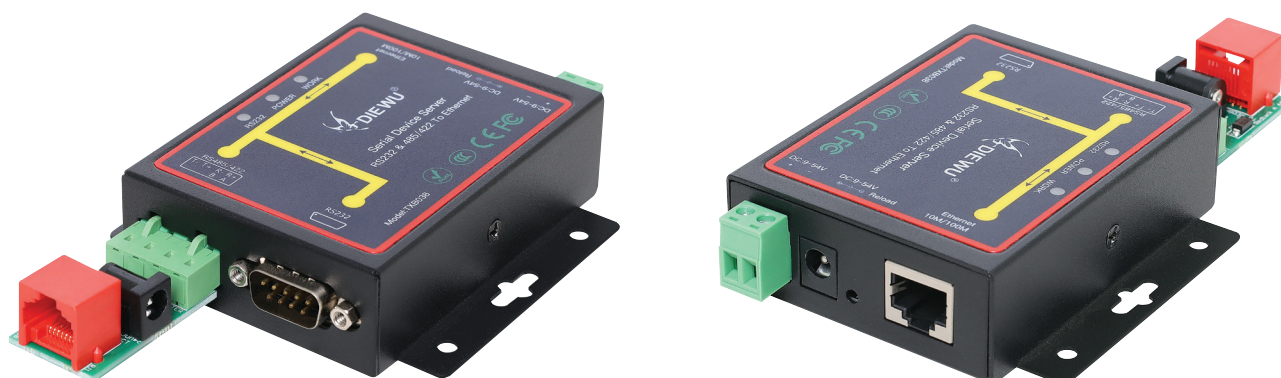




## Operating Manual



### Included parts:

- Serial-to-Ethernet Converter (D 4231)
- Proprietary Adaptor Board
- 1 metre CAT6 patch lead
- DC Power Lead

### Overview

This pack provides the components required to connect compatible Redback® products to an Ethernet network.

Designated Redback® products have configuration software allowing remote setup & configuration via a Serial-to-Ethernet Converter (Redback D 4231).

This Converter is plugged in between a proprietary adaptor board and a suitable Ethernet network.

The adaptor board is then connected to the compatible Redback® product as shown in figure 1. The D 4231 converter is powered through the supplied DC power Lead.

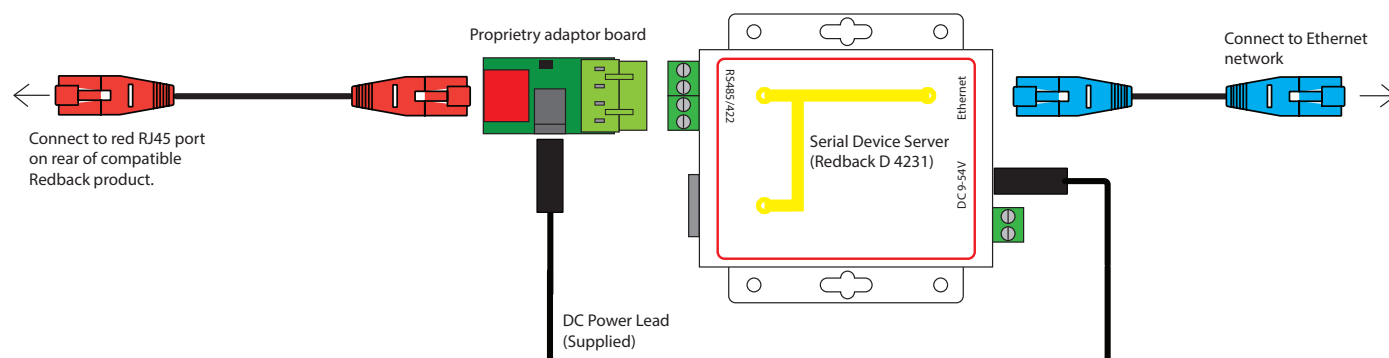


Fig 1.

# Redback® A 4498 Network Connection Pack

## Setup

The network and serial parameters on the Serial-to-Ethernet Converter (D 4231) need to be configured prior to installation.

