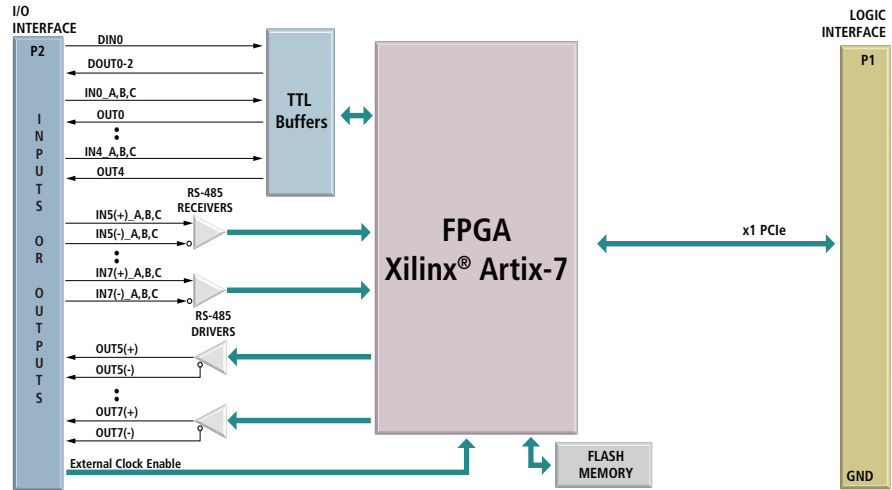
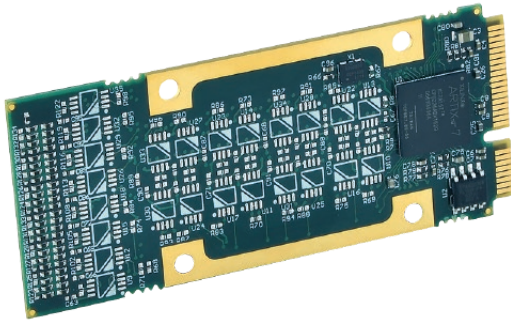


AcroPack[®] Modules

AP483 TTL and RS422/RS485 Counter/Timers



Eight 32-bit Counters ♦ TTL and RS422/RS485 I/O ♦ Wide Temperature Range ♦ PCIe Bus Interface

Description

Model

AP483E-LF: Five 32-bit TTL counters & three 32-bit RS422/RS485 counters

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 IP modules and a rugged form factor. Combine different AcroPack modules on one carrier for a simplified modular approach to system assembly.

Support for internal or external triggering simplifies the synchronization of operations to specific events.

Designed for COTS applications these RS422/RS485 & TTL counter/timers deliver high-speed and high-performance.

AcroPack modules are RoHS compliant and ideal for military, defense, automation, aerospace, scientific, and development labs industries.

The AP483 module is 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.

The AP483 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

- PCI Express Generation 1 interface
- Mix and match countless I/O combinations in a single slot.
- Sample software and diagnostics
- Available with both TTL and RS422/RS485 driver interface
- 62.5MHz clock time base
- Single counter/timer modes:
 - Event counting
 - Frequency measurement
 - Period/pulse-width measurement
 - Quadrature position measurement
 - Square wave/pulse train generation
 - Time/period interrupter
 - Pulse width generation
- Most configuration is handled by a single register which minimizes programming.
- Solid-down connector I/O interface
- Wide temperature range
- PCIe, VPX and XMC carriers
- Linux[®], Windows[®], and VxWorks[®] support



AP483 TTL and RS422/RS485 Counter/Timers

Performance Specifications

Counter/timers

Counter/timer configuration:
AP483: Five 32-bit counters – TTL
Three 32-bit counters – RS422/RS485

Clock frequency
Selectable internal clock frequencies: 1.95MHz, 3.9MHz, 7.81MHz, 15.62MHz, or 62.5MHz.

Minimum input event
32nS.

Minimum pulse measurement
32nS.

Minimum period measurement
64nS.

Minimum gate/trigger pulse
32nS.

Interrupts

Supported for watchdog timer time-out, event count complete, pulse width or periodic rate measurement complete, pulse wave complete (one-shot mode), successive waveform generation (continuous).

Triggering/gate

Programmable via register write or external trigger. Minimum pulse width 32nS. Line may be used for gating of counter.

Counter trigger

Interface for triggering counter functions. Input level is TTL and RS422 differential digital.

Counter input

Interface for events and pulse/period measurements. Also triggers load of watchdog timer register. Level is TTL and RS422 differential digital.

TTL compatibility

$V_{IH} = 2.0V$ and $V_{IL} = 0.8V$. inputs are buffered and include 4.7k pull-ups to +3.3V.

Counter output

Level is TTL and RS422 differential digital.

PCI Express Base Specification

Conforms to revision 2.1

Lanes
1 lane in each direction.

Bus Speed
2.5 Gbps (Generation 1).

Memory
4k 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 150°C.

Relative humidity
5 to 95% non-condensing.

Power
3.3V DC \pm 5%.
1.6A Typical, 2.0A Maxium.

Physical

Length
70mm.

Width
30mm.

Ordering Information

AcroPack® Modules

[AP483E-LF](#)
Five 32-bit TTL and three 32-bit RS422/RS485 counters
(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