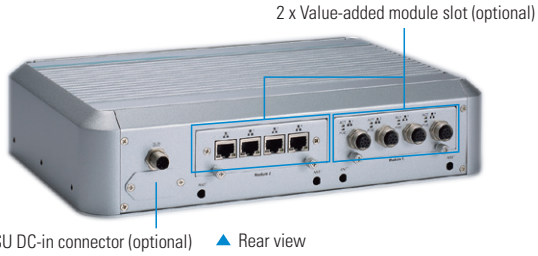
tBOX500-510-FL

Fanless Embedded System with 7th Gen Intel® Core™ i7/i5/i3 & Celeron® Processor for Railway, Vehicle and Marine PC

Features

- CE, LVD, FCC, EN 50155, EN 45545-2, and IEC 60945 certified; ISO 7637-2 compliant
- 7th gen Intel® Core™ i7/i5/i3 or Celeron® processor (Kaby Lake)
- Power supply:
  24 to 110 VDC for Railway version
  12/24 VDC for Vehicle version
  24 VDC for Marine version
- External PoE PSU (optional), up to 120W power supply
- Value-added modules available for various I/O requirements (COM/LAN/DIO/PoE/CAN/BNC)
- Intelligent solution of vehicle power management (ACC ignition)
- 2 swappable 2.5" SATA drives



Fanless | Ext. Temp | DDR4 | EN 50155 | ISO 7637-2 | IEC 60945 | EN 45545-2 | AMS.AXView

Specifications

Standard Color	Silver	
Construction	Aluminum extrusion and heavy-duty steel, IP30	
CPU	Intel® Core™ i7-7600U 2C@2.8 GHz, TDP: 15W Intel® Core™ i5-7300U 2C@2.6 GHz, TDP: 15W Intel® Core™ i3-7100U 2C@2.4 GHz, TDP: 15W Intel® Celeron® 3965U 2C@2.2 GHz, TDP: 15W	
Chipset	SoC integrated	
System Memory	2 x DDR4-1866/2133 SO-DIMM, up to 32GB	
BIOS	AMI	
TPM	TPM 2.0 (optional)	
System I/O Outlets	Serial	1 x DB9 serial console or RS-232/422/485
	Display	1 x DVI-I (up to 1920 x1200 @60Hz, 1 x VGA & 1 x DVI included)
	Audio	1 x Mic-in, 1 x Line-out
	Ethernet	1 x RJ-45 10/100/1000 Mbps Ethernet (Intel® i210-IT)
	USB	4 x USB 3.0
	Others	1 x Reset button 1 x Remote switch 4 x Antenna opening
Expansion Interface	3 x Full-size Rev.1.2 PCI Express Mini Card slot • 1 x mSATA/PCIe • 2 x USB/PCIe with SIM socket 2 x Value-added module slot	
Storage	SATA Drive	2 x Swappable 2.5" SATA drive (9.5 mm height), Intel® RAID 0/1 supported
	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 to 110 VDC Vehicle: 1 x terminal block, 12/24 VDC with ACC ignition Marine: 1 x terminal block, 24 VDC
	Power Consumption	24V - 110V, 3A - 0.6A
PoE (PSE, Power Sourcing Equipment)	PoE Power Source	1 x Terminal block PoE power-in with PSU120-259 (optional, see ordering info)
	PoE Performance	Up to 8 x configurable M12/RJ-45 PoE output max. 120W supports PoE & PoE+ • PoE (802.3af 15.4W/port) • PoE+ (802.3at 30W/port) To be used with VAM PoE and PSU120-259 series (optional, see ordering info)

