

# MGate™ EIP3000 Series

## 1 and 2-port DF1 to EtherNet/IP gateways



- > PCCC objects for Rockwell Automation networks supported
- > ProCOM provides a virtual serial port for multiple DF1 and EtherNet/IP device communication
- > 8 simultaneous EtherNet/IP clients with up to 16 simultaneous requests per client
- > Serial redirector function provided
- > Embedded EtherNet/IP and DF1 protocol analyzer
- > Redundant dual DC power inputs
- > Built-in Ethernet cascading for easy wiring



### Overview

MGate™ EIP3000 series products provide 1 or 2-port DF1 to EtherNet/IP protocol conversion for users who need to connect Allen Bradley

PLCs to an EtherNet/IP network, and provide a cost-effective way to combine PLC and SCADA software into the same system.

### Protocol Conversion between DF1 and EtherNet/IP

MGate™ EIP3000 series products can be used to connect DF1 devices and EtherNet/IP devices to provide Allen Bradley PLCs with remote maintenance capability. By supporting PCCC objects on CIP, the MGate™ EIP3000 can communicate seamlessly with Rockwell Ethernet

devices. The EIP3000 protocol gateways come with either 1 or 2 serial ports to allow users to select a suitable gateway depending on the size of the network.

### Support for Multiple EtherNet/IP Connections

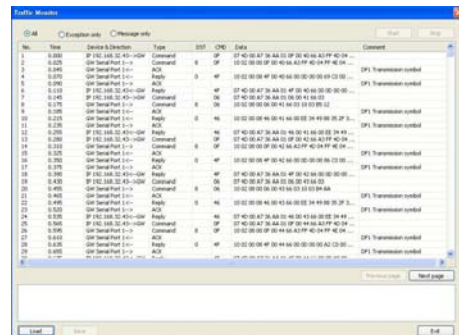
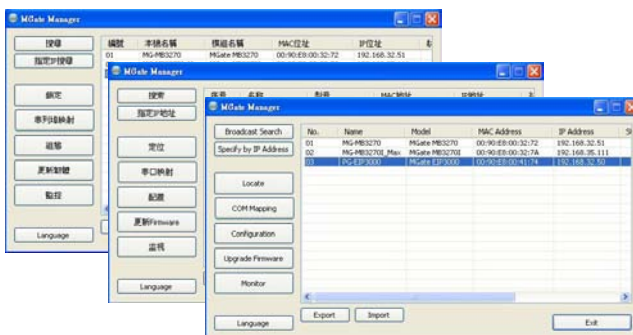
The MGate™ EIP3000 series products support up to 8 EtherNet/IP

clients and 8 EtherNet/IP servers simultaneously. Each client can send up to 16 requests at one time.

### Windows Utility for Easy Setup and Traffic Monitoring

Moxa provides a user-friendly Windows utility with multiple language support for use with all of our MGate™ products. The utility also

supports a traffic monitoring function for EtherNet/IP and DF1 protocols.



## Serial Redirector Function Provided

The MGate™ EIP3000 series products have a serial redirector function that allows additional options for DF1 network integration. The serial redirector function allows the commands of a serial master (command initiator) to be redirected to the serial slave (command executor) on another port. In addition, a serial master can operate simultaneously

with EtherNet/IP Clients or other serial masters without altering the DF1 architecture or software. Using the serial redirector function, EIP3000 gateways can establish redundant backup control or Ethernet monitoring of DF1 networks that were originally designed for a single serial master.

## ProCOM—Virtual Serial Port for Multiple DF1 and EtherNet/IP Device Communication

Each MGate™ EIP3000 gateway supports a virtual serial port. A remote PC uses a Moxa-provided Real COM or TTY driver to connect to the EIP3000's virtual serial port. RSLinx and SCADA systems can use the virtual COM port to communicate with an EIP3000 gateway. The

virtual serial port function gives RSLinx or some SCADA systems the capability to connect to multiple DF1 and EtherNet/IP devices through a protocol gateway.

