

# tBOX313-835-FL

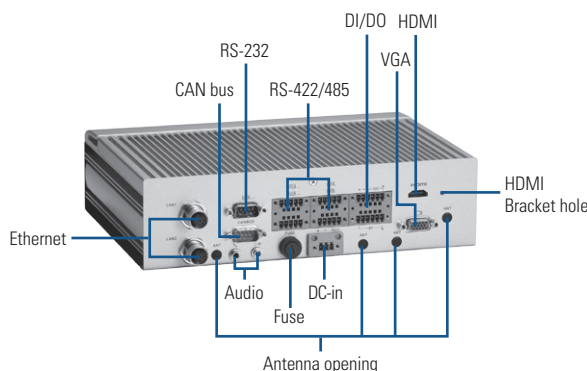
Fanless Embedded System with Intel® Atom™ Processor E3845 Quad Core™ (1.91 GHz) for Vehicle PC

## Features

- E-Mark, ISO 7637 certified and EN 45545-2 compliance
- Intel® Atom™ Bay Trail-I E3845 4C@1.91 GHz
- DDR3L-1333 4GB memory onboard
- Fanless design and wide temperature range from -40°C to +70°C
- Isolated RS-422/485, CANbus 2.0A/B and DIO ports
- USB 2.0 and SATA2
- Suspension one 2.5" SATA HDD and 1 CFast™ socket
- Instant fuse repair design
- Internal PCIe Mini Card and SIM slots



▲ Front view



▲ Rear view

## Specifications

Standard Color	Silver-Black				
Construction	Aluminum extrusion and heavy-duty steel				
CPU	Intel® Atom™ processor E3845 (4C@1.91 GHz)				
System Memory	DDR3L-1333, 4GB memory onboard				
Chipset	SoC integrated				
BIOS	AMI				
System I/O Outlet	<table border="0"> <tr> <td>Rear Side</td> <td>                     2 x GbE LAN (M12 D-coded) (RJ-45, PoE is optional)                      4 x Isolated RS-422/485                      1 x RS-232                      1 x Isolated DI/DO (6-in/2-out)                      1 x Isolated CAN Bus                      2 x Audio (mic-in/line-out, screw type)                      1 x VGA                      1 x HDMI                      1 x HDMI bracket hole                      1 x VDC power input                      1 x Fuse                      4 x Antenna opening                 </td> </tr> <tr> <td>Front Side</td> <td>                     2 x USB 2.0                      2 x Audio (mic-in/line-out, screw type)                      1 x Reset switch                      1 x Remote power switch                      1 x 2.5" SATA drive tray                      1 x CFast™ slot + 2 x SIM card sockets                 </td> </tr> </table>	Rear Side	2 x GbE LAN (M12 D-coded) (RJ-45, PoE is optional) 4 x Isolated RS-422/485 1 x RS-232 1 x Isolated DI/DO (6-in/2-out) 1 x Isolated CAN Bus 2 x Audio (mic-in/line-out, screw type) 1 x VGA 1 x HDMI 1 x HDMI bracket hole 1 x VDC power input 1 x Fuse 4 x Antenna opening	Front Side	2 x USB 2.0 2 x Audio (mic-in/line-out, screw type) 1 x Reset switch 1 x Remote power switch 1 x 2.5" SATA drive tray 1 x CFast™ slot + 2 x SIM card sockets
Rear Side	2 x GbE LAN (M12 D-coded) (RJ-45, PoE is optional) 4 x Isolated RS-422/485 1 x RS-232 1 x Isolated DI/DO (6-in/2-out) 1 x Isolated CAN Bus 2 x Audio (mic-in/line-out, screw type) 1 x VGA 1 x HDMI 1 x HDMI bracket hole 1 x VDC power input 1 x Fuse 4 x Antenna opening				
Front Side	2 x USB 2.0 2 x Audio (mic-in/line-out, screw type) 1 x Reset switch 1 x Remote power switch 1 x 2.5" SATA drive tray 1 x CFast™ slot + 2 x SIM card sockets				
Instant Fuse Repair	Current Rating: 15 A Voltage Rating: 125 V				
Watchdog Timer	255 levels, 0 ~ 255 seconds/minutes				
Storage	1 x 2.5" SATA HDD (suspension designed, HDD height supports 7/9.5/12.5/15 mm) 1 x CFast™ (front accessible)				
Expansion Interface	3 x PCIe Mini Card with 2 x SIM card slot (two front accessible) 1 x PCIe Mini Card with mSATA				
System Indicator	1 x green LED for HDD active 1 x yellow LED for LAN1 active 1 x yellow LED for LAN2 active 1 x red LED for power				
Power Supply	Power input: 9-36 VDC Typical: 12/24 VDC				

