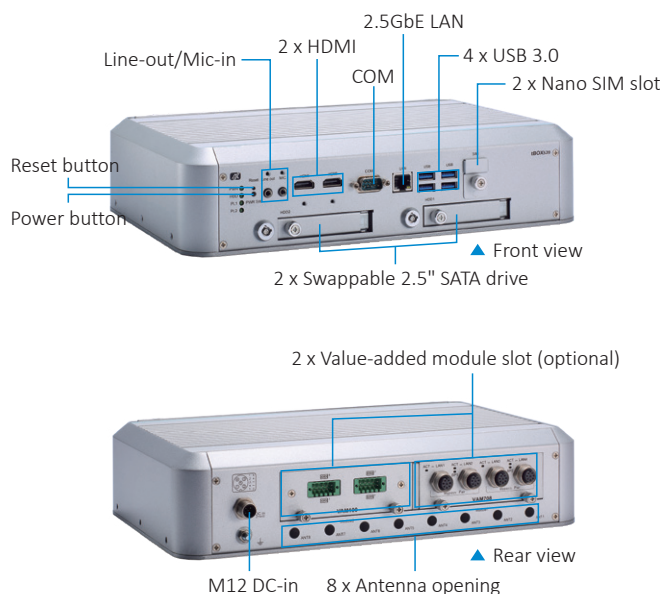


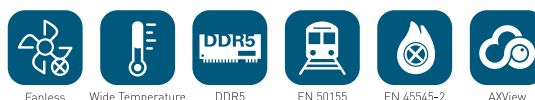
tBOX520 NEW

Fanless Embedded System with 12th Gen Intel® Core™ i7/i5/i3 Processor for Railway



Features

- CE, LVD, FCC, EN 50155, EN 45545-2 certified
- 12th gen Intel® Core™ i7/i5/i3 or Celeron® processor (Alder Lake P)
- 24 to 110 VDC for railway applications
- Value-added modules available for various I/O requirements (COM/LAN/DIO/PoE/CAN/BNC)
- Intelligent solution of power management (Smart Ignition)
- 2 swappable 2.5" SATA drives



Specifications

Standard Color	Silver	
Construction	Aluminum extrusion and heavy-duty steel, IP30	
CPU	12th gen Intel® Core™ i7/i5/i3 or Celeron® processor	
Chipset	SoC integrated	
System Memory	2 x DDR5-4800 SO-DIMM (non-ECC: dual channel up to 32GB; single channel up to 16GB)	
BIOS	AMI	
TPM	TPM 2.0	
System I/O Outlets	Serial	1 x DB9 serial console or RS-232/422/485
	Display	2 x Type A HDMI 1.4b (4K)
	Audio	1 x Mic-in & 1 x Line-out
	Ethernet	1 x RJ-45 2.5GbE LAN (Intel® I226-IT)
	USB	4 x USB 3.0
	Others	1 x Reset button 8 x Antenna opening 1 x Power button
Expansion Interface	1 x M.2 Key M 2280 NVMe SSD (PCIe x4)	
	1 x M.2 Key B 3052/3042 for 5G/Wi-Fi 6/Bluetooth (PCIe/USB)	
	1 x Full-size Rev.1.2 PCIe Mini Card slot for LTE/Wi-Fi/Bluetooth (PCIe/USB)	
	2 x Nano SIM slot 1 x M.2 Key A+E for Wi-Fi 6/Bluetooth (PCIe/USB)	
Storage	SATA Drive	2 x Swappable 2.5" SATA drive (9.5 mm height), Intel® RAID 0/1 supported
Watchdog Timer	255 levels, 1 to 255 sec.	
Power	Power Supply	Railway: 1 x M12, 24 to 110 VDC

