# MGate MB3170/MB3270 Series

## 1 and 2-port advanced serial-to-Ethernet Modbus gateways



#### **Features and Benefits**

- · Supports Auto Device Routing for easy configuration
- · Supports route by TCP port or IP address for flexible deployment
- · Connects up to 32 Modbus TCP servers
- · Connects up to 31 or 62 Modbus RTU/ASCII slaves
- Accessed by up to 32 Modbus TCP clients (retains 32 Modbus requests for each Master)
- Supports Modbus serial master to Modbus serial slave communications
- · Built-in Ethernet cascading for easy wiring
- 10/100BaseTX (RJ45) or 100BaseFX (single mode or multi-mode with SC/ST connector)
- Emergency request tunnels ensure QoS control
- · Embedded Modbus traffic monitoring for easy troubleshooting
- · Serial port with 2 kV isolation protection (for "-I" models)
- -40 to 75°C wide operating temperature models available
- Supports redundant dual DC power inputs and 1 relay output

#### Certifications



## Introduction

The MGate MB3170 and MB3270 are 1 and 2-port Modbus gateways, respectively, that convert between Modbus TCP, ASCII, and RTU communications protocols. The gateways provide both serial-to-Ethernet communication and serial (master) to serial (slave) communications. In addition, the gateways support simultaneously connecting serial and Ethernet masters with serial Modbus devices. The MGate MB3170 and MB3270 Series gateways can be accessed by up to 32 TCP master/clients or connect to up to 32 TCP slave/servers. Routing through the serial ports can be controlled by IP address, TCP port number, or ID mapping. A featured priority control function allows urgent commands to obtain an immediate response. All models are rugged, DIN-rail mountable, and offer optional built-in optical isolation for serial signals.

#### Integrate TCP Masters without Altering the Modbus RTU/ASCII Network or Software

The MB3270 can integrate Modbus TCP with Modbus RTU/ASCII, without modifying the existing Modbus RTU/ASCII architecture or software. With the serial redirector function, a serial master can maintain direct access to serial slave devices through a specially mapped serial port. This allows the serial and TCP masters to access serial slaves simultaneously.

#### **Optical Fiber for Ethernet Communication**

The MGate MB3170 Series includes 100BaseFX fiber models that support transmission distances up to 4 km for multi-mode models, and up to 40 km for single-mode models. Optical fiber is well-suited for industrial applications because it is immune to electromagnetic noise and interference. For environments that experience high ground loop voltages, fiber provides the best isolation protection, and because there is no danger of sparking, optical fiber is safer than copper wire to use in hazardous environments.

#### Auto-Device Routing for Easy Configuration (Patent Pending)

Moxa's Auto-Device Routing function helps eliminate many of the problems and inconveniences encountered by engineers who need to configure large numbers of Modbus devices. A single mouse click is all that's required to set up a slave ID routing table and configure Modbus gateways to automatically detect Modbus requests from a supervisory control and data acquisition (SCADA) system. By removing the need to manually create the slave ID routing table, the Auto-Device Routing function saves engineers significant time and cost.

#### **Priority Control for Urgent Commands (Patented)**

As Modbus networks increase in size and complexity, the lag time between commands and responses becomes a major concern. Advanced models of the MB3000 Series provide a priority control function for urgent commands, allowing users to force certain commands to get an immediate response. Depending on your system's requirements, different methods are available to define which commands receive priority.



#### Patent Numbers: (US/TW)

- US7,743,192 B2/I332618
- US7,725,635 B2/I321007

## **Specifications**

#### Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)

Magnetic Isolation Protection

**Optical Fiber** 

2 (1 IP, Ethernet cascade) Auto MDI/MDI-X connection

#### 1.5 kV (built-in)

		100BaseFX		
		Multi-Mode		Single-Mode
Fiber Cable Type		0141	50/125 µm	G.652
		OM1	800 MHz x km	
Typical Distance		4 km	5 km	40 km
Wavelength	Typical (nm)	1300		1310
	TX Range (nm)	1260 to 1360		1280 to 1340
	RX Range (nm)	1100 to 1600		1100 to 1600
Optical Power	TX Range (dBm)	-10 to -20		0 to -5
	RX Range (dBm)	-3 to -32		-3 to -34
	Link Budget (dB)	12		29
	Dispersion Penalty (dB)	3		1

attenuator to prevent damage caused by excessive optical power. Note: Compute the "typical distance" of a specific fiber transceiver as follows: Link budget (dB) > dispersion penalty (dB) + total link loss (dB).

