

## Features

### Performance for Industrial IoT Applications

- Intel Atom™ (formerly Bay Trail-I) E3825 1.33GHz Dual-Core Processor
- Soldered 2 GB DDR3L System RAM

### Connectivity and I/O for Embedded Systems

- Gigabit Ethernet
- 1x USB 3.1 Gen 1
- 2x USB 2.0
- 1x Serial Port
- 4x Digital Inputs
- 4x Digital Outputs
- Audio

### Optimized for Small Form Factor Designs

- -20°C to +85°C Operating Temperature Range
- Femto-ITX Form Factor (84 x 55 mm)
- Power Input +5 V DC

### Fast Graphics at High Resolutions

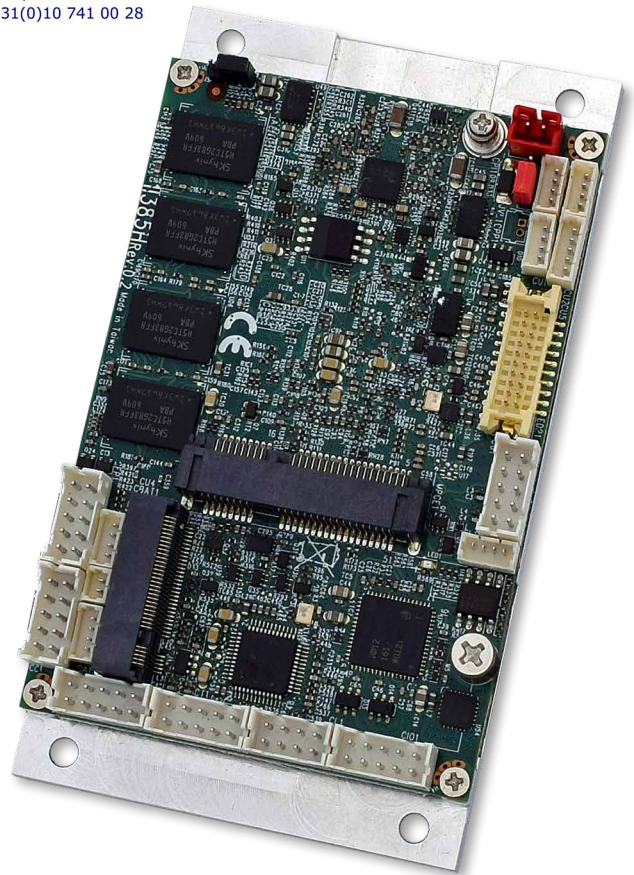
- Intel Low Power Gen7 Graphics Engine
- Full-HD and 3D Graphics acceleration
- VGA and embedded DisplayPort (eDP) Outputs

### Expansion Options

- One Full PCIe Mini Card/mSATA slot
- One M.2 (B Key for SSD, type 2242) slot



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## Product Description

WinSystems' tiny ITX-F-3825 Series single board computers pack an impressive feature set into an ultra-small form factor Femto-ITX design at just 84mm x 55mm. This SBC is based on Intel's E3825 processor which provides CPU and graphics performance. The ITX-F-3825 is a perfect fit for applications that require a very small form factor SBC such as UAV, medical, robotics, and digital signage.

The integrated Bay Trail-I platform offers superb performance and product longevity. Available with an Intel E3825 1.33 GHz Dual-Core CPU, the integrated chipset and graphics engines provide the processing power and graphics capabilities for demanding embedded and IoT applications. The ITX-F-3825 includes 2G DDR3L SDRAM soldered down to the board with data transfer rate of 1066MHz.

