

MGate 5109 系列

1 埠 Modbus RTU/ASCII/TCP 轉 DNP3 串列埠/TCP/UDP 閘道器



特色與優點

- 支援 Modbus RTU/ASCII/TCP master/client and slave/server
- 支援 DNP3 串列埠/TCP/UDP master and outstation (層級 2)
- DNP3 主控裝置模式最多支援 26600 個點
- 透過 DNP3 支援時間同步
- 透過網頁式設定精靈輕鬆配置
- 輕鬆佈線的內建乙太網路串接
- 內建流量監控/診斷資訊，便於故障排除與雲端數據傳輸，以及成本評估和分析
- 用於配置備份/複製和事件日誌的 microSD 卡，以及雲端連網中斷時的數據緩衝
- 狀態監控和故障保護，可輕鬆維護
- 備援雙直流電源輸入和繼電器輸出
- 提供 -40 至 75°C 寬溫度操作型號可供選用
- 串列內建埠 2kV 隔離保護

認證



簡介

MGate 5109 是 Modbus RTU/ASCII/TCP 和 DNP3 串列/TCP/UDP 通訊協定轉換的工業乙太網路閘道器。所有型號均有強固的金屬外殼加以保護，可使用 DIN 軌道安裝，而且提供內建串列隔離。MGate 5109 支援 transparent mode，很容易就可以將 Modbus TCP 整合到 Modbus RTU/ASCII 網路或將 DNP3 TCP/UDP 整合到 DNP3 串列網路。MGate 5109 也支援 agent mode，能夠在 Modbus 和 DNP3 網路之間交換數據，也可做為多個 Modbus slaves 或多個 DNP3 外站的數據集中器。堅固設計適合電力、石油與天然氣以及水資源與廢水等工業應用。

透過 Web 主控台輕鬆配置

MGate 5109 系列隨附有插圖的快速安裝指南，配置更便利。透過快速安裝，只要幾個步驟即可輕鬆存取通訊協定轉換模式，並完成配置。MGate 5109 系列也支援 DNP3 串列外站的自動偵測，允許 MGate 5109 自動取得設定為 DNP3 主控裝置的所有外站物件。

Modbus 和 DNP3 通訊協定流量監控

MGate 5109 閘道器支援 Modbus 和 DNP3 通訊協定流量監控，故障排除更容易，尤其在安裝階段。不正確的軟體參數（例如從屬裝置 ID 和暫存器位址）或不正確的命令配置會造成通訊問題。有了 Modbus/DNP3 通訊協定流量監控，您可以檢查所擷取的數據，並輕鬆判斷問題根本原因。

多種維護功能

MGate 5109 閘道器提供 Web 主控台和 Telnet 主控台，適用於遠端維護。支援加密通訊功能 (包括 HTTPS 和 SSH)，強化網路安全。另提供韌體記錄功能，可記錄連網事件和 Modbus 維護事件。使用者可以透過 Web 控制台遠端查看日誌資料。

規格

Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	2 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) DNP3 TCP Master DNP3 TCP Outstation
Configuration Options	Web Console (HTTP/HTTPS) Device Search Utility (DSU) Telnet Console
Management	ARP DHCP Client DNS HTTP HTTPS SMTP SNMP Trap SNMPv1/v2c/v3 TCP/IP Telnet SSH UDP NTP Client
MIB	RFC1213, RFC1317
Time Management	NTP Client

Security Functions

Authentication	Local database
Encryption	HTTPS AES-128 AES-256 SHA-256
Security Protocols	SNMPv3 SNMPv2c Trap HTTPS (TLS 1.3)

Serial Interface

Console Port	RS-232 (TxD, RxD, GND), 8-pin RJ45 (115200, n, 8, 1)
No. of Ports	1
Connector	DB9 male
Serial Standards	RS-232/422/485
Baudrate	50 bps to 921.6 kbps
Data Bits	7, 8
Parity	None Even Odd Space Mark
Stop Bits	1, 2
Flow Control	RTS Toggle (RS-232 only) RTS/CTS
RS-485 Data Direction Control	Automatic Data Direction Control (ADDC)
Pull High/Low Resistor for RS-485	1 kilo-ohm, 150 kilo-ohms

Terminator for RS-485	120 ohms
Isolation	2 kV (built-in)
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	
Configuration Options	Serial Console
Industrial Protocols	Modbus RTU/ASCII Master Modbus RTU/ASCII Slave DNP3 Serial Master DNP3 Serial Outstation
Modbus RTU/ASCII	
Mode	Master, Slave
Functions Supported	1, 2, 3, 4, 5, 6, 15, 16, 23
Max. No. of Commands	100
Modbus TCP	
Functions Supported	1, 2, 3, 4, 5, 6, 15, 16, 23
Mode	Client (Master), Server (Slave)
Max. No. of Client Connections	16
Max. No. of Server Connections	32
Max. No. of Commands	100
DNP3 (Transparent)	
Max. No. of Master Connections	16
Max. No. of Outstation Connections	32
DNP3 Serial	
Mode	Master, Outstation
Max. No. of Master Connections	1
Max. No. of Outstation Connections	31
Internal Outstation Database	Binary Inputs: 8192 points Analog Inputs: 2048 points Counters: 2048 points Binary Outputs: 8192 points Analog Outputs: 2048 points Binary Input Events: 1024 Analog Input Events: 1024 Counter Events: 1024

