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Technical Specification

#### Overview

**NetX** Serial to Ethernet converter enables connecting serial RS-232/422/485 lines to Ethernet with transparent conversion of serial protocols to UDP or TCP/IP packets. **NetX** provides conversion of physical and electrical interfaces, way of medium access and speeds between two communication networks.

NetX acts as independent network device with own Ethernet address and adjustable network parameteres: IP address, subnet mask and default gateway. Adjusting of network parameteres is provided over LAN to which NetX converter and PC for adjusting are connected.



NetX Ethernet to Serial converter

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## **Applications**

NetX Ethernet to Serial device is completely suited to industrial communications, process automation, alarming systems and telemetry applications. Applicaton examples:

 connecting of distributed I/O modules and PLCs in and control and measuring fields to LAN/Internet



control of optical nodes in cable distribution systems



connection of VHF/UHF packet radio modems to LAN



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## Connecting and adjusting of converter

Base model of NetX converter is being supplied with 8 to 30VDC power adapter. The device consumption is less than 6W. All connectors and LED indications are placed on device front panel.



The connection to serial interface is done by 9-pin male DB9M connector. Depending on PCB jumper settings, three types of serial interfaces are offered: RS-232DTE, RS-422 and RS-485. The following table shows the DB9M connector pin-out:

DB9M connector pin	RS- sigr	232 nals	RS-422 signals	RS-485 signals
1	DCD	input		
2	RD	input	-Rx	-Tx/Rx
3	TD	output	-Tx	
4	DTR	output		
5	GND	input	GND	GND
6	DSR	input		
7	RTS	output	+Tx	
8	CTS	input	+Rx	+Tx/Rx
9	-	-		

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The following figure depicts the layout of the jumpers on the NetX circuit board, while the table shows their settings.



Serial Interface	Position	Jumpers
	1-2	J3, J4, J5, J6, J7, J8
R3-232DTE	2-3	
RS-485 2-wire,	1-2	J1, J9, J10
no termination	2-3	J3, J4, J5, J6, J7, J8
RS-485 2-wire,	1-2	J9, J10
termination 120Ω	2-3	J1, J3, J4, J5, J6, J7, J8
RS-485 4- wire,	1-2	J1, J2, J10
no termination	2-3	J3, J4, J5, J6, J7, J8, J9
RS-485 4-wire,	1-2	J1, J10
Rx termination 120Ω	2-3	J2, J3, J4, J5, J6, J7, J8, J9
RS-485 4-wire,	1-2	J2, J10
Tx termination 120Ω	2-3	J1, J3, J4, J5, J6, J7, J8, J9
RS-485 4-wire,	1-2	J10
Rx and Tx termination $120\Omega$	2-3	J1, J2, J3, J4, J5, J6, J7, J8, J9
RS-422 4-wire,	1-2	
Rx and Tx termination $120\Omega$	2-3	J1, J2, J3, J4, J5, J6, J7, J8, J9, J10

All other jumpers not present in above table can be left in any position or can be removed from the NetX circuit board.

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## **Communication parameters adjusting**

Connect NetX converter to LAN swich/router by standard CAT5 patch cable or directly to LAN port of PC by cross-link patch cable. CD delivered with device contains contains software needed for communication parameters adjusting.

Start application named *Digi Device Discovery*. The application will discover connected converter.

	IP Address 🗠	MAC Address	Name	Device
Device Tasks	<b>1</b> 92.168.0.6	00:40:9D:45:23:D2		Digi Connect ME4 9.
Open web interface				
felnet to command line				
Configure network settings				
Restart device				
Dther Tasks				
Refresh view				
telp and Support				
Details				
Decans				
Configured (Static)				
compared (score)				
IP address: 192.168.0.6				
Subnet mask: 255.255.255.0				
Default gateway: 0.0.0.0				
Serial ports: 1 Ekonometria: 92001607 1				
r miningres, occostd07_C				

Navigate to left panel and click *Configure network settings* to start device network settings.

The network settings car supports this capability. D administrator for the appr	n be assigned automatically if your network Rherwise, you need to ask your network opriate network settings.	
Device:	Digi Connect ME4 9210	
MAC Address:	00:40:9D:45:23:D2	
🔘 Obtain network set	tings automatically	
<ul> <li>Manually configure</li> </ul>	network settings	
IP Address:	192.168.0.6	
Subnet Mask:	255.255.255.0	
Default Gateway:	0.0.0.0	
S	ave Cancel	

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Confirm choosen parameters with *Save* button, then approve restarting the device by clicking *OK*.

