

CS-W121/P2002 Series

21.5" TFT-LCD Sunlight Readable Touch Panel PC
with 6th Gen. Intel® Core™ Processor



HIGH-PERFORMANCE SUNLIGHT READABLE PANEL PC

| CS-100/P2000 Series |

Overview

 CONTACT

CS-100/P2002 Series is a 12.1" - 24" TFT-LCD sunlight readable touch panel PC offering 1,500 nits ultra high brightness and 1024 x 768 - 1920 x 1080 (XGA) resolution. The system is equipped with high-performance Intel® 6th generation Core™ U series processor and provides extensive I/O including 2x GbE, 5x USB, 6x RS232/422/485, 8x DI/8x DO, 1x VGA and 1x DVI-D. It also supports 2x Mini-PCIe slot and 1x SIM socket for a variety of wireless connections, such as BT/WiFi and 3G/LTE. In addition, there are 3 types of storage devices including 2.5" SATA HDD (RAID 0/1), mSATA and CFAST. The accessible design of these storage devices allows quick data access and easy maintenance. CS-100/P2002 Series supports Convertible Display System (CDS) technology. Comparing to regular standalone panel PCs, it can lower maintenance cost and reduce unplanned downtime. For greater flexibility, CS-100/P2000 Series has PCI/PCIe expandable version and PoE/power ignition functions by additional CFM (Control Function Module). Furthermore, CS-100/P2002 Series is a truly rugged display system supporting wide range operating temperature (-20°C to 70°C), IP65 dust/waterproof front panel, wide range DC power input (9 to 48VDC) and rigorous industrial protections.

Key Features

- 21.5" TFT-LCD with Ultra High Brightness up to 1,000 nits and 1920 x 1080 Resolution
- Onboard Intel® 6th Generation Core™ Processor U Series (15W)
- Supports 2x DDR4 SO-DIMM Socket, up to 32 GB
- Integrated Intel® HD Graphics 520, Triple Display Support
- 2x 2.5" SATA Drive Bay, 1x mSATA, and 1x CFAST Socket
- Rich I/O (2x GbE LAN, 6x COM, 5x USB, 16x Isolated DIO)
- 2x Full-size Mini-PCIe Socket for Wireless and I/O Expansion
- Wide Range Operating Temperature -20°C to 70°C
- Designed with Aluminum Die-casting Front Frame
- True Flat IP65 Front Panel Protection
- Supports Panel / VESA / Rack Mounting
- Convertible Display System (CDS) Technology Supported
- PCI/PCIe Expandable Version Available (For P2002E only)

Certifications



Sunlight Readable

Providing ultra high brightness 1,500 nits - 1,800 nits and resolution up to 800 x 600 - 1920 x 1080 (XGA), CS-100/P2000 Series is suitable for all lighting conditions including direct sunlight.

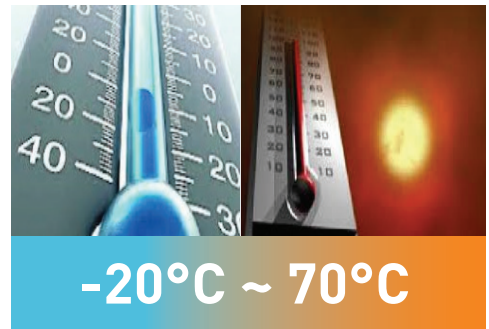


High Performance

Powered by Intel® 6th Gen. Core™ Processor U Series, CS-100/P2000 Series Panel PC has greatly increased computing performance and power efficiency.

Wide Temperature

CS-100/P2000 Series supports wide range operating temperature from -20°C to 70°C and is suitable for deploying in extreme and harsh environments.



