

CO-119C/P2002 Series

19" TFT-LCD Open Frame Panel PC with 6th Gen. Intel® Core™ U Series Processor with CFM & CDS Technology



ALL-NEW OPEN FRAME PANEL PC

| CO-100/P2000 Series Fits Any Machine Perfectly |

Overview

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Cincoze's high-performance open-frame modular panel PCs (CO-119C/P2002 Series) use Intel® Core U series processors that provide high-performance data processing and graphics computing capabilities with only 15W low power consumption. The CO-100/P2002 series supports CFM technology that extends system functions according to requirements, with options such as Power Ignition Sensing (IGN) and Power over Ethernet (PoE). The series has multiple sizes, display ratios (4:3 and 16:9), and touchscreen options. Its integrated structure, exclusive adjustable mounting bracket, and support for multiple mounting methods to perfectly fit cabinets of different materials and thicknesses. The robust design also meets the application needs of harsh industrial environments.

- 19" TFT-LCD with Projected Capacitive Touch
- Onboard Intel® 6th Generation Core™ Processor U Series (15W)
- 2x DDR4 SO-DIMM Socket, Support Up to 32 GB
- Designed with Adjustable Mounting Bracket
- Support Flat / Standard / VESA / Rack Mount
- Front Panel IP65 Compliant
- Wide Operating Temperature
- Cincoze Patent CDS Technology Support

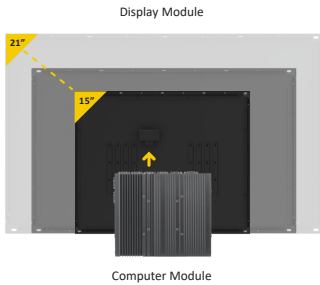


High Performance and Power Saving

Intel® Core U series processors provide high-performance data processing and graphics computing capabilities with a 15W low power consumption, support for up to 64GB of memory and two 2.5" HDD/SSD.



**15W TDP
CPU Design**



Patented CDS Technology

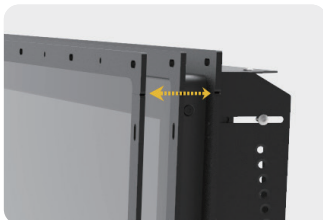
The patented CDS (Convertible Display System) technology makes maintenance easy and offers flexibility for future upgrades. To upgrade the panel size, replace the display module, or to upgrade the system performance, replace the computer module.

Patent No. M482908

Flexibility for Various Applications

Mini-PCIe and PCI/PCIe expansion slots support data acquisition cards, motion control cards, I/O expansion, and other applications.

[PCI/PCIe expansion slot available Model : CO-119C/P2002E]



Flexible Design and Easy Installation

Exclusive adjustable mounting bracket with thickness adjustment setting and two panel-locking methods (panel or boss type) make modular panel PC easier and more convenient to integrate into industrial machinery.

Patent No.: D224544, D224545, I802427

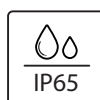
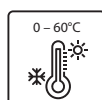
Integrated Structure

As standard, the open frame modular panel pc can be deployed in equipment machines, but remove the mounting bracket and it becomes a standalone panel pc for use with a VESA mount or in a 19" rack.



Strong, Reliable and Durable

Meets the requirements for HMI applications in harsh industrial environments: IP65 waterproof and dustproof front panel, fanless, wide temperature (0–60°C), and wide voltage (9–48 VDC).



CO-119C Specifications

Model Name	CO-119C
Display	
LCD Size	• 19" (5:4)
Resolution	• 1280 x 1024
Brightness	• 350 cd/m2
Contract Ratio	• 1000 : 1
LCD Color	• 16.7M
Pixel Pitch	• 0.294 (H) x 0.294 (V)
Viewing Angle	• 170 (H) / 160 (V)
Backlight MTBF	• 50,000 hrs (LED Backlight)
Touch Screen	
Touchscreen Type	• Projected Capacitive Touch
Physical	
Dimension (W x D x H)	• 472.8 x 397.5 x 63mm
Weight	• 6.91kg
Construction	• One-piece and Slim Bezel Design
Mounting Type	• Flat / Standard / VESA / Rack Mount
Mounting Bracket	• Pre-installed Mounting Bracket with Adjustable Design (Support 11 different stages of adjustment)
Protection	
Ingress Protection	• Front Panel IP65 Compliant * According to IEC60529
Environment	
Operating Temperature	• 0°C - 50°C (with Industrial Grade peripherals; Ambient with air flow)
Storage Temperature	• -20°C to 60°C
Humidity	• 80% RH @ 50°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 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