Before starting setup, the following information should be known (if required):

- 1) Admin login details: The Serial-To-Ethernet Converter (D 4231) does not have the ability to hide its configuration page, and it is protected by only an ID + password combination. For security reasons, these should be changed from the default.
- 2) Static IPv4 address on Ethernet network for the Serial-To-Ethernet Converter (D 4231) to occupy.  
*(Note: The system does not support IPv6 addresses. Setup using DHCP is not directly supported, and will not be covered here).*
- 3) Communication port (optional).  
The default communication port is 23. If there are issues using this port, it can be changed.  
Make note of the port used (23 or alternate) as this is required by the configuration software, alongside the device IP.
- 4) Network gateway IPv4 (optional).  
If access to the compatible Redback® product is required from outside the Ethernet network the adaptor is plugged into, or access is required from a different subnet, the IP of the gateway device is required (this is typically the network router)

## Serial-to-Ethernet Converter (D 4231) configuration

Out-of-the-box, the D 4231 is configured to occupy a fixed IP of 192.168.2.1. This will need to be changed to a suitable IP on the target ethernet network.

To achieve this, a PC with a configurable network adaptor is required. The two most common methods are either to use a laptop's ethernet connection (while it's detached from all other Ethernet networks), or a USB-Ethernet adaptor (D2330B).



Fig 2. Redback D 4231



Fig 3. Redback D 2330B

If using a USB-Ethernet adaptor (D 2330B), plug it into the PC via the USB connector.

## Configure the PC Ethernet adaptor to reside on the '2' subnet:

Follow the steps below.

Open "Ethernet Settings" by opening the start menu (Windows button, or by clicking the Start menu icon) and type in "Ethernet Settings". The Ethernet Settings menu should be the first result as shown in figure 4.

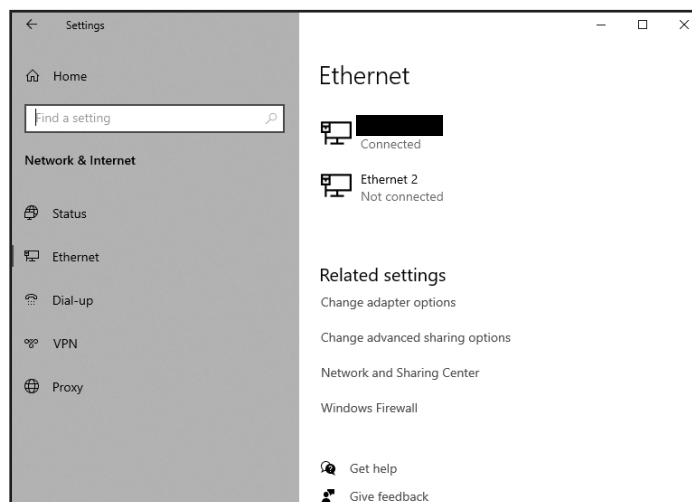


Fig 4. Ethernet Settings page

From the Ethernet settings page, select the Ethernet device representing the device the Serial-To-Ethernet Converter (D 4231) will be connected to. This will likely appear as "Ethernet 2" as show in figure 5 if using an USB-Ethernet adaptor (D 2330B). Otherwise it should be identifiable by having the "Not connected" tag underneath the name.

