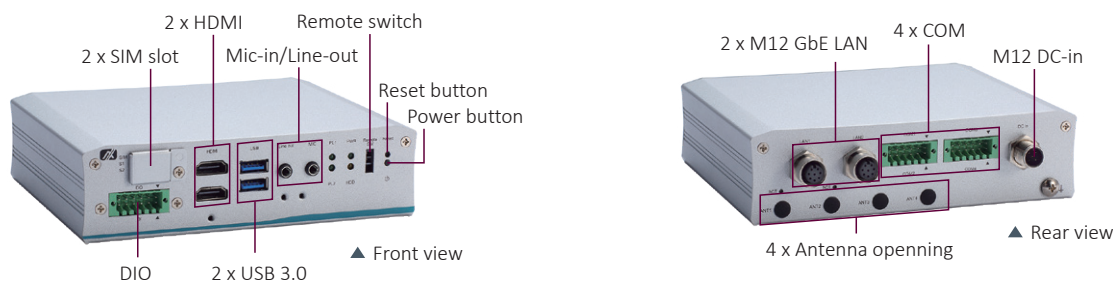


tBOX110

Vehicle and Rail-grade Fanless Embedded System with Intel Atom® x5-E3940 Processor



Features

- CE, FCC, LVD, EN 45545-2, EN 50155, and E-Mark certified
- Wide operating temperature range from -40°C to +70°C (EN 50155 OT4)
- Wide range 9 to 36 VDC and full range 24 to 110 VDC power input
- Smart ignition ensures safe shutdown and protects the vehicle battery
- Compact design with rich I/O connectivity and TPM 2.0 support

Specifications

		Model Name	tBOX110-APL-TV 	tBOX110-APL-MR2 	tBOX110-APL-MR4 
		P/N	E26N110100	E26N110102	E26N110103
Standard Color			Silver		
Construction			Aluminum extrusion and heavy-duty steel, IP20		
CPU			Intel Atom® x5-E3940 4C @1.6 GHz, TDP: 9.5W		
Chipset			SoC integrated		
System Memory			1 x DDR3L-1600 SO-DIMM, up to 8GB		
BIOS			AMI		
System I/O Outlet	Serial	2 x RS-232/422/485 (4-wire) with shield grounding		4 x Isolated RS-232/422/485 (4-wire) with shield grounding	
	Display	2 x HDMI 1.4b (with screw lock)			
	CANBus	2 x Isolated CANBus 2.0 A/B with SocketCAN supported		N/A	N/A
	Audio	1 x Mic-in, 1 x Line-out			
	Ethernet	2 x RJ-45 10/100/1000 Mbps (Intel® I210-IT)		2 x M12 A-coded 10/100/1000 Mbps (Intel® I210-IT)	2 x M12 X-coded 10/100/1000 Mbps (Intel® I210-IT)
System I/O Outlet	USB	2 x USB 3.0			
	DIO	1 x DB9 8-bit programmable DIO		1 x Isolated terminal block DIO (4-in/4-out)	
	Others	1 x Reset button 1 x Power button 1 x Remote switch 4 x Antenna opening			

Specifications

	Model Name	tBOX110-APL-TV 	tBOX110-APL-MR2 	tBOX110-APL-MR4 
	P/N	E26N110100	E26N110102	E26N110103
Expansion Interface		2 x Full-size Rev.1.2 PCI Express Mini Card slot: • 1 x USB/PCIe with external SIM socket (standard size SIM socket) • 1 x mSATA/USB/PCIe with external SIM socket (standard size SIM socket)		
Storage	SATA Drive	1 x Internal 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	1 x Terminal block, 9 to 36VDC input with smart ignition control	1 x M12 male A-coded connector, 24 to 110 VDC input with smart ignition control	
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 indicator		
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 128 mm (5.04") (D) x 44.1 mm (1.74") (H) (without wall mount)		
Mounting		Wall mount, DIN-rail (optional)		
Weight (net/gross)		1.02 kg (2.24 lb)/1.44 kg (3.17 lb)		
Certifications		CE, FCC, LVD, and E-Mark certified	CE, FCC, LVD, EN 45545-2, and EN 50155 certified	
EMC	CE/FCC	EN 55032 (Class A), EN 55035, FCC part 15 B (Class A)	EN 61000-6-4 (Class A), EN 61000-6-2, EN 50155, EN 50121-3-2, IEC 62236-3-2, FCC part 15 B (Class A)	
Vibration		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		
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, Ubuntu 20.04		

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

Ordering Information

Standard

tBOX110-APL-TV	E26N110100
tBOX110-APL-MR2	E26N110102
tBOX110-APL-MR4	E26N110103

Optional

Communication modules	E29R303101	ACC303-001-20A (WiFi5 MCR822CE-P)
	886N11012A0E	LTE NL668-JP tBOX110 M1R 2020(E)
	E29R318109	ACC318-501-207 (LTE NL668-EAU)
	E39P118106	EIO118-JP-001 (LTE NL668-JP)
AC to DC adapter	509000001500	PWS FSP120-AAAN3(9NA1206647) FSP 120W for E26N110100 tBOX110-APL-TV
	509000002200	PWS 9NA0908344 FSP 90W for E26N110102/E26N110103 tBOX110-APL-MR2&4
Cable/Power Cord	594B8120B30E	DC IN CABLE M12 FEMALE 5P 180CM W/O ACC (for testing purpose)
	594B8152710E	LAN CABLE M12-XCODE/RJ45PLUG CAT6 180CM
	594N3202730E	LAN CABLE M12-A MALE 8P TO RJ-45
	59906000010E	Power Cord YP-12/YC-12(Japan)
	59903000000E	POWER CORD YP-22/YC-12 (Europe)
	59904010000E	Power Cord/UK YP-61A/YC-12 L=1830mm
	59905000000E	Power cord YP-35/YC-12 (Australia)
Mounting Kit	886N11011A0E	tBOX110 DIN RAIL KITS (E)
Anti-vibration Kit	8816N1000A0E	tBOX Anti-vibration kit(S) (E)

*Specifications and certifications may vary depending on requirements.

Packing List

1 x Wall mount kit
1 x Thermal pad for memory
4 x Wall mount kit screw
1 x HDMI bracket
1 x Audio bracket
1 x DIO terminal block connector (MR only)
1 x 3-pin terminal block power connector (TV only)
1 x Rubber for HDD
1 x Cable holder 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, IGN ON delay and IGN OFF delay

Dimensions

