

MGate 5118 系列

1 埠 CAN-J1939 轉 Modbus/PROFINET/EtherNet/IP 閘道器



特色與優點

- 將 J1939 轉換為 Modbus、PROFINET 或 EtherNet/IP
- 支援 Modbus RTU/ASCII/TCP Master (Client) 與 Slave (Server) 模式
- 支援 EtherNet/IP Scanner/Adapter
- 支援 PROFINET IO 裝置
- 支援 J1939 通訊協定
- 透過網頁式設定精靈輕鬆配置
- 內建乙太網路串接功能 (Ethernet Cascading)，簡化現場佈線
- 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
- 狀態監控和故障保護，可輕鬆維護
- 內建 2 kV 隔離保護的 CANbus 和串列埠
- 提供 -40 至 75°C 寬溫度操作型號可供選用

認證



簡介

MGate 5118 為工業級通訊協定閘道器，基於 CAN bus (Controller Area Network) 架構，支援 SAE J1939 通訊協定。SAE J1939 廣泛應用於車輛零組件、柴油發電機與壓縮機等設備之通訊與診斷，特別適用於重型卡車產業與備援電力系統。目前此類設備多透過引擎控制單元 (ECU) 進行控制，而在工業應用中，也越來越多透過 PLC 與 SCADA 系統進行監控與整合，以取得 ECU 後端之 J1939 設備狀態資訊。

MGate 5118 閘道器支援將 J1939 數據轉換為 Modbus RTU/ASCII/TCP、EtherNet/IP 或 PROFINET 通訊協定，適用於大多數 PLC 應用程式。支援 J1939 通訊協定的裝置可由使用 Modbus RTU/ASCII/TCP、EtherNet/IP 和 PROFINET 通訊協定的 PLC 和 SCADA 系統監控和控制。藉由 MGate 5118，讓 J1939 設備可被工業自動化系統統一監控與控制。

免輸入 J1939 命令

J1939 通訊協定能夠從 CAN-J1939 裝置擷取各種數據。但傳統設定方式需手動輸入大量指令。MGate 5118 閘道器可以自動偵測 CAN 裝置所使用的輸出命令。

只需在 Web 主控台中按一下，閘道器就會自動偵測來自 CAN 裝置的所有輸出命令。這些命令將在 Web 主控台的命令清單中顯示，然後使用者可以根據需要進一步修改。MGate 5118 閘道器可讓使用者以更輕鬆的方式連接 PLC 與 CAN 裝置。

多種維護功能

MGate 5118 閘道器支援 Web 主控台，方便配置和維護，而且內建流量監控功能會監控 J1939 通訊協定流量，因此使用者可以監控所連接的 CAN 裝置的狀態，其中包括可監控錯誤計數 (Error Count)，封包計數 (Packet Count)，CAN Bus Offline 狀態，即時通訊流量分析。流量監控功能也可用於對 CAN 裝置進行故障排除。診斷工具可協助使用者檢查 CAN 裝置設定，並透過讀取 J1939 網路位址判斷設備可用性。此外，當同一 CAN bus 連接兩個或以上 J1939 設備時，MGate 5118 具備 Live List 功能。此功能可顯示各設備傳輸封包的 PGN 與位址，使使用者能評估 CAN bus 負載。

為偵測鬆脫纜線，MGate 5118 支援狀態監控與故障保護功能。當 gateway 與 CAN 設備之間纜線鬆脫時，狀態監控功能會通知 PLC。此外，當 gateway 與 PLC 之間纜線鬆脫時，故障保護功能會執行使用者預先定義的動作。

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), PROFINET IO Device, EtherNet/IP Scanner, EtherNet/IP Adapter
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
Pull High/Low Resistor for RS-485	1 kilo-ohm, 150 kilo-ohms
Terminator for RS-485	120 ohms
Isolation	2 kV

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	J1939, Modbus RTU/ASCII Master, Modbus RTU/ASCII Slave

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

PROFINET

Mode	IO Device
Max. No. of IO Controller Connections	1 (for read/write)
Input Data Size	512 bytes
Output Data Size	512 bytes

EtherNet/IP

Mode	Scanner, Adapter
CIP Objects Supported	Identity, Message Router, Assembly, Connection Manager, TCP/IP interface, Ethernet link, Port
Max. No. of Scanner Connections	1 (for read-only), 1 (for read/write)
Max. No. of Adapter Connections	4
Input Data Size	496 bytes
Output Data Size	496 bytes

CAN Interface

Industrial Protocols	J1939
No. of Ports	1
Connector	Spring-type Euroblock terminal
Baudrate	250 Kbps, 500 Kbps, 1 Mbps
Terminator	120 ohms
Isolation	2 kV (built-in)

