TANK-800-D525 820-H61

- ■ **Intel® D525 3-Slot Fanless Embedded System**
- ■ **Intel® Sandy Bridge 3-Slot Embedded System**

New

TANK-800

TANK-820

Features

♦ Intel® Atom™ D525 1.8GHz dual-core processor for TANK-800
 2nd Generation Intel® Core™ low power desktop processors
 for TANK-820

♦ On-board 1GB DDR3 memory and one DDR3 SO-DIMM slot
 (system max. 3GB) for TANK-800
 On-board 2GB DDR3 memory and one DDR3 SO-DIMM slot
 (system max. 10GB) for TANK-820

♦ Redundant dual wide range DC power support (TANK-
 800-D525: 9 ~36 VDC / TANK-820-H61: 9 ~ 24 VDC)

♦ Flexible PCI/PCIe expansion slots satisfy customized
 requirements

♦ Rich I/O functions satisfy various applications

♦ Extended temperature fanless design (TANK-800-D525)

♦ Dual PCIe GbE LAN for high-speed network applications

♦ One CompactFlash® socket

DDR3 1333 | **Gigabit Ethernet Dual GbE** | **PCI/PCIe Expansion** | **Redundant Dual DC** | **RS-232** | **MOUNT**
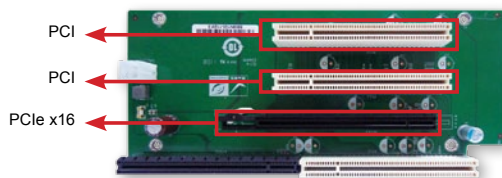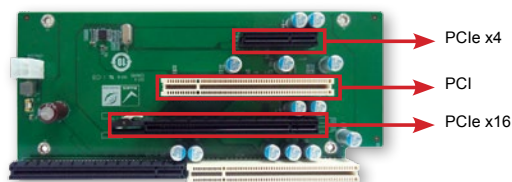
Versatile Expansion Interface

The TANK-800/820 series has various kinds of expansion interfaces which allow you to connect additional circuits or expansion boards to the system via IEI riser cards. These expansion options provide flexible function enhancement and simplify system integration.

PCI
PCI
PCIe x16

● **HPE-3S6 (2P1E)**

PCIe x4
PCI
PCIe x16

● **HPE-3S7 (1P2E)**

● The two types of backplane support standard PCI/PCIe cards with maximum dimensions (WxL): 111 x 190 mm

● The rated voltage and current of the backplane

Voltage	Current
+5V	7A
+12V	3.75A
-12V	0.1A
+3.3V	8A
Max. power supported by the backplane: <45W	

The system default power is 90 W. **The maximum total power of the backplane to support expansion cards is 45 W**. The power of the selected expansion cards can not exceed the max. power (45 W), otherwise, the system may be unstable.

Backplane	Slot	TANK-800 Signal	TANK-820 Signal
HPE-3S6 (2P1E)	PCI	PCI	PCI
	PCIe x16	PCIe x4	PCIe x8
HPE-3S7 (1P2E)	PCI	PCI	PCI
	PCIe x4	PCIe x1	PCIe x1
	PCIe x16	PCIe x2	PCIe x8

Rich I/O Function

● **Four USB Ports**
Four USB ports can completely satisfy other USB devices or access requirements.

● **Dual GbE Ports**
Dual GbE ports offer a diverse range of network communication options, helping users easily create an integrated industrial application that requires Ethernet protocols.

● **Serial Ports**
The serial ports help millions of serial devices connect to the network for industrial applications. Our RS-232/422/485 serial ports provide powerful communication performance for all industrial device connectivity.

