

CV-221C/P1001 Series

21.5" FHD 16:9 Slim Bezel Panel PC with Intel® Atom™ E3845
Quad-Core Expandable Embedded Computer, Projected
Capacitive Touch, and AG Coating



Slim • Modular • Durable

CV-200/P1000 Series — Modernized Industrial Panel PCs

Overview

[CONTACT](#)

The CV-200 / P1001 series is an entry-level modular industrial panel PC, powered by Intel® Atom®/Pentium® processors with DDR3L memory. It delivers stable, low-power performance, making it ideal for industrial automation and basic HMI applications. Supporting Full HD resolution and available in sizes from 10" to 21.5", its industrial-grade rugged design makes it well suited for deployment as HMIs in demanding industrial environments.

Key Features

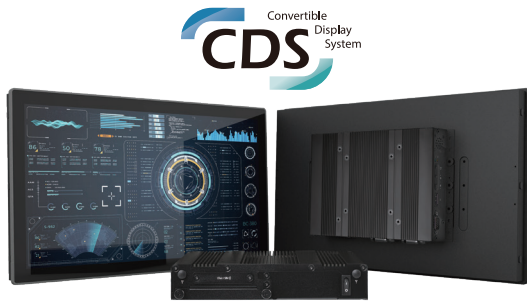
- 21.5" Full HD LCD (1920 x 1080) with 16:9 Aspect Ratio
- Projected Capacitive Touch with Anti-Glare Coating.
- Wide Viewing Angle of 178°/178°
- Onboard Intel® Atom™ E3845 Processor Quad Core, 1.91GHz
- 1x Full Size Mini-PCIe Expansion Socket
- Designed with Rugged Aluminum Die-casting Front Bezel
- Front Panel IP66 Compliant

Certifications



Entry-Level Industrial Computing

Equipped with Intel® Atom®/Pentium® processors, providing sufficient performance for basic HMI and control applications.

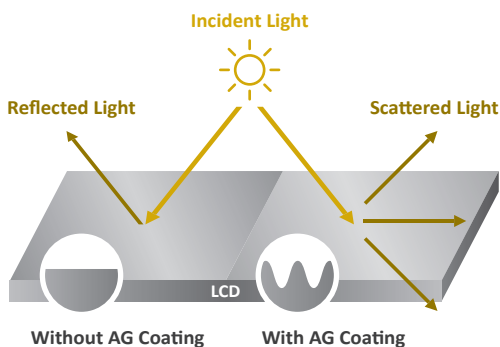
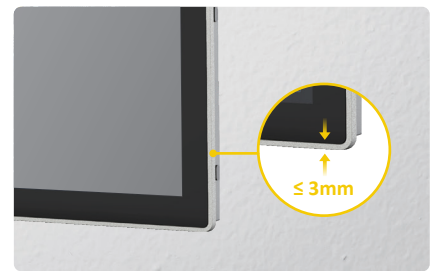


CDS Patented Technology

Cincoze Convertible Display System (CDS) patented technology makes field-side maintenance and future upgrades easier. Replacing a display or improving system performance only requires replacing a single component, which significantly cuts upgrade costs.

Ultra-Slim Bezel

With an ultra-slim bezel of ≤ 3 mm (varies by display size), the CV-200 minimizes physical constraints for compact installations. It's ideal for space-limited enclosures and applications requiring efficient integration with a streamlined appearance.



Reliable Touch Performance

All models support P-Cap touch, anti-glare (AG) coating, and wet tracking technology, ensuring stable operation and clear visibility even in humid environments or under bright indoor lighting.

Wide Temps, Safe, & More Reliable

To face harsh and rugged usage environments, the CV-200/P1001 series has a series of industrial-grade protections, including a wide operating temperature range, a wide range DC power input (9 to 48VDC), and a dustproof/water resistant IP66 front panel, which is beneficial for applications such as field-side HMI or production process visualization.