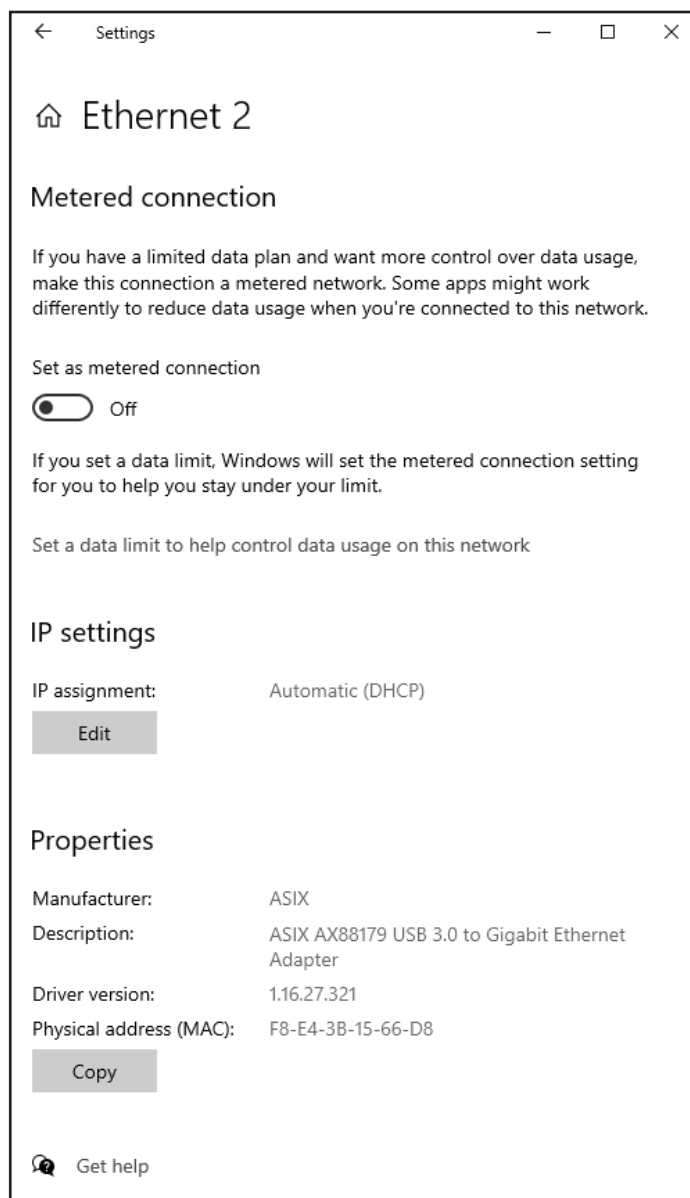


Fig 5. Ethernet 2 Settings page

# Redback® A 4498 Network Connection Pack

Select "Edit" under the "IP settings" heading as shown in figure 6.

(If not using an Ethernet adaptor (D 2330B), make note of these settings to restore later.)

Select "Manual", then slide "IPv4" to On and then fill the following fields:

"IP address" : 192.168.2.10 *(Note: The final number is not critical. Use as listed, unless there is a reason to change it.)*

"Subnet prefix length" : 24

"Gateway" : 192.168.2.1 *(Note: This field isn't actually used, but Windows requires it contain a valid IP, so fill out as specified).*

Select "Save"

The screenshot shows a web interface titled "Edit IP settings". At the top, there is a dropdown menu currently set to "Manual". Below this, the "IPv4" section is active, indicated by a toggle switch that is turned "On". The "IP address" field is filled with "192.168.2.10", the "Subnet prefix length" field is filled with "24", and the "Gateway" field is filled with "192.168.2.1". There are empty input fields for "Preferred DNS" and "Alternate DNS". The "IPv6" section below is inactive, with its toggle switch turned "Off". At the bottom of the form, there are two buttons: "Save" and "Cancel".

Fig 6. IP Settings page

The Ethernet connection is now configured, which will now make it possible to setup the Serial-To-Ethernet Converter (D4231).

Plug the Serial-To-Ethernet Converter (D 4231) directly into the PC via either the PC's Ethernet port, or via the USB-Ethernet adaptor (D 2330B) if an ethernet port is unavailable. Use the supplied CAT6 patch lead if required.

Ensure the Serial-To-Ethernet Converter (D 4231) is powered from a compatible Redback product using the supplied DC power lead as shown in fig 7 or powered by a 9-54V DC plugpack (not supplied) as shown in figure 8. The D 4231 Power LED should light, with the Work light flashing regularly.

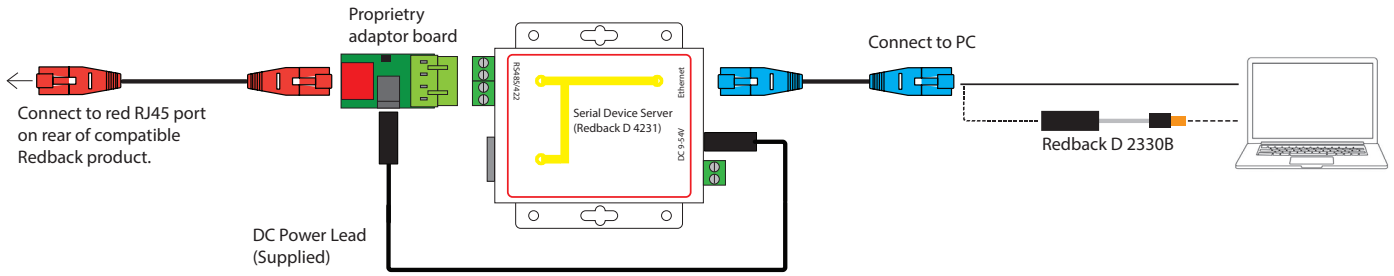


Fig 7.

