

Ether I/O 24 Digital I/O Module

The Ether I/O 24 is an UDP/IP controlled digital Input/Output module. The module features three 8-bit ports with 5V level signal lines. Each of the 24 lines can be independently programmed as either input or output.

The module connects to any Ethernet network supporting the TCP/IP protocol suite and can communicate with any point on that network. By connection with an Internet Router the device can communicate with any Internet connected device¹. The module's output pins are able to source or sink up to 30mA² to allow for direct connection to a variety of devices. Optional accessory Boards connect to the module to provide Relay Outputs, Isolated Inputs, Switches or Screw Terminals to provide for the easy connection of external sensors, switches or other devices.



New Model Release soon with SX48

MODULE FEATURES

- ARP, BOOTP, DHCP, ICMP and UDP/IP Protocols
- Industry standard 10BaseT Ethernet Interface with an industry standard RJ-45 Connector
- 24 independently programmable signal lines with configurable CMOS, TTL or Schmitt Trigger thresholds and programmable pull-ups per line
- Easy connection by three 10 way box headers to suit low cost, standard IDC or Crimp connectors
- Integrated Switch Mode Voltage Regulator allows power from any 8-32V DC Power source
- User 5V 500mA output to power external Interface boards.
- Compact module measures only 72mm x 72mm x 24mm
- Advanced configuration allows the modules to automatically scan the input ports and transmit changes directly to another ETHER I/O 24 module without host connection or to any Internet Port by router connection
- On board EEPROM allows all ports to power up in a user programmable state
- Programmable Fixed IP or Dynamic IP assignment from a DHCP server
- Small packet size and connectionless protocol allows for Real Time sensing and control
- Can be connected to a wireless network gateway or access point for wireless operation
- Low Power consumption only 1.1W fully operational

USBIO24 RL Digital I/O Module

The USBIO24 RL is the ROHS Compliant version of our previous USB I/O 24 range. The USB I/O 24 RL is a low-cost integrated module for the input and/or output of digital signals from a computer system by connection to the USB port. The modules I/O Port pin out and firmware are compatible with the previous versions of the USB I/O24 modules.

The module features 24 5V level signal lines individually programmable as input or output. As the module connects to the USB port, multiple modules can be connected to a single PC by the use of a USB hub or hubs. Each module features a serial number and the PC can identify each module uniquely allowing for multiple modules to be connected for a single application. The outputs of the module are able to source or sink up to 30mA per I/O, up to a maximum 50mA per port, to allow for direct connection to a variety of devices.



MODULE FEATURES

- 24 independently programmable Input / Output Pins Grouped into 3 ports.
- Single module High-Speed Digital Input / Output solution
- On-board unique serial number and custom programmable FLASH microcontroller.
- Both USB Enumeration information and Microcontroller can be re-programmed to suit customer needs.
- Module powered by the USB from the PC or by an external power supply
- Virtual COM Port driver allows access as a regular serial port
- Easy to program using popular development languages C, Basic, Delphi, VB, etc.
- Optional DLL based driver available.
- Simple command set for easy control of ports and data transfer

Drivers are available

- Windows XP and XP x64, 2000, ME, 98
- Linux, Free BSD, Open BSD
- Mac OS X, 9, 8
- Windows CE.NET (Version 4.2 and greater)
- QNX

USB I/O 24 DIP Digital I/O Module

The USB I/O 24 DIP is a Dual Inline Package version of the USB I/O 24 module. The module's 50 pin Dual Inline Package (DIP) fits into a standard 50 pin 900mil wide IC Socket. This makes the USB I/O 24 DIP ideal for rapid prototyping and development work.

The module features 24 5V level signal lines individually programmable as input or output. As the module connects to the USB port, multiple modules can be connected to a single PC by the use of a USB hub or hubs. Each module features a serial number and the PC can identify each module uniquely allowing for multiple modules to be connected for a single application. The outputs of the module are able to source or sink up to 30mA per I/O, up to a maximum 50mA per port, to allow for direct connection to a variety of devices.



MODULE FEATURES

- Single module High-Speed Digital Input / Output solution.
- Integrated Type-B USB Connector.
- On-board unique serial number in EEPROM and custom programmable FLASH microcontroller.
- Both USB Enumeration information and Micro controller can be re-programmed
- Module powered by the USB from the PC (default option) and can also be configured for self powered.
- 50-pin Dual In-Line Package Ideal for prototyping
- Fits into a standard 50-pin 900mil IC Socket (supplied)

Drivers are available

- Windows XP and XP x64, 2000, ME, 98
- Linux, Free BSD, Open BSD
- Mac OS X, 9, 8
- Windows CE.NET (Version 4.2 and greater)
- QNX

I/O 24 Relay Output Board

The I/O 24 Relay Output Board shown below is a very useful accessory that allows much higher voltages and currents to be used by the I/O24 modules compared to the normal outputs.

