

## Modbus Slave TCP Raw-Data Setup and Test

Materials required:

Modbus Slave from http://www.modbustools.com

DeviceMaster UP running Modbus/TCP version 4.09

DeviceMaster Loopback Plug

Comtrol Test Terminal (WCom2).

Please note: The Modbus Poll application is not freeware. You may use the application for 10 minutes from connection. After 10 minutes the connection is broken. Re-starting the Modbus Poll application will initiate another 10 minute demonstration period. After 30 days it will no longer operate without purchase.

This document will show step-by-step instructions of how to setup and configure the DeviceMaster UP in Modbus TCP Raw Data mode and use the Modbus Slave and HyperTerminal application's to test the configuration.

This manual contains no explanations for the procedures outlined here. For full information and details, please see the DeviceMaster UP Modbus user guide and the Modbus Slave and Modbus Poll user guides.

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Chapter 3: Test Terminal (WCom2) Configuration	Page 13
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## **DeviceMaster Configuration**

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The web pages for this example are as follow. There are only two pages that will need to be configured: Serial Device Configuration

and

**Configure Network** 



Please note the version number. If necessary, begin by downloading the current firmware and use PortVision Plus to update the firmware in the DeviceMaster.

Here is a link to download the firmware:

ftp://ftp.comtrol.com/dev\_mstr/up/software/modbus\_tcp/firmware/modbus\_tcp\_4.09.msi

These are the network setting used in this example:

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🔆 🔁 🗢 🖉 http:	://192.16 🔽 🗟 👉 🗙 🚼 Google	<b>ب</b> م
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Edit Netwo	Control® Network Enabling Devices ork Configuration : O Use DHCP S Use static configuration below:	
IP Address:	192.168.2.12	
Netmask:	255.255.0.0	
Gateway:	192.168.2.254	
Undo Changes	Save	
Done	😜 Internet 🥢 🗸 🔍 100%	•

The PC Slave application is used on a Windows XP system with the following IP settings: IP Address: 192.168.2.20 Subnet Mask: 255.255.0.0 Gateway Address: 192.168.0.254

You should configure the IP information to be compatible with your network and then substitute your values in place of the values shown in this example.

Here are the serial port settings.

