



# Multi-port RS-232 to Ethernet Data Gateway

Model Number: *MSD-SRF4X*

## Installation Guide

Coolgear, Inc.

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## Revision History

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Revision	Date	Comments
1.0	04/09/2024	First Release

## 1. Introduction

Thank you for purchasing Coolgear's Multi-port RS-232 to Ethernet Data Gateway. The MSD-SRF4X 4 port RS-232 to Ethernet data gateway will address the need to add 2 RS-232C devices to an IP-based Ethernet LAN on your system, and has a built-in watchdog function for hardware hangs.

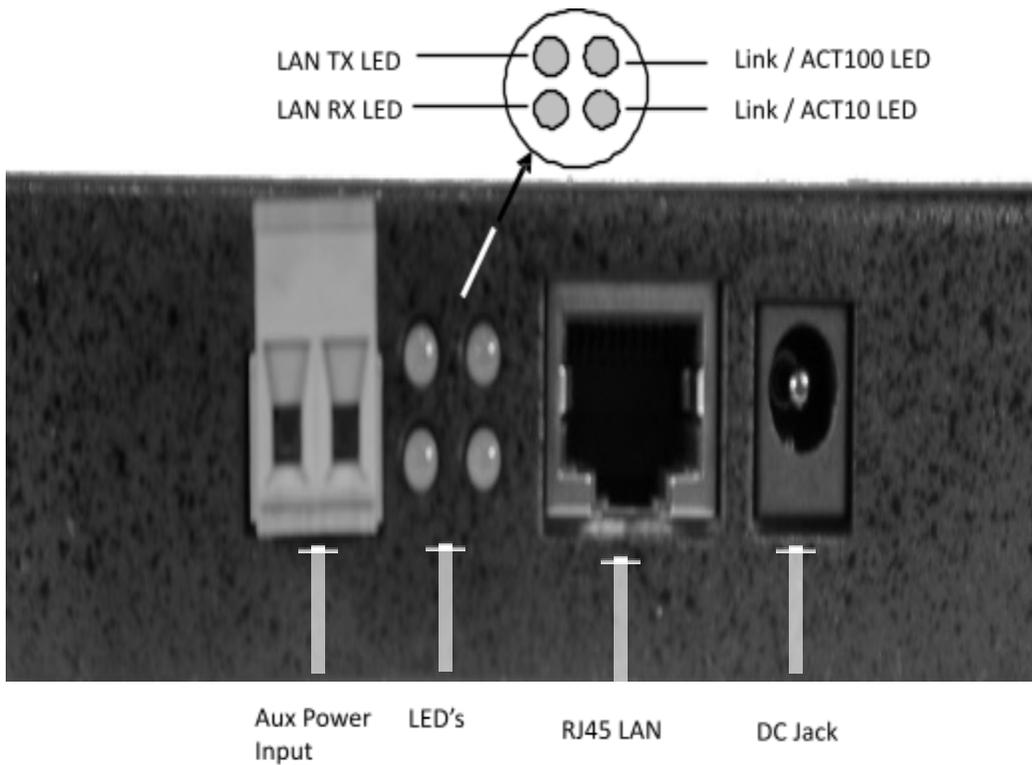
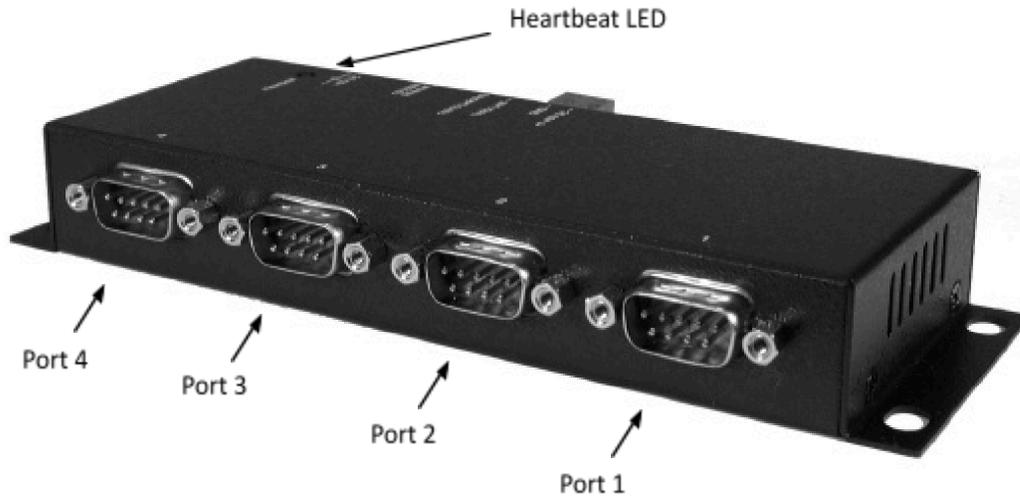
The MSD-SRF4X 4-Port RS-232 to Ethernet Data Gateway addresses the need to connect individual RS-232C devices, such as PLCs, meters, sensors, to an IP-based Ethernet LAN. It enables your application software to access serial devices anywhere on a local area network or the Internet. This RS-232 to Ethernet adapter is a ruggedly constructed metal chassis with its RJ45 connection, 12VDC power jack, and LED indicators conveniently located on the back panel, out of the way of any serial cable connection.

