MGate 5103 Series

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



Features and Benefits

- · Converts Modbus, or EtherNet/IP to PROFINET
- Supports PROFINET IO device
- Supports Modbus RTU/ASCII/TCP master/client and slave/server
- Supports EtherNet/IP Adapter
- · Effortless configuration via web-based wizard
- · Built-in Ethernet cascading for easy wiring
- Embedded traffic monitoring/diagnostic information for easy troubleshooting
- · microSD card for configuration backup/duplication and event logs
- · Status monitoring and fault protection for easy maintenance
- · Serial port with 2 kV isolation protection
- -40 to 75°C wide operating temperature models available
- · Supports redundant dual DC power inputs and 1 relay output
- · Security features based on IEC 62443

Certifications











Introduction

The MGate 5103 is an industrial Ethernet gateway for converting Modbus RTU/ASCII/TCP or EtherNet/IP to PROFINET-based network communications. To integrate existing Modbus devices onto a PROFINET network, use the MGate 5103 as a Modbus master/slave or EtherNet/IP adapter to collect data and exchange data with PROFINET devices. The latest exchange data will be stored in the gateway. The gateway will convert stored Modbus or EtherNet/IP data into PROFINET packets so the PROFINET IO Controller can control or monitor field devices.

Easy Configuration via Web Console

The MGate 5103 Series comes with an illustrated Quick Setup guide designed to make configuration easy. With Quick Setup, you can easily access protocol conversion modes and finish the configuration in a few steps. The MGate 5103 Series also supports a GSDML export function. GSDML files can be imported into PROFINET PLCs to save time on PLC configuration.

Modbus RTU/ASCII/TCP Protocol Traffic Monitor

MGate 5103 gateways support Modbus RTU/ASCII/TCP Protocol Traffic Monitor for easy troubleshooting, especially during the installation stage. Communication issues could be caused by incorrect software parameters, such as slave IDs and register addresses, that were entered incorrectly, or an incorrect command configuration. With Modbus RTU/ASCII/TCP Protocol Traffic Monitor, you can check the captured data and easily identify the root cause.

Maintenance Functions

MGate 5103 gateways support a system log function that records events in the MGate; users can easily review log data remotely through the web console. The gateways also support 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.

Specifications

Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	2 Auto MDI/MDI-X connection
Magnetic Isolation Protection	1.5 kV (built-in)