#### Ethernet Software Features

Industrial Protocols	Modbus TCP Client (Master), Modbus TCP Server (Slave)
Configuration Options	Web Console (HTTP/HTTPS), Device Search Utility (DSU), MGate Manager, Telnet Console
Management	ARP, DHCP Client, DNS, HTTP, HTTPS, SMTP, SNMP Trap, SNMPv1/v2c/v3, TCP/IP, Telnet, UDP, NTP Client
MIB	RFC1213, RFC1317
Time Management	NTP Client
Serial Interface	
No. of Ports	MGate MB3170 Series: 1 MGate MB3270 Series: 2
Connector	MGate MB3170/MB3170I: DB9 male for RS-232 and terminal block for RS-422/485 MGate MB3270/MB3270I: 2 x DB9 male
Serial Standards	R2-232/422/485 (software selectable)
Baudrate	50 bps to 921.6 kbps
Data Bits	7,8
Parity	None, Even, Odd, Space, Mark



Five ControlDTK/DSR, RTS Togle (RS-232 enly), RTS/CTSR5485 Data Direction ControlADDC® (automatic data direction control)Pull High/Low Resistor for RS-4851 kilo-chm, 150 kilo-chmsTerminator for RS-4851 colomsIsolationMata MB37707-21 k/l imodels) Motan MB37707-25 k/l imodels) Motan MB37707-55 C: 2 k/l (imodels) Motan MB37707-55 C: 2 k/l (imodels)Seriel SignalTx, rk, rk, rk, rk, ONDR-48-20Date, Date, OADR-48-20Date, Date, OADR-48-20Motan RTU/ASCII Mater, Motan RTU/ASCII Signal FIMax No. OSerier Connection12No. Of Client MB37704-SCC MB37	Stop Bits	1,2
Ide High/Law Resistor for RS-485     iklia-ohm, 150 klia-ohms       Torminator for RS-485     i20 ohms       Isolation     MGate MB3170F: 2 kV (I models) MGate MB3170F-85C: 2	Flow Control	DTR/DSR, RTS Toggle (RS-232 only), RTS/CTS
Terminator for RS-485     100 hms       isolation     100 hms       isolation     Migate MB31701: 2 kV (I models) Migate MB31701-KSC: M	RS-485 Data Direction Control	ADDC® (automatic data direction control)
Iselation     Gate MB31701: 2 kV (I models)       Maske MB31701: 2 kV (I models)     Maske MB31701: 5 kV (I models)       Maske MB31701: 5 kC: 2 kV (I models)     Maske MB31701: 5 kC: 2 kV (I models)       Maske MB31701: 5 kC: 2 kV (I models)     Maske MB31701: 5 kC: 2 kV (I models)       Maske MB31701: 5 kC: 2 kV (I models)     Maske MB31701: 5 kC: 2 kV (I models)       Srial Signals     F       R5-422     Tx+, Tx+, Rx+, GND       R5-4524     Tx+, Tx+, Rx+, GND       R5-4524     Tx+, Tx+, Rx+, GND       Srial Software Foatures     F       Industrial Protocols     Modus RTU/ASCII Master, Modus RTU/ASCII Slave       Modus (I ransparent)     S       Max. No. of Client Connections     2       Input Voltage     12 to 4 VOC       Input Voltage     Serial Software Foatures       Input Voltage     Context Connections       Input Current     Gaste MB31700/MB3270: 435 mA 61 2 VDC       Moder MB32700/MB3270: 435 mA 61 2 VDC     Gaste MB31700/MB3270: 435 mA 61 2 VDC       Moder MB32700/MB3270: 435 mA 61 2 VDC     Gaste MB31700/MB3270: 435 mA 61 2 VDC       Moder MB32700/MB3270: 435 mA 61 2 VDC     Gaste MB31700/MB3270: 435 mA 61 2 VDC       Moder MB32700/M	Pull High/Low Resistor for RS-485	1 kilo-ohm, 150 kilo-ohms
