TRACe-RM404-TR

19 Inch EN50155 Railway Computer

- Rugged fanless Box Computer for Train Control and Communications
- 19'' 1.5U Rackmount Form Factor according to EN60297-3-100
- Intel Atom® x5-E3940 (Apollo Lake) quad-core @ 1.6 GHz, up to 8 GByte DDR3L RAM
- Kontron Health Monitoring & Security solutions

POSSIBILITIES START HERE kontron S&T Group

TRACe-RM404-TR

Kontron TRACe-RM404-TR is a robust and fanless EN50155 railway computer, specifically designed for rolling stockapplication where high performance per watt ratio, robustness, I/O modularity and small height are requested to match your system requirements such as train control and communications applications. Its 19" 1,5U form factor compliant to EN60297-3- 100 makes it directly compatible for easy installation into existing cabinets on trains. The TRACe-RM404-TR is providing a perfect balance between processing performance, I/Os, power consumption and reliability in demanding railway environments. The fiirst variant is based on Intel Atom®x5- E3940 (Apollo Lake) quad-core @ 1.6 GHz high performance per watt processor with 2GB DDR3L memory up to 1866 MHz (optional up to 8 GByte DDR3L). Kontron TRACe-RM404-TR features three independent networks (3x LAN with M12 connectors), 2x RS232/422/485 ports with galvanic isolation, 8 isolated GPI and 8 isolated GPO, making it ideal for train control applications. It comes with an EN50155 class S2-C1 ultra wide range power supply (from 24 VDC to 110 VDC nominal input voltage range) adapted to all types of railway vehicles from light rail vehicles to high speed trains.

Thanks to its modularity, the TRACe-RM404-TR product can accomodate as well several optional wireless (4G LTE, Wi-Fi..) interfaces, field busses (CAN2.0, MVB ...) and/or additional optional I/Os (Audio, USB...) to match any other railway applications such as onboard CCTV, Entertainment/Infotainment PIS, or TCMS.

TRACe-RM404-TR offers a unique health management unit, performing system vital monitoring, thanks to multiple sensors. An integrated microcontroller, independent from the main processor, moitors several temperature sensors, controls supply votages & current, and with Vital Product Data traceability of major TRACe components. This Health Management Unit is fully integrated in the CMON-Line Monitoring module by Kontron offering a turnkey, extensible and data centric solution for local or remote computer health monitoring. CMON-line Monitrong module covers all the vital resources of TRACe™ to report, log, and transmit any health management information or event. All data are accessible either locally, from Ethernet/Intranet or from Internet/Cloud, and offer an ideal support to data analytics, especially to support asset management, preventive maintenance and fleet management.

TECHNICAL INFORMATION

PROCESSOR	Intel Atom® x5-E3940 quad-core @ 1.6 GHz, 2 MByte L2 Cache
MEMORY	2 GByte DDR3L up to 1866 MHz. Optional: 4 GByte or 8 GByte DDR3L
MASS STORAGE	64 GByte Industrial MLC SSD
GRAPHIC CONTROLLER	Integrated Intel® HD Graphics 500, Display Port / 4096x2304 @ 60 Hz
OPERATIONAL PLATE	1x DC-IN on M12 A-coded connector 3x Gigabit Ethernet on M12 X-coded connectors (1500 Vrms isolated) 16x GPIOs: 8 Isolated GPI (nominal voltage 110VDC) and 8 Isolated GPO 2 RS-232/422/485 ports on SUBD-9 connectors with galvanic isolation
MAINTENANCE PLATE	1x Gigabit Ethernet on RJ45 (1500 Vrms isolated), 1x RS232, 2x USB (1x USB3.0), 1x Display Port, 2x SIM card holders
POWER SUPPLY	Nominal Input Voltage 24 VDC or 48 VDC or 72 VDC or 110 VDC (Class S2-C1, 10 ms interruption)
EXTENSIONS	2x Mini PCI-Express sockets 2x SIM card holders (Dual SIM support)
POWER CONSUMPTION	30 W (Full performance, 70 °C ambient temperature)
PROTECTION CLASS	IP40 front / IP20 other faces
OPERATING TEMPERATURE	-25 °C to +70 °C; 0 to 95 % relative humidity
STORAGE TEMPERATURE	-40 °C to +85 °C; 0 to 95 % relative humidity
DIMENSIONS	1.5U, 19" form factor, 4x M6 holes for mounting into 19" cabinet
LEDs	1x Power LED, 4x User LEDs
OPERATING SYSTEM	Pre-installed Linux Fedora with Kontron CMON-line monitoring module
OPTIONS	CAN2.0, MVB, 4G LTE, Wi-Fi, GPS (on request)
STANDARD APPROVALS	EN50155 (inc EN61373, EN50121-3-2, EN60068) , EN45545-2, CE marking (EU directives), EN60297-3- 100