Industrial Protocols	EtherNet/IP Adapter	Ethernet Software Features	
Management ARP, DHCP Client, DNS, HTTP, HTTPS, SMTP, SNMP Trap, SNMPv1/v2c/v3, TCP/IP, Tolnet, SSH, UDP, NTP Client MIB RFC1213, RFC1317 Time Management NTP Client Serial Interface NTP Client 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 ADDC® (automatic data direction control) Pull HighyLow 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 RS-422 Tx+, Tx-, Rx+, Rx-, GND RS-485-4w Tx+, Tx-, Rx+, Rx-, GND Serial Console Modbus RTU/ASCII Slave Modbus RTU/ASCII Mode	Management ARP, DHCP Client, DNS, HTTP, HTTPS, SMTP, SNMP Trap, SNMPv1/v2c/v3, TCP/IP, Telnot, SSH, UDP, NTP Client MIB RFC1213, RFC1317 Time Management NTP Client Serial Interface RS-232 (TxD, RxD, QND), 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 ADDC% (automatic data direction control) 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 Tx, Tx, Rx+, Rx-, GND RS-422 TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND RS-425-bw Data+, Data-, GND RS-426-bw Tx+, Tx-, Rx+, Rx-, GND Serial Software Features Configuration Options Serial Console Industrial Protocols Modebus RTU/ASCII M	Industrial Protocols	
Telnet, SSH, UDP, NTP Client RFC1213, RFC1317 Time Management NTP Client Serial Interface Console Port RS-232 (TxD, RxD, GNID), 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 ADDC® (automatic data direction control) Pull High/Low Resistor for RS-485 120 ohms Isolation 2 kV (bullt-in) Serial Signals RS-232 Txe, Tx-, Rx+, Rx-, GND RS-485-4w Data-, Carlo Serial Console Configuration Options Serial Console Modbus RTU/ASCII Master, Modbus RTU/ASCII Slave Modbus RTU/ASCII Master, Modbus RTU/ASCII Slave Modbus RTU/ASCII	Telnet, SSH, UDP, NTP Client	Configuration Options	Web Console (HTTP/HTTPS), Device Search Utility (DSU), Telnet Console
Time Management	NTP Client	Management	
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 ADDC® (automatic data direction control) 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 RS-232 Tx, D, RxD, RTS, CTS, DTR, DSR, DCD, GND RS-422 Tx+, Tx-, Rx+, Rx-, 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 Mode Master, Slave	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 ADDC® (automatic data direction control) Pull High/Low Resistor for RS-485 120 ohms Isolation 2 kV (built-in) Serial Signals RS-232 TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND RS-485-2w Data+, Data+, CND RS-485-2w Data+, Data+, CND 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 Modbus RTU/ASCII Mode Master, Slave Industrial Supported 1, 2, 3, 4, 5, 6, 15, 16, 23 Max. No. of Commands	MIB	RFC1213, RFC1317
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 ADDC® (automatic data direction control) 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 RS-422 Tx+, Tx-, Rx+, Rx-, GND RS-485-4w Tx+, Tx-, Rx+, Rx-, GND RS-485-4w Tx+, Tx-, Rx+, Rx-, GND Serial Software Features Configuration Options Configuration Options Serial Console Industrial Protocols Modbus RTU/ASCII Master, Modbus RTU/ASCII Slave	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 ADDC® (automatic data direction control) 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 Tx+, Tx-, Rx+, Rx-, GND RS-232 TxD, RxD, RTS, CTS, DTR, DSR, DCD, 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 Modbus RTU/ASCII Mode Master, Slave Functions Supported 1, 2, 3, 4, 5, 6, 15, 16, 23 Max. No. of Commands 128	Time Management	NTP Client
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 ADDC® (automatic data direction control) 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 TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND RS-232 TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND RS-422 Tx+, Tx-, Rx+, Rx-, GND RS-485-2w Data+, Data-, Data-, OND RS-485-4w Tx+, Tx-, Rx+, Rx-, GND Serial Software Features Configuration Options Configuration Options Serial Console Industrial Protocols Modbus RTU/ASCII Master, Modbus RTU/ASCII Slave Modbus RTU/ASCII Mode	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 ADDC® (automatic data direction control) 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 Tx+, Tx-, Rx+, Rx-, GND RS-422 Tx, D, RxD, RTS, CTS, DTR, DSR, DCD, GND RS-485-2w Data+, Data-, GND RS-485-4w Tx+, Tx-, Rx+, Rx-, GND Serial Software Features Configuration Options Serial Console Modbus RTU/ASCII Master, Modbus RTU/ASCII Slave Modbus RTU/ASCII Master, Slave Functions Supported 1, 2, 3, 4, 5, 6, 15, 16, 23 Max. No. of Commands 128	Serial Interface	
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 ADDC® (automatic data direction control) 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 Configuration Options Serial Console Industrial Protocols Modbus RTU/ASCII Master, Modbus RTU/ASCII Slave Modbus RTU/ASCII Master, Slave	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 ADDC® (automatic data direction control) 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 TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND RS-232 TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND RS-485-2w Data+, Data-, GND RS-485-4w Tx+, Tx-, Rx+, Rx-, GND Serial Software Features Configuration Options Configuration Options Serial Console Industrial Protocols 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	Console Port	RS-232 (TxD, RxD, GND), 8-pin RJ45 (115200, n, 8, 1)
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 ADDC® (automatic data direction control) 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 TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND RS-232 TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND RS-422 Tx+, Tx-, Rx+, Rx-, 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 Modbus RTU/ASCII Master, Slave	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 ADDC@ (automatic data direction control) 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 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 Modbus RTU/ASCII Master, Modbus RTU/ASCII Slave Modbus RTU/ASCII Modbus RTU/ASCII Master, Modbus RTU/ASCII Slave Modbus RTU/ASCII Master, Slave Functions Supported 1, 2, 3, 4, 5, 6, 15, 16, 23 Max. No. of Commands 128	No. of Ports	1
Baudrate 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 Terminator for RS-485 120 ohms Isolation 2 kV (built-in) Serial Signals RS-232 TxD, RxD, RTS, CTS, DTR, DSR, DCD, 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 Modbus RTU/ASCII Mode Master, Slave	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 ADDC® (automatic data direction control) 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 Modbus RTU/ASCII Mode Master, Slave Functions Supported 1, 2, 3, 4, 5, 6, 15, 16, 23 Max. No. of Commands 128	Connector	DB9 male