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	3 Grms with SSD & CFast™ (5-500Hz, X, Y, Z direction; Random) (IEC 60068-2-34) 2 Grms with HDD (5-500Hz, X, Y, Z direction; Random)
Dimensions	244 mm (9.6") (W) x 180.5 mm (7.1") (D) x 65.1 mm (2.56") (H)
Weight (net/gross)	3 kg (6.61 lb)/ 4 kg (8.82 lb)
Certificate	CE, E-Mark, ISO 7637, EN 45545-2 compliance
EOS support	Win10 IoT, WE8S, WES 7, Linux

## Ordering Information

Standard	
tBOX313-835-FL-M12-DC	Fanless vehicle embedded system, with Intel® Atom™ E3845 1.91 GHz processor, 4GB DRAM, 2 USB, 1 CAN bus, 2 GbE LANs (M12), 4 RS-422/485, 1 RS-232 and DIO (6-in/2-out)
tBOX313-835-FL-M12-POE-DC	Fanless vehicle embedded system, with Intel® Atom™ E3845 1.91 GHz processor, 4GB DRAM, 2 USB, 1 CAN bus, 2 GbE LANs (PoE M12), 4 RS-422/485, 1 RS-232 and DIO (6-in/2-out)
tBOX313-835-FL-RJ-DC	Fanless vehicle embedded system, with Intel® Atom™ E3845 1.91 GHz processor, 4GB DRAM, 2 USB, 1 CAN bus, 2 GbE LANs (RJ-45), 4 RS-422/485, 1 RS-232 and DIO (6-in/2-out)
tBOX313-835-FL-RJ-POE-DC	Fanless vehicle embedded system, with Intel® Atom™ E3845 1.91 GHz processor, 4GB DRAM, 2 USB, 1 CAN bus, 2 GbE LANs (PoE RJ-45), 4 RS-422/485, 1 RS-232 and DIO (6-in/2-out)

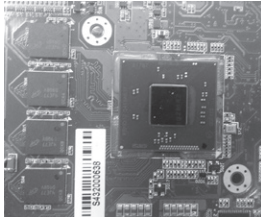
### Optional

2.5" SATA HDD/SSD  
CFast™  
3G module  
Wi-Fi module  
Wi-Fi & bluetooth  
GPS module

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

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

## Expansion & Installation



Onboard Intel® Atom™ Bay Trail-I E3845, 4C@ 1.91 GHz processor and 4 GB DDR3L-1333 DRAM



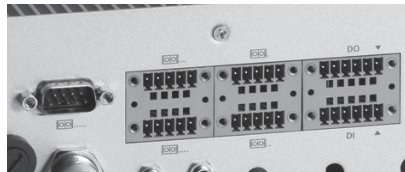
Removable CFast™, SIM slot and suspension 2.5" SATA HDD/SSD



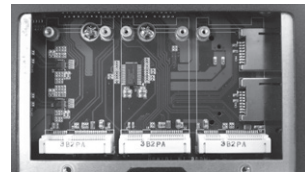
M12 railway power input and two Gigabit LAN connectors



HDMI and VGA



Isolated RS-422/485 and DIO ports



3 PCIe Mini Card slots and 2 SIM slots

## 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
- Battery protection setting: Low voltage, Very low voltage
- Ignition control setting: Low voltage counter, ACC-ON delay, Shut down delay

## Dimensions