Rate MB3170H-SC: 2V (I models) MGate MB3270H-T: 2V (I models) MGate MG3270HGATE MGATE MG	Terminator for RS-485	120 ohms
RS-232TxD, RxD, RTS, CTS, DTR, DSR, DCD, GNDRS-422Tx+, Tx-, Rx+, Rx-, GNDRS-485-2wData+, Data-, GNDRS-486-4wTx+, Tx-, Rx+, Rx-, GNDSerial Software FeaturesModbus RTU/ASCII Master, Modbus RTU/ASCII SlaveIndustrial ProtocolsModbus RTU/ASCII Master, Modbus RTU/ASCII SlaveModbus (Transparent)12Max. No. of Client Connections32Power Parameters12 to 48 VDCInput Voltage12 to 48 VDCInput GurrentMGate MB3170/MB3270: 435 mA @ 12 VDC MGate MB3170/MB3170-S-SC: 655 mA @ 12 VDC MGate MB3170/MB3170-M-SC/MB3170I-S-SC: 655 mA @ 12 VDC MGate MB3170/MB3170-M-SC/MB3170I-M-SC/MB3170I-S-SC: 655 mA @ 12 VDC MGate MB3170/MB3170-M-SC/MB3170I-M-SC/MB3170I-S-SC: 655 mA @ 12 VDCPower ConnectorPointerninal blockRelaysPointerninal blockPhysical CharacteristicsPointerninal blockPhysical CharacteristicsPisointerninal blockPosingPisointerningPosingPisointerningPosingPisointerningPosingPisoin	Isolation	MGate MB3170I-T: 2 kV (I models) MGate MB3170I-M-SC: 2 kV (I models) MGate MB3170I-M-SC-T: 2 kV (I models) MGate MB3170I-S-SC: 2 kV (I models) MGate MB3170I-S-SC-T: 2 kV (I models) MGate MB3270I: 2 kV (I models)
RS-422     Tx+, Tx-, Rx+, Rx-, GND       RS-485-2w     Dat+, Dat+, GND       RS-485-4w     Tx+, Tx-, Rx+, Rx-, GND       RS-485-4w     Modus RTU/ASCII Master, Modbus RTU/ASCII Slave       Serial Software Features     Modus RTU/ASCII Master, Modbus RTU/ASCII Slave       Industrial Protocols     02       Max. No. of Client Connections     02       Power Parameters     12       Input Voltage     12 to 48 VDC       Input Voltage     12 to 48 VDC       Power Connector     7.pin terminal block       Power Connector     Pointerminal Protocol State MB3170/MB3270-45.C/MB3170-HS-SC/MB3170-HS-SC/MB3170-HS-SC/MB3170-HS-SC/MB3170-HS-SC/MB3170-MS	Serial Signals	
RS-485-2w     Data+, Data-, GND       RS-485-2w     Data+, Data-, GND       RS-485-4w     Tx+, Tx-, Rx+, Rx-, GND       Serial Software Features     Modbus RTU/ASCII Master, Modbus RTU/ASCII Slave       Industrial Protocols     Modbus RTU/ASCII Master, Modbus RTU/ASCII Slave       Modbus (Transparent)     32       Max. No. of Client Connections     32       Power Parameters     12 to 48 VDC       Input Voltage     12 to 48 VDC       Input Current     Type Real REB170/MB3270: 435 mA @ 12 VDC MGate MB32701/MB3170-S-SC/MB3170I-S-SC: 555 mA @ 12 VDC MGate MB32701/MB3170-S-SC/MB3170I-S-SC: 555 mA @ 12 VDC MGate MB32701/MB3170-S-SC: 6/MB3170I-S-SC: 555 mA @ 12 VDC MGate MB32701/MB3170-S-SC/MB3170I-S-SC: 555 mA @ 12 VDC MGate MB32701/MB3170-S-SC: 6/MB3170I-S-SC: 555 mA @ 12 VDC       Power Connector     7-pin terminal block       Relays     Esistive load: 1 A @ 30 VDC       Physical Characteristics     Pinstic       Housing     Plastic       IP Rating     Plastic       Pinensions (with ears)     20 x 89.2 x 124.5 mm (1.14 x 3.51 x 4.67 in)       Dimensions (without ears)     20 x 89.2 