Switch Application

Configuring ABB Low Voltage Drives remotely over Ethernet

Technical Support

If you require assistance with any of the instructions in this application note you can contact Westermo as follows:

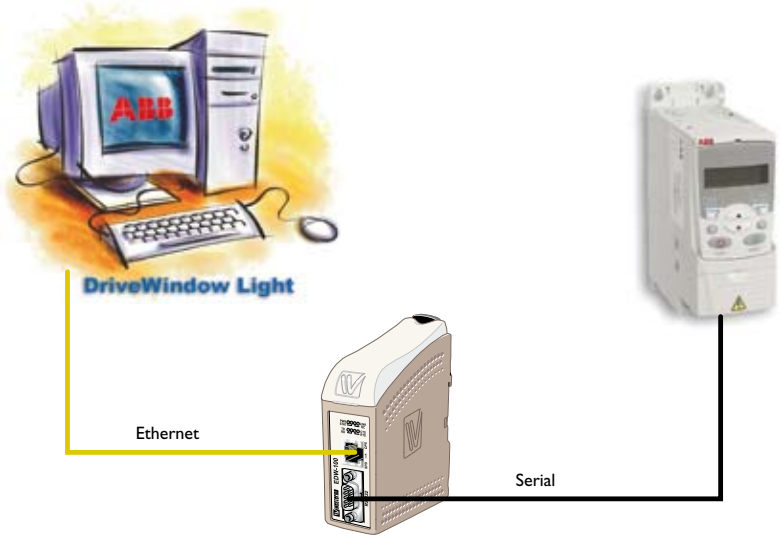
Sweden
www.westermo.com
support@westermo.se
Phone: +46 (0)16 42 80 00
Fax: +46 (0)16 42 80 01

United Kingdom
Web: www.westermo.co.uk
Technical e-mail: technical@westermo.co.uk
Telephone: +44 (0)1489 580585
Fax: +44 (0)1489 580586

Germany
www.westermo.de
support@westermo.de
Tel: +49(0)7254 95400-0
Fax: +49(0)7254-95400-9

France
www.westermo.fr
support@westermo.fr
Tél : +33 1 69 10 21 00
Fax : +33 1 69 10 21 01

Singapore
www.westermo.com
E-mail: sales@westermo.com.sg
Phone +65 6743 9801
Fax +65 6745 0670



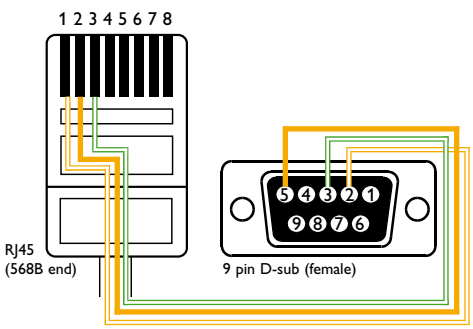
There are several applications for Ethernet connection to drives; some include parameter upload/download, remote parameter adjustment, and remote drive monitoring. Westermo offers a full line of industrial communication products tailored to the automation industry, in industrial environments. In this case we will be using Westermo's EDW-100 serial to Ethernet adaptor to provide for communication between an ABB drive, and DriveWindow Light 2 over Ethernet.

The Parts required for this application are:

- One PC with ABB's DriveWindow Light 2 including communication cable (RJ45 connector on one end, and an RS232 Connector on the other) **Part Number 3AFE64532871**
- One ABB Low Voltage Drive (ACS350, ACS550, ACS800)
- One Westermo EDW-100
- 1 copy of Serial IP – virtual com port software available from the CD that follows the EDW-100 (licensed version for 2 ports) or www.westermo.com >downloads>software>ethernet>edw-100,edw-120 (demo version)
- Any Additional Ethernet infrastructure devices (cables, switches, hubs, routers, etc)

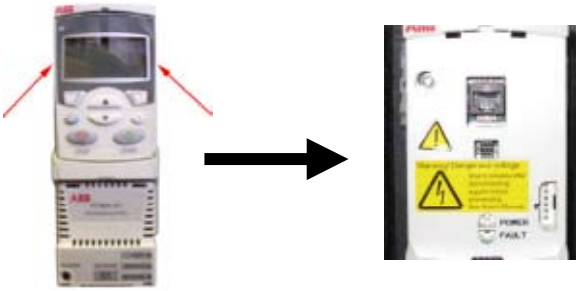
* A RJ45/RS232 communication cable can easily be made. Connect wires according to diagram below.

RJ45 (568B end)	**9 pin D-sub** (female)
Pin 1 (white/orange)	Pin 2 (in, receive data)
Pin 2 (orange)	Pin 5 (signal ground)
Pin 3 (white/green)	Pin 3 (out, transmit data)



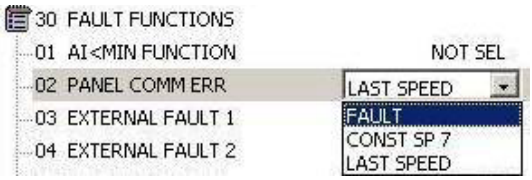
Setup of an ABB drive for serial communication

1. Obtain, and install a copy of DriveWindow Light 2 From ABB
2. Remove front LCD control panel from ABB Drive (pull straight back on the sides of the control Panel as shown by the arrows.) This should expose a RJ45 port on the front of the drive.



