

iServer Embedded MicroServer™

EIS-PCB



- ✓ **Embedded Solution for Serial to Ethernet Communications**
- ✓ **Connects any Serial Device with RS-232, RS-485, or RS-422 to an Ethernet Network and the Internet**
- ✓ **Replace Dedicated Wiring and PC's for Serial Connections**
- ✓ **Small Enough to Fit into Almost Any Size Device**
- ✓ **Well-Developed TCP/IP Stack**
- ✓ **Web-Based Interface for Easy Configuration and Access Without any Special Software**
- ✓ **Configuration Option via Telnet and Serial**
- ✓ **Supports TCP, UDP, ARP, Telnet, DHCP, DNS, HTTP, and MODBUS Protocol**
- ✓ **Includes COM Port Redirection Software to Redirect Data Destined for a Serial COM Port to the Ethernet Port on a PC**
- ✓ **Digital I/O Lines**
- ✓ **Password Protection for Security**
- ✓ **Firmware Upgradeable**
- ✓ **Custom Firmware Available for OEMs**

The award-winning OMEGA® iServer is the simplest, easiest, most economical way for original equipment manufacturers to network enable their products. Any device with serial communications capability (RS-232, 422 or 485) can now connect to an Ethernet network and the Internet.

The world's smallest World Wide Web Server, the OMEGA iServer EIS-PCB is a printed circuit board,

half the size of a business card, powered by 5 Vdc from the product's main board. It connects the manufacturer's product to an Ethernet network with a standard RJ45 connector.

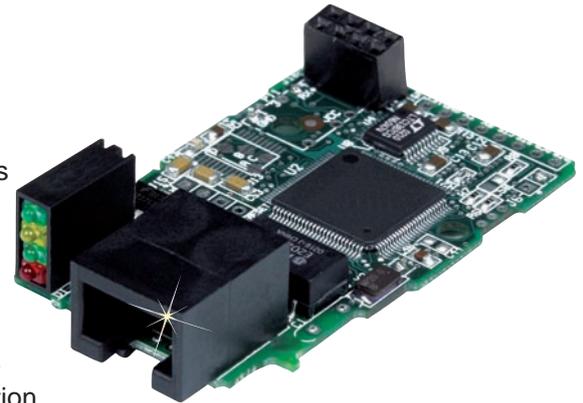
The OEM product can now become a node on an Ethernet network, or the Internet. The iServer is compatible with DHCP servers (dynamic host configuration protocol) and DNS servers (domain name system). This means that the OEM product can take a dynamically assigned IP address from a DHCP server on a LAN or the Internet, and can be identified by name or IP address. This DHCP client capability is a valuable and unique feature of the OMEGA iServer that makes it extremely easy and simple for the manufacturer's customers to start using their product on almost any Ethernet network.

The OEM or end users can easily assign a static IP address to the product instead of the dynamic IP address, if necessary. The IP address can be assigned locally with its serial connection, as well as remotely over an Ethernet network using Telnet or a Web browser.

The OMEGA iServer is compatible with almost any device with a serial interface such as: time clocks, security alarms, card-key access controllers, telecommunications equipment, vending machines, bar code readers, electric power meters, UPS systems, test and measurement instrumentation, PLCs, serial printers, cash registers, and many more.

Users of these OEM products will be able to type the product's IP address or unique name in the address line of a Web browser such as Internet Explorer and access the iServer's configuration pages as well as the serial device attached to the iServer. OMEGA offers custom firmware engineering services for each application to enable the OEM product to serve a Web page with a custom template and actively changing data.

For example, an electric power meter could serve a Web page that displays whatever data is available from the meter such as current



EIS-PCB, shown smaller than actual size.

