

TANK-700-QM67 720-Q67

- Intel® 2nd Gen Core™ Mobile Processor
- Intel® 2nd Gen Core™ Desktop Processor

High Performance Fanless Embedded System with 2nd Generation Intel® Core™ i7/i5/i3 Processors

Combo Gigabit LAN (SFP Fiber/RJ-45)



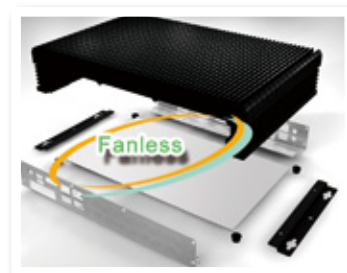
Features

- ◆ 2nd Gen Intel® Core™ i7/i5/i3 or Celeron® mobile processors for TANK-700
- ◆ 2nd Gen Intel® Core™ i7/i5/i3 Celeron® and Pentium® desktop processors for TANK-720
- ◆ Intel® HD graphics supports H.264/AVC-MPEG2/VC1, DirectX 10.1 and OpenGL 3.0
- ◆ On-board 2GB DDR3 memory and one DDR3 SO-DIMM slot (system max. 10GB)
- ◆ Dual combo (10/100/1000 baseT(X) or 1000 baseSFP slot) Gigabit LAN ports, supporting Intel® AMT 7.0
- ◆ Supports 8-channel audio/video capture and dual display by VGA/HDMI
- ◆ Supports two USB 3.0 ports, four USB 2.0 ports, one SATA 6Gb/s port, one CAN-bus port and eight COM ports (four with isolation)
- ◆ Dual-band 2.4/5GHz 802.11a/b/g/n 3T3R MIMO Wi-Fi for high speed wireless transmission
- ◆ Redundant dual DC power input (9V ~ 36V)
- ◆ CAN-bus interface with isolation



Fanless Solution

The TANK-700/720 series focus on the best components that generate less heat, but maintain high system performance. With the fanless design, the TANK-700/720 series reduces system failure caused by fans and extends the lifetime of the device.



Intel® Virtualization Technology

Intel® Virtualization Technology (Intel® VT) allows multiple, independent operating systems to run simultaneously on a single system. This entire "package" of virtual hardware - CPU, memory, NIC, OS and applications--is turned into a single software file that can be utilized as easily as using file copy and paste. Intel® VT brings an entirely new level of efficiency and flexibility to IT environments.

Auto Distribution of Resources

- Dynamic Balancing
- Continuous Optimization

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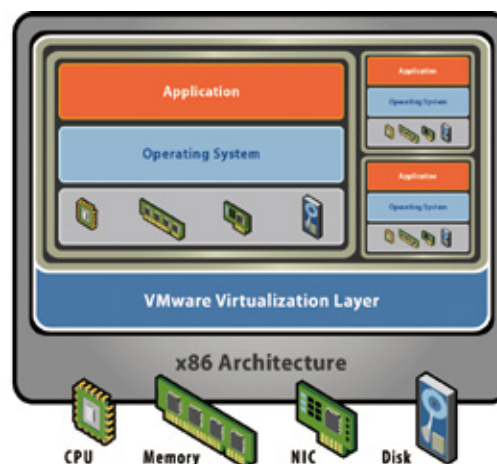
Various Applications