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🖕 Favorites 🛛 🎪 🔊 FTP 🛃 Google 🤝 TFTP Server 📶 Wirest	nark @ 11 @ 12 @ 13 @ 24 @ 41 @ 81 @ Air100 @ 161 **
Combrol Corporation - DeviceMaster UP Modbus/TCP	👌 • 🔊 · 🖃 📾 • Page • Safety • Tools • 🕢 • »
Edit Port 1 Configuration	
Serial Configuration	
Mode:	RS-232 💌
Baud:	38400 💌
Parity:	none 💌
Data Bits:	8 🛩
Stop Bits:	1 🛩
Flow:	none 💌
DTR:	off 🛩
Rx Timeout Between Packets:	200 (ms)
General Protocol Settings	
Serial Port Protocol:	Raw-Data 💌
Discard Rx Packets With Errors:	
Modbus/RTU Protocol Settings	
Device Response Timeout:	1000 (ms)
Serial Packet ID Settings (Raw-Data Only)	
STX (Start of Transmission) Rx Detect:	none 🕑 Byte 1: Byte 2: (dec)
ETX (End of Transmission) Rx Detect:	two bytes 🕑 Byte 1: 13 Byte 2: 10 (dec)
PLC Specific Settings	· · · · · · · · · · · · · · · · ·
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Comtrol Corporation - DeviceMaster UP Modbus/TCP	🏠 🔹 🔝 👘 🖃 🖶 🔹 Page 🔹 Safety 🔹 Tool	5 <b>• @</b> • *
ETX (End of Transmission) Rx Detect:	two bytes V Byte 1:13 Byte 2:10 (	(dec) <sup>^</sup>
PLC Specific Settings		
STX (Start of Transmission) Tx Append:	none 🕑 Byte 1: Byte 2: (	(dec)
ETX (End of Transmission) Tx Append:	two bytes 🛩 Byte 1: 13 Byte 2: 10 (	(dec)
Strip Rx STX/ETX:		
Application Specific Settings		
STX (Start of Transmission) Tx Append:	none 🕑 Byte 1: Byte 2: (	(dec)
ETX (End of Transmission) Tx Append:	two bytes 🛩 Byte 1: 13 Byte 2: 10 (	(dec)
Strip Rx STX/ETX:		
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Ry (To PLC) Transfer Mode:	Master (Write to PLC)	
Tx (From PLC) Transfer Mode:	Master (White to PLC)	
Maximum Rx Data Packet Size:	246 (bytec)	_
Oversized By Dacket Handling:	Z40 (bytes)	
By MS Buto Eiset:		
Ty MS Bute First:		
Disable Non-Filtered To PLC Rx Queue:		
Master Rx/Tx Modes		
PLC IP Address:	192,168,2,20	
PLC Device ID:	1 (1-255, 0=broadcast)	
Master Rx Mode Only		
PLC Rx Data Address:	101 (Pace 1)	×
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Comtrol Corporation - DeviceMaster UP Modbus/TCP	🏠 🔹 🔝 🐇 🖃 🖶 🔹 Page 🔹 Safety 🔹 Tools	• @• "
PLC Device ID:	1 (1-255, 0=broadcast)	^
Master Rx Mode Only		
PLC Rx Data Address:	101 (Base 1)	
Maximum PLC Update Rate:	40 (msec)	
Master Tx Mode Only		
PLC Tx Data Address:	140 (Base 1)	
PLC Tx Poll Rate:	500 (msec)	
PLC Tx Poll Message Length:	104 (bytes)	
Tx Sequence Number Syncing Enable:		
PLC Tx Consumed Sequence Number Address:	139 (Base 1)	
		_
Filtering/Data Extraction Configuration (Raw-Data Onl	y)	
To PLC Filter Mode:	Off	
To PLC Filter Options (RFID Only):	Antenna Filter Value Se	rial Nun
To PLC Filter Options (RFID/Barcode):	Company Product/Location En	coding/
To Application Filter Mode:	Off	-
To Application Filter Options (RFID Only):	Antenna Filter Value Se	rial Nun
To Application Filter Options (RFID/Barcode):	Company Product/Location En	coding/
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	×
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Done	😜 Internet 🦓 🔹 🍕 1	00% • 🤢

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To PLC Filter Options (RFID/Barcode):	Company Product/Location Encoding/
To Application Filter Mode:	Off
To Application Filter Options (RFID Only):	🗌 Antenna 📄 Filter Value 📄 Serial Nun
To Application Filter Options (RFID/Barcode):	Company Product/Location Encoding/
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
Application TCP Connection Configuration (Raw-Data	Only)
Enable:	
Listen:	
Listen Port:	8200
Connect To Mode:	Never
Connect Port:	8210
Connect IP Address:	0.0.0.0
Disconnect Mode:	Never 🗸
Idle Timer:	0 (msec)
🗌 Reset Statistics 🛛 Reset Port 🗹 Save in Flash	h Undo Changes Submit
	>
Done	😜 Internet 🦓 👻 🔍 100% 👻 🛒

DeviceMaster: Modbus/TCP Settings (Raw-Data Only) Rx (To PLC) Transfer Mode: Master (Write to PLC) Tx (From PLC) Transfer Mode: Master (Poll the PLC) Ip address: 192.168.2.12 Subnet mask: 255.255.0.0 Gateway address: 192.168.0.254

PC:

IP address: 192.168.2.20 Subnet mask: 255.255.0.0 Gateway address: 192.168.0.254

Attach the DeviceMaster Loopback Plug to the serial DB9 port

# Modbus Slave Configuration back to top

Start the Modbus Slave app.

