

# CS-112H/P1101

## 12.1" TFT-LCD Sunlight Readable Touch Panel PC with Intel® Atom® / Pentium® Processor



- 12.1" TFT-LCD XGA with Ultra High Brightness up to 1,500 nits
- Onboard Intel® Atom® / Pentium® Processor
- Triple Independent Displays (via VGA and DisplayPort outputs)
- Rich I/O (2x GbE LAN, 4x USB 3.0, 4x COM, 8x Isolated DIO)
- 2x Full Size Mini-PCIe, 1x 2.5" SATA Drive Bay, 1x mSATA Socket
- Wide Range Operating Temperature -20°C to 70°C
- Designed with Aluminum Die-casting Front Frame
- True Flat IP65 Front Panel Protection
- Supports CDS Technology, Ignition Sensing and Power over Ethernet
- Supports Panel / VESA / Rack Mounting



### Overview

CS-112H/P1101 Series is a 12.1" TFT-LCD sunlight readable touch panel PC offering 1,500 nits ultra high brightness and 1024 x 768 (XGA) resolution. The system is based on Intel® Atom® / Pentium® processor and supports triple independent displays (via VGA and DisplayPort outputs). CS-112H/P1101 Series features extensive connectivity including 2x GbE, 4x USB 3.0, 4x COM, and 8x isolated DIO. It also offers 2x full size Mini-PCIe socket and 1x SIM socket for a variety of wireless data connections.

Through the ready-to-use CFM modules, users can easily add power ignition sensing and Power over Ethernet (PoE) functions for a variety of applications. CS-112H/P1101 Series also supports Convertible Display System (CDS) technology. Comparing with regular standalone panel PCs, it is more flexible and reduces maintenance cost dramatically.

Featuring with rigorous industrial protections, wide range operating temperature (-20°C to 70°C), IP65 dust/waterproof front panel, and wide range DC power input (9 to 48VDC), CS-112H/P1101 Series is appropriate for harsh environments and critical applications.

### Highlights



#### Sunlight Readable

Providing ultra high brightness 1,500 nits and resolution up to 1024 x 768 (XGA), CS-112H/P1101 Series is suitable for all lighting conditions including direct sunlight.



#### Wide Temperature

CS-112H/P1101 Series supports wide range operating temperature from -20°C to 70°C and is suitable for deploying in extreme and harsh environments.



#### Multiple Functions

CS-112H/P1101 Series provides extensive I/O, Mini-PCIe slot, 2.5" SATA drive bay, mSATA socket, and SIM card slot. It also supports power ignition sensing and PoE by adding ready-to-use CFM modules.

## Specifications

### Display

- LCD Size: 12.1" (4:3)
- Max. Resolution: 1024 x 768
- Brightness (cd/m2): 1500
- Contrast Ratio: 700 : 1
- LCD Color: 16.2M
- Pixel Pitch (mm): 0.24 (H) x 0.24 (V)
- Viewing Angle (H-V): 160 / 160
- Backlight MTBF: 30000 hrs (LED Backlight)

### Touch

- Projected Capacitive Touch

### Processor System

- Onboard Intel® Atom® x7-E3950 Quad Core Processor, up to 2.00 GHz
- Onboard Intel® Pentium® N4200 Quad Core Processor, up to 2.50 GHz

### Memory

- 1x DDR3L 1333/1600/1866 MHz 204-Pin SO-DIMM Socket
- Supports up to 8GB (un-buffered and non-ECC)

### Graphics

- Integrated Intel® HD Graphics 505
- Supports Triple Independent Display (via VGA & DisplayPort outputs)

### Audio Codec

Realtek ALC888-GR

### External I/O Interface

- 1x VGA (1920 x 1200 @60Hz)
- 1x DisplayPort (4K x 2K @60Hz)
- 2x GbE LAN (Supports WoL, Teaming, Jumbo Frame & PXE), RJ45
  - GbE1: Intel® I210
  - GbE2: Intel® I210
- 4x USB 3.0 (Type A)
- 4x RS-232/422/485 with Auto Flow Control (Supports 5V/12V), DB9
- 1x Speaker-out & 1x Mic-in, Phone Jack 3.5mm
- 1x ATX Power On/Off Button
- 1x Reset Button
- 1x AT/ATX Mode Switch
- 1x Clear CMOS Switch
- 1x Remote Power On/Off Connector, 2-pin Terminal Block
- 8x Isolated DIO (4x DI/4x DO), 10-Pin Terminal Block

