IPC-M10R800-A3568J V1.0

AI Industrial Tablet PC

Firefly

T-CHIP INTELLIGENCE TECHNOLOGY CO.,LTD.

www.t-firefly.com

Update history

Version	Date	Details
V1.0	2021-07-08	initial version

Overview

Equipped with 10-point IPS touch screen and 2M WDR dual-lens camera, the tablet PC has M.2 and SATA3.0 interfaces, enabling expansion with large hard drives. Dual Gigabit Ethernet ports and WiFi 6 are supported. It can be used in medical places, industrial automation, commercial advertising, express cabinets, order taking and other fields.

High-performance processor

RK3568 quad-core 64-bit Cortex-A55 processor, with frequency up to 2.0GHz, features low power consumption and high performance. It is integrated with GPU, VPU and NPU co-processors - VPU realizes 4K video decoding. Up to 8GB RAM can be configured with, and all-data-link ECC is supported.

Supports Edge AI NPU

The tablet supports Cambricon Siyuan 220 (MLU220) M.2 Edge AI NPU whose computing power is up to 8Tops - easily realizes the AI solution for terminal devices and edge devices.

10.1 inch IPS LCD screen

With 1280× 800 resolution, full viewing angle HD display, delicate and saturated colors, it provides high-quality display. 10-point touch screen, offers precise and sensitive touch experience, delivering the feeling of the fingertips and screen are as one - the smooth and comfortable operating experience.

2M WDR dual-lens camera

Configured with 2M dual-lens (RGB+IR) WDR camera, with high-sensitivity image sensor and wide dynamic range, it has strong ability to adapt to changes in light and color temperature. No matter what strong light or backlight it meets, it delivers fast imaging, and clear, vivid images.

Dual GbE, supports POE+

It is equipped with dual adaptive RJ45 GbE ports, through which internal and external network data can be accessed and transmitted, improving network transmission efficiency, and meeting the needs of products with multiple network ports such as NVR and industrial gateway. LAN (POE) port supports POE+ (802.3AT, output power 30W) power supplying — while transmitting network data, it can also supply power to the device to ensure the normal operation of the device.

Powerful wireless network communication

Supporting Bluetooth 5.1 and dual-band WiFi 6 (802.11ax) wireless network communication, it features high-speed transmission, lower packet loss rate and retransmission rate, which more effectively reduces data congestion, making the transmission more stable and secure. It can also be connected to 5G/4G module, enabling the product to have a higher-rate, larger-capacity and lower-latency communication.

M.2 and SATA3.0 interfaces

M.2 PCIe3.0 interface and SATA3.0 interface are equipped - the tablet can be connected with M.2 NVMe SSD and 2.5" SATA SSD/HDD, which has the superiority of high-speed reading and writing and large storage.

Industrial-grade aluminium alloy enclosure

The good-looking industrial-grade aluminium alloy enclosure, reliable and durable, delivers excellent heat dissipation without fans. It has strong stability, effectively protects the lives of all components, and supports stable operation for 7x24 hours.

A variety of interfaces

Equipped with various interfaces such as dual GbE ports, USB3.0 x2, USB2.0 x2, HDMI2.0, RS485×2, RS232×2, CAN, it can be easily connected to different industrial equipment to meet a variety of industrial needs.

Supports Android and Ubuntu

Android 11.0, Ubuntu 18.04 OS are supported. The stable and reliable operation provides a safe and stable system environment for product research and production.

A wide range of applications

It can be widely used in air transportation, medical places, industrial automation, machine control, commercial advertising, security monitoring, express cabinets, order taking and other fields, meeting the needs of different industries and different sites.

Specification

Basic	
SOC	RockChip RK3568
CPU	Quad-core 64-bit Cortex-A55 processor, 22nm lithography process, frequency up to 2.0GHz
GPU	ARM G52 2EE Support OpenGL ES 1.1/2.0/3.2, OpenCL 2.0, Vulkan 1.1 Embedded high-performance 2D acceleration hardware
VPU	Video decoding: 4K@60fps H.265/H.264/VP9 Video encoding: 1080P@60fps H.265/H.264
NPU	1Tops@INT8, integrated high-performance AI accelerator RKNN NPU, support one-click switching of Caffe TensorFlow / TFLite / ONNX / PyTorch / Keras / Darknet
RAM	2GB/4GB/8GB LPDDR4
Storage	16GB/32GB/64GB/128GB eMMC 16MB SPI Flash C

