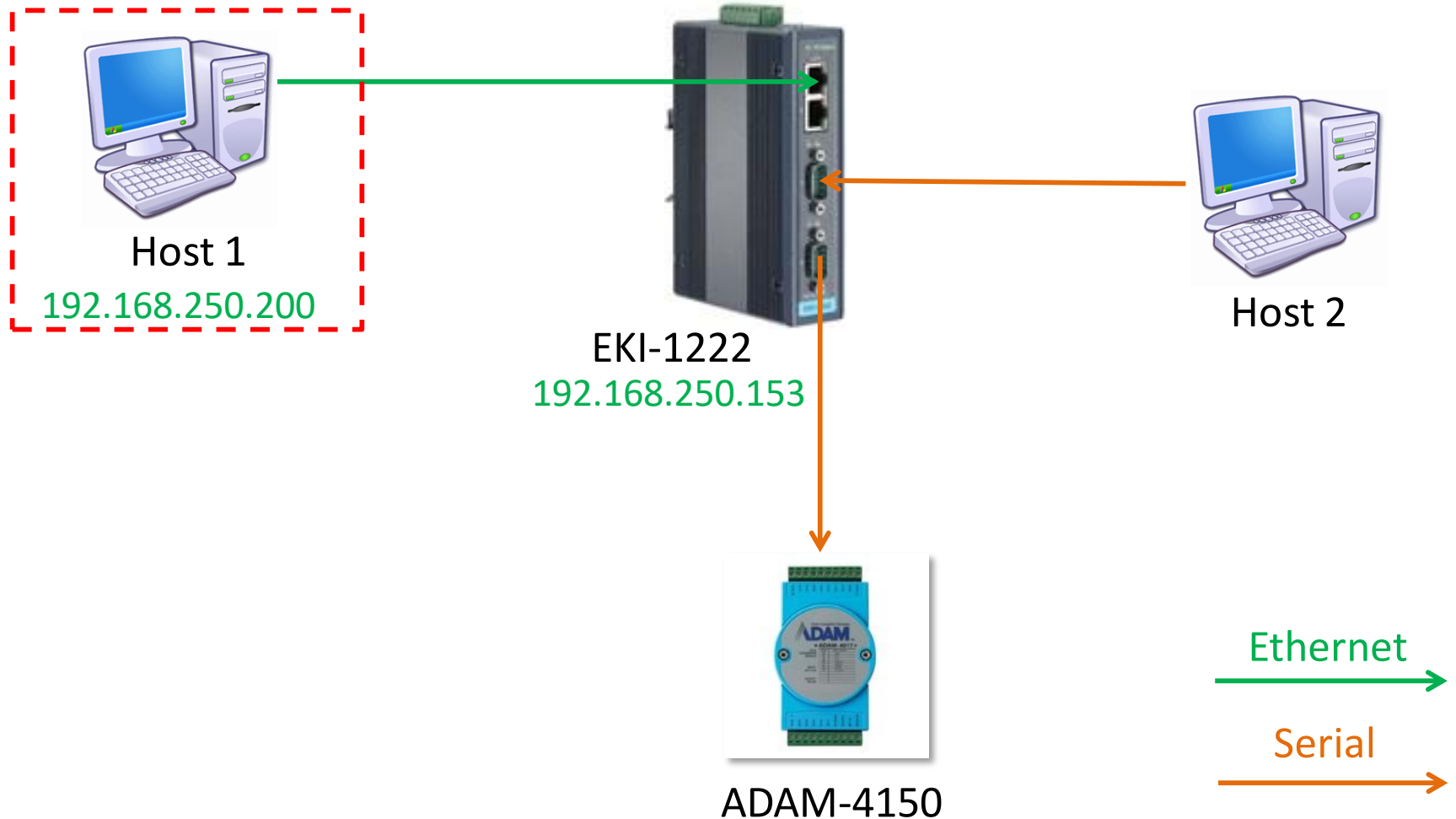
4. Save it

Configure COM 1 as Client Mode – 4/4

- Reboot to initialize this function

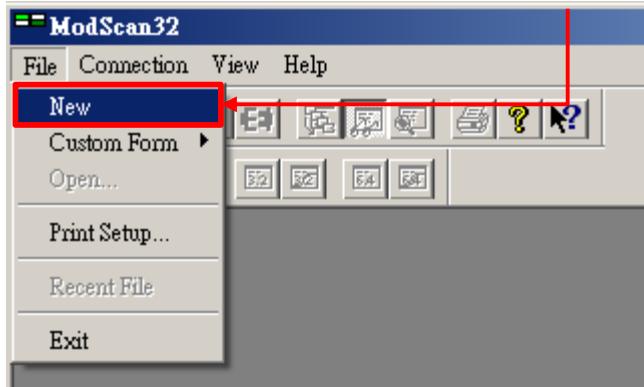
The screenshot displays the Advantech web interface. On the left is a dark blue sidebar with a menu containing: System, Service, Ethernet Configuration, Port Configuration, Monitor, Syslogd, Tools (highlighted with a red box and labeled '5. Click "Tools"'), Ping, Modbus Scan, Modbus Polling, and Reboot (highlighted with a red box and labeled '6. Click "Reboot"'). The