The board consists of 8 Relays with both Normally Open (N/O) and Normally Closed (N/C) contacts rated to 250V AC or DC at 5 Amps. The relays coils are powered by an external supply 12VDC power supply that is capable of producing approx 700mA (need about 80mA per relay when the relay is active) this power supply is not provided with the board. The relay coils are controlled using a ULN via the I/O ports of the module. Each of the output port channels has an LED to indicate the relay output status.

The connections for each output channel are N/O, COM and N/C connection. These connections are by screw terminals that will accept cables 0.5 – 2mm¹. The connection between the I/O24 module and the relay output board is via a 30 cm IDC connection cable provided with the board



BOARD FEATURES

- 8 x 12V DPDT 250VAC / 30DC @ 5A Relays
- Indication LED's for relay output status
- Screw Terminal Blocks for Relay outputs and 12V Power Input
- Easy connection by 10-way box header to suit standard IDC connector for connection to the I/O port
- 72mm Standard width for DIN Rail Modules

I/O 24 Opto Input Board

The I/O 24 Opto Input Board is a very functional accessory that allows the user to connect signals from 3 to 24V AC or DC to the I/O ports of either the USB I/O24, or the Ether I/O24 via 8 optically isolated input channels.

Each of the input channels is electrically isolated from all other channels and the I/O24 module preventing signals from other channels interfering with each other and damage to the I/O24 module. The input channels also have LED's to indicate when a signal is present on the channel.

The connections to the input channels on the opto input board are by screw terminals that will accept cables 0.5 – 2 mm¹. The connection between the I/O24 module and the opto input board is via a 30 cm IDC connection cable provided with the board.



BOARD FEATURES

- 8 x Optically Isolated Inputs for each of the I/O24 port pins
- Indication LED for channel input
- Screw Terminal Block connections for input channels
- Easy connection by 10-way box header to suit standard IDC connector for connection to the I/O port
- 72mm Standard width for DIN Rail Modules
- 4.3 X 2.8 inches (110 X 72 mm)

I/O 24 Combo Board

The I/O 24 Combo Board is a versatile accessory that allows much higher voltages and currents to be controlled by the I/O24 modules compared to the normal inputs and outputs

The board consists of 4 Relay Outputs and 4 optically isolated input channels.

The relay outputs have both Normally Open (N/O) and Normally Closed (N/C) contacts rated to 250V AC or 30V DC, both at 5 Amps. The relays' coils are powered by an external 12VDC power supply that is capable of producing approx 350mA (need about 80mA per active relay). The power supply is not provided with the board. The relay coils are controlled using a ULN via the I/O ports of the module. Each of the output port channels has an LED to indicate the relay output status.

The input channels are bridged wet contacts which are electrically isolated from all other channels and the I/O24 module. Each input channel has a LED to indicate when a signal is present on the channel.

The input channels / relay output connections are by screw terminals that will accept cables 0.5 – 2mm. The connection between the I/O24 module and the Combo board is via a 30 cm IDC connection cable provided with the board



BOARD FEATURES

- 4 x 12V DPDT 250VAC / 30DC @ 5A Relays
- 4 x Optically Isolated Inputs for each of the I/O24 port pins
- Indication LED's for output status and channel input
- Screw Terminal Blocks for Relay outputs, input channels and 12V Power Input
- Easy connection by 10-way box header to suit standard IDC connector for connection to the I/O port.
- 72mm Standard width for DIN Rail Modules
- 5.48 X 2.8 X 1 inches (139.3 X 72 X 25.4mm)

I/O 24 Switch / Push Button Board

The I/O 24 Switch / Push Button Board shown below allow for easy connection of a switch interface to the I/O 24 module, it also provides visual indication of the switch states.

The board consists of a slide switch and a push button for each I/O 24 port channels.

The connection between the I/O24 module and the Switch / Push Button board is via a 30 cm IDC connection cable provided with the board.



BOARD FEATURES

- 8 x slide switch / push button for each of the I/O24 port pins
- Indication LED for switch status
- Easy connection by 10-way box header to suit standard IDC connector for connection to the I/O port
- 72mm Standard width for DIN Rail Modules

I/O 24 50 Pin IDC Connector Board

The I/O 24 50 Pin IDC Connector Board can be connected to the I/O ports of the module to provide a 50 Pin IDC Connector interface to the I/O 24 device for industrial purposes.



