TANK-GM45A

Extended Temperature Fanless Embedded System with Intel® Core™2 Duo Processor

- ♦ Socket P Intel® 45nm Mobile Core™2 Duo Processor Supported
- ♦ Extended Temperature Fanless design support -20ºC~70ºC
- ♦ High Performance MPEG-2 Decoding, WMV9(VC-1) and H.264(AVC) supported
- ♦ Built-in DDR2 SO-DIMM 2G memory
- ♦ Support 2xCOM, 4xUSB2.0, 2x Intel GbE LAN
- ♦ IEI One Key Recovery solution allows you to creat rapid OS backup and recovery
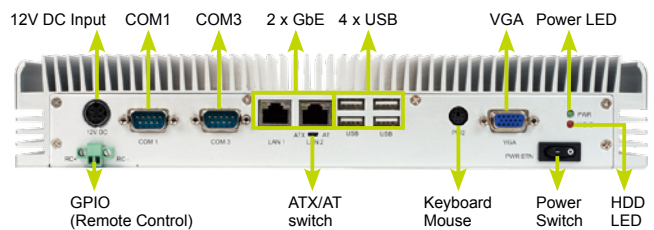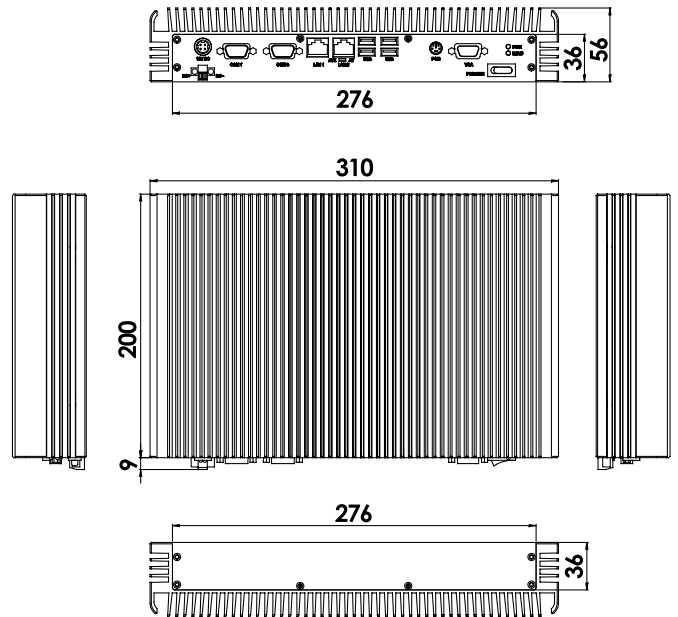
One Key Recovery — iEi symantec.

Fanless

+70°C / -20°C

Specifications

Processor	Socket P Intel® Core™ Duo 2.4GHz, 3MB L2 Cache, Processor P8600 Socket P Intel® Celeron® M 2.0GHz, 1MB L2 Cache, Processor 575
Chipset	Intel® GM45 Chipset + ICH9M
System Memory	Built in one 2GB SO-DIMM memory
Ethernet	One Intel® 82574L GbE Controller One Intel® WG82567LM GbE PHY
Display	Intel® Gen 5.0 integrated Graphic engine High Performance MPEG-2 Decoding, WMV9(VC-1) and H.264(AVC) supported CRT Interface integrated in Intel® GM45 Resolution: Analog monitor support XQGA up to 2048x1536MHz
Serial Port	One RS-232 One RS-422 (Optional RS-485 supoprt by internal jumper) Isolated protection: up to 1200VDC
Watch Dog Timer	Software programmable support 1~255 sec. system reset support by ITE 8718
PS/2	One PS/2 KB/MS
USB	Four x USB2.0
LED	One dual stack LED, green for power, red for HDD
Storage	One 2.5" SATA HDD capacity
Power Input	12V DC in with 4pin mini-DIN One AT/ATX switch One 2pin Terminal block connector for remote control system ON/OFF
Power Consumption	45W
Chassis Construction	Aluminum Alloy
Operating Temperature	-20ºC ~ 70ºC (SATA SSD) with air flow* 　0ºC ~ 50ºC (SATA HDD) with air flow*
Operating Shock	Half-Sine Shock Test 5G/11ms, 3 shocks per axis
Operating Vibration	MIL-STD-810F 514.5 C-1
Weight (Net/Gross)	3.5Kg/4.2Kg
Dimension(WxHxD)	310 x 200 x 55mm

* Ambient air speed pre IEC-68-2-2 standard

Dimensions (unit: mm)

36 / 56 / 276

310 / 200 / 9

276 / 36

12V DC Input | COM1 | COM3 | 2 x GbE | 4 x USB | VGA | Power LED

GPIO (Remote Control) | ATX/AT switch | Keyboard Mouse | Power Switch | HDD LED

Packing List

1x Power Cable (Terminal Block DC in Cable)
1 x Screw set
1 x QIG
1 x CD

The TANK-GM45A embedded system is a fan less system for wide range temperature environments. It is powered by the Intel® 45nm Core™2 Duo processor, uses the Intel® GM45 chipset and has 2.0 GB of DDR2 memory.