CS-W121 Specifications

| Model Name | CS-W121 |
|---------------------------------|---|
| Display | |
| LCD Size | • 21.5" (16:9) |
| Max. Resolution | • 1920 x 1080 (Full HD) |
| Brightness (cd/m ²) | • 1000 |
| Contrast Ratio | • 5000 : 1 |
| LCD Color | • 16.7M |
| Pixel Pitch (mm) | • 0.24825 (H) x 0.24825 (V) |
| Viewing Angle (H-V) | • 178 / 178 |
| Backlight MTBF | • 50,000 hrs (LED Backlight) |
| Touch Screen | |
| Touch Type | • Projected Capacitive |
| Physical | |
| Dimension (W x D x H) | • 550 x 330.5 x 63.2mm |
| Weight Information | • 5.56 kg |
| Mechanical Construction | • Flat Rugged Aluminum Die-casting Bezel |
| Environment | |
| Front Panel Protection | • IP 65 Compliant |
| Operating Temperature | • 0°C to 80°C (With Industrial Grade Peripherals; Ambient with air flow) |
| Storage Temperature | • -20°C to 80°C |
| Relative Humidity | • 90% RH @ 40°C (Non-condensing) |
| EMC | • CE, UKCA, FCC, ICES-003 Class A |
| EMI | <ul style="list-style-type: none"> • CISPR 32 Conducted & Radiated: Class A • EN/BS EN 55032 Conducted & Radiated: Class A • EN/BS EN IEC 61000-3-2 Harmonic current emissions: Class A • EN/BS EN61000-3-3 Voltage fluctuations & flicker • FCC 47 CFR Part 15B, ICES-003 Conducted & Radiated: Class A |
| EMS | <ul style="list-style-type: none"> • EN/IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV • EN/IEC 61000-4-3 RS: 80 MHz to 1000 MHz: 3 V/m • EN/IEC 61000-4-4 EFT: AC Power: 1 kV; DC Power: 0.5 kV; Signal: 0.5 kV • EN/IEC 61000-4-5 Surges: AC Power: 2 kV; Signal: 1 kV • EN/IEC 61000-4-6 CS: 3V • EN/IEC 61000-4-8 PFMF: 50 Hz, 1A/m • EN/IEC 61000-4-11 Voltage Dips & Voltage Interruptions: 0.5 cycles at 50 Hz |
| Safety | • UL, cUL, CB, IEC, EN 62368-1 |

P2002 Series Specifications

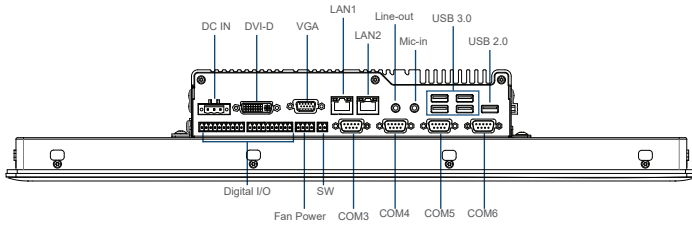
| Model Name | P2002 | P2002E |
|---|--|--------|
| System | | |
| Processor | <ul style="list-style-type: none"> Onboard 6th Intel® Core™ U processors (Skylake) <ul style="list-style-type: none"> Intel® Core™ i5-6300U processor (3M Cache, up to 3.00 GHz) Intel® Core™ i3-6100U processor (3M Cache, 2.30 GHz) TDP: 15 W | |
| Memory | <ul style="list-style-type: none"> 2x DDR4 2133 MHz 260-Pin SO-DIMM Socket Support Un-buffered and Non-ECC Type up to 32 GB | |
| BIOS | <ul style="list-style-type: none"> AMI 64Mbit SPI BIOS | |
| Graphics | | |
| Graphics Engine | <ul style="list-style-type: none"> Integrated Intel® UHD Graphics 520 | |
| Maximum Display Output | <ul style="list-style-type: none"> Supports Triple Independent Display | |
| CDS | <ul style="list-style-type: none"> 1x CDS Connector for Cincoze Display Module | |
| VGA | <ul style="list-style-type: none"> 1x VGA Connector(1920 x 1080 @60Hz), DB-15 | |
| DVI-D | <ul style="list-style-type: none"> 1x DVI-D Connector (1920 x 1080 @ 60Hz) | |
| Audio | | |
| Audio Codec | <ul style="list-style-type: none"> Realtek® ALC888, High-Definition Audio | |
| Speaker-out | <ul style="list-style-type: none"> 1x Speaker-out, Phone Jack 3.5mm | |
| Mic-in | <ul style="list-style-type: none"> 1x Mic-in, Phone Jack 3.5mm | |
| I/O | | |
| LAN | <ul style="list-style-type: none"> 2x GbE LAN (Supports WoL, Teaming, Jumbo Frame & PXE), RJ45 <ul style="list-style-type: none"> GbE1: Intel® I219LM GbE2: Intel® I210 | |
| USB | <ul style="list-style-type: none"> 4x USB 3.2 Gen1 (Type A), 1x USB 2.0 (Type A) | |
| Serial Port | <ul style="list-style-type: none"> 6x RS-232/422/485 with Auto Flow Control Support 5V/12V, DB9 | |
| DIO | <ul style="list-style-type: none"> 16x Isolated Digital I/O (8in/8out), 10-Pin Terminal Block | |
| Storage | | |
| SSD/HDD | <ul style="list-style-type: none"> 2x 2.5" HDD/SSD Bay, Support RAID 0/1 (Gen3) | |
| mSATA | <ul style="list-style-type: none"> 2x mSATA (One Shared by Mini-PCIe Socket) (Gen2) | |
| CFast | <ul style="list-style-type: none"> 1x CFast Socket (Gen 3) | |
| Expansion | | |
| Mini PCI Express | <ul style="list-style-type: none"> 2x Full-size Mini-PCIe Sockets | |
| PCI Express | <ul style="list-style-type: none"> 1x PCI or 1x PCIe x4 Expansion slot (with Optional Riser Card) maximum dimension of add-on card:100mm x 200mm (H x L) | |
| SIM Socket | <ul style="list-style-type: none"> 1 x Front Accessible SIM Socket | |
| Universal Bracket | <ul style="list-style-type: none"> 1x Universal I/O Bracket | |
| CFM (Control Function Module) Interface | <ul style="list-style-type: none"> 2x CFM Interface for optional CFM-IGN or CFM-PoE (max 25.5W) Module Expansion | |
| CDS (Convertible Display System) Technology | <ul style="list-style-type: none"> 1x Convertible Display System (CDS) Interface, Compact PCI Connector | |

