MGate 5192 Series
Quick Installation Guide

Version 1.0, May 2024

Technical Support Contact Information
www.moxa.com/support

P/N: 1802051920010

Overview

The MGate 5192 is an industrial Ethernet gateway for the power industry to integrate a IEC 61850 MMS network or devices to Modbus, DNP3, IEC 60870-5-101, or IEC 60870-5-104 networks.

Package Checklist

Before installing the MGate 5192, verify that the package contains the following items:

- 1 MGate 5192 gateway with DIN rail kit pre-installed
- Quick installation guide (printed)
- Warranty card

NOTE Please notify your sales representative if any of the above items are missing or damaged.

Optional Accessories (can be purchased separately)

- **Mini DB9F-to-TB:** DB9 female to terminal block connector
- **WK-25:** Wall-mounting kit, 2 plates, 4 screws, 25 x 43 x 2 mm

Check the Moxa website datasheet for more accessory options like regional power adapters or serial/power cables for different models.

Hardware Introduction

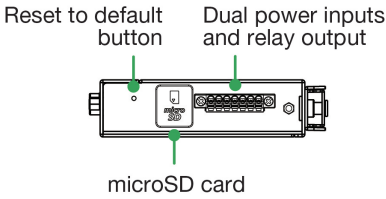
LED Indicators

LED	Color	Description
POWER1 (P1) POWER2 (P2)	Green	Power is on.
	Off	Power is off.
READY (R)	Off	Power is off.
	Green	Steady: Power is on, and the MGate is functioning normally.
		Blinking (1 sec.): The MGate has been located by the Moxa utility DSU Location function.
	Red	Steady: Power is on, and the MGate is booting up.
		Blinking slowly (0.5 sec.): Shows an IP conflict, or the DHCP server is not responding properly.
		Blinking (0.1 sec.): the microSD card failed.
IEC61850 (61850) [as IEC61850 Client]	Off	No IEC61850 server is configured or has been imported to the IEC61850 client.
	Green	Steady: Normal IEC61850 communication in progress, no communication error.
	Red	Steady: All IEC61850 servers lost their connection.
		Blinking (1 sec.): Communication errors have occurred. 1. One or more of the IEC61850 servers cannot connect or have disconnected. 2. Received one or more responses with an error (format error/exception).

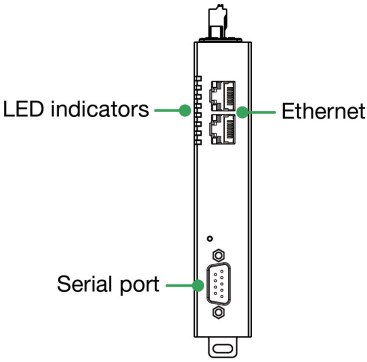
LED	Color	Description
DNP3 (DNP3) [as DNP3 TCP or serial outstation]	Off	No communication with the DNP3 client.
	Green	Steady (1 sec.): Normal DNP3 communication in progress.
	Red	Blinking (1 sec.): 1. Received exception from the client (format error, checksum error, invalid data). 2. A communication timeout has occurred.
Modbus (MB) [as Modbus TCP or RTU or ASCII server]	Off	No communication with the Modbus client.
	Green	Steady: Normal Modbus communication in progress.
	Red	Blinking (1 sec.): Communication error 1. Received invalid function code. 2. Master accessed invalid register address or coil address. 3. Received frame error (parity error, checksum error).
IEC 101 (101) [as IEC 60870-5-101 server]	Off	No communication with IEC 60870-5-101 client.
	Green	Steady: Normal IEC 60870-5-101 communication in progress.
	Red	Blinking (1 sec.): Received exception from the client (format error, checksum error, invalid data).
IEC 104 (104) [as IEC 60870-5-104 server]	Off	No communication with IEC 60870-5-104 client
	Green	Steady: Normal IEC 60870-5-104 communication in progress.
	Red	Blinking (1 sec.): Received exception from the client (format error, checksum error, invalid data).
ETH1, ETH2	Green	Steady ON: Ethernet link on at 100 Mbps. Blinking: Data transmitting at 100 Mbps.
	Amber	Steady ON: Ethernet link on at 10 Mbps. Blinking: Data transmitting at 10 Mbps.
	Off	Ethernet link is down or not connected.
Serial TX/RX	Green	TX: Serial port is transmitting data.
	Amber	RX: Serial port is receiving data.