Extend-Temperature System

TANK-GM45A supports extended Temperature from -20ºC up to 70ºC with One Industrial 2.5" SATA Flash Disk. IEI IFD 2.5" SSD supporting SATA SLC solutions features anti-vibration, low power consumption, high performance and perfect reliability. SSD not only performs much better IOPS than HDD but also can be operated anytime because of no mobile components like the motor, bearing or and rotating head. In addition, SSD can absolutely fulfill specialized application performing in any harsh environment.

	iFD 2.5" SATA 2510WT Wide Temp. Grade	iFD 2.5" SATA 2500RW Wide Temp. Grade	iFD 2.5" SATA 2000JW Wide Temp. Grade
SATA SSD	**iFD-2510WT**	**iFD-2500RW**	**iFD-2000JW**
Capacities	8GB~128GB	1GB~32GB	8GB~128GB
Data Transfer Rate (max.)	Read-37MB/Sec; Write-37MB/Sec	Read-60MB/Sec; Write-40MB/Sec	Read-160MB/Sec; Write-140MB/Sec
Operation Temp.	-40ºC ~ 85ºC	-40ºC ~ 85ºC	-40ºC ~ 85ºC
Storage Temp.	-55ºC ~ 95ºC		
Vibration	20G (7~2000Hz)		
Shock	1500G/0.5ms		
DC Input Voltage	5V single power supply operation		
Enclosure Material	Metal Mechanical Cover		
Dimension	69.63mm x 99.88mm x 9.3mm (WxHxL)		

High Performance Intel® GbE

IP Video Surveillance
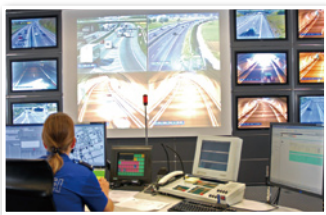
LAN 1   LAN 2

High Performance Intel® GbE

• Intel® 82574L

The 82574 provides one PCIe lane operating at 2.5 GHz with sufficient bandwidth to support 1000 Mb/s transfer rate. Supports 9018-byte jumbo packets,40 KB of on-chip buffering mitigates instantaneous receive bandwidth demands and eliminates transmit under–runs by buffering the entire outgoing packet prior to transmission.

• Intel® WG82567LM

The 82567 is a single port GbE physical layer Transceiver (PHY) that connects to its Media Access Controller (MAC) through a dedicated interconnect and supports operation at data rate of 10/100/1000 Mb/s. Supports up to 9 kB jumbo frames (full duplex)
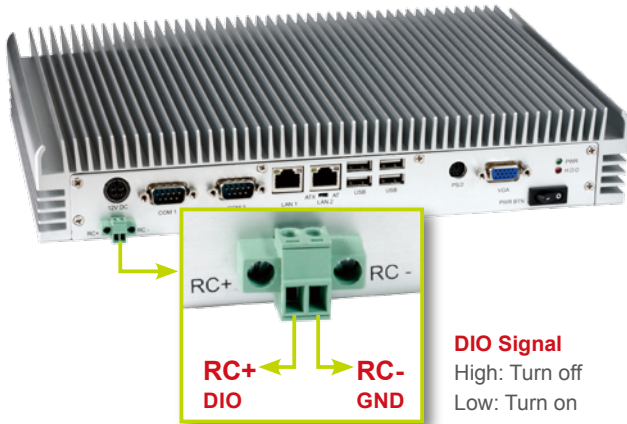
Digital Security Surveillance

As the demands on Digital Security Surveillance (DSS) systems become more complex, IEI embedded Systems give equipment manufacturers and system integrators the opportunity to deliver increasingly sophisticated video surveillance solutions.

TANK-GM45A is the Digital Security Surveillance system provides higher video resolution, high Performance and lower power consumption solution.

