MOXA MGate Manager Setup

Software & Equipment Needed

In order to setup the MGate MB3180 unit you will need to download and install the MGate Manager software from MOXA. This can be downloaded from http://www.moxa.com/support/DownloadFile.aspx?type=support&id=981.

You will also need a connection from your laptop to the MGate unit using either a crossover cable or through a switch. I always go through a switch to make things a little easier.

Setting up the MGate MB3180 Unit

Start MGate Manager software and you will see this screen. If this is the computer's first time opening the MGate Manager software, allow MGate access to all networks (the crossover cable will be a PUBLIC network).

lo.	Name	Model	Μ	IAC Address	IP/COM	Status	Firmware Version
De	vice Identification		Device Function				
	Search		Configuration	Load Monit	tor Log	ProCOM Mapping	Import
	Locate		Load Default	Diagno	ise	Upgrade Firmware	Export
	Language		GSD Management	Off-Line Cont	iguration		Evit

Figure 1 - MGate Manager

Make sure you are connected to the MGate MB3180 unit and select the Search button. Use the broadcast search to locate the unit you are trying to configure.

Search	×
Broadcast Search	\searrow
O Specify IP Search	0.0.0.0
O Connect through COM Port	COM1 \vee
	OK Cancel

Figure 2 - Broadcast Search

If the IP address has already been configured use the Specify IP Search and enter the IP address of the unit. This will search for the specific IP to allow you to change the setting if needed.

Once the unit is located it will show up in the main part of the screen as shown. If the unit is NOT located, check the network configuration of the crossover cable to ensure the TCP/IP network settings are set to automatic detection. Control Panel > Network and Internet > Network and Sharing Center > Ethernet > Properties > TCP/IP v4 > Properties

😝 MGat	te Manager							+	• _	
No.	Name	Model		MAC	Address	IP/COM		Status	Firmware Versio	on
01	MG-MB3180_4480	MGate MB3	180	00:90	:E8:54:A3:2E	192.168.1	27.254		Ver. 1.6 Build 15	5062414
<										
De	evice Identification		Device Function							
	Search		Configuration		Monit	or	Pro	COM Mapping	Import	
				63						
	Locate		Load Default		Diagno)se	Upg	rade Firmware	Export	
					-	•				
	Language		GSD Manageme	nt	Off-Line Con	hguration			Exit	
🗃 MGat	te Manager							+	• _	- ×
MGat	te Manager	Model		MAC	Address	IP/COM		+ Status	Firmware Versio	n n
MGat	te Manager Name MG-MB3180_4480	Model MGate MB3	180	MAC /	Address 1:E8:54:A3:2E	IP/COM 192.168.1	27.254	+ Status	Firmware Versio	Dn 5062414
MGat	Name MG-MB3180_4480	Model MGate MB3	180	MAC /	Address :E8:54:A3:2E	IP/COM 192.168.1	27.254	← Status	Firmware Versio	Dn 5062414
MGat	Name MG-MB3180_4480	Model MGate MB3	180	MAC /	Address :E8:54:A3:2E	IP/COM 192.168.1	27.254	←	Firmware Versic Ver. 1.6 Build 15	Dn 5062414
MGat	te Manager Name MG-MB3180_4480	Model MGate MB3	180	MAC /	Address :E8:54:A3:2E	IP/COM 192.168.1	27.254	+ Status	Firmware Versic	0n 5062414
MGat No. 01	te Manager Name MG-MB3180_4480	Model MGate MB3	180	MAC /	Address :E8:54:A3:2E	IP/COM 192.168.1	27.254	←	Firmware Versic	DN 5062414
MGat	te Manager Name MG-MB3180_4480	Model MGate MB3	180	MAC / 00:90	Address :E8:54:A3:2E	IP/COM 192.168.1	27.254	€	Firmware Versic Ver. 1.6 Build 15	□ × m 5062414
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MGat No. 01	te Manager Name MG-MB3180_4480	Model MGate MB3	180	MAC /	Address :E8:54:A3:2E	IP/COM 192.168.1	27.254	← Status	Firmware Versic	D X
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MGat No. 01	te Manager Name MG-MB3180_4480	Model MGate MB3:	180	MAC / 00:90	Address :E8:54:A3:2E	IP/COM 192.168.1	27.254	← Status	Firmware Versic Ver. 1.6 Build 15	D X
MGat	te Manager Name MG-MB3180_4480	Model MGate MB3	180 Device Function	MAC /	Address :E8:54:A3:2E	IP/COM 192.168.1	27.254	← Status	Firmware Versic Ver. 1.6 Build 15	200 5062414
MGat	te Manager Name MG-MB3180_4480	Model MGate MB3	180 Device Function	MAC /	Address :E8:54:A3:2E	IP/COM 192.168.1	27.254	← Status	Firmware Versic Ver. 1.6 Build 19	on 5062414
MGat	te Manager Name MG-MB3180_4480	Model MGate MB3	180 Device Function Configuration	MAC /	Address :E8:54:A3:2E	IP/COM 192.168.1	27.254	COM Mapping	Firmware Versic Ver. 1.6 Build 15	>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
MGat	te Manager Name MG-MB3180_4480	Model MGate MB3	180 Device Function Configuration Load Default	MAC /	Address :E8:54:A3:2E	IP/COM 192.168.1	27.254	← Status COM Mapping rade Firmware	Firmware Versic Ver. 1.6 Build 15	>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
MGat	te Manager Name MG-MB3180_4480	Model MGate MB33	180 Device Function Configuration Load Default	MAC / 00:90	Address :E8:54:A3:2E	IP/COM 192.168.1	27.254	COM Mapping	Firmware Versic Ver. 1.6 Build 19	>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
MGat	te Manager Name MG-MB3180_4480	Model MGate MB33	180 Device Function Configuration	MAC /	Address :E8:54:A3:2E	IP/COM 192.168.1	27.254	COM Mapping	Firmware Versic Ver. 1.6 Build 15	>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
MGat	te Manager Name MG-MB3180_4480 GUIDE Content in the second secon	Model MGate MB3	180 Device Function Configuration Load Default GSD Managemee	MAC /	Address :E8:54:A3:2E Load Moni Diagno	IP/COM 192.168.1	27.254	COM Mapping	Firmware Versic Ver. 1.6 Build 15	>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>