Panel Layouts

Top View



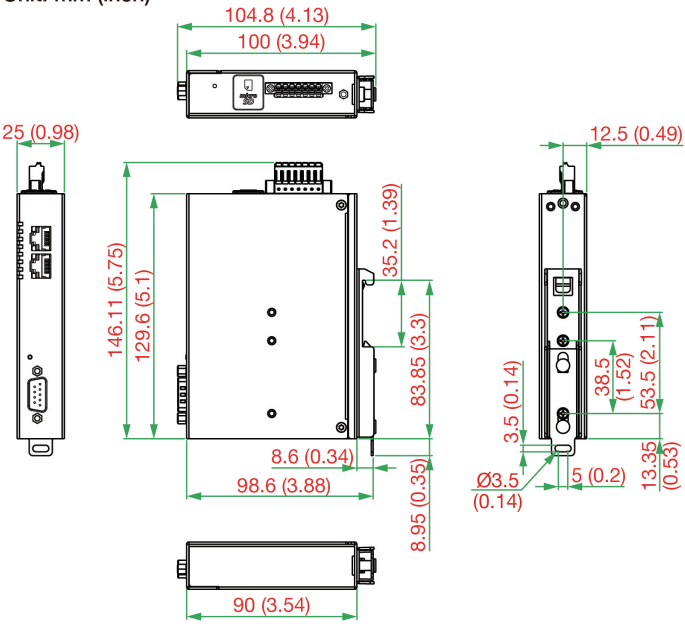
Front View



Dimensions

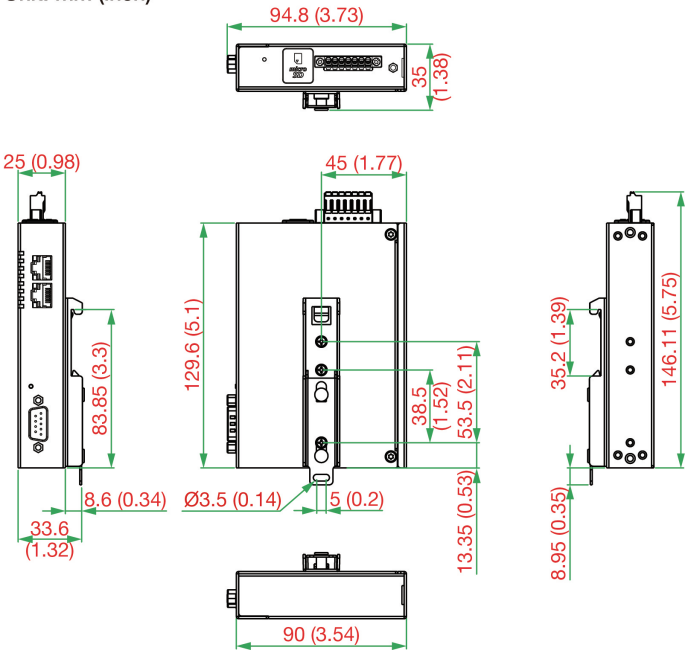
DIN Rail

Unit: mm (inch)



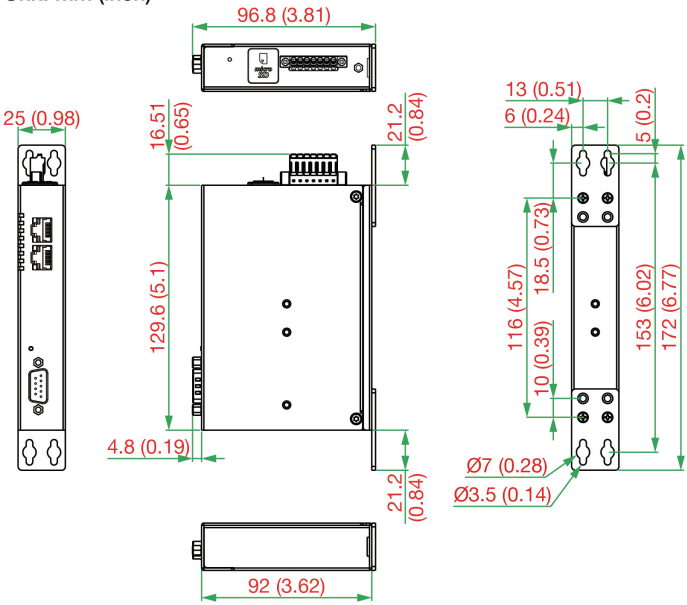
Side DIN Rail

Unit: mm (inch)



Wall Mount

Unit: mm (inch)



Reset Button

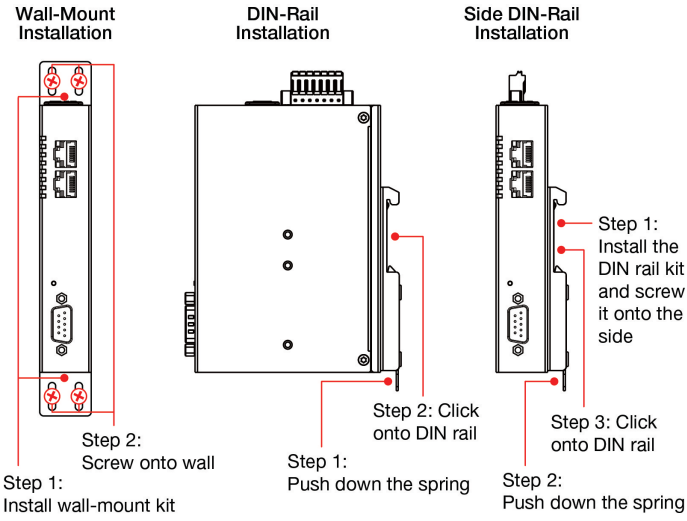
Restore the MGate to factory default settings by using a pointed object (such as a straightened paper clip) to hold the reset button down until the Ready LED stops blinking (approximately five seconds).