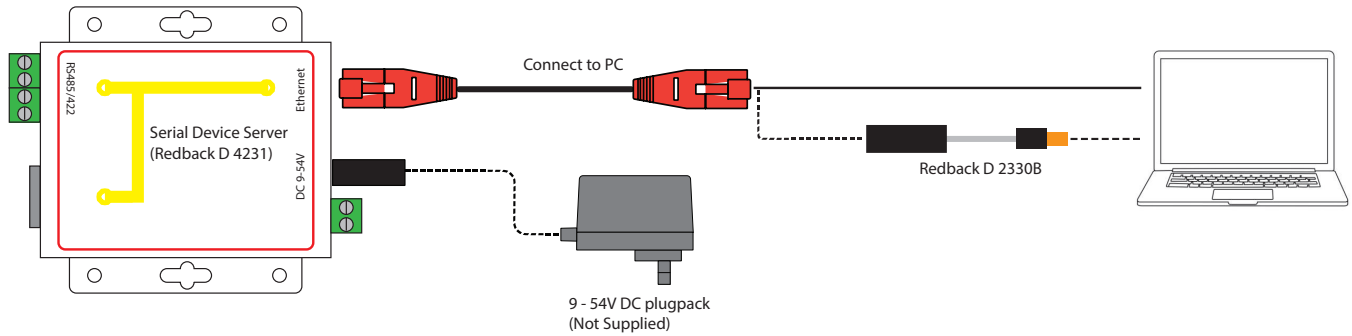


Fig 8.

Open a browser window (i.e. Edge, Chrome, Firefox etc) and type in the Serial-To-Ethernet Converters (D 4231) IP address: "192.168.2.1" (without quotes) into the browser address as shown in figure 9.

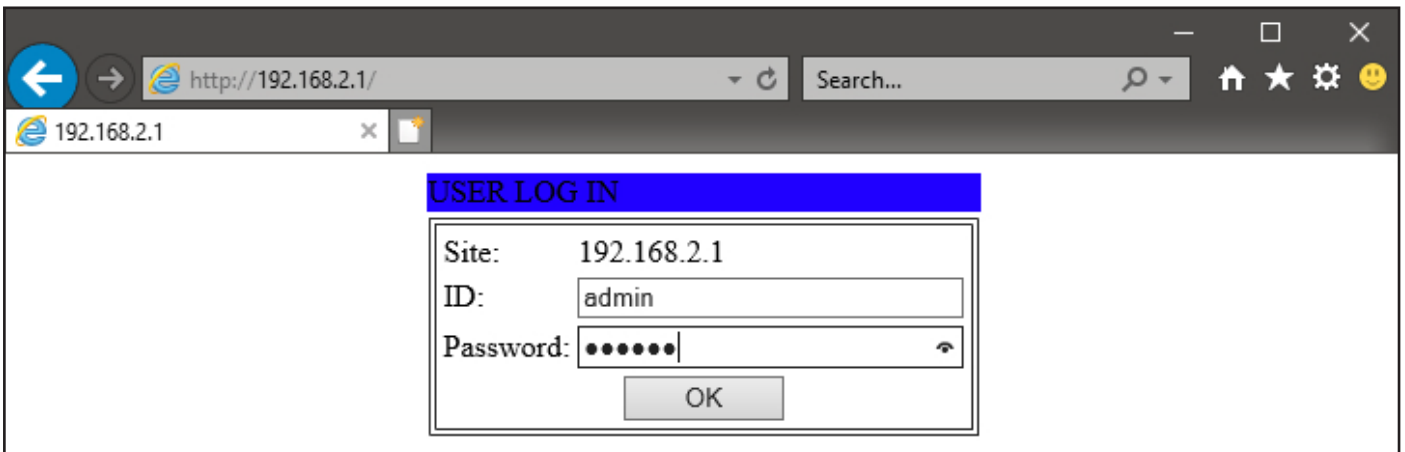


Fig 9. User Log In

This will bring up the login page on the Serial-To-Ethernet Converter (D 4231) . If any error is received instead, double check the Ethernet adaptor (D 2330B) configuration.

The default login details for the Serial-To-Ethernet Converter (D 4231) are:

ID: admin

Password: system

*(Note: The ID and password can be changed in "Administrator Settings" or reset manually via the switch on the side of the D 4231 labelled "Reload". To factory reset, first remove power, then press and hold the "Reload button". While keeping the button pressed, reconnect power and keep the button pressed for 10 seconds and then release the button. The ID and password should now be reset to the default).*

Type in the ID and Password as shown in figure 9 and then press OK.