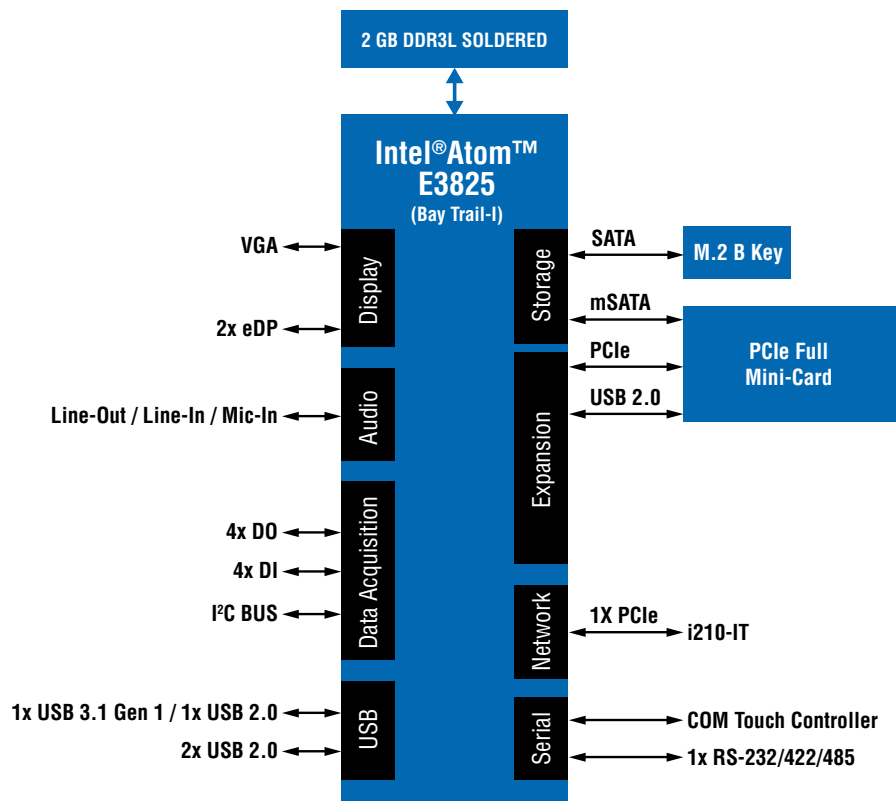
Intel's 7th generation (Gen 7) graphics and media encode/decode engine supports DirectX 11, OpenGL 3.0 (OGL 3.0), OpenCL 1.2 (OCL 1.2), OpenGLES 2.0 and multiple display support. The graphics engine along with eDisplay output and on-board touch screen controller make the ITX-F-3825 a great choice for small Human Machine Interface (HMI) applications.

Despite the incredible small size of the ITX-F-3825, it has a robust I/O set offering a complete single board computer solution. It includes a 10/100/1000 Ethernet controller based on the Intel i210 family. 1x USB 3.1 Gen 1 and 2x USB 2.0 enhanced host ports provide additional functionality and expansion options. Also on-board are a multi-channel RS-232/ 422/ 485 serial port, 4x digital inputs, 4x digital outputs, and a Watchdog timer (WDT).

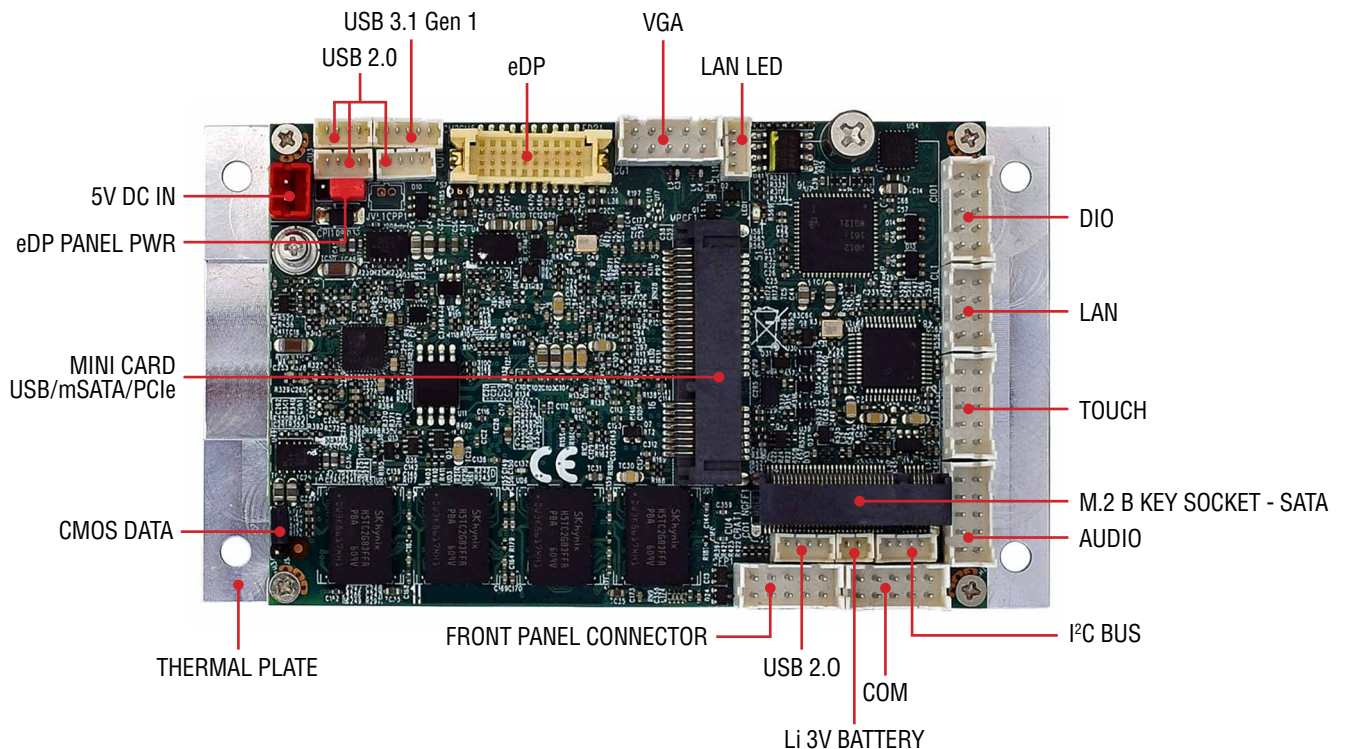
Expansion options for the ITX-F-3825 include one full-size PCIe Mini Card slot and one M.2 B key slot. The full-size PCIe Mini Card slot supports PCIe x1, mSATA and USB interfaces while the M.2 B key provides another SATA based SSD option.