Restart	Device 🛛 🔀
2	The device must be restarted in order for the new settings to take effect. Would you like to restart the device now?
	OK Cancel
	Please wait while the device is restarting
	Cancel

After adjusting the network parameters, *Open web interface* from the main window (left panel) can be used for further settings.

	IP Address 🗠	MAC Address	Name	Device
Device Tasks	<b>192.168.0.6</b>	00:40:9D:45:23:D2		Digi Connect ME4 9210
Open web interface				
Telnet to command line				
Configure network settings				
Restart device				
Other Tasks				
Refresh view				
Help and Support				
Details				
Digi Connect ME4 9210				
Configured (Static)				
IP address: 192.168.0.6				
Subnet mask: 255.255.255.0				
Default gateway: 0.0.0.0				
Serial ports: 1				
FINIMARE: 02001007_L				

All NetX converter settings can be accesed through web inteface. Any web browser can be used for that purpose (Internet Explorer, Google Chrome, ...) if device IP address is known. Otherwise, unknown device IP can be obtained from above-mentioned *Digi Device Discovery* routine.

Next picture shows the look of web interface access window. Defult access parameters for NetX device settings are following.

- Username: root
- Password: dbps

	0
Login	
Welcome to the Configuration and Management interface of the Digi Connect ME4 9210. Please specify the username and password to login to the web	Username: root Password: ····
interface. See the User Guide and documentation for more information on logging in or retrieving a lost password.	Login
Copyright @ 1996-2011 Digi Int	arnational I.nc. All rightz rezerved. Iggi.com

Next picture shows home window of web interface. Left panel contains menu of all possible settings.

Digit	Digi Connect M	IE4 9210 Configuration and Management	
			0
lome	Home		
onfiguration	Getting Started		
Serial Ports GPIO	Tutorial Not sure wh	hat to do next? This Tutorial can help.	
Alarms	System Summary		
System	Model:	Digi Connect ME4 9210	
Users	Ethernet MAC Address:	00:40:90:45:23:02	
pplications	Ethernet IP Address:	192,168.0.6	
RealPort	Link Local Address:	FE80::240:90FF:FE45:23D2	
lanagement			
Connections	Description:	None	
	Contact:	None	
File Management	Location:	None	
Backup/Restore Update Firmware	Device ID:	00000000-00000000-00409DFF-FF4523D2	
Factory Default Settings System Information	L		
Reboot.			
oyoot			
		Copyright @ 1996-2011 Digi International Inc. All rights reserved.	
		www.digl.com	

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Users form enables changes to device users.

By choosing root as *User name* parameters of this user can be changed, and applied by clicking to *Apply* button.

Apart from root changes, other users can be added by choosing New.

→ C ① 192.168.0	6/confla/users/user_info.htm	\$
Digi	Digi Connect ME4 9210 Configuration and Management	
loma		<b>0</b> H
Configuration	Osers Conliguration	
Network Serial Ports GPLO	Enable user logins	
Alarms System iDigi	Apply	
Applications	Configure Users	
RealPort	root	
Serial Ports Connections	New	
Administration File Management Backup/Restore Update Firmware Factory Default Settings System Information Reboot		
logout		
	Copyright @ 1996-2011 Digi International Inc. All rights reserved.	

The Network option allows the change of the network parameters.

F → C (© 192.168.0.6)	ionfig/hetwork/hetwork_config.htm	ជ
Digi	Digi Connect ME4 9210 Configuration and Management	
		O Help
Home	Network Configuration	
Configuration	▼ Ethernet IP Settings	
Senal Ports	Configure the network below. IPv6 settings are shown here for informational purposes.	
Alarms	IPv6	
System	Site Local Address: none	
Users	Link Local Address: FE80::240:9DFF:FE45:23D2	
Applications RealPort	IPv4	1
Management	O Obtain an IP address automatically using DHCP *	
Serial Ports	Ose the following IP address:	
Administration	* IP Address: 192.168.0.6	
File Management	* Subnet Mask: 255.255.0	
Backup/Restore	Default Gateway: 0.0.0.0	
Factory Default Settings		
System Information Robert	Enable AutoIP address assignment	
Locout	* Changes to DHCP, IP address, and Subnet Mask may affect your browser connection.	
000000		
	Αρργ	
	Network Services Settings	
	IP Forwarding Settings	
	Socket Tunnel Settings	

The Serial Ports option allows the change of the serial port parameters.

