Quick Start Guide

This quick start guide describes how to install and use the Hardened Ethernet Extender. This is the Hardened Ethernet Extender of choice for harsh environments constrained by space.

Physical Description - Port Status LEDs and Power Inputs
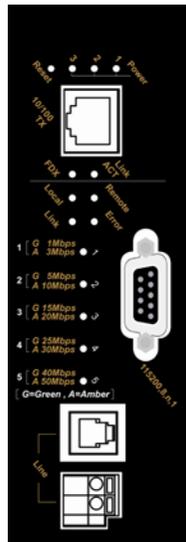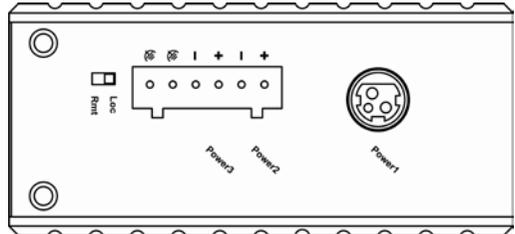
Power Input Assignment		
Power1	12VDC	DC Jack
Power2	+ 12-32VDC	
	− Power Ground	
Power3	+ 12-32VDC	Terminal Block
	− Power Ground	
⏚	Earth Ground	
DIP Switch Assignment		
Loc	The device operates in local mode	
Rmt	The device operates in remote mode	

Pin 4: Ring.
Pin 3: Tip.

Tip Ring
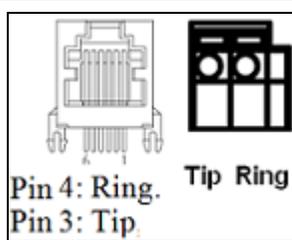
LEDs	State	Indication
Power1 Power2 Power3	Steady	Power on
	Off	Power off
Ethernet		
Link/ACT	Steady	Valid network connection established
	Flashing	Transmitting or receiving data ACT stands for ACTIVITY
	Off	Neither valid network connection established nor transmitting/receiving data
FDX	Steady	Connection in full-duplex mode FDX stands for FULL-DUPLEX
	Off	Connection in half-duplex mode

Ethernet Extender	
Remote	The device operates in remote mode
Local	The device operates in local mode
Error	Error occurred
Link	A valid connection established
1	Green, 1Mbps, up to 1900M Amber, 3Mbps, up to 1800M
2	Green, 5Mbps, up to 1600M Amber, 10Mbps, up to 1400M
3	Green, 15Mbps, up to 1200M Amber, 20Mbps, up to 1000M
4	Green, 25Mbps, up to 800M Amber, 30Mbps, up to 700M
5	Green, 40Mbps, up to 600M Amber, 50Mbps, up to 300M

The Ethernet Extender Connection - The RJ-11 and Terminal Block port pin outs Pin 3: Tip, Pin 4: Ring. Connections are straight through or crossover.

EIRM-EXTEND Managed Ethernet Extender

- DC Terminal Block Power Inputs: There are two pairs of power inputs can be used to power up this Ethernet Extender. Redundant power supplies function is supported. You only need to have one power input connected to run the Ethernet Extender.
- DC JACK Power input: 12VDC.

Functional Description

- Meets NEMA TS1/TS2 Environmental requirements: temperature, shock, and vibration for traffic control equipment.
- Meets EN61000-6-2 & EN61000-6-4 EMC Generic Standard Immunity for industrial environment.
- Operates transparent to higher layer protocols such as TCP/IP.
- Ethernet port: Supports IEEE802.3/802.3u/802.3x. Auto-negotiation: 10/100Mbps, full/half-duplex; Auto MDI/MDIX.
- Ethernet Extender port: Asymmetrical or Symmetrical on the VDSL, full-duplex 59/31Mbps (downstream/upstream) asymmetrical or full-duplex 50Mbps symmetrical communications link over existing copper telephone line.
- One DIP switch for configuring Local (Loc) and Remote (Rmt).
- Ten speeds with speed indicator LEDs on front panel of unit, up to 50Mbps @ about 300meters (984ft.), down to 1Mbps @ about 1,900meters (6,233ft.).
- Supports RS-232 console, SNMP, Web Browser management.
- Operating voltage and Max. current consumption: 0.5A @ 12VDC, 0.25A @ 24VDC. Power consumption: 6W Max.
- Power Supply: Redundant 12-32VDC Terminal Block power inputs and 12VDC DC JACK with 100-240VAC external power supply.
- Field Wiring Terminal Markings: Use Copper Conductors Only, 60/75℃, wire range 12-24 AWG, torque value 7 lb-in.
- Operating temperature range @ -40℃ to 75℃(-40℉ to 167℉). Tested for functional operation @ -40℃ to 85℃(-40℉ to 185℉). UL508 Industrial Control Equipment certified Maximum Surrounding Air Temperature @ 75℃ (167℉).
- For use in Pollution Degree 2 Environment.
- Supports Din-Rail or Panel Mounting installation.