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 Terminator for RS-485 120 ohms Isolation 2 kV (built-in) Serial Signals RS-232 TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND RS-482 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 Modbus RTU/ASCII Mode Master, Slave	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 Terminator for RS-485 120 ohms Isolation 2 kV (built-in) Serial Signals TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND 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 Modbus RTU/ASCII Master, Modbus RTU/ASCII Slave Modbus RTU/ASCII Mode Mode Master, Slave Functions Supported 1, 2, 3, 4, 5, 6, 15, 16, 23 Max. No. of Commands 128	Serial Standards	RS-232/422/485
Parity None, Even, Odd, Space, Mark 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 Terminator for RS-485 120 ohms Isolation 2 kV (built-in) Serial Signals RS-232 TxD, RxD, RTS, CTS, DTR, DSR, DCD, 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 Modbus RTU/ASCII Mode Master, Slave	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 1kilo-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-482 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 Modbus RTU/ASCII Mode Master, Slave Functions Supported 1, 2, 3, 4, 5, 6, 15, 16, 23 Max. No. of Commands 128	Baudrate	50 bps to 921.6 kbps
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 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 Modbus RTU/ASCII Mode Master, Slave	Stop Bits 1,2	Data Bits	7, 8
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 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 Serial Software Features Configuration Options Serial Console Industrial Protocols Modbus RTU/ASCII Master, Modbus RTU/ASCII Slave Modbus RTU/ASCII Mode Master, Slave	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 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 Modbus RTU/ASCII Mode Master, Slave Functions Supported 1, 2, 3, 4, 5, 6, 15, 16, 23 Max. No. of Commands 128	Parity	None, Even, Odd, Space, Mark
RS-485 Data Direction Control ADDC® (automatic data direction control) 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 Industrial Protocols Modbus RTU/ASCII Master, Modbus RTU/ASCII Slave Modbus RTU/ASCII Mode Master, Slave	RS-485 Data Direction Control ADDC® (automatic data direction control) 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 Modbus RTU/ASCII Mode Master, Slave Functions Supported 1, 2, 3, 4, 5, 6, 15, 16, 23 Max. No. of Commands 128	Stop Bits	1, 2
Pull High/Low Resistor for RS-485 1 kilo-ohm, 150 kilo-ohms 1 terminator for RS-485 1 20 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 Modbus RTU/ASCII Mode Master, Slave	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 TXD, RXD, RTS, CTS, DTR, DSR, DCD, GND 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 Configuration Options Serial Console Industrial Protocols Modbus RTU/ASCII Master, Modbus RTU/ASCII Slave Modbus RTU/ASCII Master, Slave Functions Supported 1, 2, 3, 4, 5, 6, 15, 16, 23 Max. No. of Commands 128	Flow Control	RTS Toggle (RS-232 only), RTS/CTS
Terminator for RS-485 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 Mode Master, Slave	Terminator for RS-485 120 ohms	RS-485 Data Direction Control	ADDC® (automatic data direction control)
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 Modbus RTU/ASCII Mode Master, Slave	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 Modbus RTU/ASCII Mode Master, Slave Functions Supported 1, 2, 3, 4, 5, 6, 15, 16, 23 Max. No. of Commands 128	Pull High/Low Resistor for RS-485	1 kilo-ohm, 150 kilo-ohms
Serial Signals RS-232	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 Modbus RTU/ASCII Mode Master, Slave Functions Supported 1, 2, 3, 4, 5, 6, 15, 16, 23 Max. No. of Commands 128	Terminator for RS-485	120 ohms
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 Modbus RTU/ASCII Mode Master, Slave	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 Modbus RTU/ASCII Mode Master, Slave Functions Supported 1, 2, 3, 4, 5, 6, 15, 16, 23 Max. No. of Commands 128	Isolation	2 kV (built-in)
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 Modbus RTU/ASCII Mode Master, Slave	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 Modbus RTU/ASCII Mode Master, Slave Functions Supported 1, 2, 3, 4, 5, 6, 15, 16, 23 Max. No. of Commands 128	Serial Signals	
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 Modbus RTU/ASCII Mode Master, Slave	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 Modbus RTU/ASCII Mode Master, Slave Functions Supported 1, 2, 3, 4, 5, 6, 15, 16, 23 Max. No. of Commands 128	RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, 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 Modbus RTU/ASCII Mode Master, Slave	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 Modbus RTU/ASCII Mode Master, Slave Functions Supported 1, 2, 3, 4, 5, 6, 15, 16, 23 Max. No. of Commands 128	RS-422	Tx+, Tx-, Rx+, Rx-, GND
Serial Software Features Configuration Options Serial Console Industrial Protocols Modbus RTU/ASCII Master, Modbus RTU/ASCII Slave Modbus RTU/ASCII Mode Master, Slave	Serial Software Features Configuration Options Serial Console Industrial Protocols 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	RS-485-2w	Data+, Data-, GND
Configuration Options Serial Console Industrial Protocols Modbus RTU/ASCII Master, Modbus RTU/ASCII Slave Modbus RTU/ASCII Mode Master, Slave	Configuration Options Industrial Protocols 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	RS-485-4w	Tx+, Tx-, Rx+, Rx-, GND
Industrial Protocols Modbus RTU/ASCII Master, Modbus RTU/ASCII Slave Modbus RTU/ASCII Mode Master, Slave	Industrial Protocols Modbus RTU/ASCII Master, Modbus RTU/ASCII Slave Mode Master, Slave Functions Supported 1, 2, 3, 4, 5, 6, 15, 16, 23 Max. No. of Commands 128	Serial Software Features	
Modbus RTU/ASCII Mode Master, Slave	Mode Master, Slave Functions Supported 1, 2, 3, 4, 5, 6, 15, 16, 23 Max. No. of Commands 128	Configuration Options	Serial Console
Mode Master, Slave	ModeMaster, SlaveFunctions Supported1, 2, 3, 4, 5, 6, 15, 16, 23Max. No. of Commands128	Industrial Protocols	Modbus RTU/ASCII Master, Modbus RTU/ASCII Slave
	Functions Supported 1, 2, 3, 4, 5, 6, 15, 16, 23 Max. No. of Commands 128	Modbus RTU/ASCII	
Functions Supported 1, 2, 3, 4, 5, 6, 15, 16, 23	Max. No. of Commands 128	Mode	Master, Slave
		Functions Supported	1, 2, 3, 4, 5, 6, 15, 16, 23
Max. No. of Commands 128	Input Data Size 512 bytes	Max. No. of Commands	128
Input Data Size 512 bytes		Input Data Size	512 bytes



