IP512-x
Isolated Serial 485 Communication

IP512 Industry Pack (IP) modules provide an isolated, high-performance serial communication interface for your computer. Large FIFO buffers on the transmit and receive lines of each serial port enable more efficient data processing. When the buffer is full, an interrupt is sent to the CPU to read the data. To match your budget and performance requirements, you can order 16 or 64-byte (IP512-16/64) buffers.

Features
- Four asynchronous RS485 serial ports
- Isolated serial ports
- 16 or 64-byte FIFO buffers
- Software-programmable baud rate (up to 512Kbps)
- Individually controlled interrupts (unique vectors for each port)
- Line break generation and detection
- False start bit detection
- Industry-standard 16C550 UART including software compatible 16C450 mode

Benefits
- Isolation protects computer system from ground loops and transient signals.
- FIFO buffers minimize CPU interaction for more efficient data processing.
- Internal diagnostics help detect communication faults.
- Priority shifting scheme prevents continuous interrupts from blocking other ports.

Specifications
Serial Ports
- Configuration: 4 independent, isolated, RS485 ports.
- Interface: Asynchronous serial only.
- Data rate: Programmable to 512K bits/second using internal baud rate generator.
- Character size: Programmable 5-8 bits.
- Parity: Programmable odd, even, or no parity.
- Stop bits: Programmable 1, 1-1/2, or 2 bits.
- Data register buffers: Double-buffered (16C450 mode) or 16/64-byte FIFO buffered.
- Interrupts: Receiver Line Status, Received Data Available or Character Timeout, Transmitter Holding Register Empty.
- Receiver input resistance: 12K ohms minimum.
- Differential input threshold: ±0.2V.
- Bias resistors: 560 ohms pull-ups.
- Output short circuit current: 250mA maximum.
- Termination resistors: 120 ohms. Installed in board sockets (removable).
- Power requirements: Isolated +5V ±5%, 15mA maximum, each port.
- Maximum cable length: 1200m (4000 ft.).

UART
- IP512-16: Texas Inst. TL16CS54FN or equivalent.
- IP512-64: Startech ST16C654CJ68.

IP Compliance (ANSI/VITA 4)
Meets IP specifications per ANSI/VITA 4-1995.

Environmental
- Operating temperature: 0 to 70°C
- Storage temperature: -40 to 125°C
- Relative humidity: 5 to 95% non-condensing
- Power: +5V (±5%): 160mA maximum.
  ±12V (±5%): 0mA (not used)
- MTBF: Consult factory.

Ordering Information
Industry Pack Modules
- IP512-16: Four RS485 ports with 16-byte FIFOs.
- IP512-64: Four RS485 ports with 64-byte FIFOs.

Software (see software accessories for details)
- IPSW-API-VXW: VxWorks® software support package
- IPSW-API-QNX: QNX® software support package
- IPSW-API-WIN: Windows® DLL driver software support package
See accessories documentation for additional information.

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