



Display Screen SEED-10IA-01

User Manual V1.5

General introduction

As an on-board display screen, SEED-10IA-01 can meet the needs of human-computer interaction, network connection, data storage, multimedia audio-visual entertainment under adverse working conditions such as construction machinery and special machinery. In the engineering automation situation, IPC can be replaced as monitoring station equipment.

High-Performance: Dual Core Processor, 1GHz, 1G Memory, 8G Hard Disk

Universality: Intelligent Operating System, Configuration Software

Beautiful shape: flat panel, capacitive touch screen; antenna built-in

Wireless Networking: 4G, WIFI, GPS/Beidou

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Functions and Characteristics

1、Integration of Display and Communication

- Display: 10.4 inch, 1024 x 768 resolution, industrial TFT LCD screen, capacitive touch
- Communication: Supporting 4G/WIFI wireless communication, Support GPS/BD positioning,
Supporting CAN communication, compatible J1939 / CANOpen / CAN2.0B agreement
Camera: Supports 4 analog cameras, single, 2-partition, 4-partition display

2、General Configuration Program Development Environment

General Configuration Software Based on Intelligent Operating System.

3、Adapt to harsh environment

- Can be used in severe cold and hot environment: - 25 degrees low temperature, 65 degrees high temperature
- Power supply anti-backconnection design, greater than 37V self-protection, prevent burnout

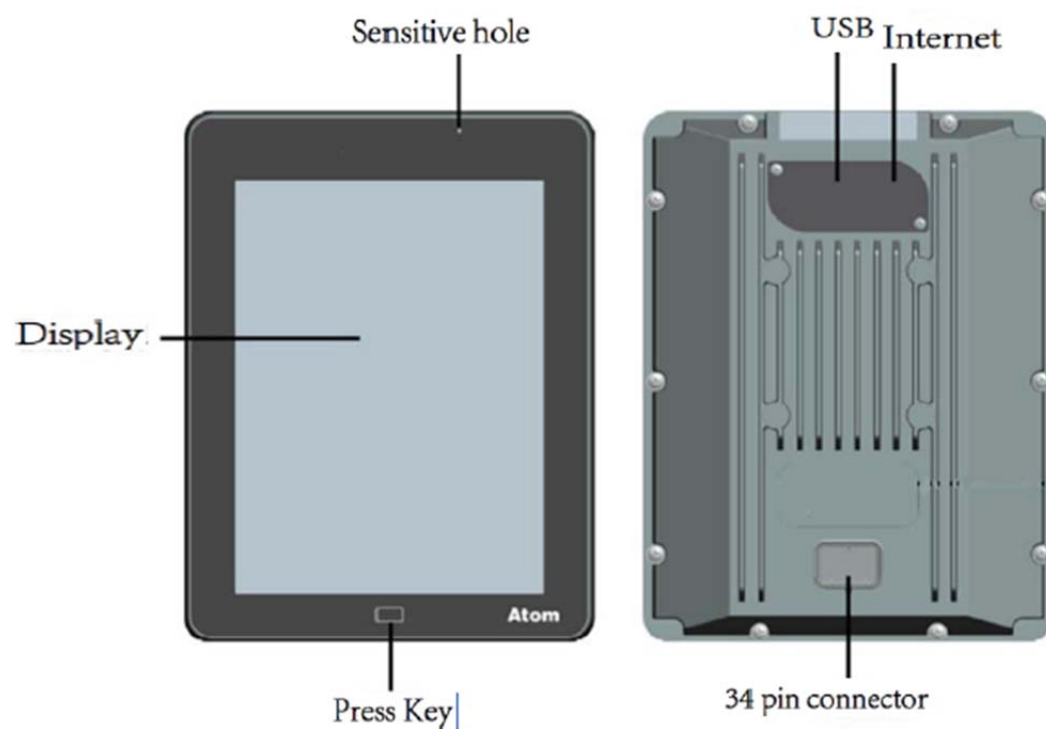
Suitable for strong vibration, dust, rainwater, lightning and other environment in field operation

4、Seamless connection with Rising Digital remote monitoring system

- Supporting remote unlocking machine to facilitate creditor's rights management
- Access to EVI mobile App to achieve remote monitoring
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Functional description of external interface

1、External characteristics



2、Port Definition of 34 Pin Plug-in

port number	Function definition
1	CAN2_H
2	NC
3	SET
4	+12VOUT
5	CAN1_L
6	CAN1_H
7	CAMRA2_V-
8	GND
9	+5V OUT
10	CAN2_L
11	NC
12	+12VOUT
13	CAMRA1_V+
14	CAMRA1_V-
15	CAMRA2_V+
16	CAMRA3_V-
17	SMI
18	NC
19	NC
20	NC
21	CAMRA4_V+

22	CAMRA4_V-
23	CAMRA3_V+
24	GND
25	24V in
26	NC
27	TX232
28	RX232
29	RS485_A
30	RS485_B
31	NC
32	NC
33	GND
34	+24V in

Development and Debugging

1、Hardware platform

SEED-10IA-01 display screen



Camera
Power



USB disk

The configuration development software QT is installed on the PC. The power supply and camera are connected to the display screen, and the platform is built.

2、Software Development Platform

Supporting configuration software, using standard IDE development environment, can develop applications according to project requirements.

You can refer to the commonly used sample programs to develop applications quickly. Include:

- 1) QuickStart Human-Machine Interface, including Common Man-Machine Operating Controls
- 2) Communication function library, including CAN/4G/GPS/WIFI
- 3) Camera display demo, supporting 4-partition and 2-partition display

3、 Procedure burning

3.1 Configuration program burning

- 1) Set up app folder under U disk root directory and place application configuration program
- 2) The U disk is connected to the USB port behind the display screen. Electricity on the motherboard, pop-up configuration selection of the display screen, click "burn", the U-disk indicator lights start flashing, and show the progress of burning.。
- 4) After burning, the display will restart automatically without power cut.