- Easy connection by 0.1" pitch 10 way box header to suit standard IDC connectors

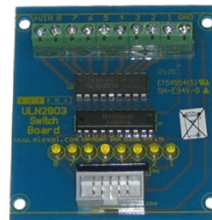
I/O 24 ULN2803 Switch Board

The I/O 24 ULN2803 Switch Board shown below is a very useful accessory board that allows much higher voltage and current devices to be interfaced to the low level logic provided by the I/O24 modules.

The board consists of a ULN 2803 and LED indicator setup to indicate which channels are currently active.

The ULN2803 consists of 8-bit TTL-input NPN Darlington sink drivers. Each Darlington driver can handle a maximum of 500mA continuous (when using a single channel only) and can withstand a maximum 50V in its off state. This makes the ULN2803 well suited to provide an interface between the low logic level interfaces and higher current/voltage devices such as relays, solenoids, motors and lamps.

The connections to the board are screw terminals that will accept cables 0.5 – 2mm¹. The connection between the I/O24 module and the ULN2803 switch board is via a 30 cm IDC connection cable provided with the board



BOARD FEATURES

- 1 x ULN2803 High Voltage / High Current Transistor Array
- Indication LED's for channel status
- Screw Terminal Blocks for outputs
- Easy connection by 10-way box header to suit standard IDC connector for connection to the I/O port
- 72mm Standard width for DIN Rail Modules
- 2.6 X 2.8 X 1 inches (65 X 72 X 25.4mm)

I/O 24 Connector / LED Board

The I/O 24 Connector / LED Board shown below allows for easy connection of larger wires to the I/O 24 module and also to provide a buffered visual indication of the states of all the signals on a port.

The board also has provision for either a number of pull up or a pull down configuration on the port.

The connections to the I/O channels on the Connector / LED board are by screw terminals that will accept cables 0.5 – 2 mm¹. The connection between the I/O24 module and the Connector / LED board is via a 30 cm IDC connection cable provided with the board.



BOARD FEATURES

- 8 x Screw Terminal Connectors for each of the I/O24 port pins
- Buffered Indication LED for port changes
- Screw Terminal Block connections for larger wire connections
- Easy connection by 10-way box header to suit standard IDC connector for connection to the I/O port
- 72mm Standard width for DIN Rail Modules

USB223R - USB Plug and Play Serial Development Module

The USBMOD232R is the latest RoHS compliant, low-cost integrated module for transferring serial data over USB. The module is based on the FT232R USB to Serial UART IC from FTDI.



MODULE FEATURES

- Single chip USB module to asynchronous serial data transfer interface.
- Entire USB protocol handled on the chip - No USB specific firmware programming required.
- Data transfer rates from 300 baud to 3 Megabaud (RS422 / RS485 and at TTL levels) and 300 baud to 1 Megabaud (RS232).
- 256 byte receive buffer and 128 byte transmit buffer utilizing buffer smoothing technology to allow for high data throughput.
- FTDI's royalty-free VCP and D2XX drivers eliminate the requirement for USB driver development in most cases.
- In-built support for event characters and line break condition.
- Auto transmit buffer control for RS485 applications.
- FIFO receives and transmits buffers for high data throughput.
- Synchronous and asynchronous bit bang mode interface options with RD# and WR# strobes.
- Device supplied preprogrammed with unique USB serial number.
- Support for bus powered, self powered, and high-power bus powered USB configurations
- Integrated level converter on UART and CBUS for interfacing to 5V - 1.8V Logic.
- High I/O pin output drive option.
- 3.3V to 5.25V Single Supply Operation.
- UHCI / OHCI / EHCI host controller compatible
- USB 2.0 Full Speed compatible.
- -40°C to 85°C extended operating temperature range.

Drivers are available

- Windows XP and XP x64, 2000, ME, 98
- Linux, Free BSD, Open BSD
- Mac OS X, 9, 8
- Windows CE.NET (Version 4.2 and greater)
- QNX

USB245R - USB Plug and Play Parallel 8-Bit FIFO Development Module

The USBMOD245R, is the latest RoHS compliant, low-cost integrated module for transferring data to / from a peripheral to a host PC via USB. The module is based on the FT245R USB to Parallel FIFO IC from FTDI.



