

MGate MB3180/MB3280/MB3480 系列

1、2 和 4 埠標準串列轉乙太網路 Modbus 閘道器



特色與優點

- 支援自動裝置路由功能，實現簡易配置
- 支援透過 TCP 埠或 IP 位址進行路由，實現彈性部署
- 在 Modbus TCP 與 Modbus RTU/ASCII 協定之間進行轉換
- 1 個乙太網路埠與 1、2 或 4 個 RS-232/422/485 串列埠
- 支援 16 個同時連線的 TCP Master，且每個主控裝置支援多達 32 個同時要求
- 簡易的硬體安裝與配置

認證



簡介

MB3180、MB3280 與 MB3480 為標準 Modbus 閘道器，可在 Modbus TCP 與 Modbus RTU/ASCII 通訊協定之間進行轉換。支援多達 16 個同時連線的 Modbus TCP Master，且每個串列埠支援多達 31 個 RTU/ASCII 從屬裝置。針對 RTU/ASCII 主控裝置，支援多達 32 個 TCP 從屬裝置。可透過 IP 位址、TCP 埠號或 ID 對應來控制經由串列埠的路由。透過 TCP 埠與 IP 位址進行串列埠路由，可供多達 4 個 TCP 用戶端/主控裝置存取 (MB3280/MB3480 型號)，而透過 ID 對應進行路由，則可供多達 16 個 TCP 用戶端/主控裝置存取 (MB3180/MB3280/MB3480)。

標準 Modbus 網路整合

三款標準 MGate™ 型號 (MB3180、MB3280 與 MB3480) 專為簡化 Modbus TCP 與 RTU/ASCII 網路整合所設計。透過這些型號，Modbus 串列從屬裝置可無縫整合至現有的 Modbus TCP 網路中，並可讓串列主控裝置存取 Modbus TCP 從屬裝置。MB3180、MB3280 與 MB3480 提供的功能使網路整合變得簡單、可自訂，且幾乎與任何 Modbus 網路相容。

高密度、具成本效益的閘道器

MGate™ MB3000 閘道器可有效地將高密度的 Modbus 節點連接至同一網路。MB3280 可管理多達 62 個串列從屬節點，而 MB3480 可管理多達 124 個串列從屬節點。每個 RS-232/422/485 串列埠皆可針對 Modbus RTU 或 Modbus ASCII 運作以及不同傳輸速率進行獨立配置，讓兩種類型的網路都能透過一個 Modbus 閘道器與 Modbus TCP 進行整合。

自動裝置路由功能，實現簡易配置

Moxa 的自動裝置路由功能可協助解決工程師在配置大量 Modbus 裝置時所遇到的許多問題與不便。只需按一下滑鼠，即可設定從屬裝置 ID 路由表，並配置 Modbus 閘道器以自動偵測來自監控與資料擷取 (SCADA) 系統的 Modbus 要求。透過免除手動建立從屬裝置 ID 路由表的需求，自動裝置路由功能為工程師節省了大量的時間與成本。

規格

Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	Auto MDI/MDI-X connection
Magnetic Isolation Protection	1.5 kV (built-in)

Ethernet Software Features

Industrial Protocols	Modbus TCP Client (Master) Modbus TCP Server (Slave)
Configuration Options	All models: Web Console (HTTP), Device Search Utility (DSU), MGate Manager, MCC Tool, Telnet Console MGate MB3280/MB3480: Web Console (HTTPS)

Management	All models: ARP, DHCP Client, DNS, HTTP, SNMPv1/v2c/v3, TCP/IP, Telnet, UDP, ICMP MGate MB3280/MB3480: HTTPS, SMTP, SNMP Trap, NTP Client
MIB	RFC1213, RFC1317
Time Management	NTP Client (MGate MB3180 Excluded)

Security Functions

Authentication	Local database
Encryption	HTTPS AES-128 AES-256 SHA-256
Security Protocols	SNMPv3 HTTPS (TLS 1.2) (except MGate MB3180)

Serial Interface

No. of Ports	MGate MB3180: 1 MGate MB3280: 2 MGate MB3480: 4
Connector	DB9 male
Serial Standards	RS-232/422/485 (software-selectable)
Baudrate	50 bps to 921.6 kbps
Data Bits	7, 8
Parity	None Even Odd Space Mark
Stop Bits	1, 2
Flow Control	DTR/DSR RTS Toggle (RS-232 only) RTS/CTS
RS-485 Data Direction Control	ADDC (automatic data direction control)
Pull High/Low Resistor for RS-485	1 kilo-ohm, 150 kilo-ohms
Terminator for RS-485	MGate MB3180: None MGate MB3280/MB3480: 120 ohms

Serial Signals

RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422	Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w	Data+, Data-, GND
RS-485-4w	Tx+, Tx-, Rx+, Rx-, GND

Serial Software Features

Industrial Protocols	Modbus RTU/ASCII Master Modbus RTU/ASCII Slave
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Modbus (Transparent)

