tBOX312-870-FL
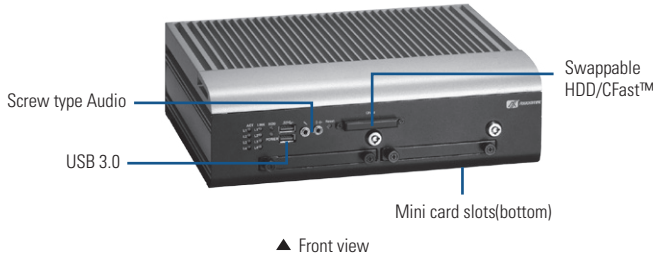
Fanless Embedded System with 3rd Generation Intel® Core™ Processor and Intel® QM77 for Vehicle PC
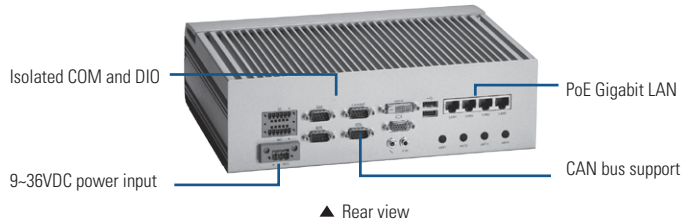

Screw type Audio

USB 3.0

Swappable HDD/CFast™

Mini card slots(bottom)

▲ Front view

EN45545	EN60950	PoE	Isolation	CAN Bus	CFast™

e13/ISO7637	IP40	Fanless	Ext. Temp	DDR3	Swappable

Features

- eMark, ISO7637 certificates
- Comply to fire protection of railway vehicles Europe standard PrCEN TS 45545-2
- 3rd generation Intel® Core™ i7 1.7 GHz up to 2.8 GHz or Intel® Core™ i3 1.6 GHz processor
- High performance DDR3-1600 4 GB memory
- Fanless with operating temperature range of -40°C ~ +70°C
- Isolated RS-232/422/485, CAN bus and DIO
- Supports USB 3.0 and SATA3
- 2 removable & lockable 2.5" SATA HDD and 1 CFast™
- 3 internal PCI Express Mini Card slot and 1 SIM slot
- IEEE802.3at PoE Gigabit LAN

Isolated COM and DIO

9~36VDC power input

PoE Gigabit LAN

CAN bus support

▲ Rear view

Specifications

Standard Color	Silver-Black	
Construction	Aluminum extrusion and heavy-duty steel, IP40	
CPU	3rd generation Intel® Core™ processor ; 3rd generation Intel® Core™ i7-3517UE (1.7 GHz up to 2.8 GHz) or 3rd generation Intel® Core™ i3-3217UE (1.6 GHz)	
System Memory	DDR3-1600 4 GB DRAM onboard	
Chipset	Intel® QM77	
BIOS	AMI UEFI BIOS with OA 3.0 built	
System I/O Outlet	Rear Side	4 x GbE LAN 3 x isolated RS-232/422/485 1 x isolated DI/DO (4-in/4-out) 1 x isolated CAN Bus 2 x USB 2.0 2 x audio (mic-in/line-out, screw type) 1 x VGA 1 x DVI-D 1 x VDC power input 1 x remote power switch 4 x antenna opening
	Front Side	2 x USB 3.0 2 x audio (mic-in/line-out, screw type) 1 x reset switch 2 x 2.5" SATA drive trays 1 x CFast™ slot
Watchdog Timer	255 levels, 0 ~ 255 sec./min.	
Storage	2 x 2.5" SATA HDD (Removable and with lock protection) supports RAID 0/1 1 x CFast™	
Expansion Interface	3 x PCI Express Mini Card 1 x SIM card slot	
System Indicator	1 x green LED for system power on 1 x blue LED for HDD active 1 x green LED for LAN1 link 1 x green/yellow LED for LAN 1 speed 1 x green LED for LAN2 link 1 x green/yellow LED for LAN 2 speed 1 x green LED for LAN3 link 1 x green/yellow LED for LAN 3 speed 1 x green LED for LAN4 link 1 x green/yellow LED for LAN 4 speed	

