



Embedded Solutions
SMARTER BY DESIGN®

**BIG PERFORMANCE
SMALL PACKAGE**



Compact Embedded Computers

- Availability up to 15 years
- Heavy Duty Construction
- Wide Operating Temperature
- Optimized for Size, Weight and Power

The IPC Story

ADLES Industrial Computers

Built with the latest rugged, industrial IoT, and cyber security needs in mind, ADLES has created a family of fanless, industrial PC solutions that meet the performance and size requirements of a multitude of IIoT applications from secure networking and network traffic monitoring to ICS/SCADA cyberthreat security of high-value infrastructure.

INDUSTRIAL IIOT CHALLENGES

Modern industrial IoT solutions must contend not only with operation in non-benign environments far away from the factory floor (ICS/SCADA for Oil and Gas, Wind Farms, power sub-stations, refineries, and chemical plants, etc.) while also contending with issues of cyberthreat security and security protocols such as NIST FIPS-140-2, TPM 2.0 functionality, encrypted data storage, and more.



Edge-Connect Architecture

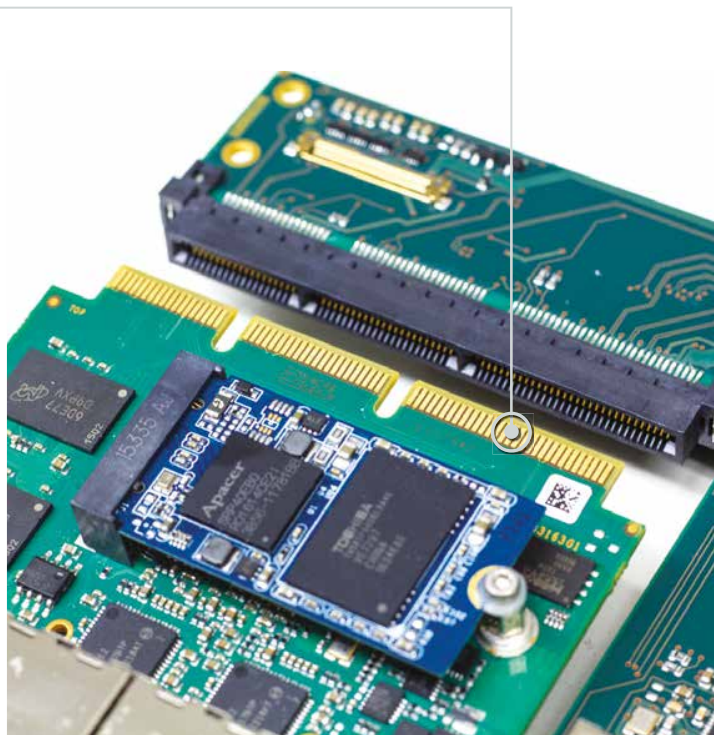
At the heart of ADLES' family of industrial computers is a feature-rich modular edge-connect architecture.

By multiplexing available high-speed PCIe X1 lanes with USB 3.0 and SATA ports, while also providing additional power control, DisplayPort, SMBus, and LED functionality, the edge-connect architecture is optimized for SMALL size, but provides BIG expansion possibilities from low-profile horizontal to small-footprint vertical configurations.

Low Profile Horizontal Expansion



Small Footprint Vertical Expansion



Feature	GENERAL EDGE-CONNECT ARCHITECTURE
PCIe	Up to 8x PCIe 2.0 x1 lanes (multiplexed with USB 3.0 and SATA)
SATA	Up to 4x SATA
USB	Up to 4x USB 2.0/3.0
Other I/O	SMBus; 1-Wire Interface for Configuration Management; 8bit GPIO/LED/Activity
Video	Up to 2x DisplayPort
Power Pins	5V/GND Pins from CPU can be powered by mezzanine for custom power requirements.
Power Control	PSON; PWRBTN#, PGOOD

HOW ADL EDGE-CONNECT ENHANCE THE ADLEPC-1520	
Dimensions/Weight	58mm x 86mm x 94mm (2.3" x 3.4" x 3.7") Weight <= 700gm (1.5 lb.)
Processor	Intel E3800-Series Atom
I/O (onboard)	2x Gb/s LAN (RJ45); 1x USB 2.0, 1x USB 3.0, 1x DisplayPort
I/O (Edge-Connect)	2x Gb/s LAN (RJ45), 2x USB 2.0 1x S-UPS (Option)
Storage	total 2x 2242 KeyB M.2 SATA
Power	typical 24VDC (20-30) Optional 9-30, 24-36V
Security	fTPM/TPM 2.0 (Firmware TPM)

Customer Success Story

IIoT Edge Device for ICS Cyber Security

Using the custom ADLEPC-1520 mini industrial PC, ADLES recently used the modular architecture of this compact, fanless PC to create a custom edge device targeting cyberthreat security of US power utility substations.