J1939

Max. No. of Commands	256
Input Data Size	2048 bytes
Output Data Size	2048 bytes

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	416 mA @ 12 VDC
Power Connector	Spring-type Euroblock terminal

Relays

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

Housing	Metal
IP Rating	IP30
Dimensions	45.8 x 105 x 134 mm (1.8 x 4.13 x 5.28 in)
Weight	589 g (1.30 lb)

Environmental Limits

Operating Temperature	MGate 5118: 0 to 60°C (32 to 140°F) MGate 5118-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

Safety	EN 62368-1, UL 61010-2-201
EMC	EN 61000-6-2/-6-4
EMI	CISPR 32, FCC Part 15B Class A
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: 4 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
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	727,873 hrs
Standards	Telcordia SR332

Warranty

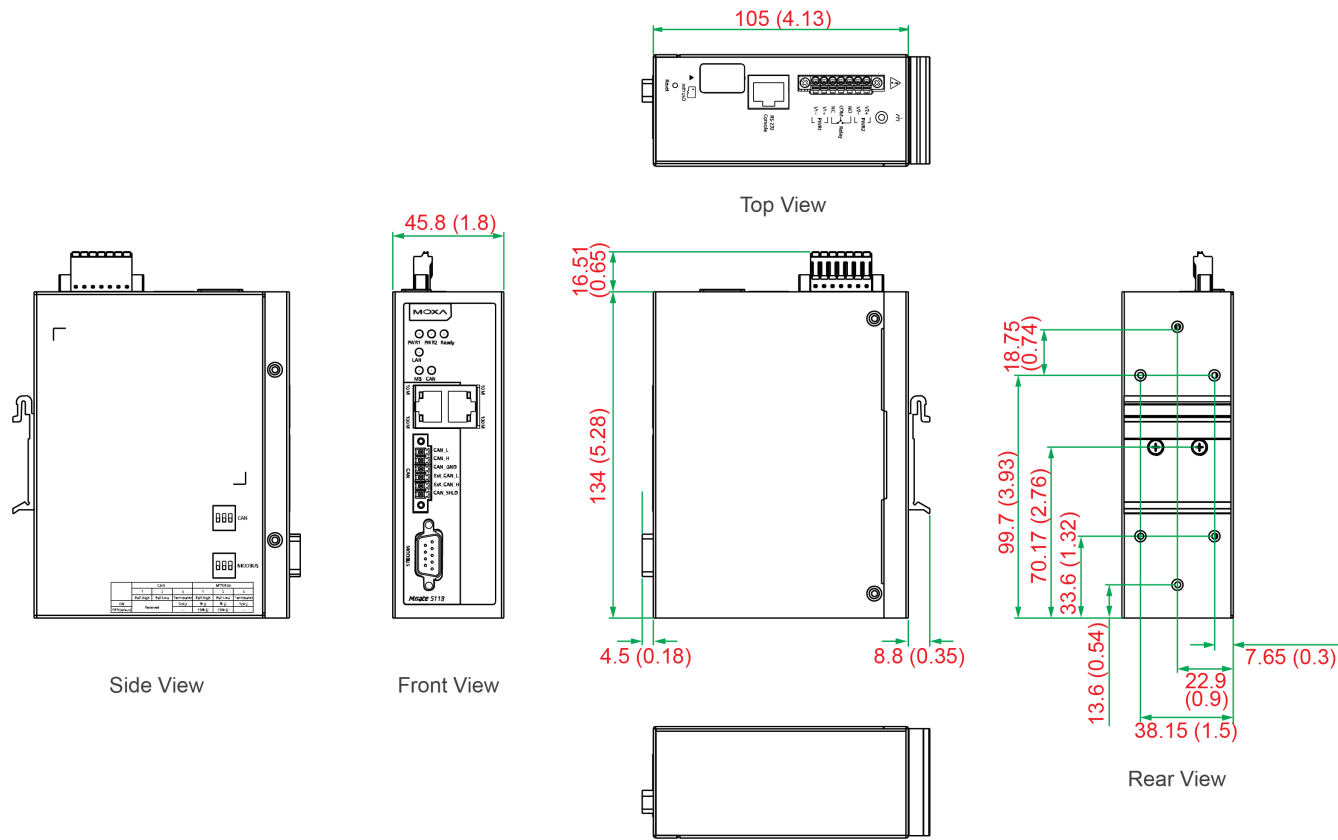
Warranty Period	5 years
Details	See www.moxa.com/tw/warranty

Package Contents

Device	1 x MGate 5118 Series gateway
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 5118	0 to 60°C
MGate 5118-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

WK-51-01	Wall mounting kit with 2 plates (51.6 x 67 x 2 mm) and 6 screws
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