MGate 5134 Series

1-port Modbus RTU/ASCII/TCP-to-PROFINET gateways

Features and Benefits

- Protocol conversion from Modbus to PROFINET
- Supports PROFINET IO device
- Supports Modbus RTU/ASCII/TCP client
- 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
- Serial 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 5134 is an industrial Ethernet gateway for converting Modbus RTU/ASCII/TCP to PROFINET network communications. To integrate existing Modbus devices onto a PROFINET network, use the MGate 5134 as a Modbus client to collect data and exchange data with the PROFINET host. All models are protected by a rugged and compact metal housing, are DIN-rail mountable, and offer built-in serial isolation. The rugged design is suitable for industrial applications such as factory automation, power, oil and gas, water and wastewater, and other process automation industries.

Easy Configuration

The MGate 5134 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 devices with Modbus commands can be time-consuming and increase costs. The MGate 5134 gateways provide offline configuration via a CSV file to help complete the Modbus settings quickly. The gateways also come with a GSDML export function to enable export of these files so that they can be imported to PROFINET PLCs. The MGate gateways provide software-configurable pull high/low and termination resistor settings for RS-485 2-wire to reduce efforts by eliminating the need to open the chassis.

Easy Troubleshooting

The MGate 5134 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 Modbus 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	Modbus TCP Client, 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, 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

No. of Ports	1
Connector	DB9 male
Serial Standards	RS-232/422/485
Baudrate	300 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	ADDC (automatic data direction control)
Pull High/Low Resistor for RS-485	1 kilo-ohm, 150 kilo-ohms software configurable
Terminator for RS-485	120 ohms software configurable
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 Client

Modbus RTU/ASCII

Mode	Client
Functions Supported	1, 2, 3, 4, 5, 6, 15, 16, 23

Max. No. of Server Connections	31
Max. No. of Commands	128 per serial port

Modbus TCP

Mode	Client
Functions Supported	1, 2, 3, 4, 5, 6, 15, 16, 23
Max. No. of Server Connections	32
Max. No. of Commands	128
Total Output Data Size	2048 bytes
Total Input 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 per IO Controller (total: 2880 bytes)
Output Data Size	1440 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 5134: -10 to 60°C (14 to 140°F) MGate 5134-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	1,240,821 hrs
Standards	Telcordia SR332

Warranty

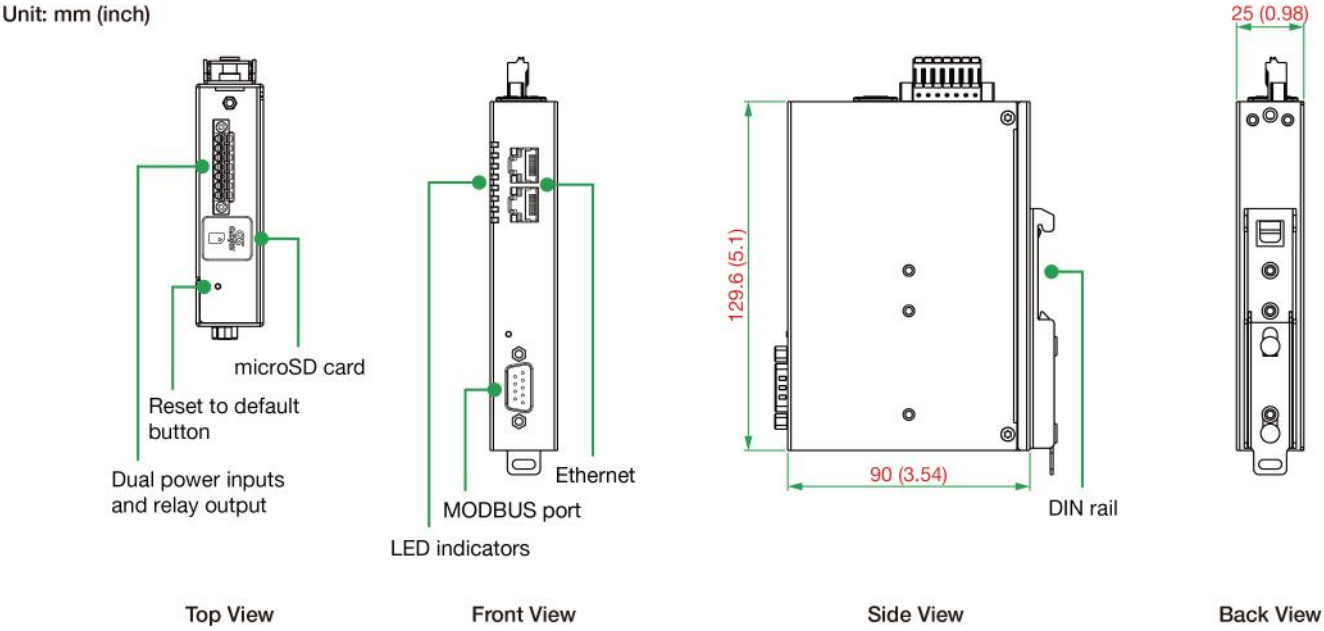
Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents

Device	1 x MGate 5134 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 5134	1	-10 to 60°C
MGate 5134-T	1	-40 to 75°C

Accessories (sold separately)

Connectors

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

Wall-Mounting Kits

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