📓 Modbus S	lave - Mb	oslav1			
<u>F</u> ile <u>C</u> onnectio	n <u>S</u> etup	<u>D</u> isplay <u>y</u>	/iew	<u>W</u> indow <u>H</u> elp	
🗋 й 🛱 🛛	5  🗂	20	१ ₹	?	
🔛 Mbslav1					
ID = 1					
No connec	tion				
40001 =	0	40007	=	0	
40002 =	0	40008	=	0	
40003 =	0	40009	=	0	
40004 =	0	40010	=	0	
40005 =	0				
40006 =	0				
P					
For Help, press F	F1. For Ed	lit, double cl	ick on a	a value	Port 1: 38400-8-N-1



📓 Modbus Slave - Mi	oslav1	
File Connection Setup	Display View Window Help	
Image: Constraint of the second se	Signed Unsigned V Hex Binary Long Long Inverse Float Float Inverse Double Double Inverse V PLC Addresses (Base 1) Protocol Addresses (Base 0)	
	Communication	
		Port 1: 38400-8-N-1

### Configure the Slave Definition:

📰 Modbus Slave - Mbslav1 📃 🗖	X
File Connection Setup Display View Window Help	
🗅 🚔 🔚 🚭 Slave Definition F2	
Image: Second	
No connection   40001 = 0x0000 40007 = 0x0000   40002 = 0x0000 40008 = 0x0000   40003 = 0x0000 40009 = 0x0000   40004 = 0x0000 40010 = 0x0000   40005 = 0x0000 40010 = 0x0000   40006 = 0x0000 40000	
Setup slave definition Port 1: 38400-8-N-1	

Slave Def	inition	
Slave ID:	0	ОК
Function:	03 HOLDING REGISTER 💌	Cancel
Address:	101	
Length:	100	

Leave the Slave ID at the default of 1. Change the Address: from 1 to 101 Change the Length: from the default 10 to 100

It will display No connection at this time.

💐 Modbus Slave - Mbslav1				
Elle ⊆onnection ≦etup Display View Window	Help			
D 📽 🖬 🍪 🗂 🗏 🚊 💡 🎀				
💬 Mbslav1				
ID = 1				
No connection 40101 = 0x0000 40114 = 0x0000	40127 = 0x0000	40140 = 0x0000	40153 = 0x0000	40166 -
40102 = 0x0000 40115 = 0x0000	40128 = 0x0000	40141 = 0x0000	40154 = 0x0000	40167 -
40103 = 0x0000 40116 = 0x0000	40129 = 0x0000	40142 = 0x0000	40155 = 0x0000	40168 -
40104 = 0x0000 40117 = 0x0000	40130 = 0x0000	40143 = 0x0000	$40156 = 0 \times 0000$	40169 -
40105 = 0x0000 40118 = 0x0000	40131 = 0x0000	$40144 = 0 \times 0000$	$40157 = 0 \times 0000$	40170 -
40106 = 0x0000 40119 = 0x0000	40132 = 0x0000	40145 = 0x0000	40158 = 0x0000	40171 -
40107 = 0x0000 40120 = 0x0000	40133 = 0x0000	40146 = 0x0000	$40159 = 0 \times 0000$	40172 📲
40108 = 0x0000 40121 = 0x0000	40134 = 0x0000	40147 = 0x0000	$40160 = 0 \times 0000$	40173 -
40109 = 0x0000 40122 = 0x0000	40135 = 0x0000	40148 = 0x0000	$40161 = 0 \times 0000$	40174 -
40110 = 0x0000 40123 = 0x0000	40136 = 0x0000	40149 = 0x0000	$40162 = 0 \times 0000$	40175 -
40111 = 0x0000 40124 = 0x0000	40137 = 0x0000	40150 = 0x0000	40163 = 0x0000	40176 -
40112 = 0x0000 40125 = 0x0000	40138 = 0x0000	40151 = 0x0000	40164 = 0x0000	40177 -
40113 = 0x0000 40126 = 0x0000	40139 = 0x0000	40152 = 0x0000	$40165 = 0 \times 0000$	40178 =
<	all			>
For Help, press F1. For Edit, double click on a value			Port 1: 38400	)-8-N-1