Figure 3 - Located Unit

Once the unit is discovered select it and press the configuration button.

Figure 4 - Configure the Unit



The next screen is where you start the configuration process of the unit. You will see the screen below.

Figure 5 - Configuring the Unit - Mode

Select the RTU Master Mode for this screen as shown.



Figure 6 - Select RTU Master Mode

Configuration		×
	PIN SIGNAL 1 RXD+ 2 RXD- 3 TXD+ 4 X 5 X 6 TXD- 7 X 8 X	OK Cancel
ModeNetworkSerialNameNetwork ConfigureIP AddressNetmaskGatewayDNS1DNS2	Modbus Routing Modbus Accessible IP SNMP Miscellaneous MG-MB3180_4480 Password	

Now go to the Network Tab. This is where you will set up the IP address for the unit. As you can see from the screen it is set as the default IP of the unit.

Figure 7 – Setup IP Address

Change this to match your PLC network.



Figure 8 - Match the PLC Network

I always leave the password fields blank but if you want to secure this enter the password you would like to use.



Next go to the Serial tab. You will see the default settings for the serial port.

Figure 9 - Configuration - Serial

	tion									
	(DB9 Male	9	PIN	RS-232	RS-422	RS-485 (4-wire)	RS-485 (2-wire)	OK	J
		123	3 4 5	1	DCD	DD=	TiD=		Cance	31
				2	RO	TxD+	TxD+			
		-		3	TxD	RxD+	RxD+	Data+		
		•	•••••••	4	DTR	RxD-	RxD-	Data —		
	l	-++		5	GND	GND	GND	GND		
		67	89	6	DSR					
				7	RTS					
				8	CTS					
Baudra	ta i	Elow Control	1							ľ
Baudra 38400	ate F	Flow Contro	·							
Baudra 38400 Parity	ate f	Flow Contro None FIFO	· ·							,
Baudra 38400 Parity None	ate F ~ N F ~ C	Flow Contro None FIFO Disable	∠ ×							,
Baudra 38400 Parity None Stop bi	ate f	Flow Contro None FIFO Disable Interface	· · · · · · · · · · · · · · · · · · ·							
Baudra 38400 Parity None Stop bi 1	ate F V N F V C it J	Flow Contro None FIFO Disable Interface	· · · · · · · · · · · · · · · · · · ·							
Baudra 38400 Parity None Stop bi 1 Data b	ate f N f v C it J v R R R R	Flow Control None FIFO Disable Interface RS232 RS232 RS232 RS232 RS232 RS232 RS232								