### Storage

- 1x 2.5" HDD/SSD Drive Bay (SATA 3.0)
- 1x mSATA Socket (SATA 3.0, Shared by Mini-PCIe Socket)

### Expansion

- 2x Full-size Mini-PCIe Socket
- 1x SIM Socket
- Supports Control Function Module (CFM) Technology
  - Optional CFM IGN Module for Power Ignition Function
  - Optional CFM PoE Module for Power over Ethernet Function
- Supports Convertible Display System (CDS) Technology
- 4x Antenna Holes

### Other Features

- Watchdog Timer: Software Programmable Supports 256 Levels System Reset
- Internal Speaker AMP 2W + 2W
- OSD Function: LCD On/Off, Brightness Up, Brightness Down
- SuperCap Integrated for CMOS Battery Maintenance-free Operation
- Supports Instant Reboot Technology (0.2 sec)

### Power Requirement

- Supports AT/ATX Power Type
- 1x 3-pin Terminal Block
- Power Input Voltage 9~48VDC
- Power Adapter AC/DC 12V/5A 60W or 24V/5A 120W (Optional)

### Physical

- Dimensions (WxDxH, mm): 345 x 265.3 x 69.85 mm
- Weight: 4.65 kg
- Front Panel Construction: Flat Rugged Aluminum Die-casting Bezel
- Mounting: Panel / VESA / \*Rack Mounting (\*with optional mounting kit)
- Fanless Design

### Environment

- Operating Temperature: -20°C to 70°C  
(with extended temperature peripherals; Ambient with air flow)
- Storage Temperature: -20°C to 70°C
- Relative Humidity: 80% RH @ 40°C (Non-Condensing)
- Shock: Operating, 15 Grms, Half-sine 11 ms Duration  
(w/ SSD, according to IEC60068-2-27)
- Vibration: Operating, 1.5 Grms, 5-500 Hz, 3 Axes  
(w/ SSD, according to IEC60068-2-64)
- IP Level: IP 65 Compliant Front Panel
- EMC: CE, FCC Class A

### Protection

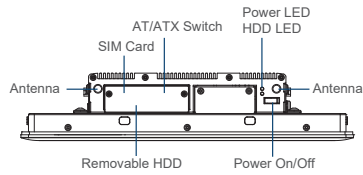
- Reverse Power Input Protection
- Over Voltage Protection:
  - Protection Range: 51~58V
  - Protection Type: shut down operating voltage, re-power on at the preset level to recover
- Over Current Protection: 15A
- ESD Protection: +/-8kV (air), +/-4kV (contact)
- Surge Protection: 3.84 kV (impedance 12 ohm 1.2/50  $\mu$ s waveform)

### Operating System

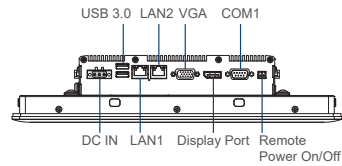
- Windows® 10
- Linux: Supports by project