Assembly, Startup, and Dismantling

- Assembly: Place the Hardened Ethernet Extender on the DIN rail from above using the slot. Push the front of the Hardened Ethernet Extender toward the mounting surface until it audibly snaps into place.
- Startup: Connect the supply voltage to start up the Hardened Ethernet Extender via the terminal block (or DC JACK).
- Dismantling: Pull out the lower edge and then remove the Hardened Ethernet Extender from the DIN rail.

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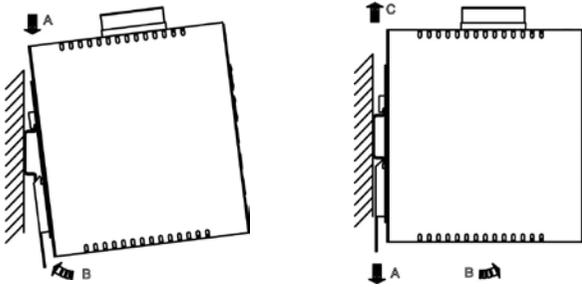
Console Configuration

- Connect to the console of Hardened Ethernet Extender:

  Connect the DB9 straight cable to the DCE female RS-232 serial port of the device and the DTE male RS-232 serial port of the terminal or computer running the terminal emulation application. Direct access to the administration console is achieved by directly connecting a terminal or a PC equipped with a terminal-emulation program (such as HyperTerminal) to the console port of Hardened Ethernet Extender.

- Configuration settings of the terminal-emulation program:

Baud rate	Data bits	Parity	Stop bit	Flow control
115,200bps	8	none	1	none

- Press the "Enter" key. The Command Line Interface (CLI) screen should appear as below:
- And the "#" prompt will show on the screen.
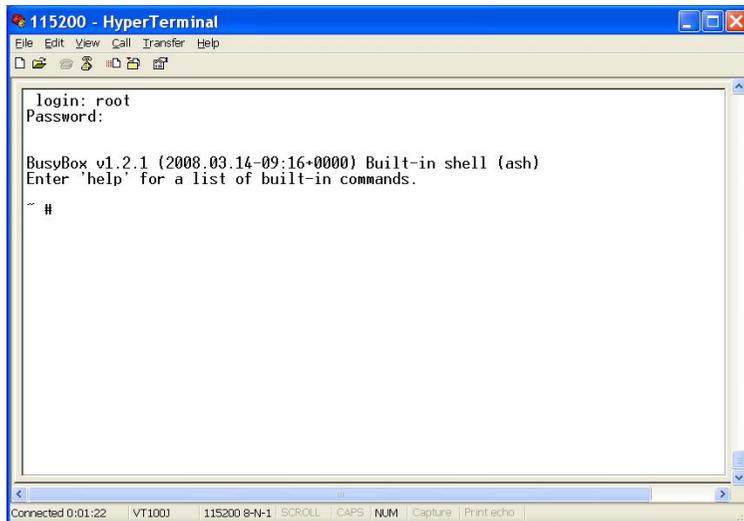
<Note> The procedures to restore factory default password:

Connect to console of Hardened Ethernet Extender through Microsoft Windows HyperTerminal. Please power on Hardened Ethernet Extender and press "Ctrl" and "D" while Hardened Ethernet Extender is

booting up to enter Bootloader. Input "reset password" command at Bootloader prompt and press "Enter". Power off and on Hardened Ethernet Extender then Hardened Ethernet Extender is restored with factory default password.

Web Configuration

- Login the Hardened Ethernet Extender:

  Specify the default IP address (192.168.1.10) of the Hardened Ethernet Extender in the web browser.

  A login window will be shown as below:
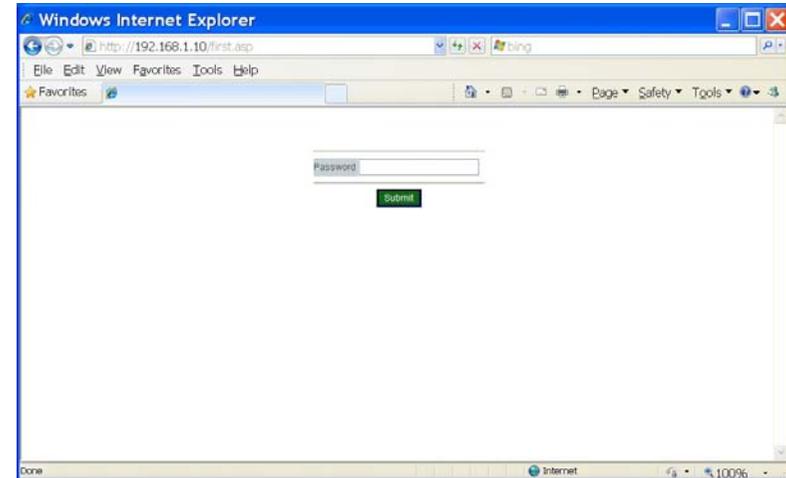
- Enter the factory default password (no password).

  Then click on the "Submit" button to log on to the Hardened Ethernet Extender.