3. Plug in the communication cable provided with DriveWindow Light2 into the now exposed RJ45 port on the front of the drive.
4. Plug the communication cable into the serial port of your computer.
5. Using Drive Window Light, configure your drive's Panel Communication (group 52) settings to match those shown below. It is not necessary to set the station ID to 1; however this guide assumes that the Station ID is 1, if it is different, you will need to make the user defined communication settings reflect that.

6. Also configure fault functions under item 30.02 in the Drive Window software to reconnect to drive with last speed by choosing "last speed" .This will keep the software from indicating a "Panel loss" alarm.

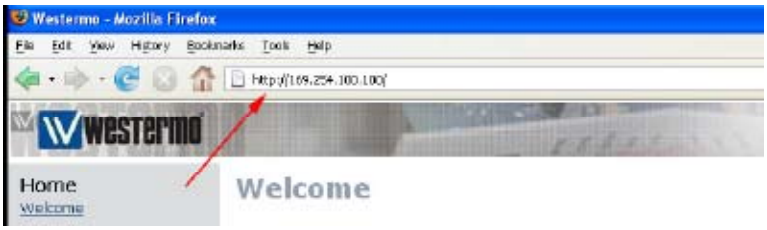


7. After making changes to the communication settings cycle power to the drive.

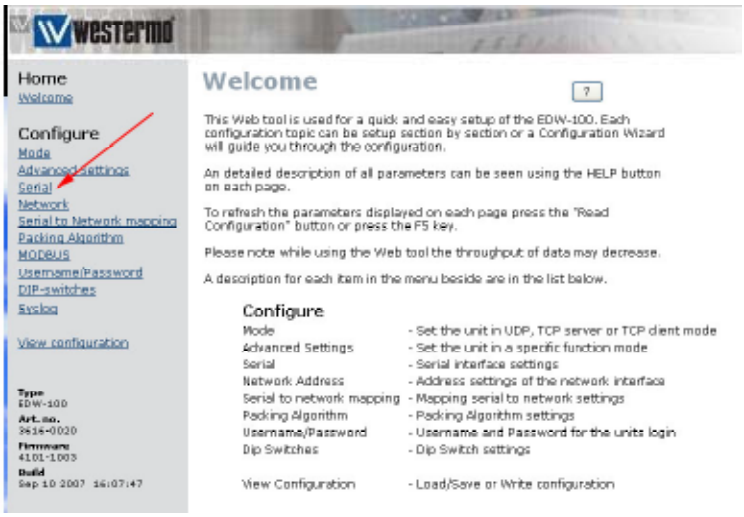
Setup of the Westermo EDW-100

1. Provide power to the unit with a 24 volt DC power supply.
2. Connect the Device to a computer using an Ethernet cable.
3. By default the EDW-100's IP address is 169.254.100.100.
4. In order to establish communication with the EDW-100, the IP address of your computer must be part of the same subnet, your computer's network should be configured similar to the settings below:

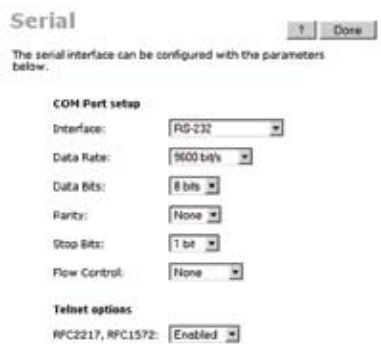
5. After you configure your computer to interface with the EDW-100 you can then access the device by typing the IP address into the address bar of your internet browser.



6. Your browser will ask for a username and password, by default both username and password are "edw100" (without quotes).
7. From your web browser you can now configure an array of settings on the device.
8. In order to configure the EDW-100 for communication you must make changes to the Serial page, to do so, click on the serial link on the left side of the page.



9. In order to provide for Ethernet communication to an ABB drive, the serial page of the configuration must reflect that which is shown below.



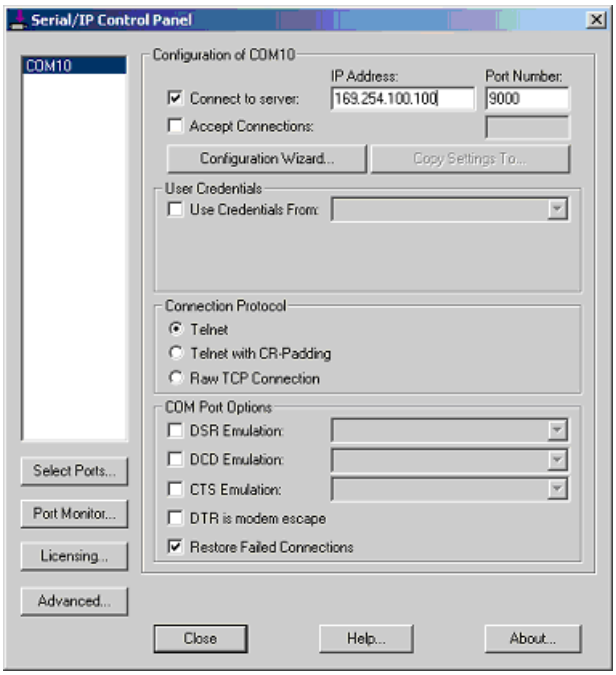
and

10. When your settings match those listed here, click Done
11. You will then be shown all of the settings for the unit, if everything is correct, click Program Unit