## UART Settings

Once the login has been accepted, the “Administrator Setting” page should be open. Navigate to the “UART” page via the navigation tab on the left.

The “Mode” & “Baudrate” settings need to be changed to “RS485” & “115200” respectively.

Once complete, the screen should look as shown in figure 10.

UART Control	
Item	Setting
Mode	RS485 ▾
Baudrate	115200 ▾
Character Bits	8 ▾
Parity Type	none ▾
Stop Bit	1 ▾
Hardware Flow Control	none ▾
Delimiter	<input type="checkbox"/> Character 1: 00, <input type="checkbox"/> Character 2: FF <input type="checkbox"/> Silent time: 5 (1~255)*200ms <input type="checkbox"/> Drop Character
Update	

Fig 10. UART Settings

Press the “Update” button on the bottom of the page. The page will flash briefly as it saves the settings and refreshes. To confirm the change has been made, navigate to another page, and then back to the UART page, and the settings should have been retained.

## TCP Settings

Next, navigate to the “TCP Mode” page. Set the following fields to ‘0’: “Client mode inactive timeout” and “Server mode protect timeout”.

The default communication port used is 23. If a different port is required, change it now. If unsure if a different port is needed, leave it as default.

Once complete, the screen should look as follows:

TCP Control	
Item	Value
Telnet Server/Client	<input checked="" type="radio"/> Server <input type="radio"/> Client <input type="radio"/> Disable
Port Number	23
Remote Server IP Address	210, 200, 181, 102
Client mode inactive timeout	0 minute (1~99,0=Disable)
Server mode protect timeout	0 minute (1~98,0=Disable,99=Can't replace)
Update	

Fig 11. TCP Settings

Press the “Update” button on the bottom of the page. These settings require the unit be restarted, so press the “Reset” button, and then the “ok” button. This will take you back to the login page, so log in again and confirm the settings have been saved.

## Administrator Settings

Finally, navigate to the “Administrator Setting” page as shown in figure 12.

Set the “IP Address” field to the IP address which the Serial-To-Ethernet Converter (D 4231) is to occupy, once connected to the ethernet network. This is the address from step 2 of the setup on page 2.

*Note: This IP address will be required, along with the communication port number, for the configuration software which accesses the Redback® compatible product.*

Adjust the Subnet Mask if needed (in almost all instances, this can be left as is).

Adjust the “Gateway” address if it is required. Taken from step 4 of the setup on page 2.

The login ID and password can also be changed here if needed.

<b>Administrator Setting</b>	
Kernel Version	V1.44.6 2015/12/21
MAC Address	00:E3:E8:34:11:D1
Nickname	<input type="text" value="NetUART"/>
<b>IP Setting</b>	
IP Address	<input style="background-color: black; color: black;" type="text"/>
Subnet Mask	<input type="text" value="255"/> . <input type="text" value="255"/> . <input type="text" value="255"/> . <input type="text" value="0"/>
Gateway	<input style="background-color: black; color: black;" type="text"/>
IP Configure	<input checked="" type="radio"/> Static <input type="radio"/> DHCP
<b>Password Setting</b>	
Username	<input type="text" value="admin"/> max:15
Password Confirm	<input type="password" value="....."/> max:15 <input type="password" value="....."/>
<input type="button" value="Update"/>	
Load Default Setting to EEPROM	<input type="button" value="Load"/>

**Fig 12. Administrator Settings**

**IMPORTANT:** Once the Update button is pressed on this screen, the Serial-To-Ethernet Converter (D 4231) will immediately move to its new IP, and new login details, and will no longer be accessible on this temporary network. Double check all previously mentioned fields have been set correctly before pushing the updated values through.

*Note: Navigating away from a page will lose all information entered, unless it is accepted by pressing the “Update” button.*

Once all fields have been confirmed correct, accept and save the fields by pressing the “Update” button. The adaptor will need to reset after this, so press the “Reset” button which shows up and then the “ok” button. This will attempt to navigate to the old IP, which is no longer valid and will fail.

At this point, the setup is complete and the Serial-To-Ethernet Converter (D 4231) can now be unplugged.

If not using a USB-Ethernet adaptor (D 2330B), reset the PC Ethernet Settings back to what they were prior to this procedure using the information recorded earlier.

The Serial-To-Ethernet Converter (D 4231) can now be installed and connected to the compatible Redback® product via the supplied adaptor board as shown in figure 1.

*Note: The IP address and port used in the settings will be required for the configuration software which accesses the Redback® compatible product.*