| | | |
|-------------------------------------|---|-----------------------|
| Other Function | | |
| Instant Reboot | • Support 0.2sec Instant Reboot technology | |
| Watchdog Timer | • Software Programmable Supports 256 Levels System Reset | |
| Internal Speaker | • AMP 2W + 2W | |
| OSD Function | • LCD On/Off, Brightness Up, Brightness Down | |
| Reset Button | • 1x Reset Button | |
| External Fan Connector | • 1x External Fan Connector, 4-pin Terminal Block | |
| Power | | |
| Power Button | • 1x ATX Power On/Off Switch | |
| Power Mode Switch | • 1x AT/ATX Mode Switch | |
| Power Input | • 1x 3-pin Terminal Block Connector with Power Input 9~48VDC | |
| Power Adapter (Optional) | • 1x Optional AC/DC 12V/5A 60W or 24V/5A 120W • 1x Optional AC/DC 24V/9.2A 220W (For P2002E only) | |
| Remote Power On/Off | • 1x Remote Power On/Off Connector, 2-pin Terminal Block | |
| Physical | | |
| Dimension(W x D x H) | • 254.5 x 220 x 54mm | • 254.5 x 220 x 72 mm |
| Weight Information | • 2.92 kg | • 3.18 kg |
| Mechanical Construction | • Extruded Aluminum with Heavy Duty Metal | |
| Mounting | • Wall / VESA / CDS | |
| Physical Design | • Fanless Design • Jumper-less Design | |
| Reliability & Protection | | |
| Reverse Power Input | • Yes | |
| Over Voltage Protection | • Protection Range: 51~58V • Protection Type: shut down operating voltage, re-power on at the present level to recover | |
| Over Current Protection | • 15A | |
| CMOS Battery Backup | • SuperCap Integrated for CMOS Battery Maintenance-free Operation | |
| Operating System | | |
| Microsoft® Windows® | • Windows® 10, Windows® 8.1, Windows® 7 | |
| Linux | • Linux® Kernel 4.4 | |
| Environment | | |
| Operating Temperature | • Ambient with Air Flow: -25°C to 70°C (with Extended Temperature Peripherals) | |
| Storage Temperature | • -40°C to 85C | |
| Relative humidity | • 95% RH @ 40°C (Non-condensing) | |
| Shock | • Operating, 50 Grms, Half-sine 11ms Duration (w/ SSD, according to IEC60068-2-27) | |
| Vibration | • Operating, 5 Grms, 5-500 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64) | |
| EMC | • CE, UKCA, FCC, ICES-003 Class A | |

