

tBOX312-870-FL

Fanless Embedded System with Intel® Core™ i Processor and Intel® QM77 Chipset for Vehicle PC



▲ Front view



Features

- 3rd Generation Intel® Core™ i7 1.7 GHz or Intel® Core™ i3 1.6 GHz processor onboard
- Intel[®] QM77 PCH
- High performance DDR3-1600 4 GB memory onboard
- Fanless operation
- Operating temperature range of -40°C ~ +70°C
- Isolated RS-232/422/485, CAN bus and DIO
- Support 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
- Comply to fire protection of railway vehicles Europe standard PrCEN TS 45545-2
- IEEE802.3at PoE Giga LAN



Power Consumption	6.67A @ 12V / 3.34A @ 24V / 2.5A @ 32V	
Operating Temperature	-40°C ~ +70°C (-40°C ~ +158°C) W/T SSD -25°C ~ +55°C (-13°C ~ +131°C) W/T HDD	
Storage Temperature	-40°C ~ +80°C (-40°C ~ +176°C)	
Humidity	10% ~ 90%, non-condensing	
Vibration Endurance	5 Grms w/ CFast (5-500Hz, X, Y, Z directions) 1 Grms w/ 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)	
Certification	CE (Class A), e13, ISO7637, EN60950 compliance	
OS Support	WES 8, WES 7, Windows® 7/8, Linux	

Specifications

Standard Color	Silver-Black	
Construction	Aluminum extrusion and heavy-duty steel, IP40	
CPU	3rd Generation Intel® Core™ i processor onboard; 3rd Gen. Intel® Core™ i7-3517UE (1.7 GHz) or 3rd Gen. Intel® Core™ i3-3217UE (1.6 GHz)	
System Memory	DDR3-1600 4 GB (i7) or 2 GB (i3) DRAM Onboard	
Chipset	Intel® QM77	
BIOS	AMI UEFI BIOS with OA 3.0 built	
System I/O Outlet	4 x 10/100/1000Mbps Ethernet (IEEE802.3at PoE, max 35W) 3 x isolated RS-232/422/485 1 x isolated CAN Bus 1 x isolated DI/D0 (4-IN/4-OUT) 2 x USB 2.0 (rear side) 2 x USB 3.0 (front side) 2 x Audio (Mic-in/Line-out) (screw type) 1 x VGA 1 x DVI 1 x VDC power input connector 1 x reset switch 4 x antenna opening	
Watchdog Timer	255 levels, 0 ~ 255 sec.	
Storage	$2x2.5''$ SATA HDD (Removable and with lock protection) supports RAID 0/1 $1x\text{CFast}^\text{IM}$	
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 LED for LAN4 link 1 x green/yellow LED for LAN4 speed	
Power Supply	Power input: 9 ~ 36VDC	
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Ordering Information

Standard	
tBOX312-870-FL-i7-DC	Fanless Embedded System with 3rd Generation Intel® Core™ i7 processor, 4 GB DDR3-1600, 4 10/100/1000Mbps PoE Ethernent, 3 isolated COM, CFast™, 1 isolated CAN bus
tB0X312-870-FL-i3-DC	Fanless Embedded System with 3rd Generation Intel [®] Core™ i3 processor, 2GB DDR3-1600, 4 10/100/1000Mbps PoE Ethernent, 3 isolated COM, CFast™, 1 isolated CAN bus

Optional		
2.5' SATA HDD/SSD	16 GB or above	
CFast™	1 GB or above	
3G module		
Wifi module		
Wifi+Bluetooth		
GPS module		
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^{*} All specifications and photos are subject to change without notice.



Expansion & Installation



Onboard 3rd Gen. ${\sf Intel}^{\it \otimes}\,{\sf Core}^{\it TM}\,{\sf i7}$ or i3 processor and 4 GB or 2 GB DDR3-1600 DRAM



Swappable and lockable SATA3 HDD/SSD, audio jack, USB 3.0 and CFast™



IEEE802.3at PoE Giga LAN



Embedded Systems for Transportation

Field Controllers

Embedded MicroBoxes

Backplanes

Supplies

Peripherals & Accessories



Both battery and wide temperature Goldcap on board



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



3 Mini Card with 1 SIM slot

Packing List

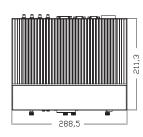
- 1 x quick manual 1 x driver CD
- 1 x screw pack
- 4 x foot pad
- 8 x HDD anti-vibration damper
- 1 x wall-mount kit

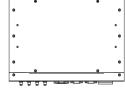
Power Protection

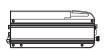
DC Version

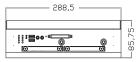
SCP (short circuit protection) OVP (over voltage protection) UVP (under voltage protection) ISO7637 pulse 1/29/39/3b/4/5a

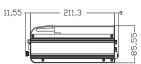
Dimensions













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