VMC 320

Main Features

- 10.1" TFT LCD monitor with projected capacitive touch screen
- Wide viewing angle with high resolution 1280 x 800
- Touch panel cover thickness 3mm for IK08 protection
- 1,000nits brightness with sunlight readable capability
- Built-in NXP i.MX 8M Plus low-power processor, 4-core
- HDMI output for 2nd display
- On screen F1 ~ F5 programmable function keys
- Wide range DC input 9V ~ 60V
- Front panel IP65 rating
- Optional back-up battery available

Product Overview

VMC 320, 10.1-inch all in one robust vehicle mount computer, is designed for the warehouses, port, logistic and material handling markets. It implements the NXP i.MX 8M Plus low-power processor on both of Android and Linux platforms, and offers front panel IP65 and IK08. LCD panel: 1,000nits typ. guarantees to reach sunlight-readable. Wide-range power input (9V~60V) can let VMC 320 to be capable of setting up in various facilities and vehicles. The M.2 slot x 2 are designed for WLAN and WWAN wireless connectivity.

Specifications

LCD Panel
- 10.1-inch TFT LCD panel with LED backlight
- 1280 x 800 pixels
- Brightness: 1000 cd/m² (typical)
- Viewing angle: 170° (H)/170°(V)
- Contrast ratio: 800:1 (typical)

Touch Screen
- Projected capacitive
- Anti-glare coating surface
- Transmission rate: 86 ± 3%

CPU
- NXP i.MX 8M Plus processor with 1.6 GHz frequency
- Quad Arm® Cortex®-A53 core

Memory
- Onboard LPDDR4 2133MHz SDRAM 3GB

Video Output
- 1 x HDMI 2.0a up to 3840 x 2160@30Hz

Storage
- 1 x eMMC 16GB (BOM optional 32GB)
- 1 x Micro SDXC slot

Expansion
- 1 x M.2 2230 Key E socket (USB 2.0, PCIe 3.0)
- 1 x M.2 3042/3050/3052 Key B socket (USB 3.2 Gen1) for LTE/5G NR module with 1 x external dual Nano-SIM slot

GNSS and Onboard Sensor
- 1 x Default u-blox NEO-M9N GNSS for GPS/Glonass/QZSS/Galileo/Beidou
- Optional M9V modules with dead reckoning available
- G Sensor and gyroscope

LAN
- 1-port LAN, 10/100/1000 Mbps, M12 X-coded

Security
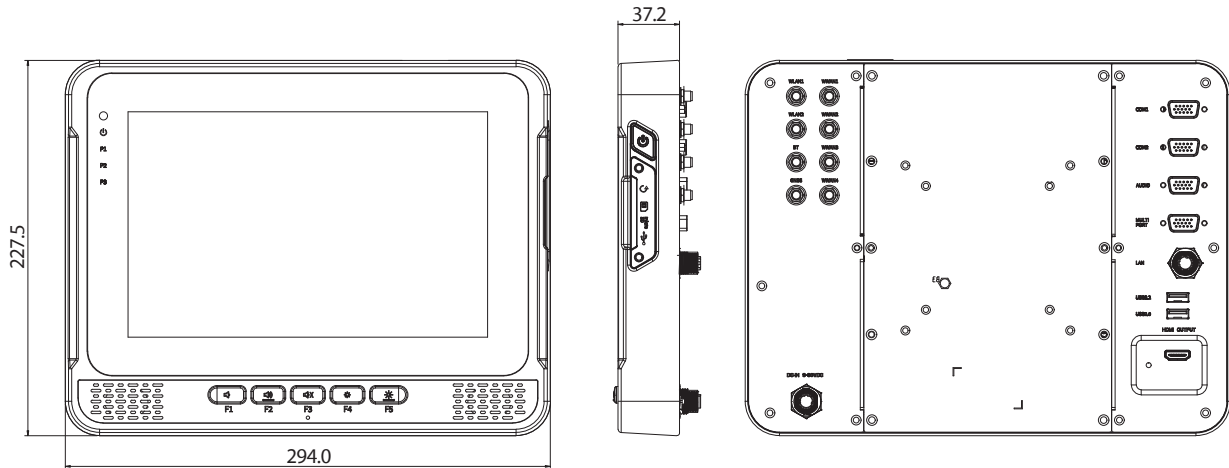- TPM 2.0: Infineon SLB9670VQ2.0