● **8-bit Digital I/O, 4-bit input/4-bit output**
The DIO channels are quite useful for remote controlling, such as device power on/off, LEDs on/off, counter and cash drawer control.
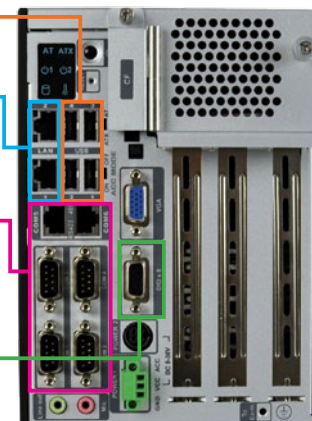
Redundant Dual DC Power Input

The TANK-800-D525/ TANK-820-H61 adopts redundant dual DC power input design, which ensures 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.

Compact

The compact solution can sustain strong vibrations and be used in any industrial environments.

Power 1

ACC

Power 2

10.5V ~ 36V DC Adapter

9V ~ 36V car lead-acid battey pack
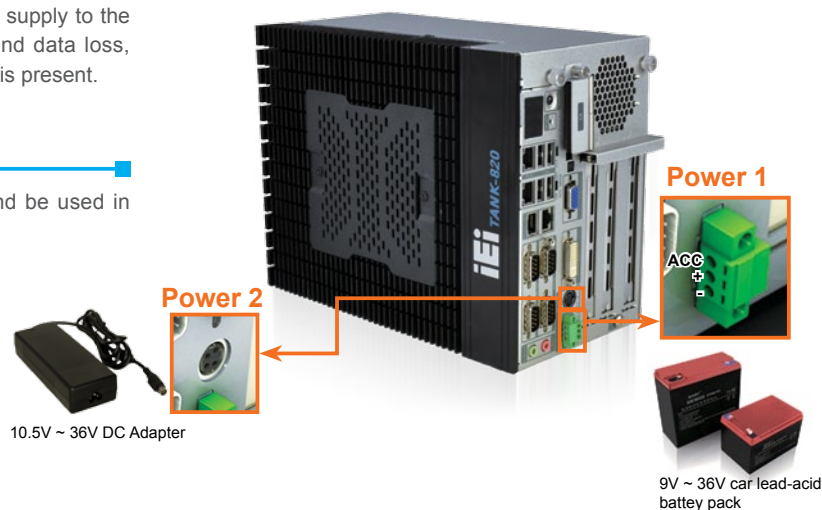
Anti-Vibration and Anti-Shock Design

With the rugged design, the TANK-800/820 series is reliable in industrial environments to resist strong vibrations and can be used as a core computer requiring to be installed on moving objects.

Cable-less

The cable-less concept offers a strong hardware design and promises a reliable combination of embedded components. This design helps ensuring stable system operation and robust hardware design. With all the components firmly attached, the TANK-800/820 series is ideal to be installed on moving objects.

Traditional

Cable-less
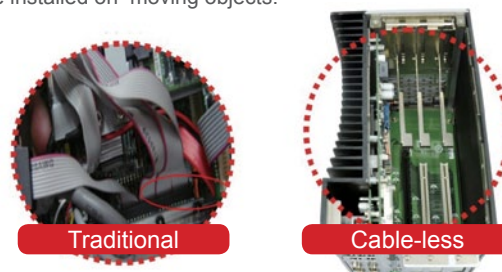
Wide Range DC Power Input

The TANK-800/820 series accepts wide range DC power input, allowing it to be powered anywhere, no matter if a 12V, 24V DC source or a 19V power adapter is available.

Ingenious Fan Space Design

The TANK-800/820 series reserves an easy-to-install, hot-pluggable fan module space, ensuring the PCI/PCIe expansion cards with high power consumption to operate under high temperature environment.

Optional

40x40x10 mm
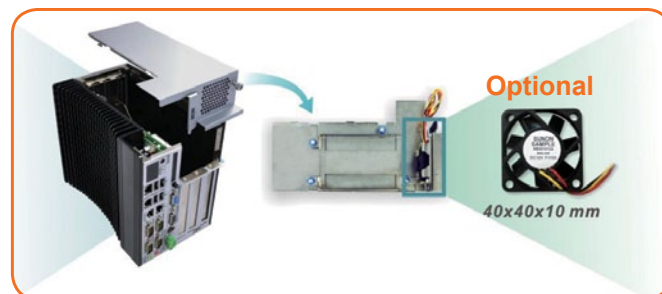
Fanless

The TANK-800 series provides the best components that generate less heat, but maintain high system performance. With the fanless design, the TANK-800-D525 reduces system failure caused by fans and extends the lifetime of the device.