Digit	Digi Connect M	E4 9210 Configuration and Management	
			0
Home	Home		
Configuration	Getting Started		
Serial Ports	Tutorial Not sure wh	at to do next? This Tutorial can help.	
GPIO Alarms	Cushere Correspond		
System	System Summary		
iDigi	Model:	Digi Connect ME4 9210	
Users	Ethernet MAC Address:	00:40:30:45:23:02	
Applications	Ethernet ID Address	192 168 0.6	
RealPort	Link Local Address:	FE80::240:9DFF:FE45:23D2	
Management			
Connections	Description:	None	
	Contact:	None	
File Management	Location:	None	
Backup/Restore	Device ID:	0000000-0000000-004090FF-FF4523D2	
Factory Default Settings			
System Information Reboot			
Logout			
		Copyright © 1996-2011 Digi International Inc. All rights reserved.	
		( and the second s	





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← → C ③ 192.168.0.6)	config/ports/port_config_profile.htm?1 💈
0PIO Alams System Users Applications Reality Reality Factors Connections Administration File Kanagement Backan/Perture Factor (drawb.Setings System Information Reboot	Select the profile below that best matches your configuration.         Imaginary for the allows you to any a COM or TTY port to the serial port. More         Censile Management Profile allows you to access a device's console port over a network connection. More         Or CS Seckst         The European and the allows a serial device to communicate over a TCP network. More         Or Sockets         The Serial Bridge         The Serial Bridge         The Serial Bridge Profile allows a serial device to communicate using UDP. More         Serial Bridge         The Serial Bridge Profile configures one side of a serial bridge. A bridge connects two serial devices over the network as if they were control the accenter bridge adds. More         Local Configuration The Serial Bridge Bridge access the command line interface. More         Insolution Automation         The Modem Emulation         The Modem Emulation         Orgeneration         The Modem Emulation         The PDP Server Profile allows you to configure the serial port to act as a modem. More         Orgeneration         The PDP Server Profile allows a serial device to configuration of the serial port. More         Custom         The PDP Server Profile allows a serial device to connect and communicate over the TCP/IP network. More         Custom         The PDP Server Profile allows a serial device to connect and c

The following profiles are available:

*Real Port* – enables the communication with M-Bus devices by adding the virtual serial port



*Console Management* - enables access to serial port through network

*TCP Sockets* - enables the communication with serial devices via TCP/IP protocol

 $\textit{UDP Sockets}\xspace$  - enables the communication with M-Bus devices via UDP protocol

Serial Bridge - enables communication of two serial devices over network by using two NetX converters - the replacement for serial cable



Local Configuration – enables connection of standard terminals or terminal emulators to NetX serial port with aim of remote accessing serial port through console



Industrial Automation - used for control and monitoring of one or more automation serial devices including PLCs. Base setting is Modbus/TCP RTU Bridge

Modem Emulation - configures serial port as modem



PPP Server - configures serial port to establish connections with other devices by using point to point protocol (PPP)

Custom - enables total control over serial port parameters - for advanced users

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Following examples describe two profiles of serial communication, *RealPort* and *Industrial Automation – Modbus/TCP RTU Bridge*.

#### RealPort - virtual serial port

*Real Port* – enables the communication with M-Bus devices by adding the virtual serial port

Requires installation of additional virtual COM port to PC used for LAN communication with serial port of NetX device.

To continue virtual serial port settings, choose option Real Port.



Than confirm it with Apply.

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After setting the virual port click to *Reboot*. Confirm the same again with *Reboot*.

Digi Connect ME4 9210 Co ×	•		-
← → C ③ 192.168.0.6/	admin/reboot.htm	ជ	
Digit	Digi Connect ME4 9210 Configuration and Management		_
		0	le
Home	Reboot		
Configuration	The reboot process will take approximately 1 minute to complete. Click Reboot now to reboot the Digi Connect ME4 9210.		
Serial Ports GPIO Alarms	Reboat		T
System iDigi Users			
Applications RealPort			
Management Serial Ports Connections			
Administration File Management Backup/Restore Update Firmware Factory Default Settings System Information Reboot			
Logout			
	Copyright @ 1996-2011 Digi International Inc. All rights reserved.		