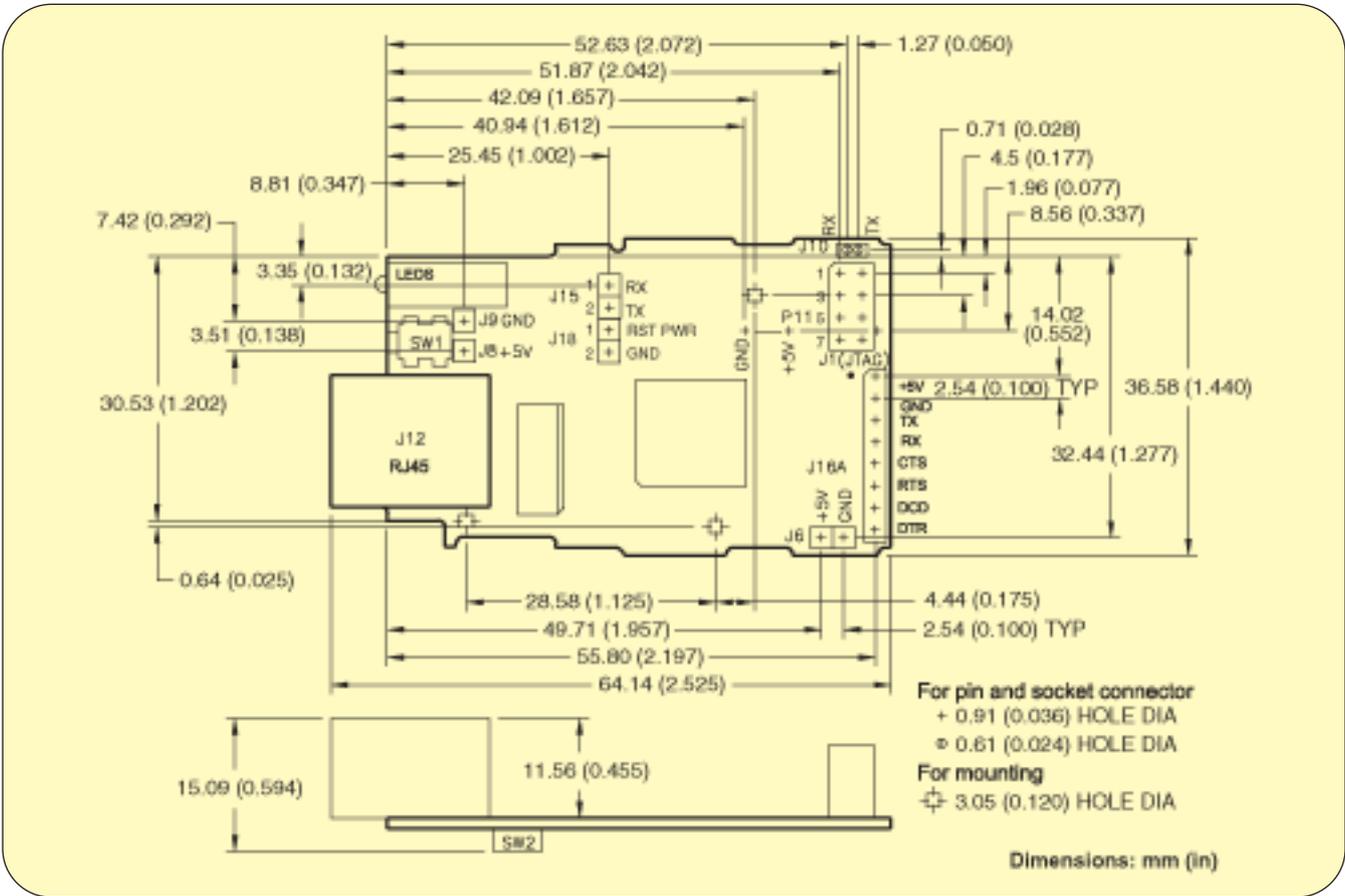
kilowatts, accumulated kilowatt hours, peak rate, or any other information.

A burglar alarm could serve a custom Web page that displayed current alarm status, log history, or anything else the alarm is capable of displaying. The OEM product can also be programmed to trigger an email or page to report an alarm or to update the current status.

