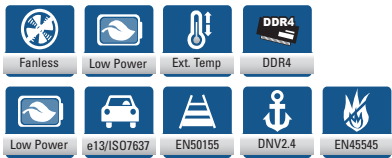


# tBOX324-894-FL NEW

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

## Features

- EN 50155, EN 50121, E-Mark, ISO 7637, and DNV 2.4 certified; and EN 45545-2, IEC 60945 compliant
- 7th gen Intel® Core™ i7/i5/i3 & Celeron® (Kaby Lake-U SoC)
- Modular I/O design, 4 GbE LANs (M12/RJ-45), 3/4 isolated COMs, 1 CANbus (optional)
- 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 swappable 2.5" SATA drives
- 3 PCIe Mini Card slots and 1 SIM card socket



## Specifications

Standard Color	Silver black				
Construction	Aluminum extrusion and heavy-duty steel				
CPU	7th generation Intel® Core™ i7-7600U 2C @ 2.8 – 3.9 GHz 7th generation Intel® Core™ i5-7300U 2C @ 2.6 – 3.5 GHz 7th generation Intel® Core™ i3-7100U 2C @ 2.4 GHz Intel® Celeron® 3965U 2C @ 2.2 GHz				
System Memory	2 x DDR4-1866/2133 SO-DIMM, up to 32GB				
Chipset	SoC integrated				
BIOS	AMI				
System I/O Outlet	<table border="0"> <tr> <td>Rear Side</td> <td> <ul style="list-style-type: none"> <li>1 x M12 5P/TB 3P power connector</li> <li>1 x Isolated COM</li> <li>1 x DB9 isolated COM or CANbus (optional)</li> <li>2 x 2 x6P TB isolated RS-232/422/485</li> <li>1 x 2 x6P TB isolated DIO 4-in/4-out (optional)</li> <li>1 x DVI-I</li> <li>1 x VGA</li> <li>1 x Remote switch</li> <li>2 x Audio, mic-in/line-out</li> <li>4 x M12 A-coded GbE LAN</li> <li>3 x Antenna opening</li> </ul> </td> </tr> <tr> <td>Front Side</td> <td> <ul style="list-style-type: none"> <li>8 x LED indicator for LAN link/activity</li> <li>1 x LED indicator for HDD activity</li> <li>1 x LED indicator for power</li> <li>4 x USB 3.0</li> <li>1 x CFast™</li> <li>1 x Reset button</li> <li>2 x 2.5" SATA drive tray</li> </ul> </td> </tr> </table>	Rear Side	<ul style="list-style-type: none"> <li>1 x M12 5P/TB 3P power connector</li> <li>1 x Isolated COM</li> <li>1 x DB9 isolated COM or CANbus (optional)</li> <li>2 x 2 x6P TB isolated RS-232/422/485</li> <li>1 x 2 x6P TB isolated DIO 4-in/4-out (optional)</li> <li>1 x DVI-I</li> <li>1 x VGA</li> <li>1 x Remote switch</li> <li>2 x Audio, mic-in/line-out</li> <li>4 x M12 A-coded GbE LAN</li> <li>3 x Antenna opening</li> </ul>	Front Side	<ul style="list-style-type: none"> <li>8 x LED indicator for LAN link/activity</li> <li>1 x LED indicator for HDD activity</li> <li>1 x LED indicator for power</li> <li>4 x USB 3.0</li> <li>1 x CFast™</li> <li>1 x Reset button</li> <li>2 x 2.5" SATA drive tray</li> </ul>
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Watchdog Timer	255 levels, 0 – 255 secs./mins.				
Storage	2 x 2.5" 7/9.5mm SATA drive 1 x CFast™				
Expansion Interface	3 x Full-size PCIe Mini Card slot 1 x SIM card slot				
System Indicator	1 x LED indicator for system power 1 x LED indicator for HDD active 4 x LED indicator for LAN activated 4 x LED indicator for LAN linked				
Power Supply	Power input: 9 – 36 VDC, typical: 12/24 VDC (E-Mark) Power input: 14 – 32 VDC, typical: 24 VDC (EN 50155, DNV 2.4) Power input: 77 – 137.5 VDC, typical: 110 VDC (EN 50155)				
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				