main content area has a breadcrumb trail 'Home / Tools / Reboot'. A warning message reads: 'Warning!! Reboot will disconnect both ethernet and serial connection. Do you want to Reboot now?'. Below the warning is a blue 'Yes' button (highlighted with a red box and labeled '7. Click "Yes" to reboot the DS').

Host 1 Polls Data from ADAM by ModScan – 1/3



Host 1 Polls Data from ADAM by ModScan – 2/3

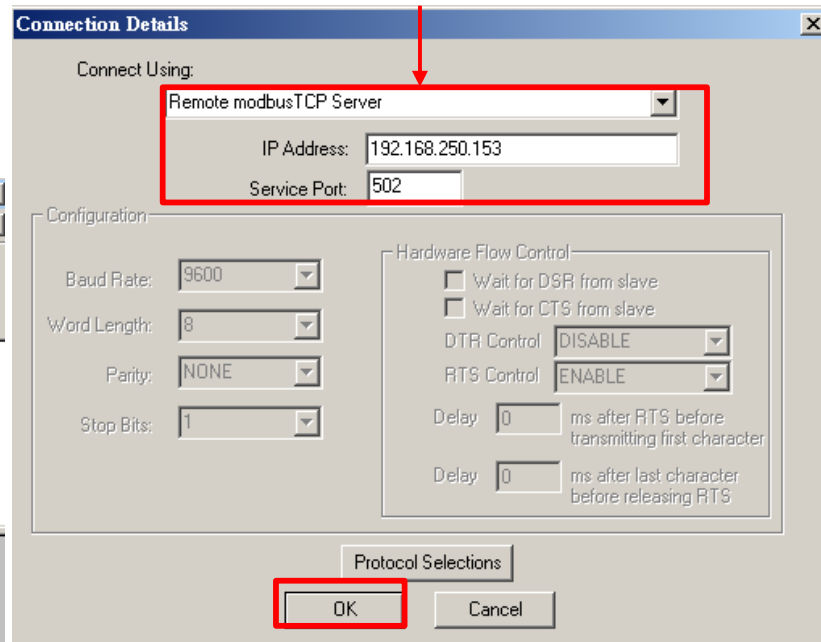
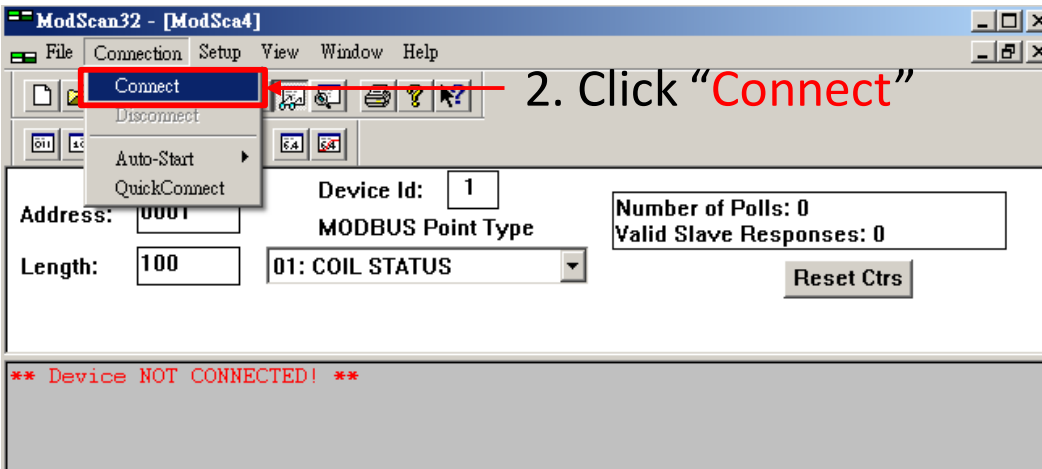
1. Click “New” to open a new Modbus TCP session