x 118.5 mm (1.14 x 3.51 x 4.67 in)	RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-485-4w     TA-, TA-, RA-, GND       RS-485-4w     TA-, TA-, RA-, GND       Serial Software Features     Modbus RTU/ASCII Master, Modbus RTU/ASCII Slave       Industrial Protocols     Modbus RTU/ASCII Master, Modbus RTU/ASCII Slave       Modbus (Transparent)     Industrial Protocols       Max. No. of Client Connections     32       Power Parameters     Industrial Protocols       Input Voltage     12 to 48 VDC       Input Voltage     MGate MB3170/MB3270: 435 mA @ 12 VDC MGate MB3170/MB3170-M-SC/MB3170I-S-SC: 555 mA @ 12 VDC MGate MB32701/MB3170-M-SC/MB3170I-S-SC: 555 mA @ 12 VDC MGate MB32701/MB3170-M-SC/MB3170I-S-SC: 555 mA @ 12 VDC MGate MB32701/MB3170-M-SC/MB3170I-S-SC: 555 mA @ 12 VDC       Power Connector     -pin terminal block       Relays     -       Contact Current Rating     Resitve load: 1 A @ 30 VDC       Physical Characteristics     -       Housing     Plastice       IP Rating     Plastice       Dimensions (without ears)     20 × 89.2 × 118.5 mm (1.14 × 3.51 × 4.90 in)       Dimensions (without ears)     20 × 89.2 × 118.5 mm (1.14 × 3.51 × 4.67 in)	RS-422	Tx+, Tx-, Rx+, Rx-, GND
Serial Software Features   Industrial Protocols Modbus RTU/ASCII Master, Modbus RTU/ASCII Slave   Modbus (Transparent) 32   Max. No. of Client Connections 32   Max. No. of Server Connections 32   Power Parameters 32   Input Voltage 12 to 48 VDC   Input Current Magate MB3170/MB3270: 435 m.4 012 VDC Magate MB3170/MB3170-M-SC/MB3170I-M-SC/MB3170I-S-SC: 555 m.A @ 12 VDC Magate MB3270/MB3170-M-SC/MB3170I-M-SC/MB3170I-S-SC: 555 m.A @ 12 VDC   Power Connector 7-pin terminal block   Relays 5   Yout Current Rating Resistive load: 1 A @ 30 VDC   Physical Characteristics Plastic   Housing Plastic   If Rating Plastic   Ip Rating 9× 89.2 x 124.5 mm (1.14 x 3.51 x 4.90 in)   Dimensions (without ears) 29 x 89.2 x 124.5 mm (1.14 x 3.51 x 4.67 in)	RS-485-2w	Data+, Data-, GND
Industrial ProtocolsModbus RTU/ASCII Master, Modbus RTU/ASCII SlaveModbus (Transparent)32Max. No. of Client Connections32Max. No. of Server Connections32Power Parameters12 to 48 VDCInput Voltage12 to 48 VDCInput CurrentMGate MB3170/MB3270: 435 mA @ 12 VDC MGate MB3170/MB3170-M-SC/MB3170I-M-SC/MB3170I-S-SC: 555 mA @ 12 VDC MGate MB3270I/MB3170-M-SC/MB3170I-M-SC/MB3170I-S-SC: 555 mA @ 12 VDC MGate MB3270I/MB3170-M-SC/MB3170I-M-SC/MB3170I-M-SC/MB3170I-S-SC: 555 mA @ 12 VDC MGate MB3270I/MB3170-M-SC/MB3170I-M-SC/MB3170I-M-SC/MB3170I-M-SC/MB3170I-S-SC: 555 mA @ 12 VDC MGate MB3270I/MB3170-M-SC/MB3170I-M-SC/MB3170I-M-SC/MB3170I-M-SC/MB3170I-M-SCPower Connector7-pin terminal blockRelaysEstive load: 1 A @ 30 VDCPhysical CharacteristicsPlasticeHousingPlasticeIn PatingPlasticeIP RatingP30Dimensions (with ears)29 x 89.2 x 118.5 mm (1.14 x 3.51 x 4.90 in)Dimensions (without ears)29 x 89.2 x 118.5 mm (1.14 x 3.51 x 4.67 in)WeightMGate MB3170 Series: 360 g (0.79 lb)	RS-485-4w	Tx+, Tx-, Rx+, Rx-, GND