CV-221C Series Specifications

Model Name	CV-221C
Display	
LCD Size	• 21.5" (16:9)
Max. Resolution	• 1920x1080
Brightness (cd/m2)	• 300
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 LED Life Time	• 50,000 hrs (LED Backlight)
Touch Screen	
Touch Type	• Projected Capacitive
Anti-Glare	• V
Wet Touch Tracking	• V
Physical	
Dimension (W x D x H)	• 522.4 x 318.3 x 63.4 mm
Weight Information	• 5.28 kg
Mechanical Construction	• Die-Casting Flat Surface
Power	
Power Consumption	• 24.8 W (Max.)
Environment	
Front Panel Protection	• IP 66 Compliant
Operating Temperature	• 0°C - 60°C (32°F to 140°F) - With Industrial Grade peripherals; Ambient with air flow
Storage Temperature	• -20°C - 60°C (-4°F to 140°F)
Relative Humidity	• 90% RH @ 40°C (non-condensing)
EMC	• CE, UKCA, FCC, ICES-003 Class A
EMI	• CISPR 32 Conducted & Radiated: Class A • EN/BS EN 55032 Conducted & Radiated: Class A • EN/BS EN 50121-3-2 Conducted & Radiated: Class A • EN/BS EN IEC 61000-3-2 Harmonic current emissions: Class A • EN/BS EN 61000-3-3 Voltage fluctuations & flicker • FCC 47 CFR Part 15B, ICES-003 Conducted & Radiated: Class A
EMS	• EN/IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV • EN/IEC 61000-4-3 RS: 80 MHz to 1000 MHz: 20 V/m • EN/IEC 61000-4-4 EFT: AC Power: 2 kV; DC Power: 1 kV; Signal: 2 kV • EN/IEC 61000-4-5 Surges: AC Power: 2 kV; Signal: 1 kV • EN/IEC 61000-4-6 CS: 10V (**Compliant with the standard when utilizing shielded cable.) • EN/IEC 61000-4-8 PFMF: 50/60 Hz, 30A/m • EN/IEC 61000-4-11 (50/60 Hz): Voltage dips duration up to 25/30 cycles; interruptions up to 250/300 cycles.
Industrial Environment	• EMC: - EN/BS/IEC 61000-6-4: 2019 Class A - EN/BS/IEC 61000-6-2: 2019

Railway	• EMC: EN 50155: 2021 Clause 4.4.6, 13.4.9 (w/ M1101 only) - EN 50121-1 : 2017 - EN 50121-3-2: 2016 + A1: 2019
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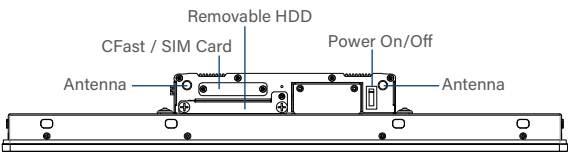
P1001 Series Specifications

Model Name	P1001		P1001E
System			
Processor	▪ Onboard Intel® Atom™ Processor E3845 Quad Core, 1.91 GHz		
Memory	▪ 1x DDR3L 1066/1333 MHz SO-DIMM Socket (un-buffered and non-ECC) ▪ Support up to 8 GB		
BIOS	▪ AMI 64Mbit SPI BIOS		
Graphics			
CDS (Convertible Display System) Technology	▪ 1x Convertible Display System (CDS) Interface		
VGA	▪ 1x VGA Connector (1920x1080@60Hz)		
DP	▪ 1x DisplayPort Connector (1920x1080@60Hz)		
Audio			
Line-out	▪ 1x Line-out, Phone Jack 3.5mm		
Mic-in	▪ 1x Mic-in, Phone Jack 3.5mm		
I/O			
LAN	▪ 2x GbE LAN (Supports WoL, Teaming, Jumbo Frame & PXE), RJ45 - GbE1: Intel® I210 - GbE2: Intel® I210		
USB	▪ 1x USB 3.2 Gen1 (Type A), 3x USB 2.0 (Type A)		
Serial Port	▪ 2x RS-232/422/485 with Auto Flow Control Support, DB9		
DIO	▪ 8x Isolated Digital I/O (4in/4out)		
Storage			
SSD/HDD	▪ 1x 2.5” HDD/SSD Drive		
SIM Card	▪ 1x Front Accessible SIM Socket		
CFast	▪ 1x Front Accessible CFast Socket		
Expansion			
Mini PCI Express	▪ 1x Full-size Mini-PCIe Socket for Wi-Fi/GSM/Expansion Module		
Universal Bracket		▪ 2x Universal I/O Bracket	
Other Function			
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		
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		

