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TECHNOLOGY GROUP

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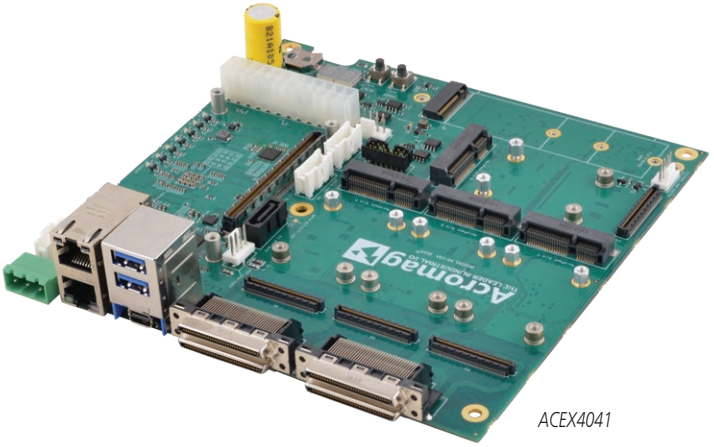
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Find the *Acromag / Xembedded / Xycom ACEX4040* at our website: ***Click HERE***

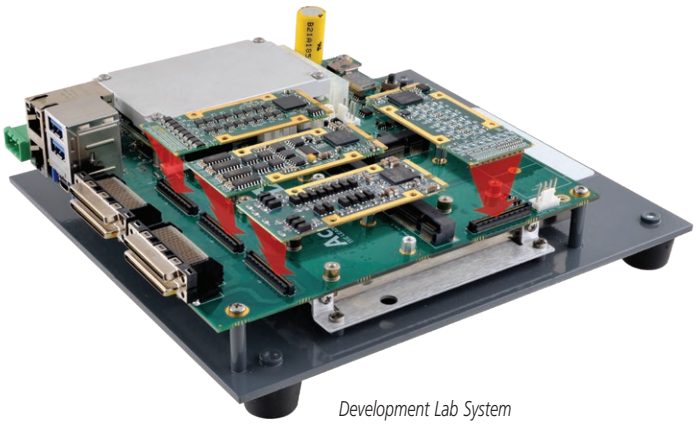
COM Express AcroPack® I/O Carriers

ACEX4040 Carrier for COM Express Type 10 and AcroPack I/O modules

CE 2 YEAR WARRANTY RoHS Compliant



ACEX4041



Development Lab System
AcroPack modules sold separately

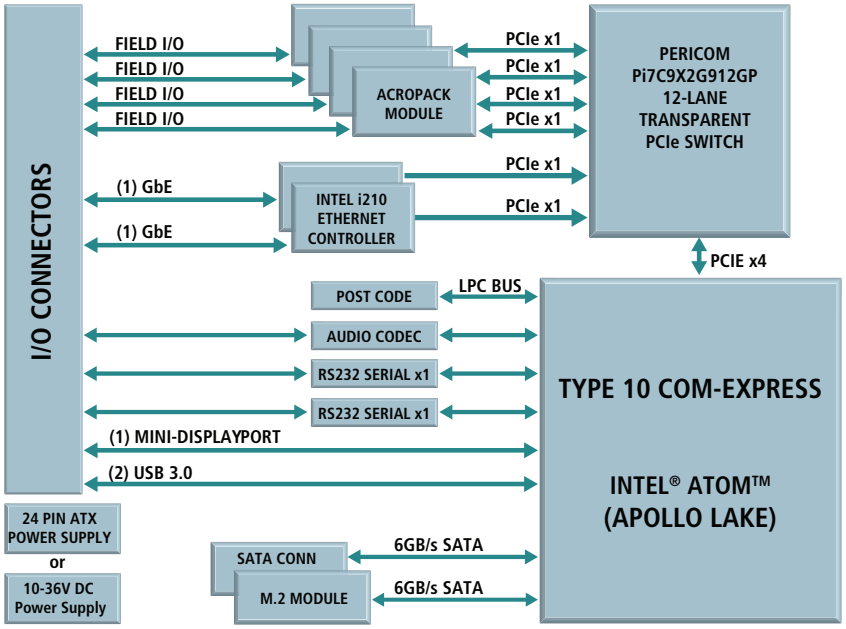
Mini ITX form factor ◆ COM Express Type 10 site ◆ Four I/O expansion slots (AcroPack® or MiniPCIe)

Description

The ACEX4040 carrier card allows you to quickly combine a COM Express Type 10 CPU module with a mix of I/O modules for custom computing applications. With its rugged design and compact Mini-ITX form factor, this carrier card is easily mounted in a variety of enclosures for rapid development. High-density I/O connectors and numerous ports simplify interfacing to field devices and peripherals.

Select from 25+ AcroPack modules to install any combination of analog I/O, digital I/O, serial I/O, communication, and FPGA processor functions.

Designed for use in systems with size, weight, power and cost restrictions (SWaP-C), this carrier card provides a flexible solution for a broad range of signal processing tasks. The COM Express site supports high-performance, low-power Intel Atom CPU modules. The four I/O slots interface Acromag's rugged AcroPack modules or Mini PCIe cards enabling a powerful mix of measurement, control, and communication capabilities. An M.2 slot offers flexible on-board storage while a SATA connector provides additional data storage options.