By finishing this routine converter is preset to operate with PC virtual serial port.

Next step is installation of additional virtual COM port driver to the PC.

#### Installing virtual serial port to PC

Start the application *Digi RealPort Setup Wizard* by clicking to *Setup32.exe* located on CD delivered with converter.



#### Continue with Next.

Digi RealPort Setup Wi	zard		
Select Device From the list below, selec the list, select <device n<="" th=""><th>st the device you would like to ot listed&gt; and click Next.</th><th>use. If your device is not in</th><th>• <b>F</b></th></device>	st the device you would like to ot listed> and click Next.	use. If your device is not in	• <b>F</b>
Devices found on your netwo	ırk:		
IP Address	MAC Address	Model	
2192.168.0.6	00:40:9D:45:23:D2	Digi Connect ME4 921	0
Don't see your device? Click I	here for help.	<u></u> E	lefresh

DECODE Data Communications, Bulevar Nikole Tesle 30A, 11080 Belgrade, Serbia Tel/Fax. +381 11 3110027, 3115636; http://www.decode.rs Select the line containing IP address and name of discovered Digi converter. Model of the converter module should be *Digi Connect ME4 9210*. Click *Next*.

Set one (for RS232DTE interface) or more (for RS485 interface) available COM ports to be used as virtual serial ports.

Device Model Name: Digi Connect ME4 9210 Network Settings	COM Port Settings	- Device Features -
P C MAC C DNS C ICP-L     192.168.0.6 Default Network Profile:     TCP: Typical Settings	No. Ports:	✓ Encryption ✓ Authentication
RealPort TCP:     Senal ODP:       771     2101       Wait for COM open request	I <u>S</u> kip Modem PnP	Install Options <u>H</u> elp

#### Confirm it with Finish.

Digi RealPort Setup	Wizard			
Installing Digi RealPo Please wait while you	<b>rt</b> rDigiRealPort devic	e is installed.		Ś
Installing Serial ports				
		< Back	Finish	Cancel

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After the completion of virtual serial port installation click Finish.

#### Uninstalling virtual serial port from PC

Uninstalling of virtual serial port drivers from your PC can be accomplished via Control Panel by using next procedure.

Navigate to Start->Settings->Control Panel->Administrative Tools ->Computer Management.

Activate Device Manager. Find the Digi Connect ME or Digi Connect ME4 9210 under Multi-port serial adapters group.

By clicking the above device with right mouse button, select Uninstall.



After the device is removed from hardware list, uninstallng virtual serial port is finished.

Automatic receiving/sending from RS-485

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When using RS-485 serial interface, switching the receiving/sending should be controlled by RTS (*Request To Send*) serial port signal, which is turned on before sendig data, and turned off after the data has been sent. Another signal CTS (*Clear To Send*) is automatically generated in NetX converter, while RTS signal is being turned on. Additionaly, while DTR signal (*Data Terminal Ready*) is activated, NetX turns the DSR signal (*Data Set Ready*) automatically on, which can be used to check for NetX presence.

If your PC uses virtual serial port to access device RS-485 interface over the LAN, there is no possibility of controlling RTS signal. Therefore automatic control of switching the receiving/sending should be configured by following procedure.

Click to Start->Settings->Control Panel->Administrative Tools->Computer Management. Select Device Manager and find your device, Digi Connect ME or Digi Connect ME4 9210 under Multi-port serial adapters group.

le Action View Help	
📕 ALEKSA	
🗄 🧕 Computer	
🗄 🥪 Disk drives	
🗄 😼 Display adapters	
🗄 🥝 DVD/CD-ROM drives	
🖻 🚭 Floppy disk controllers	
🗄 😃 Floppy disk drives	
🗄 🚍 IDE ATA/ATAPI controllers	
😟 🦢 Keyboards	
Image:	
🕀 🦢 Modems	
🗄 💆 Monitors	
🖃 🔊 Multi-port serial adapters	
Digi Connect ME4 9210 (192.168.0.6)	
🗄 🎬 Network adapters	
🖻 🍠 Ports (COM & LPT)	
- Z Communications Port (COM1)	
Communications Port (COM2)	
Digi Connect ME4 9210 - Port 1 (COM4)	
Printer Port (LPT1)	
🛨 🐜 Processors	

By clicking it with right mouse button choose Properties.

