

# RCS-9000 Series

Workstation-grade 7th Generation Intel® Xeon®/Core™ i7/i5/i3 Fanless Robust Computing System with Intel® C236 Chipset, 2 GigE LAN, 7 USB 3.0, 4 COM, 4 PCI/PCIe Slot, 3 SIM, 32 Isolated DIO, Rugged, High Performance, Flexible, Expandable, Fanless -40°C to 75°C Extended Temperature



- Fanless, -40°C to 75°C Operating Temperature
- LGA 1151 Socket supports workstation-grade 7th generation Intel® Xeon®/Core™ i7/i5/i3 Processor (Kaby Lake) with C236
- Onboard DVI-I, DVI-D and DisplayPort display interface, up to 3 independent HD displays
- 6V to 36V DC Power Input with 80V Surge Protection
- Max 250W Power Budget for PCI/PCIe expansions
- 2 Independent GigE LAN, iAMT 11.0 supported
- 4/2 Front-access 2.5" SSD/HDD Tray, 1 CFast Socket
- 3 SIM Card Socket for 3G/4G/LTE/WiFi/GPRS/UMTS
- 4 PCI/PCIe Slot, 3 Mini PCIe, 4 COM
- 7 USB 3.0, 32 Isolated DIO
- Configurable Ignition Power Control



Machine Vision

Smart Factory

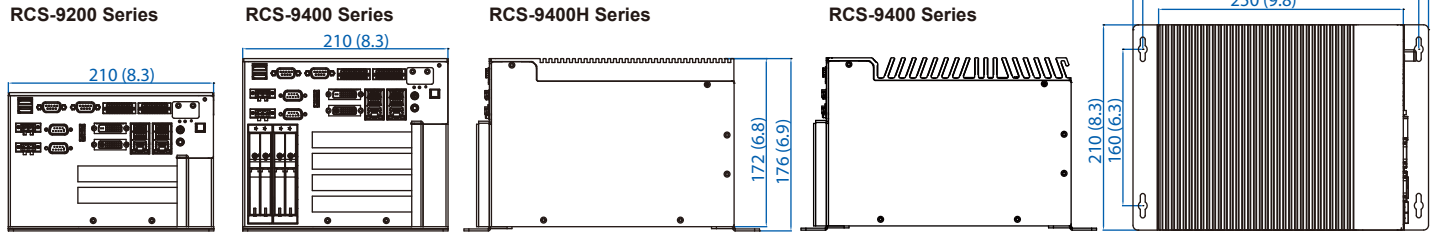
Robot Control

AOI

Machine Automation



# Dimensions & Drawing Unit: mm (inch)



## Specifications

System	
Processor	Quad Core Intel® Xeon®/Core™ i7/i5/i3 Processor (Kaby Lake-S/Skylake-S)
Chipset	Intel® C236
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2133MHz SO-DIMM, up to 32GB
OS	Windows 10, Windows 8.1, Windows 7, Linux

I/O Interface	
Serial	4 COM RS-232/422/485 (ESD 8KV)
USB	• 7 USB 3.0 (6 External, 1 Internal) • 2 USB 2.0 (Internal)
Isolated DIO	32 Isolated DIO : 16 DI, 16 DO
LED	Power, HDD
SIM Card	3 SIM Card Socket (2 External, 1 Internal)

Expansion	
Mini PCIe	3 Mini PCIe Socket : • 2 Full-size for PCIe/USB/External SIM Card • 1 Full-size for PCIe/USB/Internal SIM Card/mSATA
PCIe	Up to 4 PCIe Slot, by request
PCI	Up to 4 PCI Slot, by request

Graphics	
Processor	Intel® HD Graphics 630/530
Interface	• DVI-I : Up to 1920 x 1200 @ 60Hz • DVI-D : Up to 1920 x 1200 @ 60Hz • DisplayPort : Up to 4096 x 2304 @ 60Hz

Storage	
SATA	4 SATA III (6Gbps) support S/W RAID 0, 1, 5, 10
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
Storage Device	• 1 CFast Socket (Internal) <b>RCS-9400</b> : 4 2.5" SSD/HDD Tray/Bracket (External/Internal) <b>RCS-9200</b> : 2 2.5" SSD/HDD Bracket (Internal)

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 11.0
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 Management	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.

Mechanical	
Dimensions (WxLxH)	<b>RCS-9400</b> : 172mm x 250mm x 210mm (6.8" x 9.8" x 8.3") <b>RCS-9200</b> : 137mm x 250mm x 210mm (5.4" x 9.8" x 8.3")
Weight	<b>RCS-9400H</b> : 5 kg (11 lb) <b>RCS-9400</b> : 3.8 kg (8.4 lb) <b>RCS-9200H</b> : 4.3 kg (9.5 lb) <b>RCS-9200</b> : 3.1 kg (6.8 lb)
Mounting	Wallmount by mounting bracket

Environment	
Operating Temp.	<b>35W TDP CPU :</b> • Core™ i7, i5, i3 : -40°C to 75°C (-40°F to 167°F) • Xeon® E3-1268L v5 : -40°C to 70°C (-40°F to 158°F) <b>65W TDP CPU :</b> Core™ i7, i5, i3 : -40°C to 55°C (-40°F to 131°F) <b>80W TDP CPU :</b> Xeon® E3-1275 v6, E3-1275 v5, E3-1225 v5 : -40°C to 45°C (-40°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% at 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

