

## C&T's EDGEBoost I/O

### Boosting Flexibility at the Edge

## EDGEBoost I/O

### Boosting Flexibility at the Edge

Implementing a solution at the edge requires very precise specifications to meet the harsh demands that are presented in these environments. From space limitations to remote locations, many functions may be stripped to compensate for power and performance. Users may have to sacrifice I/O in favor of better connectivity at the edge. Increasing demands from rugged edge applications are creating bottlenecks, making it difficult to find the right balance between power and performance.

C&T's EDGEBoost I/O is the perfect solution for those looking to optimize their edge infrastructure. These flexible add-on modules are a modular and scalable solution that is designed to tackle the limitations that may occur at the rugged edge. EDGEBoost I/Os are built to integrate directly into C&T's fanless embedded systems to provide reliable expandability for mission critical I/O. The modules are built with a proprietary design utilizing PCIe communication standards to create a simple, yet versatile solution that can be interchangeable for a fully optimized I/O configuration.

EDGEBoost I/O



Industrial  
Automation



Robotics  
and Motion  
Control



Intelligent  
Gateways



Kiosk  
and Retail



Remote  
Monitoring



Fleet  
Management



Smart  
Agriculture





## Interoperability through PCIe Protocols

C&T's EdgeBoost I/Os are built with a proprietary pin design that allows for simple integration and seamless communication. Through a standard PCIe protocol, our EDGEboost I/O modules easily enable transformative technologies, such as M.2 NVMe storage or AI acceleration, within a C&T system.

Stackable I/O daughterboards through 50x-pin PCIe 3.0 for scalable designs.



## Modular & Scalable for Ultimate Flexibility

Leveraging a modular design to provide enhanced flexibility in compatibility and scalability for IIOT deployments with specialized requirements. EDGEBoost I/Os allow for system integrators and OEMs to pick from a wide variety of options to configure their solution around their specific needs without being limited by fixed on-board I/O.



## Ruggedized for Harsh Environments

Robust engineering allows the EDGEBoost I/O module to survive in the harshest environments right alongside the retrofitted system it is placed within, without sacrificing performance. The module is purpose built to be just as resistant to wide temperatures, humidity, shock and vibration to ensure safe and reliable connectivity.

## Compatibility with EDGEBoost Brackets

Our mechanical engineering design allows EDGEBoost I/O modules to easily fit within C&T's fanless industrial computers that come with available EDGEBoost Brackets. Brackets allow for easy plug and play integration between various I/O options. C&T offers three distinct categories of EDGEBoost I/O modules that are built and optimized for enhanced expandability, power, and performance.

- **Digital & Analog I/O**  
Robust expansion for additional IoT devices, display, and legacy ports.
- **Network & Connectivity**  
Wired network connectivity for ruggedized and streamlined IoT connectivity.
- **Edge AI & Storage**  
The latest in hardware acceleration or high-speed data transfer in M.2 form factor.







## Compatible C&T Industrial Computers

EDGEBoost brackets are found among a selection of C&T industrial computers. These purpose-built brackets enable EDGEboost I/O to integrate easily into a system, providing access to a configurable solution to help meet mission critical requirements at the rugged edge. Discover the full line of compatible C&T products that support EDGEBoost brackets and I/O modules.

### RCO-1000 Series

Fanless Mini Computer



### BCO-1000 Series

Fanless Mini Computer



### RCO-3000 Series

Small Form Factor Computer



### RCO-6000 Series

Rugged, Fanless Embedded Computing



### ACO-6000 Series

In-Vehicle Computers





# EDGEBoost I/O Modules

## ■ Digital & Analog I/O



**EBIO-4U3**

- IoT devices are frequently interconnected via high-speed USB ports. Enhance the onboard I/O capabilities by incorporating an additional 4x USB 3.0, Type-A Ports



**EBIO-4USB**

- Deliver 4 additional USB 2.0 ports for expanded connectivity for IoT devices.
- RCO-1000 & BCO-1000 only



**EBIO-2COM**

- Different applications and deployments may utilize more legacy ports. This EDGEBoost I/O provides an additional 2 COM ports to our ultra-compact industrial computers for expanded IoT connectivity.
- RCO-1000 & BCO-1000 only



**EBIO-DP-DIO**

- Provides ultra-compact industrial computers with support for an additional 4K independent display and DIO connection. DIO enhances automation capabilities and can be programmable to specific operations.
- RCO-1000 & BCO-1000 only



**EBIO-HDMI**

- Enhance immersion and experience with an additional HDMI 2.0 port for FHD experience.
- RCO-1000 & BCO-1000 only



## ■ Connectivity & Network



**EBIO-4ETH**

- Additional peripheral connectivity through 4 LAN ports for IoT devices.



**EBIO-4ETH-POE**

- Additional peripheral connectivity through 4 LAN ports with Power-Over-Ethernet (PoE) capability for IoT devices. Power-over-Ethernet (PoE) provides power and data through a single cable connection for a seamless embedded setup.



**EBIO-4ETH-M12**

- Expand IoT connectivity with 4 additional LAN ports with M12 connectors. M12 connectors provide a locking connection with ingress protection from dust, water, debris, shock and vibration



**EBIO-4ETH-POE-M12**

- Streamline ruggedized IoT connections with 4 Power-over-Ethernet LAN ports in M12 locking connectors. Power-over-Ethernet (PoE) provides power and data through a single cable connection for a seamless embedded setup.



**EBIO-4LAN**

- Provides 4 LAN ports to our industrial computers for additional IoT connectivity.
- This EDGEBoost I/O supports PCIe x1 bandwidth and is only compatible with –KBL series computers.



