

# RC300-CS Q370

8th/9th Gen Intel® Core™  
AI-Enabled Railway Embedded System



## KEY FEATURES



### High Performance CPU

Intel® Coffee Lake Core i7 processor



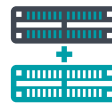
### M12 Type PoE

4 x M12 type PoE ports at 15.4W



### AI Accelerated

Support up to 115W GPU MXM module without active fan



### Scalability

Multiple expansion slots for 4G/LTE/5G cellular and function modules



### Support 5G Communication

Support M.2 B key 3042/3052 5G-NR module

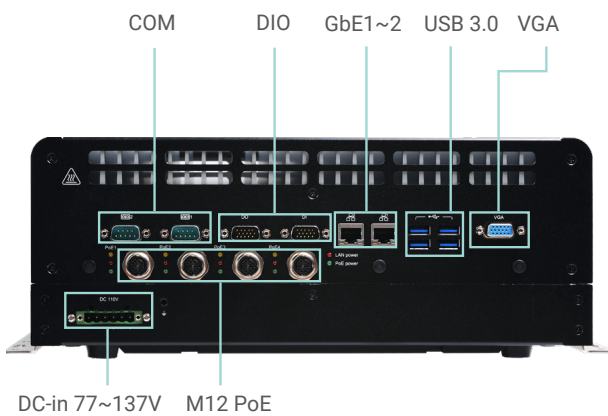


### Battery UPS

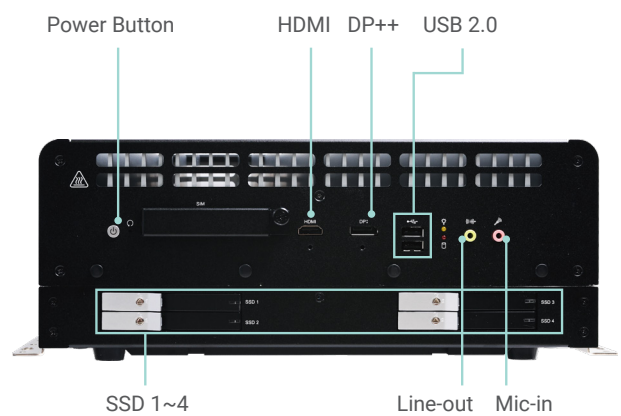
Supports at least 5 mins nonstop operation