- Automated
- Cross Applications

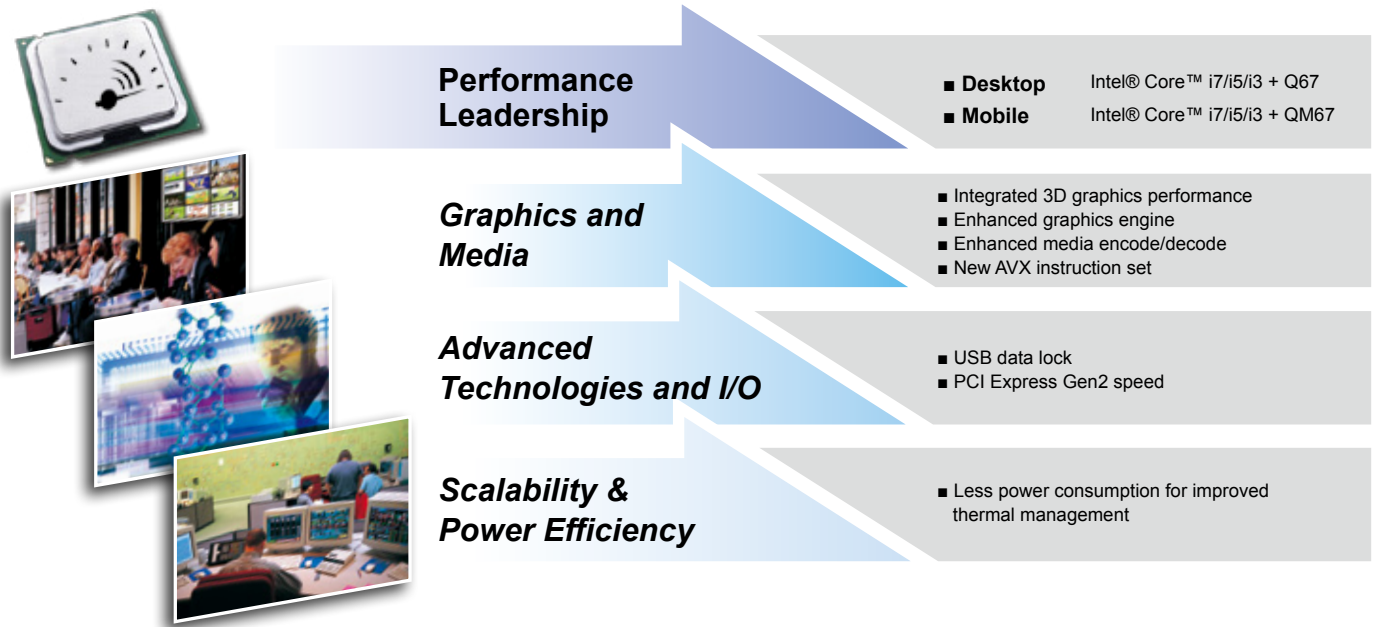
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Dynamic Adjustment of Resources

- Non-disruptive Scaling
- Flexible and Reconfigurable



High Performance



Super Speed USB 3.0 & SATA 6Gb/s



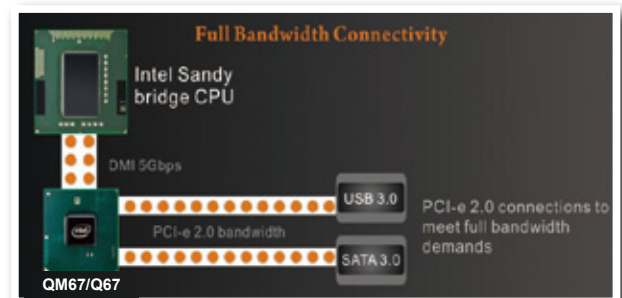
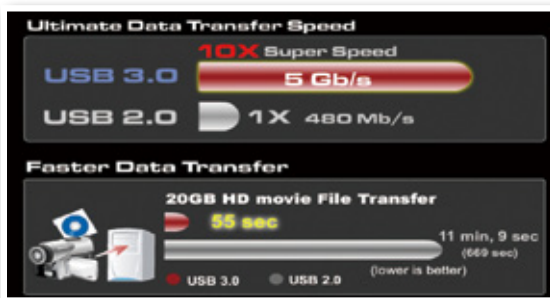
USB 3.0

- The SuperSpeed USB 3.0 supports a data transfer rate that is up to 10 times faster than USB 2.0 with optimized power efficiency.
- USB 3.0 is backwards compatible with the USB 2.0 components.



