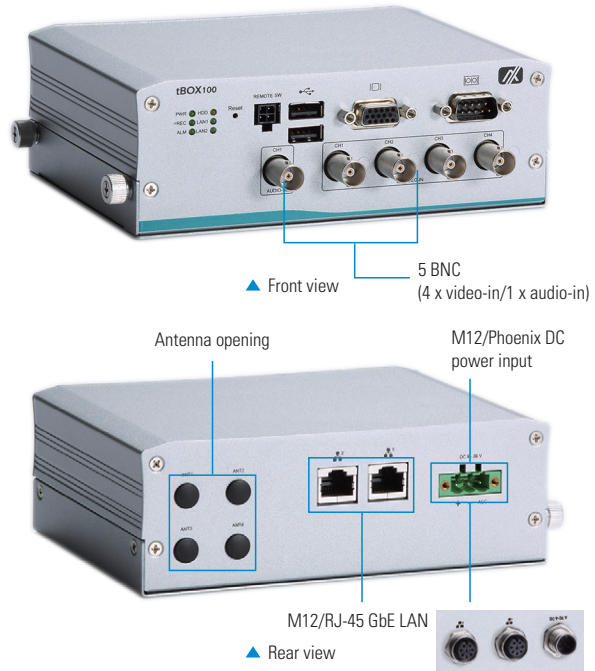
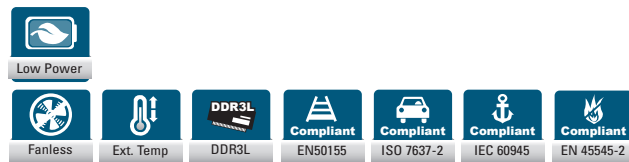


# tBOX100-838-FL

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



## 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   | Serial                                                                                                                             | 1 x DB9 serial console or RS-232/422/485                                                                                             |
|                     | Display                                                                                                                            | 1 x VGA (supports up to 1920 x 1080 @60Hz)                                                                                           |
|                     | Video/Audio                                                                                                                        | 5 x BNC (4 x video-in/1 x audio-in)                                                                                                  |
|                     | Ethernet                                                                                                                           | Railway: 2 x M12 A-coded 10/100/1000 Mbps Ethernet (Intel® i210-IT)<br>Vehicle: 2 x RJ-45 10/100/1000 Mbps Ethernet (Intel® i210-IT) |
|                     | USB                                                                                                                                | 2 x USB 2.0                                                                                                                          |
|                     | Others                                                                                                                             | 1 x Reset button<br>1 x Remote switch<br>4 x Antenna opening                                                                         |
| Expansion Interface | 1 x Full-size Rev.1.2 PCI Express Mini Card slot:<br>• 1 x mSATA/USB/PCIe with SIM socket                                          |                                                                                                                                      |
| Storage             | SATA Drive                                                                                                                         | 1 x Swappable 2.5" SATA drive (9.5 mm height)                                                                                        |
|                     | mSATA                                                                                                                              | 1 x mSATA (occupied 1 x PCI Express Mini Card slot)                                                                                  |
| Watchdog Timer      | 255 levels, 1 to 255 sec.                                                                                                          |                                                                                                                                      |
| Power               | Power Supply                                                                                                                       | Railway: 1 x M12, 24 VDC<br>Vehicle: 1 x terminal block, 12/24 VDC with ACC ignition                                                 |
|                     | Power Consumption                                                                                                                  | 24V, 1A                                                                                                                              |
| System Indicator    | 1 x LED indicator for SATA drive activity<br>1 x LED indicator for power<br>2 x LED indicator for LAN activity<br>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) (without wall mount)                                                       |                                                                                                                     |
| 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)                                                               |
|                       | EN 50155                                                                                                                                   | EN 50121-3-2, IEC 62236-3-2                                                                                         |
|                       | 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   | 2 Grms w/ SSD (5 to 500Hz, X/Y/Z direction; random)<br>2 Grms w/ HDD & Anti-Vibration Kit (5 to 500Hz, X/Y/Z direction; random, operating) |                                                                                                                     |
|                       | EN 50155                                                                                                                                   | EN (IEC) 61373 category 1 class B                                                                                   |
|                       | 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)             |                                                                                                                     |
| EOS Support           | Windows® 10 64-bit, Windows® 8, Windows® 7 64/32-bit, VxWorks7, Ubuntu 16.10                                                               |                                                                                                                     |

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

Ordering Information

| System                                         |                                                                                                                                                                                                                 |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| tBOX100-838-FL-E3845-MRDC<br>(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<br>(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                                  |                                                                                  |
|-------------------------------------------|----------------------------------------------------------------------------------|
| Anti-vibration Kit<br>(P/N: 8816N1000A0E) | For in-vehicle/rolling stock applicable systems which improves HDD/SSD stability |
| Communication Modules                     | 8816N1001A0E LTE EC25 (EU) kit (30)/GPS tBOX100 SFP (E)                          |
| 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