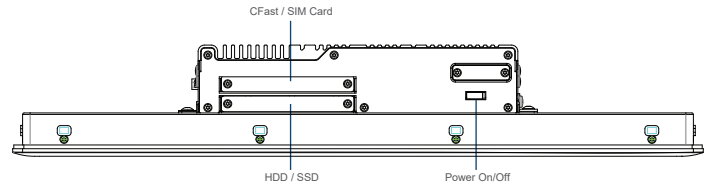
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| EMS | <ul style="list-style-type: none"> • EN/IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV • EN/IEC 61000-4-3 RS: 80 MHz to 1000 MHz: 3 V/m • EN/IEC 61000-4-4 EFT: AC Power: 1 kV; DC Power: 0.5 kV; Signal: 0.5 kV • EN/IEC 61000-4-5 Surges: AC Power: 2 kV; Signal: 1 kV • EN/IEC 61000-4-6 CS: 3V • EN/IEC 61000-4-8 PFMF: 50 Hz, 1A/m • EN/IEC 61000-4-11 Voltage Dips & Voltage Interruptions: 0.5 cycles at 50 Hz |

CS-W121/P2002 External Layout

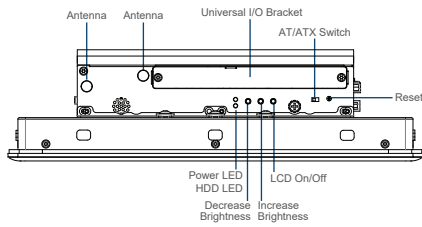
Front I/O



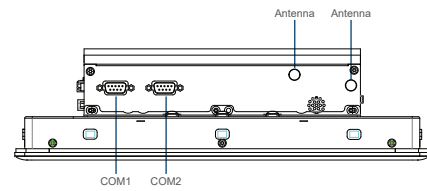
Rear I/O



Left I/O

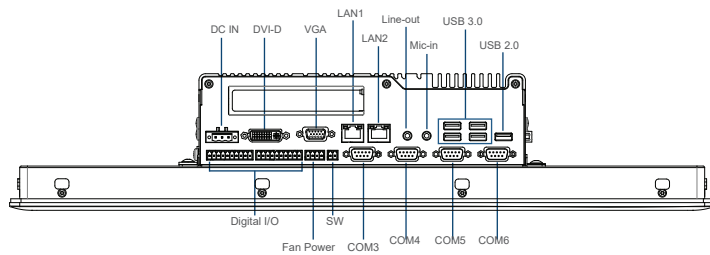


Right I/O

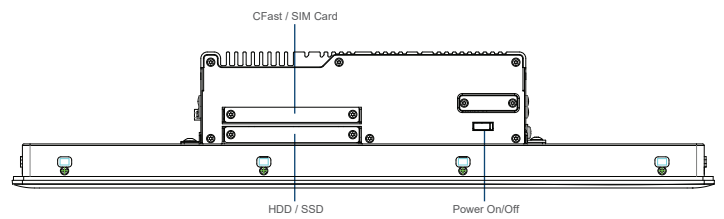


CS-W121/P2002E External Layout

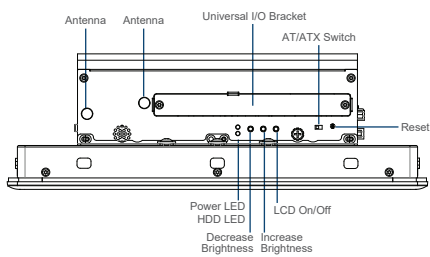
Front I/O



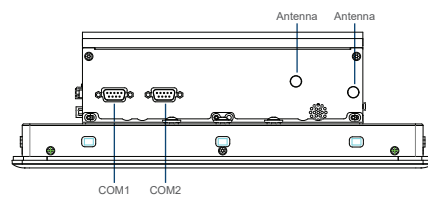
Rear I/O



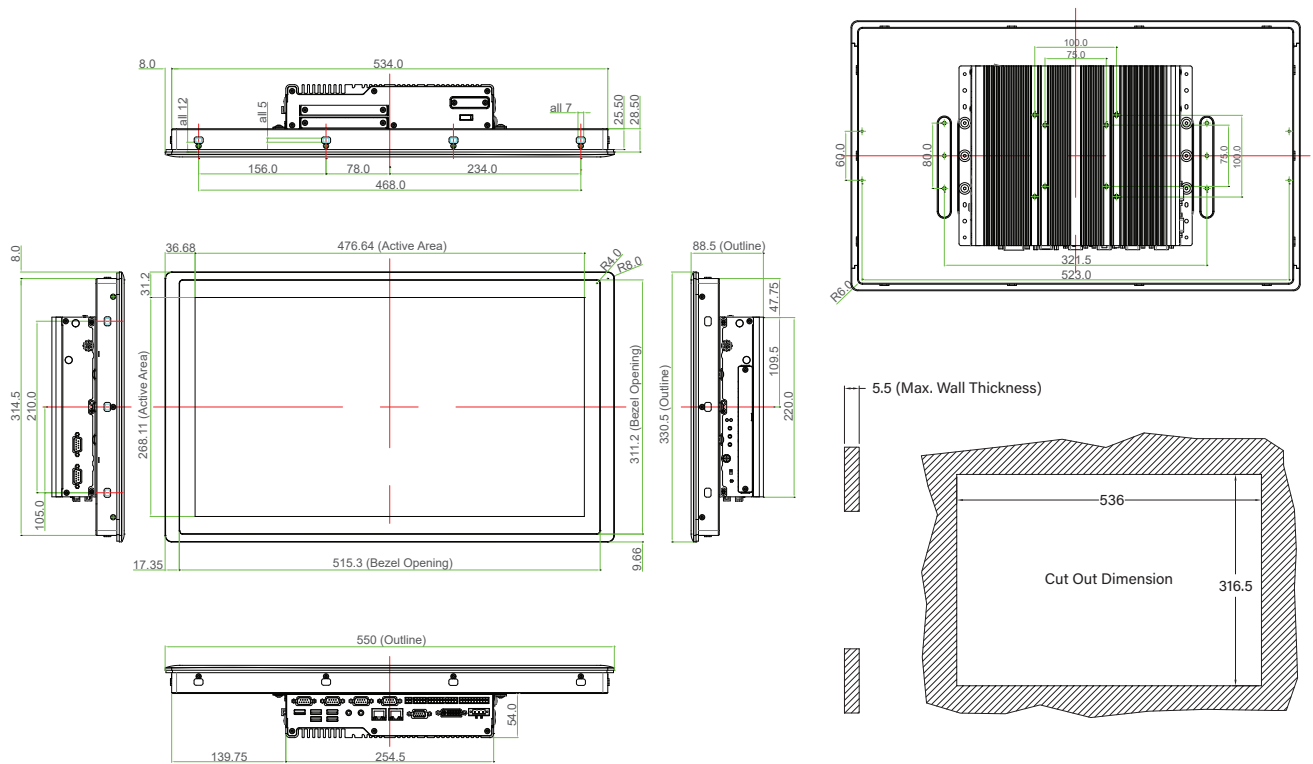
Left I/O



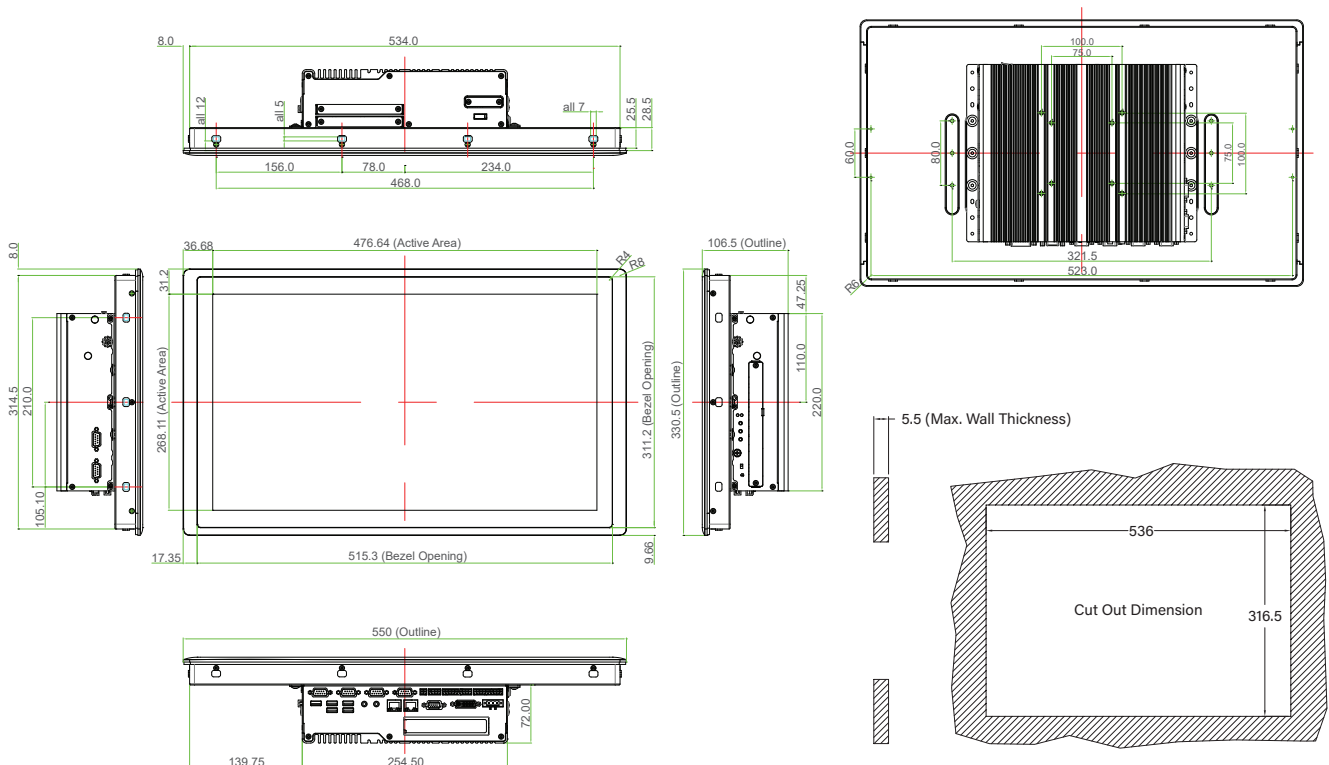
Right I/O