#### Configure the Connection

28 M	odbus Slav	ve - Mb	slav1													X
File	Connection	Setup	Displa	y View	Window	Help										
	Connect	. F3		ä 💡	N?											
	Disconnec	t F4			-											
	Auto Con	nect	•													×
ID	Quick Con	nect FS	; [													
No	connecci	on	_													
401	$01 = 0 \times 0$	000	401	14 =	0x0000	40127	=	0x0000	40140	=	0x0000	40153	=	0x0000	40166	6 -
401	02 = 0x0	000	401	15 =	0x0000	40128	=	0x0000	40141	=	0x0000	40154	=	0x0000	40167	7 -
401	03 = 0x0	000	401	16 =	0x0000	40129	=	0x0000	40142	=	0x0000	40155	=	0x0000	40168	в 📲
401	$04 = 0 \times 0$	000	401	17 =	0x0000	40130	-	0x0000	40143	-	0x0000	40156	=	0x0000	40169	9 ·
401	05 = 0x0	000	401	.18 =	0x0000	40131	-	0x0000	40144	-	0x0000	40157	-	0x0000	40170	• •
401	$06 = 0 \times 0$	000	401	.19 =	0x0000	40132	-	0x0000	40145	-	0x0000	40158	=	0x0000	40171	1 -
401	07 = 0x0	000	401	20 =	0x0000	40133	-	0x0000	40146	=	0x0000	40159	=	0x0000	40172	2 -
401	08 = 0x0	000	401	21 =	0x0000	40134	=	0x0000	40147	=	0x0000	40160	=	0x0000	40173	3 -
401	09 = 0x0	000	401	.22 =	0x0000	40135	-	0x0000	40148	=	0x0000	40161	-	0x0000	40174	4 -
401	$10 = 0 \times 0$	000	401	.23 =	0x0000	40136	-	0x0000	40149	-	0x0000	40162	-	0x0000	40175	5 -
401	$11 = 0 \times 0$	000	401	24 =	0x0000	40137	-	0x0000	40150	-	0x0000	40163	-	0x0000	40176	6 📲
401	$12 = 0 \times 0$	000	401	.25 =	0x0000	40138	-	0x0000	40151	-	0x0000	40164	-	0x0000	40177	7 -
401	$13 = 0 \times 0$	000	401	26 =	0x0000	40139	-	0x0000	40152	-	0x0000	40165	-	0x0000	40178	в 📲
200																
						114							_			<u> </u>
Conne	sct												5	Port 1: 3840	0-8-N-1	- //

Set the following registers as shown here (for edit, double click on a value):

Registers 40140 is set to 0 = sequence counter. This register will be manually incremented

Registers 40141 is set to the length of the data = 10

Registers 40142 is set to 3031 = ASCII 0 1

Registers 40143 is set to 3233 = ASCII 2 3

Registers 40144 is set to 3435 = ASCII 4 5Registers 40145 is set to 3637 = ASCII 6 7

Registers 40145 is set to 5057 = ASCH 0

- Registers 40146 is set to 3839 = ASCII 8 9 Registers 40147 is set to 4041 = ASCII @ A
- Registers 40147 is set to 4041 = ASCH @ ARegisters 40148 is set to 4243 = ASCH B C
- Registers 40149 is set to 4245 = ASCII D CRegisters 40149 is set to 4445 = ASCII D E

Registers 40150 is set to 4647 = ASCII F G (not transmitted as length set to 10)

