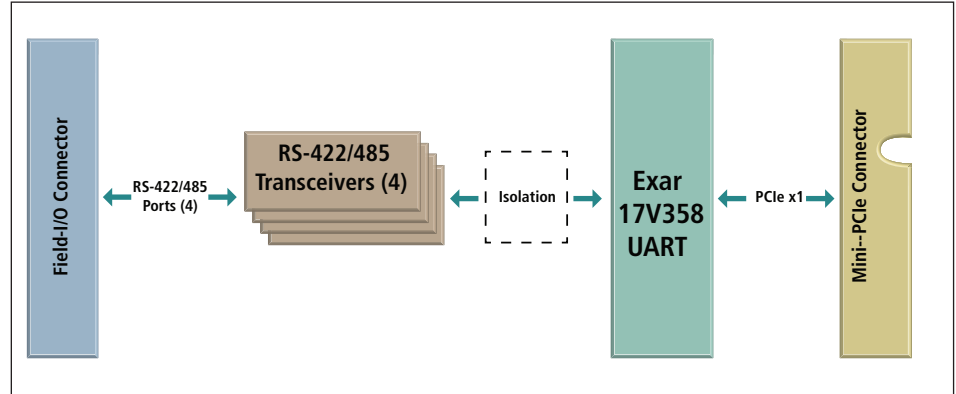
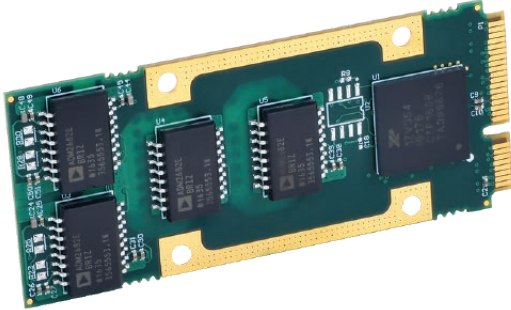


AcroPack® Modules

AP512 Quad Serial RS422/485 Communication



Four RS422/485 serial ports ♦ Extended Temperature ♦ PCIe Bus Interface

Description

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 four asynchronous serial communication ports from a single AP carrier slot for a high-density 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 AP512 series modules are 70mm long. This is 19.05mm longer than the full length mini PCIe card at 50.95mm. The boards 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 mates with the carrier card. Fifty of these pins are available for field I/O signals. Pin spacing and signal assignments will allow for 100V of port to port isolation.

The AP512 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

- Four asynchronous, full duplex RS422B serial ports (supports RS485)
- Ports are isolated to 250V from digital and 100V from each other
- 256-byte transmit FIFO buffers
256-byte receive FIFO buffers
- Programmable baud rate (up to 16Mbps)
- Line-break and false start-bit detection
- Failsafe receivers
- 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.



AP512 Quad Serial RS422/485 Communication

Performance Specifications

Serial Ports

Configuration
Independent, isolated serial ports.

Data Rate
16M 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 70°C
-40 to 85°C
(requires an AcroPack heatsink conduction-cool kit)

Storage temperature
-55 to 125°C

Relative humidity
5 to 95% non-condensing

Power
+3.3V (±5%) 450mA typical

Physical

Length
70mm

Width
30mm

Ordering Information

AcroPack® Modules

[AP512-LF](#)
Four RS422/485 serial ports
(Note: AcroPack modules are compatible only with the carriers listed below)

Accessories

[AP-CC-01](#)
Conduction-cool kit

Carrier Cards

[APCe7010E-LF](#)
PCIe AcroPack carrier, holds one AcroPack module, air-cooled.

[APCe7020E-LF](#)
PCIe AcroPack carrier, holds two AcroPack modules, air-cooled.

[APCe7040E-LF](#)
PCIe AcroPack carrier, holds four AcroPack modules, air-cooled.

[VPX4500E-LF](#)
3U VPX AcroPack carrier, holds three AcroPack modules, air-cooled.

[VPX4500-CC-LF](#)
3U VPX AcroPack carrier, holds three AcroPack modules, conduction-cooled.

[XMCAP2020-LF](#)
XMC AcroPack carrier; holds two AcroPack modules, 2-slots out front, air-cooled.

[XMCAP2021-LF](#)
XMC AcroPack carrier; holds two AcroPack modules, 2-slots out rear, air-cooled.

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

ISO9001
AS9100

MADE IN USA

Acromag 
THE LEADER IN INDUSTRIAL I/O

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