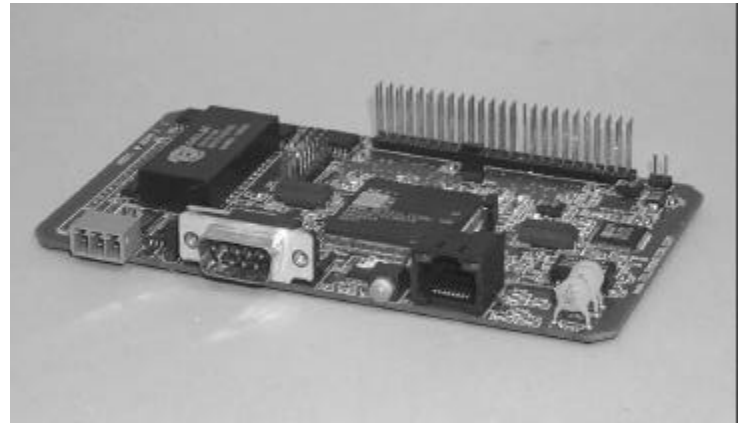


The TMI 700A Embedded Ethernet Controller (EEC) provides a quick way to “web-enable” sensor-based OEM products so as to bring the advantages of the Internet age to as broad a market as possible. This technology can be used in industrial control, enterprise networking, and remote monitoring applications wherever Ethernet is available, but is particularly valuable for web-enabled instruments.

A major characteristic of the TMI 700A is that it contains a web server to provide a browser-based interface for remote configuration and control of the target system over an internal network or, to the degree that external access is permitted, over the Internet and the worldwide web.

For some applications, the TMI 700A will be used to add a remote configuration and diagnostic capability to standalone systems or to devices that have other, perhaps legacy, network capability. Other applications will use the communications capability of the TMI EEC as the primary or only communications capability.

Note that the TMI 700A is not a single finished product but rather is an enabling technology, including both software and a reference design of the hardware, for use in multiple end products. The TMI 700A will be configured, customized, and extended for individual applications.

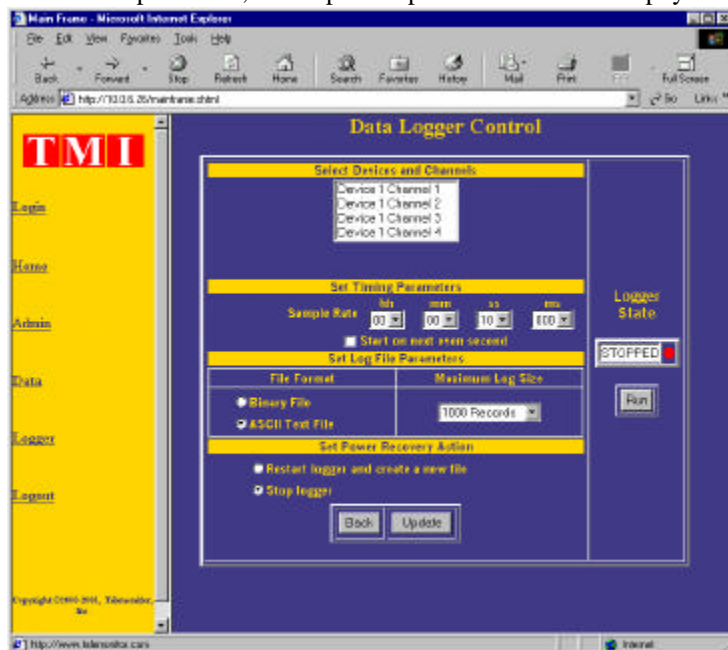


Highlights

- **Software and reference hardware design for web-enabling sensor-based products.**
- **Displays live data in user-defined web pages by means of Server-Side Include (SSI) parsing.**
- **Flash file system with FTP server for web pages and data files.**
- **Supports common network protocols including FTP, HTTP, DHCP, SNMP, etc.**
- **Full-featured data logger configured, controlled, and accessed over the network.**
- **Built-in battery-backed real-time clock.**
- **Security features including multi-level username and password access to data and configuration.**
- **Direct-connect or wireless operation.**
- **Based on NetSilicon NET+ARM and NET+OS.**

The general configuration of the TMI 700A is shown in the figure on the following page. This configuration will be customized and extended for individual applications. Note that the items shown in dashed boxes are application specific.

In particular, the Input/Output Devices and the physical connection and protocol must be defined for each application.



Modbus to data channel mapping and Modbus/TCP to Modbus RTU passthrough capabilities are provided as part of the basic TMI 700A. In addition, the data channel and Modbus/TCP interfaces may be mapped to other input/output devices besides Modbus RTU. Optional I/O device capabilities include other asynchronous serial protocols such as proprietary RS-232/RS-485 interfaces, synchronous serial protocols such as IEEE 1451.2, and parallel interface protocols. These may be present singly or in combination.

The TMI 700A supports dynamic network IP configuration through DHCP. Additionally, a special client-side utility program (Windows/98 or Windows/NT) is provided that searches a local sub-net and identifies and configures attached TMI 700A units using static IP addresses.

A reference design is used as a starting point for development of a complete system, as well as for use as a test bed and development platform. The base TMI EEC design will be customized and extended for specific applications. The reference design specifications are representative of what is anticipated for a specific application.

Reference Design Specifications

Memory (SDRAM)	16 MB
Memory (flash for software and files)	2 MB
File memory (web pages, user, logger files)	1 MB
Network interface	10/100 Base-T with RJ-45
Physical size (minimum, depending on features and application).....	80 x 100 mm (approximately 12.4 in ²)
Temperature (storage and operation)	-40° to +85° C
Supply voltage (see note)	5 to 24 V DC at 3 W

Note: Internally, the TMI 700A operates at 3.3 V (required by the NET+ARM processor). The external I/O pins operate at 5 V.

Typical TMI 700A EEC Configuration