▲ Front view



▲ Rear view

Vibration Endurance	5 Grms w/ SSD (5-500 Hz, X/Y/Z direction; random) 1 Grms w/ HDD (5-500 Hz, X/Y/Z direction; random)
Dimensions	288 mm (11.33") (W) x 211 mm (8.3") (D) x 85.7 mm (3.37") (H)
Weight	5 kg (11 lb)/6.5 kg (14.33 lb)
Certificates	CE (Class A), FCC, EN 50155, EN 50121, E-Mark, ISO 7637, and DNV 2.4 certified; EN 45545-2 and IEC 60945 compliant
EOS support	Windows® 10 x64, Linux

## Ordering Information

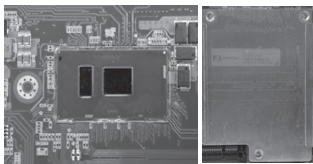
Standard	
tBOX324-894-FL-Celeron-DIO-12/24VDC	Fanless vehicle embedded system with Intel® Celeron® processor 3965U, 4 USB, VGA+DVI, 4 GbE LANs (M12), 3 COM, 1 COM or CAN, DIO, 9 – 36 VDC
tBOX324-894-FL-i3-DIO-12/24VDC	Fanless vehicle embedded system with Intel® Core™ i3-7100U processor, 4 USB, VGA+DVI, 4 GbE LANs (M12), 3 COM, 1 COM or CAN, DIO, 9 – 36 VDC
tBOX324-894-FL-i5-DIO-12/24VDC	Fanless vehicle embedded system with Intel® Core™ i5-7300U processor, 4 USB, VGA+DVI, 4 GbE LANs (M12), 3 COM, 1 COM or CAN, DIO, 9 – 36 VDC
tBOX324-894-FL-i7-DIO-12/24VDC	Fanless vehicle embedded system with Intel® Core™ i7-7600U processor, 4 USB, VGA+DVI, 4 GbE LANs (M12), 3 COM, 1 COM or CAN, DIO, 9 – 36 VDC
tBOX324-894-FL-Celeron-DIO-24VDC	Fanless railway/marine embedded system with Intel® Celeron® processor 3965U, 4 USB, VGA+DVI, 4 GbE LANs (M12), 3 COM, 1 COM or CAN, DIO, 4 – 32 VDC
tBOX324-894-FL-i3-DIO-24VDC	Fanless railway/marine embedded system with Intel® Core™ i3-7100U processor, 4 USB, VGA+DVI, 4 GbE LANs (M12), 3 COM, 1 COM or CAN, DIO, 14 – 32 VDC
tBOX324-894-FL-i5-DIO-24VDC	Fanless railway/marine embedded system with Intel® Core™ i5-7300U processor, 4 USB, VGA+DVI, 4 GbE LANs (M12), 3 COM, 1 COM or CAN, DIO, 14 – 32 VDC
tBOX324-894-FL-i7-DIO-24VDC	Fanless railway/marine embedded system with Intel® Core™ i7-7600U processor, 4 USB, VGA+DVI, 4 GbE LANs (M12), 3 COM, 1 COM or CAN, DIO, 14 – 32 VDC
tBOX324-894-FL-Celeron-DIO-110VDC	Fanless railway embedded system with Intel® Celeron® processor 3965U processor, 4 USB, VGA+DVI, 4 GbE LANs (M12), 3 COM, 1 COM or CAN, DIO, 77 – 137.5 VDC
tBOX324-894-FL-i3-DIO-110VDC	Fanless railway embedded system with Intel® Core™ i3-7100U processor, 4 USB, VGA+DVI, 4 GbE LANs (M12), 3 COM, 1 COM or CAN, DIO, 77 – 137.5 VDC
tBOX324-894-FL-i5-DIO-110VDC	Fanless railway embedded system with Intel® Core™ i5-7300U processor, 4 USB, VGA+DVI, 4 GbE LANs (M12), 3 COM, 1 COM or CAN, DIO, 77 – 137.5 VDC
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**Optional**

- 2.5" SATA HDD/SSD
- mSATA SSD
- 3G/4G/GPS module
- Wi-Fi/Bluetooth module
- Audio module
- CANbus module
- Capture card module
- I/O card module

\*Specifications and certificates may vary subject to options required.

