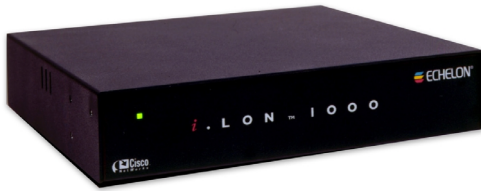# ≊ ECHELON®

ECHELON logo

i.LON™ 1000 Internet Server
Models 72001 and 72002

Description

The *i*.LON 1000 Internet Server is a breakthrough product that provides reliable, secure Internet access to the everyday devices in your world — lights, appliances, switches, thermostats, motors, meters, valves. By Bringing the Internet to Life™, the *i*.LON 1000 puts you in control — letting you monitor, adjust, and reconfigure devices as needed, from wherever you might be:

• Allowing home owners to control their home security system and appliances over the Internet from a browser at work — and relaying home status to remote service centers for monitoring

• Linking the heating, cooling, and lighting systems on different floors of a multi-story building — or multi-building campus — using a high-speed Ethernet back-bone

• Forwarding the real-time status of production processes to an ERP system through a corporate LAN

• Sending information from retail stores to a corporate maintenance center via the Internet

• Displaying the status of light-rail cars at a central dispatch station using a wireless LAN.

LONWORKS® control networks are the worldwide standard for networking controls and machines in building, industrial, home, transportation, and utility automation applications. Internet Protocol (IP) based data networking is the worldwide standard for moving data over the Internet, Local Area Networks (LANs), and Wide Area Networks (WANs). Echelon's *i*.LON 1000 Internet Server seamlessly links together these control and data networking standards.

By allowing the millions of Internet-ready LONWORKS devices already in use to be monitored, controlled, accessed, manipulated, and updated over the Internet, the *i*.LON 1000 opens a new world of applications, markets, and business opportunities.

▼ Allows the millions of Internet-ready LONWORKS devices to be monitored, controlled, or configured over the Internet

▼ Transforms the Internet (or any IP-based LAN or WAN) into a pathway for carrying LONWORKS control information locally, nationally, or around the world

▼ Built-in password-protected Web server allows secure remote monitoring and control of the LONWORKS control network over the Internet using Internet Explorer™, Netscape Navigator™, or other standard browsers

▼ Security features include MD5 authentication for secure access and password-protected Web server configuration access

▼ Provides high performance Layer 3 routing of LONWORKS control packets

▼ Includes SNMP (MIB II) support, TCP/IP, UDP, DHCP, ICMP, SNTP, TOS, HTTP, and FTP

▼ Wall, desk, or rack mounting – 24VAC/DC power input

▼ CE Mark, U.L. Listed, cU.L. Listed, TÜV Certified

The LONWORKS platform has been so widely adopted because it offers highly reliable, low-cost networking between control devices. By enabling peer-to-peer communications between devices using an open, flexible protocol, the LONWORKS platform has proven its value in small and very large applications alike.

While IP-based data networks are poorly suited to the tasks performed by a control network, they complement LONWORKS control networks by offering high speed, wide-area networking over which LONWORKS data can be sent and received. By providing a robust, high performance interface between LONWORKS and IP-based networks, the *i*.LON 1000 allows users to leverage the unique strengths of both control and data networks.
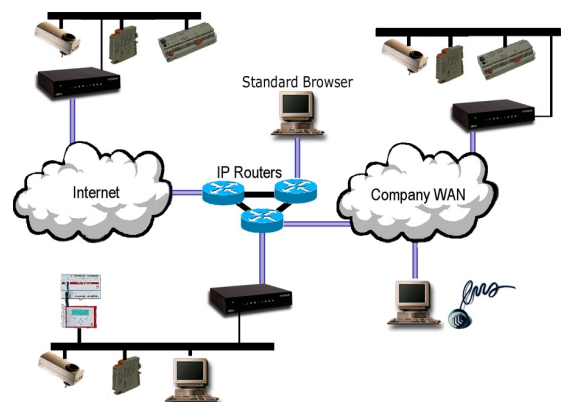
High Performance, High Reliability

The *i*.LON 1000 offers unparalleled performance and reliability. Certified under the Cisco Net*Works*™ program, the *i*.LON 1000 integrates Echelon's control networking and routing expertise together with Cisco's Network Foundation Technologies. The result is a Layer 3 LonTalk® router that offers lightning fast throughput for demanding process control, building automation, utility, transportation, and telecommunications applications.

