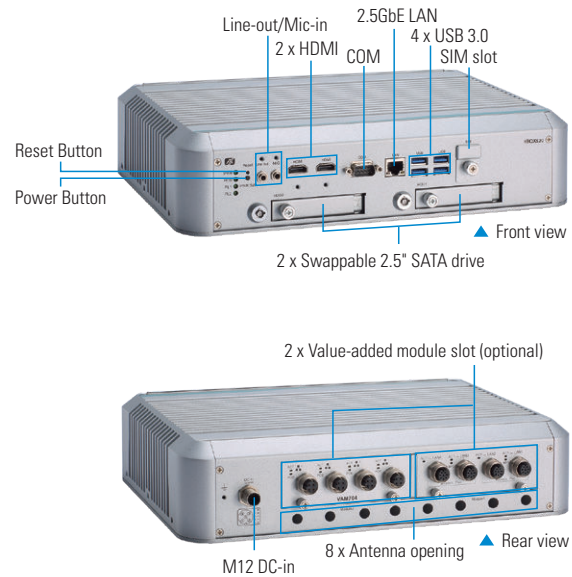


tBOX520 NEW

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 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 (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 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	<table> <tr> <td>Serial</td><td>1 x DB9 serial console or RS-232/422/485</td></tr> <tr> <td>Display</td><td>2 x Type A HDMI 1.4 (4K)</td></tr> <tr> <td>Audio</td><td>1 x Mic-in, 1 x Line-out</td></tr> <tr> <td>Ethernet</td><td>1 x RJ-45 2.5GbE (Intel® i226-IT)</td></tr> <tr> <td>USB</td><td>4 x USB 3.0</td></tr> <tr> <td>Others</td><td>1 x Reset button 8 x Antenna opening 1 x Power button</td></tr> </table>	Serial	1 x DB9 serial console or RS-232/422/485	Display	2 x Type A HDMI 1.4 (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
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Expansion Interface	1 x M.2 Key M 2280 NVMe SSD (PCIe x4) 1 x M.2 Key B 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 Key A+E 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.												
Power	<table> <tr> <td>Power Supply</td><td>Railway: 1 x M12, 24 to 110 VDC</td></tr> <tr> <td>Power Consumption</td><td>TBD</td></tr> </table>	Power Supply	Railway: 1 x M12, 24 to 110 VDC	Power Consumption	TBD								
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PoE (PSE, Power Sourcing Equipment)	<table> <tr> <td>PoE Performance</td><td> 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 * External PoE Power with PSU120-259 (optional, see ordering info) </td></tr> </table>	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 * External PoE Power with PSU120-259 (optional, see ordering info)										
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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	<table> <tr> <td>CE/FCC</td><td>EN 61000-6-4 (Class A), EN 61000-6-2, FCC part 15 B (Class A)</td></tr> <tr> <td>EN 50155</td><td>EN 50121-3-2, IEC 62236-3-2</td></tr> </table>	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
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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				
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

Value-Added Modules (VAMs)	
tBOX520 24-110MRDC (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
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)	VAM700/701(PoE): 4 x M12 A-code GbE (PoE optional*)
VAM702/VAM703 (P/N: E277702100/E277703100)	VAM702/703(PoE): 4 x RJ-45 GbE (PoE optional*)
VAM704/VAM705 (P/N: E277704100/E277705100)	VAM704/705(PoE): 4 x M12 D-code 10/100 Mbps Ethernet (PoE optional*)
VAM706/VAM707 (P/N: E277706100/E277707100)	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)
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Optional	
Anti-vibration Kit (P/N: 8816N5008A0E)	For in-vehicle/rolling stock which improves HDD stability in NVR applications
AC to DC Adapter	8816N5004A0E LTE+GPS SIM7100C (TW) kit tBOX (30) SFP (E) 509000001500 PWS FSP120-AAAN3(9NA1206647) FSP 120W 50966224010E 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