Power Supply	Power input : 9 ~ 36VDC, typical 12/24VDC
Power Consumption	1.8A @ 24V (without PoE) PoE power output max 30W
Operating Temperature	-40°C ~ +70°C (-40°F ~ +158°F) W/T SSD -25°C ~ +55°C (-13°F ~ +131°F) W/T HDD
Storage Temperature	-40°C ~ +80°C (-40°F ~ +176°F)
Humidity	5% ~ 95%, non-condensing
Vibration Endurance	5 Grms with CFast™ (5-500Hz, X, Y, Z directions) 1 Grms with HDD (5-500Hz, X, Y, Z directions)
Dimensions	288 mm (11.33") (W) x 211 mm (8.3") (D) x 85.7 mm (3.37") (H)
Weight (net/gross)	5.5 kg (12.12 lb)/6.5 kg (14.33 lb)
Certificate	CE (Class A), e13, ISO7637, EN60950 compliance
EOS Support	WE8S, WES 7, Linux

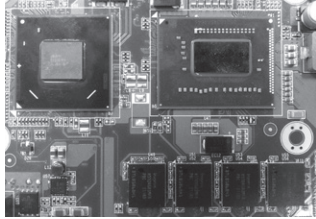## Ordering Information

Standard

tBOX312-870-FL-i7-DC	Fanless vehicle embedded system with 3rd generation Intel® Core™ i7 processor, 4GB DDR3-1600, 4 GbE PoE Ethernet, 3 isolated COM, CFast™ and isolated CAN bus
tBOX312-870-FL-i3-DC	Fanless vehicle embedded system with 3rd generation Intel® Core™ i3 processor, 4GB DDR3-1600, 4 GbE PoE Ethernet, 3 isolated COM, CFast™ and isolated CAN bus

Optional

2.5" SATA HDD/SSD	16 GB or above
CFast™	1 GB or above
3G module	
Wi-Fi module	
Wi-Fi Bluetooth	
GPS module	

*Specifications and certifications are based on options and may vary.

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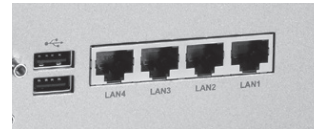
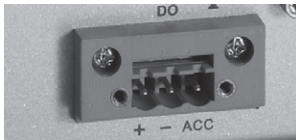## Expansion & Installation

Onboard 3rd generation Intel® Core™ i7 or i3 processor and 4 GB DDR3-1600 DRAM
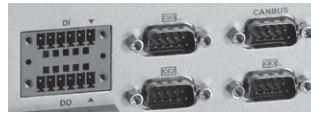

Swappable and Lockable SATA3 HDD/SSD, Audio jack, USB 3.0 and CFast

IEEE802.3at PoE Gigabit LAN

Vehicle power input with ACC support

Isolated RS-232/422/485, CAN bus and DIO

3 PCIe Mini Card slots with 1 SIM slot
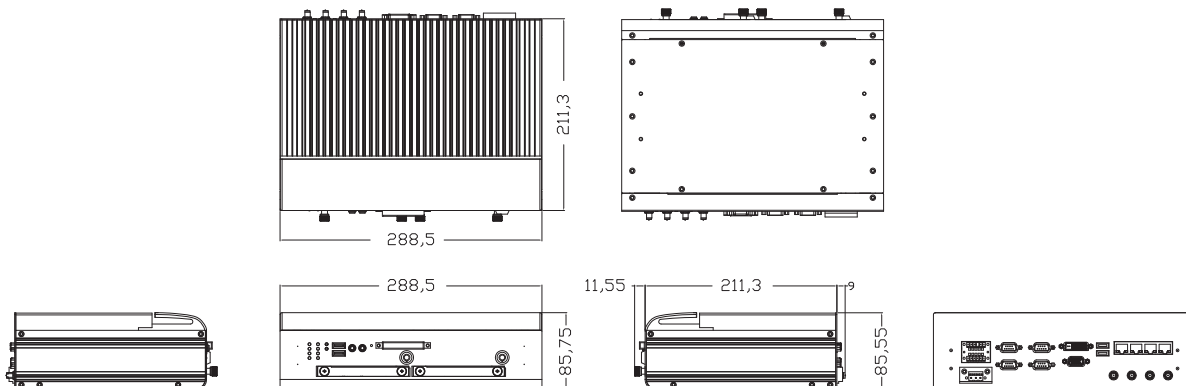
Packing List

1 x quick manual
1 x driver CD
1 x screw pack
4 x foot pad
1 x wall-mount kit

Power Protection

DC Version
SCP (short circuit protection)
OVP (over voltage protection)
UVP (under voltage protection)
ISO7637 pulse 1/29/39/3b/4/5a

Dimensions

Overview

Embedded Systems

2 Embedded Systems for Transportation

Embedded Field Controllers

Industrial Firewall

Digital Signage Solutions

Embedded MicroBoxes

Industrial Barebone Systems

Industrial Chassis

Backplanes

Power Supplies

Peripherals & Accessories

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