

# ECX-1055

9th Generation Intel® Xeon®/Core™ i7/i5/i3 (Coffee Lake Refresh) 10GigE Embedded System with Intel® C246 Chipset, 2-port 10GigE LAN, 6 GigE LAN with 4 PoE\*, 6 USB 3.1, 2 M.2 Socket, Isolated DIO, High Performance, EN50155, EN50121



## Features

- 8 Cores 9th Generation Intel® Xeon®/Core™ i7/i5/i3 (Coffee Lake Refresh) with Intel® C246 Chipset
- Dual 10GigE RJ45 LAN support up to 10Gbps data rate
- 6 Independent GigE LAN with 4 IEEE 802.3at PoE\*
- SIM Sockets for WiFi/4G/3G/LTE/GPRS/UMTS
- 2 SIM Socket, 1 CFast Socket, 2 M.2 Socket
- 6 USB 3.1, 4 COM RS-232/422/485, 16 Isolated DIO
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control



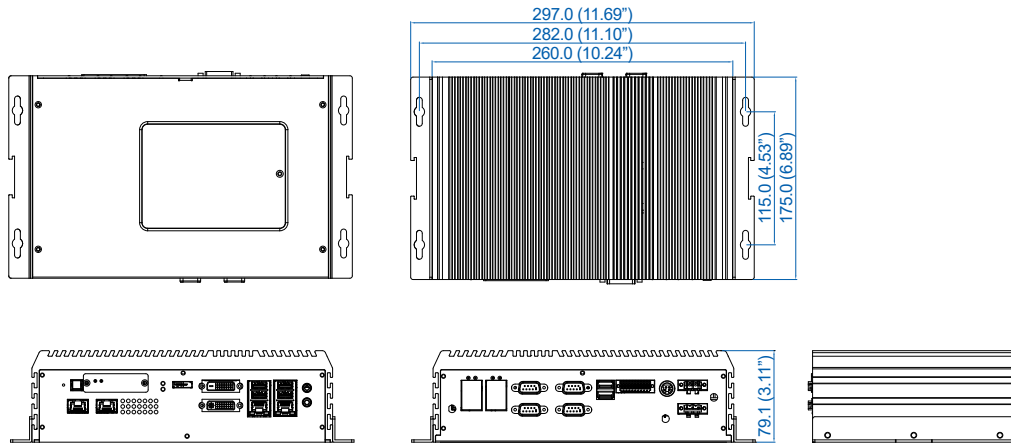
## Specifications

| System             |                                                                                                                                                                            |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Processor          | Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)                                                                                                                      |
| Chipset            | Intel® C246                                                                                                                                                                |
| BIOS               | AMI                                                                                                                                                                        |
| SIO                | IT8786E                                                                                                                                                                    |
| Memory             | 2 DDR4 2666MHz SO-DIMM, up to 64GB (ECC/Non-ECC)                                                                                                                           |
| I/O Interface      |                                                                                                                                                                            |
| Serial             | 4 COM RS-232/422/485 (ESD 8KV)                                                                                                                                             |
| USB                | <ul style="list-style-type: none"> <li>6 USB 3.1 (6 External)</li> <li>1 USB 2.0 (Internal)</li> </ul>                                                                     |
| Isolated DIO       | 16 Isolated DIO : 8 DI, 8 DO                                                                                                                                               |
| LED                | Power, HDD, PoE, Wireless                                                                                                                                                  |
| SIM Card           | 2 External SIM Card Socket                                                                                                                                                 |
| Expansion          |                                                                                                                                                                            |
| Mini PCIe          | 2 Full-size Mini PCIe Socket for PCIe/USB/External SIM Card/mSATA                                                                                                          |
| M.2                | 1 M.2 Key E Socket                                                                                                                                                         |
| Graphics           |                                                                                                                                                                            |
| Graphics Processor | Intel® UHD Graphics 630                                                                                                                                                    |
| Interface          | <ul style="list-style-type: none"> <li>DVI-I : Up to 1920 x 1200 @ 60Hz</li> <li>DVI-D : Up to 1920 x 1080 @60Hz</li> <li>DisplayPort : Up to 4096 x 2304 @60Hz</li> </ul> |
| Storage            |                                                                                                                                                                            |
| SATA               | 2 SATA III (6Gbps) support S/W RAID 0, 1                                                                                                                                   |
| mSATA              | 2 SATA III (Mini PCIe Type, 6Gbps)                                                                                                                                         |
| Storage Device     | <ul style="list-style-type: none"> <li>1 CFast Socket, Push-in/Push-out Ejector</li> <li>2 2.5" SSD/HDD Bracket (Internal)</li> <li>1 M.2 Key M Socket</li> </ul>          |
| Audio              |                                                                                                                                                                            |
| Audio Codec        | Realtek ALC888S-VD, 7.1 Channel HD Audio                                                                                                                                   |
| Audio Interface    | 1 Mic-in, 1 Line-out                                                                                                                                                       |
| Ethernet           |                                                                                                                                                                            |
| LAN 1              | Intel® I219LM GigE LAN supports iAMT 12.0                                                                                                                                  |
| LAN 2              | Intel® I210 GigE LAN                                                                                                                                                       |
| PoE                |                                                                                                                                                                            |
| LAN 3              | GigE IEEE 802.3at (25.5W/48V) PoE* by Intel® I210                                                                                                                          |
| LAN 4              | GigE IEEE 802.3at (25.5W/48V) PoE* by Intel® I210                                                                                                                          |
| LAN 5              | GigE IEEE 802.3at (25.5W/48V) PoE* by Intel® I210                                                                                                                          |
| LAN 6              | GigE IEEE 802.3at (25.5W/48V) PoE* by Intel® I210                                                                                                                          |