12. After programming is complete you will be prompted to reboot the unit. It is highly recommended that you complete the reboot. In addition it is recommended to cycle power to the unit after the reboot is complete.
13. You may wish to make additional changes such as IP address, or Port number, this guide assumes you have left all other options at their default.

Configuring Tactical SW Serial/IP Redirector tool

1. Install the tool from the CD that follows the EDW-100. This tool is licensed for 2 serial ports.
   (If you do not have the CD handy, a 30 days demo version can be found on the www.westermo.com website).
2. Install software on the same computer as DriveWindow Light2.
3. Run Tactical Serial/IP and set the options as shown below.



Your settings may differ than those above:

- You may choose any available COM port on your computer from the Select Ports menu
- The IP address is the address of the EDW-100 (169.254.100.100 by default)
- The TCP/IP port of the EDW-100 (9000 by default)

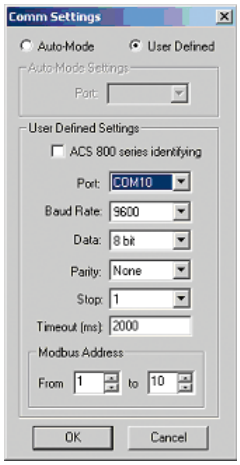
4. By doing this the tool is already set with the parameters. You can close the window, the tool is still running and can be found in the system tray in the lower right hand corner of your computer.
5. If your computer is running a firewall, you may need to disable it for this to work correctly.

Connecting Units

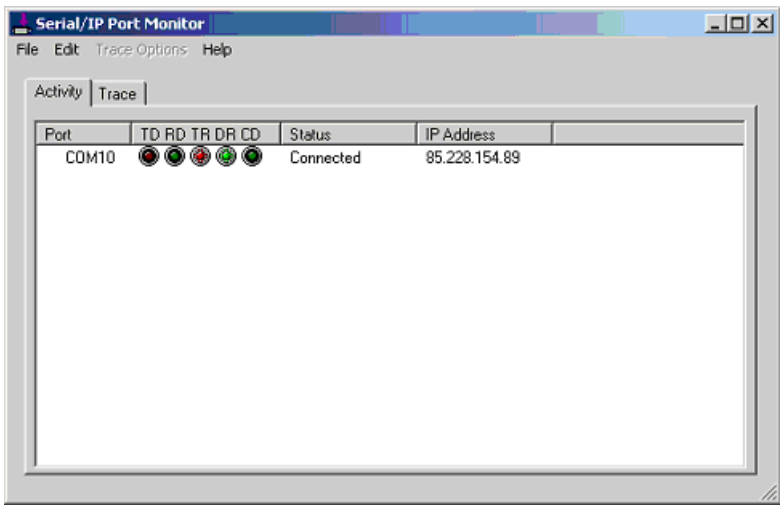
1. With power off, connect the drive to the EDW-100 with the communication cable, plugging the RJ45 connector into the drive, and the RS232 connector into the EDW-100.
2. Connect the EDW-100 to your computer with a straight-through CAT 5 Ethernet cable. (You may connect additional networking components, however it is recommended to get everything working with the simplest possible network, before adding additional complexity).
3. Power on, the EDW-100, and the Drive.

Configuring DriveWindow Light 2

1. Start DriveWindow Light
2. DriveWindow may attempt to search for a drive, you may click cancel
3. When the "New Parameter Document" window appears click cancel.
4. From the "Communication" menu, select "Communication Settings. . ."
5. Make changes to the settings, to reflect those below.



You may now select "New Online Drive. . ." from the File menu. DriveWindow may give an error message saying "No Drive Detected" the first time, usually selecting the menu item a second time will correct this.
Opening the Serial/IP Port Monitor window will show the connection details. Right click the icon in the system tray or open the Port Monitor from the Windows All Programs menu.



Frequently Asked Questions:

Q: The Ethernet transfer seems slower than a direct serial transfer.
A: Yes, our testing has shown the same thing, because of the converting of protocols, some additional overhead is introduced.

Q: Do I need to disable my firewall to use this application?
A: In our tests it was not necessary, however if you are having communication issues, it is highly recommended to disable your firewall.

Q: The Drive Window Light reports "No Drive connected"
A: Check the settings for IP address and port in the Serial/IP program. Also check that your computer is in the same domain as the EDW-100 (F ins 169.254.100.5 for the PC and 169.254.100.100 for the EDW-100. Subnet mask should be 255.255.255.0 for both.)
Q: Can I make this work with a faster speed than 9600 kb/s?
A: Yes we have tested with 38400 kb/s as well and it works.