Hardware	
Wireless	Support 802.11ax (WiFi 6) ,Compatible with 802.11 a/b/g/n/ac protocol Support 2.4GHz, 5GHz dual-band WiFi Support Bluetooth5.0 (BLE)
Ethernet	2×1000M bps （RJ45） LAN (PoE) supports POE+ (802.3 AT, output power 30W) power supply
Video Output	1 × HDMI2.0， support 4K@60Hz output
Audio	1 × HDMI audio output 1 × 3.5mm headset jack 1 × Microphone onboard audio input
USB	2 × USB3.0、2 × USB 2.0
Button	1 × Power key
Interface	2 × CANFD / CAN, 2 × RS232, 2 × RS485
Power	DC12V (5.5*2.1mm)

Inner Interfaces	
Expansion Interface	1 × M.2 PCIe3.0 (NVMe SSD or Cambricon Siyuan 220 M.2 Edge AI NPU) 1 × SATA 3.0 (2.5" SATA SSD/HDD) 1 × M.2 for 5G (or 1 × Mini PCIe for 4G LTE)
SIM	1 × SIM Card Slot

Display	
Monitor	10.1" IPS Monitor
Resolution	1280 × 800 (16:10)
Touch Screen	10-point
Brightness	300cd/m²
Contrast	1000:1
Interface	MIPI （40Pin)
Function	2 megapixel WDR dual-lens camera, microphone

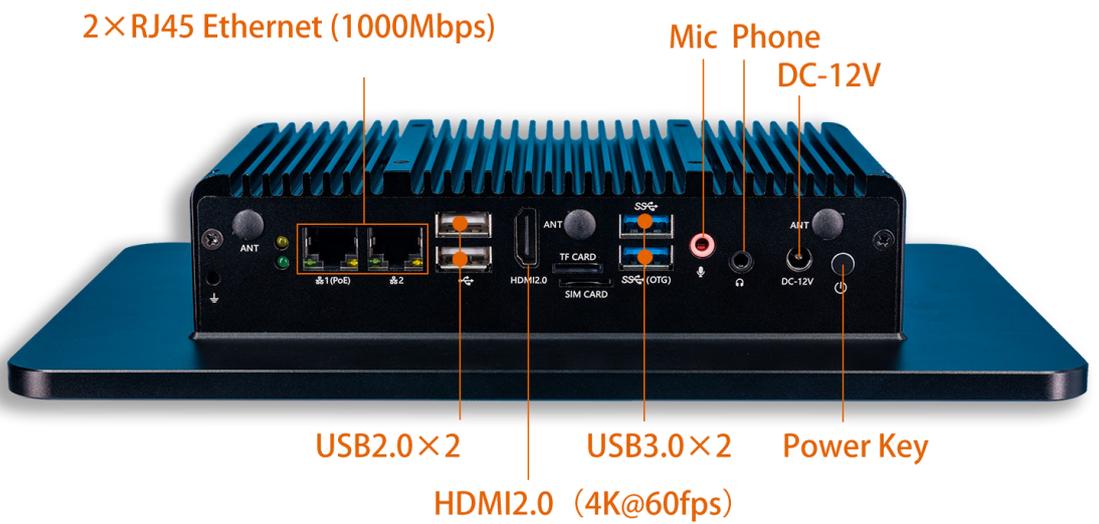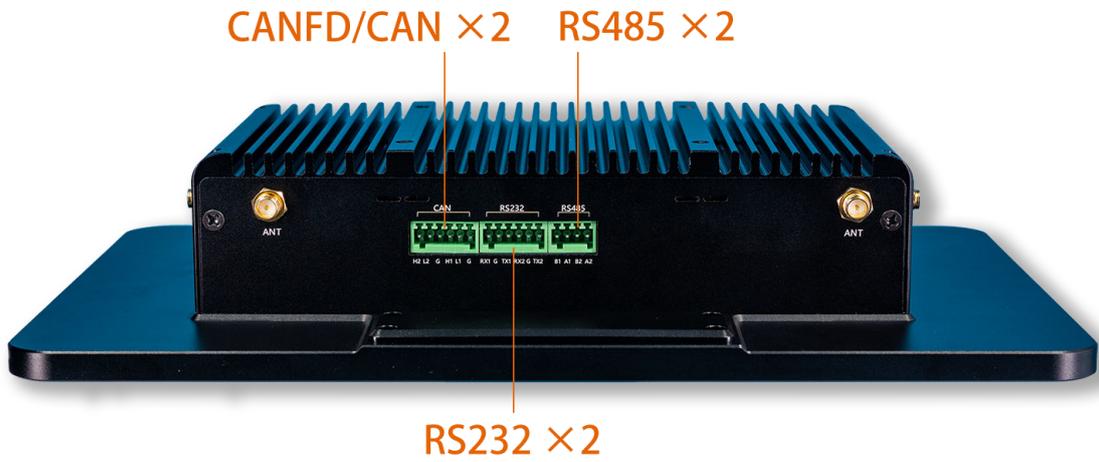| OS/Software	
OS	Supports Android 11.0, Ubuntu 18.04