Set these as follows to match the setting that will be used for the RS-485 (MODBUS) network.

Figure 10 - Match RS-485 (MODBUS) Network

Make sure you select the RS485 2-wire for the interface selection.

	DB9 Male		PIN	RS-232	RS-422	RS-485	RS-485 (2.wire)	OK
	12345	5	1	DCD	DO-	DD=		Cancel
			2	RiD	TxD+	TxD+		
			з	TxD	RxD+	RxD+	Data+	
	0) •	4	DTR	RiD-	RxD-	Data —	
			5	GND	GND	GND	GND	
	6789		6	DSR				
			7	RTS				
			8	CTS				
Node Netw Port 1	vork Serial Mo	dbus Routing Mod	dbus	Accessib	le IP SN	IMP Misc	ellaneous	
Node Networks Netwo	Flow Control	dbus Routing Mod	dbus	Accessib	le IP SN	IMP Misc	ellaneous	
Network 1 Port 1 Baudrate 38400 V Parity	Flow Control None	dbus Routing Mo	dbus	Accessib	le IP SN	MP Misc	ellaneous	
None Vetwork	Flow Control None FIFO Disable Vone	dbus Routing Mod	dbus	Accessib	le IP SN	MP Misc	ellaneous	
None V None V	Flow Control None FIFO Disable Interface	dbus Routing Mo	dbus	Accessib	le IP SN	MP Misc	ellaneous	
None v None v None v None v	Vork Serial Mo Flow Control None FIFO Disable Interface RS485 2-wi	dbus Routing Mo	dbus	Accessib	le IP SN	MP Misc	ellaneous	
Aode Networks Network Network 1 Baudrate 38400 V Parity None V Stop bit 1 V Data bits	vork Serial Mo Flow Control None FIFO Disable Interface RS485 2-wi	dbus Routing Mod	dbus	Accessib	le IP SN	MP Misc	ellaneous	

After the serial configurations are complete it should look something like this.

Figure 11 – Completed Serial Configuration

Notice that wiring for the serial port is shown in the top section. This will be the wiring from the MGate unit to the XL200 series controller.

Now go to the Modbus Routing tab.

It defaults to no routing as shown. We have to add a route in order for this unit to work.

nfiguration				>
		to Positing Madhup Associate To COMP	1 199999 199999 199999 199999 10000	OK Cancel
Port Routing T	able	Modbus Accessible IP SIMP	Miscellaneous	Add
				Remove Modify
Slave ID Table]
Chann	Туре	Slave ID Range (Virtual<->Real)	Destination	Add
				Remove
				Modify
<			>	
				1

Figure 12 - Configuration - MODBUS Routing

In order to add a route select add next to the lower window. This will give you a pop-up window to add the routing (shown below).

Enter the IP address, slave ID start address and slave ID end address of the PLC into this window. Leave the TCP port at the default 502. This is the default Rockwell Automation MODBUS TCP.

Slave ID Table		×
Destination	Remote IP Address \sim	
Remote IP Address	0.0.0.0	TCP Port 502
Slave ID Start	0	
Slave ID End	0	
Slave ID Offset	0	
	OK Cancel	

Figure 13 - Slave ID Table

It should look similar to this.

Slave ID Table		×
Destination	Remote IP Address $\qquad \lor$	
Remote IP Address	169 . 253 . 95 . 100	TCP Port 502
Slave ID Start	1	
Slave ID End	1	
Slave ID Offset	0	
	OK Cancel	

Figure 14 – Completed Slave ID Table



One you finish entering the PLC information select OK and the window should like similar to this.

