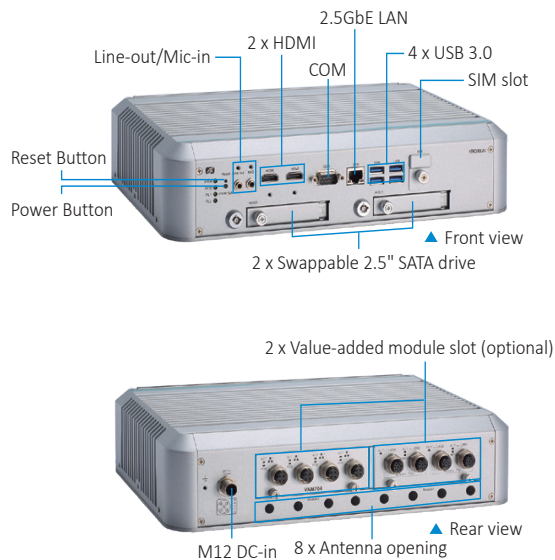


tBOX520 NEW

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-U)
- 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 (ACC 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, up to 64GB	
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 (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 M key 2280 NVMe SSD (PCIe x4) 1 x M.2 B key for 5G/WiFi 6/BT (PCIe/USB) 1 x Full-size Rev.1.2 mPCIe for LTE/WiFi/BT (PCIe/USB) 2 x nano SIM slot 1 x M.2 A+E key for WiFi 6/BT (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.	

Specifications

Power	Power Supply	Railway: 1 x M12, 24 to 110 VDC
	Power Consumption	TBD
PoE (PSE, Power Sourcing Equipment)	PoE Performance	Up to 8 configurable M12/RJ-45 PoE • PoE (802.3af 15.4W/port) • PoE+ (802.3at 30W/port) To be used with VAM PoE * Internal PoE Power
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*	
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	TBD	
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 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
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, Windows® 11 64-bit	
Software Support	AXView	

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

** PoE series is compliant with EN 50155

*** EN 45545-2 test report is available exclusively

Ordering Information

System

tBOX520-ADL-MR (P/N: TBD)	Fanless railway embedded system, Intel® Core™ 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
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Value-Added Modules (VAMs)

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) 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 w/ LAN Bypass *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)	

Optional

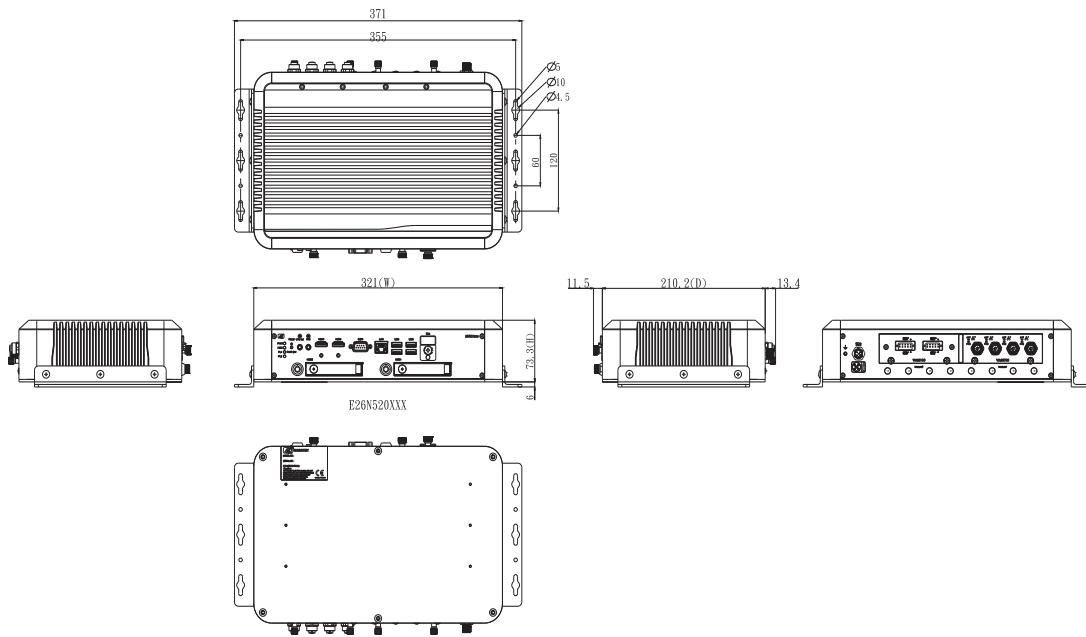
Anti-vibration Kit (P/N: 8816N5008A0E)	For in-vehicle/rolling stock which improves HDD stability in NVR applications		
AC to DC Adapter	509000001500 50966224010E	PWS FSP120-AAAN3(9NA1206647) FSP 120W FSP090AAAN3	

*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)

Dimensions



Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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