Alternatively, the iServer can be used to create a virtual tunnel on an Ethernet/Internet network simulating a local point-to-point serial connection between a manufacturer's device and a PC. This replaces dedicated point-to-point wiring limited to 15 m (50'). The OMEGA iServer packages the Serial data in standard TCP/IP packets that can travel anywhere on the Ethernet LAN or over the Internet.

Using the embedded iServer, a manufacturer of time clocks will enable a payroll clerk to download data to a PC anywhere on a LAN or anywhere in the world. A manufacturer of process controllers would enable its customer to use a handheld computer with wireless Ethernet connectivity to log data and change settings on the controller.

OEMs do not need to rewrite the firmware for their serial devices to work with the iServer, and in some cases might not need to change their application software. The OEMs serial devices will function over the Ethernet network or the Internet as if they were connected directly to a PC. The COM port on the iServer simulates a local COM port on the PC.



Specifications

Serial Interface

Interface: RS-232, RS-422 or RS-485, CMOS or TTL

Connector: Pin header holes [2.5 mm (0.1") pitch]

Data Rates: 300 to 115.2 Kbps

Characters: 7 or 8 data bits

Parity: odd, even or none

Stop bits: 1 or 2

Flow Control: Hardware (RTS/CTS) and software (Xon/Xoff)

Digital I/Os: 4 digital input/output lines

Network Interface

Interface: Ethernet 10 Base-T

Connector: RJ45

Protocols: TCP/IP, UDP/IP, ARP, ICMP, DHCP, DNS, HTTP, Telnet and MODBUS/TCP

Indicators (LED): Network activity and serial transmit/receive

Processor

CPU: Enhanced 8051, 22 MHz

Memory: 512 kbyte flash, 16 kbyte SRAM

Management

Embedded web server, Telnet login, serial login

Embedded Web Server

Uses: Serves dynamic web pages and Java applets (256 kbyte capacity)

Power

Input: 5 Vdc

Consumption: 0.7 W avg/1 W max

Environmental

Operating Temperature:

0 to 70°C (32 to 158°F)

Note: -40 to 85°C (-40 to 185°F)

Storage Temperature:

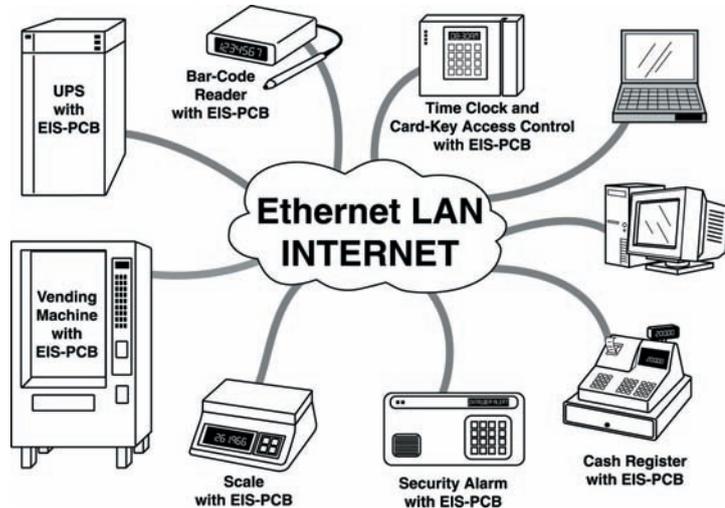
-40 to 125°C (-40 to 257°F)

Agency Approvals

FCC-B, CE, C/UL

Software: Firmware upgradeable.

Compatible with Windows 9x/ME/NT/2000/XP software and related utilities



To Order (Specify Model Number)		
Model No.	Price	Description
EIS-PCB	*	Embedded MicroServer™ with RS-232/RS-485 serial interface
EIS-PCB-TTL	*	Embedded MicroServer™ with TTL serial interface
EIS-PCB-ET	*	Embedded MicroServer™ with RS-232/RS-485 serial interface and extended temperature range

* Consult Omega OEM team for application assistance and quantity pricing (sales @omega.co.uk or +44(0)161 777 6611)





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