Adduate   Adduate     Mochous (Transparent)   32     Max. No. of Client Connections   32     Max. No. of Server Connections   32     Power Parameters   12 to 48 VDC     Input Voltage   12 to 48 VDC     Input Current   MGate MB3170/MB3270: 435 mA @ 12 VDC MGate MB3170/MB3170-M-SC/MB3170I-M-SC/MB3170I-S-SC: 555 mA @ 12 VDC MGate MB3170/MB3170-M-SC/MB3170I-M-SC/MB3170I-S-SC: 555 mA @ 12 VDC MGate MB3270//MB3170-M-SC/MB3170I-M-SC/MB3170I-S-SC: 555 mA @ 12 VDC     Power Connector   - rpin terminal block     Relays   - rpin terminal block     Relays   - rpin terminal block     Postor   - rpin terminal block     Postor   - rpin terminal block     Postor   - Relays     Postor   - Postor     Postor   - Postor     IP Rating   Postor     IP Rating   - Postor     Postor   - Postor     Ip mensions (with ears)   - Postor     Postor   - Postor     Ip mensions (without ears)	Serial Software Features	
Max. No. of Client Connections32Max. No. of Server Connections32Power ParametersInput VoltageInput Voltage12 to 48 VDCInput CurrentMGate MB3170/MB3270: 435 mA @ 12 VDC MGate MB3170/MB3170-M-SC/MB3170I-M-SC/	Industrial Protocols	Modbus RTU/ASCII Master, Modbus RTU/ASCII Slave
ActActMax. No. of Server Connections32Power Parameters12 to 48 VDCInput Voltage12 to 48 VDCInput CurrentMGate MB3170/MB3270: 435 mA @ 12 VDC MGate MB3170/MB3170-M-SC/MB3170I-S-SC: 555 mA @ 12 VDC MGate MB3270I/MB3170-M-SC/MB3170I-S-SC: 555 mA @ 12 VDC MGate MB3270I/MB3170-M-SC/MB3170I-S-SC: 555 mA @ 12 VDC MGate MB3270I/MB3170-M-SC/MB3170I-S-SC: 555 mA @ 12 VDCPower Connector7-pin terminal blockPower Connector7-pin terminal blockPotorac Current RatingResistive load: 1 A @ 30 VDCPhysical CharacteristicsPlasticeHousingPlasticeIP Rating1930Dimensions (with ears)29 x 89.2 x 118.5 mm (1.14 x 3.51 x 4.90 in)WeightMGate MB3170 Series: 360 g (0.79 lb)	Modbus (Transparent)	
Power Parameters       Input Voltage     12 to 48 VDC       Input Current     MGate MB3170/MB3270: 435 mA @ 12 VDC MGate MB3170/MB3170-S-SC/MB3170I-M-SC/MB3170I-S-SC: 555 mA @ 12 VDC MGate MB3270/MB3170-M-SC/MB3170I-M-SC/MB3170I-S-SC: 555 mA @ 12 VDC       Power Connector     7-pin terminal block       Relays     5       Postic Current Rating     Resistive load: 1 A @ 30 VDC       Physical Characteristics     19       Housing     Plastic       IP Rating     IP 30       Dimensions (with ears)     29 × 89.2 x 124.5 mm (1.14 x 3.51 x 4.90 in)       Dimensions (without ears)     29 × 89.2 x 118.5 mm (1.14 x 3.51 x 4.67 in)       Weight     MGate MB3170 Series: 360 g (0.79 lb)	Max. No. of Client Connections	32
Input Voltage12 to 48 VDCInput CurrentMGate MB3170/MB3270: 435 mA @ 12 VDC MGate MB3170/MB3170-S-SC/MB3170I-S-SC: 555 mA @ 12 VDC MGate MB3270/MB3170-M-SC/MB3170I-S-SC: 555 mA @ 12 VDCPower Connector7-pin terminal blockRelaysTopin terminal blockContact Current RatingResistive load: 1 A @ 30 VDCPhysical CharacteristicsPlasticHousingPlasticIP RatingIP30Dimensions (with ears)29 x 89.2 x 124.5 mm (1.14 x 3.51 x 4.90 in)Dimensions (without ears)29 x 89.2 x 118.5 mm (1.14 x 3.51 x 4.67 in)WeightMGate MB3170 Series: 360 g (0.79 lb)	Max. No. of Server Connections	32