3. Select to “Remote Modbus TCP Server”

4. Fill in the “IP Address” and “TCP Port” of EKI

5. Click “Ok”



Host 1 Polls Data from ADAM by ModScan – 3/3

ModScan32 - [ModSca4]

File Connection Setup View Window Help

Address: 0001 Device Id: 2
Length: 7 MODBUS Point Type: 01: COIL STATUS

Number of Polls: 2
Valid Slave Responses: 2

Reset Ctrs

00001: <0>
00002: <0>
00003: <0>
00004: <0>
00005: <0>
00006: <0>
00007: <0>

2. Result

Fill in the right **Modbus address**, **data length** and **Server ID** of ADAM-4150



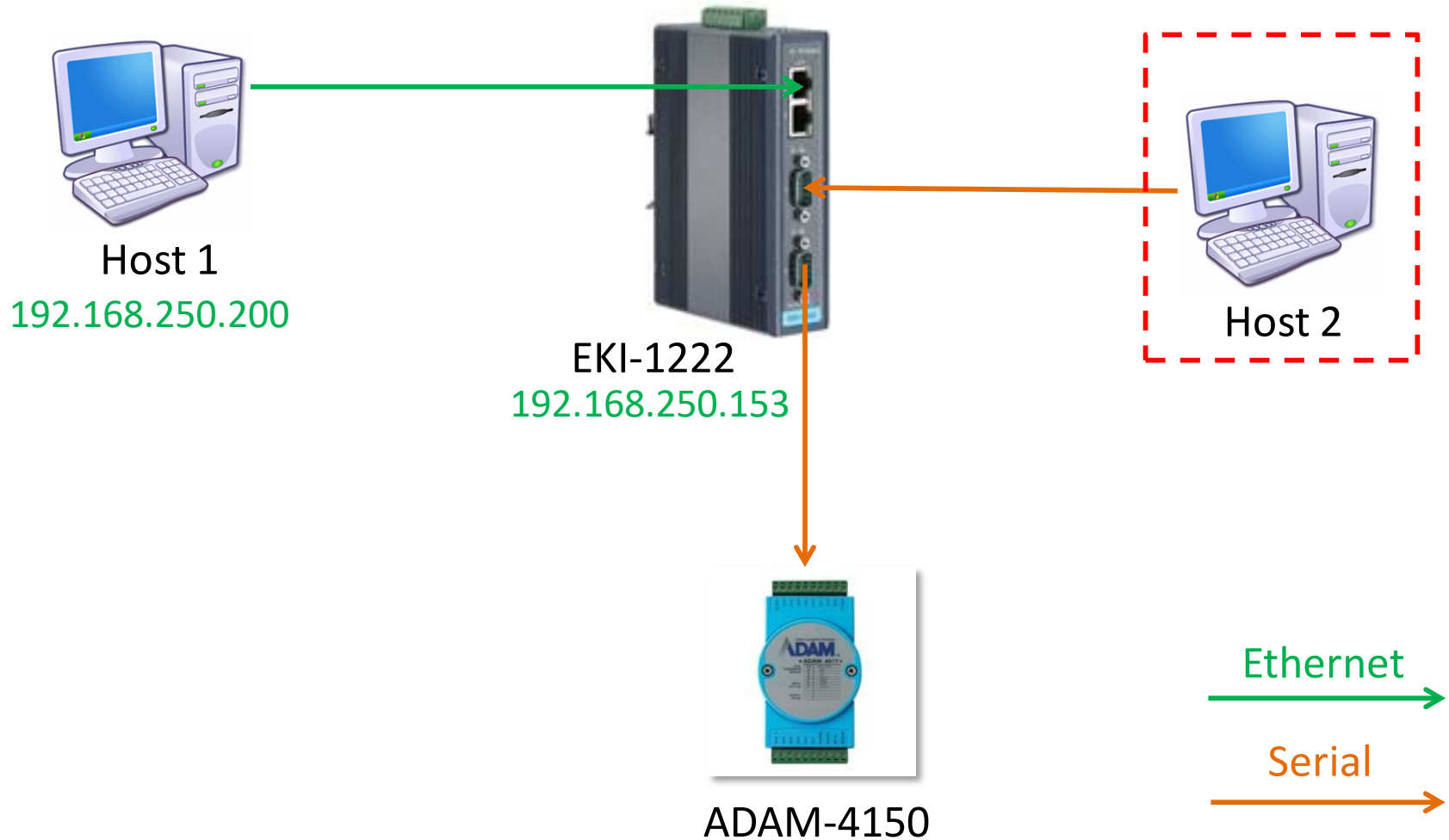
ADAM-4150

ADAM-4100 I/O Modbus Mapping Table

B.3 ADAM-4150 Digital Input/Output Module

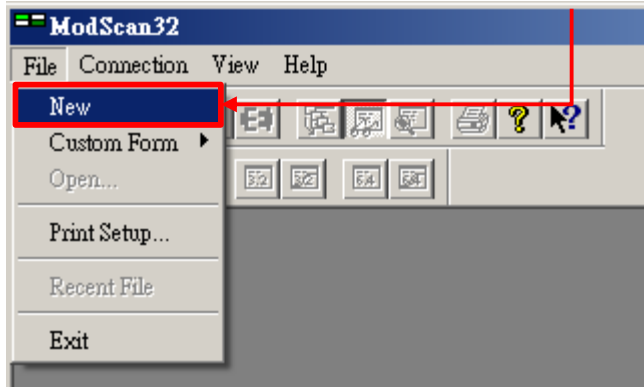
ADDR 0X	Channel	Item	Attribute	Memo
00001	0	DI Signal	R	
00002	1	DI Signal	R	
00003	2	DI Signal	R	
00004	3	DI Signal	R	
00005	4	DI Signal	R	
00006	5	DI Signal	R	
00007	6	DI Signal	R	
00017	0	DO Signal	W	
00018	1	DO Signal	W	
00019	2	DO Signal	W	
00020	3	DO Signal	W	
00021	4	DO Signal	W	
00022	5	DO Signal	W	
00023	6	DO Signal	W	
00024	7	DO Signal	W	

