EM1206 BASIC-programmable Ethernet Module

Tibbo TECHNOLOGY

Features

- 10/100BaseT Ethernet port
- Flash disk and RTC onboard
- Four serial ports; up to 17 I/O lines
- Supports Wi-Fi, LCD, keypad, buzzer
- Mates with RJ203 jack/magnetics
- Very compact (33.2x18.1x5.5mm)

About

The EM1206 is a miniature BASIC-programmable embedded module. In combination with the RJ203 jack/magnetics, the EM1206 occupies only 34.5x19 mm of board space. Alternatively, the EM1206 can be used with any suitable magnetics and jack.

The module's hardware mix, which includes 100Base/T Ethernet, four serial ports, flash disk, EEPROM, and RTC, has been carefully tailored to address the typical needs of network-enabled control applications.

This makes the EM1206 especially suitable for "connected" edge products such as sensors, network-enabled card readers, actuators, and other lightweight devices.

The EM1206 can also support Wi-Fi communications (this requires GA1000 add-on board), as well as external LCD, keypad, and buzzer.

The EM1206 can be ordered standalone or in combination with the RJ203 module.

Not available in the U.S.

Specifications

- Based on a high-performance purpose-built 88-MHz ASIC (T1000).
- 10/100BaseT auto-MDIX Ethernet port (no magnetics).
- Four high-speed serial ports (CMOS-level):
  - Baudrates of up to 921,600bps;
  - None/even/odd/mark/space parity modes;
  - 7/8 bits/character modes;
  - Full-duplex mode with optional flow control;
  - Half-duplex mode with direction control;
  - Encoding and decoding of Wiegand and clock/data streams.
- Up to 1024KB flash memory for firmware, application, and data.
- 2KB EEPROM for data storage.
- RTC with backup power input.
- Supports external LCD and keypad.
- Programmable square-wave output for external buzzer.
- Up to 17 general-purpose I/O lines (including 8 interrupt lines).
- Control lines for two external status LEDs.

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Specifications (continued)

- Four status LEDs onboard:
  - Green and red status LEDs;
  - Green and yellow Ethernet status LEDs.
- Optional Wi-Fi interface (requires GA1000 add-on module).
- Software-controlled onboard PLL.
- Reliable power-on/brown-out reset circuit.
- Power: 230mA @ 3.3V (100BaseT mode, PLL on).
- Dimensions: 33.2x18.1x5.5mm.
- Firmware is upgradeable through the serial port or network.

Programming

Platform Objects

- Sock — socket comms (up to 16 UDP, TCP, and HTTP sessions).
- Net — controls Ethernet port.
- Wln — handles Wi-Fi interface (requires GA1000 add-on module)
- Ser — up to 4 serial channels (UART, Wiegand, and clock/data modes).
- IO — handles I/O lines, ports, and interrupts.
- Kp — scans keypads of matrix and “binary” types.
- Rtc — keeps track of date and time.
- Fd — manages flash memory file system and direct sector access.
- Stor — provides access to the EEPROM
- Romfile — facilitates access to resource files (fixed data).
- Pat — “plays” patterns on up to five LED pairs.
- Beep — generates buzzer patterns.
- Button — monitors MD line (setup button).
- Sys — in charge of general device functionality.

Function Groups

String functions (21 in total!), date/time conversion functions, and hash calculation functions (md5 and sha1).

Variable Types

Byte, char, integer (word), short, dword, long, real, string, plus user-defined arrays and structures.

Tibbo Integrated Development Environment (TIDE)

All BASIC-programmable Tibbo devices are provided with free TIDE software.

Code in Comfort

Enjoy a modern code editor supporting syntax highlighting, context help, code hinting, and auto-completion.

Debug with Ease

Set breakpoints, watch variables, inspect the stack, step through your code... the built-in debugger in Tibbo IDE provides all the tools for fast and convenient debugging.

Our debugger does not rely on any special hardware like an ICE machine or a JTAG board. Simply connect your Tibbo device to the Ethernet, select it in the IDE, and you are all set!

For more information on TIDE, see http://basic.tibbo.com/product/tide.html

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