

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



Robotic Control



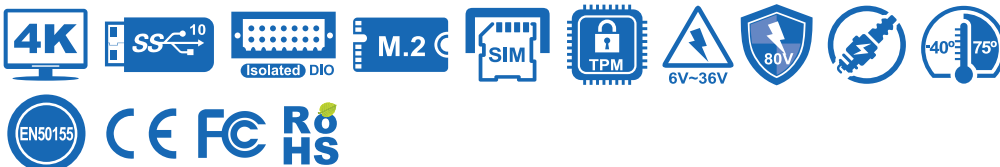
Factory Automation



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

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

Mini PCIe	2 Full-size for PCIe/USB/External SIM Card/mSATA
M.2	1 M.2 Key E Socket
PCIe	Up to 4 PCIe Slot, by request
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 - 2 DisplayPort : Up to 4096 x 2304 @60Hz

Storage

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

Audio

Audio Codec	Realtek ALC892, 5.1 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

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
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

Dimensions	RCX-1400FR/RCX-1400F 330.0mm x 210.0mm x 172.0mm (12.99" x 8.27" x 6.77")
	RCX-1400R/RCX-1400 250.4mm x 210.0mm x 172.0mm (9.86" x 8.27" x 6.77")
	RCX-1200 250.4mm x 210.0mm x 131.4mm (9.86" x 8.27" x 5.17")
Weight	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 b)
	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-2176G	6	4.6	80	E-2278GE	8	4.7	80	Yes
	E-2124G	4	4.5	71	E-2278GEL	8	3.9	35	
Intel® Core™	i7-8700	6	4.6	65	i7-9700E	8	4.4	65	N/A
	i7-8700T	6	4	35	i7-9700TE		3.8	35	
	i5-8500	6	4.1	65	i5-9500E	6	4.2	65	
	i5-8500T	6	3.5	35	i5-9500TE		3.6	35	
	i3-8100	4	3.6	65	i3-9100E	4	3.7	65	
	i3-8100T	4	3.1	35	i3-9100TE		3.2	35	

Order Information

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	6	2	Y
RCX-1421FR	2	1	-	1	-	1	4	4	6	2	Y
RCX-1421F	2	1	-	1	-	1	-	4	6	2	Y
RCX-1412FR	2	1	-	-	-	2	4	4	6	2	Y
RCX-1412F	2	1	-	-	-	2	-	4	6	2	Y
RCX-1440R	2	-	1	3	-	-	4	4	6	2	Y
RCX-1440	2	-	1	3	-	-	-	4	6	2	Y
RCX-1422R	2	1	-	1	-	2	4	4	6	2	Y
RCX-1422	2	1	-	1	-	2	-	4	6	2	Y
RCX-1404R	2	-	-	-	-	4	4	4	6	2	Y
RCX-1404	2	-	-	-	-	4	-	4	6	2	Y
RCX-1220A	2	-	2	-	-	-	-	4	6	2	Y
RCX-1220	2	1	-	1	-	-	-	4	6	2	Y
RCX-1211	2	1	-	-	-	1	-	4	6	2	Y

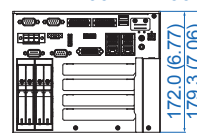
Accessories

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-600W	600W, 24V, 90V AC to 305V 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

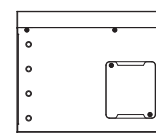
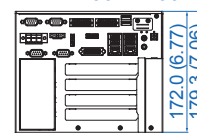
Dimensions & Drawing

Unit : mm (inch)

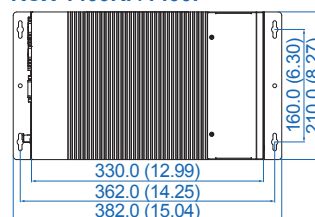
RCX-1400RF/1400R



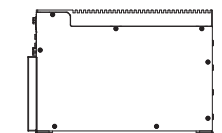
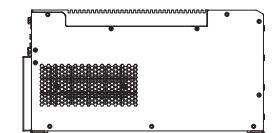
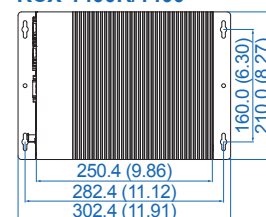
RCX-1400F/1400



RCX-1400RF/1400F



RCX-1400R/1400



RCX-1200