Input Current     MGate MB3170/MB3270: 435 mA @ 12 VDC MGate MB3170/MB3170-M-SC/MB3170I-M-SC/MB3170I-S-SC: 555 mA @ 12 VDC MGate MB3270//MB3170-M-SC/MB3170I-M-SC/MB3170I-S-SC: 555 mA @ 12 VDC       Power Connector     7-pin terminal block       Relays     7-pin terminal block       Contact Current Rating     Reistive load: 1 A @ 30 VDC       Physical Characteristics     Plastice load: 1 A @ 30 VDC       Housing     Plastice       IP Rating     IP30       Dimensions (with ears)     29 x 89.2 x 124.5 mm (1.14 x 3.51 x 4.90 in)       Dimensions (without ears)     MGate MB3170 Series: 360 g (0.79 lb)	Power Parameters	
MGate MB3170I/MB3170-S-SC/MB3170I-M-SC/MB3170I-S-SC: 555 mA @ 12 VDC MGate MB3270I/MB3170-M-SC/MB3170I	Input Voltage	12 to 48 VDC
Relays   Contact Current Rating Resistive load: 1 A @ 30 VDC   Physical Characteristics   Housing Plastic   IP Rating Plastic   Dimensions (with ears) 29 x 89.2 x 124.5 mm (1.14 x 3.51 x 4.90 in)   Weight Modate MB3170 Series: 360 g (0.79 lb)	Input Current	MGate MB3170I/MB3170-S-SC/MB3170I-M-SC/MB3170I-S-SC: 555 mA @ 12 VDC
Contact Current RatingResistive load: 1 A @ 30 VDCPhysical CharacteristicsHousingPlasticIP RatingPlasticDimensions (with ears)29 x 89.2 x 124.5 mm (1.14 x 3.51 x 4.90 in)Dimensions (without ears)29 x 89.2 x 118.5 mm (1.14 x 3.51 x 4.67 in)WeightMGate MB3170 Series: 360 g (0.79 lb)	Power Connector	7-pin terminal block
Physical Characteristics     Housing   Plastic     IP Rating   IP30     Dimensions (with ears)   29 x 89.2 x 124.5 mm (1.14 x 3.51 x 4.90 in)     Dimensions (without ears)   29 x 89.2 x 118.5 mm (1.14 x 3.51 x 4.67 in)     Weight   MGate MB3170 Series: 360 g (0.79 lb)	Relays	
HousingPlasticIP RatingIP30Dimensions (with ears)29 x 89.2 x 124.5 mm (1.14 x 3.51 x 4.90 in)Dimensions (without ears)29 x 89.2 x 118.5 mm (1.14 x 3.51 x 4.67 in)WeightMGate MB3170 Series: 360 g (0.79 lb)	Contact Current Rating	Resistive load: 1 A @ 30 VDC
IP Rating     IP30       Dimensions (with ears)     29 x 89.2 x 124.5 mm (1.14 x 3.51 x 4.90 in)       Dimensions (without ears)     29 x 89.2 x 118.5 mm (1.14 x 3.51 x 4.67 in)       Weight     MGate MB3170 Series: 360 g (0.79 lb)	Physical Characteristics	
Dimensions (with ears)   29 x 89.2 x 124.5 mm (1.14 x 3.51 x 4.90 in)     Dimensions (without ears)   29 x 89.2 x 118.5 mm (1.14 x 3.51 x 4.67 in)     Weight   MGate MB3170 Series: 360 g (0.79 lb)	Housing	Plastic
Dimensions (without ears)     29 x 89.2 x 118.5 mm (1.14 x 3.51 x 4.67 in)       Weight     MGate MB3170 Series: 360 g (0.79 lb)	IP Rating	IP30
Weight MGate MB3170 Series: 360 g (0.79 lb)	Dimensions (with ears)	29 x 89.2 x 124.5 mm (1.14 x 3.51 x 4.90 in)
	Dimensions (without ears)	29 x 89.2 x 118.5 mm (1.14 x 3.51 x 4.67 in)
	Weight	