**EBIO-4LAN-POE**

- Additional peripheral connectivity through 4 LAN ports with Power-Over-Ethernet (PoE) capability for IoT devices. Power-over-Ethernet (PoE) provides power and data through a single cable connection for a seamless embedded setup.
- This EDGEBoost I/O supports PCIe x1 and is only compatible with –KBL series computers.





### EBIO-4LAN-M12

- Expand IoT connectivity with 4 additional LAN ports with M12 connectors. M12 connectors provide a locking connection with ingress protection from dust, water, debris, shock and vibration.
- This EDGEBoost I/O supports PCIe x1 and is only compatible with -KBL series computers.



### EBIO-4LAN-POE-M12

- Streamline ruggedized IoT connections with 4 power-over-ethernet LAN ports in M12 locking connectors.
- This EDGEBoost I/O supports PCIe x1 and is only compatible with -KBL series computers.



### EBIO-D10G

- Deliver data-center class performance to the rugged edge with 10GbE data transfer speeds for real-time data aggregation.

## ■ EDGE AI & Storage



### EBIO-2M2BK

Integrate cutting-edge technologies into our industrial computers with M.2 accelerators. Provided are dual M.2 B-key slots for Edge AI inferencing, NVMe storage, and/or 5G connectivity.



### EBIO-M2MK

Enable unparalleled data transfer speeds or real-time-edge AI inferencing with single-slot M.2 M-Key EDGEBoost I/O.





NEW

# EDGEBoost I/O SERIES

## Digital & Analog I/O



**EBIO-4U3**

- 4x USB 3.0, Type-A Ports
- Occupies 1x EDGEBoost Bracket



**EBIO-4USB**

- Designed for RCO-1000 & BCO-1000 models only
- 4x USB 2.0, Type A Ports (with USB hub)
- 50-Pin High-Speed Connection
- Occupies x1 EDGEBoost Bracket



**EBIO-2COM**

- Designed for RCO-1000 & BCO-1000 models only
- 2x COM Ports
- 50-Pin High-Speed Connection
- Occupies x1 EDGEBoost Bracket



**EBIO-DP-DIO**

- Designed for RCO-1000 & BCO-1000 models only
- 1x DP (4K UHD), 1x DIO (4 in / 4 out, Isolated)
- 50-Pin High-Speed Connection
- Occupies x1 EDGEBoost Bracket



**EBIO-HDMI**

- Designed for RCO-1000 & BCO-1000 models only
- 1x HDMI Port (Full-HD)
- 50-Pin High-Speed Connection
- Occupies x1 EDGEBoost Bracket



**NEW**

# EDGEBoost I/O SERIES

## Connectivity & Network



**EBIO-4ETH**

- 4x RJ45 1GbE LAN Ports
- Intel® Ethernet Controller I350
- PCIe x1 Gold Fingers Interface (PCIe 3.0 x4 Performance)



**EBIO-4ETH-POE**

- 4x RJ45 1GbE PoE Ports
- Support Power over Ethernet (up to 25.5 watt per port)
- Intel® Ethernet Controller I350
- PCIe x1 Gold Fingers Interface (PCIe 3.0 x4 Performance)



**EBIO-4ETH-M12**

- 4x 1GbE LAN M12 Ports
- Intel® Ethernet Controller I350
- PCIe x1 Gold Fingers Interface (PCIe 3.0 x4 Performance)



**EBIO-4ETH-POE-M12**

- 4x 1GbE PoE M12 Ports
- Support Power over Ethernet through optional PoE module (up to 25.5 watt per port)
- Intel® Ethernet Controller I350
- PCIe x1 Gold Fingers Interface (PCIe 3.0 x4 Performance)



**EBIO-4LAN**

- 4x RJ45 1GbE LAN Ports
- Intel® Ethernet Controller I210
- PCIe x1 Gold Fingers Interface (PCIe 3.0 x1 Performance)



**EBIO-4LAN-POE**

- 4x RJ45 1GbE PoE Ports
- Supports Power over Ethernet (up to 25.5 watt per port)
- Intel® Ethernet Controller I210
- PCIe x1 Gold Fingers Interface (PCIe 3.0 x1 Performance)



**EBIO-4LAN-M12**

- 4x 1GbE LAN M12 Ports
- Intel® Ethernet Controller I210
- PCIe x1 Gold Fingers Interface (PCIe 3.0 x1 Performance)



**EBIO-4LAN-POE-M12**

- 4x 1GbE PoE M12 Ports
- Support Power over Ethernet through optional PoE module (up to 25.5 watt per port)
- Intel® Ethernet Controller I210
- PCIe x1 Gold Fingers Interface (PCIe 3.0 x1 Performance)



**EBIO-D10G:**

- 2x 10GbE LAN Ports
- Intel® Ethernet Controller X710-AT2
- PCIe x1 Gold Fingers Interface (PCIe 3.0 x4 Performance)
- Support Power over Ethernet through optional PoE module (up to 25.5 watt per port)



# We Create World-Class Edge Computers For Your Industry-Leading Solutions

NEW

## EDGEBoost I/O SERIES

### EDGE AI & Storage



**EBIO-2M2BK**

- Support 5G/AI/NVMe Module
- 2x M.2 B-Key 2242/3042/3052
- PCIe x1 Gold Fingers Interface (PCIe 3.0 x4 Performance)
- 1x Mini SIM Slot (on-board)
- 1x Dedicated Heatblock
- 3x Antenna Holes



**EBIO-M2MK**

- Support AI/NVMe Module
- 1x M.2 M-Key 2242/2260
- PCIe x1 Gold Fingers Interface (PCIe 3.0 x4 Performance)
- 1x Dedicated Heatblock