

TRACe B304-TR



EN50155 CERTIFIED FANLESS RAILWAY COMPUTER BASELINE

- ▶ Easy Customization: front plate area for connectors, mini PCI-e card slots
- ▶ Intel® Atom™ Bay Trail (CPU upgrade through COM Express®)
- ▶ Health Management: Continuous Independent Monitoring
- ▶ IP50 Ingress Protection from all Directions
- ▶ EN50155 Class Tx (-40°C to +70°C / 10 min @ +85°C)

POSSIBILITIES START HERE



▶ PRODUCT OVERVIEW

Kontron TRACe B304-TR is an EN50155 certified fanless Operational Computer. This "B" version is specifically designed to ease customization thanks to MiniPCIe slots and multiple configuration extensions to help integrators meet application-specific requirements. The B304-TR version is based on a COM Express® CPU module featuring Intel® Atom E3845 Bay Trail (quad core @ 1.91 GHz). The TRACe B304-TR is designed to ensure stable operation in harsh environments.

The Kontron TRACe B304-TR features a wide range power supply (from 24 VDC to 110 VDC). Its front plate is dedicated to the operational connectors (certified I/O according to EN50155 standard: Ethernet, Serial ports, Audio, Digital Inputs and Outputs) whereas the rear plate hosts maintenance connectors (DisplayPort, USB, Serial, Ethernet). On this plate, a reserved area with 3 pre-holes allows the routing of non-provided Mini PCI-Express cards I/O signals (GSM/GPRS/3G/LTE/4G, GPS, WiFi, Bluetooth).

Kontron TRACe B304-TR extensible and modular design allows custom configuration. On operational front plate, an option plate is available for additional interfaces (MVB, CAN Layer2, CAN Open, Profibus...).

TRACe B304-TR has been designed to support a comprehensive health management capability, thanks to sensors and a microcontroller for system health monitoring.

The integrated microcontroller monitors boards and inbox ambient temperature, voltages, current and even manages Vital Product Data (P/N, S/N, EC Lvl...) of main components.

Health management middleware by Kontron covers all the vital resources of TRACe™ to report, log, and transmit any out of specs parameters and/or any failures at power-on and during operations of TRACe B304-TR.

▶ TECHNICAL INFORMATION

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|--------------------|---|---|
| PROCESSOR | | Intel® Atom™ E3845 quad-core @ 1.91 GHz (Bay Trail-I Platform) |
| MEMORY | System Memory Flash | 2 GB DDR3 with ECC 8 GB soldered SLC Flash (eMMC) |
| MASS STORAGE | | 2x SATA disk holders –for 2.5" HDD or SSD |
| GRAPHIC CONTROLLER | Interface/resolution | Integrated 1D/3D Graphics Engine, GMA 3650/3600, Gfx clock 640/400 MHz, DirectX®9.1, Video Decode: MPEG2, Blu-Ray Disk 2.0, VC-1, H.264, WMV9 up to 1080p DisplayPort / 1366x768@112 MHz |
| OPERATIONAL PLATE | Serial Ethernet Audio Controller Audio Interface Digital Input Digital Output LED | 2x serial ports (RS232-RS422-RS485), software configurable 2x Ethernet 10/100/1000 Mb/s, M12 X-coded 8-poles Female connectors Intel® High Definition Audio w/ HDMI 1.3a support Stereo Line In, Stereo Line Out 4x Inputs (sink current 10 mA, 1.5 Kv insulation) 4x Outputs (open drain 24 VDC/10 mA, 1.5 Kv insulation) 1x Power LED |
| MAINTENANCE PLATE | Serial port USB Ethernet Display LEDs | 1x serial port 1x USB 3.0 (Super Speed 4 Gb/s), 1x USB 2.0 (Hi Speed 480 Mb/s) 1x Ethernet 10/100/1000 Mb/s 1x DisplayPort 2x User LEDs, 1x Power LED, 1x Alarm LED, 1x System LED |
| POWER SUPPLY | | Input Voltage wide range 24 VDC...110 VDC (Class S2, 10 ms interruption) ^(*) |
| EXTENSION | | 3x Mini PCI-Express sockets (PCIe + USB), 2x SIM card holders (Dual SIM support), 2x SATA connections, 1x mSATA using Mini PCI-Express card slot (shared with one 2.5" SATA) |
| PROTECTION CLASS | | IP50 on all faces |
| SUPPORTED OS | | Linux (Fedora 22), Windows 7, Windows Embedded Standard 8 |
| OPTIONS | | Conformal coating 3 additional pre-holes for RP-SMA antennas |

^(*) Depending on hardware revision, nominal input voltage range might be limited to 24-48 VDC; please refer to "SDDTG45 - TRACe-TR Family User's Manual" for detailed information.

▶ ENVIRONMENTAL SPECIFICATIONS

| | | |
|------------------------------|--|---|
| OPERATING TEMPERATURE | | -40°C up to +70°C (with 10 min at +85°C) EN50155 Class Tx |
| ENVIRONMENT / CERTIFICATIONS | ITE Safety Europe Railway Safety Thermal Operating Climatic Test Random Vibration Shock EMC Emission EMC Immunity Others Environmental Protection | EN 60950-1: 2006 +A1: 2010 +A2: 2013 + A11: 2009 +A12: 2011 . Safety Europe Directive Supply Voltage: EN 50155: 2007. Railway Class Tx EN 50155 / NF EN 60068-2-1: 2007 / NF EN 60068-2-2: 2007 . Railway Damp heat (55°C , 95% Relative Humidity), cyclic EN 50155 / NF EN 60068-2-30 Railway Operating, Long life testing EN 50155 / NF EN 61373: 2011-04 / NF EN 60068-2-64: 2008 EN 50155 / NF EN 61373: 2011-04 / NF EN 60068-2-27: 2009. Railway Class 1B EN 50155 / NF EN50121-3-2 / EN 55011 (*) EN 50155 / NF EN50121-3-2 / EN 61000-4-2 / -4-3 / -4-4 / -4-5 / -4-6 CE, UL, WEEE, RoHS IP50 rating (NF EN 60529: 2000) (*) |

(*) Tests validated with optional Cover Plate P/N TRACE-KITMT-1-V01 on Maintenance side.