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Ele ⊆onnection Setup	Display ⊻iew Window	Help			
D 📽 🖬 🎒 🛅	트 🏚 💡 📢				
💭 Mbslav1					
ID = 1					
No connection					
$40101 = 0 \times 0000$	$40114 = 0 \times 0000$	$40127 = 0 \times 0000$	$40140 = 0 \times 0000$	40153 = 0x0000	40166 =
40102 = 0x0000	$40115 = 0 \times 0000$	$40128 = 0 \times 0000$	$40141 = 0 \times 0010$	$40154 = 0 \times 0000$	40167 =
40103 = 0x0000	$40116 = 0 \times 0000$	40129 = 0x0000	40142 = 0x3031	$40155 = 0 \times 0000$	40168 =
40104 = 0x0000	40117 = 0x0000	40130 = 0x0000	40143 = 0x3233	$40156 = 0 \times 0000$	40169 =
40105 = 0x0000	40118 = 0x0000	$40131 = 0 \times 0000$	40144 = 0x3435	$40157 = 0 \times 0000$	40170 -
40106 = 0x0000	40119 = 0x0000	40132 = 0x0000	40145 = 0x3637	40158 = 0x0000	40171 =
40107 = 0x0000	$40120 = 0 \times 0000$	40133 = 0x0000	40146 = 0x3839	$40159 = 0 \times 0000$	40172 =
40108 = 0x0000	$40121 = 0 \times 0000$	$40134 = 0 \times 0000$	40147 = 0x4041	$40160 = 0 \times 0000$	40173 =
40109 = 0x0000	40122 = 0x0000	40135 = 0x0000	40148 = 0x4243	$40161 = 0 \times 0000$	40174 =
40110 = 0x0000	40123 = 0x0000	$40136 = 0 \times 0000$	40149 = 0x4445	$40162 = 0 \times 0000$	40175 =
40111 = 0x0000	40124 = 0x0000	40137 = 0x0000	40150 = 0x4647	40163 = 0x0000	40176 =
40112 = 0x0000	40125 = 0x0000	40138 = 0x0000	40151 = 0x4849	$40164 = 0 \times 0000$	40177 =
40113 = 0x0000	$40126 = 0 \times 0000$	$40139 = 0 \times 0000$	$40152 = 0 \times 0000$	$40165 = 0 \times 0000$	40178 =
<					>
For Help, press F1. For Ed	lit, double click on a value			TCP/IP	Connection

Connection 🔀	Connection 🛛
TCP/IP Mode OK OK	Port 1 Mode OK OK
38400 Baud 💌 Cancel	38400 Baud 💌 Cancel
8 Data bits 🔄 Ignore Unit ID	8 Data bits 💽 Ignore Unit ID
Flow Control	Flow Control
None Parity 🔽 🔲 DSR 🔲 CTS	None Parity 💌 🗖 DSR 🔽 CTS
1 Stop Bit 🔄 RTS Toggle 1 [ms] RTS disable delay	1 Stop Bit

Change the connection from Port 1 to read TCP Click OK

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💭 Mbslav1				
ID = 1				
40101 = 0x0000 40114 = 0x0000	40127 = 0x0000	40140 = 0x0000	40153 = 0x0000	40166 =
40102 = 0x0000 40115 = 0x0000	40128 = 0x0000	40141 = 0x0000	$40154 = 0 \times 0000$	40167 =
40103 = 0x0000 40116 = 0x0000	40129 = 0x0000	$40142 = 0 \times 0000$	$40155 = 0 \times 0000$	40168 =
40104 = 0x0000 40117 = 0x0000	40130 = 0x0000	40143 = 0x0000	40156 = 0x0000	40169 =
40105 = 0x0000 40118 = 0x0000	$40131 = 0 \times 0000$	40144 = 0x0000	$40157 = 0 \times 0000$	40170 =
40106 = 0x0000 40119 = 0x0000	$40132 = 0 \times 0000$	40145 = 0x0000	$40158 = 0 \times 0000$	40171 =
40107 = 0x0000 40120 = 0x0000	$40133 = 0 \times 0000$	40146 = 0x0000	40159 = 0x0000	40172 =
40108 = 0x0000 40121 = 0x0000	$40134 = 0 \times 0000$	40147 = 0x0000	$40160 = 0 \times 0000$	40173 =
40109 = 0x0000 40122 = 0x0000	40135 = 0x0000	40148 = 0x0000	$40161 = 0 \times 0000$	40174 =
40110 = 0x0000 40123 = 0x0000	40136 = 0x0000	40149 = 0x0000	$40162 = 0 \times 0000$	40175 =
40111 = 0x0000 40124 = 0x0000	$40137 = 0 \times 0000$	40150 = 0x0000	$40163 = 0 \times 0000$	40176 =
40112 = 0x0000 40125 = 0x0000	40138 = 0x0000	40151 = 0x0000	$40164 = 0 \times 0000$	40177 =
40113 = 0x0000 40126 = 0x0000	40139 = 0x0000	40152 = 0x0000	40165 = 0x0000	40178 =
En 18				
				>
For Help, press F1. For Edit, double click on a value			TCP/IP Conne	ection //