The 4-Port RS-232 to Ethernet Data Gateway is easy to install and remotely connect through a variety IP addressing methods (UDP, IP, TCP, ICMP, HTTP, DHCP, ARP-Ping). Its rugged industrial-grade construction provides the ideal solution for applications requiring serial port environments and network device management.

### Features

- ✓ Provides 4 RS-232 Ports over Ethernet
- ✓ Provides 4 DB9 RS-232 Male Connectors
- ✓ RS-232 Speed from 300bps to 115.2Kbps
- ✓ Provides one 10/100Mbps, RJ45 LAN Port
- ✓ LAN Supports Auto Cross Over Feature
- ✓ Supports Setup and Connect Passwords
- ✓ Supports Standard Windows Socket Protocol
- ✓ Provides TCP Server, TCP Client, and UDP
- ✓ Equipped with Wall Mounting Holes

## 2. Connector Layout



- **DC Jack Power connector:** A DC5V / 2A AC adapter is supplied with this product.
- **RJ Ethernet Connector:** 10 / 100Mbps Ethernet port. It supports auto cross-over features. You can use the same cable to connect to a Hub, Switch or a host computer.
- **Led Indicators:** The data gateway's top panel has a heartbeat LED and its rear panel has 4 LAN LED's. They are described as the following table:

LED Name	Color	Led Function
Heartbeat	Green	<b>Blinking:</b> Normal operation Else: Malfunction
Link/Act 100	Green	<b>Steady on:</b> Linked in 100Mbps mode. <b>Blinking:</b> Transferring data
Link/Act 10	Green	<b>Steady on:</b> Linked in 10Mbps mode. <b>Blinking:</b> Transferring data
LAN TX	Green	<b>Blinking:</b> Sending data out to LAN port
LAN RX	Green	<b>Blinking:</b> Receiving data from LAN port

### 3. Hardware Installation

1. Use static electricity discharge precautions. Remove possible static discharge potential from any objects that the data gateway may come in contact with before installation. This can be accomplished by touching a bare metal chassis rail after you have turned off the power.
2. Attached the power adapter.
3. Connecting LAN cable: Use a standard straight-through Ethernet cable to connect to a Hub or Switch. If you connect the data gateway to your computer's Ethernet port instead, you don't need to change to a cross-over type cable since the data gateway provides auto cross-over feature.
4. Connect the data gateway's serial ports to your serial devices.
5. Use the wall mounting Kit if you want to place the data gateway on the wall.