**External Layout**

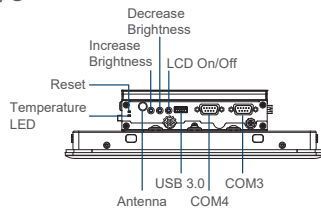
Front I/O



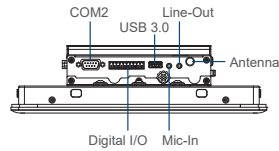
Rear I/O



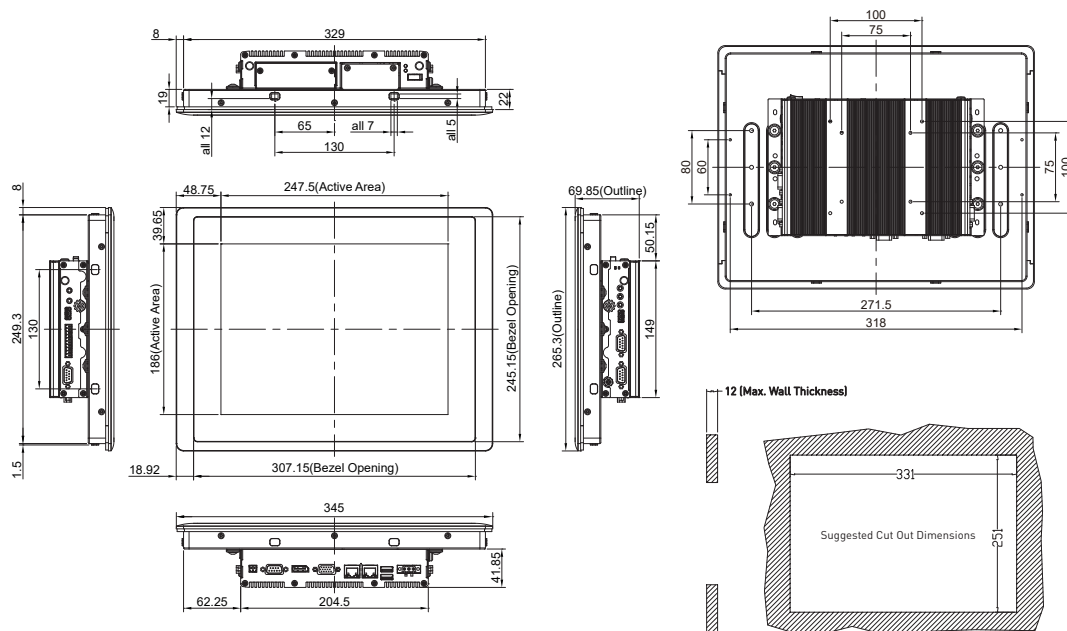
Left I/O



Right I/O



**Dimensions**



Unit: mm

## Ordering Information

### Available Models

Model No.	Description
CS-112HC-R10/P1101-E50-R10	12.1" TFT-LCD 1500nits Sunlight Readable Touch Panel PC with Intel® Atom® E3950 Quad Core Processor and P-Cap. Touch
CS-112HC-R10/P1101-N42-R10	12.1" TFT-LCD 1500nits Sunlight Readable Touch Panel PC with Intel® Pentium® N4200 Quad Core Processor and P-Cap. Touch

### Package Checklist

- Panel PC x 1
- Utility DVD Driver x 1
- Screw Pack x 1
- Panel Mounting Kit x 1
- Power Terminal Block Connector x 1
- Remote Power On/Off Terminal Block Connector x 1
- DIO Terminal Block Connector x 1
- Thermal Pad (for CPU Thermal Block) x 1

### Optional Modules & Accessories

Model No.	Description
CFM-IGN101	CFM Module with Power Ignition Sensing Control Function, 12V/24V Selectable (43 x 36 mm)
CFM-PoE02	CFM Module with PoE Control Function, Individual Port 25.5W
GST60A12-CIN1	Adapter AC/DC 12V 5A 60W, GST60A12-CIN1, wide temp(-30°C ~ +70°C)
GST120A24-CIN	Adapter AC/DC 24V 5A 120W, GST120A24-CIN, wide temp (-30°C ~ +70°C), level VI
SL2-SL3	US 2 heads power cord, US B type to IEC C13, SVT 18AWG/3C Black 1.8M SL-2+SL-3
SL6-SL3	EU 2 heads power cord, EU G type to IEC C13, H05VV-F 0.75mm2/3G Black 1.8M SL-6+SL-3
QP026-SL3	UK 2 heads power cord, UK I type to IEC C13, H05VV-F 0.75mm2/3G Black 1.8M QP026+SL-3
URM01	Universal 19" Rack Mount Kit for Industrial Panel PC & Industrial Monitor

## Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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