



- 6th Gen Intel® Core™
- COM Express® Basic Type 6
- QM170 Chipset, 16+8 PCIe Lanes
- Extended Temperature
- Fanless
- Customization Options
- IoT Middleware and Platform

## Features

**Powerful** - Comes with 6th Gen Intel Core CPUs: Core i7, i5, i3 and Celeron dual and quad core configurations, up to 2.8GHz (3.5GHz burst)

**Small** - Complies with PICMG COM Express R2.1, with a 95x125 (Basic) form factor and a Type 6 pinout

**Rich** - Includes the QM170 chipset, delivering multiple interfaces, including three independent video ports, 16+8 PCIe lanes, four SATA interfaces with RAID and much more

**Rugged** - Supports wide operating temperature (-40 to +85°C) and conformal coating options

**Low Power** - Enables fanless designs with DDR4 and a CPU TDP of only 25W

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

**IoT Native** - Provides native support for IoT, including IoT middleware and access to Eurotech IoT Integration Platform

## Description

The CPU-162-22 is a rugged COM Express module designed to deliver intense computation while meeting the requirements for industrial and rugged fanless applications.

Compliant with PICMG COM Express R2.1, Type 6, the CPU-162-22 is a 95x125mm (Basic) form factor module based on the 6th Generation Intel Core processor family (i7, i5, i3 and Celeron), up to four cores and up to 32GB SO-DIMM RAM.

Other features include high speed interfaces: one Gbit Ethernet, four SATA 3.0 with RAID support, four USB 3.0 and eight USB 2.0, eight and sixteen PCIe Gen 3 lanes, and three independent video ports (LVDS, VGA and DDI supporting up to 4096x2304@60Hz).

The CPU-162-22 is a solid building block for projects where reliability in harsh conditions is mandatory, and long term availability is a must, thanks to an operating temperature of -40 to +85°C, support for RAID 0/1/5/10, optional conformal coating and long term support/lifecycle programs.

Supported operating systems include Windows 10 IoT Enterprise and Linux; moreover, the CPU-162-22 supports [Everyware Software Framework \(ESF\)](#), a commercial, enterprise-ready edition of Eclipse Kura, the open source Java/ OSGi middleware for [IoT gateways](#).

Distributed and supported by Eurotech, ESF adds advanced security, diagnostics, provisioning, remote access and full integration with [Everyware Cloud \(EC\)](#), [Eurotech IoT Integration Platform](#) (separately available).

Professional Services are available for the CPU-162-22, starting from BIOS personalization and including carrier board design, system development and production. Deep module customization, such as feature changes are also available.

### Ordering code: CPU-162-22-XX

XX		- 01	- 02	- 03
<b>PROCESSOR</b>	CPU	Celeron G3902E 1.6GHz, 2 Cores	Core i5 6442EQ 1.9GHz (2.7GHz), 4 Cores	Core i7 6822EQ 2.0GHz (2.8GHz), 4 Cores
<b>BIOS</b>	Type	Insyde		
	Size	SPI 128Mbit		
<b>MEMORY</b>	RAM	2x SODIMM Sockets - Up to 32GB DDR4 2133MHz - Dual Channel		
<b>STORAGE</b>	SATA	4x SATA 3.0 (up to 6Gb/s)		
	RAID	RAID 0/1/5/10		
<b>I/O INTERFACES</b>	Ethernet	1x 10/100/1000Mbps (iAMT Support)		
	USB	4x USB 3.0, 8x USB 2.0		
	Serial	2x Serial (TX/RX)		
	Digital I/O	8x DI/O		
	Video	Intel HD Graphics, Triple Independent Displays: 1x VGA (up to 2560x1600 @60Hz), 1x LVDS (up to 1920x1200 @60Hz, Dual Channel, 24 bit), 1x DDI (HDMI: up to 4096x2160 @60Hz / 2560x1600 @60Hz - DP++: up to 4096x2304 @60Hz)		
	Audio	HD Audio		
	PCI Express	1x PCIe x16 or 2x PCIe x8 (Gen 3) – 8x PCIe x1 or 2x PCIe x4 or 4x PCIe x2 (Gen 3)		
	LPC	Yes		
	I2C	Yes		
	SMBus	Yes		
<b>OTHER</b>	RTC	Yes		
	Watchdog	Software Programmable (From 1 to 255s)		
	TPM	Factory Option		
<b>POWER</b>	Input	12V, 5VSB, VCC_RTC (ATX Mode) – 12V, VCC_RTC (AT Mode)		
	Consumption	25W (CPU TDP)		
<b>ENVIRONMENT</b>	Operating Temp	- 40 to +85°C (Temperature Screened)		
	Storage Temp	- 40 to +85°C		
<b>CERTIFICATIONS</b>	Environmental	RoHS2, REACH		
	Compliance	PICMG COM Express R2.1, Type 6		
<b>MECHANICAL</b>	Dimensions	95x125mm (LxW) - COM Express Basic		

### Supported Software

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