| General	
Size	261.2 × 178.3 × 43.5 (mm)
Enclosure	Aluminium alloy
Environment	Operating Temperature: -10℃- 50℃ Storage Temperature: -20℃- 60℃ Storage Humidity: 10% ~ 80 %

Dimension

261.20

51.00

11.80

178.30

7.50

43.50

179.00

M4   75.00

75.00

Interface

CANFD/CAN ×2   RS485 ×2

RS232 ×2

2×RJ45 Ethernet (1000Mbps)

Mic Phone

DC-12V

USB2.0×2   USB3.0×2   Power Key

HDMI2.0 （4K@60fps）

2.5-inch SSD/HDD (SATA 3.0×1)
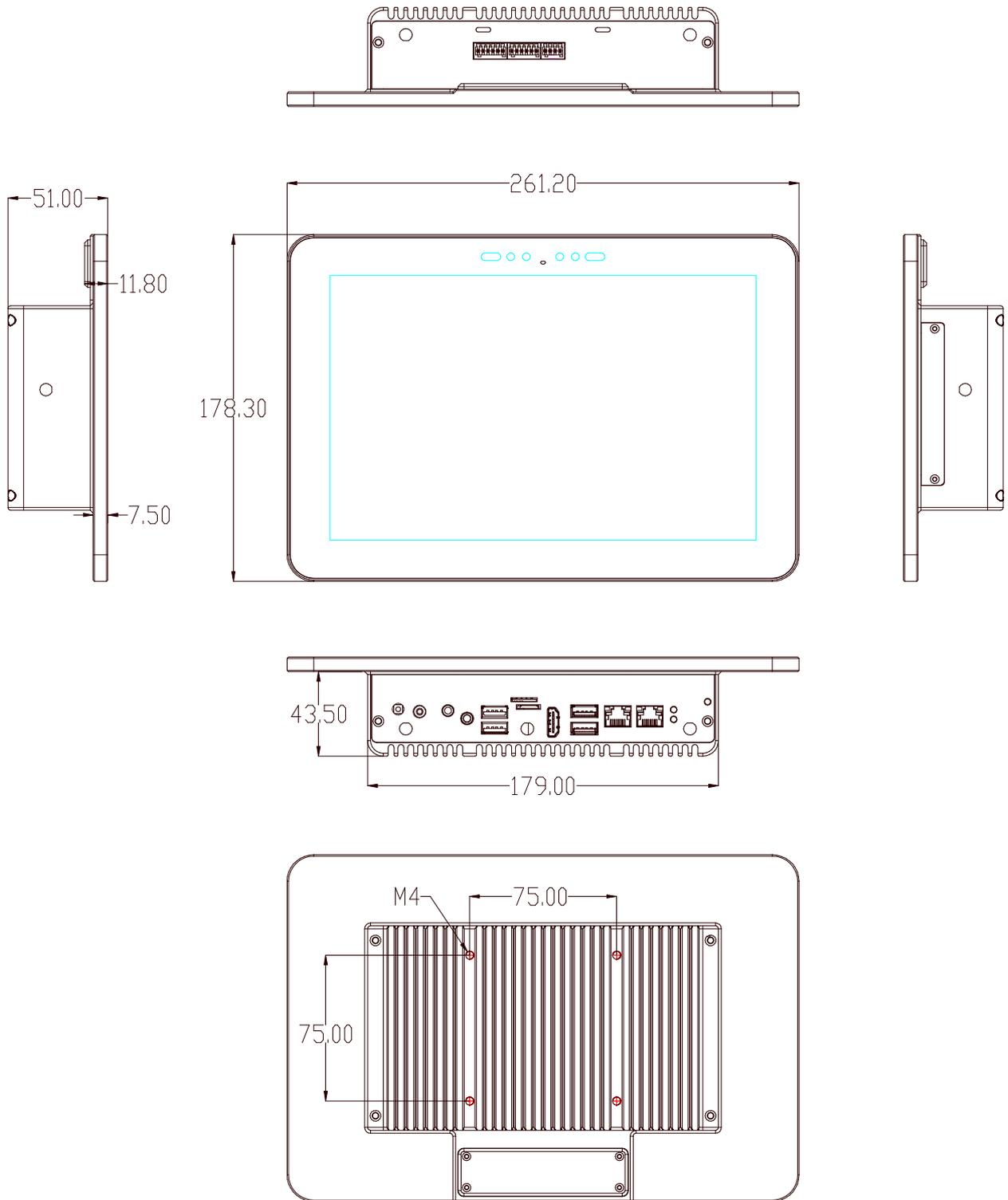
Hard Disk Installation Guide