## Pull high/low Resistors and Terminator Selection

When using termination resistors to prevent serial signal reflection, it is important to set the pull high/low resistors correctly so that the electrical signal is not corrupted. Since no set of resistor values is

universally compatible with all environments, the EIP3000 has DIP switches on the bottom panel for setting the termination and pull high/low resistor values.

## Built-in Isolation

Complex device networks that incorporate high amperage devices could be subject to electrical signal distortion from electrical

discharges, magnetic noise, or common mode transients. MGate™ series products solve this problem by using built-in optical isolation.

## Specifications

### Ethernet Interface

**Number of Ports:** 2 (sharing 1 IP)

**Speed:** 10/100 Mbps, Auto MDI/MDIX

**Connector:** 8-pin RJ45

**Magnetic Isolation Protection:** 1.5 KV built-in

### Serial Interface

**Number of Ports:**

EIP3170/3170I: 1

EIP3270/3270I: 2

**Serial Standards:** RS-232/422, software selectable

**Connectors:**

EIP3170/3170I: DB9 male for RS-232, terminal block for RS-422

EIP3270/3270I: DB9 male x 2

**ESD Protection:** 15 KV for all signals

### Serial Communication Parameters

**Data Bits:** 7, 8

**Stop Bits:** 1, 2

**Parity:** None, Even, Odd

**Flow Control:** RTS/CTS, DTR/DSR

**Baudrate:** 50 bps to 921.6 Kbps

### Serial Signals

**RS-232:** TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND

**RS-422:** Tx+, Tx-, Rx+, Rx-, GND

**Ethernet Protocol:** CIP (PCCC) on EtherNet/IP

**Serial Protocol:** DF1 Full-duplex

### Software

**Driver Support:**

Windows Real COM Drivers: Windows 95, 98, ME, NT, 2000, XP x86/x64, 2003 x86/x64, Vista x86/x64, 2008 x86/x64, Embedded CE 5.0/6.0, XP Embedded

Fixed TTY Drivers: SCO Unix, SCO OpenServer, UnixWare 7, UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i

Linux Real TTY Drivers: 2.4.x, 2.6.x

### Physical Characteristics

**Housing:** Plastic

**Dimensions:**

Without ears: 29 x 89.2 x 118.5 mm (1.14 x 3.51 x 4.67 in)

With ears extended: 29 x 89.2 x 124.5 mm (1.14 x 3.51 x 4.90 in)

### Environmental Limits

**Operating Temperature:**

Standard Models: 0 to 55°C (32 to 131°F)

Wide Temp. Models: -40 to 75°C (-40 to 167°F)

**Operating Humidity:** 5 to 95% RH

**Storage Temperature:** -20 to 85°C (-4 to 185°F)

### Power Requirements

**Input Voltage:** 12 to 48 VDC

**Power Connector:** Terminal block

### Regulatory Approvals

**EMC:** CE (EN55022 Class A and EN55024), FCC Part 15 Subpart B Class A

**Safety:** UL-508, LVD (EN60950-1)

**Hazardous Location:**

UL/cUL Class 1 Division 2 Groups A, B, C, D

ATEX II 3 G (Zone 2) (Pending)