SATA 6Gb/s

- SATA 6Gb/s is suitable for tasks that require high performance memory capability, such as video editing.
- SATA 6Gb/s provides an easy upgrade path for high-bandwidth applications, such as RAID.



Fast Network Communication

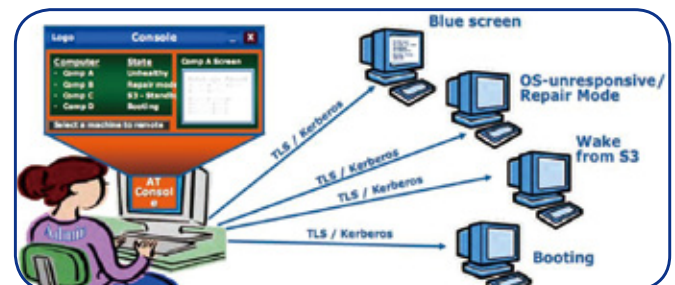
Dual Combo (SFP Fiber/RJ-45) Gigabit LAN

The TANK-700/720 series adopts dual combo (SFP Fiber/RJ-45) Gigabit LAN designed for long-distance networking. It is used in long distance network environments where an Ethernet cable would be unable to provide adequate coverage.



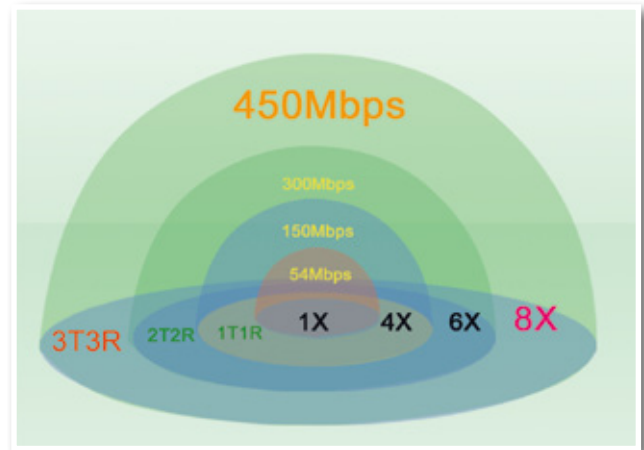
Intel® 82579 PHY with Intel® AMT 7.0 Supported

On the Intel® Core™ i7/i5/i3 hardware architecture, Intel® 82579 PHY Gigabit chipset and Intel® Active Management Technology 7.0 (AMT 7.0), IEI developed the iEZman program, which allows users to remotely control devices and perform administrative tasks such as wake-on LAN, access, diagnostics and power on/off.



Dual-Band 2.4/5 GHz Wi-Fi 802.11 a/b/g/n 3T3R MIMO Design

The TANK-700/720 series is equipped with a Wi-Fi module supporting dual-band 2.4/5GHz 802.11a/b/g/n 3T3R MIMO technology which ensures an uninterrupted wireless connection and provides up to 450Mbps wide bandwidth operation.

