

MGate 5123 Series

1-port CANopen/J1939-to-PROFINET gateways



Features and Benefits

- Simultaneous protocol conversions from CANopen and J1939 to PROFINET and SNMP
- Supports PROFINET I/O device and SNMP agent
- Supports CANopen master and J1939
- Flexible deployment with Ethernet cascading and dual subnet
- Embedded traffic monitoring/diagnostic information for easy troubleshooting
- Easy device configuration via a web-based console
- microSD card for configuration backup/duplication
- Supports dual redundant DC power inputs and 1 relay output
- CAN port with 2-kV isolation protection
- -40 to 75°C wide operating temperature models available
- Developed according to IEC 62443-4-2 with Secure Boot

Certifications



Introduction

The MGate 5123 is an industrial Ethernet gateway for converting CANopen or J1939 to PROFINET network communications. To integrate existing CANopen or J1939 devices onto a PROFINET network, use the MGate 5123 as a CANopen or J1939 master to collect data and exchange data with the PROFINET IO controller. All models are protected by a rugged and compact metal housing and are DIN-rail mountable. The rugged design is suitable for industrial applications such as factory automation and other process automation industries.

Easy Configuration

The MGate 5123 gateways are provided with a web console to make configuration easy without having to install an extra utility. In addition, HTTPS encryption of communication ensures higher network security.

In most data-acquisition applications, configuration of CANopen devices can be time-consuming and increase costs. The MGate 5123 gateways provide EDS file import function and user can auto scan the CANopen devices to help complete the settings quickly. The MGate gateways provide software-configurable termination resistor settings for CANbus to reduce efforts by eliminating the need to open the chassis.

Easy Troubleshooting

The MGate 5123 gateways provide a variety of maintenance functions to reduce troubleshooting time and cost, including LED indicators, protocol diagnostics, traffic monitor, and tag view. These tools help you capture and check data to easily identify the root cause of issues, especially during the installation stage. The MGate gateways also come with status monitoring and fault protection functions. The status monitoring function notifies a PLC/DCS/SCADA system when a CAN device gets disconnected or does not respond, in which case the process PLC/DCS gets the status of each end device and then issues alarms to notify operators. The fault protection function executes actions pre-defined by the user when a host gets disconnected to prevent the end devices from going offline for long periods of time.

Specifications

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 | PROFINET IO Device |
| Configuration Options | Web Console (HTTPS) Device Search Utility (DSU) |
| Management | ARP DHCP Client DNS HTTP HTTPS SMTP SNMP Trap SNMPv1/v2c/v3 TCP/IP UDP |
| MIB | RFC1213 |
| 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) |

CAN Interface

| | |
|--------------|---|
| No. of Ports | 1 |
| Connector | Spring-type Euroblock terminal |
| Standards | ISO 11898-2 |
| Baudrate | CANopen: 10 kbps, 20 kbps, 50 kbps, 125 kbps, 250 kbps, 500 kbps, 800 kbps, 1 Mbps J1939: 250 kbps, 500 kbps, 1 Mbps |
| Terminator | 120 ohms software configurable |
| Signals | CAN_H, CAN_L, GND, Ext_CAN_H, Ext_CAN_L, CAN_Shield |

CAN Software Features

| | |
|----------------------|-----------------------|
| Industrial Protocols | CANopen master, J1939 |
|----------------------|-----------------------|

CANopen

| | |
|--------------------------|------------|
| Mode | Master |
| Max No. of Nodes | 64 |
| Max No. of Receive PDOs | 256 |
| Max No. of Transmit PDOs | 256 |
| SDOs | Supported |
| Input Data Size | 2048 bytes |
| Output Data Size | 2048 bytes |

J1939

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

PROFINET

| | |
|--------------------------------|--|
| Mode | IO Device class B |
| Max. No. of Master Connections | 2 IO controllers (shared devices) |
| Input Data Size | 1440 bytes (bytes per IO Controller, total: 2880 bytes) |
| Output Data Size | 1440 bytes (bytes per IO Controller, total: 2880 bytes) |

Memory

| | |
|--------------|---------------------------------|
| microSD Slot | Up to 32 GB (SD 2.0 compatible) |
|--------------|---------------------------------|

Power Parameters

| | |
|-----------------|--------------------------------|
| Input Voltage | 12 to 48 VDC |
| Input Current | 455 mA (max) |
| Power Connector | Spring-type Euroblock terminal |

Relays

| | |
|------------------------|------------------------------|
| Contact Current Rating | Resistive load: 2 A @ 30 VDC |
|------------------------|------------------------------|