I/O Interface-Front
- F1 ~ F5 programmable function keys (or volume control keys (+/-) , brightness control keys (+/-), volume mute)
- 1 x Light sensor
- 4 x LED indicators (1 x power, 3 x programmable)
- 2 x Built-in 2W speakers
- 1 x Mic

I/O Interface-Lateral
- Right Side
  - 1 x Power button
  - 1 x USB 2.0 type A connector w/ cover
  - 1 x System reset button w/ cover
  - 1 x MicroSD slot w/ cover
  - 1 x Dual Nano-SIM slot w/ cover

Dimension Drawing

37.2

227.5

294.0

I/O Interface-Rear
- 2 x DB9 (COM1/2) for full RS232/422/485
- 1 x Power connector, M12 A-coded 5-pin
- 1 x 10/100/1000 Mbps LAN, M12 X-coded 8-pin
- 1 x USB 3.2 Gen1 type A
- 1 x USB 2.0 type A
- 1 x HDMI output
- 1 x DB9 female (audio) for Mic-in (mono), 1 x Line-out (stereo)
- 1 x DB15 (multi port)
  - 2 x GPI
  - 2 x GPO
  - 1 x Isolated CAN FD, compatible with CAN2.0A/2.0B
  - PWM (speed)+Direction+GND
- 4 x SMA connector hole for WWAN
- 2 x RP-SMA connector hole for WLAN
- 1 x RP-SMA connector hole for Bluetooth
- 1 x SMA connector for GNSS

Mechanical
- Cooling system: fanless
- Enclosure: metal
- IK rating: IK08 (housing and touch screen)
- Mounting: VESA 75/100
- Ingress protection: front panel IP65
- Dimension: 294.0mm (W) x 227.5mm (H) x 37.2mm (D)
- Weight: 3.6kg

Power Management
- 9V ~ 60V DC in
- Reverse protection/over voltage protection/under voltage protection
- Ignition on/off control & programmable on/off delay timing
- Wake up by SMS, RTC, LAN and ignition

Environment
- Operating temperatures:
  Ambient with air -30°C to 70°C, ambient with air
- Storage temperatures: -40°C to 80°C

- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random)
  - 2g@5~500 Hz (in operation)
- Vibration
  - Operating: MIL-STD-810H, 514.8 Procedure 1, Category 4
  - Storage: MIL-STD-810H, 514.8E Procedure 1, Category 24
  - IEC 60068-2-6: Sinusoidal 5~500MHz 2G
- Shock
  - Operating: MIL-STD-810H, Method 516.8, Procedure I, trucks and semi-trailers = 40g
  - Crash hazard: MIL-STD-810H, Method 516.8, Procedure V, ground equipment = 75g
  - IEC 60068-2-27
    Operating: half sine, 20G 11ms
    Non-operating: half sine, 50G 11ms

Operating System
- Linux Ubuntu 22.04 (Weston + Wayland)

Standards/Certifications
- CE/FCC class B/E13

Ordering Information

- **VMC 320-AC0 (P/N: 10VC0032000X0)**
  10.1" rugged vehicle mount computer with NXP i.MX 8M Plus, projected capacitive touch screen and font panel IP65, 3GB LPDDR4 SDRAM, 16GB eMMC, DC input 9~60 VDC

- **(Optional) VMC320 battery kit (P/N: 88VC0303000X0)**
  Back-up battery for approx. 70 minutes of operation under power consumption 9W