CS-W121/P2002 Dimensions



CS-W121/P2002E Dimensions



Ordering Information

Available Models

| Model No. | Description |
|-------------------------------|--|
| CS-W121C-R10/P2002-i5-R10 | 21.5" TFT-LCD 1000 nits Sunlight Readable Touch Panel PC with Intel® Core™ i5-6300U Processor and P-Cap. Touch |
| CS-W121C-R10/P2002E-i5-R10 | 21.5" TFT-LCD 1000 nits Sunlight Readable Touch Panel PC with Intel® Core™ i5-6300U Processor, P-Cap. Touch and 1x Reserved Expansion Slot |
| CS-W121C-R10/P2002E-i5-E4-R10 | 21.5" TFT-LCD 1000 nits Sunlight Readable Touch Panel PC with Intel® Core™ i5-6300U Processor, P-Cap. Touch and 1x PCIe x4 Expansion Slot |
| CS-W121C-R10/P2002E-i5-PI-R10 | 21.5" TFT-LCD 1000 nits Sunlight Readable Touch Panel PC with Intel® Core™ i5-6300U Processor, P-Cap. Touch and 1x PCI Expansion Slot |
| CS-W121C-R10/P2002-i3-R10 | 21.5" TFT-LCD 1000 nits Sunlight Readable Touch Panel PC with Intel® Core™ i3-6100U Processor and P-Cap. Touch |