▶ DIMENSIONS



▶ ORDERING INFORMATION

| ARTICLE | ORDER CODE | DESCRIPTION |
|-------------|--------------------|--|
| TRACe | TRACE-B304-TR | EN50155 certified fanless Operational Computer (Generic Baseline), Intel® Atom E3845 Bay Trail (quad core @ 1.91 GHz) COMe CPU, 2 GB DDR3 with ECC, 8 GB eMMC soldered Flash, OS less , 3 mPCIe slots, Railway certified Wide range PSU 24 VDC-110 VDC, EN50155 Class TX (-40° to 70° C / 10min @ +85° C) |
| TRACe | TRACE-B314-TR | EN50155 certified fanless Operational Computer (Generic Baseline), Intel® Atom E3845 Bay Trail (quad core @ 1.91 GHz) COMe CPU, 2 GB DDR3 with ECC, 8 GB eMMC soldered Flash, OS less , 3 mPCIe slots, Railway certified Wide range PSU 24VDC-110VDC, EN50155 Class TX (-40° to 70° C / 10min @ +85° C), USB on M12 connector, IP54 |
| TRACe | TRACE-V304-TR | EN50155 certified fanless Network Video Recorder, Intel® Atom E3845 Bay Trail (quad core @ 1.91 GHz) COMe CPU, 2 GB DDR3 with ECC, 8 GB eMMC soldered Flash, Wi-Fi 2T2R up to 300 Mbps, 2x disks tray for up to 2x removable 2.5" SATA disks. Railway certified Wide range PSU 24 VDC-110 VDC, EN50155 Class TX (-40° to 70° C / 10min @ 85°C) |
| TRACe | TRACE-G304-TR | EN50155 certified fanless Gateway, Intel® Atom E3845 Bay Trail (quad core @ 1.91 GHz) COMe CPU, 2 GB DDR3 with ECC, 8 GB eMMC soldered Flash, Wi-Fi 802.11 a/b/g/n 3T3R up to 450 Mbps, 3G/4G/GNSS, 128 GB SSD MLC I-TEMP, Railway certified wide range PSU 24 VDC-110 VDC, EN50155 Class TX (-40° to 70° C / 10min @ 85°C) |
| TRACe | TRACE-M304-TR | EN50155 certified fanless Management Computer, Intel® Atom E3845 Bay Trail (quad core @ 1.91 GHz) COMe CPU, 2 GB DDR3 with ECC, 8 GB eMMC soldered Flash, MVB Class 1 : Process Data + Bus Administrator, Wi-Fi 802.11 a/b/g/n 2T2R up to 300 Mbps, 128GB SSD MLC I-TEMP, Railway certified Wide range PSU 24 VDC-110 VDC, EN50155 Class TX (-40° to 70° C / 10min @ 85°C) |
| CABLE | TRACE-KIT-CAB-EVAL | Set of Cables for TRACe™ evaluation, consisting of: <ul style="list-style-type: none"> ▶ 1x Cable ASSY - Power (M12-A coded to free end), ▶ 1x Ethernet (M12-X coded to RJ-45), ▶ 1x Serial (RJ-12 to dual DB9) (see TRACe-TR Family User's Manual) |
| CABLE | TRACE-KITSATA-1 | Set of SATA cables to install one 2,5" SSD on TRACe™, consisting of: <ul style="list-style-type: none"> ▶ 1xSATA Pow cable, ▶ 1x SATA Data cable, ▶ 4x screws and spacers |
| CABLE | TRACE-STARTERKIT-1 | Complete set of cables / accessories for TRACe evaluation, consisting of: <ul style="list-style-type: none"> ▶ 1x AC/DC converter cable assembly for DC-IN ▶ 1x USB Key Fedora 22 TRACe Live Image ▶ 1x M12 to RJ-45 Ethernet Cable ▶ 1x DisplayPort to VGA adapter ▶ 1x Serial cable (RJ-12 to dual DB9: CPU_A, CPU_B) : 1x KIT-2X-RJ12DB9 ▶ 3x Wi-Fi antennas Dual Band 2,4 GHz-5 GHz , ▶ 2x 3G/LTE antennas 5 dBi, ▶ 1x GPS antenna |
| COVER PLATE | TRACE-KITMT-1-V01 | Maintenance Cover Plate for Dust & Water Protection |

▶ CORPORATE OFFICES

EUROPE, MIDDLE EAST & AFRICA

Lise-Meitner-Str. 3-5
86156 Augsburg
Germany
Tel.: + 49 821 4086 0
Fax: + 49 821 4086 111
info@kontron.com

NORTH AMERICA

14118 Stowe Drive
Poway, CA 92064-7147
USA
Tel.: + 1 888 294 4558
Fax: + 1 858 677 0898
info@us.kontron.com

ASIA PACIFIC

1~2F, 10 Building, No. 8 Liangshuihe 2nd Street,
Economical & Technological Development Zone,
Beijing, 100176, P.R.China
Tel.: +86 10 63751188
Fax: +86 10 83682438
info@kontron.cn