DNP3 TCP/UDP

Mode	Master, Outstation
Max. No. of Master Connections	1
Max. No. of Outstation Connections	32
Internal Master Database (MGate as DNP3 Master)	Binary Inputs: 8192 points (256 points per outstation) Binary Outputs: 8192 points (256 points per outstation) Analog Inputs: 2048 points (64 points per outstation) Analog Outputs: 2048 points (64 points per outstation) Counters: 2048 points (64 points per outstation)
Internal Outstation Database	Binary Inputs: 8192 points Analog Inputs: 2048 points Counters: 2048 points Binary Outputs: 8192 points Analog Outputs: 2048 points Binary Input Events: 1024 Analog Input Events: 1024 Counter Events: 1024

Memory

microSD Slot	Up to 32 GB (SD 2.0 compatible)
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Power Parameters

Input Voltage	12 to 48 VDC
Input Current	455 mA @ 12 VDC
Power Connector	Screw-fastened Euroblock terminal

Relays

Contact Current Rating	Resistive load: 2 A @ 30 VDC
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Physical Characteristics

Housing	Metal
IP Rating	IP30
Dimensions	36 x 105 x 140 mm (1.42 x 4.14 x 5.51 in)
Weight	507 g (1.12 lb)

Environmental Limits

Operating Temperature	MGate 5109: 0 to 60°C (32 to 140°F) MGate 5109-T: -40 to 75°C (-40 to 167°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 B
EMS	IEC 61000-4-2 ESD: Contact: 8 kV; Air: 15 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; Signal: 2 kV IEC 61000-4-6 CS: 150 kHz to 80 MHz: 10 V/m; Signal: 10 V/m IEC 61000-4-8 PFMF
Safety	EN 62368-1

	UL 508
Hazardous Locations	ATEX Class I Division 2 IECEX
Freefall	IEC 60068-2-32
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6 IEC 60068-2-64

MTBF

Time	888,926 hrs
Standards	Telcordia SR332

Warranty

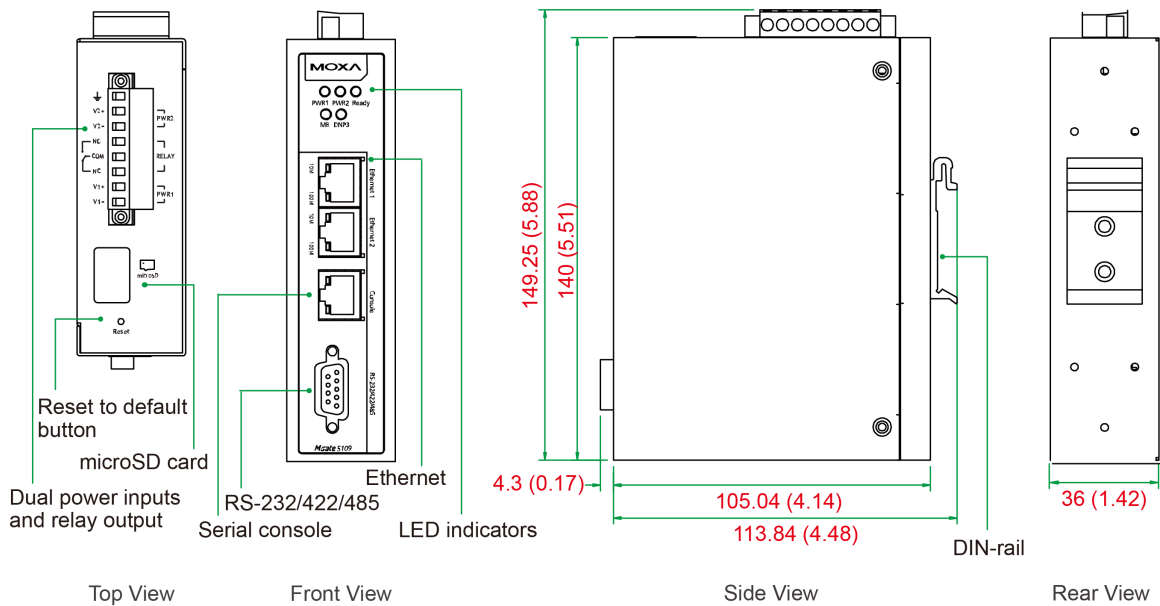
Warranty Period	5 years
Details	See www.moxa.com/tw/warranty

Package Contents

Device	1 x MGate 5109 Series gateway
Cable	1 x RJ45-to-DB9 console cable
Installation Kit	1 x DIN-rail kit
Documentation	1 x quick installation guide 1 x warranty card

尺寸

單位：公釐（英吋）



訂購資訊

Model Name	Operating Temp.
MGate 5109	0 to 60°C
MGate 5109-T	-40 to 75°C

配件（選購）

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
CBL-RJ45F9-150	8-pin RJ45 to DB9 female serial cable, 1.5m
CBL-RJ45SF9-150	8-pin RJ45 to DB9 female serial cable with shielding, 1.5m

Connectors

Mini DB9F-to-TB	DB9 female to terminal block connector
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Power Cords

CBL-PJTB-10	Non-locking barrel plug to bare-wire cable
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Mounting Kits

DK-25-01	DIN-rail mounting kit, 2 screws
WK-36-02	DIN-rail/wall-mounting kit, 2 plates, 6 screws

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