Max. No. of Client Connections	16
Max. No. of Server Connections	32

Power Parameters

Input Voltage	12 to 48 VDC
Input Current	MGate MB3180: 200 mA @ 12 VDC MGate MB3280: 250 mA @ 12 VDC MGate MB3480: 365 mA @ 12 VDC
Power Connector	MGate MB3180: Power jack MGate MB3280/MB3480: Power jack and terminal block

Physical Characteristics

Housing	Metal
IP Rating	IP30 ¹
Dimensions (with ears)	MGate MB3180: 22 x 75 x 80 mm (0.87 x 2.95 x 3.15 in) MGate MB3280: 22 x 100 x 111 mm (0.87 x 3.94 x 4.37 in) MGate MB3480: 35.5 x 102.7 x 181.3 mm (1.40 x 4.04 x 7.14 in)
Dimensions (without ears)	MGate MB3180: 22 x 52 x 80 mm (0.87 x 2.05 x 3.15 in) MGate MB3280: 22 x 77 x 111 mm (0.87 x 3.03 x 4.37 in) MGate MB3480: 35.5 x 102.7 x 157.2 mm (1.40 x 4.04 x 6.19 in)
Weight	MGate MB3180: 340 g (0.75 lb) MGate MB3280: 360 g (0.79 lb) MGate MB3480: 740 g (1.63 lb)

Environmental Limits

Operating Temperature	MGate MB3180: 0 to 55°C (32 to 131°F) MGate MB3280: 0 to 60°C (32 to 140°F) MGate MB3480: 0 to 55°C (32 to 131°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

Standards and Certifications

EMC	EN 55032/35
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 1 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 1 kV (MB3180/MB3280) IEC 61000-4-5 Surge: Power: 1 kV; Signal: 2 kV (MB3480) IEC 61000-4-6 CS: 3 V IEC 61000-4-8 PFMF IEC 61000-4-11
Safety	MGate MB3180: EN 62368-1, UL 60950-1 MGate MB3280: IEC/UL 62368-1, IEC/UL 60950-1 MGate MB3480: IEC/UL 62368-1, IEC 60950-1

1. 對於 MGate MB3480，必須使用壁掛套件隨附的兩顆螺絲將套件固定在 MGate 底部，且 MGate 必須正確連接至電源輸入接線端子模組。

Time	MGate MB3180: 2,762,384 hrs MGate MB3280: 749,455 hrs MGate MB3480: 1,213,993 hrs
Standards	Telcordia Standard SR-332

Warranty Period	5 years
Details	See www.moxa.com/tw/warranty

Device	1 x MGate MB3180/MB3280/MB3480 Series gateway
Power Supply	1 x power adapter, suitable for your region
Documentation	1 x quick installation guide 1 x warranty card

Technical drawings of the Moxa MB3180 and MB3480 modules, showing Top, Front, and Bottom views with dimensions in mm and inches.

Top View:

- MB3180:** 75 (2.95) mm width, 22 (0.87) mm height, 52 (2.05) mm mounting hole spacing.
- MB3480:** 22 (0.87) mm height.

Front View:

- MB3180:** 80 (3.15) mm height, 63 (2.48) mm width. Features include a 10/100M Ethernet port, a 10/100M Ethernet port, and a 10/100M Ethernet port. Dimensions for mounting holes: 12.5 (0.49) mm, 25 (0.98) mm, 34 (1.34) mm, 43 (1.69) mm, 50.5 (1.99) mm, 55.5 (2.19) mm, 84 (3.31) mm, 94 (3.7) mm, 111 (4.37) mm.
- MB3480:** 102.72 (4.04) mm height, 181.3 (7.14) mm width. Features include a 10/100M Ethernet port, a 10/100M Ethernet port, and a 10/100M Ethernet port. Dimensions for mounting holes: 25 (0.98) mm, 38.87 (1.53) mm, 157.23 (6.19) mm, 169.3 (6.67) mm.

Bottom View:

- MB3180:** 100 (3.94) mm width, 21.5 (0.85) mm height. Features include a 10/100M Ethernet port, a 10/100M Ethernet port, and a 10/100M Ethernet port. Dimensions for mounting holes: 34 (1.34) mm, 43 (1.69) mm, 50.5 (1.99) mm, 55.5 (2.19) mm, 84 (3.31) mm, 94 (3.7) mm, 111 (4.37) mm.
- MB3480:** 100 (3.94) mm width, 21.5 (0.85) mm height. Features include a 10/100M Ethernet port, a 10/100M Ethernet port, and a 10/100M Ethernet port. Dimensions for mounting holes: 34 (1.34) mm, 43 (1.69) mm, 50.5 (1.99) mm, 55.5 (2.19) mm, 84 (3.31) mm, 94 (3.7) mm, 111 (4.37) mm.

Model Name	No. of Serial Ports
MGate MB3180	1
MGate MB3280	2
MGate MB3480	4

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
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DIN-Rail Mounting Kits

DK35A	DIN-rail mounting kit, 35 mm
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Wall-Mounting Kits

WK-35-01	Wall-mounting kit with 2 plates (35 x 44 x 2.5 mm) and 6 screws
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