

tBOX500-510-FL NEW

Fanless Embedded System with 7th Gen Intel® Core™ i7/i5/i3 & Celeron® Processors for Vehicle, Railway and Marine PC

Features

- EN 50155, EN 50121, E-Mark, ISO 7637, DNV 2.4, EN 45545-2 and IEC 60945 certified
- 7th gen Intel® Core™ i7/i5/i3 & Celeron® processors (Codename: Kaby Lake)
- 2 optional I/O module slots
- 2 DDR4-1866/2133 SO-DIMM, up to 32GB
- Typical 12/24/110 VDC power input for different power modules, available with various transportation certificates
- Fanless design and suitability for wide operating temperatures from -40°C to +70°C
- Intelligent solution of vehicle power management
- 2 hot-swappable, power control 2.5" SATA trays
- 3 full-size PCI Express Mini Card slots and 2 SIM card sockets



▲ Front view



▲ Rear view

Specifications

Standard Color	Silver				
Construction	Aluminum extrusion and heavy-duty steel, IP30				
CPU	7th gen Intel® Core™ i7-7600U 2C@2.8 ~ 3.9GHz 7th gen Intel® Core™ i5-7300U 2C@2.6 ~ 3.5GHz 7th gen Intel® Core™ i3-7100U 2C@2.4GHz Intel® Celeron® 3965U 2C@2.2GHz				
System Memory	2 x DDR4-1866/2133 SO-DIMM, up to 32GB				
Chipset	SoC integrated				
BIOS	AMI				
System I/O Outlets	<table border="0"> <tr> <td>Rear Side</td> <td>1 x M12 or Terminal block DC-in (optional) 1 x PoE power-in (optional) 2 x modular IO slot</td> </tr> <tr> <td>Front Side</td> <td>4 x LED indicator 2 x audio (mic-in/line-out) 1 x RJ-45 10/100/1000 Mbps Ethernet 4 x USB 3.0 1 x DVI-I 1 x DB9 serial console or RS-232/422/485 1 x remote switch 1 x reset bottom</td> </tr> </table>	Rear Side	1 x M12 or Terminal block DC-in (optional) 1 x PoE power-in (optional) 2 x modular IO slot	Front Side	4 x LED indicator 2 x audio (mic-in/line-out) 1 x RJ-45 10/100/1000 Mbps Ethernet 4 x USB 3.0 1 x DVI-I 1 x DB9 serial console or RS-232/422/485 1 x remote switch 1 x reset bottom
Rear Side	1 x M12 or Terminal block DC-in (optional) 1 x PoE power-in (optional) 2 x modular IO slot				
Front Side	4 x LED indicator 2 x audio (mic-in/line-out) 1 x RJ-45 10/100/1000 Mbps Ethernet 4 x USB 3.0 1 x DVI-I 1 x DB9 serial console or RS-232/422/485 1 x remote switch 1 x reset bottom				
Watchdog Timer	255 levels, 1 ~ 255 sec.				
Storage	2 x hot swappable, power control 2.5" 7/9.5 mm SATA tray 1 x mSATA				
RAID function	SW RAID 0/1				
Expansion Interface	3 x full-size PCI Express Mini Card slot 2 x SIM card slot				
System Indicator	1 x LED indicator for system power 1 x LED indicator for HDD activities 2 x programmable				
Power Supply	9 ~ 36 VDC, typical: 12/24 VDC (E-Mark) 14 ~ 32 VDC, typical: 24 VDC (EN 50155, DNV 2.4) 16.8 ~ 137.5 VDC, typical: 24/48/72/96/110 VDC (EN 50155)				
Power Consumption	PoE power output maximum 120W 15.4W/8 ports (802.3af), 30W/4 ports (802.3at)				
Operating Temperature	-40°C ~ +70°C (-40°F ~ +158°F) with W.T. SSD -25°C ~ +55°C (-13°F ~ +131°F) with W.T. HDD				
Humidity	5% ~ 95%, non-condensing				
Vibration Endurance	5 Grms w/ SSD (5 ~ 500Hz, X/Y/Z direction; random) 2 Grms w/ HDD (5 ~ 500Hz, X/Y/Z direction; random)				
Dimensions	321 mm (12.64") (W) x 210.2 mm (8.28") (D) x 73.3 mm (2.89") (H)				