3.2 Kernel and Device Tree Burning

- 1) Connecting devices and notebooks via Ethernet
- 2) Close Firewall of Laptop Windows System。
- 3) Setting up IP (display IP) and server IP (computer IP) must be in the same network segment

(1) Setting up Computer IP: 192.168.1.66

(2) Setting up display IP: 192.168.1.62.No modification by default

(3) Display reboot into Uboot mode, serial console input commands:

setenv serverip 192.168.1.66

setenv ipaddr 192.168.1.62

saveenv

4) Create a folder on the desktop and place tftpd32.exe, the kernel and the device tree in that directory

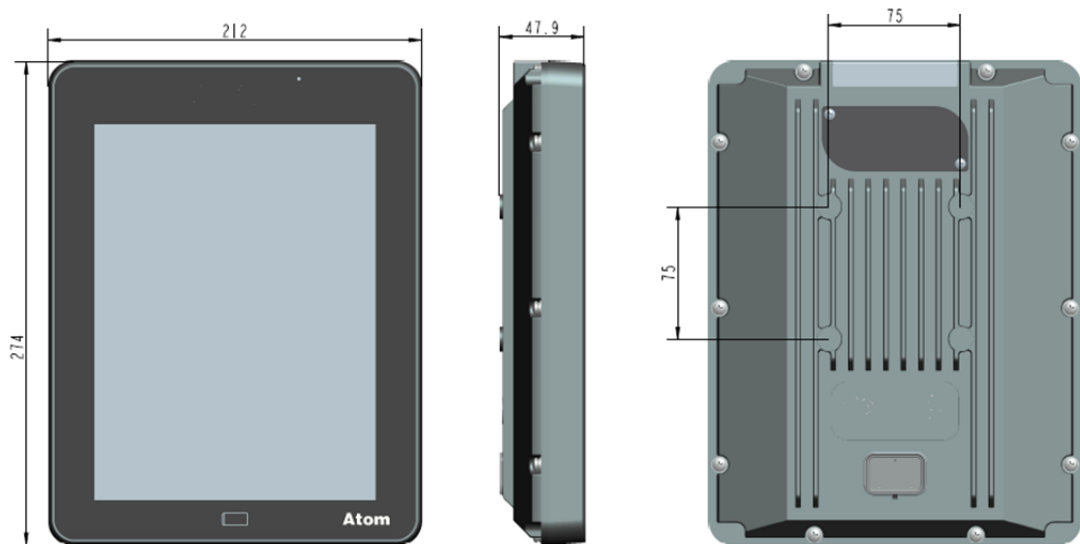
(1) Open tftpd32.exe, "sever interface", select native IP: 192.168.1.66

(2) Update device tree, serial console input command: run update_fdt

(3) Update Kernel, Serial Console Enter Command: run update_kernel

Install

1、 Installation Dimensions

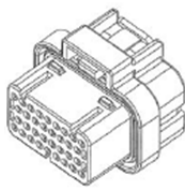


2、 Installation method

4×M6 Screws (including spring washers, flat washers)

3、 Installation accessories

Electrical connectors should be equipped with when choosing products. The following table is recommended:

Number	Product name	Model	Icon	Manufacturer
1	AMP Plug-in socket sheath	4-1437290-0		Tyco Electronics
2	AMP Plug-in metal pin	3-1447221-3		Tyco Electronics

Description of product parameters and environmental indicators

Number	Product name	Detailed
1	Video input	4 channel, PAL / NTSC signal
2	12 V OUT	2 channel
3	Communication	CAN: 2 channel, Rate selectable ISO11898 CAN2.0B、J1939、CanOpen; USB: 1 channel, USB2.0; 4G, Antenna built-in; GPS: 1 way, positioning accuracy is 5m (open sky), which can be configured as Beidou with built-in antenna. WIFI : 100m Communication distance (barrier-free), receiving sensitivity: <-90 dBm, antenna built-in; EtherNet: 1 channel, 10/100/1000 Mbps
4	Display	10.4 inches Resolving power: 1024 x 768 Industrial TFT LCD Screen Capacitive touch
5	Key	Quantity: 1, HOME key
6	Conventional parameters	Kernel: ARM Dual Core Main Frequency: 1GHZ DDR3 Memory: 1GB Storage: 8GB Power supply: 12 ~ 24 V.DC Note: If the power supply voltage of video function should be > 14V, otherwise the camera can not be driven. Output voltage: 12V.DC, 1 A Consumption current: 0.55 A.DC (24 V.DC) Power waste: ≤ 14W Video Display: Picture in Picture, 4 Segments/Single Picture

7	Work environment	working temperature: - 25 ~ 65 ° C Storage temperature: - 30 ~ 80 ° C Overvoltage protection: 37.2 V Anti vibration: 4 - 300 HZ 10mm 5G Impact resistance: 50G 6ms & 11ms Relative temperature: 10 % ~ 95 % Protection level: IP 65
8	Anti-jamming Performance ofESD	Power-on mode: air discharge (+15 kV) and contact discharge (+8 kV) Power-off mode: air discharge (+25 kV) and contact discharge (+8 kV)
9	IS07637 Anti-jamming performance	Power cord: ISO 7637-2 IV Signal line: ISO7637-3 compliant
10	Surge Resistance Level	IEC61000 - 4 - 5 IV
11	Outline size	274 X 212 X 47.9 (mm)

FCC Statement

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment .This equipment should be installed and operated with minimum distance 20cm between the radiator& your body.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.