vROK 3030-A-B

10.4" Railway Panel-Mount Computer with
Intel Atom® x6414RE Processor

Main Features

- Intel Atom® x6414RE processor, TDP 9W
- 10.4" TFT LCD monitor with PCAP touch
- IPS LCD with wide viewing angle and resolution 1024x768
- Sunlight readable capability: 1,200nits LCD brightness
- 1 x HDMI®, 1 x DP video outputs for triple displays

- 1 x Isolated CAN bus 2.0
- 4 x CVBS input for analog cameras (work with optional capture card)
- 2 x PoE port for IP cameras (optional)
- Panel-mount design suitable for diverse applications
- EN 50155, class OT3 (-30℃~70℃) certificated for railway

Product Overview

The vROK 3030-A-B, a 10.4-inch all-in-one railway panel-mount computer, is designed for human-machine interface (HMI) and passenger information system aimed at railway applications. It implements the latest Intel Atom® x6414RE processor on both of Windows and Linux platforms. It is able to support four analog cameras (work with optional capture card) or dual PoE cameras (optional) for security purpose. The LCD panel with 1,200 nits brightness guarantees sunlight readability. Integrated LCD monitor with an HDMI® and a DP video outputs, supporting triple displays for passenger information, advertising, or onboard infotainment. One Mini PCIe slot and two M.2 slots are available, supporting mSATA/capture cards and WLAN/WWAN wireless connectivity for data transmission. The panel-mount design supports a wide range of applications.

Specifications

LCD Panel
- 10.4-inch TFT LCD panel with LED backlight
- 1024x768 pixels
- Brightness: 1200cd/m² (typical)
- Viewing angle: 170° (H)/170° (V)
- Contrast ratio: 900:1 (typical)

Touch Screen
- Projected capacitive
- Anti-glare coating surface
- Transmission rate: 85% ± 3%

CPU
- Intel Atom® x6414RE processor, TDP 9W

Memory
- 1 x 260-pin DDR4 3200 SO-DIMM, up to 32GB
- Default 2666MHz 4GB with In-Band ECC (IBECC)

Video Output
- 1 x HDMI® 1.4b, up to 3840x2160@30Hz
- 1 x DP 1.4, up to 4096x2160@60Hz

Storage
- 1 x M.2 Key M 2280 socket (SATA 3.0 or PCIe 3.0 x1)
- 1 x mSATA (occupied Mini PCIe slot)

Expansion
- 1 x M.2 Key E 2230 socket (USB 2.0, PCIe 3.0 x2)
- 1 x Full size Mini PCIe socket (USB 2.0, PCIe 3.0/SATA 3.0)

- 1 x M.2 Key B 3042/3050/3052 socket (USB 2.0, USB 3.2 Gen 2) for LTE/5G NR module, BOM optional 1 x full size Mini PCIe socket (USB 2.0, USB 3.2 Gen 2 (BOM optional)) for LTE module, with 1 x external micro-SIM slot, 1 x internal micro-SIM slot

GNSS and Onboard Sensor
- 1 x Default u-blox NEO-M9N GNSS module for GPS + QZSS/Glonass/Galileo/Beidou
- 1 x 3D accelerometer and 3D gyroscope

LAN and Power over Ethernet
- 2 x LAN M12 X-coded, 10/100/1000/2500Mbps, Intel® I225-IT (optional PoE 802.3 af/at, max. 30W, w/ VIOD-POE2-01)

### Security
- TPM 2.0: Infineon SLB 9670VQ2.0 FW7.62

I/O Interface-Lateral
- Right side
  - 1 x System reset button
  - 1 x USB 3.2 Gen 2 Type-A connector
  - 1 x micro-SIM slot w/ cover

I/O Interface-Rear
- 2 x DB9 (COM1/COM2) for full RS-232/422/485 (w/ isolation)
- 1 x Power connector, M12 A-coded 5-pin
- 2 x 10/100/1000/2500Mbps LAN, M12 X-coded 8-pin
- 1 x M12 A-coded 8-pin for 2 x USB 2.0
- 1 x Line in (stereo), 2 x Line out (setreo) (AUDIO, DB9, female)
- 1 x HDMI® output