Fanless

Wide Range Temperature

The TANK-800/820 series is designed to withstand wide range of temperatures. With this design, the TANK-800/820 series can even be installed in a high-temperature roadside cabinet.
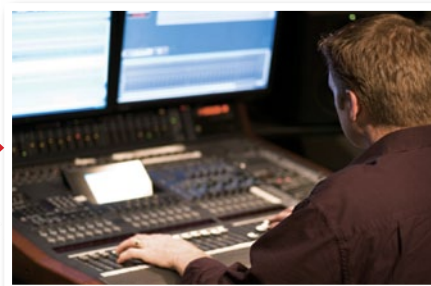
Mounting Method

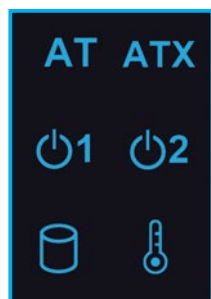Mount the embedded system onto a wall or other surfaces using the two mounting brackets.
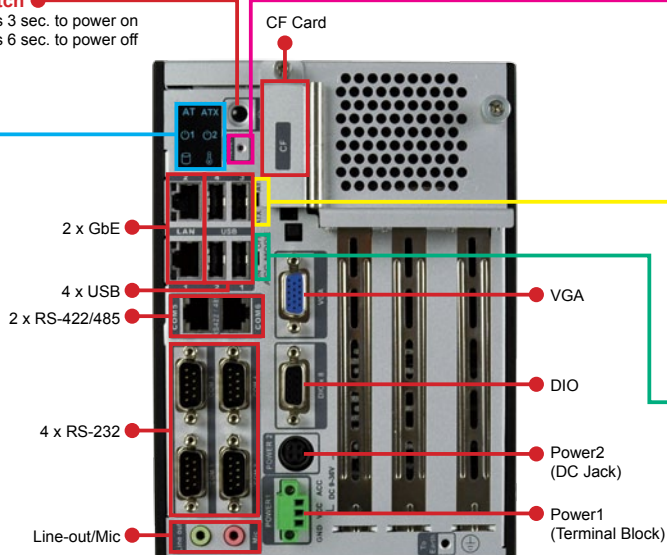
Console cabinet

Fully Integrated I/O

TANK-800 Front IO

AT   ATX
⏻1   ⏻2

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

CF Card

2 x GbE
4 x USB
2 x RS-422/485
4 x RS-232
Line-out/Mic

VGA
DIO
Power2 (DC Jack)
Power1 (Terminal Block)

RESET

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

ATX ▮ AT

AT/ATX mode
Users can select a suitable mode according to applications.

ACC   OFF ▮ ON

ACC mode
ACC mode is designed for vehicle systems and PWR1 will be used as the priority power input.

TANK-820

Front IO

Power Button
Indicators
4 x USB
2 x GbE
2 X RS-422/485
4 x RS-232
Line-out/Mic
Redundant dual DC Input

CF Card
VGA
DVI
To Ground

Rear I/O

DIO

2 x RS-232 with isolation
1. Isolated protection voltage 2500V/minDC protection
2. Common-mode transient immunity > 25 kV/ μs ESD protection

