TANK-101B-D525 N455

Fanless Embedded Controller with Dual Core Intel® Atom™ D525

New

Features

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

One Key Recovery — IEI symantec.

Fanless

+70°C -20°C

SATA Mini DOM

TANK-101B is designed with all the functions and protections compliant with targeting transport market. TANK-101B provides not only the dual core computing power delivered by Intel® Atom™ D525, its onboard memory with CompactFlash/SATA DOM solid-state storage can withstand the severe operating environment on board. With typical voltage at 24VDC, TANK-101B can take wide range DC input from 9V to 36V 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. TANK-101B supports all these versatile functions in a compact enclosure yet support 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-232/422/485
Default RS422 with isolation
1. On- board 15KV ESD Protection
2. Isolated 3000 VDC 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: 9~36 VDC

GND VCC

Power Jack

12V/24V DC power supply

power adaptor

Compact Flash

Mic In

SPK-Out

Dual USB 2.0

Reset

Isolated CAN :

The Control Area Network (CAN) is a serial bus system, originally developed by Bosch for use in automobiles, and now is increasingly being used in industrial automation.
IEI TANK-101B build in on board CAN controllers, the IEI CAN provideds bus arbitration and error detection with an automatic transmission repeat function.
This drastically reduces the chance of data loss and ensures system reliability and are suitable for networking intelligent I/O devices such as sensors or actuator of machines or plants. and on-board optical isolators along with additional protection design protect your system and equipment against damage from ground loops and electrostatic discharge (ESD) pulsed, which increase system reliability in harsh environments.