CUSTOMER BENEFITS

- Compact Size
- Wide Operating Temperature (-40C to 85°C)
- Long-term Availability of 15 years
- Custom Mezzanine to Address GPIO, Wide Input Voltage, LED, and Configuration Switch Requirements
- Expert Design and Engineering Services



CUSTOM ADLEPC-1520
58 x 86 x 94mm

Industrial Embedded Computers

INDUSTRIAL EMBEDDED COMPUTER FEATURES:

- **Processor:** Intel E3800-Series Atom
- **Power:** 20-30VDC
- **Operating Temperature:** -20 to +60°C; Optional Extended Temp
- **Security:** fTPM/TPM 2.0 (Firmware TPM)



Feature	ADLEPC-1500	ADLEPC-1520
Dimensions/Weight	33 x 86 x 81mm (1.3"x 3.4"x 3.2") Weight <= 350gm (12.3oz)	58 x 86 x 94mm (2.3" x 3.4" x 3.7") Weight <= 700gm (1.5 lb.)
I/O	2x Gb/s LAN (RJ45); 1x USB 2.0, USB 3.0, 1x DP	2x Gb/s LAN (RJ45); 1x USB 2.0, 3.0, 1x DP
Expansion	1x internal USB WiFi (802.11 b/g/n, AR9271)	Standard Expansion 2 Gb/s LAN, 2x USB Custom Expansion 2x PCIe X1; 2x USB; 1x SATA
Storage	1x 2242 KeyB M.2 SATA	1x 2242 KeyB M.2 SATA at CPU-Board 1x 2242 KeyB M.2 SATA at Standard Expansion



Feature	ADLEPC-1600	ADLEPC-1600E
Dimensions/Weight	41 x 162 x 122 mm (1.6" x 6.4" x 4.8")	41 x 162 x 122mm (1.6" x 6.4" x 4.8")
I/O	3x Gb/s LAN (RJ45); 4x USB 2.0; 1x DVI (1920x1080@60Hz; VGA/CRT)	4x Gb/s LAN (RJ45), 1x USB3.0, 1x USB2.0, 1x DP (4k@30Hz), 1xCOM (RS232)
Expansion	1x 2280 KeyB M.2 with PCIe X1 and USB 2.0	Standard Expansion ADLSEC-1710 Custom Expansion upon request
Storage	1x 2242 KeyB M.2 SATA	1x 2242 KeyB M.2 SATA

Industrial Single Board Computers

ADLES offers a wide variety of compact, industrial-grade SBCs ranging from low-power Atom boards to high-performance Intel Core SBCs intended for a host of rugged industrial and IIoT applications.

FEATURES:

- Compact
- Industrial-Grade
- Long-Lived
- Wide Operating Temperature



EDGE CONNECT	PC/104	3.5" SBC	EDGE-CONNECT
75mm x 75mm	95mm x 96mm	102mm x 147mm	120mm x 120mm

The Expansion Story

Compact, Industrial-Grade IIoT Solutions

Built on a legacy of small form factor (SFF) rugged embedded designs, the ADL Embedded Solutions, Inc. new family of rugged, industrial PCs enables a host of new industrial IIoT applications. They are designed to provide compact, rugged, wide-temperature, secure hardware solutions with long-lived availability up to 15 years!



WORLD-CLASS DESIGN AND ENGINEERING

ADLES designers and engineers are well-versed at designing hardware solutions that meet these needs with a foundation of SFF CPU boards, -40C to 85C designs, 7-15 year available processors, custom BIOS and firmware services, as well as turnkey system and chassis design services.

ST 430

Contact Us

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TECHNOLOGY STANDARDS & CERTIFICATIONS



Industrial PCs for ICS / SCADA