2 x USB 3.0
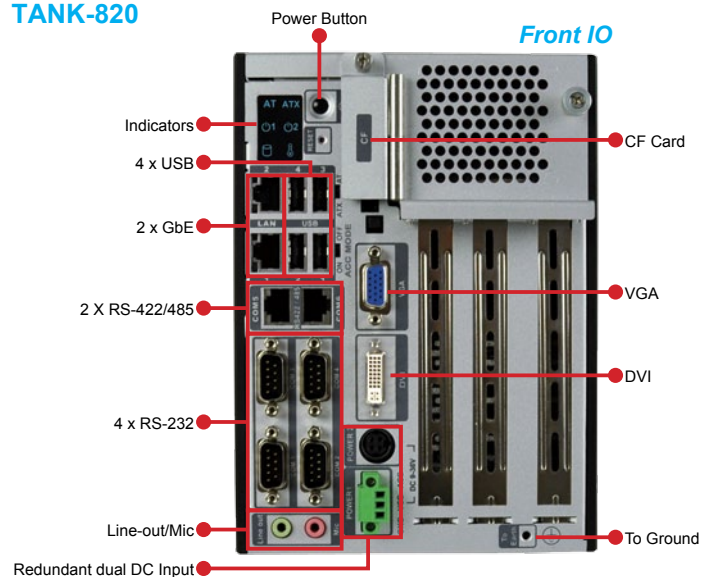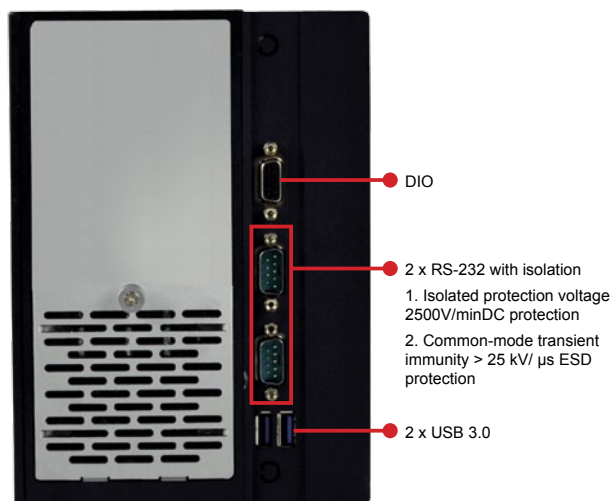
Specifications

| Model Name		TANK-820-H61 *New*	TANK-800-D525
Chassis	Color	Black C + Silver	Black C + Silver
	Dimensions (W x D x H)	133 x 269 x 208 mm	136 x 219 x 188 mm
	System Fan	60 x 60 mm	Fanless
	Chassis Construction	Extruded Aluminum Alloy	Extruded Aluminum Alloy
Motherboard	CPU	2nd Generation Intel® -Core™ i5-2xxT, dual-core (above 2.7GHz), 35W -Core™ i3-2xxT, dual-core (above 2.5GHz), 35W -Pentium® G6xxT, dual-core (above 2.2GHz), 35W	Intel® D525 1.8 GHz dual-core processor
	Chipset	Intel® H61	Intel® ICH8M
	System Memory	On-board DDR3 2GB memory 1 x 204-pin DDR3 SDRAM SO-DIMM (System Max: 10GB)	On-board DDR3 1GB memory 1 x 204-pin DDR3 SDRAM SO-DIMM (System Max: 3GB)
Storage	Hard Drive	1 x 2.5" SATA HDD Bay	1 x 2.5" SATA HDD Bay
	CompactFlash®	1 x CF Type II	1 x CF Type II
I/O interfaces	USB 3.0	2	N/A
	USB 2.0	4	4
	Ethernet	2 x RJ-45 Realtek 8111E GbE LAN support ASF 2.0	2 x RJ-45 Realtek 8111E GbE LAN support ASF 2.0
	RS-232	4 x DB-9 2 x DB-9 w/isolation	4 x DB-9
	RS-422/485	2 x RJ-45	2 x RJ-45
	Digital I/O	8-bit Digital I/O, 4-bit input / 4-bit output	8-bit Digital I/O, 4-bit input / 4-bit output
	Display	1 x VGA, 1 x DVI-I	1 x VGA
	Resolution	VGA: Up to 2048 x 1536 @ 75Hz DVI-I: Up to 1920 x 1080 @ 60Hz	VGA: Up to 2048 x 1536 @ 75Hz
	Audio	1 x Line-out, 1 x Mic-in	1 x Line-out, 1 x Mic-in
Expansions	PCI	2P1E: 2 x PCI, 1P2E: 1 x PCI	2P1E: 2 x PCI, 1P2E: 1 x PCI