## 4. Data Gateway Setup

### Setting IP Address

Please consult your Network Administrator to determine the appropriate IP address. The IP address can be set in any of the following ways:

- Automatically from a DHCP Server
- Web Browser
- Ethernet managing utility (Em.exe supplied by this product)

The data gateway comes with a factory installed IP address 192.168.1.254. It is ready to accept a new IP address from a DHCP Server. If your network has a DHCP server, it will automatically assign an IP address to the data gateway the first time it is connected and powered up.

#### 1. Setting the IP address from a DHCP Server

A DHCP server will automatically assign an IP address (dynamic address) as well as Subnet Mask and Gateway to this product. If you power up the data gateway without a fixed (static) IP address, the DHCP server will be able to assign an IP address (this is the default setting, Enable DHCP).

If you will set the IP address using another method, the address becomes static. This was done when you Disable the DHCP setting in the Setup Menu of the data gateway.

#### 2. Setting the IP address using Web Browser

Run your browser and access the data gateway by entering the default (192.168.1.254) or current IP address into your browser's address window. Enter the password (default has no password). Then go to change your IP address as well other parameters if required.

#### 3. Setting the IP address using Em.exe Utility

The Em.exe is a Microsoft Windows based utility to find all the data gateways connected on the same subnet and network segment. To run the Em.exe utility, please insert the driver CD supplied with the data gateway. Open (double click) the program at the following location (assume the CD-ROM drive is at E)

**E:\Utility\82500\Em.exe**



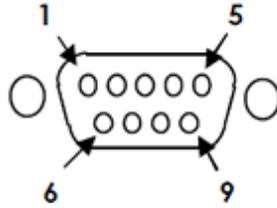
### Data Gateway Setup

When you enter the Setup Menu of the data gateway, the following page will be available for your access. Please click the Update button after you change your settings. Please also remember your password because you need it when you are going to enter this setup menu next time.

#### Controller Setup

IP address	169.254.95.79	
Subnet mask	255.255.255.0	
Gateway address	10.0.0.254	
Network link speed	Auto	
DHCP client	Enable	
Socket port of HTTP setup	80	
Destination IP address / socket port (TCP client and UDP)	0.0.0.0	0
Packet mode of serial input	Disable	
Device ID	1	
Report device ID when connected	Disable	
Setup password		
Access password		
<b>Serial Port 1</b>		
Socket port	100	TCP Server
Interface	RS 232	
Baud rate, parity, data and stop bits	9600	None 8 1
<b>Serial Port 2</b>		
Socket port	101	TCP Server
Interface	RS 232	
Baud rate, parity, data and stop bits	9600	None 8 1
<b>Serial Port 3</b>		
Socket port	102	TCP Server
Interface	RS 232	
Baud rate, parity, data and stop bits	9600	None 8 1
<b>Serial Port 4</b>		
Socket port	103	TCP Server
Interface	RS 232	
Baud rate, parity, data and stop bits	9600	None 8 1
<b>Keyboard Input</b>		
Socket port	104	TCP Server

## 5. Male Db9 Pin Assignments and Cable Wiring



<u>9 Pins</u>	<u>Signal</u>
1	DCD
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	NC

DB9(Male) to DB9(Male) Wiring

<u>DB9 (Gateway)</u>	<u>DB9 (Serial Device)</u>
1 DCD	1 DCD
2 RXD	2 RXD
3 TXD	3 TXD
4 DTR	4 DTR
5 GND	5 GND
6 DSR	6 DSR
7 RTS	7 RTS
8 CTS	8 CTS

## 6. Environmental Information

**Power requirements:** 5V DC, 250mA (max)

**Operating temp.:** 0 to 55° (32 to 131°)

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

**Dimensions (LxWxH):** 5.90”(L)x2.61”(W)x1.02”(H)

(15.00 x 6.65 x 2.60 cm)

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### Safety

- Read the entire Installation Guide before implementing this product for your application. This guide contains important information about electrical connections that must be followed for safe and proper operation.
- Inspect the product closely for visual defects before putting it to use.
- Keep away from areas where moisture builds, this product contains electrical components that can be damaged by moisture build up, this can adversely affect your equipment connected to it.
- Do not disassemble the product. Handling the product's internal components can expose it to ESD (Electro-Static Discharge) hazards that can affect the function of the device.
- If this product is not functioning properly, email our support team at [support@coolgear.com](mailto:support@coolgear.com).