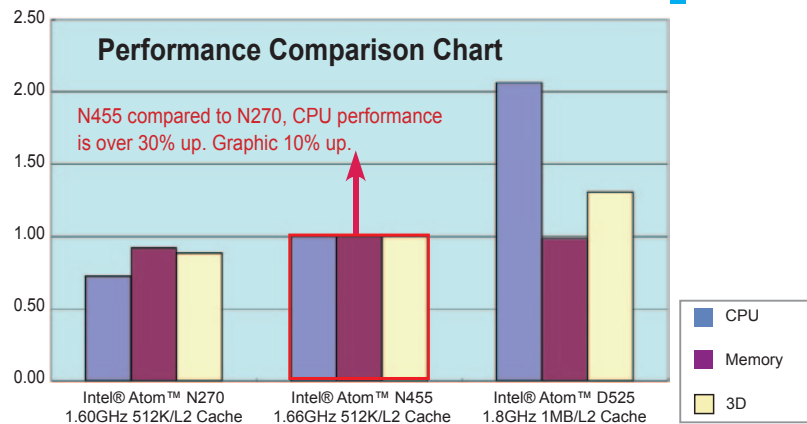## New Dual Core Intel® Atom™ D525

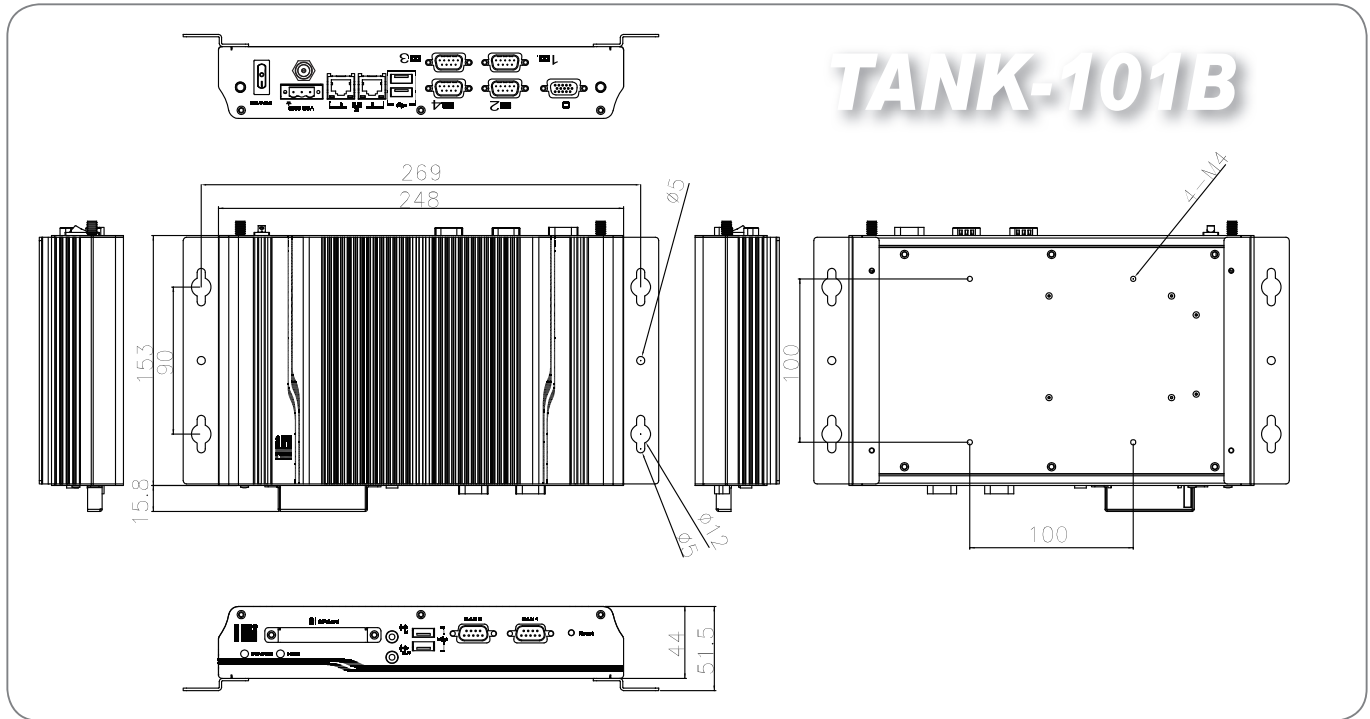### Performance Comparison Chart

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

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

Legend: ■ CPU ■ Memory ■ 3D

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

Dimensions *(Unit: mm)*

TANK-101B

Specifications

Model Name	TANK-101B
Platform	Intel®
Chassis Color	Cool Gray+Blue
Dimensions	248 x 153 x 44 mm
Chassis Construction	Aluminum Alloy with heavy duty metal
Motherboard Processor CPU	Intel® Atom™ D525 processor 1.8 GHz / 1 MB L2 cache Intel® Atom™ N455 processor 1.66 GHz/ 512 KB L2 cache
Chipset	ICH8M
System Memory	1 GB DDR3 memory on board One expansion 204-pin DDR3 slot (Support up to 2GB)
Storage Hard Drive	1 x 2.5" SATA HDD space
Compact Flash	1
System Function USB 2.0	4
Ethernet	2 x Realtek 8111E PCIe GbE
RS-232	3
RS-232/422/485	RS-232/422/485 Default RS422 with isolation
Display	1 x VGA
Resoluiton	Up to 2048 x 1536@60 Hz (D525), 1400 x 1050@60Mhz (N455)
Audio	1 x Mic in, 1 x Speaker out
Other	2 x CAN with isolation
Wireless	1 x 802.11 b/g/n
Expansions	1 x PCIe mini card slot (reserve for wifi module, optional for IEI mini DOM)
Power Power Input	9~36 V DC
Power consumption	12@1.85A (Intel® D525 1.8G GHz with 1MB L2 Cache, DDR3 1GB)
Reliability Mounting	DIN mount (optional), wall-mount
Operating Temperature	-20°C ~ 60°C (D525 model with CompactFlash®/SSD) -20°C ~ 70°C (N455 model with CompactFlash®/SSD) *Ambient air speed pre IEC-68-2-2 standard
	-10°C ~ 50°C with WI-FI
Operating Shock	Half sine wave 3G; 11ms 3axis
Operating Vibration	Meet MIL-STD-810F 514.5C-1 with SATA HDD MIL-STD-810F 514.5C-2 with SATA SSD/CF
Weight (Net/Gross)	2.1 kg / 3.9 kg

Packing List

1 x SATA HDD drive cable (P/N: 32801-004900-100-RS)	
1 x 60W 12V power adaptor (P/N: 63000-FSP060DBAB1552-RS)	
1 x Power cord	2 x Wireless antenna (For wireless model only)
1 x QIG	2 x Wall mount brackets
1 x Driver CD	1 x Screw set

DK-84MB (optional)

Wall Mount bracket

Ordering Information

Part No.	Description
TANK-101B-R10/D525/1GB	Extend tempeture fanless embedded system with dual core Intel® Atom™ Processor D525 1.8GHz CPU with two isolated CAN, one isolated Serial Port, 1GB DDR3 memory onboard, 9~36V DC in, Pantone 287C + Cool Gray 2C, -20°C ~ 60°C, RoHS
TANK-101B-R10/N455/1GB	Extend tempeture fanless embedded system with Intel® Atom™ Processor N455 1.66GHz CPU with two isolated CAN, one isolated Serial Port, 1GB DDR3 memory onboard, 9~36V DC in, Pantone 287C + Cool Gray 2C, -20°C ~ 70°C, RoHS
TANK-101BW-R10/D525/1GB	Fanless embedded system with dual core Intel® Atom™ Processor D525 1.8GHz CPU with two isolated CAN, one isolated Serial Port, built-in 802.11b/g/n wireless, 1GB DDR3 memory onboard, 9~36V DC in, Pantone 287C + Cool Gray -10°C ~ 50°C, RoHS
DK-84MB	DIN mount kit for embedded system, black, RoHS

Embedded OS support

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

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