

RCX-1000 Series

9th Generation Intel® Xeon®/Core™ i7/i5/i3 Processor
Workstation-grade Fanless Robust Computing System

- 8 Cores 9th Generation Intel® Xeon®/Core™ i7/i5/i3 (Coffee Lake Refresh) with workstation-grade Intel® C246 Chipset
- 4 DDR4 2666MHz Memory, up to 128GB (ECC/Non-ECC)
- 6 ports external USB 3.1 Gen 2 support up to 10Gbps data transfer
- Rugged & Fanless design, -40°C to 75°C Operating Temperature
- Onboard DVI-I and DisplayPort display interface, up to 3 independent HD display
- 2 Independent GigE LAN, iAMT 12.0 supported
- 2 External SIM Socket for WiFi/4G/3G/LTE/GPRS/UMTS
- 4 Front-access 2.5" SSD Tray, RAID 0, 1, 5, 10 supported
- 4 PCI/PCIe Slot, max 300W Power Budget for independent graphics operation
- 32 Isolated DIO, 4 COM RS-232/422/485
- 2 M.2 Socket : 1 M.2 Key M, 1 M.2 Key E
- 6V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control



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IoT Solutions



Robotic Control



Factory Automation



Intelligent Surveillance



Deep Learning



Specifications

System

| | |
|-----------|---|
| Processor | 8 Cores Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S) |
| Chipset | Intel® C246 |
| BIOS | AMI |
| SIO | IT8786E |
| Memory | 4 DDR4 2666MHz SO-DIMM, up to 128GB (ECC/Non-ECC) |
| OS | Windows 10, Linux |

I/O Interface

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|--------------|--|
| Serial | 4 COM RS-232/422/485 (ESD 8KV) |
| USB | - 6 USB 3.1 Gen 2 (External) - 1 USB 2.0 (Internal) |
| Isolated DIO | 32 Isolated DIO : 16 DI, 16 DO |
| LED | Power, HDD, Wireless |
| SIM Card | 2 External SIM Card Socket |

Expansion

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|-----------|--|
| Mini PCIe | 2 Full-size for PCIe/USB/External SIM Card/mSATA |
| M.2 | 1 M.2 Key E Socket (2230, PCIe x2/USB) |
| PCIe | Up to 4 PCIe x16 Slot, by signal option |
| PCI | Up to 4 PCI Slot, by request |

Graphics

| | |
|--------------------|---|
| Graphics Processor | Intel® UHD Graphics 630 |
| Interface | - 1 DVI-I : Up to 1920 x 1200 @60Hz - 1 DisplayPort : Up to 4096 x 2304 @60Hz - 1 Digital Display (HDMI) : Up to 1920 x1080 @60Hz |

Storage

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|----------------|---|
| SATA | 4 SATA III (6Gbps) support S/W RAID 0, 1, 5, 10 |
| mSATA | 2 SATA III (Mini PCIe Type, 6Gbps) |
| Storage Device | - 4 Front-access 2.5" SSD/HDD Tray - 1 M.2 Key M Socket (2280, PCIe x4/SATA) |

Audio

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|-----------------|--|
| Audio Codec | Realtek ALC888S-VD, 7.1 Channel HD Audio |
| Audio Interface | 1 Mic-in, 1 Line-out |

Ethernet

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|-------|---|
| LAN 1 | Intel® I219LM GigE LAN supports iAMT 12.0 |
| LAN 2 | Intel® I210 GigE LAN |

Power

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|------------------|---|
| 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 |
| 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 Mgmt. | Wake on LAN, PXE supported |
| HW Monitor | Monitoring temperature, voltages. Auto throttling control when CPU overheats. |

Mechanical

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|------------|--|
| Dimensions | RCX-1400FR/RX-1400F 330.0mm x 210.0mm x 172.0mm (12.99" x 8.27" x 6.77") |
| | RCX-1400R/RX-1400 250.4mm x 210.0mm x 172.0mm (9.86" x 8.27" x 6.77") |
| Weight | RCX-1200 250.4mm x 210.0mm x 131.4mm (9.86" x 8.27" x 5.17") |
| | RCX-1400FR : 5.3 kg (11.7 lb) RCX-1400F : 4.9 kg (10.8 lb) RCX-1400R : 5.0 (11.0 lb) RCX-1400 : 4.6 kg (10.1 lb) RCX-1200 : 4.3 kg (9.5 lb) |
| Mounting | Wallmount by mounting bracket |

Environment

| | |
|-------------------|---|
| Operating Temp. | 35W TDP CPU : -40°C to 75°C (-40°F to 158°F) |
| | 65W TDP CPU : -40°C to 55°C (-4°F to 131°F) |
| | 80W TDP CPU : -40°C to 45°C (-4°F to 113°F) |
| Storage Temp. | -40°C to 85°C (-40°F to 185°F) |
| Humidity | 5% to 95% Humidity, non-condensing |
| Relative Humidity | 95% @ 75°C |
| Shock | - IEC 60068-2-27 |
| | - SSD : 50G @ wallmount, Half-sine, 11ms |
| Vibration | - IEC 60068-2-64 |
| | - SSD : 5Grms, 5Hz to 500Hz, 3 Axis |
| EMC | CE, FCC, EN50155, EN50121-3-2 |

