TANK-101B-D525 N455

Fanless Embedded Controller with Dual-Core Intel® Atom™ D525 Processor

Features

- ◆ Dual-core Intel® Atom™ D525 processor inside
- ◆ Wide range 9 V~36 V DC power input
- ◆ Isolation protected COM and CAN communication
- ◆ Extended temperature fanless design supports -20°C ~ 70°C (N455)

One Key Recovery iEi symantec.

Fanless

-20°C~70°C

SATA Mini DON

The TANK-101B is designed with all the functions and protections compliant with targeting transport market. It not only provides dual-core computing power delivered by the Intel® Atom™ D525, its onboard memory with CompactFlash®/SATA DOM solid-state storage can withstand severe operating environments on board. With typical voltage at 24 V DC, the TANK-101B can take wide range DC input from 9 V to 36 V as power source. It also has COM port and CANBus with isolation protection for device control, dual Realtek GbE LAN and 802.11b/g/n for high speed communication. The TANK-101B supports all these versatile functions in a compact enclosure in addition to fanless operation.
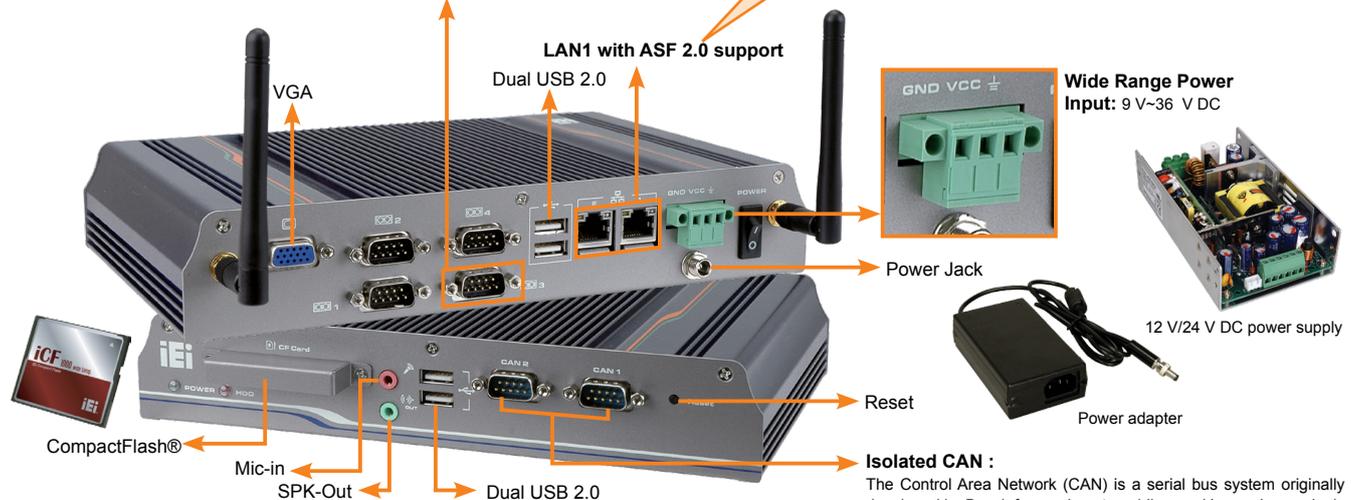
Isolation Protection

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.
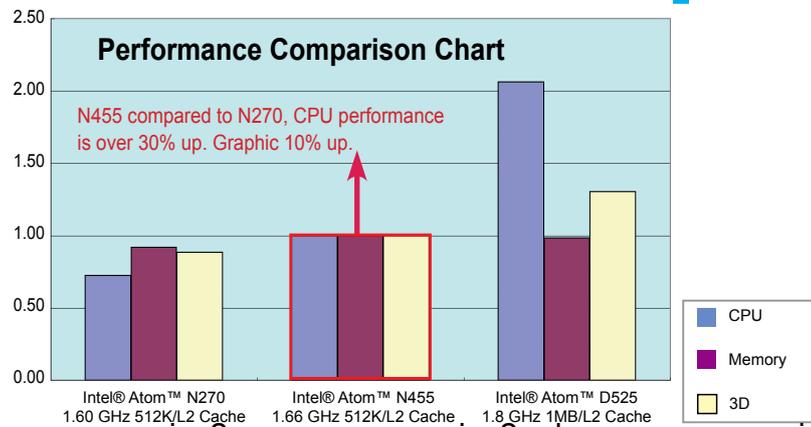
COM3 : RS-422/485