	PCIe	2P1E: One PCIe x8 (physical PCIe x16 slot)
		1P2E: One PCIe x1 (physical x4 slot),
		     One PCIe x8 (physical x16 slot)
			2P1E: One PCIe x4 (physical PCIe x 16slot)
			1P2E: One PCIe x1 (physical x 4slot),
			     One PCIe x2 (physical x 16slot)

Power	Power Input	Redundant dual DC input Terminal Block: 9~24V DC Jack: 9~24V	Redundant dual DC input Terminal Block: 9V (+/-0.3V) ~ 36V DC Jack: 10.5V (+/-0.3V) ~ 36V
	Power Consumption	19V@3.5A (Intel® Core™ i3-2100 with 6GB DDR3 memory, w/o add-on card)	19V@1.73A (Intel® Atom™ D525 with 1GB DDR3 Memory)
Reliability	Mounting	Wall mount	Wall mount
	Operating Temperature	-20°C ~ 60°C with air flow (SSD), 5% ~ 95%, non-condensing	-20°C ~ 70°C with air flow (SSD), 5% ~ 95%, non-condensing
	Operating Shock	Half-sine wave shock 5G, 11ms, 3 shocks per axis	Half-sine wave shock 5G, 11ms, 3 shocks per axis
	Operating Vibration	MIL-STD-810F 514.5C-2 (with SSD)	MIL-STD-810F 514.5C-2 (with SSD)
	Weight (Net/Gross)	4.2 Kg / 6.3 Kg	2.6Kg / 4.1Kg
	Safety & EMC	CE / FCC	CE / FCC
OS	Supported OS	Microsoft® WES7E, Microsoft® Windows® XP Embedded	Microsoft® WES7E, Microsoft® Windows® XP Embedded

Ordering Information

TANK-800 series

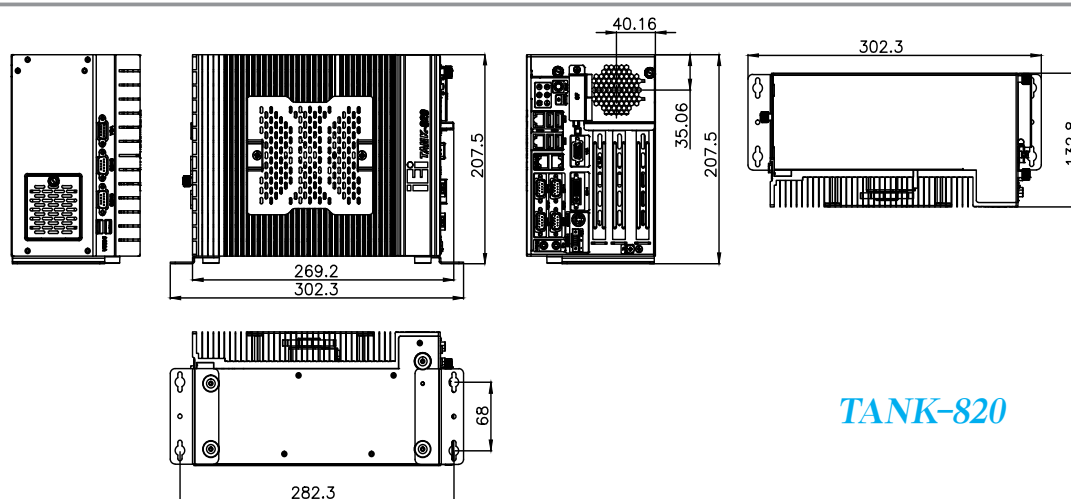| Part No.		Description
TANK-800-D525/1GB/2P1E-R11		Extended temperature fanless embedded system with one PCIe x4 and two PCI expansion, Intel® Atom™ D525 1.8GHz dual core processor, dual 9V-36V DC-IN, on-board 1GB DDR3 memory, -20°C ~ 70°C, RoHS
TANK-800-D525/1GB/1P2E-R11		Extended temperature fanless embedded system with one PCIe x1, one PCIe x2 and one PCI expansions, Intel® Atom™ D525 1.8GHz dual core processor, dual 9V-36V DC-IN, on-board 1GB DDR3 memory, -20°C ~ 70°C, RoHS
Memory Selection	DDR3-SO-1333-2GB	SO-DIMM DDR3 1333MHz 2GB
	DDR3-SO-1333-4GB	SO-DIMM DDR3 1333MHz 4GB

