CPU-161-18

COM Express Compact Type 6 - Rugged Intel Xeon D

- **HPEC and Microserver Ready**
- **Intel® Xeon® D-1500**
- **Hybrid RAM Architecture**
- **Compact Size with PCIe x16**
- **Rugged and Fanless**
- **Customizable**
- **Professional Services**

Features

HPEC and Microserver Ready - Combines computational power with a rugged design to enable High Performance applications even in-the-field
Powerful - Supports the latest generation of embedded Intel Pentium and Xeon D-1500 CPUs to deliver a server-class module
Hybrid RAM Architecture - Innovates by offering the reliability of soldered-down RAM and the expandability of SO-DIMMs
Compact Size with PCIe x16 Port - Complies with COM Express Type 6 Rev 2.1, including support for a PCIe x16 port
Rugged and Fanless - Allows robust, fanless designs thanks to 100% soldered-down components and with a range of energy efficient CPUs
Customizable - Comes with optional personalization and full customization services, ranging from factory options to deep HW/SW configuration changes
Professional Services - Provides the foundation for Eurotech Professional Services that span from carrier board development to complete system design, certification and manufacturing

Description

The CPU-161-18 is a COM Express module that combines a high performance and truly embedded CPU with an innovative hybrid RAM architecture that offers the ruggedness of soldered memory and the expandability of SO-DIMMs. The standard configuration provides 8GB of memory soldered directly on the PCB and supports up to 24GB DDR4 RAM with ECC error correction through a SO-DIMM slot, targeting use cases where extreme ruggedness is required, and those that need a large memory.
The CPU-161-18 can be configured with any member of the Xeon/Pentium D-1500 family; standard versions support extended temperature CPUs, such as the Pentium D-1519 and the Xeon D-1559, closing the gap between traditional embedded applications and servers.
Compatible with existing Type 6 carrier boards, the CPU-161-18 is a headless unit that provides a fast upgrade path to existing projects and that allows the creation of new high-performance ones: a notable feature of this Compact size module is the availability of a x16 PCIe Gen 3 port in addition to the x8 one, a characteristic that is more commonly found only on larger modules; other features include: Gigabit Ethernet, four SATA 3.0 ports, four USB 3.0 and seven USB 2.0 interfaces.
Supported operating systems include Yocto Linux and CentOS; moreover, the CPU-161-18 supports Everyware Software Framework (ESF), a commercial, enterprise-ready edition of Eclipse Kura, the open source Java/OSGi middleware for IoT gateways.
Professional Services are available for the CPU-161-18, starting from BIOS personalization and including carrier board design, system development and production. Deep module customization, such as feature changes are also available.

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Ordering code: CPU-161-18-XX

XX		-05	-06	-07	-08
PROCESSOR	CPU	Pentium D1519 1.50GHz, 4 Cores	Xeon D-1529 1.30GHz, 4 Cores (IEC 61508 Safety Integrity Compliant)	Xeon D-1539 1.60GHz, 8 Cores	Xeon D-1559 1.50GHz, 12 Cores
MEMORY	On-board	8GB DDR4 ECC Memory Down (2133-2400MT/s)			
	On-socket	1x DDR4 ECC SODIMM up to 16GB			
STORAGE	Embedded	2x SPI-Flash (16MB + 32MB), 1x EEPROM (8kB)			
	SATA	4x SATA 3.0 (up to 6Gb/s)	2x SATA 3.0 (up to 6Gb/s)	4x SATA 3.0 (up to 6Gb/s)	
	RAID	Factory Option			
I/O INTERFACES	Ethernet	1x 10/100/1000Mbps			
	USB	4x USB 3.0, 7x USB 2.0 (EHCI Supported)	7x USB 2.0 (EHCI Supported)	4x USB 3.0, 7x USB 2.0 (EHCI Supported)	
	Serial	2x UART (TX/RX)			
	Digital I/O	1x 8bit Digital I/O			
	PCI Express	1x PCIe x16 (Gen 3), 4x PCIe x1 (Gen 2), 1x PCIe x4 (Gen 2) – Non-transparent bridge or Transparent bridge (Switchable)	1x PCIe x16 (Gen 2) – Non-transparent bridge or Transparent bridge (Switchable)	1x PCIe x16 (Gen 3), 4x PCIe x1 (Gen 2), 1x PCIe x4 (Gen 2) – Non-transparent bridge or Transparent bridge (Switchable)	
	LPC	Yes			
	I2C	Yes			
	SMBus	Yes			
OTHER	RTC	Yes			
	Watchdog	Yes			
	Security	Intel AES-NI, Intel Secure Key			
	Sensors	Temperature Sensor			
POWER	Input	12V, 5VSBY, 3V_RTC			
	Consumption	25W (CPU TDP)	20W (CPU TDP)	35W (CPU TDP)	45W (CPU TDP)
ENVIRONMENT	Operating Temp	- 40 to +85°C			
	Storage Temp	- 40 to +85°C			
	Humidity	35% to 85%			
CERTIFICATIONS	Environmental	RoHS (2011/65/EU)			
	Compliance	PICMG COM Express R2.1, Type 6			
MECHANICAL	Dimensions	95x95mm (LxW) - COM Express Compact			

Supported Software

SOFTWARE	OS	Eurotech Everyware Linux, CentOS 7 (Professional Services: Windows 10 IoT Enterprise, Fedora, Other Linux and RTOS)
	IoT Framework	Everyware Software Framework (Java/OSGi)