Specifications

PoE (PSE, Power Sourcing Equipment)	PoE Performance	Internal PoE SKUs equipped with VAM701/703/705/707 can support up to 8 configurable M12/RJ45 PoE ports <ul style="list-style-type: none"> • PoE (802.3af 15.4W per port) • PoE+ (802.3at 30W per port)
System Indicator	1 x LED indicator for power 1 x LED indicator for SATA drive activity 2 x Programmable	
Operating Temperature	tBOX520 non-PoE series: -40°C to +70°C (-40°F to +158°F) with 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 (net/gross)	3.9kg (8.6lb)/ 6.0kg (13.2lb)	
Certifications	CE (Class A), LVD, FCC (Class A), EN 50155, EN 45545-2	
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
LVD	EN 60950-1	
Vibration Endurance	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) MIL-STD-810G, Method 514.6C-VI Category 4 compliant	
	EN 50155	EN 61373 category 1 class B
Shock	EN 50155	EN(IEC) 61373 category 1 class B, half-sine pulse, 5g, 30ms (longitudinal direction), 3g, 30ms (vertical/transverse direction)
EOS Support	Ubuntu 22.04, Windows® 11 64-bit	
Software Support	AXView	

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

Ordering Information

System


tBOX520-ADL7-MR (P/N: E26N520100)	Fanless railway embedded system, Intel® Core™ i7-1265UE processor, 4 USB 3.0, 2 HDMI, 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
tBOX520-ADL5-MR (P/N: E26N520101)	Fanless railway embedded system, Intel® Core™ i5-1245UE processor, 4 USB 3.0, 2 HDMI, 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
tBOX520-ADL3-MR (P/N: E26N520102)	Fanless railway embedded system, Intel® Core™ i3-1215UE processor, 4 USB 3.0, 2 HDMI, 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
tBOX520-ADLC-MR (P/N: E26N520103)	Fanless railway embedded system, Intel® Celeron® 7305E processor, 4 USB 3.0, 2 HDMI, 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

Ordering Information

Value-Added Modules (VAMs)

VAM100 (P/N: E277100100)	4 x Terminal block 4-wire isolated RS-232/422/485 COM Isolation voltage: 2 kV	
VAM102 (P/N: E277102100)	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 PCIe 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 PCIe 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) VAM708 (P/N: E277708101)	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*) VAM708 : 4 x M12 A-code with LAN Bypass	
VAM900 (P/N: E277900100)	2 x Full-size Rev.1.2 PCIe Mini Card slot • 2 x USB with SIM socket 1 x Half-size Rev.1.2 PCIe 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)	

Optional

Communication Modules	TBC TBC	Wi-Fi M.2 2230 AX210.NGWGII.NV PCIe 6E WT 4G EM12-G M.2 3042 WT	
AC to DC Adapter	509000002200	PWS 9NA0908344 FSP 90W	
Cable/Power Cord	594B8120B30E 59412042700E 594N3202730E 594B8152710E 599000001100 59906000010E 59903000000E 59904010000E	DC-in cable M12 female 5P 180CM without ACC LAN cable M12 D-code 4P to RJ45 8P L=180cm LAN cable M12 A code male 8P to RJ-45 LAN cable M12 X-code to RJ45 plug CAT6 180cm Power cord YP12/YC12_CY-U0032 YUNG_LI 1830mm Power cord YP-12/YC-12 (Japan) Power cord YP-22/YC-12 (Europe) Power cord YP-61A/YC-12 (UK) L=1830mm	
Anti-vibration Kit	8816N5008A0E	For in-vehicle/rolling stock which improves HDD stability in NVR applications *For more information, please search for "Anti-vibration Kit" on the Axiomtek website.	

*Specifications and certifications may vary based on different requirements.

Packing List

Thermal pads for memory and NVMe
 4 x Foot pad
 4 x Mylar for HDD or SSD
 1 x Wall mount kit
 2 x Keys for HDD/SSD tray lock

Power Protection

OCP (over current protection)
 OVP (over voltage protection)
 UVP (under voltage protection)
 RPP (reverse polarity protection)

Dimensions

