Internet-Enable Serial Devices

The *WebFoot* provides easy and low-cost access to serial device data via the Internet. No programming or equipment modification to existing devices should be necessary. Devices using the RS-232 protocol can be quickly Internet enabled. A typical application is IT WatchDogs' *WeatherDuck* Serial Port Server Room Climate Monitor being directly Internet accessed.

General features:

- Small size, simple installation
- 10/100mpbs Ethernet
- RS-232 serial port
- Automatic discovery software
- IP configuration software
- DHCP enabled
- Stored static IP address
- Serial port redirector software
- $179

The adaptor is a pass-through device. TCP/IP data is converted to serial data and is passed to and from the serial port.

There are two general applications: first, as a Internet addressable device or, second, as a redirected serial port.

In the first case, the device is accessed by an Internet Protocol (IP) address from the user's application program. In the second case, existing programs that access serial ports (COM) use supplied redirector software. Applications seeking data from a serial port will be redirected to an IP address. This redirector may allow existing serial port programs to use remote or local Ethernet connections to retrieve data without modifications to the application program.

The *WebFoot* contains a factory-set Media Access Control (MAC) address. The user sets the IP address or has one assigned on the subnetwork by the gateway or the router.
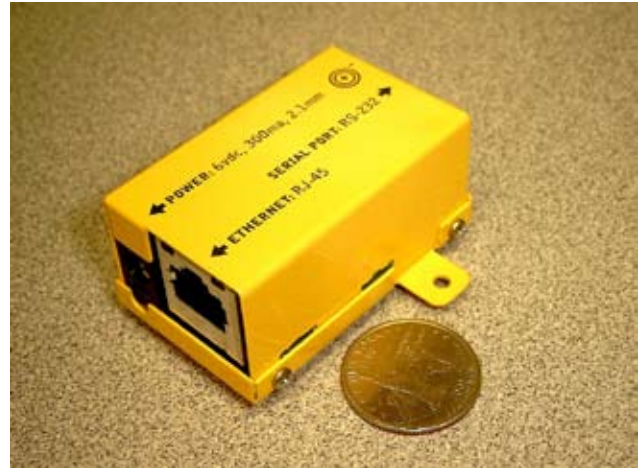
There are three connectors: a power receptacle, a DB-9 plug (male), and an RJ-45 receptacle. Power requirement is 6 volts direct current at 300 milliamperes.

Small mounting tabs are provided for the device to be mounted to a wall or bracket.

Static or Dynamic IP Addressing

Upon power being applied the WebFoot immediately sends a *Dynamic Host Configuration Protocol* (DHCP) request for a leased address from a DHCP server if one is available.

DHCP is an Internet protocol for automating

The WebFoot *is shown next to a US twenty-five cent coin. The user attaches an Ethernet cable, power, and a serial device, such as a* WeatherDuck.

The small tabs provide an easy way to attach the WebFoot to a wall or a bracket. No special mounting considerations are needed. The metal case is powder-coated for durability.

the configuration of computers that use TCP/IP. DHCP automatically assigns IP addresses, delivers TCP/IP stack configuration parameters such as the subnet mask and default router, and provides other configuration information such as the addresses for printer, time and news servers.

If no DHCP service is available, the unit can assigned a static IP address using supplied discovery and configuration software. The static IP address set into the WebFoot remains stored when power is removed.

Pin Connections

The RTS and CTS pins are held in a "high" state (+6 volts) in order to supply power to serial port powered devices such as the WeatherDuck.

Pin	Function	WF-1 Setup
1 DCD	Data Carrier Detect	Not used
2 RXD	Receive Data	Enabled
3 TXD	Transmit Data	Enabled
4 DTR	Data Terminal Ready	Not used
5 GND	Signal Ground	Enabled
6 DSR	Data Set Ready	Not used
7 RTS	Request To Send	Set High
8 CTS	Clear To Send	Set High
9 RI	Ring Indicator	Not used

Specifications

Serial Interface:

Protocol: RS-232

Data Rates: 50 to 230 kbps

Characters: 7 or 8 data bits

Parity: odd, even, none

Stop Bits: 1 or 2

Control Signals: CTS, DTR (set on)

Flow Control: Hardware, software, none

Network Interface:

Protocol: Ethernet 10Base-T or 100Base-TX (Auto-Sensing), full or half duplex

Connector:

RJ-45 Protocols: TCP/IP, UDP/IP, ICMP, Telnet, DHCP, BOOTP, HTTP, and AutoIP
Indicators (LED): 10Base-T connection 100Base-TX connection

Link & activity indicator - Green, orange lamps show link and data status

Input voltage: 6.0 VDC

Input current: 300 mA

Power Receptacle: 2.1 mm, center positive

Wall Transformer: UL and CE listed, 6vdc@300ma.

Environmental:

Operating: -40° to 85°C (-40° to 185°F)
Storage:-40° to 85°C (-40° to 185°F)
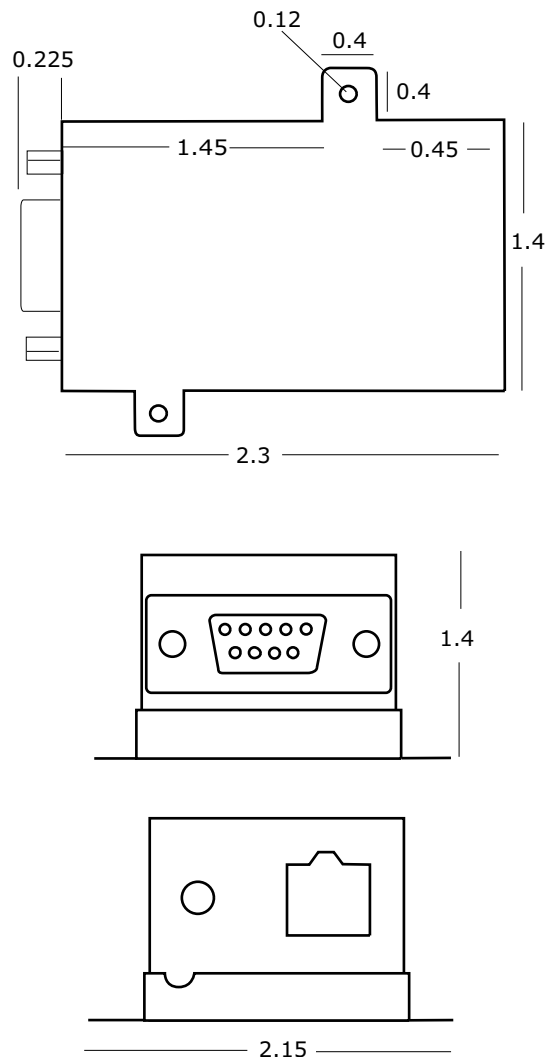Dimensions: 1.3 x 2.5 x1.05 inches

Mounting: two sheet metal tabs

Weight: 8 oz.

Color: Process yellow, PMS 432 Gray lettering

Specification date: November 19, 2003

Model Number: WF-1

Dimensions

The housing is 18 gauge aluminum, powder coated. Standard DB-9 fittings are used to connect the serial cable or device.

Hardware Supplied: WebFoot WF-1 with wall transformer power supply, US 5-15 plug

Software supplied: Serial port redirector and Discovery/Configuration on CD