System Indicator	1 x LED indicator for power 1 x LED indicator for SATA drive activity 2 x Programmable	
Operating Temperature	-40°C to +70°C (-40°F to +158°F) with W.T. peripheral* -40°C to +60°C (-40°F to +140°F) with external PoE PSU & W.T. peripheral	
Humidity	0% to 95%, non-condensing	
Dimensions	321 mm (12.64") (W) x 210.2 mm (8.28") (D) x 73.3 mm (2.89") (H) (without wall mount)	
Mounting	Wall mount	
Weight	3.5 kg (7.72 lb)/5.1 kg (11.24 lb)	
Certifications	CE (Class A), LVD, FCC (Class A), EN 50155, EN 45545-2**, and IEC 60945 certified; ISO 7637-2 compliant	
EMC	CE/FCC	EN 61000-6-4 (Class A), EN 61000-6-2, 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
LVD	EN 60950-1	
Vibration Endurance	3 Grms w/ SSD (5 to 500Hz, X/Y/Z direction; random, operating) 1.5 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 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, Ubuntu 16.04	
Software Support	AMS.AXView	

*Wide Temperature. All W.T. supported products have to be sorted by Axiomtek.
**For EN45545-2, test report is available exclusively

Updated Jun. 11, 2020.
* All specifications and photos are subject to change without notice.

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Ordering Information

System	
tBOX500-510-FL-Celeron/i3/i5/ i7-24-110MRDC (P/N: E26N500100) for i7-7600U (P/N: E26N500101) for i5-7300U (P/N: E26N500102) for i3-7100U (P/N: E26N500103) for 3965U	Fanless railway embedded system, Intel® Celeron® 3965U/Core™ i3-7100U/i5-7300U/ i7-7600U processor, 4 USB 3.0, DVI-I, LAN, serial console or RS-232/422/485, Mic-in & Line-out, two 2.5" SATA trays, M12 A-code DC-in, and 24 to 110 VDC
tBOX500-510-FL-Celeron/i3/i5/ i7-TVDC (P/N: E26N500104) for i7-7600U (P/N: E26N500105) for i5-7300U (P/N: E26N500106) for i3-7100U (P/N: E26N500107) for 3965U	Fanless vehicle embedded system, Intel® Celeron® 3965U/Core™ i3-7100U/i5-7300U/ i7-7600U processor, 4 USB 3.0, DVI-I, LAN, serial console or RS-232/422/485, Mic-in & Line-out, two 2.5" SATA trays, terminal block DC-in, and ACC ignition *Not supporting PoE function
tBOX500-510-FL-Celeron/i3/i5/ i7-TMDC (P/N: E26N500108) for i7-7600U (P/N: E26N500109) for i5-7300U (P/N: E26N500110) for i3-7100U (P/N: E26N500111) for 3965U	Fanless marine embedded system, Intel® Celeron®3965U/Core™ i3-7100U/i5-7300U/ i7-7600U processor, 4 USB 3.0, DVI-I, LAN, serial console or RS-232/422/485, Mic-in & Line-out, two 2.5" SATA trays, and terminal block DC-in

*MRDC: M12 DC-in connector, railway SKU, DC voltage input
*TVDC: Terminal block DC-in connector, vehicle SKU, DC voltage input
*TMDC: Terminal block DC-in connector, marine SKU, DC voltage input