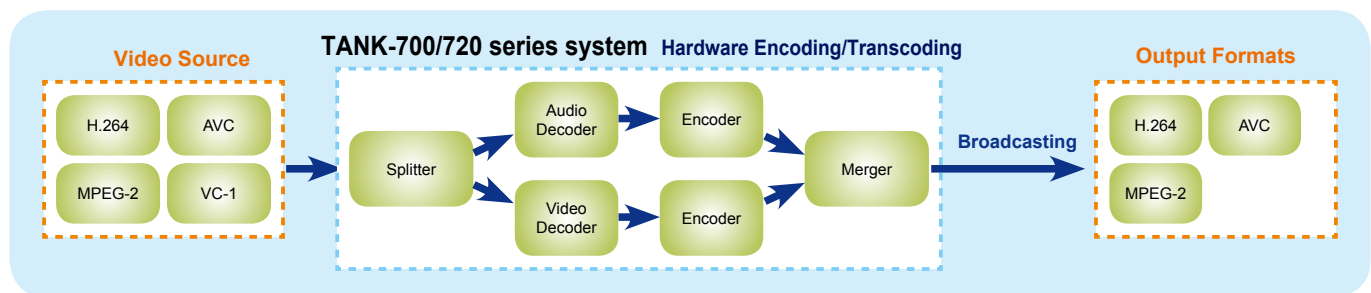


Strong Video Capability

Intel® Sandy Bridge CPU with Integrated GPU

With the DirectX 10.1/OpenGL 3.0/Full MPEG-2/WMV (VC-1)/H.264 (AVC) Hardware Encoding/Transcoding Technology, the TANK-700/720 series makes the media transcoding process more efficient and allows for easier broadcasting.

Transcoding Progress Flow



Dual Display Connection via VGA/HDMI

Allows second display connection to expand or duplicate your content.

- VGA supports resolution up to 2048x1536@75Hz, 32 bit
- HDMI supports resolution up to 1920x1200@60Hz.



8-Channel Audio/Video Capture Solution



With a H.264 codec, the TANK-700/720 series is capable of compressing and decompressing Full HD (1920x1080) video in real-time without increasing CPU loadings. By supporting real-time recording, previewing, and HD video transmission through surveillance devices, the TANK-700/720 series is suitable as an intelligent monitoring system and transportation intelligent scheduling system solution.



2 x 4-channel audio/video capture (Optional)

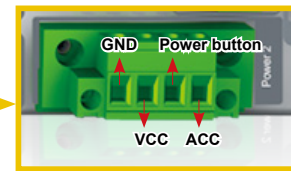
Besides audio/video capture cards, the TANK-700/720 series can support other PCIe Mini cards by demand, such as 3G and GPS modules.



Redundant Dual DC Power Input

The TANK-700/720 series adopts redundant dual DC power input design, which ensures an uninterrupted power supply to the system and eliminates the risk of sudden shutdown and data loss, even if one power is unavailable or low voltage capacity is present.

Power1: 9 ~ 36V DC input



Car lead-acid battery pack

Power2: 10.5 ~ 36V DC input



Adapter

Isolation Protection

4 COM Ports with Isolation

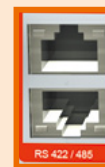
COM with isolation

1. Isolated protection voltage: 2500V/min DC protection
2. Common-mode transient immunity >25 kV/μs ESD protection



2 x RS-232

2 x RS-422/485



CAN-bus Interface with Isolation

Controller Area Network (CAN or CAN-bus) is a vehicle bus standard designed to communicate or detect errors with each other within a vehicle, industrial automation and medical equipment. This drastically reduces the chance of data loss and ensures system reliability and is suitable for intelligent networking I/O devices such as sensors or actuator of machines or plants.



