WebIO

Internet to X10 Gateway

Datasheet, draft V1.3
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The WebIO Internet Power Line Control Gateway

The WebIO is an Internet to power line control (PLC) network server and Ethernet gateway, providing both local and remote Internet control of lamps, appliances and other electrical devices in the home or office. Utilizing X10 PLC technology, the WebIO sends signals down existing power lines to control X10 compatible PLC devices. By containing a built-in web server, WebIO allows remote users with Internet access to connect to the WebIO via web browser, giving the remote user control of installed X10 PLC devices.

The WebIO is built on the idea that an expensive and complex personal computer is not needed to provide Internet access to an X10 power line control network. Instead, the WebIO is a low cost, small self-contained device that provides all the functionality of an Ethernet to X10 gateway that is as easy to install as a home Internet router.

WebIO communicates with X10 modules that support "On", "Off" and "Query" functions. This includes appliance modules, lamp modules, AC receptacles, light switches, dry contact modules, relays and many others readily available devices from suppliers of X10 PLC devices.

WebIO TCP/IP Networking

The WebIO provides an RJ45 interface for an Ethernet connection to a local area network. An IP address may be assigned to WebIO from a DHCP server or a static IP can be set through the WebIO Setup Utility software.

For remote monitoring and control, the WebIO requires a routable Internet connection, allowing a user to connect to the WebIO from anywhere in the world via the Internet.

WebIO network access security is provided via user assignable pass-code. WebIO configuration settings are protected from unauthorized web access via "program mode" switch located on the WebIO back connection panel. Additional security requires user supplied VPN device or other network security systems.

Technical Features

- Built in web interface for X10 power line control and WebIO configuration
- LCD display for indication of IP address, configuration messages and user messages
- DHCP client for easy Ethernet network installation - Static IP address settings when DHCP is not available
- Supports X10 power line "on", "off" and "query" commands
- Supports three two popular X10 power line transceivers (Powerlinc and TW523)
- No computer required, WebIO is a total power line control system/server in a box
- Very low cost embedded systems design based on two 8-bit microcontrollers
- No operating system, true micro code for reliable functionality and rapid boot process
- WebIO configuration is secured via a physical "program mode" switch to prevent unauthorized configuration via web interface
- Hardware watchdog for insured uptime

Specifications

Model Number	AFX1110
Ports	1 RJ45 10 Megabit Ethernet 1 serial ports for PLC transceiver
Storage	EEPROM for configuration storage of IP address and security key
Expansion ports	Internal GPIO lines
Indicators	LCD interface for power, IP address, Communication activity and Gateway status LED Ethernet status indicators
Power Line Controller	Supports the SmartHome X10 PowerLinc Supports the X10 TW523 (also requires 9-12VDC power, center tap positive (+) at the 2mm barrel connector)

Environmental

Dimensions	1-7/16" x5-1/4" x3" (HxWxD)
Unit Weight	6.0 oz.
Enclosure	Plastic enclosure with mounting holes
Power	Input 9-12VDC Power consumption 64mA at 12VDC Sleep mode as low as 34mA, 12VDC
Power Supply (included)	Input: AC120V~ Output: DC12V 250mA
Certifications	WebIO is in compliance with the electromagnetic compatibility requirements defined in FCC Part 15 Subpart B. And Canada ICES-003, Issue 4:2004 Class B.
Operating Temp.	0° to +50°C, (limitations due to LCD display)
Storage Temp.	-10° to +60°C, (limitations due to LCD display)
RoHS	Not RoHS compliant