Modbus Slave is now connected to the serial port on the DeviceMaster as shown by the absence of the No connection indicator. Hyperterminal Configuration back to top

# Test Terminal (WCom2) back to top

Download, install and launch Test Terminal (WCo <u>ftp://ftp.comtrol.com/utilities/windows/comtrol_ut</u>	m2). ility/Comtrol Utility Package V4.11.msi
Once Test Terminal (WCom2) is running open a c	om port:
强 WCom2 - Test Terminal - 🗆 X	
Open Port Ctrl+O 2002 13	
Preterences	
Exit	
Open one or multiple ports	
Open Ports	×
C Select Ports	ОК
COM1	Cancel
COM2	
COM4	Cottingo
COM5	Seturigs
COM6	
COMP	
COMO	
C Select Range	
For example: 3-15,21,45,51-56,74	
TCP/IP Sockets	
IP Address 192.168.2.12	
From Port 8200 To Port	
Secure Data (SSL) Certifica	ates

Enter the IP Address of your DeviceMaster in the "TCP/IP Sockets" field Enter the socket value of the serial port in the DeviceMaster. In this example the socket is 8200. Click OK

## **Verification of Operation**

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In Modbus Slave edit register 40140 (double click the 0x000 value) Change data from 0 to 1  $\,$ 

Edit Register	
Value (HEX): 1	OK
☐ <u>A</u> uto increment	Cancel

Click OK

The data will be displayed in Test Terminal (WCom2).

It will also be seen in Modbus Slave that the 40101 through 40110 values have changed to echo the input data.

🕄 Modbus Slave - Mbslav1		
Eile ⊆onnection ≦etup Display Yiew Window E	(elp	
D 🛎 🖬 🍜 🛅 🗏 🎰 🤻 🕺		
👺 Mbslav1		
ID = 1		
40101 = 0x0001 40114 = 0x0000	40127 = 0x0000 40140 = 0x0001	40153 = 0x0000 40166 =
40102 = 0x0010 40115 = 0x0000	40128 = 0x0000 40141 = 0x0010	40154 = 0x0000 40167 =
40103 = 0x3031 40116 = 0x0000	40129 = 0x0000 40142 = 0x3031	40155 = 0x0000 40168 =
40104 = 0x3233 40117 = 0x0000	40130 = 0x0000 40143 = 0x3233	40156 = 0x0000 40169 =
40105 = 0x3435 40118 = 0x0000	40131 = 0x0000 40144 = 0x3435	40157 = 0x0000 40170 =
40106 = 0x3637 40119 = 0x0000	40132 = 0x0000 40145 = 0x3637	40158 = 0x0000 40171 =
40107 = 0x3839 40120 = 0x0000	40133 = 0x0000 40146 = 0x3839	40159 = 0x0000 40172 =
40108 = 0x4041 40121 = 0x0000	40134 = 0x0000 40147 = 0x4041	40160 = 0x0000 40173 =
40109 = 0x4243 40122 = 0x0000	40135 = 0x0000 40148 = 0x4243	40161 = 0x0000 40174 =
40110 = 0x4445 40123 = 0x0000	40136 = 0x0000 40149 = 0x4445	40162 = 0x0000 40175 =
40111 = 0x0000 40124 = 0x0000	40137 = 0x0000 40150 = 0x4647	40163 = 0x0000 40176 =
40112 = 0x0000 40125 = 0x0000	40138 = 0x0000 40151 = 0x4849	40164 = 0x0000 40177 =
40113 = 0x0000 40126 = 0x0000	40139 = 0x0001 40152 = 0x0000	40165 = 0x0000 40178 =
<		
For Help, press F1. For Edit, double click on a value		TCP/IP Connection

Also note the 40139 has echoed the sequence counter as consumed.

Open the web page of the DeviceMaster.

Go to the Display Serial Logs

When the web page is reviewed the data will also be displayed.

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Note that there are both a Tx and Rx packet.

The communication statistics will also show valid counts.