Cisco certification is your assurance that the *i*.LON 1000 has been both rigorously tested and will meet the needs and standards of Information Technology (IT) managers worldwide. Adherence to the EIA proposed standard for tunneling ANSI/EIA 709.1 packets over IP ensures that communications through the *i*.LON 1000 are both open and interoperable.

Built-in Web Server

The *i*.LON 1000's built-in Web server allows control information (such as network variables representing temperature, occupancy, speed) to be accessed easily via a web browser. This password-controlled feature provides access to LONWORKS monitoring and control data from anywhere, without the need for special software tools, over LANs, WANs, or the Internet.

Whether for remote diagnostics, equipment calibration, alarm monitoring, or maintenance, the integral Web server makes it simple to access any part of the control system.

Peer-to-Peer and Master-Slave Support

The *i*.LON 1000 is unique in its ability to support both peer-to-peer and master-slave network communications. This powerful feature allows remotely located devices to communicate over IP networks in the same way they would if they were co-located. Devices on different floors of a building, scattered across different manufacturing pods, or located in retail branches across the world can be seamlessly and transparently linked together, and connected to far flung corporate data and ERP networks.
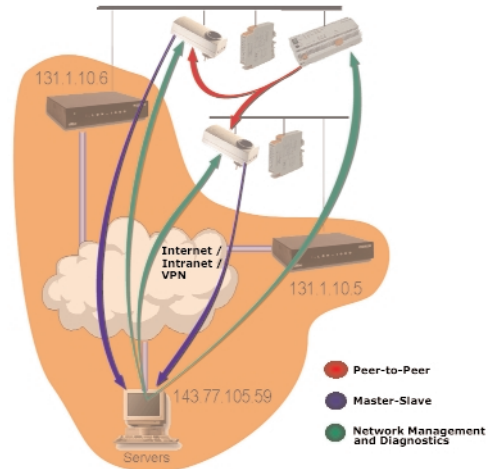
LONWORKS/IP Devices

The impressive performance of the *i*.LON 1000 is due to the combination of a powerful 32-bit RISC processor and Echelon's LONWORKS/IP software architecture. The result — very high packet throughput in control networks with large numbers of nodes and/or very fast monitoring and display requirements.
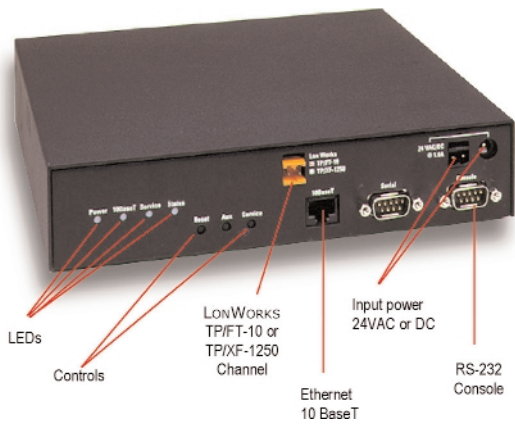
Network Installation

The *i*.LON 1000 can be installed using standard LONWORKS installation tools. For example, the *i*.LON 1000 is fully supported by tools using Echelon's LNS™ network services architecture, which provides quick setup, configuration, and application-level interoperability.

From the perspective of the IT network, the *i*.LON 1000 is viewed as a typical IP host. Like other IP hosts, the *i*.LON 1000 supports standard internetworking protocols: TCP/IP, UDP, DHCP, SNMP (MIB II), ICMP, SNTP, TOS, MD5, HTTP, and FTP. In addition, packet aggregation parameters, addressing, IP bandwidth utilization, and security can all be adjusted via the IP network.