1. 如何安装硬盘?
How to Install a Hard Disk ?

硬盘支架
HDD bracket

HDD/SSD

① 将硬盘支架固定到硬盘
Fix the HDD bracket to the HDD.

硬盘螺钉x2
HDD screw x2
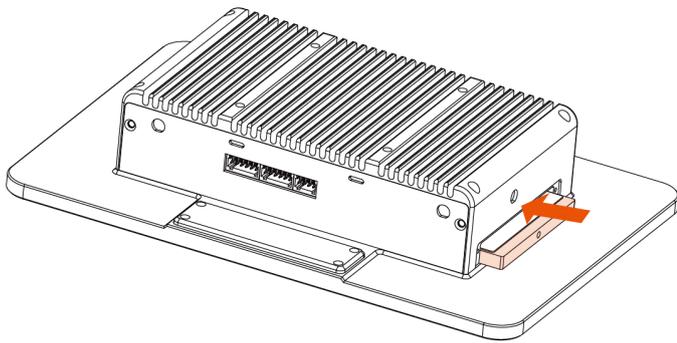
② 将硬盘插入到行业平板
Insert the HDD to the industry tablet

2. 如何拆卸硬盘?
How to Remove Hard Disk ?

硬盘螺丝手柄
HDD screw handle
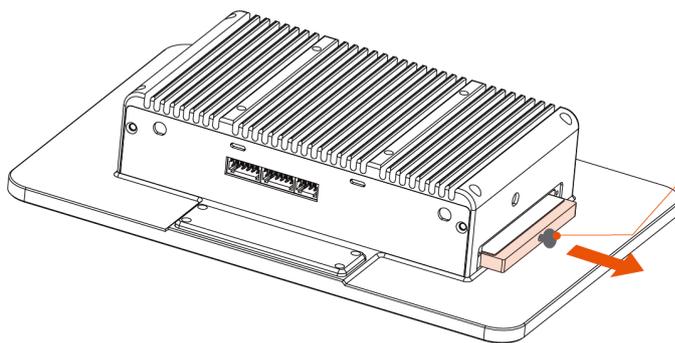
① 把硬盘螺丝手柄拧到硬盘支架
的螺丝孔上，即可抽出硬盘
Install HDD screw handle to HDD
bracket; pull out Hard Disk.

* 硬盘螺丝手柄仅在拆卸硬盘时才使用
HDD screw handle is only used when removing Hard Disk.

T-CHIP TECHNOLOGY

Create Value for Customers
Pursue Sustainable Development

About us

T-CHIP focuses on R&D, design, production and sale of open source intelligent hardware, AI, IoT and audio product, and provides the whole solution of intelligent hardware products. T-CHIP is a Independent Design House officially authorized by RockChip and its strategic partner. We have been working closely with RockChip and contributing to embedded electronic industry for over 15 years. "Create Value for Customers, Pursue Sustainable Development" is our philosophy. We hope to achieve win-win development and move together for a shared future

Our Brands

Firefly is an open source brand in 2014. "Make technology more simple, Make life more intelligent" is its philosophy. We promote intelligent upgrades in the industries of new technology, intelligent hardware, AI, AIOT, and digital audio product, and build a more open and professional platform for intelligent hardware technology

Station PC is a new brand in 2020, consisting of the core geek members. We create entertainment products for new generation of people with innovative spirit through exploration of pan-entertainment. "More Entertainment, More Free Creation" is its philosophy. We aim at making everyone enjoy themselves and awakening interesting souls with more extreme product experience