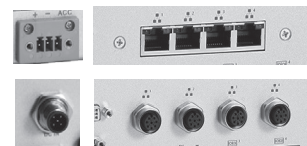
**Expansion & Installation**



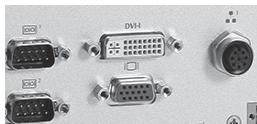
Onboard processor design and unique thermal/heat sink plate on the system memory for great reliability and stability



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



Optional M12 type for DC-in jack and LAN jack



DVI-I and VGA display



Isolated RS-232/422/485 ports (Optional DIO and 2 x COM module) (Optional CANbus / COM port)

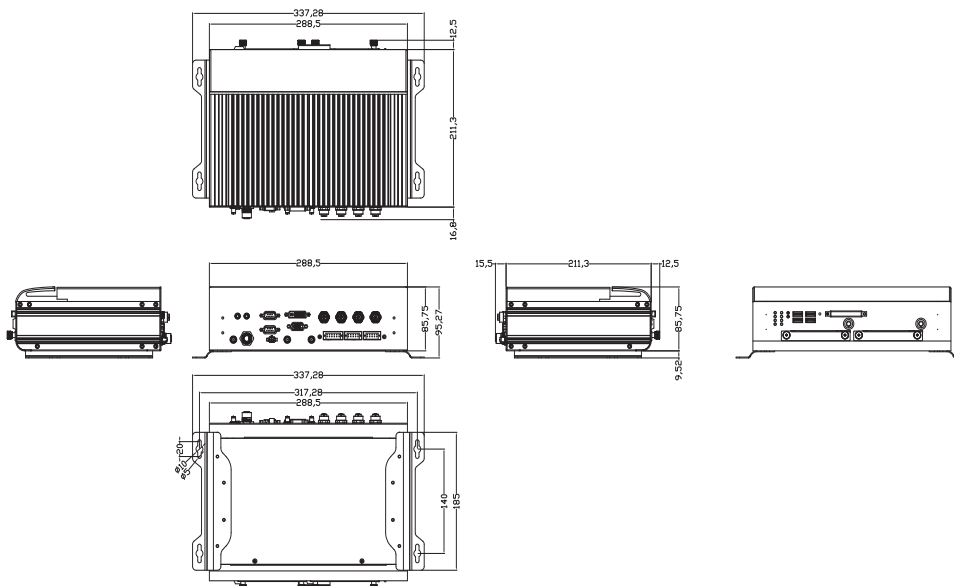


3 full-size PCIe Mini Card slots and 1 SIM card slot

**Packing List**

- 1x Quick Manual
- 1x Driver CD
- 1x Screws pack
- 4x Foot pad
- 1x Wall-mount brackets
- 1x DIO female connector (optional)

**Dimensions**



**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, Shut down delay



## Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

### US

[sales@assured-systems.com](mailto:sales@assured-systems.com)

Sales: +1 347 719 4508  
Support: +1 347 719 4508

1309 Coffeen Ave  
Ste 1200  
Sheridan  
WY 82801  
USA

### EMEA

[sales@assured-systems.com](mailto:sales@assured-systems.com)

Sales: +44 (0)1785 879 050  
Support: +44 (0)1785 879 050

Unit A5 Douglas Park  
Stone Business Park  
Stone  
ST15 0YJ  
United Kingdom

VAT Number: 120 9546 28  
Business Registration Number: 07699660