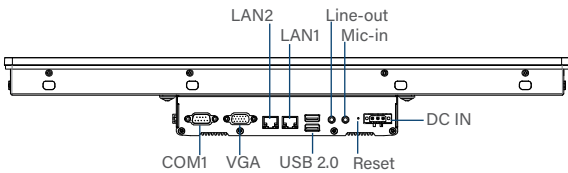
Physical		
Dimension (W x D x H)	▪ 204.5 x 149 x 37.5 mm	▪ 204.5 x 150 x 60 mm
Weight Information	▪ 1.34kg	▪ 1.54kg
Mechanical Construction	▪ Extruded Aluminum with Heavy Duty Metal	
Mounting	▪ Wall / VESA / CDS Mounting	
Physical Design	▪ Fanless Design ▪ Jumper-less Design	
Reliability & Protection		
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	▪ 20A	
Operating System		
Microsoft® Windows®	▪ Windows® 10, Windows® 8, Windows® 7 ▪ Windows® Embedded 8 Standard, Windows® Embedded Standard 7	
Linux	▪ Supports by project	
Environment		
Operating Temperature	▪ Ambient with Air Flow: -20°C to 70°C (with Industrial Grade Peripherals)	
Storage Temperature	▪ -30°C to 85°C	
Relative humidity	▪ 10%~95% RH (Non-condensing)	
Shock	▪ Operating, 15 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)	
Vibration	▪ Operating, 1 Grms, 5-500 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64)	
EMC	▪ CE, UKCA, FCC, ICES-003 Class A	
EMI	▪ 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	▪ 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	

CV-221C/P1001 External Layout

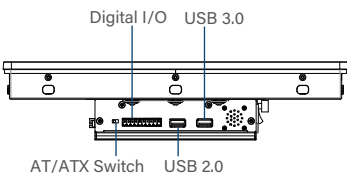
Front I/O



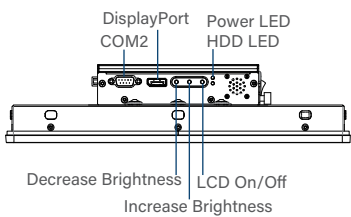
Rear I/O



Left I/O

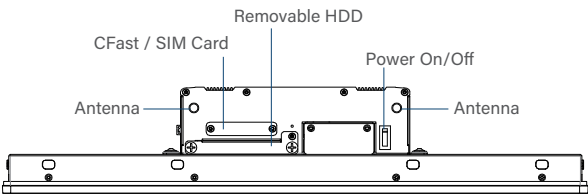


Right I/O

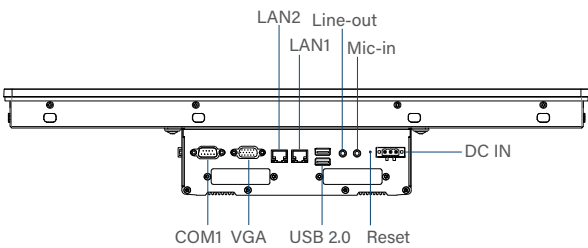


CV-221C/P1001E External Layout

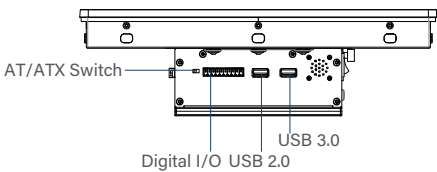
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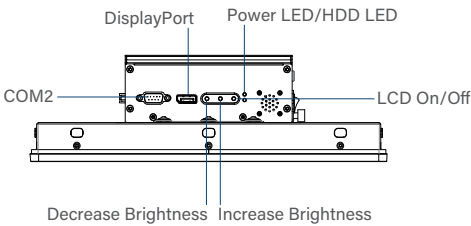
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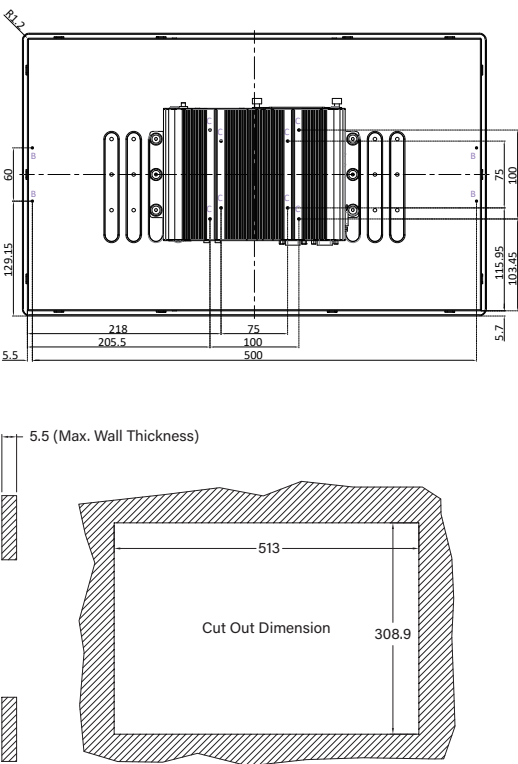
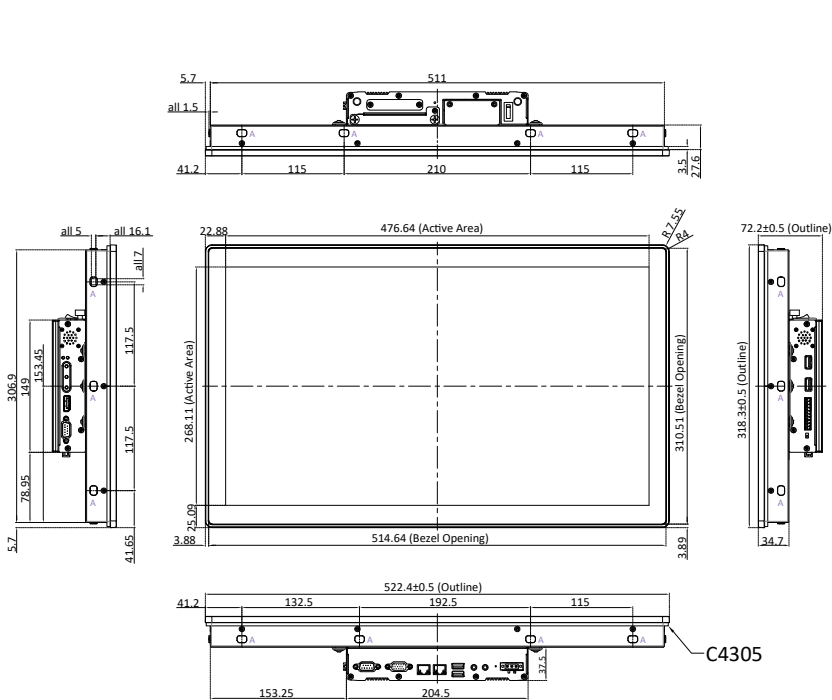
Left I/O