Weight	3.5 kg (7.72 lb)/4.5 kg (11.02 lb)
Certificates	EN 50155, EN 50121, E-Mark, ISO 7637, DNV 2.4, EN 45545-2 and IEC 60945 certified
EOS support	Windows® 10 x64, Linux

Ordering Information

Standard	
tBOX500-510-FL-Celeron-24MRDC	Fanless railway-grade embedded system, Intel® Celeron® 3965U 2.2GHz processor, four USB 3.0, DVI-I, RJ-45 LAN, serial console, mic-in/line-out, two 2.5" SATA trays 2017 Q4 available
tBOX500-510-FL-i3-24MRDC	Fanless railway-grade embedded system, Intel® Core™ i3-7100U 2.4GHz processor, four USB 3.0, DVI-I, RJ-45 LAN, serial console, mic-in/line-out, two 2.5" SATA trays 2017 Q4 available
tBOX500-510-FL-i5-24MRDC	Fanless railway-grade embedded system, Intel® Core™ i5-7300U 2.6 ~ 3.5GHz processor, four USB 3.0, DVI-I, RJ-45 LAN, serial console, mic-in/line-out, two 2.5" SATA trays 2017 Q4 available
tBOX500-510-FL-i7-24MRDC	Fanless railway-grade embedded system, Intel® Core™ i7-7600U 2.8 ~ 3.9GHz processor, four USB 3.0, DVI-I, RJ-45 LAN, serial console, mic-in/line-out, two 2.5" SATA trays 2017 Q4 available
tBOX500-510-FL-Celeron-TVDC	Fanless vehicle-grade embedded system, Intel® Celeron® 3965U 2.2GHz processor, four USB 3.0, DVI-I, RJ-45 LAN, serial console, mic-in/line-out, two 2.5" SATA trays, 9 ~ 36VDC, ACC ignition 2018 Q2 available
tBOX500-510-FL-i3-TVDC	Fanless vehicle-grade embedded system, Intel® Core™ i3-7100U 2.4GHz processor, four USB 3.0, DVI-I, RJ-45 LAN, serial console, mic-in/line-out, two 2.5" SATA trays, 9 ~ 36VDC, ACC ignition 2018 Q2 available
tBOX500-510-FL-i5-TVDC	Fanless vehicle-grade embedded system, Intel® Core™ i5-7300U 2.6 ~ 3.5GHz processor, four USB 3.0, DVI-I, RJ-45 LAN, serial console, mic-in/line-out, two 2.5" SATA trays, 9 ~ 36VDC, ACC ignition 2018 Q2 available
tBOX500-510-FL-i7-TVDC	Fanless vehicle-grade embedded system, Intel® Core™ i7-7600U 2.8 ~ 3.9GHz processor, four USB 3.0, DVI-I, RJ-45 LAN, serial console, mic-in/line-out, two 2.5" SATA trays, 9 ~ 36VDC, ACC ignition 2018 Q2 available
tBOX500-510-FL-Celeron-TMDC	Fanless marine-grade embedded system, Intel® Celeron® 3965U 2.2GHz processor, four USB 3.0, DVI-I, RJ-45 LAN, serial console, mic-in/line-out, two 2.5" SATA trays 2017 Q4 available
tBOX500-510-FL-i3-TMDC	Fanless marine-grade embedded system, Intel® Core™ i3-7100U 2.4GHz processor, four USB 3.0, DVI-I, RJ-45 LAN, serial console, mic-in/line-out, two 2.5" SATA trays 2017 Q4 available
tBOX500-510-FL-i5-TMDC	Fanless marine-grade embedded system, Intel® Core™ i5-7300U 2.6 ~ 3.5GHz processor, four USB 3.0, DVI-I, RJ-45 LAN, serial console, mic-in/line-out, two 2.5" SATA trays 2017 Q4 available
tBOX500-510-FL-i7-TMDC	Fanless marine-grade embedded system, Intel® Core™ i7-7600U 2.8 ~ 3.9GHz processor, four USB 3.0, DVI-I, RJ-45 LAN, serial console, mic-in/line-out, two 2.5" SATA trays 2017 Q4 available