Feature	Benefit
Low-power, fanless platform	• Intel® Core™ Duo processor enable powerful dual-core computing at very low power • Reduced design requirements (no fan required) • Reduce environment (fan) noise, lower power and cooling requirements
Dual-core processing	• Increased performance for multi-threaded code • High processing throughput for Streaming SIMD 3 (SSE3) instructionsaccelerates video processing • 1066 MHz system bus for high system throughput • Large 3 MB L2 cache keeps more data closer to the cores for faster execution
Dual on-board Gigabit Ethernet	• Fast connectivity for data network • High-speed IP camera connectivity option

Remote Control

DIO Signal
High: Turn off
Low: Turn on

RC+ ← **RC-**
DIO　　**GND**

The GPIO terminal block connects to a remote control device. Users can control the system power on/off by inputting high or low voltage into the terminal block.

Turn off the system: **more than 1** V input
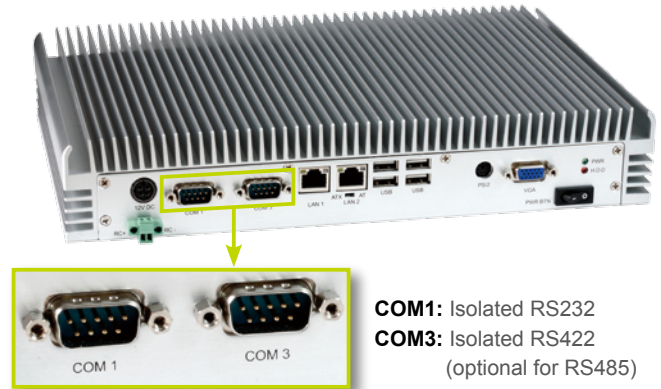**Turn on** the system: **less than 0.5** V input

AT/ATX Mode

Single 12V Power Input
The TANK-GM45A supports 12VDC power with 4 pin DC

AT/ATX Mode by external switch
The TANK-GM45A supports AT and ATX power modes. The setting can be made through the AT/ATX switch on the external peripheral interface panel

ATX ← **AT**

Isolated Serial Port

COM1: Isolated RS232
COM3: Isolated RS422
　　　　　(optional for RS485)

IEI TANK-GM45A provides

1. On board +15KV ESD protection

2. Isolated 1200VDC protection

An integrated circuit (IC) connected to external ports is susceptible to damaging electrostatic discharge (ESD) pulses form the operating environment and peripherals.

Additional protection can violate stringent signaling requirements, leaving design engineers with the need to balance performance and reliability.

Optional 12VDC Adapter

Power Adapter	63000-FSP060DBAB1554-RS	63000-FSP096AHB-RS
Output Current	12V@5A, 60W	12V@8A, 96W
Output Voltage	11.4V~12.6V	11.4V~12.6V
Input Voltage	115V ~ 230V, 90V(Min) ~ 264V(Max)	110V ~ 240V, 90V(Min) ~ 264V(Max)
Operating Temp.	0 to 40ºC	0 to 40ºC
Storage Temp.	-20 to 65ºC	-20 to 80ºC
Energy Efficiency	87% minimum	80% minimum
MTBF (25ºC)	> 60000 hours	>100000 hours
Dimension	110mm x 62mm x 31.5mm	167mm x 65mm x 37mm

Ordering Information

Part No.	Description
TANK-GM45A-R10/P8600/2GB	Extend temperture fanless embedded system with Intel® Core™2 Duo P8600 2.4 GHz 3MB L2 cache and GM45 chipset, with 2GB DDR2 memory, 12VDC, -20ºC~70ºC,RoHS
TANK-GM45A-R10/CM575/2GB	Extend temperture fanless embedded system with Intel® Celeron® M 575 2.0 GHz 1MB L2 cache and GM45 chipset, with 2GB DDR2 memory, 12VDC, -20ºC~70ºC, RoHS
63000-FSP060DBAB1554-RS	POWER ADAPTER; FSP060-DBAB1554; VAC:90V~264V; 12V/ 60W with ERP and PSE certificates
63000-FSP096AHB-RS	POWER ADAPTER; FSP096-AHB; VAC:90V~264V; 12V/ 96W with ERP and PSE certificates
32000-000002-RS	17.5cm European Standard Power Cord
32000-000025-RS	18.3cm American Standard Power Cord
32000-133200-RS	PS2 KB/MS Y Cable
IFD-2510WT-XXXXX	iFD 2.5" SATA 3.0 2510WT SLC SSD Wide Temp. Grade -40ºC~85ºC (8GB~128GB)
IFD-2500RW-XXXXX	iFD 2.5" SATA 3.0 2500RW SLC SSD Wide Temp. Grade -40ºC~85ºC (1GB~32GB)
IFD-2000JW-XXXXX	iFD 2.5" SATA 3.0 2000JW SLC SSD Wide Temp. Grade -40ºC~85ºC (8GB~128GB)

XXXXX=Capacity