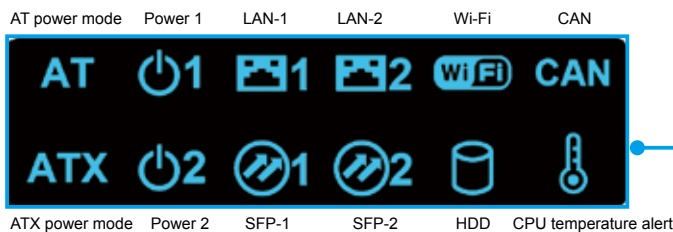
CAN-bus with isolation

1. Isolated protection voltage 2500V/min DC protection
2. Typical transient immunity 50 kV/ms ESD protection

Fully Integrated I/O

Power switch and LED

1. Long-press 3 sec. to power on
2. Long-press 6 sec. to power off



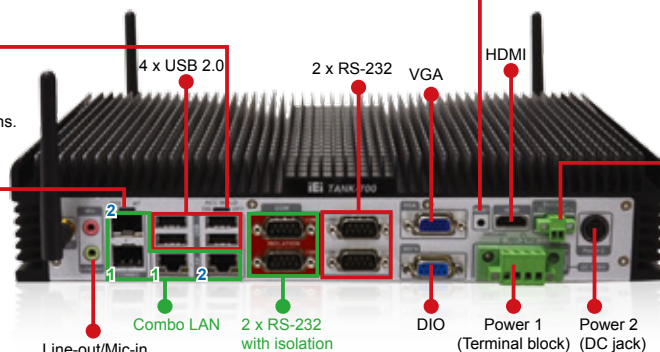
ACC on/off

ACC on mode is designed for vehicle applications. Use the ACC signal to control power on/off.



AT/ATX mode

Users can select a suitable mode according to the application.



Reset

The reset button forces the system to be reset when system hangs up.



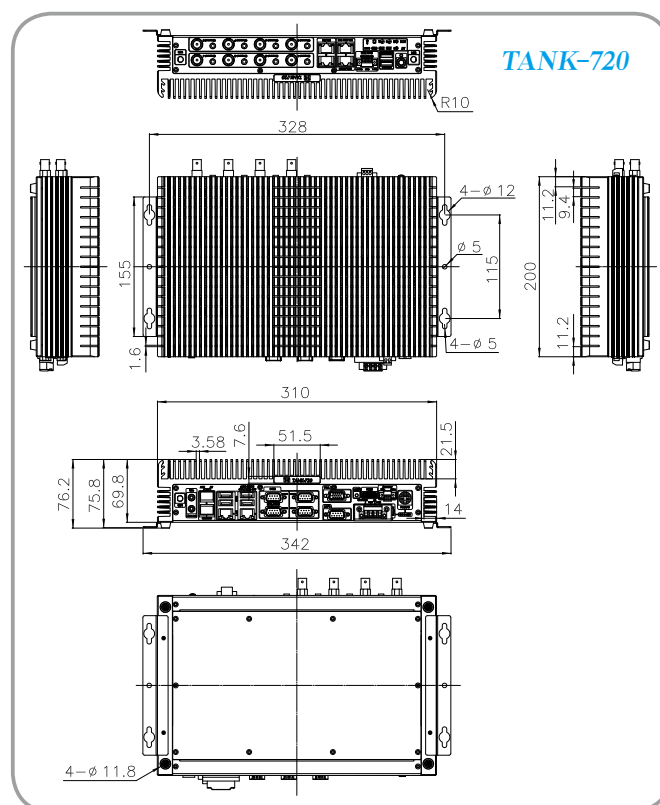
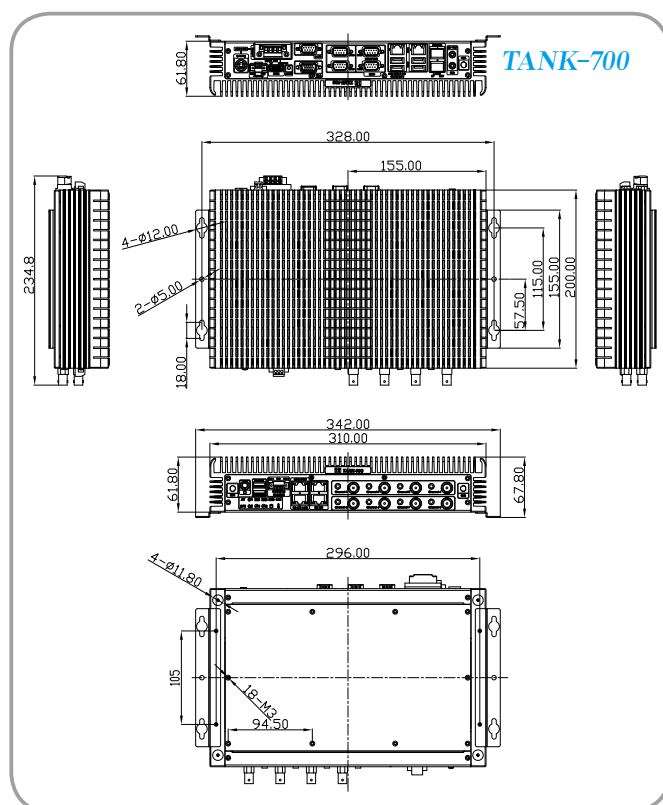
Remote control