Ordering Information

I/O Module Specification

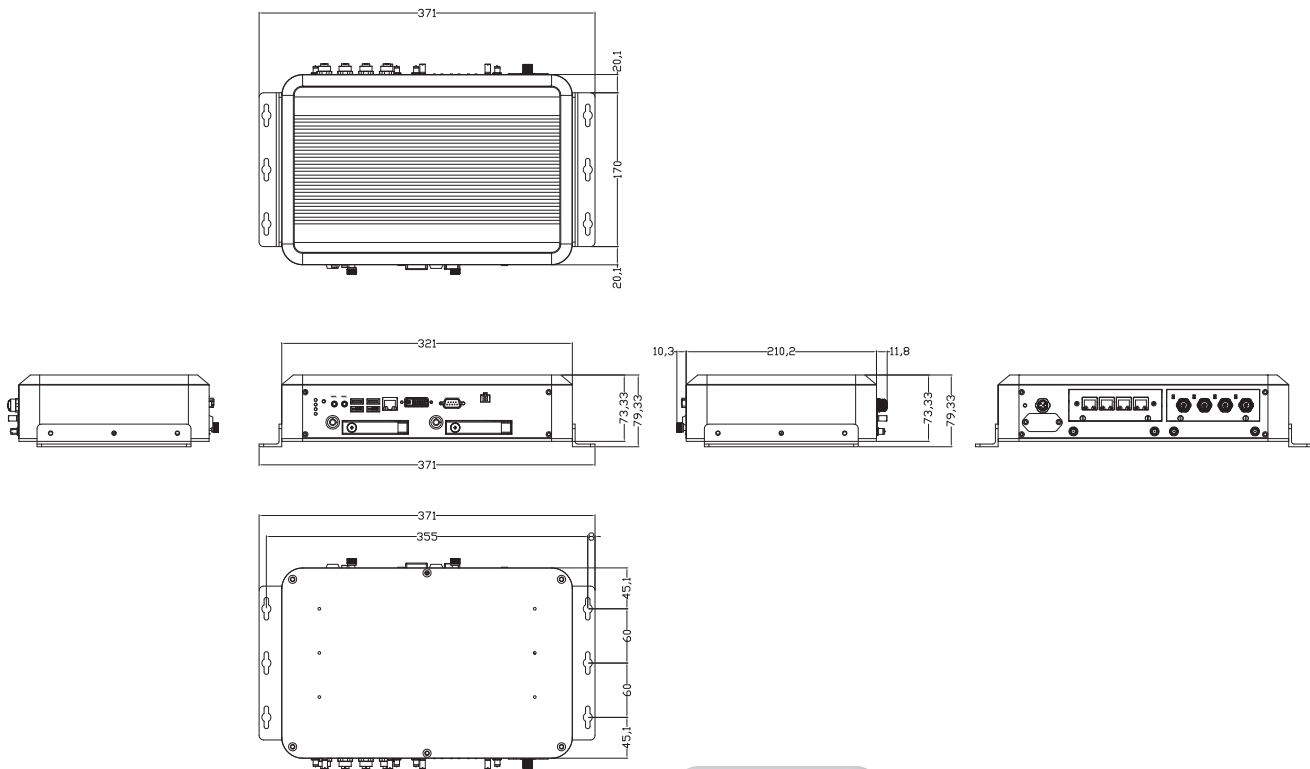
Item	Spec	
#1	4 x M12 A-coded GbE (P/N: AX93718) (PoE is optional : P/N: AX93718 + AX98247)	 AX93718 AX93718 + AX98247
#2	4 x RJ-45 PoE GbE (P/N: AX93719) (PoE is optional: P/N: AX93719 + AX98247)	 AX93719 AX93719 + AX98247
#3	4 x 4-wire isolated RS-232/422/485 (P/N: AX93720)	
#4	4 x isolated CANbus 2.0A/B (P/N: AX93734)	



Power Protection

SCP (short circuit protection)
OVP (over voltage protection)
UVP (under voltage protection)

Vehicle Version
ISO 7637 pulse 1/2/3/4/5a
Setting for battery protection: Low voltage or very low voltage
Setting for ignition control: Low voltage counter, ACC-ON delay or shut down delay

Dimensions



#5	8-in/8-out isolated DIO (P/N: AX93721) tBOX500 module	
#6	Mini PCI Express Card slot + SIM (P/N: AX93735) tBOX500 module	
#7	Video & Audio-in + Mini PCI Express Card slot capture card (P/N: AX93731) tBOX500 module	

Optional

2.5" SATA HDD/SSD
mSATA SSD
3G/4G/GPS module
Wi-Fi/Bluetooth module
Audio module
PoE PSU 120W, go with
(AX93718 + AX98247) and
(AX93719 + AX98247)

*Specifications and certifications may vary according to various options.

* All specifications and photos are subject to change without notice.