## PANEL

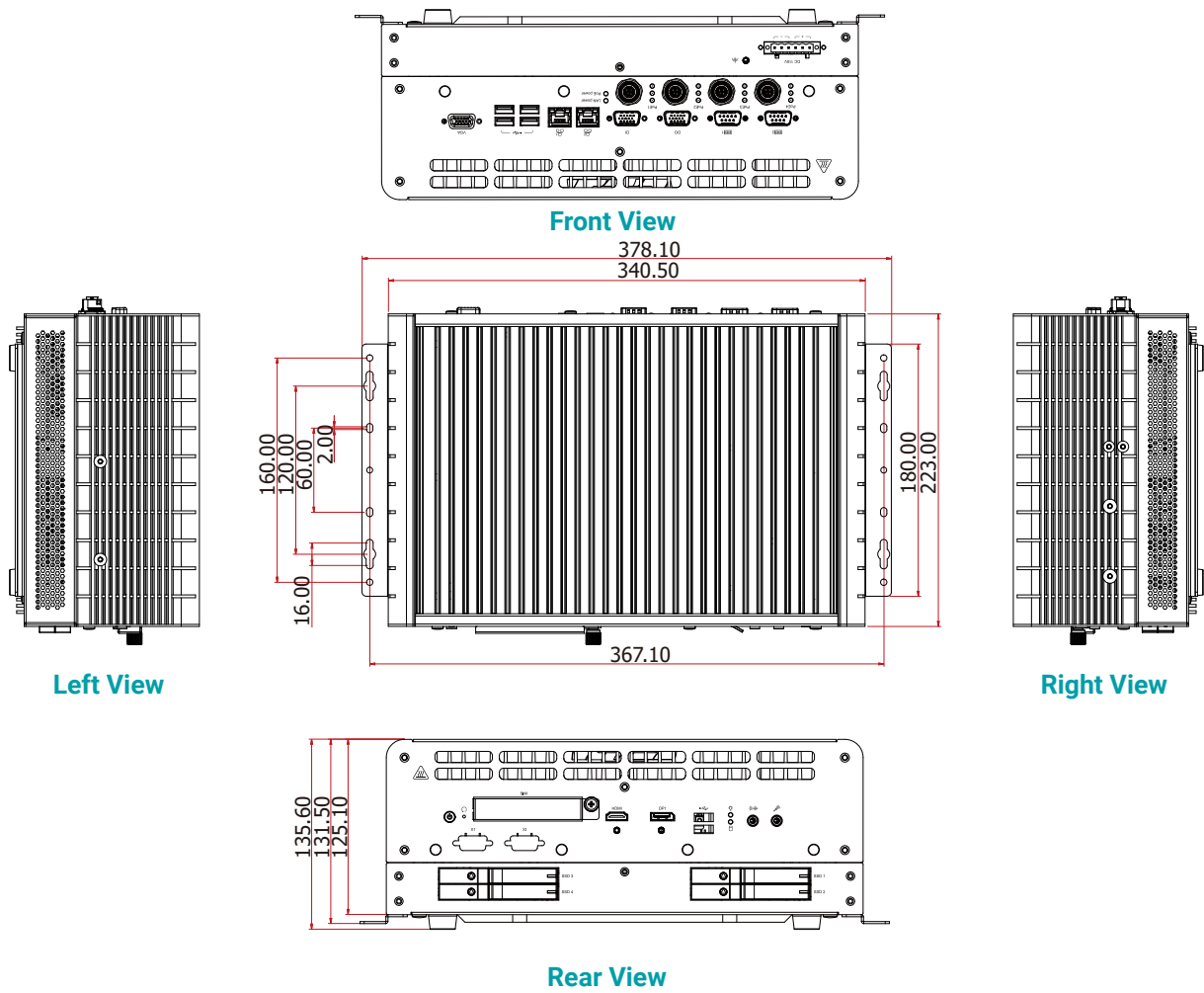


Front View

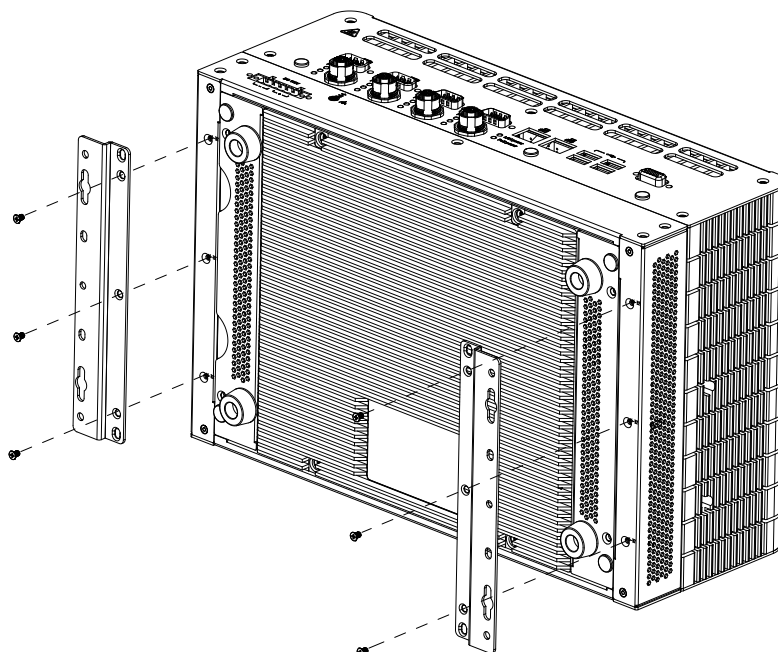


Rear View

## DIMENSIONS



## WALL MOUNTING



## SPECIFICATION

<b>SYSTEM</b>	<b>Processor</b>	8th/9th Generation Intel® Core™ Processors, LGA 1151 Intel® Core™ i7-9700TE Processor, 8C/8T, 12MB Cache, 1.8GHz, TDP 35W Intel® Core™ i7-8700T Processor, 6C/12T, 12MB Cache, 2.4GHz, TDP 35W Intel® Core™ i5-9500TE Processor, 6C/6T, 9MB Cache, 2.2GHz, TDP 35W (Other CPU support upon request)
	<b>Chipset</b>	Intel® Q370 Chipset
	<b>Memory</b>	Dual Channel DDR4 2666/2400 MHz by SODIMMs up to 64GB
	<b>BIOS</b>	AMI SPI 128Mbit
	<b>GRAPHICS</b>	<b>Controller</b>
	<b>Display</b>	1 x VGA (display out by DB-15 connector)      VGA: resolution up to 1920x1200@60Hz 1 x HDMI (with screw lock)                      HDMI: resolution up to 4096x2160@24Hz 1 x DP++ (standard display port connector DIP type with screw lock)      DP++: resolution up to 4096x2304@60Hz Support NVIDIA Optimus technology
<b>AI ACCELERATOR</b>	<b>Interface</b>	MXM Type A, B, C on x16 PCIe 3.0
	<b>Controller</b>	Nvidia Quadro embedded / Nvidia Geforce series
<b>STORAGE</b>	<b>External</b>	4 x Swappable 2.5" 7mm SSD storage bays with lock
	<b>Internal</b>	1 x M.2 2280 M key supports SATA SSD
<b>EXPANSION</b>	<b>Interface</b>	1 x Half-size Mini PCIe for WiFi/BT modules, with PCIe x1 & USB signal 2 x Full-size Mini PCIe support PCIe x1, USB 2.0 signal with SIM card socket of each 1 x M.2 B key supports 3042, 3052 devices or 5G module on PCIe x1, USB2.0, USB3.0 signal with SIM card slot bracket - SIM card can all be external accessible 1 x M.2 2280 M key supports 2242, 2260 & 2280 devices (PCIe x4 & SATA signal, support boot up function)
<b>AUDIO</b>	<b>Audio Codec</b>	Realtek ALC888
	<b>Interface</b>	1 x Mic-in 1 x Line-out
<b>ETHERNET</b>	<b>Controller</b>	5 x Intel® I210IT NIC (10/100/1000Mbps) 1 x Intel® I219LM PHY (10/100/1000Mbps)