TANK-820 series

Part No.		Description
TANK-820-H61-i5/2G/2P1E-R10		Extend temperature embedded system with One PCIe x8 and two PCI expansion, Core™ i5 Dual Core 2xxT CPU (Above 2.7GHz), TDP 35W, Dual 9-24V DC-IN, 2GB DDR3 Memory on-board, -20°C~60°C, R10
TANK-820-H61-i5/2G/1P2E-R10		Extend temperature embedded system with One PCIe x1 and one PCIe x8 and one PCI expansion, Core™ i5 Dual Core 2xxT CPU (Above 2.7GHz), TDP 35W, Dual 9-24V DC-IN, 2GB DDR3 Memory on-board, -20°C~60°C, R10
TANK-820-H61-i3/2G/2P1E-R10		Extend temperature embedded system with One PCIe x8 and two PCI expansion, Core™ i3 Dual Core 2xxT CPU (Above 2.5GHz), TDP 35W, Dual 9-24V DC-IN, 2GB DDR3 Memory on-board, -20°C~60°C, R10
TANK-820-H61-i3/2G/1P2E-R10		Extend temperature embedded system with One PCIe x1 and one PCIe x8 and one PCI expansion, Core™ i3 Dual Core 2xxT CPU (Above 2.5GHz), TDP 35W, Dual 9-24V DC-IN, 2GB DDR3 Memory on-board, -20°C~60°C, R10
TANK-820-H61-P/2G/2P1E-R10		Extend temperature embedded system with One PCIe x8 and two PCI expansion, Pentium® Dual Core G6xxT CPU (Above 2.2GHz), TDP 35W, Dual 9-24V DC-IN, 2GB DDR3 Memory on-board, -20°C~60°C, R10
TANK-820-H61-P/2G/1P2E-R10		Extend temperature embedded system with One PCIe x 1 and one PCIe x8 and one PCI expansion, Pentium® Dual Core G6xxT CPU (Above 2.2GHz), TDP 35W, Dual 9-24V DC-IN, 2GB DDR3 Memory on-board, -20°C~60°C, R10
Memory Selection	DDR3-SO-1333-2GB	SO-DIMM DDR3 1333 MHz 2GB
	DDR3-SO-1333-4GB	SO-DIMM DDR3 1333 MHz 4GB