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	Advanced Driv	er Details
×()	Digi Connect ME	4 9210 (192.168.0.6)
	Device type:	Multi-port serial adapters
	Manufacturer:	Digi International
	Location:	Unknown
Devic This	e <mark>status</mark> device is working j	properly.
Devic This If you start	e status device is working j u are having proble the troubleshooter.	properly.
Devic This If you start	e status device is working j u are having proble the troubleshooter.	properly. ms with this device, click Troubleshoot to Iroubleshoot
Device	e status device is working j u are having proble the troubleshooter. usage:	properly. ms with this device, click Troubleshoot to Iroubleshoot

Choose Advanced tab.

Digi Con	nect ME4 9	210 (192.168.0.6) Properties	<b>?</b> ×
General	Advanced	Driver Details	
×.	Digi Conne	ct ME4 9210 (192.168.0.6)	
	Digi RealPo	ort Driver and Setup	
	Copyright 1	998-2010 Digi International Inc.	
	Protected b	y U.S. Patent No. 6,047,319. Patents Pending.	
Devic	e Information		
Mod	lel Name:	Digi Connect ME4 9210	
No.	of Ports:	1	
IPA	ddress:	192.168.0.6	
TCP	Port	771	
Con	nection:	Connected	
Dev	ice UI:	http://192.168.0.6	
Sec	urity:	Authentication Off / Encryption Off	
		Properties	
		OK Ca	ancel

Bottom right part of the window has *Properties* button for changing the advanced properties.

DECODE Data Communications, Bulevar Nikole Tesle 30A, 11080 Belgrade, Serbia Tel/Fax. +381 11 3110027, 3115636; http://www.decode.rs Digi Connect ME4 9210 (192.168.0.6) Advanced Properties ? 🗙 
 Digi Connect ME4 9210 (192.16)
 Properties
 Serial
 Advanced
 TCP
 UDP

 Image: Connect ME4 9210 (192.16)
 Properties
 Serial
 Advanced
 TCP
 UDP
 Port 1 (COM4) Port Name: Port Description: Port Network Profile Change... TCP: Typical Settings Port Status Local COM: Closed Device Port: Not acquired > OK Cancel Apply

Choose Advanced tab on the right side, than Custom Settings.

Digi Connect ME4 9210 (192.16	i8.0.6) Advanced Properties	2 🗙
Dig Connect ME4 9210 (192.168	Properties       Serial       Advanced       TCP       UDP         Image: Construction of the series of t	
	OK Cancel Apply	

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Complete the Custom Application Settings form by turning on the option Always Use RTS Toggle for Flow Control.

Ţ	Warning: We recommend only experienced users alter custom port settings.
	Please see the release notes for details on how to write a custom application to use advanced features.
Custor	n Settings
	ways Use RTS Toggle for Flow Control
	e Serial API to Alert Application if Device Goes Off-line
E Eo	rce HUPCL (Drop DTR on close)

Click OK to confirm changes.

With the last step confirmed, automatic control of switching the receiving/sending has been successfully configured for RS-485 interface.

Setting TCP data packetization

To make data transfer more efficient, TCP packetization parameters should be set according to bytesize of requests and responses being sent and received from PC virtual serial port.

Open *Advanced Properties* of virtal serial port the same way as described in last chapter. Choose *TCP* tab and check the *Adjust serial data packetization*.

Digi Connect ME4 9210 (192.16)	Properties Serial Advanced TCP UDP Pot 1 (COM4)
	TCP Transport Settings
	Complete Write Requests Immed. (Don't block on WriteFile)
	Discard Writes if Device Buffer Full (else WriteFile blocks)
	□ Signal T≚E Immediately (WaitCommEvent's EV_TXEMPTY)
	✓ Verify all data sent on close (may block on CloseHandle)
	Timeout if no data movement for: 2000 msecs.
	This port is being shared (don't lower lines on close)
	Ignore line and serial settings Ignore Settings
	Adjust serial data packetization Data Notification
	Нер

To the right of this setting choose Data Notification ...