Host 2 Polls Data from ADAM by ModScan – 1/3



Host 2 Polls Data from ADAM by ModScan – 2/3

1. Click “**New**” to open a new Modbus/RTU session

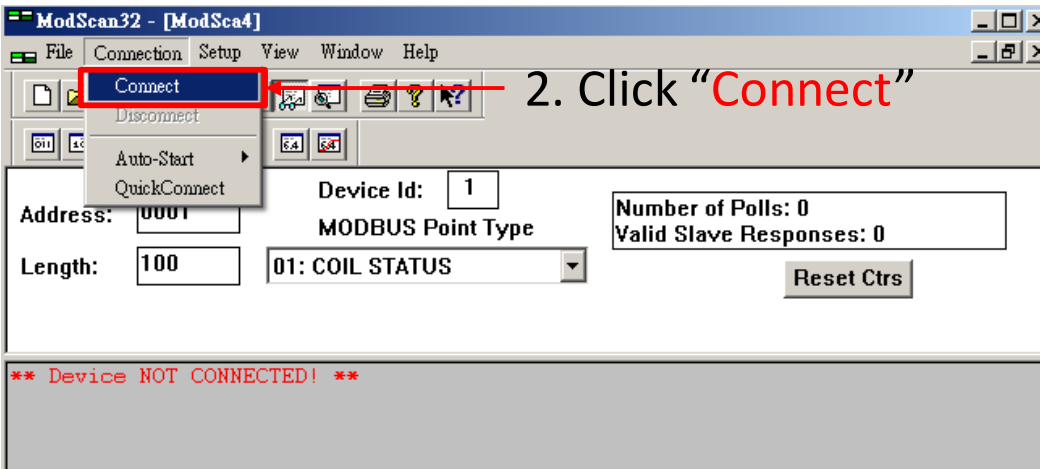


