





- Powerful
- Rugged
- Small
- Low Power
- Fanless
- IoT Support
- Professional Services

Features

Powerful - Powered by Intel Atom E39xx CPU: two and four core configurations, up to 1.6GHz (2.0GHz burst)

Rugged - Supporting wide operating temperature (-40 to +85°C), conformal coating options, soldered CPLLECC RAM an

Rugged - Supporting wide operating temperature (-40 to +85°C), conformal coating options, soldered CPU, ECC RAM and flash storage

Small - Compliant with PICMG COM Express R2.1, with a 84x55mm (Mini) form factor and a Type 10 pinout

Low Power - Enabling fanless designs with a CPU TDP starting from 6W

IoT Support - Core support for IoT, including IoT middleware and access to Eurotech IoT Integration Platform

Professional Services - Cuts Time-To-Market with Eurotech Design Services, which include deep module customization, BIOS personalization, carrier board and system design and production

Description

The CPU-163-16 is a rugged COM Express module designed to meet the requirements for Industrial, Transportation and Defense rugged fanless applications.

Compliant with PICMG COM Express[®] R2.1, Type 10, the CPU-163-16 is a Mini (84x55mm) form factor module based on the Intel Atom E3900 processor family with 2 and 4 cores, up to 8GB ECC RAM and up to 64GB eMMC.

Other features include high speed interfaces: one Gbit Ethernet, two SATA 3.0, two USB 3.0 and eight USB 2.0, four PCle x1 Gen 3, one LVDS and one DDI (supporting HDMI, DVI and DP).

The CPU-163-16 features soldered down ECC memory and flash storage, making it the ideal hardware platform for applications requiring long life cycle, resistance to vibration and reliable data retention, even in extended temperature.

Supported Operating Systems include Linux and Windows 10 IoT Enterprise. The CPU-163-16 is also an ideal building block for IoT projects, supporting core Everyware Software Framework (ESF) capabilities. ESF is a commercial, enterprise-ready edition of Eclipse Kura, the open source Java/OSGi middleware for IoT gateways. Full porting of ESF on the customer carrier is available as a Professional Service.

Distributed and supported by Eurotech, ESF delivers ready-to-use Field protocols (including Modbus, OPC-UA, S7), MQTT connectivity, web-based visual data flow programming and deep configuration. ESF is also integrated with Everyware Cloud (EC), Eurotech IoT Integration Platform (separately available), enabling advanced diagnostics, provisioning, and full remote device access and management.

Professional Services are available for the CPU-163-16, starting from BIOS personalization and including carrier board design, system development and production. Deep module customization, such as feature changes are also available to select customers.



Rugged Fanless COM Express Mini Type 10 - Intel Atom E3900 Series

Ordering code: CPU-163-16-XX								
xx		-01	-02	-03	-04	-05	-06	
PROCESSOR	CPU	Intel Atom x5-E3930 1.30/1.80GHz, 2 Intel Atom x5-E3940 1.60/1.80GHz, 4 Cores E3950				1.60/2.00GHz, 4		
BIOS	Туре	AMIBIOS						
	Size	128Mbit SPI BIOS (UEFI Boot Only)						
MEMORY	RAM	4GB 1600MHz DDR3L	8GB 1600MHz DDR3L	4GB 1600MHz DDR3L	8GB 1600MHz DDR3L	8GB 1600MHz DDR3L	8GB 1600MHz DDR3L	
	ECC	No	Yes	1	Yes		'es	
STORAGE	Embedded Storage	16GB eMMC	32GB eMMC	16GB eMMC	32GB	eMMC	64GB eMMC	
	SATA	2x SATA 3.0						
I/O INTERFACES	Ethernet	1x 10/100/1000Mbps						
	USB	2x USB 3.0, 8x USB 2.0						
	Serial	2x Serial (TX/RX)						
	Digital IO	Standard Configuration: 1x SDIO (Factory Option: 8x GPIO)						
	Video	Dual Display: DDI + LVDS or DDI + sDP; 1x DDI (HDMI, DVI, DP); 1x LVDS/eDP; HDMI/DVI: Resolution up to 3840x2160@30Hz; DP++: Resolution up to 4096x2160@60Hz; eDP++: Resolution up to 3840x2160@60Hz; LVDS: 24bit, Single Channel, Resolution up to 1366x768@60Hz; Hardware Decode: HEVC/H.265, VP8, VP9, MVC, AVC/H.264, MPEG2, VC1, WMV9, JPEG/MJPEG; Hardware Encode: HEVC/H.265, VP8, VP9, MVC, AVC/H.264, JPEG/MJPEG; Support for: OpenGL, DirectX, OpenCL						
	Audio	High Definition Audio Interface						
	PCI Express	4x (PCle x1 Gen 2)						
	LPC	Yes						
	12C	Yes						
	SPI	Yes						
	SMBus	Yes						
OTHER	RTC	Yes						
	Watchdog	Software Programmable (From 1 to 255s)						
	TPM	No						
	Conformal Coating	Factory Option						
POWER	Power Input	4.75V~20V, 5VSB, VCC_RTC (ATX Mode); 4.75V~20V, VCC_RTC (AT Mode)						
	Power Consumption	6.5W C	PU TDP		9.5W CPU TDP		12W CPU TDP	
ENVIRONMENT	Operating Temperature	- 40 to + 85°C						
	Storage Temperature	- 40 to +85°C						
	Humidity	5% to 90%RH						
CERTIFICATIONS	Compliance	PICMG COM Express® R2.1, Type 10						
	Environmental	RoHS3						
MECHANICAL	Dimensions	COM Express Mini 84mm (3.30") x 55mm (2.16")						

Software Software						
SOFTWARE	OS	Eurotech Everyware Linux; Windows 10 IoT Enterprise 64bit; Carrier support and Porting: Professional Service				
	IoT Framework	Professional service: Everyware Software Framework (Java/OSGi)				

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