CPU List

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

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Order Information

RCX-1000 Series-20230117

| Model Name | GigE LAN | PCIe x16 | PCIe x8 | PCIe x4 | PCIe x1 | PCI | SSD Tray | COM | USB 3.1 | SIM | Isolated DIO |
|------------|----------|----------|---------|---------|---------|-----|----------|-----|---------|-----|--------------|
| RCX-1430FR | 2 | 1 | - | 1 | 1 | - | 4 | 4 | 6 | 2 | Y |
| RCX-1430F | 2 | 1 | - | 1 | 1 | - | 4 | 4 | 6 | 2 | Y |
| RCX-1421FR | 2 | 1 | - | 1 | - | 1 | 4 | 4 | 6 | 2 | Y |
| RCX-1421F | 2 | 1 | - | 1 | - | 1 | 4 | 4 | 6 | 2 | Y |
| RCX-1412FR | 2 | 1 | - | - | - | 2 | 4 | 4 | 6 | 2 | Y |
| RCX-1412F | 2 | 1 | - | - | - | 2 | 4 | 4 | 6 | 2 | Y |
| RCX-1440R | 2 | - | 1 | 3 | - | - | 4 | 4 | 6 | 2 | Y |
| RCX-1440 | 2 | - | 1 | 3 | - | - | 4 | 4 | 6 | 2 | Y |
| RCX-1422R | 2 | 1 | - | 1 | - | 2 | 4 | 4 | 6 | 2 | Y |
| RCX-1422 | 2 | 1 | - | 1 | - | 2 | 4 | 4 | 6 | 2 | Y |
| RCX-1404R | 2 | - | - | - | - | 4 | 4 | 4 | 6 | 2 | Y |
| RCX-1404 | 2 | - | - | - | - | 4 | 4 | 4 | 6 | 2 | Y |
| RCX-1220A | 2 | - | 2 | - | - | - | 4 | 4 | 6 | 2 | Y |
| RCX-1220 | 2 | 1 | - | 1 | - | - | 4 | 4 | 6 | 2 | Y |
| RCX-1211 | 2 | 1 | - | - | - | 1 | - | 4 | 6 | 2 | Y |

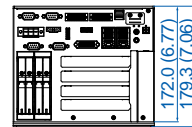
Accessories

| | |
|--------------------|--|
| DDR4 32G | Certified DDR4 32GB 2666MHz RAM |
| DDR4 16G | Certified DDR4 16GB 2666/2400/2133 MHz RAM |
| DDR4 8G | Certified DDR4 8GB 2666/2400/2133 MHz RAM |
| DDR4 4G | Certified DDR4 4GB 2666/2400/2133 MHz RAM |
| PWA-160WB-WT | 160W, 24V, 85V AC to 264V AC Power Adaptor with 3-pin Terminal Block (7.62mm pitch), Wide Temperature -30°C to +70°C |
| PWA-280WB-WT | 280W, 24V, 85V AC to 264V AC Power Adaptor with 3-pin Terminal Block (7.62mm pitch), Wide Temperature -30°C to +70°C |
| PWS-480W-WT | 480W, 24V, 90V AC to 305V AC Power Supply, Wide-Temp, IP65 |
| PWS-600W1 | 600W, 24V, 90V AC to 264V AC Power Supply |
| PWS-600W-WT | 600W, 28.8V, 90 to 305V AC Power Supply, Wide Temperature -40°C to +70°C |
| FAN Module | Fan Module for RCX-1000 Series |
| FAN Sink | Fan Sink for RCX-1000 Series |
| PCIE HOLD-DOWN Kit | Hold Down Module for PCIe Card |
| TMK2-20P-100 | Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm |
| TMK2-20P-500 | Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm |
| TMB-TMBK-20P | Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting |
| 4G Module | Mini PCIe 4G/GPS Module with Antenna |
| WiFi & Bluetooth | WiFi & Bluetooth Module with Antenna |

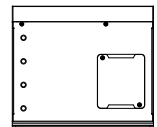
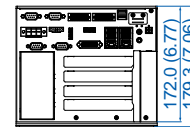
Dimensions & Drawing

Unit : mm (inch)

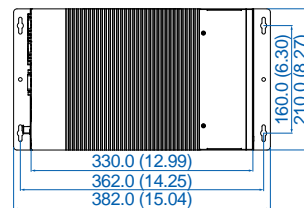
RCX-1400FR/1400R



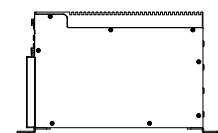
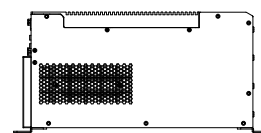
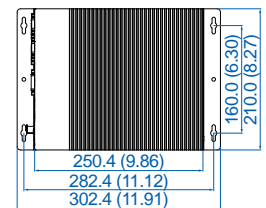
RCX-1400F/1400



RCX-1400FR/1400F



RCX-1400R/1400



RCX-1200