Key Features & Benefits

- Mini-ITX format for easy mounting
- Support for COM Express Type 10 Intel Atom CPU (Apollo Lake)
- Four AcroPack / mini PCIe slots for field I/O
  - A/D and D/A analog I/O
  - Digital I/O and counter/timers
  - Serial communication
  - Ethernet communication
  - CANbus communication
  - Mil-STD 1553 and ARINC 429
  - FPGA signal processing
  - Many more
  - Ports available
    - Four field I/O 68-pin CHAMP
    - Two GbE RJ45 ports
    - Mini-DisplayPort
    - Two USB 3.0 ports
    - Two COM RS232 ports
- One M.2 site
- One SATA connector
- -40 to 85°C extended temperature range
- Redundant auto-switch power capability using ATX and 10-36V DC power supplies

Acromag® THE LEADER IN INDUSTRIAL I/O

Tel 844-878-2352 ■ solutions@acromag.com ■ www.acromag.com ■ 30765 Wixom Rd, Wixom, MI 48393 USA

Bulletin #8400-989b

COM Express AcroPack® I/O Carriers

Performance Specifications

Processor Interface

Compatibility
Provides an electrical and mechanical interface for an industry standard COM Express Type 10 Mini (55mm x 84mm) CPU module.

CPU module must have four PCIe lanes configured as an x4 port for optimal performance.

CPU Option
Intel® Atom™ E3950 quad-core, 1x4 PCIe configuration, 1.6/2.0GHz (Turbo) , 4GB RAM, 12W.

Interface
COM Express module provides CPU, memory, PCIe bus, SATA, USB, serial communication, graphics, and other computing functions.

PCIe Switch
9-port 12-lane PCIe Gen 2 switch expands the single host PCIe x4 port to 6 independent x1 ports (one for each AcroPack site and one for each Ethernet controller).

I/O Interfaces

AcroPack / Mini PCIe Expansion I/O
Four slots for plug-in I/O modules. Two isolated slots. Field I/O routed to 68-pin VHDCI connectors.

Ethernet Interfaces
Two Intel i210 Gigabit Ethernet Controllers. Two RJ-45 ports supporting 10/100/1000BASE-T.

Data Storage
M.2: Expansion site supports SATA III devices, speeds up to 6Gb/s. Accepts 2242, 2260 and 2280 SSD Socket 2/3 (mechanical Key B/M) modules.

SATA: Data and power connectors for use of a Solid-State Disk Drive. Supports SATA III devices, speeds up to 6Gb/s.

Serial Communication
Two ports with standard UART (RX/TX) RS-232 signal levels.

USB
Two USB 3.0 ports with speeds up to 5Gb/s.

Audio
Realtek HD Audio CODEC with line in / line out.

Video
Mini DisplayPort for high-resolution graphics.

JTAG
14-pin Xilinx JTAG header for programming and debugging FPGA AcroPack modules.

Electrical / Mechanical

Form Factor
Mini-ITX form factor.

Size: 6.692 x 6.692 inches (170 x 170mm).
Weight: .6.698 oz. (189.9 g).

PCI Express
Complies with PCI Express Specification, Rev. 2.1.

PICMG
Complies with PICMG COM Express COM.0 Specification Rev. 3.0. Conforms to COM Express Carrier Design Guide Rev. 2.0.

Power Requirement
Accepts powered from a standard 24-pin ATX power supply or a 10-36V DC power supply. Carrier will auto-switch between power sources.

+3.3 Volts (±5 %) 0.383A, typical.
+12 Volts (±8 %) 0.175A, typical.

Fuses
Individually fused +1.5V, +3.3V, +5V, +12V, and -12V DC power.

Environmental

Temperature Range
Operation: -40 to 85°C (200 lfm airflow min.)
Storage: -55 to 125°C.

Relative Humidity
5 to 95% non-condensing.

Shock, Operating
Designed to comply with IEC 60068-2-27. 30G, 11ms half sine, 50G, 3mS half sine, 18 shocks at 6 orientations for both test levels.

Vibration, Operating
Sinusoidal: Designed to comply with IEC 60068-2-6. 10-500Hz, 5G, 2 Hours/axis.

Random: Designed to comply with IEC 60068-2-64. 10-500Hz, 5G-rms, 2 Hours/axis.

Certifications
CE compliant.

Coating / Sealant
Conformal coating available on request.

MTBF
According to MIL-HDBK-217 FN2, GBGC.

25°C: Contact factory.
40°C: Contact factory.

Software Support

Operating Systems
AcroPack series products require support drivers specific to your operating system. Supported operating systems include Linux®, Windows®, and VxWorks®.

Power ON Self-Test (POST)
POST codes output to 2-digit LED for debugging.

Ordering Information

Carrier Boards

ACEX4041: Mini-ITX carrier board for COM Express Type 10 CPU and AcroPack modules

ACEX4041-2000: Mini-ITX carrier board with COM Express Type 10 Intel Atom E3950-4G CPU

DLS4041-2110: Development Lab System includes ACEX4041 mounted on a panel and populated with Type 10 CPU module, 500GB M.2 module, and 500GB 2.5" SSD

Accessories

For more information, see www.acromag.com.

5025-288: Termination panel, DIN-rail mountable, SCSI-3 connector, 68 screw terminals

5028-420: Round cable, shielded, male SCSI-3 connector to 68-pin CHAMP. 0.8mm, 2 meters long

5028-615: Cable, 68-pin CHAMP to pigtail, 36 inches long

5028-616: Cable, 68-pin CHAMP to pigtail, 70 inches long

5028-617: Audio cable

5028-618: Serial COM cable

5028-622: ACEX4041 long finned CPU heatsink

5028-623: ACEX4041 short finned CPU heatsink

5028-624: ACEX4041 CPU heatsink with fan

5028-628: ACEX4041 Cable shutdown

5028-629: I/O panel with overlay

Software

See software documentation for details.

APSW-API-LNX: Linux support (website download only)

APSW-API-VXW: VxWorks software support package

APSW-API-WIN: Windows DLL driver software support pkg

ISO9001
AS9100
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Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

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