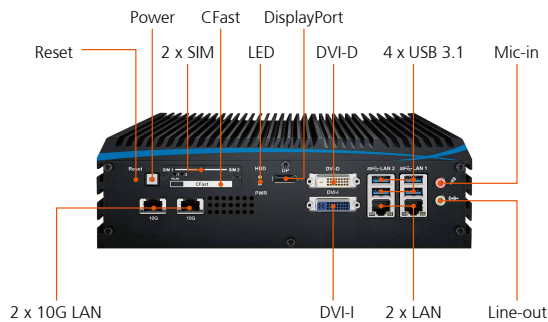
| 10G Ethernet           |                                                                                                                                                     |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| LAN 7                  | Intel® X550-AT2 10GigE LAN                                                                                                                          |
| LAN 8                  | Intel® X550-AT2 10GigE LAN                                                                                                                          |
| Power                  |                                                                                                                                                     |
| Power Input            | 6V to 36V, DC-in                                                                                                                                    |
| Power Interface        | 3-pin Terminal Block : V+, V-, Frame Ground                                                                                                         |
| Ignition Control       | 16 Mode (Internal)                                                                                                                                  |
| Remote Switch          | 3-pin terminal block : On, Off, IGN                                                                                                                 |
| Surge Protection       | Up to 80V/1ms Transient Power                                                                                                                       |
| Others                 |                                                                                                                                                     |
| TPM                    | Optional Infineon SLB9665 supports TPM 2.0, LPC Interface                                                                                           |
| Watchdog Timer         | Reset : 1 to 255 sec./min. per step                                                                                                                 |
| Smart Management       | Wake on LAN, PXE supported                                                                                                                          |
| HW Monitor             | Monitoring temperature, voltages. Auto throttling control when CPU overheats.                                                                       |
| Software Support       |                                                                                                                                                     |
| OS                     | Windows 10, Linux                                                                                                                                   |
| Mechanical             |                                                                                                                                                     |
| Dimensions (W x L x H) | 260mm x 175mm x 79mm (10.2" x 6.9" x 3.1")                                                                                                          |
| Weight                 | 3.8 kg (8.38 lb)                                                                                                                                    |
| Mounting               | <ul style="list-style-type: none"> <li>Wallmount by mounting bracket</li> <li>DIN Rail Mount (Optional)</li> <li>2U Rackmount (Optional)</li> </ul> |
| Environment            |                                                                                                                                                     |
| Operating Temperature  | -40°C to 55°C (-40°F to 131°F)<br>• 80W TDP CPU : -40°C to 45°C (-40°F to 113°F)                                                                    |
| Storage Temperature    | -40°C to 85°C (-40°F to 185°F)                                                                                                                      |
| Humidity               | 5% to 95% Humidity, non-condensing                                                                                                                  |
| Relative Humidity      | 95% @ 55°C                                                                                                                                          |
| Shock                  | <ul style="list-style-type: none"> <li>IEC 60068-2-27</li> <li>SSD : 50G @ wallmount, Half-sine, 11ms</li> </ul>                                    |
| Vibration              | <ul style="list-style-type: none"> <li>IEC 60068-2-64</li> <li>SSD : 5Grms, 5Hz to 500Hz, 3 Axis</li> </ul>                                         |
| EMC                    | CE, FCC, EN50155, EN50121-3-2                                                                                                                       |