3. Select to “**Direct Connection to COM Port**”

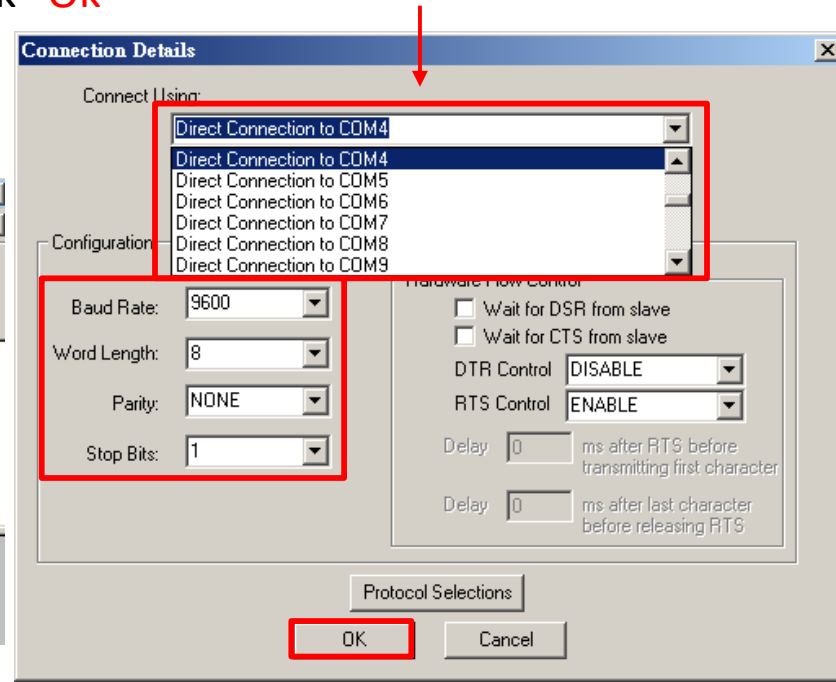
**Port number is depend on customer*

4. Set up the “**COM Port Configuration**”

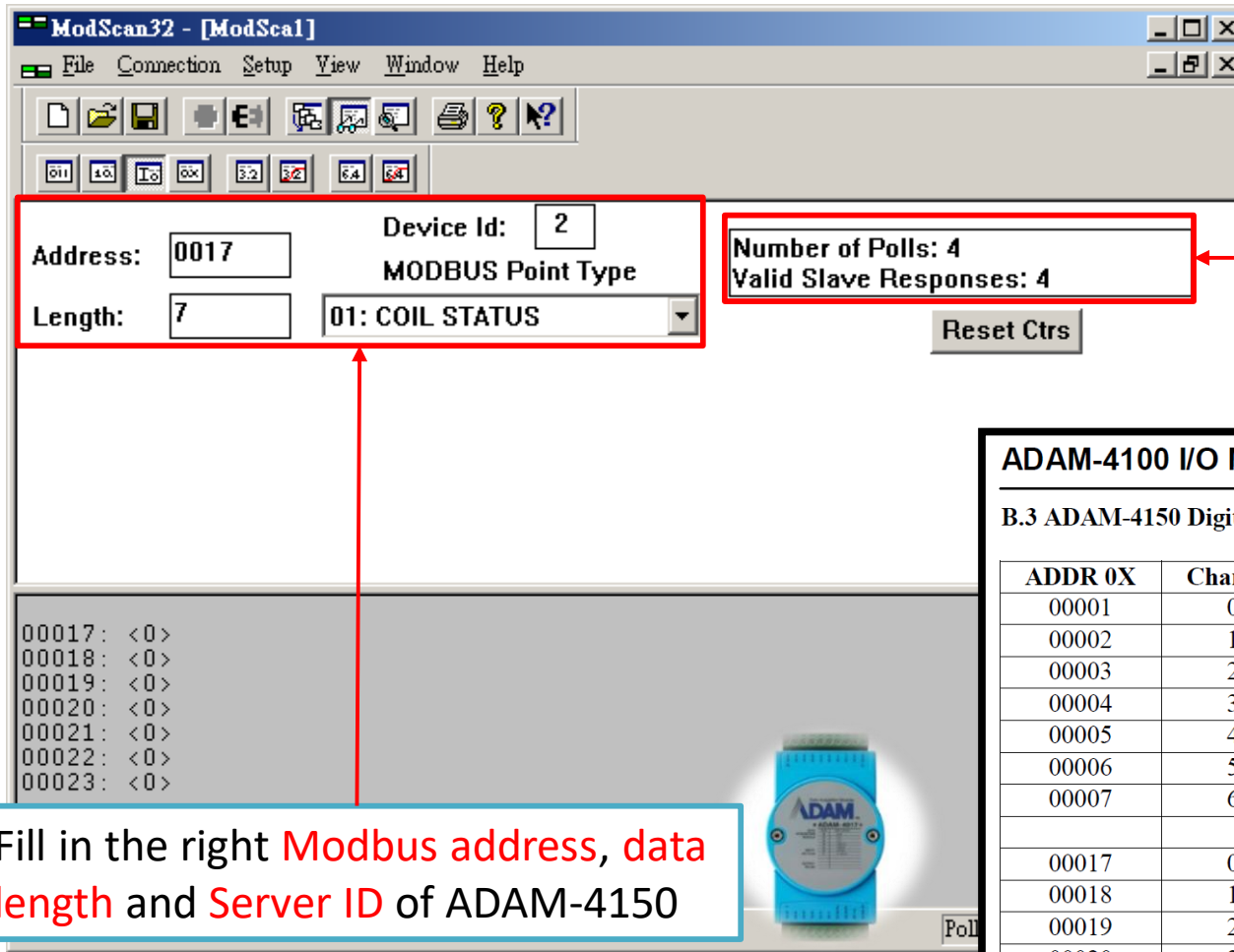
5. Click “**Ok**”