Default RS-422 with isolation
1. On-board 15KV ESD Protection
2. Isolated 3000 V DC Protection

Alert Standard Format (ASF 2.0) is also supported to provide system manageability in OS-absent environments. The ASF defines remote control and alerting interface that serve managed PCs in OS-absent states. The ASF capability can minimize on-site IT maintenance, improve system availability, and allow remote control of power management.
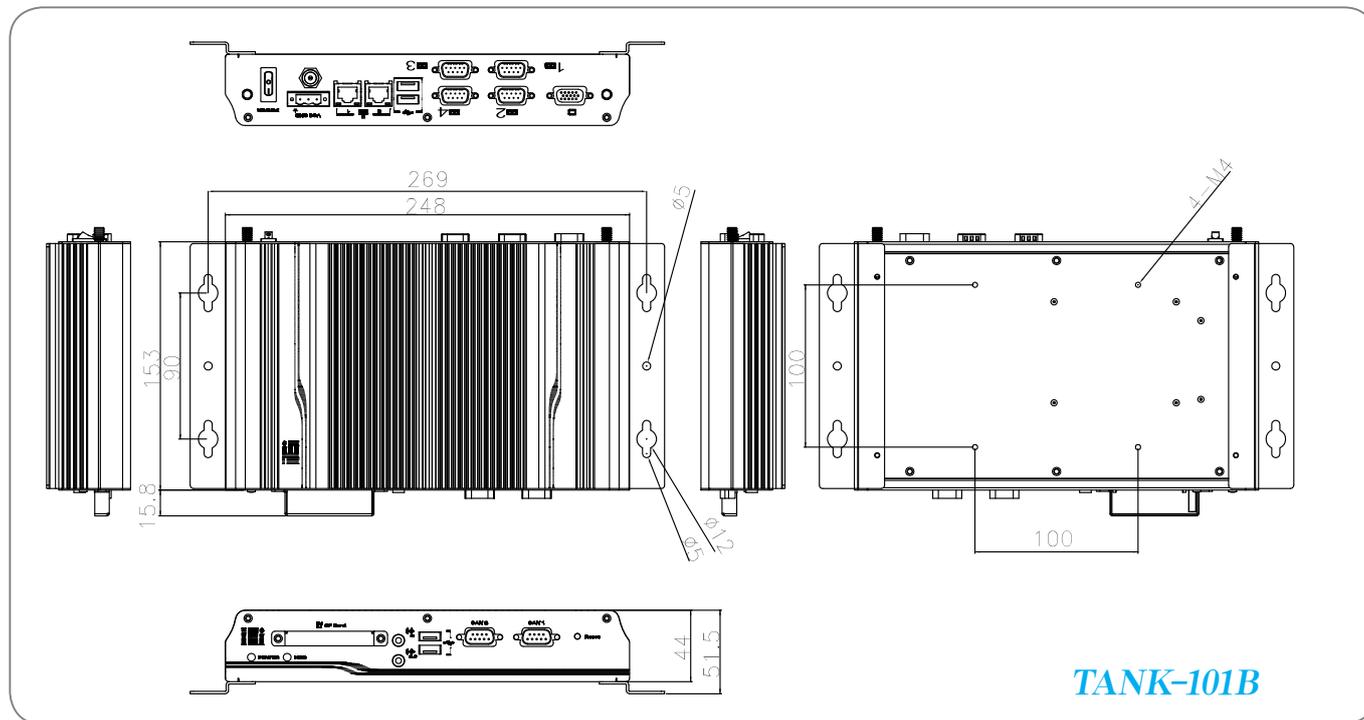
LAN1 with ASF 2.0 support

Dual USB 2.0

VGA

Wide Range Power Input: 9 V~36 V DC

GND VCC

Power Jack

12 V/24 V DC power supply

CompactFlash®

Mic-in

SPK-Out

Dual USB 2.0

Reset

Power adapter

Isolated CAN :

The Control Area Network (CAN) is a serial bus system originally developed by Bosch for use in automobiles, and is now increasingly used in industrial automation.

IEI TANK-101B has built-in on-board CAN controllers. The IEI CAN provides bus arbitration and error detection with an automatic transmission repeat function.

This drastically reduces the chance of data loss, ensures system reliability and is suitable for networking intelligent I/O devices such as sensors or actuator of machines or plants. On-board optical isolators along with additional protection design protect your system and equipment against damage from ground loops and electrostatic discharge (ESD), which increases system reliability in harsh environments.