NEXCOM

Dimension Drawing
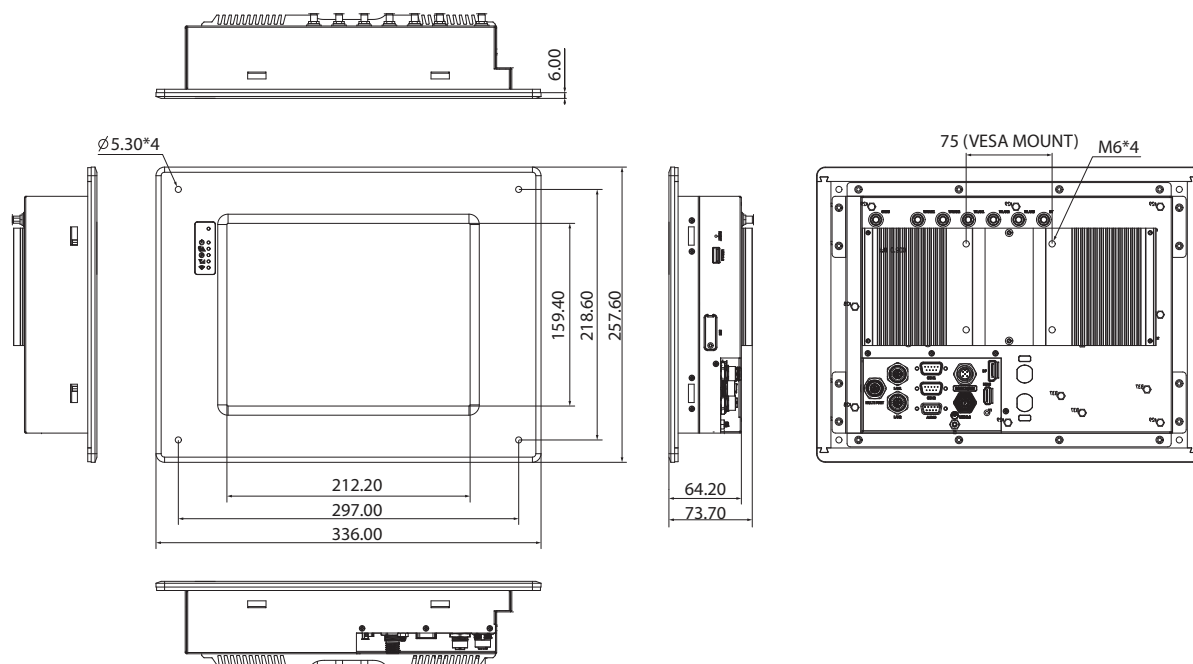
- 1 x DP output
- 1 x M12 (MULTI PORT, A-coded 17-pin)
  - 4 x DI (w/ isolation)
  - 2 x DO (w/ isolation)
  - DC 14V~48V power input for DIO isolation
  - 1 x Isolated CAN bus 2.0B
  - 1 x Power button
  - 4 x Composite video input
- 1 x RP-SMA connector hole for Bluetooth
- 3 x RP-SMA connector hole for WLAN
- 2 x SMA connector hole for WWAN
- 1 x SMA connector for GNSS
- 1 x Ground connector

Mechanical
- Cooling system: fanless
- Enclosure: metal
- Ingress protection: front panel IP65
- Mounting: panel mount, VESA 75 mount
- Dimensions: 336.0mm (W) x 257.6mm (D) x 73.7mm (H)
- Cutout dimensions: 285.6mm x 207.2mm
- Weight: 3.9kg

Power Management
- DC 24V/36V (14V~48V) input, w/o isolation
- DC 24V/110V input, w/ isolation (BOM optional)
- Reverse protection, OCP & UVP
- Selectable boot-up & shut-down voltage for low power protection by software
- Setting 8-level power on/off delay time by software
- 10~255 seconds WDT supported, setup by software
- SDK (Windows/Linux) including utility and sample code

Environment
- Operating temperature
  - EN 50155, class OT3 (-30℃~70℃), 85℃ for 10 minutes (w/ 9W TDP CPU, industrial SSD) with air flow
  - EN 50155, class OT1 (-30℃~60℃), w/ 9W TDP CPU, industrial SSD, PoE, with air flow
- Storage temperature: -40℃~80℃

- Relative humidity: 10%~90% (non-condensing)
- Vibration (random): 2g@5Hz~500Hz (in operation, SSD)
- Vibration
  - Operating: MIL-STD-810H, 514.8C Procedure 1, Category 4
  - Storage: MIL-STD-810H, 514.8E Procedure 1, Category 24
- Shock
  - Operating: MIL-STD-810H, Method 516.6, Procedure I, trucks and semi-trailers = 40g
  - Crash hazard: MIL-STD-810H, Method 516.6, Procedure V, ground equipment = 75g

Operating System
- Windows 11
- Windows 10
- Linux

Standards/Certifications
- CE
- FCC Class A
- EN 50155:2017
  - Ambient temperature EN 50155, Class OT3 (-30℃~70℃)
  - Interruptions of voltage supply class S1
  - Supply change over class C1
  - EMC EN 50121-1:2017, EN 50121-3-2:2016+A1:2019
  - Environment EN 60068-2-1, EN 60068-2-2, EN 60068-2-30
  - Shock and vibration IEC 61373 Class B
  - Protective coating class PC1 (PC2, by request)
- EN 45545-2:2020 (PCB)

Ordering Information

- **vROK 3030-A-B (P/N: 10A30303003X0)**
  10.4" railway panel-mount computer with Intel Atom® x6414RE processor, 4GB DDR4, DC 24V/36V input (w/o isolation), 1 x M.2 Key M 2280 socket for storage