## USB CHARGING & CONNECTIVITY EXPERTS

### Within Every Great Machine

For over 20 years our rugged, off-the-shelf USB hubs, chargers, and serial products are ready to go for your next project. Based in the US, Coolgear has successfully engineered and deployed millions of connectivity solutions into industrial, medical, automotive, commercial, and aerospace industries.

We understand the importance of reliability, build quality, & consider all our customers' applications as critical, wanting to ensure long-lasting event-free integrations.

#### Compliance Statement

View compliance within the product's respective Technical Data Sheet, found on the product's online listing.

#### Technical Support

When you reach out to Coolgear support, you'll find yourself in the hands of a solution-oriented and knowledgeable expert ready to answer whatever question you throw at them. If you ever need help with your product, visit [coolgear.com/support](http://coolgear.com/support) for support tickets, downloads, and other support resources. For the latest drivers, please visit [coolgear.com/download](http://coolgear.com/download).

#### Product Standard Warranty

One (1) Year Warranty from Date of Purchase Invoice. Coolgear will repair or replace any Product determined to be defective and which has been returned, at your risk and expense, to Coolgear. Where Coolgear determines in its sole judgment that repair or replacement of such Product is not reasonable, Coolgear will keep the non-conforming Product and refund to you the amount you paid for such Product. Returned Products shall be subject to the balance of the Warranty Period otherwise applicable. Any reconditioned parts used by Coolgear shall be subject to all the same provisions as otherwise applicable to new parts. THE FOREGOING DESCRIBES COOLGEAR'S SOLE LIABILITY, AND YOUR SOLE REMEDY, FOR ANY BREACH OF WARRANTY. IF YOU DO NOT AGREE WITH THE TERMS OF THIS LIMITED WARRANTY, YOU MUST RETURN THE PRODUCTS UNUSED AND IN THEIR ORIGINAL CONTAINERS TO YOUR ORIGIN OF PURCHASE.

**Limitation of Liability**

This Limited Warranty does not cover: (i) defects or damages resulting from natural causes, casualty, accident, misuse or abuse, neglect, alterations, service or repair by other than Coolgear, including without limitation by you; (ii) improper installation or de-installation, operation or maintenance, improper connections with peripherals or other causes not arising out of defects in the materials or workmanship of Products; (iii) any Product for which the warranty sticker has been removed, modified or defaced; (iv) normal wear and tear; (v) damage to or loss of repaired or replaced Products during shipping by Coolgear except when such damage or loss is caused by poor or inadequate packaging by Coolgear; or (vi) Products purchased outside the United States. UNDER NO CIRCUMSTANCES WILL COOLGEAR BE LIABLE FOR ANY LOSS OF USE, INTERRUPTION OF BUSINESS OR ANY INDIRECT, SPECIAL, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES OF ANY KIND (INCLUDING LOST PROFITS) REGARDLESS OF THE FORM OF ACTION WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT PRODUCT LIABILITY OR OTHERWISE, EVEN IF COOLGEAR HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT SHALL THE TOTAL LIABILITY OF COOLGEAR HEREUNDER EXCEED THE GREATER OF \$50.00 OR THE AMOUNT YOU ACTUALLY PAID FOR THE PRODUCT GIVING RISE TO SUCH LIABILITY, REGARDLESS OF THE CAUSE OF ACTION, IN CONTRACT, TORT, STRICT LIABILITY OR OTHERWISE. NOT ALL JURISDICTIONS ALLOW SUCH LIMITATIONS OF DAMAGES SO THE FOREGOING LIMITATIONS MAY NOT APPLY TO YOU.

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