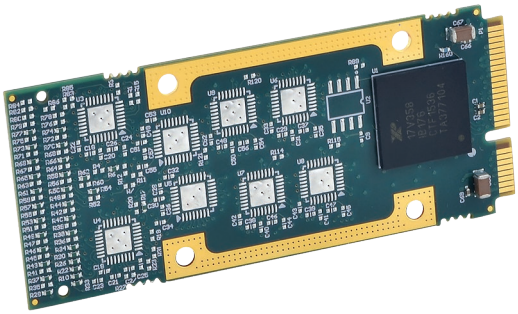
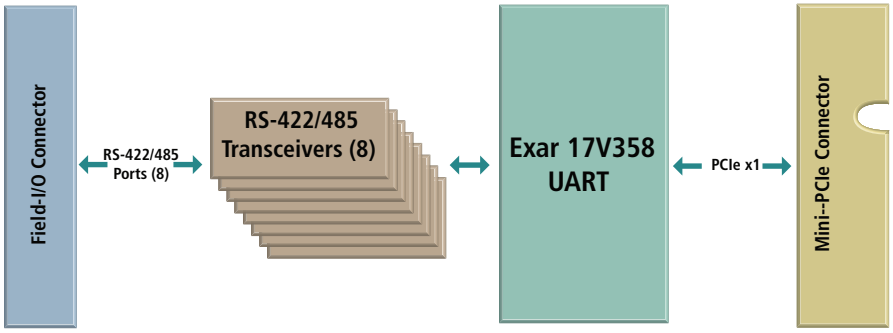
AcroPack® Modules

AP500 Series Communication

CE 2 YEAR WARRANTY RoHS Compliant





Eight RS422/485 serial ports ◆ Extended Temperature ◆ PCIe Bus Interface

Description

Model: AP522E-LF

The AcroPack® product line updates our popular Industry Pack I/O modules with a PCIe interface format. This tech-refresh design offers a compact size, low-cost I/O, the same functionality and memory map of the existing Industry Pack modules and a rugged form factor.

These modules provide eight asynchronous serial communication ports from a single AP carrier slot for a high-densigy solution. Software-configuration helps you quickly set baud rates, character-sizes, stop bits, and parity.

For more efficient data processing, each serial port is equipped with 256-character FIFO buffers on the transmit and receive lines.

The data ports generate individually controlled transmit, receive, line status, data set, and flow control interrupts. All interrupts can be read from a single register.

The AP522 series modules are 70mm long, this is 19.05mm longer than the full length mini PCIe card at 50.95mm. The board's width is the same as mPCIe board of 30mm and they use the same mPCIe standard board hold down standoff and screw keep out areas.

A down facing 100 pin Samtec connector will mate with the carrier card. Fifty of these signals are available as field I/O signals. Pin spacing and signal assignments will allow for 100V of signal to signal isolation.

The AP522 series maintains the same functionality and memory map of the existing Industry Pack modules providing a smooth transition to the AcroPack I/O modules.

Key Features & Benefits

- Eight asynchronous, full duplex RS422B serial ports (supports RS485)
- 256-byte transmit FIFO buffers
  256-byte receive FIFO buffers
- Programmable baud rate (up to 20Mbps)
- Individual handshake lines (RTS, CTS) on each channel
- Line-break and false start-bit detection
- Failsafe receivers
- Built-in termination and bias resistors
  Consult factory for no termination
- 16550 compatible register set
- High-density design lowers per-port costs and saves IP carrier card slots for other functions.
- 256-byte FIFO buffers minimize CPU interaction for improved system performance.
- Extended temperatures deliver dependable operation in extreme conditions.

Acromag® THE LEADER IN INDUSTRIAL I/O

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AcroPack® Modules

ISO9001
AS9100
MADE IN USA

Performance Specifications

Serial Ports

Configuration
Independent, non-isolated serial ports with a common single return connection.

Data Rate
20M bits/second, maximum

Max. Cable Length
1200 meters (4000 feet) typical

Character size
5 to 8 bits, software-programmable

Parity
Odd, even, or no parity; software-programmable.

Stop bits
1, 1-1/2, or 2 bits; software-programmable

Data register buffers
256-byte FIFO buffer

Interrupts
Receiver line status (overrun, parity, framing error, or break interrupt); receive/transmit FIFO level reached or character time-out; Xon/Xoff or special character detected.

PCI Express Base Specification

Conforms to revision 2.0

Lanes
1 lane in each direction

Bus Speed
2.5 Gbps (Generation 1)

Memory
8k space required
1 base address register

Environmental

Operating temperature
-40 to 85°C
a conduction cooled application with an AcroPack requires heatsink model AP-CC-01

Storage temperature
-55 to 125°C

Relative humidity
5 to 95% non-condensing

Power
+3.3V (±5%) 150mA typical
+5V (±5%) 40mA typical

Physical

Length
70mm

Width
30mm

Ordering Information

AcroPack® Modules

AP522E-LF
Eight RS422/485 serial ports

(Note: AcroPack modules are compatible only with the carriers listed below)

Accessories

AP-CC-01
Conduction-cool kit

Carrier Cards

See Acromag.com/AcroPack-Carriers for a full list of AcroPack carrier cards.

Software *(see software documentation for details)*

APSW-API-VXW
VxWorks® software support package.

APSW-API-WIN
Windows® DLL driver software support package.

APSW-API-LNX
Linux® support (website download only).

AP-CC-01 Conduction-Cool Kit

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