Dual−core Intel® Atom™ D525

Performance Comparison Chart

N455 compared to N270, CPU performance is over 30% up. Graphic 10% up.

	CPU	Memory	3D
Intel® Atom™ N270 1.60 GHz 512K/L2 Cache			
Intel® Atom™ N455 1.66 GHz 512K/L2 Cache			
Intel® Atom™ D525 1.8 GHz 1MB/L2 Cache			

CAN Controller	Philips SJA1000T
CAN Transceiver	TI ISO1050DUBR
Signal Support	CAN_H, CAN_L
Speed (bps)	1Mbps
Connectors	Two DB-9 Connectors
Isolated Protection	2500Vrms on CAN side

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Dimensions *(Unit: mm)*

TANK-101B

Specifications

Model Name		TANK-101B
Chassis	Color	Cool Gray+Blue
	Dimensions (WxDxH) (mm)	248 x 138 x 44
	System Fan	Fanless
	Chassis Construction	Aluminum alloys with heavy duty metal
Motherboard	Processor CPU	Intel® Atom™ D525 1.8 GHz Intel® Atom™ N455 1.66 GHz
	Chipset	Intel® ICH8M
	System Memory	On-board DDR3 1 GB memory 1 x 204-pin DDR3 SDRAM SO-DIMM (system max: 3 GB)
Storage	Hard Drive	1 x 2.5" SATA 3Gb/s HDD/SSD bay
	CF Card/CFast	1 x CF Type II
System Function	USB 2.0	4
	Ethernet	2 x RJ-45 PCIe GbE by Realtek 8111E
	RS-232	3 x DB-9
	RS-422/485	1 x DB-9 Default RS-422 with isolation
	CAN Bus	2 x DB-9 CAN with isolation
	Display	1 x VGA
	Resolution	VGA: Up to 2048 x 1536@60Hz
	Audio	1 x Line-out, 1 x Mic-in
	Wireless	1 x 802.11b/g/n (optional)
Expansions	PCIe Mini	1 x Full size (reserved for Wi-Fi module)
Power	Power Input	DC Jack: 9 V~36 V DC
	Power Consumption	12 V@1.85 A (Intel® Atom™ D525 with DDR3 1 GB)
Reliability	Mounting	Din-rail, wall mount
	Operating Temperature	-20°C~60°C (D525 with air flow CF/SSD), 5% ~ 95%, non-condensing -20°C~70°C (N455 with air flow CF/SSD), 5% ~ 95%, non-condensing
	Operating Shock	Half-sine wave shock 3G, 11ms, 3 shocks per axis
	Operating Vibration	MIL-STD-810F 514.5C-1 with SATA HDD MIL-STD-810F 514.5C-2 with CompactFlash®/SSD
	Weight (Net/Gross)	2.1 kg/3.9 kg
	Safety/EMC	CE/FCC
OS	Supported OS	Microsoft® Windows® XP Embedded

Packing list

1 x SATA HDD drive cable (Part No.: 32801-004900-100-RS)	
1 x 60W 12 V power adapter (Meet PSE & ErP) (Part No.: 63040-010060-120-RS)	
2 x Wireless antenna (For wireless model only)	
1 x Power cord	1 x One Key Recovery CD
2 x Wall mount brackets	1 x Driver CD
1 x Screw set	1 x QIG

Wall mount Bracket

Ordering information

Part No.	Description
TANK-101B-R11/D525/1GB	Extended tempeture fanless embedded system with dual-core Intel® Atom™ Processor D525 1.8 GHz CPU with two isolated CAN, one isolated serial port, 1 GB DDR3 memory onboard, 9 V~36 V DC in, Pantone 287C + Cool Gray 2C, -20°C ~ 60°C, RoHS
TANK-101B-R11/N455/1GB	Extended tempeture fanless embedded system with Intel® Atom™ Processor N455 1.66 GHz CPU with two isolated CAN, one isolated serial port, 1 GB DDR3 memory onboard, 9 V~36 V DC in, Pantone 287C + Cool Gray 2C, -20°C ~ 70°C, RoHS

Embedded OS support

TANKCF-101B-XPE-1GB	Windows® XP Embedded OS image, for TANK-101B, with 1 GB CompactFlash® memory card, RoHS

* For other CompactFlash® capacity, please contact IEI for customization options.