Physical Characteristics

| | |
|------------|---|
| Housing | Metal |
| IP Rating | IP30 |
| Dimensions | 25 x 90 x 129.6 mm (0.98 x 3.54 x 5.1 in) |
| Weight | 294 g (0.65 lb) |

Environmental Limits

| | |
|--|---|
| Operating Temperature | MGate 5123: -10 to 60°C (14 to 140°F) MGate 5123-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 61010-2-201 UL 61010-2-201 |
| EMC | EN 61000-6-2/-6-4 |
| EMI | 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: 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 |

| | |
|-----------|---------------------------------|
| Freefall | IEC 60068-2-31 |
| Shock | IEC 60068-2-27 |
| Vibration | IEC 60068-2-6 IEC 60068-2-64 |

MTBF

| | |
|-----------|-----------------|
| Time | 1,408,984 hrs |
| Standards | Telcordia SR332 |

Warranty

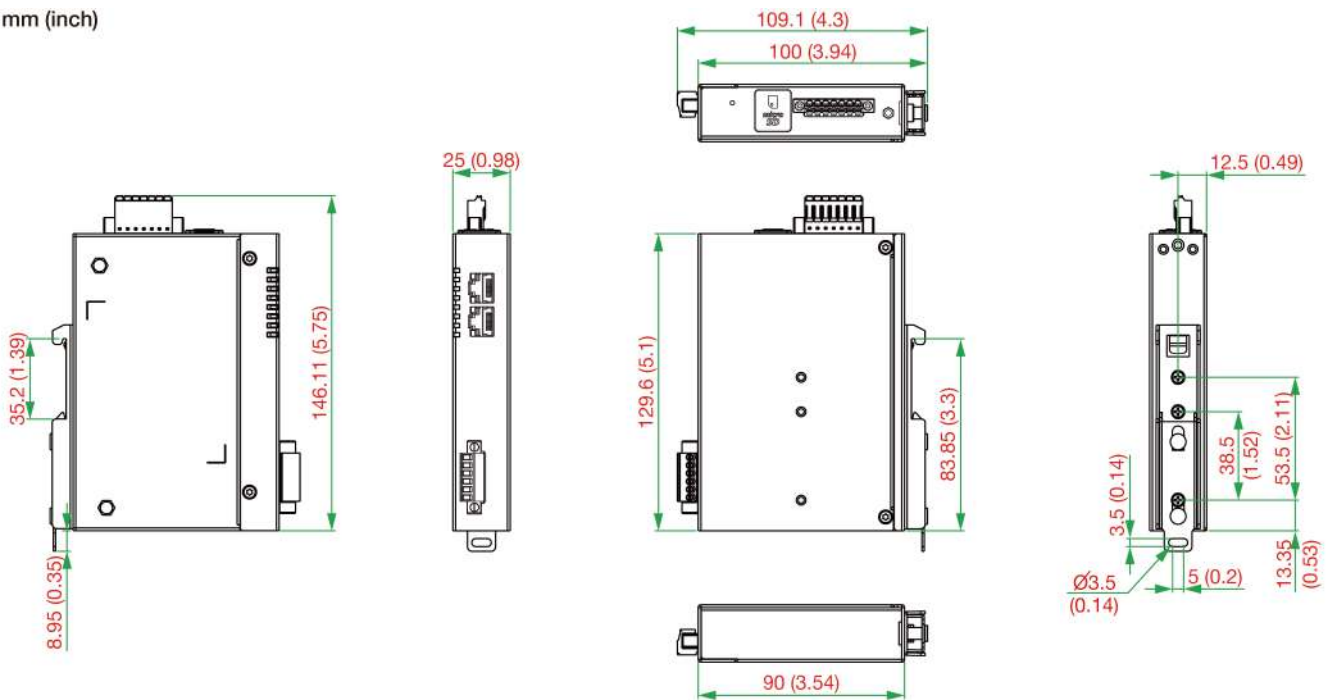
| | |
|-----------------|--|
| Warranty Period | 5 years |
| Details | See www.moxa.com/warranty |

Package Contents

| | |
|---------------|---|
| Device | 1 x MGate 5123 Series gateway |
| Documentation | 1 x quick installation guide 1 x warranty card |

Dimensions

Unit: mm (inch)



Ordering Information

| Model Name | No. of Serial Ports | Operating Temperature |
|--------------|---------------------|-----------------------|
| MGate 5123 | 1 | -10 to 60°C |
| MGate 5123-T | 1 | -40 to 75°C |

Accessories (sold separately)

Wall-Mounting Kits

| | |
|-------|---|
| WK-25 | Wall-mounting kit, 2 plates, 4 screws, 25 x 43 x 2 mm |
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