

tBOX810-838-FL

Fanless Embedded System with Intel Atom® Processor E3845/E3827 for Railway, Vehicle, and Marine PC



▲ Front view



Mic-in, Line-out, Line-in (optional)

M12/Phoenix DC power input



Antenna opening

▲ Rear view

M12/RJ-45 GbE LAN



Features

- CE, FCC, EN 50155, EN 45545-2, E-Mark, DNV 2.4 and IEC 60945 certified
- Intel Atom® processor E3845 or E3827
- Fanless and Wide operating temperatures from -40°C to +70°C
- DDR3L-1333 4GB memory onboard
- Compact size with multiple I/Os
- Intelligent solution of vehicle power management (ACC ignition)
- 2 PCI Express Mini Card slots and 1 SIM card slot



EN 45545-2



Low Power



Wide Temperature



Fanless



DDR3L



EN 50155



E-Mark



DNV 2.4



IEC 60945

Specifications

Standard Color	Silver black	
Construction	Aluminum extrusion and heavy-duty steel, IP40	
CPU	Intel Atom® E3845 4C @1.91 GHz, TDP: 10W Intel Atom® E3827 2C @1.75 GHz, TDP: 8W	
Chipset	SoC integrated	
System Memory	DDR3L-1333, 4GB memory onboard	
BIOS	AMI	
System I/O Outlet	Serial	2 x DB9 serial console or RS-232/422/485
	Display	1 x VGA (supports up to 1920 x 1080 @60Hz)
	Audio	1 x Mic-in, 1 x Line-out, 1 x Line-in (optional, occupied 1 x PCIe Mini Card slot)
	Ethernet	Railway: 2 x M12 A-coded 10/100/1000 Mbps Ethernet (Intel® I210-IT) Marine/vehicle: 2 x RJ-45 10/100/1000 Mbps Ethernet (Intel® I210-IT)
	USB	2 x USB 2.0
	DIO	1 x DB9 8-bit programmable DIO
	Others	1 x Reset button 1 x Remote switch 4 x Antenna opening
	Expansion Interface	2 x Full-size Rev.1.2 PCI Express Mini Card slot: • 1 x USB/PCIe with SIM socket • 1 x mSATA/USB/PCIe
Storage	SATA Drive	1 x Internal 2.5" SATA drive (9.5 mm height)
	mSATA	1 x mSATA (occupies 1 x PCI Express Mini Card slot)
Watchdog Timer	255 levels, 1 to 255 sec.	

Specifications

Power	Power Supply	Railway: 1 x M12 DC-in, 9 to 36 VDC (typical: 24VDC) Vehicle: 1 x terminal block DC-in, (typical: 12/24 VDC) with ACC ignition Marine: 1 x terminal block/M12 DC-in, 9 to 36 VDC (typical: 24 VDC)
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 +70°C (-40°F to +158°F) with W.T. peripheral*	
Humidity	0% to 95%, non-condensing	
Dimensions	164.1 mm (6.46") (W) x 108 mm (4.25") (D) x 44 mm (1.73") (H) (without wall mount)	
Mounting	Wall mount, DIN-rail	
Weight (net/gross)	0.77 kg (1.70 lb)/2 kg (4.41 lb)	
Certifications	CE (Class A), FCC (Class A), EN 50155, EN 45545-2**, E-Mark, DNV 2.4 and IEC 60945 certified	
EMC	CE/FCC	EN 55022 (Class A), EN 55024, FCC part 15 B (Class A)
	EN 50155	EN 50121-3-2, IEC 62236-3-2
	E-Mark	ECE-R10
	DNV 2.4/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
Vibration Endurance	3 Grms w/ SSD (5 to 500Hz, X/Y/Z direction; random, operating) 1 Grms w/ HDD (5 to 500Hz, X/Y/Z direction; random, operating) 2 Grms w/ HDD & Anti-Vibration Kit (5 to 500Hz, X/Y/Z direction; random, operating) MIL-STD-810G, Method 514.6C-VI Category 4 compliant	
	EN 50155	EN (IEC) 61373 category 1 class B
	DNV 2.4/IEC 60945	IEC 60068-2-6
Shock	EN 50155	EN (IEC) 61373 category 1 class B, half-sine pulse, 5g, 30ms (longitudinal direction), 3g, 30ms (vertical/transverse direction)
	DNV 2.4	IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-30
EOS Support	Windows® 10 64-bit, Windows® 8, Windows® 7 64/32-bit, VxWorks7, Ubuntu 15.10	

*Wide Temperature. All W.T. supported products have to be sorted by Axiomtek.