2. Click “**Connect**”



Host 2 Polls Data from ADAM by ModScan – 3/3



2. Result

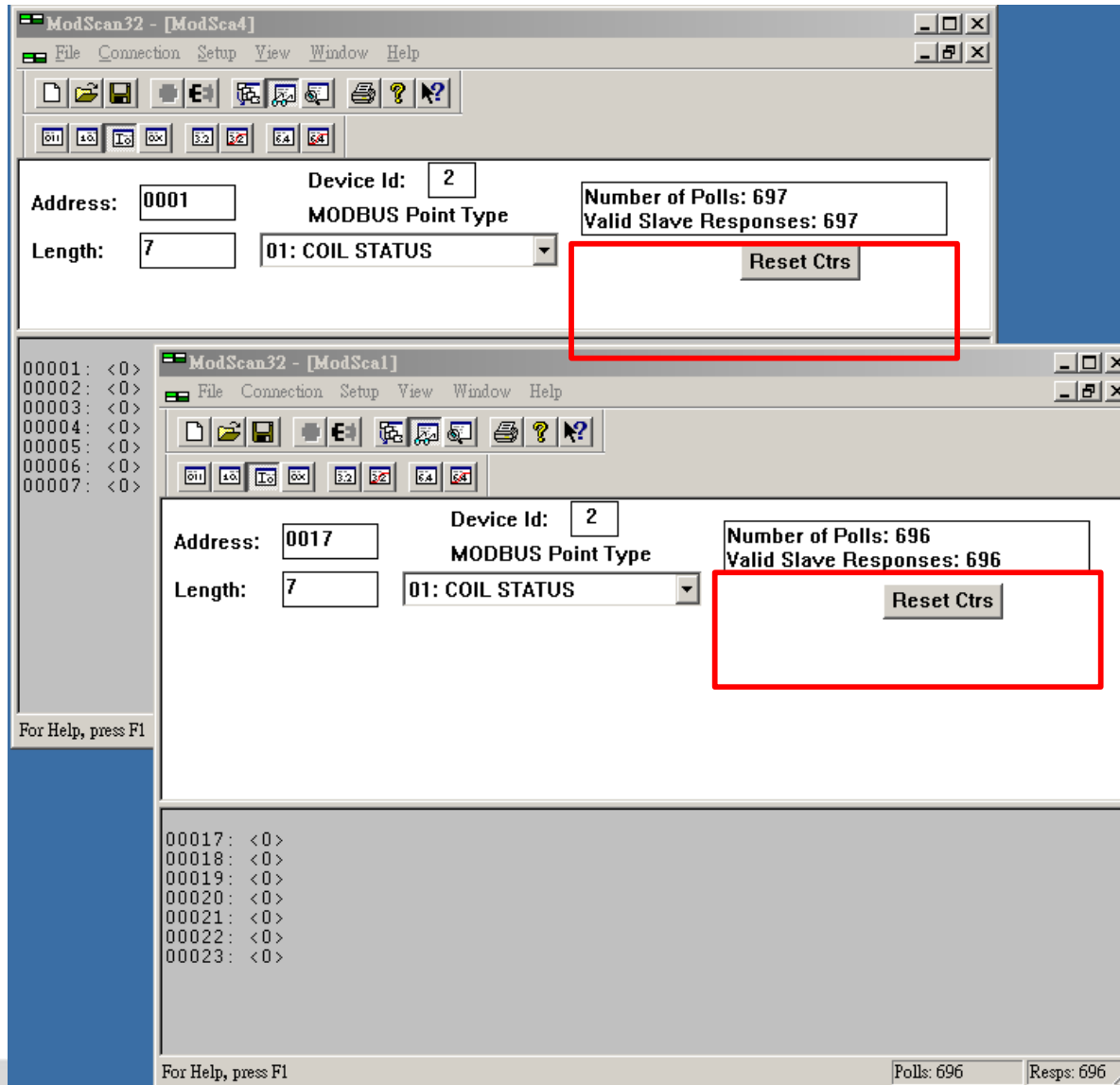
ADAM-4100 I/O Modbus Mapping Table

B.3 ADAM-4150 Digital Input/Output Module

ADDR 0X	Channel	Item	Attribute	Memo
00001	0	DI Signal	R	
00002	1	DI Signal	R	
00003	2	DI Signal	R	
00004	3	DI Signal	R	
00005	4	DI Signal	R	
00006	5	DI Signal	R	
00007	6	DI Signal	R	
00017	0	DO Signal	W	
00018	1	DO Signal	W	
00019	2	DO Signal	W	
00020	3	DO Signal	W	
00021	4	DO Signal	W	
00022	5	DO Signal	W	
00023	6	DO Signal	W	
00024	7	DO Signal	W	

ADAM-4150

Test Result





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ADVANTECH