Users can power on/off the system by inputting low or high voltage into the terminal block.
High (2V ~ 5V): Power off
Low (< 0.4V): Power on

Specifications

Model Name		TANK-700-QM67	TANK-720-Q67
Chassis	Color	Black C + Sliver C	Blue C + Sliver C
	Dimensions	310 x 200 x 62 mm	310 x 200 x 70 mm
	Chassis Construction	Extruded aluminum alloy Heavy duty steel sheet	
Motherboard	CPU	2nd Generation Intel® mobile Core™ i7/i5/i3 and Celeron® processor	2nd Generation Intel® Core™ i7/i5/i3 Celeron® and Pentium® desktop processor
	Chipset	Intel® QM67	Intel® Q67
	Ethernet	Intel® 82579 PHY with Intel® AMT 7.0 supported Intel® 82583V Ethernet controller	
	Memory	1 x 204-pin 1066/1333 MHz dual-channel DDR3 SDRAM DIMM slot (system max. 10GB) On-board 2GB DDR3 memory	
Storage	SATA	SATA 6Gb/s with 2.5" HDD/SSD support	
System Function	USB	2 x USB 3.0 on front 4 x USB 2.0 on rear	
	Ethernet	2 x Combo (SFP Fiber/RJ-45) Gigabit LAN	
	RS-232	4 x DB-9 on rear 2 x RJ-45 with isolation on front	
	RS-422/485	2 x RJ-45 with isolation on front	
	Display	1 x VGA 1 X HDMI	
	Resolution	Up to 2048 x 1536 @ 75Hz (VGA), 1920 x 1200 @ 60Hz (HDMI)	
	Audio	1 x Mic-in, 1 x Line-out	
	CAN-Bus	1 x Phoenix terminal block on front	
	Video/Audio Capture	Optional 4-channel audio/video input PCIe Mini card (up to two cards)	
	Internal Expansions	3 x PCIe Mini slot	
	Power Supply	Redundant dual DC input Power 1 (Terminal Block) : 9V(+/-0.3V) ~ 36V Power 2 (DC Jack) : 10.5V(+/-0.3V) ~ 36V	
Power	Max. Power Consumption	19V@3.3A (Intel® Core™ i5-2540M processor with 4G DDR3 Memory)	19V@3.1A (Intel® Core™ i3-2100T processor with 4G DDR3 Memory)
Reliability	Mounting	Desktop, Wall mount	
	Operating Temperature	-20°C ~ 70°C, 5% ~ 95%, non-condensing	-20°C ~ 50°C, 5% ~ 95%, non-condensing
	Storage Temperature	-30°C ~ 80°C	
	Operating Shock	Half-sine wave shock 5G, 11ms, 3 axis	
	Operating Vibration	Meet MIL-STD-810F 514.5C-2 (with SSD)	
	Weight (Net/Gross)	3.8Kg/6.5Kg	4.2Kg/6.9Kg
Safety & EMC		CE/FCC	CE/FCC

Dimensions (Unit: mm)



