

MGate 5114 系列

1 埠 Modbus RTU/ASCII/TCP/IEC 101 轉 IEC 104 閘道器



特色與優點

- Modbus RTU/ASCII/TCP、IEC 60870-5-101、IEC 60870-5-104 之間的通訊協定轉換
- 支援 IEC 60870-5-101 主站 (Master) /從站 (Slave) 模式 (支援平衡 / 非平衡模式)
- 支援 IEC 60870-5-104 用戶端 (Client) /伺服器 (Server) 模式
- 支援 Modbus RTU/ASCII/TCP Master (Client) 與 Slave (Server) 模式
- 透過網頁式設定精靈輕鬆配置
- 狀態監控和故障保護，可輕鬆維護
- 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
- microSD 卡可用於備份/複製配置與儲存事件日誌
- 內建乙太網路串接功能 (Ethernet Cascading)，簡化現場佈線
- 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 5114 是工業乙太網路閘道器，配備 2 個乙太網路連接埠和 1 個 RS-232/422/485 串列埠，適用於 Modbus RTU/ASCII/TCP、IEC 60870-5-101 和 IEC 60870-5-104 網路通訊。透過整合常用的電力通訊協定，MGate 5114 提供高度彈性，可因應現場設備使用不同通訊標準，並順利接入電力 SCADA 系統。在系統整合應用上，MGate 5114 可作為 Modbus Master/Client 或 IEC 60870-5-101 Master，用於收集現場設備資料，並與 IEC 60870-5-104 系統進行資料交換。適用於將 Modbus 或 IEC 60870-5-101 設備整合至 IEC 60870-5-104 架構之電力自動化應用。

Web 設定與快速部署

MGate 5114 系列提供直覺式 Web 操作介面與圖形化 Quick Setup 設定精靈，可在數個步驟內完成通訊協定轉換設定，大幅簡化部署流程。

Modbus RTU/ASCII/TCP 通訊協定流量監控

MGate 5114 系列閘道器支援 Modbus RTU/ASCII/TCP、IEC 60870-5-101 和 IEC 60870-5-104 通訊協定流量監控，故障排除更容易，尤其在安裝階段。值得一提的是，可以在常用的故障排除工具 Wireshark 中查看流量日誌。使用此項功能可以輕鬆分析流量以確定問題的根本原因。

維護功能

MGate 5114 閘道器支援系統記錄功能，可記錄 MGate 中的連網事件；使用者可以透過 Web 主控台從遠端輕鬆檢閱數據。閘道器也支援狀態監控和失效防護功能。裝置中斷連線或無回應時，狀態監控功能會通知 PSCADA 系統，PSCADA 系統取得每台終端裝置的狀態，並發出警報通知操作員。

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) IEC 60870-5-104 Client IEC 60870-5-104 Server
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	Even Mark None Odd Space
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	
Industrial Protocols	Modbus RTU/ASCII Master Modbus RTU/ASCII Slave IEC 60870-5-101 Master (Balanced/Unbalanced) IEC 60870-5-101 Slave (Balanced/Unbalanced)
Configuration Options	Serial Console
Modbus RTU/ASCII	
Mode	Master, Slave
Functions Supported	1, 2, 3, 4, 5, 6, 15, 16, 23
Max. No. of Commands	128
Modbus TCP	
Mode	Client (Master), Server (Slave)
Functions Supported	1, 2, 3, 4, 5, 6, 15, 16, 23
Max. No. of Client Connections	16
Max. No. of Server Connections	32
Max. No. of Commands	128
IEC 60870-5-104	
Mode	Client Server
Max. No. of Client Connections	32
Max. No. of Server Connections	32
Max. No. of Information Objects	2000 points
IEC 60870-5-101	
Mode	Master (Balanced/Unbalanced) Slave (Balanced/Unbalanced)
Max. No. of Master Connections	1
Max. No. of Slave Connections	1 (Balanced), 31 (Unbalanced)
Max. No. of Information Objects	2000 points
Memory	
microSD Slot	Up to 32 GB (SD 2.0 compatible)

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 5114: 0 to 60°C (32 to 140°F) MGate 5114-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	1,140,815 hrs
Standards	Telcordia Standard SR-332

Warranty

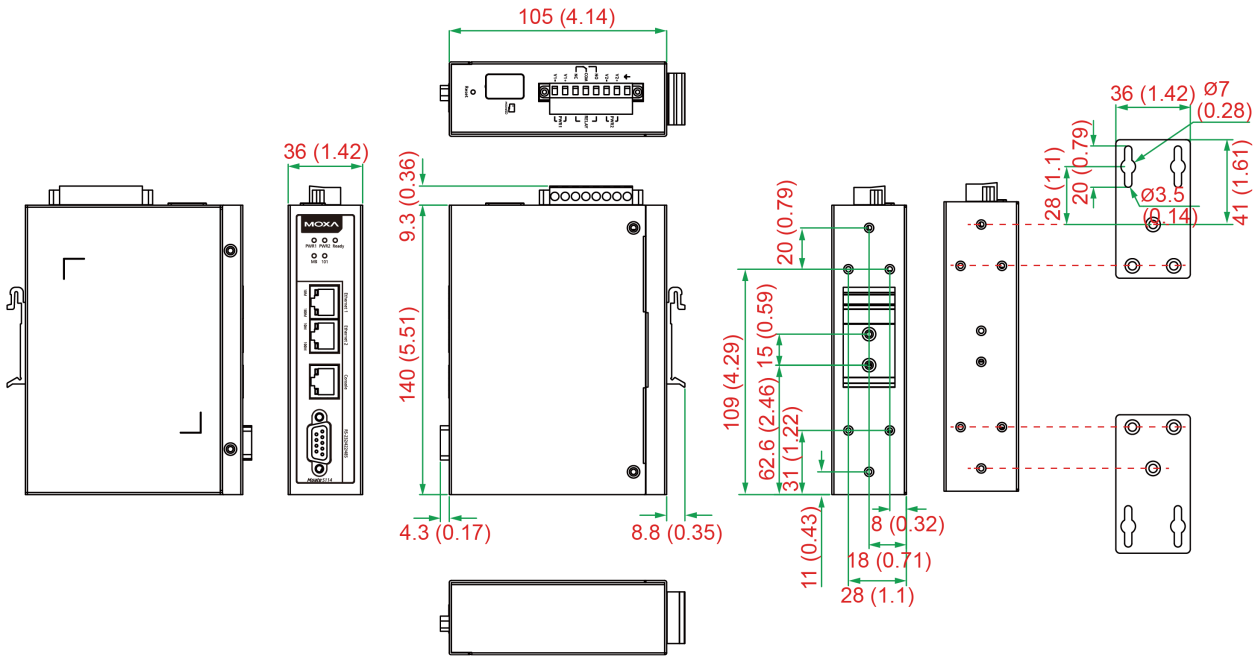
Warranty Period	5 years
Details	See www.moxa.com/tw/warranty

Package Contents

Device	1 x MGate 5114 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 5114	0 to 60°C
MGate 5114-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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