| CS-W121C-R10/P2002E-i3-R10 | 21.5" TFT-LCD 1000 nits Sunlight Readable Touch Panel PC with Intel® Core™ i3-6100U Processor, P-Cap. Touch and 1x Reserved Expansion Slot |
| CS-W121C-R10/P2002E-i3-E4-R10 | 21.5" TFT-LCD 1000 nits Sunlight Readable Touch Panel PC with Intel® Core™ i3-6100U Processor, P-Cap. Touch and 1x PCIe x4 Expansion Slot |
| CS-W121C-R10/P2002E-i3-PI-R10 | 21.5" TFT-LCD 1000 nits Sunlight Readable Touch Panel PC with Intel® Core™ i3-6100U Processor, P-Cap. Touch and 1x PCI Expansion Slot |

Model Configuration

| | CS-W121C | P2002(i3/i5) | P2002E(i3/i5/E4/PI) |
|-----------------|----------|--------------|---------------------|
| CS-W121C/P2002 | V | V | -- |
| CS-W121C/P2002E | V | -- | V |

V : Compatible

Package Checklist

| | |
|---|--|
| • CS-W121/P2002 Series Panel PC x 1 | • Power Terminal Block Connector (Female) x 1 |
| • Panel Mounting Kit x 1 | • Screw Pack x 1 |
| • Fan Terminal Block Connector x 1 | • Remote Power On/Off Terminal Block Connector x 1 |
| • DIO Terminal Block Connector (Female) x 2 | |