Value-Added Modules (VAMs) & PSU120-259	
VAM100 (P/N: E277100100)	4 x Terminal block 4-wire isolated RS-232/422/485 COM Isolation voltage: 2 kV
VAM101 (P/N: E277101100)	4 x Terminal block isolated CANbus 2.0A/B Isolation voltage: 2 kV
VAM200 (P/N: E277200100)	1 x Terminal block isolated DIO 8-in/8-out Isolation voltage: 2 kV
VAM400 (P/N: E277400100)	4 x BNC video-in & 1 x BNC audio-in • Supports FPS: NTSC/PAL (up to 120fps @960/720 x 480 / 100fps @960/720 x 576), H.264 video recording 2 x Full size Rev. 1.2 PCI Express Mini Card slot • 1 x USB with SIM socket • 1 x USB/PCIe with SIM socket (occupied by 1 x Capture Card)
VAM600 (P/N: E277600100)	2 x Full size Rev. 1.2 PCI Express Mini Card slot • 1 x USB/PCIe with SIM socket • 1 x USB with SIM socket 4 x Antenna opening
VAM700/VAM701 (P/N: E277700100/E277701100) VAM702/VAM703 (P/N: E277702100/E277703100) VAM704/VAM705 (P/N: E277704100/E277705100) VAM706/VAM707 (P/N: E277706100/E277707100)	VAM700/701(PoE): 4 x M12 A-code GbE (PoE optional*) VAM702/703(PoE): 4 x RJ-45 GbE (PoE optional*) VAM704/705(PoE): 4 x M12 D-code 10/100 Mbps Ethernet (PoE optional*) VAM706/707(PoE): 4 x M12 X-code GbE (PoE optional*) *PSU120-259 is required if select VAM701/703/705/707
VAM900 (P/N: E277900100)	2 x Full-size Rev.1.2 PCI Express Mini Card slot • 2 x USB with SIM socket 1 x Half-size Rev.1.2 PCI Express Mini Card slot • 1 x PCIe 1 x Terminal block 4-wire isolated RS-232/422/485 COM (isolation Voltage: 2 kV) 1 x Terminal block isolated CANBus 2.0A/B (isolation Voltage: 2 kV) 1 x Terminal block isolated DIO 8-in/8-out (isolation Voltage: 1.5 kV)

PSU120-259 series Railway-24VDC (P/N: E276120101) Railway-48VDC (P/N: E276120102) Railway-96/110VDC (P/N: E276120103) Marine-24VDC (P/N: E276120104)	Fanless IEC 60945 certified/EN 50155 compliant DC-DC adapter • Supports 24/48/96/110V-in • Power output max. 120W • -40°C to +60°C (-40°F to +140°F)

Optional

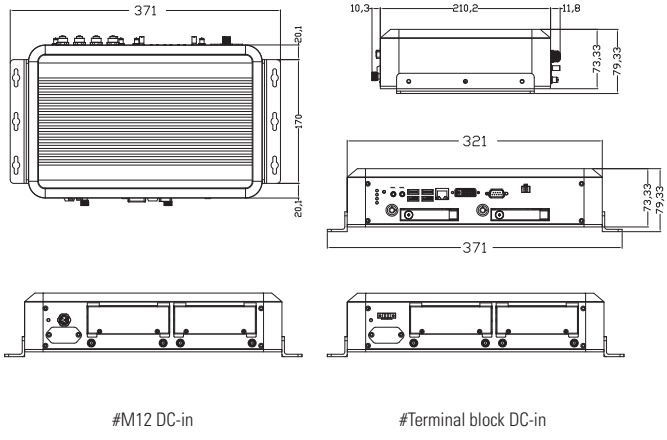
Anti-vibration Kit (P/N: 8816N5008A0E)	For in-vehicle/rolling stock which improves HDD stability in NVR applications	
Communication Modules	8816N3239A0E	3G UC20GKit for tBOX/UST (3G ANT) (E)
	8816N3235A0E	3G/GPS UC20GKit tBOX/UST (3G/GPS ANT) (E)
	8816N5003A0E	AP12356 WT Wi-Fi kit for tBOX/UST SFP (E)
	8816N5000A0E	LTE SIM7100JC kit for tBOX, JPN SFP (E)
	88160620BA0E	LTE SIMCOM SIM7100 (EU) for tBOX/UST SFP (E)
AC to DC Adapter	8816N5004A0E	LTE+GPS SIM7100C (TW) kit tBOX (30) SFP (E)
	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



#M12 DC-in

#Terminal block DC-in

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Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

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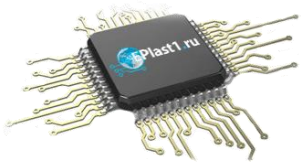
- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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