**Shock:** IEC60068-2-27

**Freefall:** IEC60068-2-23

**Vibration:** IEC60068-2-6

**EMS:**

EN61000-4-2 (ESD): Level 3

EN61000-4-3 (RS): Level 3

EN61000-4-4 (EFT): Level 4

EN61000-4-5 (Surge): Level 3

EN61000-4-6 (CS): Level 3

EN61000-4-8: Passed

EN61000-4-11: Passed

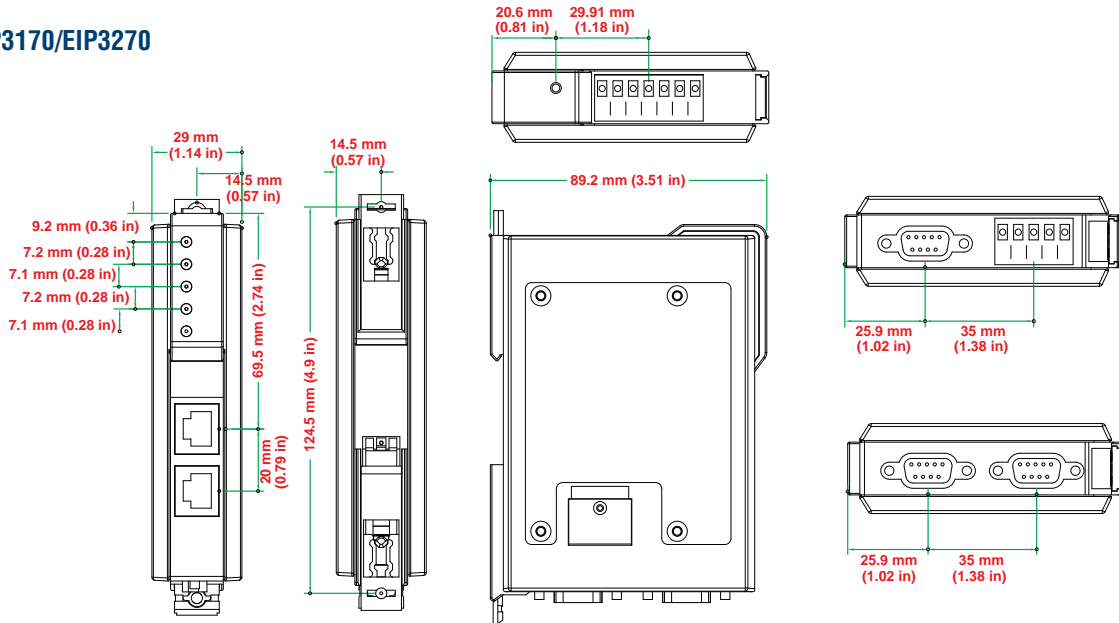
### Warranty

**Warranty Period:** 5 years

**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

## Dimensions

### EIP3170/EIP3270



## Ordering Information

### Available Models

**MGate™ EIP3170:** 1-port DF1 to EtherNet/IP gateway, 0 to 55°C operating temperature

**MGate™ EIP3170I:** 1-port DF1 to EtherNet/IP gateway with 2 KV isolation, 0 to 55°C operating temperature

**MGate™ EIP3270:** 2-port DF1 to EtherNet/IP gateway, 0 to 55°C operating temperature

**MGate™ EIP3270I:** 2-port DF1 to EtherNet/IP gateway with 2 KV isolation, 0 to 55°C operating temperature

**MGate™ EIP3170-T:** 1-port DF1 to EtherNet/IP gateway, -40 to 75°C operating temperature

**MGate™ EIP3170I-T:** 1-port DF1 to EtherNet/IP gateway with 2 KV isolation, -40 to 75°C operating temperature

**MGate™ EIP3270-T:** 2-port DF1 to EtherNet/IP gateway, -40 to 75°C operating temperature

**MGate™ EIP3270I-T:** 2-port DF1 to EtherNet/IP gateway with 2 KV isolation, -40 to 75°C operating temperature

### Optional Accessories (can be purchased separately)

**DR-45-24:** 24 VDC DIN-rail power supply (2 A @ 45 W) with universal 85 to 264 VAC input

**DR-75-24:** 24 VDC DIN-rail power supply (3.2 A @ 75 W) with universal 85 to 264 VAC input

**DR-120-24:** 24 VDC DIN-rail power supply (5 A @ 120 W) with switch for choosing 88 to 132 VAC, or 176 to 264 VAC input

### Package Checklist

- 1 MGate™ EIP3170 or EIP3170I or EIP3270 or EIP3270I EtherNet/IP gateway
- Quick installation guide (printed)
- Document and Software CD
- Warranty Card