Data Notification Settings
NOTE: Please review the help documentation or contact your system administrator before altering these values.
Device Receive Data and Transmit Notification Triggers
The first two triggers control when the device delivers incoming data to the driver. The second two triggers control when the device notifies the driver that outgoing data has been sent.
Hold data until this many bytes are received: 255 🕂
Or this many msec pass since last delivery: 100 🚊
Notify driver after sending this many bytes:
Or this many msec pass since last update: 10
Driver Receive Notification Trigger
Notify device after receiving this many bytes: 0
Help OK Cancel

First two data fields contain bytesize and timeout values of data expected to arrive to PC from NetX serial inteface. If serial device responses are large (more than 10 bytes) both values are to be increased. Fill the *Hold data until this many bytes are received* with 255 and *Or this many msec pass since last delivery* with 100.

The same values can be used for next two data fields respectively, if requests from PC side are too long. Standard MODBUS requests doesn't require changes to those two data fileds.

Industrial Automation – Modbus/TCP RTU Bridge

Modbus/TCP RTU Bridge profile is used for control and monitoring of one or more automation serial devices including PLCs. Communication protocol is Modbus/TCP.



Application of Modbus/TCP RTU Bridge profile

Access to web interface settings should be initiated with *Login* by using *root* as *username* and *dbps* as *password* (default login).

🕒 Digi Connect M	E4 9210 Co× 😨		
← → C (()	) 192:168.0.6/login.htm		☆ <b>ペ</b>
D	Digi Connect ME4 9210 Configu	ration and Management	
			😗 Help
	Login		
	Welcome to the Configuration and Management interface of the Digi Connet (Me 9210). Diseas specify the username and password to login to the web interface. See the User Guide and documentation for more information on logging is or retrieving a loss password. Copyright @ 196-2011 Digi In word	Usemane: red Password: Logn Annuklinul Inc All rights reserved.	

Confirm your login data by clicking Login.

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Choose Serial Ports from left window pane.

	Diai	onnect	ME4 9210	Configuration and Management	
Digit	Digit	Jonneet	1124 9210		
					6
lome	Serial	Port Config	juration		
Configuration Network	Port	Description	Profile	Serial Configuration	
Serial Ports	Port 1	None	<unassigned></unassigned>	9600 BN1	
GPIO Alarms					
System					
iDigi Users					
Applications					
RealPort					
lanagement					
Senal Ports Connections					
Administration					
File Management					
Backup/Rescore Update Firmware					
Factory Default Settings					
System Information Reboot					
opput					
			Copyright @ 195	6-2011 Digi International Inc. All rights reserved.	

Choose Port 1.

Digi Connect ME4 9210 Co ×	
← → C ③ 192.168.0.6/∞	onfig/ports/port_conlig_select_profile.htm?1 🔗 🔌
GPIO Alarms System ibigi Users Applications RealPort	RealPort The RealPort Profile allows you to map a COM or TTY port to the serial port. More Console Management The Console Management Profile allows you to access a device's console port over a network connection. More
Management Serial Ports Connections	<ul> <li>TCP Sockets</li> <li>The TCP Sockets Profile allows a serial device to communicate over a TCP network. More</li> </ul>
Administration File Management Backup/Restore Update Firmware Factory Default Settings System Information Reboot	UDP Sockets     The UCP Sockets Profile allows a serial device to communicate using UDP. More     Serial Bridge     The Serial Bridge Profile configures one side of a serial bridge. A bridge connects two serial devices over the network as if they were     connected web a serial able. More
Logout	Local Configuration     The Local Configuration Profile allows you to connect standard terminals or terminal emulation programs to the serial port in order to     use the serial port at a controlle to access the command line interface. More
	Industrial Automation     The Industrial Automation (IA) Profile allows you to control and monitor various IA devices and PLCs. More
	Modem Emulation     The Modem Emulation Profile allows you to configure the serial port to act as a modem. More
	PPP Server     The PPP Server Profile allows a serial device to connect and communicate over the TCP/IP network. More
	Custom     The Custom Profile is an advanced option to allow full configuration of the senial port. More
	Apply Cancel

Choose Industrial Automation and confirm with Apply.