Hardware Installation Procedure

1. Connect the power adapter. Connect the 12-48 VDC power line or DIN-rail power supply to the MGate 5192's terminal block.
2. Use an Ethernet cable to connect the MGate to the IEC61850 server(s).
3. Use an Ethernet or serial cable to connect the MGate to the Modbus TCP/RTU/ASCII, DNP3 TCP/serial, IEC60870-5-101, or IEC60870-5-104 client.
4. The MGate 5192 is designed to be attached to a DIN rail or mounted on a wall. For DIN-rail mounting, push down the spring and properly attach it to the DIN rail until it "snaps" into place. For wall mounting, install the wall-mounting kit (optional) first and then screw the device onto the wall.

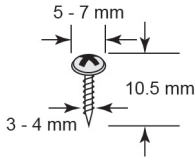
When wiring the relay contact (R) and power inputs (P1/P2), we suggest using American Wire Gauge (AWG) 16 to 20 as a cable and the corresponding pin-type cable terminals. We recommend the stripping length to be 8 to 9 mm. The wire temperature rating should be at least 85°C. Use copper conductors only. The shielding ground screw (M4) is near the power connector. When you connect the shielded ground wire (min. 16 AWG), the noise is routed from the metal chassis to the ground.

The following figure illustrates the three mounting options:



Wall or Cabinet Mounting

We provide two metal plates to mount the unit on a wall or inside a cabinet. Attach the plates to the unit's rear panel with screws. With the plates attached, use screws to mount the unit on the wall. The heads of the screws should be 5 to 7 mm in diameter, the shafts should be 3 to 4 mm in diameter, and the length of the screws should be over 10.5 mm.



Software Installation Information

Please download the User Manual and Device Search Utility (DSU) from Moxa's website: www.moxa.com

For using the DSU, refer to the User's Manual. The MGate 5192 also supports login via a web browser.

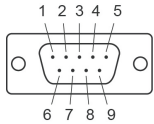
Default IP address: **192.168.127.254**

Create your administration account and password when you log in the first time.

Pin Assignments

Modbus Serial Port (Male DB9)

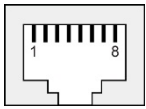
Pin	RS-232	RS-422/ RS-485 (4W)	RS-485 (2W)
1	DCD	TxD-(A)	–
2	RXD	TxD+(B)	–
3	TXD	RxD+(B)	Data+(B)
4	DTR	RxD-(A)	Data-(A)
5*	GND	GND	GND
6	DSR	–	–
7	RTS	–	–
8	CTS	–	–
9	–	–	–



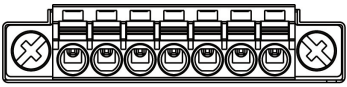
*Signal ground

Ethernet Port (RJ45)

Pin	Signal
1	Tx+
2	Tx-
3	Rx+
6	Rx-



Power Input and Relay Output Pinouts



V2+	V2-				V1+	V1-
DC Power Input 2	DC Power Input 2	N.O.	Common	N.C.	DC Power Input 1	DC Power Input 1

Specifications

Power Parameters	
Power Input	12 to 48 VDC
Power Consumption	455 mA max.
Relays	
Contact Current Rating	Resistive load: 2 A @ 30 VDC
Environmental Limits	
Operating Temperature	Standard models: -10 to 60°C (14 to 140°F) Wide temp. models: -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% RH
Physical Characteristics	
Dimensions	25 x 90 x 129.6 mm (0.98 x 3.54 x 5.1 in)
Weight	294 g (0.65 lb)
Reliability	
Alert Tools	Built-in buzzer and RTC
MTBF	1,240,821 hrs

ATTENTION

Power terminal plug wiring size is 28-14 AWG, tighten to 1.7 in-lbs, wire min. 80°C. Use copper conductors only.

Hot surface label.

Functional earth terminal.

ATTENTION

- This device is an open-type equipment and intended to be installed in a suitable enclosure.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- When installing the device, the assembler is responsible for the securing the safety of the system in which the equipment is incorporated.

NOTE
- This device is intended for use indoors and at altitudes up to 2,000 meters.
- Pollution degree 2.

NOTE Clean the device with a soft cloth, dry or with water.

NOTE The power input specification complies with the requirements of SELV (Safety Extra Low Voltage), and the power supply should comply with UL 61010-1 and UL 61010-2-201.

WARNING

사용자안내문 (User Guide)

이 기기는 업무용 환경에서 사용할 목적으로 적합성평가를 받은 기기로서가정용 환경에서 사용하는 경우 전파간섭의 우려가 있습니다.

This equipment has KC approval to be used for industrial environments and therefore it has the possibility of interferences with household equipment.

For any repair or maintenance needs, please contact us.
Moxa Inc.
No. 1111, Heping Rd., Bade Dist., Taoyuan City 334004, Taiwan
+886-03-2737575