Operating Temperature	MGate MB3170: 0 to 60°C (32 to 140°F) MGate MB3170-T: -40 to 75°C (-40 to 167°F) MGate MB3170-IEX: 0 to 60°C (32 to 140°F) MGate MB3170-T-IEX: -40 to 75°C (-40 to 167°F) MGate MB3170-M-SC: 0 to 60°C (32 to 140°F) MGate MB3170-M-ST: -40 to 75°C (-40 to 167°F) MGate MB3170-M-ST: -40 to 75°C (-40 to 167°F) MGate MB3170-M-ST-T: -40 to 75°C (-40 to 167°F) MGate MB3170-S-SC: 0 to 60°C (32 to 140°F) MGate MB3170-S-SC: 0 to 60°C (32 to 140°F) MGate MB3170-S-SC-T: -40 to 75°C (-40 to 167°F) MGate MB3170-S-SC-T: -40 to 75°C (-40 to 167°F) MGate MB3170-S-SC-T: -40 to 75°C (-40 to 167°F) MGate MB3170I-T: -40 to 75°C (-40 to 167°F) MGate MB3170I-T: -40 to 75°C (-40 to 167°F) MGate MB3170I-T: -40 to 75°C (-40 to 167°F) MGate MB3170I-SC: 0 to 60°C (32 to 140°F) MGate MB3270: 0 to 60°C (32 to 140°F) MGate MB3270: 0 to 60°C (32 to 140°F) MGate MB3270-IEX: -40 to 75°C (-40 to 167°F) MGate MB3270-IEX: -40 to 75°C (-40 to 167°F) MGate MB3270-IEX: 0 to 60°C (32 to 140°F) MGate MB3270-IEX: 0 to 60°			
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)			
Ambient Relative Humidity	5 to 95% (non-condensing)			
Standards and Certifications				
Safety	EN 60950-1, UL 508			
EMC	EN 55032/24			
EMI	CISPR 32, FCC Part 15B Class A			
EMS	IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV IEC 61000-4-5 Surge: Power: 2 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF IEC 61000-4-11 DIPs			
Hazardous Locations	ATEX, Class I Division 2, IECEx <sup>1</sup>			
Maritime	DNV-GL			
Freefall	IEC 60068-2-32			
Shock	IEC 60068-2-27			
Vibration	IEC 60068-2-6, IEC 60068-2-64			
MTBF				
Time	MGate MB3170/MB3170I Series: 1,349,710 hrs MGate MB3170-M-SC/M-ST/S-SC Series: 1,175,887 hrs MGate MB3170I-M-SC Series: 768,343 hrs MGate MB3170I-S-SC Series: 763,707 hrs MGate MB3270/MB3270I Series: 1,236,384 hrs			
Standards	Telcordia SR332			