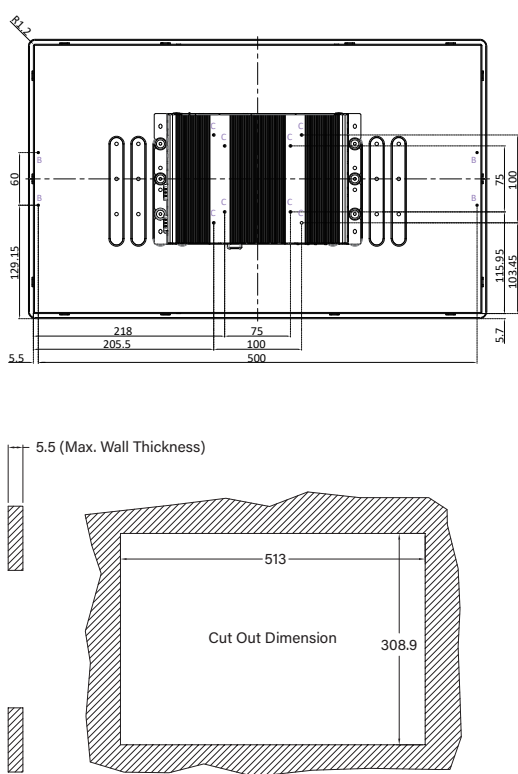
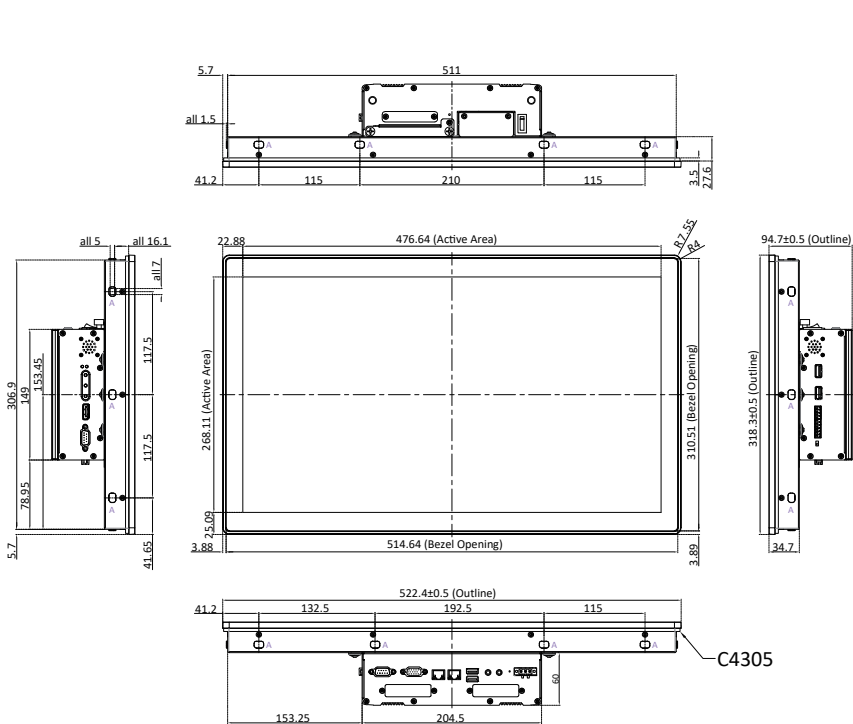
Right I/O