Ordering Information

TANK-700 series

Part No.	Description
TANK-700-QM67/C/2G-R10	Fanless embedded system, 2GB DDR3 on-board memory, 8-channel capture card, VGA/HDMI, USB 3.0, SATA 6Gb/s, SFP Fiber, Isolated CAN, Audio, 9-36V DC input, -20 ~ 70°C, R10
TANK-700-QM67/2G-R10	Fanless embedded system, 2GB DDR3 on-board memory, VGA/HDMI, USB 3.0, SATA 6Gb/s, SFP Fiber, Isolated CAN, Audio, 9-36V DC input, -20 ~ 70°C, R10
TANK-700-QM67W/C/2G-R10	Fanless embedded system, 2GB DDR3 on-board memory, 8-channel capture card, VGA/HDMI, USB 3.0, SATA 6Gb/s, SFP Fiber, 3T3R 802.11b/g/n wireless, Isolated CAN, Audio, 9-36V DC input, -20 ~ 70°C, R10
TANK-700-QM67W/2G-R10	Fanless embedded system, 2GB DDR3 on-board memory, VGA/HDMI, USB 3.0, SATA 6Gb/s, SFP Fiber, 3T3R 802.11b/g/n wireless, Isolated CAN, Audio, 9-36V DC input, -20 ~ 70°C, R10
CPU Selection	CPU-MB-i7-2640M 2nd Generation Intel® Core™ i7 Processor [Mobile], PPGA-988, dual-core 2.8GHz, 35W, Intel® AMT
	CPU-MB-i5-2510E 2nd Generation Intel® Core™ i5 Processor [Mobile], PPGA-988, dual-core 2.5GHz, 35W, Intel® AMT
	CPU-MB-i3-2310M 2nd Generation Intel® Core™ i3 Processor [Mobile], PPGA-988, dual-core 2.1GHz, 35W
	CPU-MB-CM-B810 Intel® Celeron® Mobile Processor, PPGA-988, dual-core 1.6GHz, 35W
	CPU-MB-CM-B710 Intel® Celeron® Mobile Processor, PPGA-988, single core 1.6GHz, 35W
Memory Selection	DDR3-SO-1333-2GB SO-DIMM DDR3 1333MHz 2GB
	DDR3-SO-1333-4GB SO-DIMM DDR3 1333MHz 4GB

TANK-720 series

Part No.	Description
TANK-720-Q67/C/2G-R10	Fanless embedded system, 2GB DDR3 on-board memory, 8-channel capture card, VGA/HDMI, USB 3.0, SATA 6Gb/s, SFP Fiber, Isolated CAN, Audio, 9-36V DC input, -20 ~ 50°C, R10
TANK-720-Q67/2G-R10	Fanless embedded system, 2GB DDR3 on-board memory, VGA/HDMI, USB 3.0, SATA 6Gb/s, SFP Fiber, Isolated CAN, Audio, 9-36V DC input, -20 ~ 50°C, R10
TANK-720-Q67W/C/2G-R10	Fanless embedded system, 2GB DDR3 on board memory, 8-channel capture card, VGA/HDMI, USB 3.0, SATA 6Gb/s, SFP Fiber, 3T3R 802.11a/b/g/n wireless, Isolated CAN, Audio, 9-36V DC input, -20 ~ 50°C, R10
TANK-720-Q67W/2G-R10	Fanless embedded system, 2GB DDR3 on-board memory, VGA/HDMI, USB 3.0, SATA 6Gb/s, SFP Fiber, 3T3R 802.11a/b/g/n wireless, Isolated CAN, Audio, 9-36V DC input, -20 ~ 50°C, R10
CPU Selection	CPU-DT-i7-2600S 2nd Generation Intel® Core™ i7 Processor [Desktop], LGA1155, dual-core 3.4GHz, 65W, Intel® AMT
	CPU-DT-i5-2390T 2nd Generation Intel® Core™ i5 Processor [Desktop], LGA1155, dual-core 2.7GHz, 35W, Intel® AMT
	CPU-DT-i3-2100T 2nd Generation Intel® Core™ i3 Processor [Desktop], LGA1155, dual-core 2.5GHz, 35W
	CPU-DT-P-G630T Intel® Pentium® Desktop Processor, LGA1155, dual-core 2.3GHz, 35W
	CPU-DT-C-G530T Intel® Celeron® Desktop Processor, LGA1155, dual-core 2.0GHz, 35W
Memory Selection	DDR3-SO-1333-2GB SO-DIMM DDR3 1333MHz 2GB
	DDR3-SO-1333-4GB SO-DIMM DDR3 1333MHz 4GB

