

# MGate 5118

## Quick Installation Guide

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## Overview

The MGate 5118 is an industrial Ethernet gateway for J1939-to-Modbus RTU/ASCII/TCP, PROFINET and EtherNet/IP network communications.

## Package Checklist

Before installing the MGate 5118, verify that the package contains the following items:

- 1 MGate 5118 gateway
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card

*Please notify your sales representative if any of the above items is missing or damaged.*

### **Optional Accessories (can be purchased separately)**

- **Mini DB9F-to-TB:** DB9-female-to-terminal-block connector
- **WK-51-01:** Wall-mounting kit, 51 mm wide

## Hardware Introduction

### LED Indicators

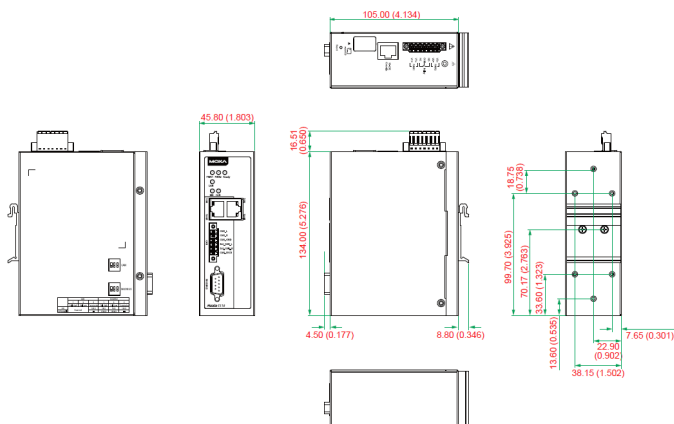
LED	Color	Description
PWR 1,	Green	The power cable is connected
PWR 2	Off	The power cable is disconnected
Ready	Off	Power is off or a fault condition exists
	Green	Steady on: Power is on, and the unit is functioning normally Blinking: The unit is responding to the software's Locate function
	Red	Steady on: Power is on, and the unit is booting up Blinking: Indicates an IP conflict, or the DHCP or BOOTP server is not responding properly Flashing quickly: the microSD card failed
LAN	Green (Flashing only)	The Ethernet port is receiving or transmitting data <b>Modbus TCP Client:</b> Modbus communication in progress <b>Modbus TCP Server:</b> Modbus communication in progress <b>EIP Scanner:</b> MGate I/O is exchanging data with at least one device <b>EIP Adapter:</b> MGate I/O is exchanging data <b>PROFINET:</b> PROFINET I/O interface is exchanging data

LED	Color	Description
	Red (Flashing only)	<p>A communication error occurred</p> <p><b>Modbus TCP Client:</b></p> <ol style="list-style-type: none"> <li>1. Received an exception code or framing error (parity error, checksum error)</li> <li>2. Command timeout (slave device is not responding)</li> <li>3. TCP connection timeout</li> </ol> <p><b>Modbus TCP Server:</b></p> <ol style="list-style-type: none"> <li>1. Received an invalid function code or framing error (parity error, checksum error)</li> <li>2. Accessed invalid register address or coil address</li> </ol> <p><b>Ethernet/IP Scanner:</b></p> <ol style="list-style-type: none"> <li>1. Command timeout (the adapter is not responding)</li> <li>2. TCP connection timeout</li> </ol> <p><b>Ethernet/IP Adapter:</b></p> <p>The connection was refused due to incorrect configuration</p>
	Off	No communication
MB*	Green (Flashing only)	Modbus is receiving or transmitting data
	Red (Flashing only)	<p>A communication error occurred</p> <p><b>Master Mode:</b></p> <ol style="list-style-type: none"> <li>1. Received an exception code or framing error (parity error, checksum error)</li> <li>2. Command timeout (the slave device is not responding)</li> </ol> <p><b>Slave Mode:</b></p> <ol style="list-style-type: none"> <li>1. Received an invalid function code or framing error (parity error, checksum error)</li> <li>2. Accessed invalid register address or coil address</li> </ol>
	Off	No communication
CAN	Green (Flashing only)	CANbus(J1939) communication is receiving or transmitting data
	Red (Steady)	<p>A communication error occurred</p> <ol style="list-style-type: none"> <li>1. The J1939 address claim failed</li> <li>2. CAN is in bus-off state because the error counter is exceeding its limitations</li> </ol>
	Off	No communication
Eth1, Eth2	Green	Indicates an 100 Mbps Ethernet connection
	Amber	Indicates a 10 Mbps Ethernet connection
	Off	The Ethernet cable is disconnected

\*Only indicates serial communication status; for Modbus TCP status, please refer to LAN LED indicator.