**For EN 45545-2, test report is available exclusively

Ordering Information

System

tBOX810-838-FL-E3827/E3845-MRDC (P/N: E26N810106*) for E3845 (P/N: E26N810107*) for E3827 (P/N: E26N810109) for E3845 & Audio *without Audio	Fanless railway grade embedded system with Intel® Atom® processor E3827/E3845, 4GB DRAM, 2 M12 GbE LANs, M12 DC-in, 2 USB, VGA, 2 COM, DIO, audio mic-in/line-in/line-out, and 24 VDC	
tBOX810-838-FL-E3827/E3845-TVDC/MVDC (P/N: E26N810104) for E3845 & RJ-45 LANs (P/N: E26N810105) for E3827 & RJ-45 LANs (P/N: E26N810100) for E3845 & M12 DC-in (P/N: E26N810102) for E3827 & M12 DC-in	Fanless vehicle grade embedded system with Intel® Atom® processor E3827/E3845, 4GB DRAM, 2 RJ-45/M12 GbE LANs, terminal block/M12 DC-in, 2 USB, VGA, 2 COM, DIO, ACC ignition, and 12/24 VDC	
tBOX810-838-FL-E3827/E3845-TMDC (P/N: E26N810114*) for E3845 (P/N: E26N810119) for E3827 & CAN (P/N: E26N810120) for E3845 & CAN *without CAN connector	Fanless marine grade embedded system with Intel® Atom® processor E3827/E3845, 4GB DRAM, 2 RJ-45 GbE LANs, terminal block DC-in, 2 USB, VGA, 2 COM, DIO, CAN, and 24 VDC	

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

*TVDC: terminal block DC-in connector, vehicle SKU, DC voltage input

*MVDC: M12 DC-in connector, vehicle SKU, DC voltage input

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

Optional

Anti-vibration Kit (P/N: 8816N1000A0E)	For in-vehicle/rolling stock applicable systems which improves HDD/SSD stability		
Communication Modules	E29R300100	ACC300-001-201 (Wi-Fi QCNFA324)	
	E29R318108	ACC318-541-30F (LTE NL668 with GPS kit)	
	E29R327100	ACC327-330-10D (GPS kit M8N without UDR)	
AC to DC Adapter	509000001500	PWS FSP120-AAAN3(9NA1206647) FSP 120W	
	509000002200	PWS 9NA0908344 FSP 90W (for M12 DC-in)	

*Specifications and certifications may vary based on different requirements.

Packing List

- 1 x Screw pack
- 1 x Foot pad kit
- 1 x Power 3-pin terminal block connector (RJ-45 GbE LAN version only)
- 1 x Wall-mount bracket kit
- 1 x DIN-rail kit

Power Protection

OCP (over current protection)

OVP (over voltage protection)

UVP (under voltage protection)

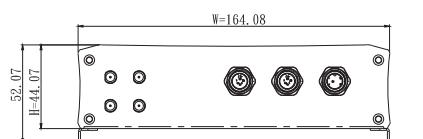
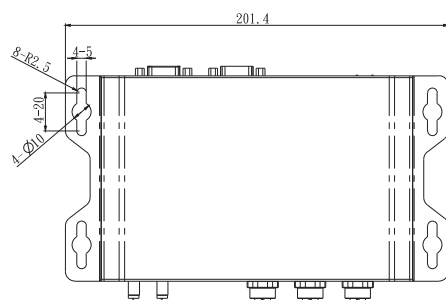
RPP (reverse polarity protection)

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

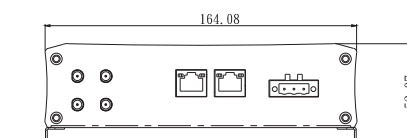
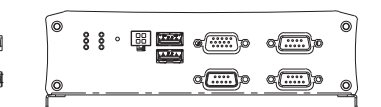
Setting for in-vehicle battery protection: system will be automatically turned down at low voltage level

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

Dimensions



#M12 LAN/DC-in



#RJ-45 LAN, Terminal block DC-in

Mouser Electronics

Authorized Distributor

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[Axiomtek:](#)

[8816N8105A0E](#) [tBOX810-838-FL-E3827-CAN-TMDC](#) [tBOX810-838-FL-E3827-CAN-TVDC](#) [tBOX810-838-FL-E3827-](#)
[RJ-Marine-DC\(PH\)](#) [tBOX810-838-FL-E3845-AUDIO-TVDC](#) [tBOX810-838-FL-E3845-CAN-TMDC](#) [tBOX810-838-FL-](#)
[E3845-CAN-TVDC\(PH\)](#) [tBOX810-838-FL-E3845-TMDC](#)