	<b>Interface</b>	2 x RJ45 GbE ports 4 x M12 X-coded 802.3af 15.4W PoE ports
<b>LED</b>	<b>Indicators</b>	1 x Power LED (green) 5 x Storage LED (red) 4 x PoE LED
<b>FRONT I/O</b>	<b>Ethernet</b>	2 x GbE (RJ-45) support wake on Lan
	<b>Serial</b>	2 x BIOS selection RS-232/422/485 by 2x DB-9
	<b>DIO</b>	1 x 8-bit isolated DI port by DB-9 connector 1 x 8-bit isolated DO port by DB-9 connector 2KV isolation
	<b>Display</b>	1 x VGA display out by DB-15 connector
	<b>USB</b>	4 x USB 3.0 (type A)
	<b>Power-in</b>	RC300H-CS : 1 x 6-pin 5.0mm terminal block RC300L-CS : 1 x 9-pin 5.0mm terminal block
	<b>PoE</b>	4 x M12 X-coded 802.3af PoE Support 802.11af, max 15.4W (PSE side) NOT support wake on Lan
	<b>REAR I/O</b>	<b>USB</b>
	<b>Display</b>	1 x HDMI 1 x DP++
	<b>Audio</b>	1 x Mic-in 1 x Line-out by 3.5mm 3P Phone Jack
	<b>Buttons</b>	1 x Power button 1 x Reset button
	<b>SIM</b>	3 x SIM sockets (external accessible with cover)
	<b>Antenna Holes</b>	7 x SMA type antenna holes for GNSS, WWAN/LTE MIMO, WLAN/ BT MIMO, 5G
<b>WATCHDOG TIMER</b>	<b>Output &amp; Interval</b>	System reset, programmable via software from 1 to 255 seconds
<b>SECURITY</b>	<b>TPM</b>	TPM 2.0
<b>POWER</b>	<b>Type</b>	RC300H-CS: 110VDC nominal power input, 77VDC~137.5VDC power range RC300L-CS: 12/24VDC nominal power input, 9VDC~36VDC power range
	<b>Connector</b>	RC300H-CS : 1 x 6-pin 5.0mm terminal block RC300L-CS : 1 x 9-pin 5.0mm terminal block
	<b>Battery (UPS)</b>	Optional UPS battery kit for at least 5min operations at full loading max. 300W (will occupy two SSDs space), RC300H-CS only
<b>OS SUPPORT</b>	<b>Microsoft</b>	Windows 10 IoT Enterprise 64 Bit
	<b>Linux</b>	Ubuntu 18.04
<b>MECHANISM</b>	<b>Construction</b>	Metal + Aluminum
	<b>Mounting</b>	Wall mount
	<b>Dimensions (W x H x D)</b>	340.5 x 132 x 223mm (3U height, excluding rubber foot)
	<b>Weight</b>	9.85 kg