Chassis and Power Supply

To offer the greatest versatility, the *i*.LON 1000 may be desk, wall, or EIA 19-inch rack mounted. The enclosure is provided with rubber feet to prevent marring furniture when used on a desktop. Two keyhole slots are provided on the bottom of the enclosure for wall or panel mount applications. Optional mounting brackets (Model # 72951) may be attached to each side of the *i*.LON 1000 enclosure for EIA 19-inch rack mounting in a single rack height space.

LEDs

Controls

LONWORKS TP/FT-10 or TP/XF-1250 Channel

Ethernet 10 BaseT

Input power 24VAC or DC

RS-232 Console

Safety agency approved as a low voltage device, the *i*.LON 1000 operates from low voltage 24VAC or DC, eliminating the need for high voltage wiring. This feature allows *i*.LON 1000 to be powered by an optional 24VAC or DC plug-in power supply, a battery-backed 24VDC rechargeable power supply, or from a 24VAC transformer.

Power may be provided via either a 2.1mm barrel connector or, for more secure wiring termination, removable screw terminals.

Specifications

Processor	32-bit RISC processor, MIPS 3900 core, 50MHz internal speed
Memory	4MB Flash (1MB available for web pages and user data), 8KB NVRAM (includes battery-backed Y2K-compliant clock), 16MB RAM
LONWORKS Twisted Pair Interface	TP/FT-10 (model 72001), TP/XF-1250 (model 72002)
LONWORKS Twisted Pair Connector	Weidmüller 2-conductor SLA 2/90
Ethernet Interface	10 BaseT
Ethernet Connector	RJ-45
Console Interface	RS-232, 9600 baud (8 data bits, no parity, 1 stop bit)
Console Connector	DB-9
Serial Interface	RS-232 (reserved)
Serial Connector	DB-9
SNMP	MIB II
Operating Input Voltage	+24VAC or DC, ±20%, 1A maximum
Power Connector	2.1mm barrel connector and Weidmüller 2-conductor SL 2/90
Controls (Switches)	Reset
Rear Panel	Auxiliary (reserved), Service
Indicators (LEDs)	
Front Panel	Power
Rear Panel	Power, Service, 10 BaseT Connection Status, Status
Neuron® Chip Service Pin Function	Service pin message controlled by console application or hardware service switch
Configuration State	Accessed via console application or HTML page
Temperature	
Operating	0° to +50° C
Non-operating	-10° to +85° C
Humidity (non-condensing)	
Operating	10% to 90% RH @ 50°C
Non-operating	95% RH @ 50°C
Dimensions	
Enclosure	21.3cmW x 20.3cmD x 4.44cmH (8.5"W x 8"D x 1.75"H)
Rack Brackets	13.1cmW x 4.44cmH (5.15"W x 1.75"H)
Mounting	Desk mount (rubber feet included)
	Wall mount (two keyhole slots provided on chassis bottom plate)
	Rack mount (optional brackets for EIA 19" rack mounting)
EMI	FCC Part 15 Class A and EN55022 Class A

CE Immunity	EN50082-1:1997
	EN61000-4-2: level 3
	EN61000-4-3: level 2
	EN61000-4-4: level 2
	EN61000-4-5: level 3
	EN61000-4-6: level 2
	EN61000-4-11: 30%, 60%, and >95%
	ENV50240 (900MHz Key): level 2
Listings	U.L. 1950, cU.L. 1950, TÜV EN60950, CE Mark

Ordering Information

External power supply and rack mounting brackets are not included and should be ordered separately if needed.   Please specify US, UK, Europe, or Japan style power cords for the power supply.

i.LON 1000 - TP/FT-10	72001	
i.LON 1000 - TP/XF-1250	72002	
POWER SUPPLIES		
US	72901-1	100-230VAC input, 24VDC output, IEC line cord with US plug
Continental Europe	72901-2	100-230VAC input, 24VDC output, IEC line cord with continental Europe plug
UK	72901-3	100-230VAC input, 24VDC output, IEC line cord with UK plug
Japan	72901-4	100-230VAC input, 24VDC output, IEC line cord with Japan plug
RACK MOUNTING BRACKETS (1 pair)	72951	