CV-221C/P1001 Dimensions



CV-221C/P1001E Dimensions



Ordering Information

Available Models

Model No.	Description
CV-221C-R10/P1001-R10	21.5" FHD 16:9 Slim Bezel Panel PC with Intel® Atom™ E3845 Quad-Core Embedded Computer, Projected Capacitive Touch, and AG Coating
CV-221C-R10/P1001E-R10	21.5" FHD 16:9 Slim Bezel Panel PC with Intel® Atom™ E3845 Quad-Core Expandable Embedded Computer, Projected Capacitive Touch, and AG Coating

Model Configuration

	CV-221C	P1001	P1001E
CV-221C/P1001	V	V	--
CV-221C/P1001E	V	--	V

V : Compatible

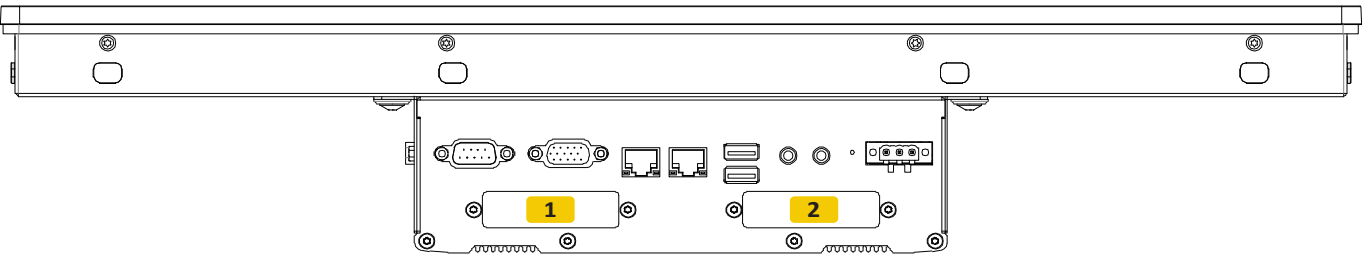
Package Checklist

• CV-221C/P1001 Series Panel PC x 1	• Power Terminal Block Connector x 1
• Panel Mounting Kit x 14	• HDD Screw Pack x 1
• DIO Terminal Block Connector x 1	• Mini PCIe Screw Pack x 1

Optional Modules and Accessories

Model No.	Description
MEC-COM-M212-DB9	Mini-PCle Module with 2x COM Ports, 1x Standard DB9 Cable (For P1001E only)
MEC-LAN-M102-30	Mini-PCle Module with 2x LAN Ports, 2x 30cm cable (For P1001E only)
MEC-USB-M102-30	Mini-PCle Module with 2x USB 3.2 Gen1 Ports, 1x 30cm cable (For P1001E only)
UB0303	2x Universal Bracket each with 1x DB9 Cutout (For P1001E only)
UB0311	1x Universal Bracket with 2x RJ45 Cutout (For P1001E only)
UB0314	1x Universal Bracket with 2x USB Cutout (For P1001E only)
URM01	Universal 19" Rack Mount Kit for Industrial Panel PC & Industrial Monitor
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 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

Optional Module Configuration (For P1001E only)



Model No.	Description	1	2
MEC-COM-M212-DB9/UB0303 	Mini-PCle Module with 2x COM Ports, 1x Standard DB9 Cable, 2x Universal Bracket each with 1x DB9 Cutout	V	V
MEC-LAN-M102-30/UB0311 	Mini-PCle Module with 2x LAN Ports, 2x 30cm cable, w/ 1x Universal Bracket with 2x RJ45 Cutout	V	V
MEC-USB-M102-30/UB0314 	Mini-PCle Module with 2x USB 3.2 Gen1 Ports, 1x 30cm cable, 1x Universal Bracket with 2x USB Cutout	V	V

V : Compatible