## SPECIFICATION

ENVIRONMENT	Operating Temperature	-25°C to 70°C with when CPU+GPU<100W, up to +85°C for 10min -25°C to 55°C with when CPU+GPU<160W, up to +70°C for 10min Turboboost is disabled and CPU&GPU will be throttling at high temperature.
	Storage Temperature	-40 to 85°C
	Relative Humidity	10% to 90% (non-condensing)
STANDARDS AND CERTIFICATIONS	Shock (SSD/HDD)	EN61373: 2010, Category 1 Class A & Class B
	Vibration	EN61373: 2010, Category 1 Class B
	IP rating	IP40
	Certification	EMC: EN50121-3-2 Safety: EN50153, EN50124-1 Fire Proof: EN45545 Railway Regulation: EN50155

## Compatible MXM modules

Type	Model	CUDA cores	Power	Support operating temperature
Quadro	P1000	512	47W	-20°C to +70°C
	P2000	768	58W	-20°C to +70°C
	T1000	896	50W	-20°C to +70°C
	RTX3000	1920	80W	-20°C to +55°C
	RTX5000	3072	150W	-20°C to +55°C (external air flow needed)

## ORDERING INFORMATION

Model Name	Part Number	Description
RC300H-CS111	750-RC3000-000G	Fanless railway system with 4 M12 PoE, 2 COM, 6 USB, 2 LAN, 16 DIO, DC110V, 4x SSD bays, i7-9700TE, 2*8GB RAM, MXM RTX3000, F/G, RoHS
RC300H-CS122	750-RC3000-100G	Fanless railway system with 4 M12 PoE, 2 COM, 6 USB, 2 LAN, 16 DIO, DC110V, 4x SSD bays, i7-9700TE, 2*16GB RAM, MXM RTX3000, F/G, RoHS
RC300L-CS111	-	Fanless railway system with 4 M12 PoE, 2 COM, 6 USB, 2 LAN, 16 DIO, DC9~36V, 2x SSD bays, i7-9700TE, 2*8GB RAM, MXM RTX3000, F/G, RoHS

## OPTIONAL ITEMS

Optional Items	Part Number	Description
2.5" SSD	785-S251TBG	2.5" SATA SSD, 1TB MLC, -40 to 85°C, RoHS
	785-S25512G	2.5" SATA SSD, 512GB MLC, -40 to 85°C, RoHS
	785-S25256G	2.5" SATA SSD, 256GB MLC, -40 to 85°C, RoHS
	785-S25128G	2.5" SATA SSD, 128GB MLC, -40 to 85°C, RoH
M.2 SATA SSD	785-M2SATA64G	64GB, M.2 2280 SSD, SATA3 B+M Key, MLC, Wide Temp.
	785-M2SATA128G	128GB, M.2 2280 SSD, SATA3 B+M Key, MLC, Wide Temp.
	785-M2SATA256G	256GB, M.2 2280 SSD, SATA3 B+M Key, MLC, Wide Temp.
	785-M2SATA512G	512GB, M.2 2280 SSD, SATA3 B+M Key, 3D TLC, PE: 3K, 30u" -20~75°C
Memory	138-580004-104G	8GB DDR4 2666Mhz SO-DIMM 1Rx8 IND 1Gx8 CL19 1.2V
	138-540002-121G	4GB DDR4 2666Mhz SO-DIMM, -40 to 85C
WiFi/BT module kit	761-AP1235-000G	WiFi/Bluetooth Module AP12356, antenna *2, 200mm SMA cables*2, Mini PCIe Bracket, screws
LTE module kit	761-RC3000-001G	EG25GGB CAT4 miniPCIe module, antenna*2, 300mm SMA cables*2
5G module kit	761-RC3000-100G	SIM8202G-M2 M.2 module, antenna*4, 184mm SMA cables *4
M12 Cable	A81-005038-054G	8-pin M12 X-coded to RJ45 PoE cable
CAN bus module	770-MPE21-100G	MPE-CAN2 MiniPCIe Full CAN Module Card Asssembly

## PACKING LIST

1 RC300-CS system unit
1 Power connector
1 Mounting bracket