tBOX810-838-FL

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

TAIWAN EXCELLENCE 2016



▲ Front view



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

M12/Phoenix DC power input



Antenna opening

M12/RJ-45 GbE LAN

▲ Rear view



Fanless | Wide Temp. | Low Power | EN 45545-2 | EN50155 | E-Mark | IEC 60945

Features

- CE, FCC, EN 50155, EN 45545-2, E-Mark, 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

Specifications

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	
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, and 1 x Line-in (optional, occupied 1 x PCI Express Mini Card slot)
	Ethernet	2 x M12 A-coded GbE LAN (Intel® I210-IT) (railway) 2 x RJ-45 GbE LAN (Intel® I210-IT) (marine/vehicle)
	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
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)

Specifications

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	
BIOS	AMI	
Watchdog Timer	255 levels, 1 to 255 sec.	
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	
Power Supply	1 x M12 DC-in, 9 to 36 VDC (typical: 24 VDC) (Railway) 1 x terminal block DC-in, (typical: 12/24 VDC) with ACC ignition (Vehicle) 1 x terminal block/M12 DC-in, 9 to 36 VDC (typical: 24 VDC) (Marine)	
Power Consumption (Max.)	24W	
Operating Temperature	-40°C to +70°C (-40°F to +158°F) with W.T. peripheral*	
Storage Temperature	-40°C to +85°C (-40°F to +185°F)	
Relative Humidity	0% to 95% relative humidity, non-condensing	
Shock (Operation)	EN 50155	EN (IEC) 61373 category 1 class B, half-sine pulse, 5g, 30ms (longitudinal direction), 3g, 30ms (vertical/transverse direction)
	IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-30	
Vibration (Operation)	3 Grms with SSD (5 to 500Hz, X/Y/Z direction; random, operating) 1 Grms with HDD (5 to 500Hz, X/Y/Z direction; random, operating) 2 Grms with 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
	IEC 60945	IEC 60068-2-6
IP Rating	IP30	
Construction	Aluminum extrusion and heavy-duty steel	
Dimensions (W x D x H)	164.1 x 108 x 44 mm (6.46" x 4.25" x 1.73") (without wall mount)	
Packing Dimensions (W x D x H)	309 x 264 x 97 mm (12.2" x 10.4" x 3.8")	
Weight (net/gross)	0.77 kg (1.7 lbs)/2 kg (4.41 lbs)	
Mounting	Wall mount, DIN-rail	
Certifications	CE (Class A), FCC (Class A), EN 50155, EN 45545-2**, E-Mark, and IEC 60945 certified	
	CE/FCC	EN 55032 (Class A), EN 55035, and FCC part 15 B (Class A)
	EN 50155	EN 50121-3-2, IEC 62236-3-2
	E-Mark	ECE-R10
	IEC 60945	IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, and IEC 61000-4-6 CISPR 16-1-1, CISPR 16-1-2, and CISPR 16-1-4
OS Support	Windows® 10 64-bit, Windows® 8, Windows® 7 64/32-bit, VxWorks7, and Ubuntu 15.10	
Software Support	Digital I/O control and hardware monitoring	

*Wide Temperature. All W.T. supported products have to be sorted by Axiomtek.
**For EN 45545-2, test report is available exclusively.

Ordering Information

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-E3845-TMDC (P/N: E26N810114) for E3845	Fanless marine grade embedded system with Intel Atom® processor E3845, 4GB DRAM, 2 RJ-45 GbE LANs, terminal block DC-in, 2 USB, VGA, 2 COM, DIO, 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 E29R318108 E29R327100	ACC300-001-201 (Wi-Fi QCNFA324) ACC318-541-30F (LTE NL668 with GPS kit) ACC327-330-10D (GPS kit M8N without UDR)
AC to DC Adapter	509000001500 509000002200	PWS FSP120-AAAN3 (9NA1206647) FSP 120W PWS 9NA0908344 FSP 90W (for M12 DC-in)

*Specifications and certifications may vary based on different requirements.

Packing List

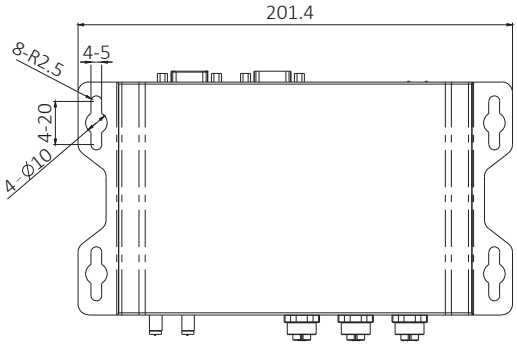
1 x screw pack
1 x foot pad kit
1 x power 3-pin terminal block connector (RJ-45 GbE LAN version only)
1 x wall-mount bracket kit
1 x DIN-rail kit

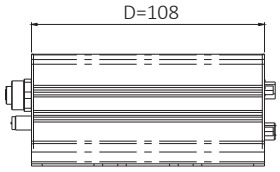
Power Protection

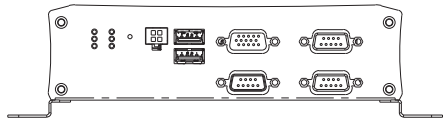
OCP (over current protection)
OVP (over voltage protection)
UVP (under voltage protection)
RPP (reverse polarity protection)
ISO 7637-2 pulse 1, 2a, 2b, 3a, 3b, and 4 (vehicle version)
Setting for in-vehicle battery protection: system will be automatically turned down at low voltage level.
Setting for ignition control: system will activate a counter at low battery voltage, with IGN ON and IGN OFF delay.

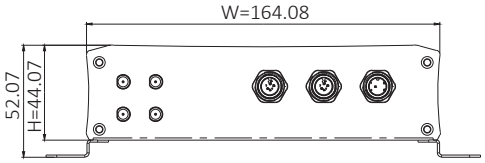
Dimensions

Unit: mm

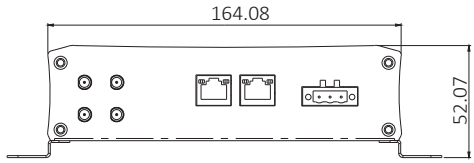








#M12 LAN/DC-in



#RJ-45 LAN, terminal block DC-in

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