## Order Information

<b>RCS-9440</b>	• RCS-9400, 2 GigE LAN, 1 PCIe x8, 3 PCIe x4, 4 COM, 7 USB 3.0, 3 SIM, Isolated DIO
<b>RCS-9440H</b>	• RCS-9400 w/ 65W CPU, 2 GigE LAN, 1 PCIe x8, 3 PCIe x4, 4 COM, 7 USB 3.0, 3 SIM, Isolated DIO
<b>RCS-9422</b>	• RCS-9400, 2 GigE LAN, 1 PCIe x16, 1 PCIe x4, 2 PCI, 4 COM, 7 USB 3.0, 3 SIM, Isolated DIO
<b>RCS-9422H</b>	• RCS-9400 w/ 65W CPU, 2 GigE LAN, 1 PCIe x16, 1 PCIe x4, 2 PCI, 4 COM, 7 USB 3.0, 3 SIM, Isolated DIO
<b>RCS-9404</b>	• RCS-9400, 2 GigE LAN, 4 PCI, 4 COM, 7 USB 3.0, 3 SIM, Isolated DIO
<b>RCS-9404H</b>	• RCS-9400 w/ 65W CPU, 2 GigE LAN, 4 PCI, 4 COM, 7 USB 3.0, 3 SIM, Isolated DIO
<b>RCS-9440R</b>	• RCS-9400, 2 GigE LAN, 1 PCIe x8, 3 PCIe x4, 4 Front-access SSD Tray, 4 COM, 7 USB 3.0, 3 SIM, Isolated DIO
<b>RCS-9440RH</b>	• RCS-9400 w/ 65W CPU, 2 GigE LAN, 1 PCIe x8, 3 PCIe x4, 4 Front-access SSD Tray, 4 COM, 7 USB 3.0, 3 SIM, Isolated DIO
<b>RCS-9422R</b>	• RCS-9400, 2 GigE LAN, 1 PCIe x16, 1 PCIe x4, 2 PCI, 4 Front-access SSD Tray, 4 COM, 7 USB 3.0, 3 SIM, Isolated DIO
<b>RCS-9422RH</b>	• RCS-9400 w/ 65W CPU, 2 GigE LAN, 1 PCIe x16, 1 PCIe x4, 2 PCI, 4 Front-access SSD Tray, 4 COM, 7 USB 3.0, 3 SIM, Isolated DIO
<b>RCS-9404R</b>	• RCS-9400, 2 GigE LAN, 4 PCI, 4 Front-access SSD Tray, 4 COM, 7 USB 3.0, 3 SIM, Isolated DIO
<b>RCS-9404RH</b>	• RCS-9400 w/ 65W CPU, 2 GigE LAN, 4 PCI, 4 Front-access SSD Tray, 4 COM, 7 USB 3.0, 3 SIM, Isolated DIO
<b>RCS-9220A</b>	• RCS-9200, 2 GigE LAN, 2 PCIe x8, 4 COM, 7 USB 3.0, 3 SIM, Isolated DIO
<b>RCS-9220AH</b>	• RCS-9200 w/ 65W CPU, 2 GigE LAN, 2 PCIe x8, 4 COM, 7 USB 3.0, 3 SIM, Isolated DIO
<b>RCS-9220</b>	• RCS-9200, 2 GigE LAN, 1 PCIe x16, 1 PCIe x4, 4 COM, 7 USB 3.0, 3 SIM, Isolated DIO
<b>RCS-9220H</b>	• RCS-9200 w/ 65W CPU, 2 GigE LAN, 1 PCIe x16, 1 PCIe x4, 4 COM, 7 USB 3.0, 3 SIM, Isolated DIO
<b>RCS-9211</b>	• RCS-9200, 2 GigE LAN, 1 PCIe x16, 1 PCI, 4 COM, 7 USB 3.0, 3 SIM, Isolated DIO
<b>RCS-9211H</b>	• RCS-9200 w/ 65W CPU, 2 GigE LAN, 1 PCIe x16, 1 PCI, 4 COM, 7 USB 3.0, 3 SIM, Isolated DIO
<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>DDR4 16G</b>	• Certified DDR4 16GB 2133MHz RAM
<b>DDR4 8G</b>	• Certified DDR4 8GB 2133MHz RAM
<b>DDR4 4G</b>	• Certified DDR4 4GB 2133MHz RAM
<b>PWA-120W</b>	• 120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
<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-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>PWS-480W</b>	• 480W, 24V, 90V AC to 305V AC Power Supply
<b>PWS-600W</b>	• 600W, 24V, 90V AC to 305V AC Power Supply
<b>3G Module</b>	• Mini PCIe 3G/GPS Module with Antenna
<b>4G Module</b>	• Mini PCIe 4G/GPS Module with Antenna
<b>WiFi &amp; Bluetooth</b>	• Mini PCIe WiFi & Bluetooth Module with Antenna
<b>FAN Module</b>	• FAN Module for RCS-9400 Series/RCS-9400R Series

### CPU List

Series	CPU	Cache (MB)	Turbo Freq. (GHz)	TDP (W)	ECC Memory		
Intel® Xeon®	E3-1275 v6	8	4.2	80	Y		
	E3-1275 v5		4	80			
	E3-1225 v5		3.7	80			
	E3-1268L v5		3.4	35			
Intel® Core™	i7-7700	8	4.2	65	NA		
	i7-7700T		3.8	35			
	i7-6700		4	65			
	i7-6700TE		3.4	35			
	i5-7500	6	3.8	65	NA		
	i5-7500T		3.3	35			
	i5-6500		3.6	65			
	i5-6500TE		3.3	35			
	i3-7101E		3	3.9		65	Y
	i3-7101TE			3.4		35	
i3-6100	4	3.7	65	Y			
i3-6100TE		2.7	35				

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