The compact all-in-one ITX-F-3825 single board computer is fully compatible with industry standards featuring technical enhancements for industrial applications and high reliability. It supports Microsoft's Windows 10 variants including Windows 10 IoT Enterprise, and Windows 10 IoT Core, as well as Linux, and real-time operating systems (RTOS).

## Block Diagram



## Connectors



## Technical Specifications

<b>PROCESSOR</b>	<b>ITX-F-3825-2-0</b> Dual-Core Intel E3825 at 1.33 GHz
<b>MEMORY</b>	<ul style="list-style-type: none"> <li>2GB DDR3L 1066 MHz</li> </ul>
<b>STORAGE</b>	<ul style="list-style-type: none"> <li>1x mSATA Mini Card*</li> <li>1x M.2 2242 with B Key for SATA SSD*</li> </ul> <i>*SATA 2.0 ports with Data Transfer rates up to 3.0 Gb/s (300 MB/s)</i>
<b>DISPLAY</b>	<ul style="list-style-type: none"> <li>Intel 7th generation (Gen 7) graphics and media encode/decode engine</li> <li>Dual, simultaneous video output support               <ul style="list-style-type: none"> <li>VGA</li> <li>Embedded DisplayPort (eDP) - eDP header, supports 2 lanes with resolution up to 1920x1080</li> </ul> </li> </ul>
<b>NETWORK INTERFACE</b>	<ul style="list-style-type: none"> <li>One 10/100/1000 Mbps Intel i210-IT Ethernet controller               <ul style="list-style-type: none"> <li>Supports Wake on LAN on both channels</li> <li>Status &amp; Activity LEDs</li> <li>PXE support through BIOS</li> </ul> </li> </ul>
<b>ONBOARD I/O</b>	<ul style="list-style-type: none"> <li>Touch Screen: On board serial touch controller for 4/5/8 wire connections</li> <li>High Definition Audio Codec, Supports Line-out / Mic-in</li> <li>1x RS232/422/485 Serial Port (COM )</li> <li>1x USB 3.1 Gen 1 port</li> <li>2x USB 2.0 ports</li> <li>4x Digital Inputs</li> <li>4x Digital Outputs</li> <li>Watchdog timer adjustable from 1 second to 255 minutes</li> </ul>
<b>EXPANSION BUS</b>	<ul style="list-style-type: none"> <li>1x Full-size Mini-Card slot with Auto Detect PCIe, mSATA, and USB interface</li> <li>1x M.2 2242 with B Key for SATA SSD</li> </ul>
<b>POWER</b>	<ul style="list-style-type: none"> <li>DC-in +5V +/- 5%</li> </ul>
<b>SOFTWARE</b>	<ul style="list-style-type: none"> <li>Insyde UEFI BIOS</li> <li>Supports Windows 10, Windows 10 IoT Enterprise, Windows 10 IoT Core, Linux and real-time operating systems</li> </ul>
<b>ENVIRONMENTAL</b>	<ul style="list-style-type: none"> <li>Operational Temperature -20°C to +85°C</li> <li>Humidity 5 - 95%, non-condensing</li> </ul>
<b>MECHANICAL</b>	<ul style="list-style-type: none"> <li>Dimensions: Femto-ITX (1.8 inch SSD)               <ul style="list-style-type: none"> <li>Length: 3.31 in. (84mm)</li> <li>Width: 2.17 in. (55mm)</li> </ul> </li> </ul>

## Order Information

<b>SBC PART NUMBER</b>	<b>ITX-P-3825-2-0</b> Dual-Core Intel Atom E3825 at 1.33 GHz
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## Expansion and Customization Options

WinSystems provides additional cables, expansion cards, power supplies, and solid state drives to complete your embedded computing solution including data acquisition, communications, location, and other features. Our Application Engineers are available to guide you through product selection and customized options.

**Contact an Application Engineer or visit our website for more information.**