

Consultant ModbusTCP Howto

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Version 1

ModbusTCP



This document is a guide to connecting a ModbusTCP device to a Mac running ConsultantX software from Control Plus. www.controlplus.biz

You will learn :-

- How to create a connection to a modbus TCP device.
- How to create a scanner that reads a block of data in the device.

Create a Connection.

A connection is the software object that handles all communications with the modbudTCP device. You must create one connection for each modbusTCP device.

select *Connections* from the *Comms* menu.

ConsultantX	File	Edit	View	Comms	Window	Environment	Help
0 0			_	Connec	tions		Untitle
				Scanne New Se Sort K8055 Ping As	rs nsor Assistant sistant		

Click the *New* button on the Connections window.

New	Edit Delete	
	Luit Delete	
Name		Status

Select *ModbusTCP* from the menu.

New Edit Delete	Тур	EthernetIP (Industrial Protocol) Gateway Velleman K8055 / ModbusTCP
Name Status	Modb	Modbus Serial Allen-Bradley PLC5, SLC500 Ethernet (CSP) Generic TCP/IP (pingable) Cancel OK

You must now enter the IP address of the Modbus TCP device, in this example 192.168.0.102 is used.

You must give your connection a unique name. The name of the connection is used for identification by the scanners. This is very important when you have more than one Modbus TCP device and hence must have more than one Modbus TCP connection. In this example we will call the connection *Conveyor101*.

_		Connections	
	Name :	Conveyor101	I
-	IP Address :	192.168.0.102	F
Ро		🗹 Enabled	1
		Cancel OK	

You have now created a ModbusTCP connection. If your ModbusTCP device is online and working the Connections window will show *Connected* in the *Status* column.

If ConsultantX cannot connect to the ModbusTCP device you have specified then the *Status* Column will show *Opening Port*

Creating a Scanner

Now that you have connected to the ModbusTCP device you can create a scanner that will read a block of data from the device. Select *Scanners* from the *Comms* Menu.

ConsultantX File	Edit View	Comms	Window	Environment	Help
0 0		Connec	tions		Untit
		Scanne	rs		
		New Se	nsor		
		Sort	•		
		K8055	Assistant		
		Ping As	sistant		

Click the *New Scanner* button in the Scanners window.

00					Scanners						
New Scann	ier N	ew Sensor	Auto Ser	isor	(Edit	Delete	Data Tabl	e 🗘		
Address	0	1	2	3	4	5	6	7	8	9	
Name	-			Descript	e tion			Status			
▶internal				scanne	r			Online ()			

In this example we have called this scanner *Analogs* and this scanner is going to use the connection *Conveyor101*.

It is going to read 5 elements from the holding registers starting at holding register 10. Thus, it will read a single block of data containing registers 10, 11, 12, 13 and 14.

This is only a simple example and in your application these settings will be different based on the configuration of your ModbusTCP device.

			Scanners		
eı	Name :	Analogs			at
1	Connection :	Conveyor101			
		Function	Read Holding	Registers 🛟	
1		Scan Rate :	1.00	Seconds	
ł		Slave :	0	Decimal	0
		Start Address :	10	Decimal	
1	Numbe	r of Elements :	5	Decimal	
t					
				Cancel	ОК

In the Scanner window select the new scanner you just created by clicking on its name in the list. The actual data read by this scanner will now be displayed in the table at the top of the window. This is a quick way to see that you are reading the correct data registers.

00						Scanners						
New Sca	nner	New Sensor	Auto Ser	isor	(Edit	Delete	Data Tabl	e 🛟			
Address	0	1	2	3	4	5	6	7	8	9		
0	311	257	109	248	248	xxx	хжх	xxx	xxx	ххх		
					•							
Name				Desc	ription				State	IS		
Analogs	scanner Online ()								ine ()			
▶internal	ernal scan								Onl	ne ()		

You are now ready to create sensors for this scanner. Please refer to the Howto document for creating sensors. Remember in this example the scanner is reading registers 10 to 14 so when you create a sensor to access register 10 it will be element 0 in the scanners data table. To access other data blocks in the same modbusTCP device just create another scanner that uses the same connection.

Howto's

To learn more about ConsultantX refer to the other ConsultantX howto's