## Dimensions

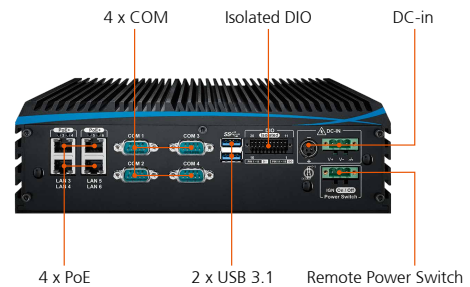
Unit : mm/ inch



## Front I/O



## Rear I/O



## Order Information

|                 |                                                                                     |
|-----------------|-------------------------------------------------------------------------------------|
| <b>ECX-1055</b> | ECX-1000, 2 10G RJ45, 6 GigE LAN w/4 PoE*, 4 COM, 2 SIM, 6 USB 3.1, 16 Isolated DIO |
|-----------------|-------------------------------------------------------------------------------------|

### Accessories

|                             |                                                                                                        |
|-----------------------------|--------------------------------------------------------------------------------------------------------|
| <b>DDR4 32G</b>             | Certified DDR4 32GB 2666MHz RAM                                                                        |
| <b>DDR4 16G</b>             | Certified DDR4 16GB 2666MHz RAM                                                                        |
| <b>DDR4 8G</b>              | Certified DDR4 8GB 2666MHz RAM                                                                         |
| <b>DDR4 4G</b>              | Certified DDR4 4GB 2666MHz RAM                                                                         |
| <b>PWA-160W-WT</b>          | 160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C  |
| <b>PWA-180W</b>             | 180W, 24V, 90V AC to 132V AC/ 180V AC to 264V AC Power Adapter with 3-pin Terminal Block, 0°C to +40°C |
| <b>PWA-280W-WT</b>          | 280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C  |
| <b>VESA Mount</b>           | VESA Mounting Kit                                                                                      |
| <b>DIN-RAIL</b>             | DIN Rail Kit                                                                                           |
| <b>Rack Mount</b>           | 2U Rackmount Kit                                                                                       |
| <b>TMK2-20P-100</b>         | Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm                                            |
| <b>TMK2-20P-500</b>         | Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm                                            |
| <b>TMB-TMBK-20P</b>         | Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting                          |
| <b>4G Module</b>            | Mini PCIe 4G/GPS Module with Antenna                                                                   |
| <b>WiFi &amp; Bluetooth</b> | WiFi & Bluetooth Module with Antenna                                                                   |

### CPU List

| Series       | CPU       | Cores | GHz | TDP (W) | ECC RAM |
|--------------|-----------|-------|-----|---------|---------|
| Intel® Xeon® | E-2176G   | 6     | 4.6 | 80      | Yes     |
|              | E-2124G   | 4     | 4.5 | 71      |         |
|              | E-2278GE  | 8     | 4.7 | 80      |         |
|              | E-2278GEL | 8     | 3.9 | 35      |         |
|              | E-2226GE  | 6     | 4.6 | 80      |         |
| Intel® Core™ | i7-8700   | 6     | 4.6 | 65      | N/A     |
|              | i7-8700T  | 6     | 4   | 35      |         |
|              | i7-9700E  | 8     | 4.4 | 65      |         |
|              | i7-9700TE | 8     | 3.8 | 35      |         |
|              | i5-8500   | 6     | 4.1 | 65      |         |
|              | i5-8500T  | 6     | 3.5 | 35      | Yes     |
|              | i5-9500E  | 6     | 4.2 | 65      |         |
|              | i5-9500TE | 6     | 3.6 | 35      |         |
|              | i3-8100   | 4     | 3.6 | 65      |         |
|              | i3-8100T  | 4     | 3.1 | 35      |         |
|              | i3-9100E  | 4     | 3.7 | 65      |         |
|              | i3-9100TE | 4     | 3.2 | 35      |         |

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