1. If you need an IECEx certificate for this product, please contact a Moxa sales representative.

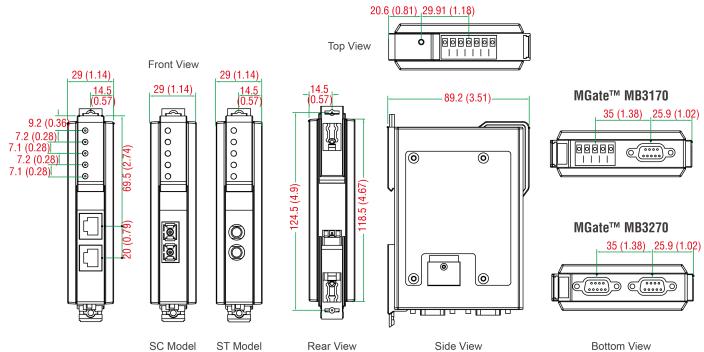


#### Warranty

Warranty Period	5 years
Details	See www.moxa.com/warranty
Package Contents	
Device	1 x MGate MB3170/MB3270 Series gateway
Documentation	1 x quick installation guide 1 x warranty card

## **Dimensions**

Unit: mm (inch)



## **Ordering Information**

Model Name	Ethernet	No. of Serial Ports	Serial Standards	Serial Isolation	Operating Temp.
MGate MB3170	2 x RJ45	1	RS-232/422/485	-	0 to 60°C
MGate MB3170I	2 x RJ45	1	RS-232/422/485	2 kV	0 to 60°C
MGate MB3270	2 x RJ45	2	RS-232/422/485	-	0 to 60°C
MGate MB3270I	2 x RJ45	2	RS-232/422/485	2 kV	0 to 60°C
MGate MB3170-T	2 x RJ45	1	RS-232/422/485	-	-40 to 75°C
MGate MB3170I-T	2 x RJ45	1	RS-232/422/485	2 kV	-40 to 75°C
MGate MB3270-T	2 x RJ45	2	RS-232/422/485	-	-40 to 75°C
MGate MB3270I-T	2 x RJ45	2	RS-232/422/485	2 kV	-40 to 75°C
MGate MB3170-M-SC	1 x Multi-Mode SC	1	RS-232/422/485	-	0 to 60°C
MGate MB3170-M-ST	1 x Multi-Mode ST	1	RS-232/422/485	-	0 to 60°C
MGate MB3170-S-SC	1 x Single-Mode SC	1	RS-232/422/485	-	0 to 60°C
MGate MB3170I-M-SC	1 x Multi-Mode SC	1	RS-232/422/485	2 kV	0 to 60°C



Model Name	Ethernet	No. of Serial Ports	Serial Standards	Serial Isolation	Operating Temp.
MGate MB3170I-S-SC	1 x Single-Mode SC	1	RS-232/422/485	2 kV	0 to 60°C
MGate MB3170-M-SC-T	1 x Multi-Mode SC	1	RS-232/422/485	-	-40 to 75°C
MGate MB3170-M-ST-T	1 x Multi-Mode ST	1	RS-232/422/485	-	-40 to 75°C
MGate MB3170-S-SC-T	1 x Single-Mode SC	1	RS-232/422/485	-	-40 to 75°C
MGate MB3170I-M-SC-T	1 x Multi-mode SC	1	RS-232/422/485	2 kV	-40 to 75°C
MGate MB3170I-S-SC-T	1 x Single-Mode SC	1	RS-232/422/485	2 kV	-40 to 75°C

## Accessories (sold separately)

Cables	
CBL-F9M9-150	DB9 female to DB9 male serial cable, 1.5 m
CBL-F9M9-20	DB9 female to DB9 male serial cable, 20 cm
Connectors	
Mini DB9F-to-TB	DB9 female to terminal block connector
Power Cords	
CBL-PJTB-10	Non-locking barrel plug to bare-wire cable

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