MODULE FEATURES

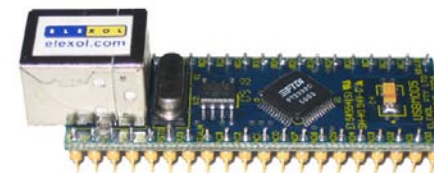
- Single chip USB to parallel FIFO bidirectional data transfer interface.
- Entire USB protocol handled on the chip - No USB specific firmware programming required.
- Simple interface to MCU / PLD / FPGA logic with simple 4-wire handshake interface.
- Data transfer rate to 1 Megabyte / second - D2XX Direct Drivers.
- Data transfer rate to 300 kilobyte / second - VCP Drivers.
- FTDI's royalty-free VCP and D2XX drivers eliminate the requirement for USB driver development in most cases.
- FIFO receives and transmits buffers for high data throughput.
- Synchronous and asynchronous bit bang mode interface options with RD# and WR# strobes allow the data bus to be used as a general purpose I/O port.
- Device supplied pre-programmed with unique USB serial number.
- Support for bus powered, self powered, and high-power bus powered USB configurations.
- Integrated level converter on FIFO interface and control pins for interfacing to 5V - 1.8V Logic.
- High I/O pin output drive option.
- 3.3V to 5.25V Single Supply Operation.
- UHCI / OHCI / EHCI host controller compatible
- USB 2.0 Full Speed compatible.
- -40°C to 85°C extended operating temperature range.

Drivers are available

- Windows XP and XP x64, 2000, ME, 98
- Linux, Free BSD, Open BSD
- Mac OS X, 9, 8
- Windows CE.NET (Version 4.2 and greater)
- QNX

USBMOD5 - USB Dual Channel UART/FIFO Development Module

The USBMOD5 is an integrated module based on the FTDI FT2232C Dual Channel USB UART / FIFO IC. The module features two Multi-purpose UART/FIFO controllers that can be configured in several different modes depending on the application.



MODULE FEATURES

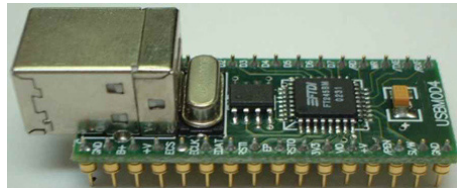
- Single module Dual Channel UART/FIFO USB solution
- Based on the FTDI FT2232C Dual Channel USB UART / FIFO IC
- FT245BM-style FIFO interface option with bi-directional data bus and simple 4-wire handshake interface
- Fits into a standard 40-pin 600mil IC Socket.
- Transfer Data Rate up to 1 Megabyte /Second
- Enhanced Bit-Bang Mode interface option
- CPU-Style FIFO Interface Mode option
- Multi-Protocol Synchronous Serial Engine (MPSSE) interface option
- Fast Opto-Isolated Serial Interface Mode option
- EEPROM Configurable on board via USB
- 5V and 3.3V logic IO Interfacing with independent level conversion on each channel
- Integrated 3.3V LDO Regulator for USB IO
- Support for USB Suspend and Resume conditions via PWREN# and SI /WU pins
- 4.35V to 5.25V single supply operating voltage range
- USB 2.0 Full Speed (12 Mbps /Second) compatible
- -40°C to 85°C extended operating temperature range.

Drivers are available

- Windows XP and XP x64, 2000, ME, 98
- Linux, Free BSD, Open BSD
- Mac OS X, 9, 8
- Windows CE.NET (Version 4.2 and greater)
- QNX

USBMOD4 - USB Plug and Play Parallel 8-Bit FIFO Development Module (Second Generation)

The USBMOD4 is a second generation, low-cost integrated module for transferring data to / from a peripheral and a host PC at up to 8 Million bits (1 Megabyte) per second. Based on the FTDI FT245BM USB FIFO – Fast Parallel Data Transfer IC, its simple FIFO-like design makes it easy to interface to a CPU (MCU) either by mapping the device into the memory / I/O map of the CPU, using DMA or controlling the device via I/O ports.