## Dimensions

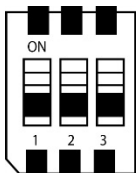
Unit = mm (inch)



## 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).

## Pull-high, Pull-low, and Terminator for RS-485 and CAN



On the MGate 5118's left side panel, you will find DIP switches to adjust each CAN port or serial port's pull-high resistor, pull-low resistor, and terminator.

SW	CAN			MODBUS		
	1	2	3	1	2	3
	Pull-high resistor	Pull-low resistor	Terminator	Pull-high resistor	Pull-low resistor	Terminator
ON	Reserved		120 $\Omega$ (default)	1 k $\Omega$	1 k $\Omega$	120 $\Omega$
OFF			-	150 k $\Omega$ (default)	150 k $\Omega$ (default)	- (default)

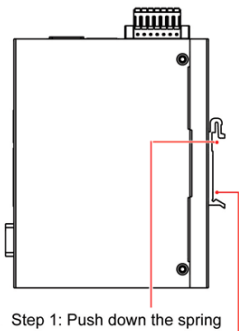
## Hardware Installation Procedure

1. Connect the power adapter. Connect the 12-48 VDC power line or DIN-rail power supply to the MGate 5118's terminal block.
2. Use a serial cable to connect the MGate to the Modbus or CAN device.
3. Use an Ethernet cable to connect the MGate to the Modbus, Ethernet/IP or PROFINET device.
4. The MGate 5118 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-mount kit (optional) first and then screw the device onto the wall. The following figure illustrates the two mounting options:

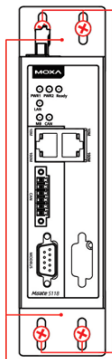
DIN-Rail Installation

Wall-Mount Installation



Step 1: Push down the spring

Step 2: Click onto DIN rail



Step 1: Install wall-mount kit

Step 2: Screw onto wall

## Software Installation Information

The Document & Software CD contains the User's Manual and DSU (Device Search Utility). Insert the CD and follow the on-screen instructions. Please refer to the User's Manual for additional details on using the Device Search Utility.

The MGate 5118 also supports login via a web browser.

Default IP address: **192.168.127.254**

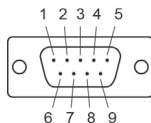
Default account: **admin**

Default password: **moxa**

## Pin Assignments

### Modbus Serial Port (Male DB9)

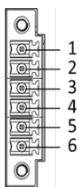
Pin	RS-232	RS-422/ RS-485 (4W)	RS-485 (2W)
1	DCD	TxD-(A)	-
2	RXD	TxD+(B)	-
3	TXD	RxD+(B)	Data+(B)
4	DTR	RxD-(A)	Data-(A)
5*	GND	GND	GND
6	DSR	-	-
7	RTS	-	-
8	CTS	-	-
9	-	-	-



\*Signal ground

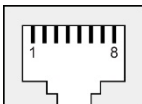
### **CAN Port (6-pin Terminal Block)**

Pin	CAN
1	CAN_L
2	CAN_H
3	CAN Signal GND
4	Ext-CAN_L
5	Ext-CAN_H
6	CAN_SHLD



### **Ethernet Port (RJ45)**

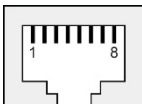
Pin	Signal
1	Tx+
2	Tx-
3	Rx+
6	Rx-



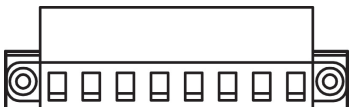
### **Console Port (RS-232)**

The MGate 5118 series can use a RJ45 serial port to connect to a PC to configure the device.

Pin	Signal
1	DSR
2	RTS
3	GND
4	TXD
5	RXD
6	DCD
7	CTS
8	DTR



### **Power Input and Relay Output Pinouts**



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

### **Specifications**

<b>Power Requirements</b>	
Power Input	12 to 48 VDC
Power Consumption	416mA@12VDC, 195mA@24VDC, 110mA@48VDC
Operating Temperature	Standard model: 0 to 60°C (32 to 140°F) Wide temperature model: -40 to 75°C (-40 to 167°F)
Ambient Relative Humidity	5 to 95% RH
Dimensions	45.8 x 105 x 134 mm (1.80 x 4.13 x 5.27 in)

<b>Reliability</b>	
Alert Tools	Built-in buzzer and RTC
MTBF	727,873 hrs.

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