Figure 15 - Completed MODBUS Routing Configuration

figuration		>
50 Response Time- Slaves Channel Response Time- Response Time-	et eut 50 Port P out 2 50 0-120000 m out Detected	Auto Detection
Initial Delay 0 Slaves Channel 0 Response Time-out 1000	(0-30000 ms)	Modbus TCP Exception TCP / ProCOM
Response Time-out Detecte	ed Report	Auto Detection
Interval Time-out	0 (10	- 500ms, Default: 0ms)

Next select the Modbus tab. Make sure these are at the defaults. No need to change any of these settings.

Figure 16 - Configuration - MODBUS

Configuration	×
$^{\text{Accessible}}$	OK Cancel
Mode Network Serial Modbus Routing Modbus Accessible IP SNMP Miscellaneous Enable the Accessible IP list IP address Netmask Active 0 . 0 . 0 . 0 255 . 255 . 255 . 255 (Double dick item to activate or inactivate)	Add Modify Remove
No. Active IP address Netmask	

Next select the Accessible IP tab. Make sure these are at the defaults. No need to change any of these settings.

Figure 17 - Configuration - Accessible IP

Configuration	×
SNMP Manager SNMP Get/Set SNMP Response	OK Cancel
Mode Network Serial Modbus Routing Modbus Accessible IP SNMP Miscellaneous SNMP Enable Community Name public Contact Location	

Next select the SNMP tab. Make sure these are at the defaults. No need to change any of these settings.

Figure 18 - Configuration - SNMP

G	Output Relay Output	ОК
Normal	Close Close	Canci
Power Fail	Open	•
e Network Serial Modbus Ro	outing Modbus Accessible IP SNMP Miscellaneout	
Auto Relay Warning		
Power Failure	Enable	
	Enable	
Ethernet 1 Link Down		
Ethernet 1 Link Down Ethernet 2 Link Down	Enable	
Ethernet 1 Link Down Ethernet 2 Link Down Console Settings	Enable	
Ethernet 1 Link Down Ethernet 2 Link Down Console Settings Reset Button Protect	Enable	
Ethernet 1 Link Down Ethernet 2 Link Down Console Settings Reset Button Protect Telnet Console	Enable	

Next select the Miscellaneous tab. Make sure these are at the defaults. No need to change any of these settings.

Figure 19 - Configuration - Miscellaneous

Configuration			×
R	elay Output	Relay Output	OK
Normal	Close	al Close	Cancel
Power Fail	Open Ethernet	Open	
Mode Network Serial Modbu	us Routing Modbus Accessib	ole IP SNMP Miscellaneous	
Auto Relay Warning			
Power Failure	Enable		
Ethernet 1 Link Down	Enable		
Ethernet 2 Link Down	Enable		
Console Settings			
Reset Button Protect	Enable		
Telnet Console	🗹 Enable		
Web Console	Enable		

After all of the configuration tabs have been checked select the OK button.

Figure 20 - Approve Configurations

You will get this pop-up.

Warning!		Х
Finish		
	OK	

Figure 21 - Warning Pop-up

This will force the MGate Manager to start searching for the unit again.

Searching	N	×
	3	
Searching		
		Cancel

Figure 22 - Searching for Unit

After the search is completed, you will receive an error after a brief delay. The new IP address from the configuration should be listed in the error's warning message. The error will persist when broadcast searching for the connection due to the gateway address change.

0.	Name	Model	MAC Address	IP/COM	Status	Firmware Version
		Warn	ing!	×		
			Failed to coni MGate MB30 IP: 169.253.95 MAC: 00-90-F	nect! 00 .80 E8-60-22-FD		
De	vice Identification Search	Device Fur	UT LOAU P		ProCOM Mapping	Import
	Locate	Load Defa	ult Dia	agnose L	Jpgrade Firmware	Export

Figure 23 - Unit Listed with New IP Address

At this point the configuration for the unit is completed. Once you make the connections to the PLC and the XL200 series controller, which has the PLC Interface settings entered to match the settings of the unit the communications should be able to start. You might be required to search for the PLC the first time you connect if the controller lost communications or never connected to the PLC before with this unit.