

# tBOX100-838-FL

Fanless Embedded System with Intel® Atom® Processor E3845 for Vehicle, and Railway PC

## Features

- CE, FCC, EN 50155, EN 45545-2, ISO 7637-2 and IEC 60945 compliant
- Intel® Atom® processor E3845 4C @ 1.91 GHz
- Fanless and Wide operating temperatures from -40°C to +60°C
- 4GB DDR3L-1333 memory onboard
- Compact size with multiple I/Os
- Intelligent solution of vehicle power management (ACC ignition)
- 1 PCI Express Mini Card slot and 1 SIM card slot



Low Power



Fanless



Ext. Temp



DDR3L



Compliant  
EN50155



Compliant  
ISO 7637-2



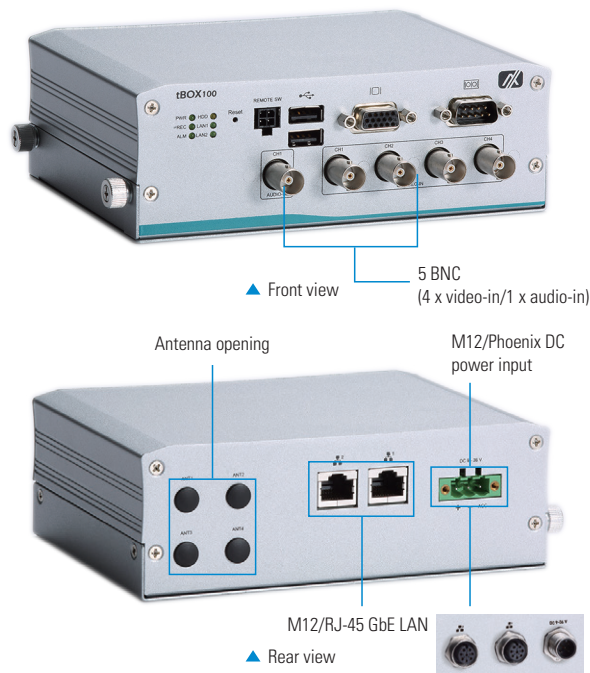
Compliant  
IEC 60945



Compliant  
EN 45545-2

## Specifications



Standard Color	Silver
Construction	Aluminum extrusion and heavy-duty steel, IP30
CPU	Intel® Atom® E3845 4C @1.91 GHz, TDP: 10W
Chipset	SoC integrated
System Memory	DDR3L-1333, 4GB memory onboard
BIOS	AMI
System I/O Outlet	<p>Serial 1 x DB9 serial console or RS-232/422/485</p> <p>Display 1 x VGA (supports up to 1920 x 1080 @60Hz)</p> <p>Video/Audio 5 x BNC (4 x video-in/1 x audio-in)</p> <p>Ethernet Railway: 2 x M12 A-coded 10/100/1000 Mbps Ethernet (Intel® i210-IT) Vehicle: 2 x RJ-45 10/100/1000 Mbps Ethernet (Intel® i210-IT)</p> <p>USB 2 x USB 2.0</p> <p>Others 1 x Reset button 1 x Remote switch 4 x Antenna opening</p>
Expansion Interface	1 x Full-size Rev.1.2 PCI Express Mini Card slot: • 1 x mSATA/USB/PCIe with SIM socket
Storage	<p>SATA Drive 1 x Swappable 2.5" SATA drive (9.5 mm height)</p> <p>mSATA 1 x mSATA (occupied 1 x PCI Express Mini Card slot)</p>
Watchdog Timer	255 levels, 1 to 255 sec.
Power	<p>Power Supply Railway: 1 x M12, 24 VDC Vehicle: 1 x terminal block, 12/24 VDC with ACC ignition</p> <p>Power consumption 24V, 1A</p>
System Indicator	1 x LED indicator for SATA drive activity 1 x LED indicator for power 2 x LED indicator for LAN activity 2 x Programmable



Operating Temperature	-40°C to +60°C (-40°F to +140°F) with W.T. peripheral*	
Humidity	0% to 95%, non-condensing	
Dimensions	163.8 mm (6.44") (W) x 108 mm (4.25") (D) x 56.3 mm (2.22") (H)	
Mounting	Wall mount, Din-rail	
Weight (net/gross)	0.77 kg (1.70 lb)/1.44 kg (3.17 lb)	
Certifications	CE (Class A), FCC (Class A), EN 50155, EN 45545-2, IEC 60945 and ISO 7637-2 compliant	
EMC	CE/FCC	EN 55022 (Class A), EN 55024, FCC Part 15 B (Class A) compliant
	EN 50155	EN 50121-3-2, IEC 62236-3-2 compliant
	IEC 60945	IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, CISPR 16-1-1, CISPR 16-1-2, CISPR 16-1-4 compliant
Vibration Endurance	2 Grms w/ SSD (5 to 500Hz, X/Y/Z direction; random)	
	EN 50155	EN (IEC) 61373 category 1 class B compliant
	IEC 60945	IEC 60068-2-6 compliant
Shock	EN 50155	EN (IEC) 61373 category 1 class B, half-sine pulse, 5g,30ms (longitudinal direction), 3g, 30ms (vertical/transverse direction) compliant
	EOS Support	Windows® 10 64-bit, Windows® 8, Windows® 7 64/32-bit, VxWorks7, Linux

\*Wide operating temperature peripheral

## Ordering Information

System	
tBOX100-838-FL-E3845-MRDC (P/N: E26N100101)	Fanless railway embedded system with Intel® Atom® processor E3845, 4GB RAM, 2 M12 GbE LANs, M12 DC-in, COM, VGA, 5 BNC (capture card, 4 x video-in/1 x audio-in), and 24 VDC 
tBOX100-838-FL-E3845-TVDC (P/N: E26N100100)	Fanless vehicle embedded system with Intel® Atom® processor E3845, 4GB RAM, 2 RJ-45 GbE LANs, Terminal block DC-in, COM, VGA, 5 BNC (capture card, 4 x video-in/1 x audio-in), with ACC ignition, and 12/24 VDC 

\*MRDC: M12 DC-in connector, railway SKU, DC voltage input

\*TMDC: terminal block DC-in connector, marine SKU, DC voltage input

### Optional

Communication Modules	By project
AC to DC Adapter	50906D24000E Adapter 24V/120W, wire only, FSP120-AAAN3 50966224010E Adapter 24V 90W, M12 A-code 5P FSP090AAAN3

\*Specifications and certifications may vary based on different requirements.

## Power Protection

OCP (over current protection)

OVP (over voltage protection)

UVP (under voltage protection)

RPP (reverse polarity protection)

ISO 7637-2 pulse 1, 2a, 2b, 3a, 3b, 4 (vehicle version)

Setting for in-vehicle battery protection: system will be automatically turned down at low voltage level

Setting for ignition control: system will activate a counter while in-vehicle battery at low voltage, ACC-ON delay and shut down delay

## Dimensions