Options

Options	P/N	Description
Gigabit Ethernet SFP Module	SFP1G-SX-I	1Gbps SFP optical transceiver, multi-mode/550m, 850nm (0°C ~ 70°C)/industrial grade (-20°C ~ 85°C)
	SFP1G-MLX-I	1Gbps SFP optical transceiver, multi-mode/2Km, 1310nm (0°C ~ 70°C)/industrial grade (-40°C ~ 85°C)
	SFP1G-LX10-I	1Gbps SFP optical transceiver, single-mode/10Km, 1310nm (0°C ~ 70°C)/industrial grade (-40°C ~ 85°C)
	SFP1G-XD70-I	1Gbps SFP optical transceiver, single-mode/50Km, 1550nm (0°C ~ 70°C)/industrial grade (-40°C ~ 85°C)
Fiber Cord	FPC-LCLC-MM3M	Optical connector LC/LC, multi-mode, diameter 62.5/125 µm, length 3m
Fiber Cord	FPC-LCLC-SS3M	Optical connector LC/LC, single-mode, diameter 9/125 µm, length 3m
OS: Win CE 6.0 (CD-ROM)	TANK-700-QM67-CE060-R10	OS Image with WINCE 6.0, for TANK-700 QM67 Series, with CD-ROM, RoHS
	TANK-720-QM67-CE060-R10	OS Image with WINCE 6.0, for TANK-720 Q67 Series, with CDROM, RoHS
OS: Win XPE (CD-ROM)	TANK-700-QM67-XPE-R10	OS Image with XPE, for TANK-700 QM67 Series, with CD-ROM, RoHS
	TANK-720-QM67-XPE-R10	OS Image with XPE, for TANK-720 Q67 Series, with CDROM, RoHS
OS: Linux (CD-ROM)	TANK-700-QM67-LNX-R10*	OS Image with Linux for TANK-700 QM67, Debian operating system, Kernel version 2.6.26, with CD-ROM, RoHS
	TANK-720-QM67-LNX-R10*	OS Image with Linux for TANK-720 Q67, Debian operating system, Kernel version 2.6.26, with CDROM, RoHS
OS: Win 7 Embedded (CD-ROM)	TANK-700-QM67-WES7E-R10	OS Image with Windows Embedded Standard 7 E, for TANK-700 QM67 Series, with CD-ROM, RoHS
	TANK-720-QM67-WES7E-R10	OS Image with Windows Embedded Standard 7 E, for TANK-720 Q67 Series, with CDROM, RoHS

* it doesn't include video/audio capture card's driver

Packing List

Item	P/N	Q'ty	Description
Utility CD		1	Drivers and user manual
One Key Recovery CD		1	
Power Adapter	63040-010090-020-RS	1	FSP090-D2BA1; 90 ~ 264VAC input; 90W; 19VDC output; Din 4-pin
Power Cord	32702-000401-100-RS	1	1500 mm, European Standard
RJ-45 to DB-9 COM Port Cable	32005-000200-200-RS	4	
Power Cord Convert Cable	32702-000300-100-RS	1	Convert normal type cord to triangle type cord cable
Chassis Screw	44013-030041-RS	8	M3*4 chassis screws for backup
Mounting Bracket	41020-0163J4-00-RS	2	
Mounting Bracket Screws	44003-030062-RS	8	M3*6 mounting bracket screws
Wi-Fi Antenna (for Wi-Fi module only)	32505-000900-100-RS	3	External antenna
Pluggable DC-in Terminal Block	33502-000055-RS	1	4-pin
Pluggable CAN-bus Terminal Block	33502-000007-RS	1	3-pin
Pluggable Remote Control Terminal Block	33101-000422-RS	1	2-pin