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Serial/Ethernet Device Con	nmunication Statistics	TX Bit Count:	1
	and the second second second second	RX Byte Count:	18
Server Configuration Home		RX Pkt Count:	1
Serial Device Configuration		Parity Error Count:	0
Ethernet Device Configuration		Framing Error Count:	0
PLC Interface Diagnostics		Overrun Error Count:	0
Display All Modbus/RTU Devices		To PLC Dropped Packet Count:	0
Display Serial Logs		To PLC Truncated Packet Count:	0
Display Ethernet Device Logs		Tx Unexpected Seg Errors:	0
		Invalid RTU Device Responses:	N/A
Serial Device Interface Statistics	Yes/No Reset Statistics	RTU Device Timeouts:	N/A
	Port-1	Filtering Statistics	
TX Byte Count:	18	Valid Data Items Sent to PLC Interface:	0
TX Pkt Count:	1	Valid Data Items Filtered From PLC:	0
RX Byte Count:	18	Invalid Data Items Discarded From PLC:	0
RX Pkt Count:	1	Valid Data Items Sent to App Interface:	0
Parity Error Count:	0	Valid Data Items Filtered From App:	0
Framing Error Count:	0	Invalid Data Items Discarded From App:	0
Overrun Error Count:	0	RFID Tags With Unknown Formats:	0
To PLC Dropped Packet Count:	0	Application Connection Statistics	
To PLC Truncated Packet Count:	0	TX Byte Count:	18
Tx Unexpected Seq Errors:	0 -	TX Pkt Count:	1
Invalid RTU Device Responses:	N/A	To Application Dropped Packet Count:	0
RTU Device Timeouts:	N/A	RX Byte Count:	0
Filtering Statistics		RX Pkt Count:	0
Valid Data Items Sent to PLC Interface:	0	To Device Dropped Packet Count:	0
Valid Data Items Filtered From PLC:	0		10000
Invalid Data Items Discarded From PLC:	0	Ethernet Device Interface Statistics	Yes/No Reset Statistics
Valid Data Items Sent to App Interface:	0		
Valid Data Items Filtered From App:	0	Reboot	
Invalid Data Items Discarded From App:	0 🚽		

Change 40140 to a 2 and confirm all updated properly.

Click OK

Remove the Loopback Plug from the DeviceMaster serial port and change 40140 to a 3.

Edit Regi	ster	
Value:	3	OK
🔲 <u>A</u> uto in	crement	Cancel

### Click OK

Inspect HyperTerminal (Test Terminal (WCom2) is used here instead of HyperTerminal, but the data will be as seen.) HyperTerminal will NOT increment.

🐞 Test Modbus - H	yperTerminal					
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Serial Interface Logs will NOT show final Rx or Pkt(6)

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<b>CONTROL</b> <sup>®</sup> Network Enabling Devices	
Serial Interface Logs	
Server Configuration Home	
Serial Device Configuration	
Communication Statistics	
PLC Interface Diagnostics	
Serial Receive/Transmit Logs	
Reset Serial Log	
Port1 Rx/Tx Packets (first 128 packets, max of 128 bytes):	
Pkt(1): 000 00:23:55.780:Tx:0123456789@ABCDE(0Dh)(0Ah)	
Pkt(2): 000 00:23:55.790:Rx:0123456789@ABCDE(0Dh)(0Ah)	
Pkt(3): 000 00:39:56.780:Tx:0123456789@ABCDE(0Dh)(0Ah)	
Pkt(4): 000 00:39:56.780:Rx:0123456789@ABCDE(0Dh)(0Ah)	
Pkt(5): 000 00:40:10.280:Tx:0123456789@ABCDE(0Dh)(0Ah)	
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The PLC Interface Diagnostics will show:

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Non-Mode Specific Statistics/Diagnostics		^
Oversized Received Data Packet Errors:	0	
Improper Configuration Errors:	0	
System Resource Errors:	0	
Writes To Offline Ethernet Device on Socket 1:	0	
First Error Description:	Modbus/TCP connect() failed: error Connection refused	
Last Error Description:	Modbus/TCP connect() failed: error Connection refused	
Reboot		~
Done	😜 Internet 🦓 🔹 🔍 100% 🔹	

First Error Description and Last Error Description show a failed message.

This demonstrates that the Loopback Plug must be attached for the test to pass. The Serial Device Configuration web page must also show the Mode: as RS-232

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