Digi Connect NE4 9210 Co ×	0		
► → C ③ 192.168.0.6/c	onfig/ports/port_config_profile.htm?1	☆	1
Digit	Digi Connect ME4 9210 Configuration and Management		_
Home	Changes have been saved successfuly. A reboot is required for these changes to take effect.	]	
Configuration		e Hei	ψ
Network Serial Ports	Serial Port Configuration		
GPIO	▼ Port Profile Settings		I
Alarms System iDigi	Current Port Profile: Industrial Automation Change Profile The Industrial Automation (IA) Profile allows you to control and monitor various IA devices and PLCs.		
Users	Industrial Automation Settings		
pplications RealPort	Current Protocol: Modbus/RTU Serial Slave Change Protocol My PLC or other IA device is connected to this serial port and needs to communicate with another PLC, device, or system on t	he network.	
lanagement	▼ Modbus RTU Settings		
Serial Ports Connections	Forward incoming network requests using the following unit addresses		
dministration			
Backup/Restore Update Firmware Factory Default Settings	Override the Modbus unit address on incoming requests with specified unit address		
System Information Reboot	(Apply)		
ogout	Modbus/TCP Network Settings [Global]		
	Advanced Protocol Settings		
	Basic Serial Settings		
	Advanced Serial Settings		i
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Choose Change Protocol.

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Choose Serial Slave and Modbus RTU protocol and confirm with Apply.

Modbus/TCP Network Settings (Global) should be set like this:

· → C (© 192.168.0.6/○	onfig/ports/port_config_ia_modbus_tcp_master.htm?1	3
		alp
ome	Serial Port Configuration	C
onfiguration Network Serial Ports	Port Profile Settings     Current Port Profile: Industrial Automation Change Profile	l
Alarms	The industrial Automation (IA) Prome allows you to concor and monitor various in Geness and PLCs.	
System	Industrial Automation Settings	
iDigi Users	Current Protocol: Modbus/RED Senal Slave Change Protocol My PLC or other IA device is connected to this serial port and needs to communicate with another PLC, device, or system on the network.	
pplications	Modbus RTU Settings	
RealPort	✓ Modbus/TCP Network Settings [Global]	
anagement Serial Ports Connections	Note: The following settings are globally configured and affect all serial ports. They are provided here for convenience.	
Iministration File Management Backup/Restore	Accept incoming ModulayTCP in UDP/IP UDP port: 502	
Update Firmware	Modbus/TCP Protocol Settings:	
Factory Default Settings	Ignore incoming broadcast requests using unit address 0	
System Information Rehoot	Send incoming broadcast requests to this serial device	
gout	Change the Modbus unit address to 1 before sending	
	Enable error responses when requests time out	
	Modbus/TCP Protocol Timeouts:	
	Character timeout: 30000 ms	
	Message timeout: 2000 ms	
	Enable idle timeouts for idle connections	
	Idle timeout: 4500 s	
	Anniv	

DECODE Data Communications, Bulevar Nikole Tesle 30A, 11080 Belgrade, Serbia Tel/Fax. +381 11 3110027, 3115636; http://www.decode.rs Advanced Protocol Settings should be set like this:

🗅 Dig Connect ME4 9210 Co × 😒				
← → C ③ 192.168.0.6/c	nfig/ports/port_config_la_advanced.htm?1			
Digi	Digi Connect ME4 9210 Configuration and Management			
Home	Serial Port Configuration			
Configuration	▼ Port Profile Settings			
Serial Ports GPIO	Current Port Profile: Industrial Automation Change Profile The Industrial Automation (IA) Profile allows you to control and monitor various IA devices and PLCs.			
Alarms	Industrial Automation Settings			
iDigi Users	Current Protocol: Modbus/RTU Serial Slave Change Protocol My PLC or other IA device is connected to this serial port and needs to communicate with another PLC, device, or system on the network.			
Applications	<ul> <li>Modbus RTU Settings</li> </ul>			
RealPort	Modbus/TCP Network Settings [Global]			
Management Serial Ports Connections	▼ Advanced Protocol Settings			
Administration	Character timeout: 20 ms (maximum delay or gap betweens bytes of a message)			
File Management Backup/Restore Update Firmware Factory Default Settings System Information Polyocit	Slave timeout: 1000 ms (after request is sent, the maximum time to wait for the slave to start responding)			
	Apply			
Locaut	▶ Basic Serial Settings			
corpore.	Advanced Serial Settings			
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*Basic Serial Settings* should be set according to required data format on converter serial port:

Digit	Digi Connect ME4 9210 Configuration and Management	
and the second s		0
tome	Serial Port Configuration	
Configuration Network	Port Profile Settings	
Serial Ports GPIO	▼ Basic Serial Settings	
Alarms System iDigi	Description:	
Users	Baud Rate: 9600 💌	
RealPort	Data Bits: 8 💌	
Anagement Social Ports	Parity: None M	
Connections	Stop Bits:	
dministration	Flow Control: None M	
File Management Backup/Restore Undate Firmware	Apply	
Factory Default Settings System Information Report	Advanced Serial Settings	
nanut		
allowe:		
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Under Advanced Serial Settings switch on the Enable RTS Toggle for RS485 interface. Click to Apply. By enabling RTS Toggle, signal for automatic switching of receiving/sending is used on RS-485 interface.

	Digi Connect ME4 9210 Configuration and Management
Digi	Digi connect ML4 5210 configuration and Management
	C He
Home	Serial Port Configuration
Configuration	Part Profile Settions
Network Serial Ports	Resir Senal Settings
GPIO	✓ Advanced Serial Settings
Alarms System iDigi	The following settings are advanced settings used to fine tune the serial port and access to the serial interface. The default settings will typically work in most situations.
Users	Serial Settings
Applications RealPort	Enable RTS Toggle
Management	Pre-Delay: 0 ms
Serial Ports	Post-Delay: 0 ms
Administration	
File Management	
Backup/Restore Update Firmware	Apply
Factory Default Settings	
System Information Reboot	
Logout	
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### Click Reboot.



DECODE Data Communications, Bulevar Nikole Tesle 30A, 11080 Belgrade, Serbia Tel/Fax. +381 11 3110027, 3115636; http://www.decode.rs Confirm changes one more time by clicking *Reboot*.

Diai Digi	Connect ME4 9210 Configuration and Management	
*		🕜 Hel
Reboot In Progress	s	
The Digi Connect ME4 92	210 with MAC address 00:40:90:45:23:02 is currently rebooting. You will be reconnected automatically in approx minute.	omately 1
If you are not reconnec	tted automatically click here or use the discovery utility that was provided on your CD to find this device on the n	etwork.
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Approximately 1 minute is needed for Reboot cycle and reconnection.

This concludes settings of Modbus/TCP RTU Bridge profile.

# **Technical specification**

Serial communication		
Interface	RS-232DTE, TxD, RxD, DTR, DSR, DCD, RTS, RS-422/485, 120R termination for Tx and Rx, R <sup>T</sup> control	
Connection	DB9 male	
Speed	50, 110, 134, 150, 200, 300, 600, 1200, 2400, 3600, 4800, 9600, 19200, 38400, 57600, 115200, 230400	
Format	5, 6, 7, 8 bits; parity: none, odd, even, mark, spa stop bits	
Protocol	transparent (virtual serial port) Serial Bridge Modbus TCP/UDP master/slave – RTU/ASCII PPP server	
Flow control	software (XON/XOFF), hardware (CTS/RTS), none	

Ethernet communication		
Interface	Ethernet, IEEE 802.3	
Physical layer	10/100 Base-T	
Speed	10/100 Mbps (auto-sensing)	
Mode	half-duplex or full-duplex (auto-sensing)	
Protocol	UDP, TCP/IP	
IP parameters	IP address, subnet mask, default gateway	
Number of connections	1	
Connection	RJ45	

General		
LED indicators	PWR, TxD, RxD, DTR, LAN, LINK	
Power supply	8 – 32VDC, 9 – 36VDC isolated, 18 – 72VDC isolated, PoE	
Power consumption	5Wmax	
Connection	Pluggable screw clamp, 1.5mm <sup>2</sup>	
Overvoltage protection	tranzorb on RS-422/485 line	
Working temperature	-25 up to 70℃	
Mounting	35mm DIN rail	
Dimensions	95x35x80mm	

Model	
NetX Ethernet to Serial	NetX Ethernet with RS-232/422/485 communication connection and power supply in range 8-32VDC
NetX Ethernet to Serial–ISO	NetX Ethernet with RS-232/422/485 communication connection and isolated power supply in range 9-36VDC
NetX Ethernet to Serial–ISO–HV	NetX Ethernet with RS-232/422/485 communication connection and isolated power supply in range 18-72VDC
NetX Ethernet to Serial–ISO–PoE	NetX Ethernet with RS-232/422/485 communication connection and isolated power over Ethernet

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