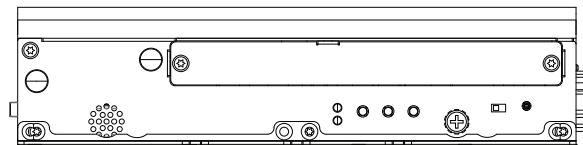
Optional Modules and Accessories

| Model No. | Description |
|-------------------|--|
| MEC-COM-M212-DB9 | Mini-PCIe Module with 2x RS-232 Serial Ports, 1x Standard DB9 Cable |
| MEC-COM-M334-TDB9 | Mini-PCIe Module with 4x RS-232/422/485 Serial Ports, 2x Thin DB9 Cable |
| MEC-LAN-M102-30 | Mini-PCIe Module with 2x LAN Ports, 2x 30cm |
| MEC-USB-M102-30 | Mini-PCIe Module with 2x USB 3.2 Gen1 Ports |
| CFM-IGN100 | CFM Module with Power Ignition Sensing Control Function, 12V/24V Selectable (41 x 35 mm) |
| CFM-PoE100 | PoE Control Function Module, Individual Port 25.5W (50 x 44 x 15 mm) (For P2002 only) |
| CFM-PoE101 | PoE Control Function Module, Individual Port 25.5W (50 x 44 x 15 mm) (For P2002E only) |

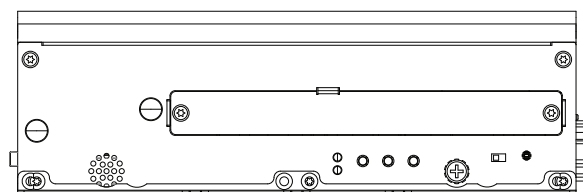
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| RC-E4-01 | Riser Card with 1x PCIe4 Slot(For P2002E only) |
| RC-PI-01 | Riser Card with 1x PCI Slot(For P2002E only) |
| UB0503 | Universal Bracket with 2x DB9 Cutout |
| UB0504 | Universal Bracket with 4x DB9 Cutout |
| UB0511 | Universal Bracket with 2x RJ45 Cutout |
| UB0514 | Universal Bracket with 2x USB Cutout |
| URM01 | Universal 19" Rack Mount Kit for Industrial Panel PC & Industrial Monitor |
| GST220A24-CIN | Adapter AC/DC 24V 9.2A 220W with 3pin Terminal Block Plug 5.0mm Pitch, with TUBES, GST220A24-CIN |
| GST120A24-CIN | Adapter AC/DC 24V 5A 120W, GST120A24-CIN, wide temp(-30°C ~ +70°C), level VI |
| GST60A12-CIN1 | Adapter AC/DC 12V 5A 60W, GST60A12-CIN1, wide temp(-30°C ~ +70°C) |
| SL2-SL3 | US 2 heads power cord, US B type to IEC C13,SVT 18AWG/3C Black 1.8M |
| SL6-SL3 | EU 2 heads power cord, EU G type to IEC C13,H05VV-F 0.75mm2/3G Black 1.8M |
| QP026-SL3 | UK 2 heads power cord, UK I type to IEC C13,H05VV-F 0.75mm2/3G Black 1.8M |





Optional Module Configuration

P2002



P2002E



| Model No. | Description | P2002 | P2002E |
|---|--|-------|--------|
|  <p>MEC-COM-M212/UB0503</p> | Mini-PCIe Module with 2x COM Ports, 1x Universal Bracket with 2x DB9 Cutout (154 x 17 mm) | V | V |
|  <p>MEC-COM-M334/UB0504</p> | Mini-PCIe Module with 4x RS-232/422/485 Serial Ports, 1x Universal Bracket with 4x DB9 Cutout (154 x 17 mm) | V | V |
|  <p>MEC-LAN-M102-30/UB0511</p> | Mini-PCIe Module with 2x LAN Ports, 2x 30cm cable, 1x Universal Bracket with 2x RJ45 Cutout (154 x 17 mm) | V | V |
|  <p>MEC-USB-M102-30/UB0514</p> | Mini-PCIe Module with 2x USB 3.0 Ports, 1x Universal Bracket with 2x USB Cutout (154 x 17 mm) | V | V |

V : Compatible