Dimensions (Unit: mm)
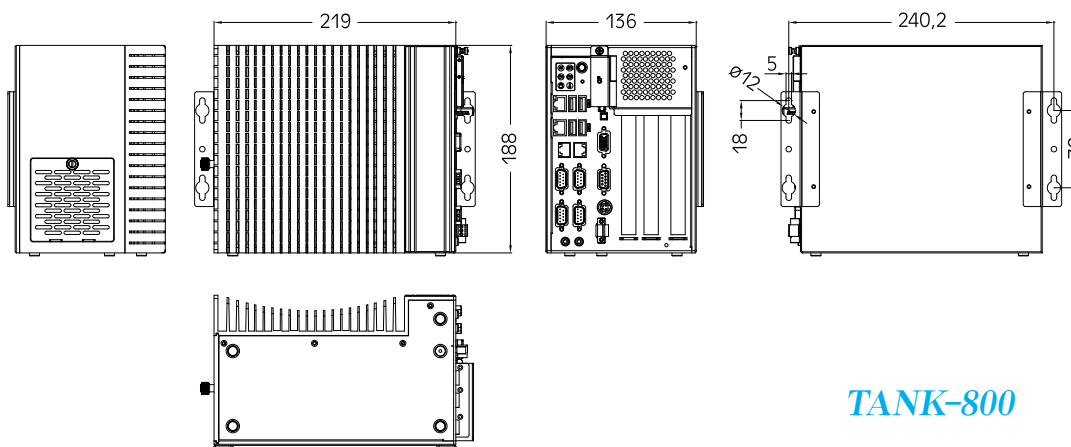
TANK-800

TANK-820

Options

Item	Part No.	Description
OS: Linux (2GB CF Card)	TANKCF-800-D525-LNX-2G-R10	OS Image with Linux for TANK-800 D525, Debian operating system, Kernel version 2.6.26, 2GB CompactFlash® card, RoHS
	TANKCF-820-H61-LNX-2G-R10	OS Image with Linux for TANK-820 H61, Debian operating system, Kernel version 2.6.26, 2GB CompactFlash® card, RoHS
OS: Win CE 6.0 (128MB CF Card)	TANKCF-800-D525-CE060-128M-R10	OS Image with WINCE 6.0, for TANK-800 D525 Series, 128MB CompactFlash® card, RoHS
OS: Win XPE (4GB CF Card)	TANKCF-800-D525-XPE-4G-R10	OS Image with XPE, for TANK-800 D525 Series, 4GB CompactFlash® card, RoHS
	TANKCF-820-H61-XPE-4G-R10	OS Image with XPE, for TANK-820 H61 Series, 4GB CompactFlash® card, RoHS
OS: Win 7 Embedded (4GB CF Card)	TANKCF-800-D525-WES7E-4G-R10	OS Image with Windows Embedded Standard 7 E, for TANK-800 D525 Series, 4GB CompactFlash® card, RoHS
	TANKCF-820-H61-WES7E-4G-R10	OS Image with Windows Embedded Standard 7 E, for TANK-820 H61 Series, 4GB CompactFlash® card, RoHS

Packing List

Item	Part No.	Quantity	Description
Utility CD		1	Drivers and user manual
One Key Recovery CD	7B000-000724-RS	1	
Power Adapter	63040-010090-020-RSS	1	FSP090-D2BA1, 90 ~ 264VAC input, 90W, 19VDC output (for TANK-800)
	63000-FSP120AAB-RS	1	FSP120-AAB, 90 ~ 264V input, 120W, 19VDC output (for TANK-820)
Power Cord	32702-000401-100-RS	1	1500 mm, European Standard
Mounting Bracket	41020-0308C2-00-RS	2	Wall mount bracket, Mount bracket, NCT processing formation, TANK-800, RoHS
	41020-0366E4-00-RS	2	Wall mount bracket, Mount bracket, NCT processing formation, TANK-820 RoHS
Mounting Bracket Screws	44033-040062-RS	4	
HDD Screw	44043-030051-RS	4	M030*05 for securing HDD
Rubber Foot Pad Screws	44005-030061-RS	8	M4*6 for securing rubber foot pads (for TANK-800)
	44033-040061-RS	4	M4*6 for securing rubber foot pads (for TANK-820)
RJ-45 to DB-9 COM Port Cable	32005-000200-200-RS	2	Round cable, RS-232/422/485, RS-232 cable, 2, 300mm, 26AWG, (A)D-SUB 9P male, (B)RJ-45 8P8C+SHELL, RoHS
Pluggable DC-in Terminal Block	33502-000007-RS	1	3-pin terminal block
Foot Pads	46007-001500-RS	4	BOTTOM PAD, NF-002, 11.5D*8.7D*7.4H, black rubber, RoHS
FAN screws	44003-030151-RS	4	For TANK-820