Output Data Size

512 bytes

Modbus TCP

Modbus TCP	
Mode	Client (Master), Server (Slave) 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
Input Data Size	512 bytes
Output Data Size	512 bytes
PROFINET	
Mode	IO Device 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	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)
Input Data Size	496 bytes
Output Data Size	496 bytes
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
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)

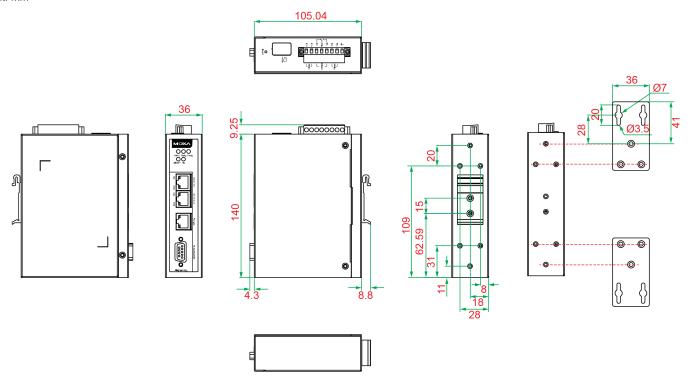


Environmental Limits	
Operating Temperature	MGate 5103: 0 to 60°C (32 to 140°F) MGate 5103-T: -40 to 75°C (-40 to 167°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Standards and Certifications	
Safety	EN 60950-1, UL 508
EMC	EN 55032/24
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
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	859,422 hrs
Standards	Telcordia SR332
Warranty	
Warranty Period	5 years
Details	See www.moxa.com/warranty
Package Contents	
Device	1 x MGate 5103 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



Dimensions

Unit: mm



Ordering Information

Model Name	Operating Temp.
MGate 5103	0 to 60°C
MGate 5103-T	-40 to 75°C

Accessories (sold separately)

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	RJ45 to DB9 female serial cable, 1.5 m
CBL-RJ45SF9-150	RJ45 to DB9 female serial shielded cable, 1.5 m
Connectors	
Mini DB9F-to-TB	DB9 female to terminal block connector
DIN-Rail Mounting Kits	
DK-25-01	DIN-rail mounting kit, 2 screws
Wall-Mounting Kits	
WK-36-02	Wall-mounting kit, 2 plates, 6 screws, 36 x 67 x 2 mm
Power Cords	
CBL-PJTB-10	Non-locking barrel plug to bare-wire cable

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