MODULE FEATURES

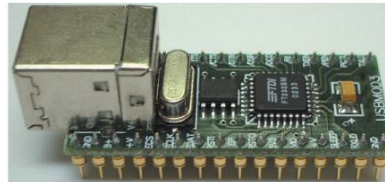
- Single module High-Speed USB FIFO solution
- Based on the FTDI FT245BM USB FIFO – Fast Parallel Data Transfer IC
- Integrated Type-B USB Connector
- On-board 6MHz Crystal
- External EEPROM on board for USB enumeration data
- No external passive components required
- Module powered from USB bus in addition to supplying up to 450mA user application
- 32-pin Dual In-Line Package Ideal for prototyping
- Fits into a standard 32-pin 600mil IC Socket
- Single Chip Multi-Function Data Transfer Solution
- Send / Receive Data over USB at up to 1 Mb / Sec
- 384 byte receive buffer / 128 byte transmit buffer for high data throughput
- Support for Event Characters and Line Break condition
- Simple interface to CPU or MCU bus
- Compact 32 pin (7mm x 7mm) MQFP package
- Integrated 3.3v Regulator
- UHCI / OHCI / EHCI Compliant
- USB 1.1 and USB 2.0 Compatible

Drivers are available

- Windows XP and XP x64, 2000, ME, 98
- Linux, Free BSD, Open BSD
- Mac OS X, 9, 8
- Windows CE.NET (Version 4.2 and greater)
- QNX

USBMOD3 - USB Plug and Play Serial Development Module (Second Generation)

The USBMOD3 is a second generation, low-cost integrated module for transferring serial data over USB. Based on the FTDI FT232BM USB UART IC, the USBMOD3 is capable of transfer rates of up to 1000k baud (RS232) and 3000k baud (RS422 / RS485).



MODULE FEATURES

- Single module High-Speed USB UART solution
- Based on FTDI FT232BL High-Speed USB UART IC
- Integrated Type-B USB Connector
- On-board 6MHz Crystal
- External EEPROM on board for USB enumeration data
- No external passive components required
- Module powered from USB bus in addition to supplying up to 450mA user application
- 32-pin Dual In-Line Package Ideal for prototyping
- Fits into a standard 32-pin 600mil IC Socket
- Single Chip Multi-Function Data Transfer Solution
- RS232 link from 300 baud to 1000K baud
- RS422/RS485 Link to 3000K baud
- 384 byte receive buffer / 128 byte transmit buffer for high data throughput
- Support for Event Characters and Line Break condition
- Auto Transmit Buffer control for RS485
- Compact 32 pin (7mm x 7mm) MQFP package
- Integrated 3.3v Regulator
- UHCI / OHCI / EHCI Compliant
- USB 1.1 and USB 2.0 Compatible

Drivers are available

- Windows XP and XP x64, 2000, ME, 98
- Linux, Free BSD, Open BSD
- Mac OS X, 9, 8
- Windows CE.NET (Version 4.2 and greater)
- QNX

Elexol “Blue Cable” Solution

The Elexol “Blue Cable” Solution shown below is a powerful new message-on-hold player designed specifically for connection to a client’s PABX system and network with Broadband Internet access. Messages can be uploaded/updated by the Service Provider to an Internet based File Server, no matter where they are located, without client involvement.

This solution eliminates the costly need for the Service Provider to record and distribute message updates by tapes and CD and then having to ensure their correct and timely installation by the client.



Product Features

- A stand alone Digital MP3 Player.
- 16Mb Non Volatile Flash Memory
- Supports sampling rates from 8 to 192 Kbps
- Stereo or Mono
- 16 Track support
- Remotely controlled and updated using File Transfer Protocol (FTP)
- Unit provides feedback to Service Provider when successfully updated
- Remote Manager Software provided

Elexol DAD 10 (Digital Audio Device)

The DAD 10 is a multi-functional device that can be used as a message on hold device or used in conjunction with other DAD10 Accessories as an Audio on Demand device.

When used in the message on hold application, the DAD10 requires connection to the Client’s PABX system and a PC to run the Auto Update Utility. This system enables the message on hold provider to remotely control and update the message/audio currently being played on the client’s PABX system with minimal client interaction.



Product Features

- Stand alone Digital MP3 Player.
- 8Mb Non Volatile Flash Memory
- Supports sampling rates from 8 to 192 Kbps
- Stereo or Mono
- 16 Track support
- Different triggering options
- Various Play back modes
- Remotely controlled and updated
- Transfer/Remote Manager Software provided



Technical Support and Further Information

More complete Manual / Data Sheets are available from our website or by request.

For any questions relating to the Elexol Products range please contact us by Email, Fax or Phone.

Email: enquiries@elexol.com

Fax: +61 755 03 1202

Ph: +61 755 03 1206

Elexol Pty Ltd

Unit 1
8 Pirelli Street, Southport
Queensland 4217
Australia

Elexol Pty Ltd

PO Box 2742,
Southport Business Centre,
Southport, Queensland 4215, Australia