P2002 Series Specifications

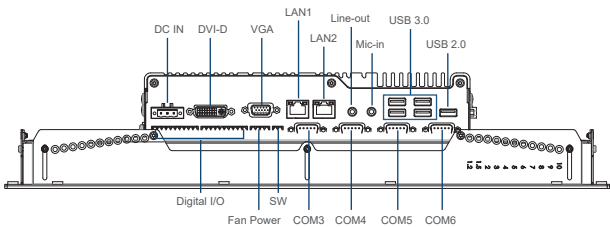
Model Name	P2002		P2002E
System			
Processor	- Onboard 6th Intel® Core™ U processors (Skylake) - Intel® Core™ i5-6300U processor (3M Cache, up to 3.00 GHz) - Intel® Core™ i3-6100U processor (3M Cache, 2.30 GHz) - TDP: 15 W		
Memory	2x DDR4 2133 MHz 260-Pin SO-DIMM Socket - Support Un-buffered and Non-ECC Type up to 32 GB		
BIOS	AMI 64Mbit SPI BIOS		
Graphics			
Graphics Engine	Integrated Intel® UHD Graphics 520		
Maximum Display Output	Supports Triple Independent Display		
CDS	1x CDS Connector for Cincoze Display Module		
VGA	1x VGA Connector(1920 x 1080 @60Hz), DB-15		
DVI-D	1x DVI-D Connector (1920 x 1080 @ 60Hz)		
Audio			
Audio Codec	Realtek® ALC888, High-Definition Audio		
Speaker-out	1x Speaker-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® I219LM - GbE2: Intel® I210		
USB	4x USB 3.2 Gen1 (Type A), 1x USB 2.0 (Type A)		
Serial Port	6x RS-232/422/485 with Auto Flow Control Support 5V/12V, DB9		
DIO	16x Isolated Digital I/O (8in/8out), 10-Pin Terminal Block		
Storage			
SSD/HDD	2x 2.5" HDD/SSD Bay, Support RAID 0/1 (Gen3)		
mSATA	2x mSATA (One Shared by Mini-PCIe Socket) (Gen2)		
CFast	1x CFast Socket (Gen 3)		
Expansion			
Mini PCI Express	2x Full-size Mini-PCIe Sockets		
PCI Express		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	1 x Front Accessible SIM Socket		
Universal Bracket	1x Universal I/O Bracket		
CFM (Control Function Module) Interface	2x CFM Interface for optional CFM-IGN or CFM-PoE (max 25.5W) Module Expansion		
CDS (Convertible Display System) Technology	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	
ESD Protection	▪ +/-8kV (air), +/-4kV (contact)	
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	

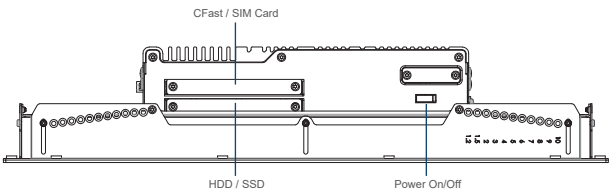
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CO-119C/P2002 External Layout

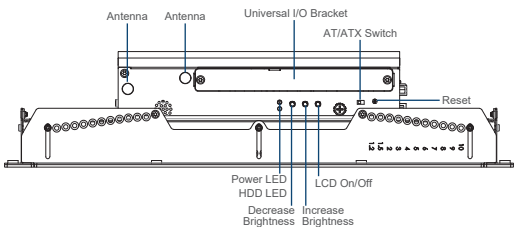
Front I/O



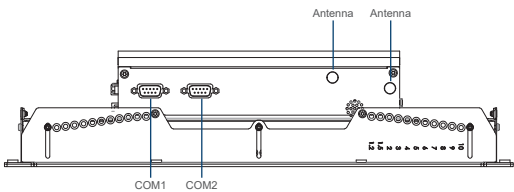
Rear I/O



Left I/O

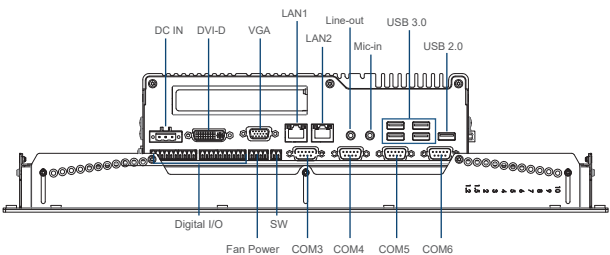


Right I/O

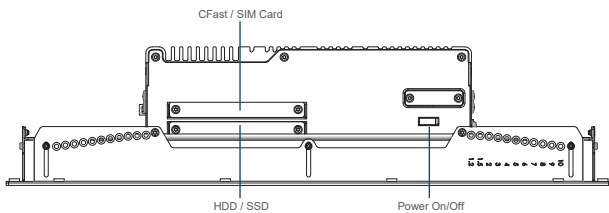


CO-119C/P2002E External Layout

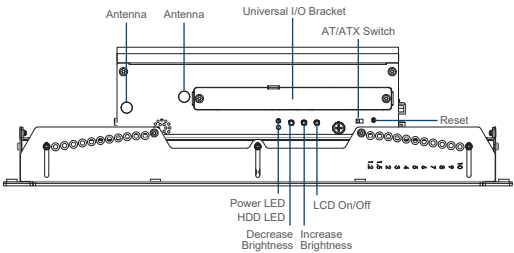
Front I/O



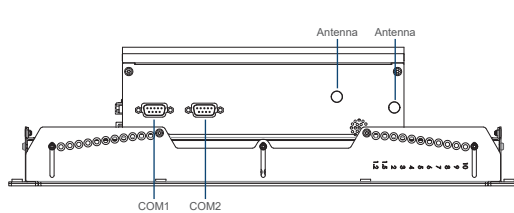
Rear I/O



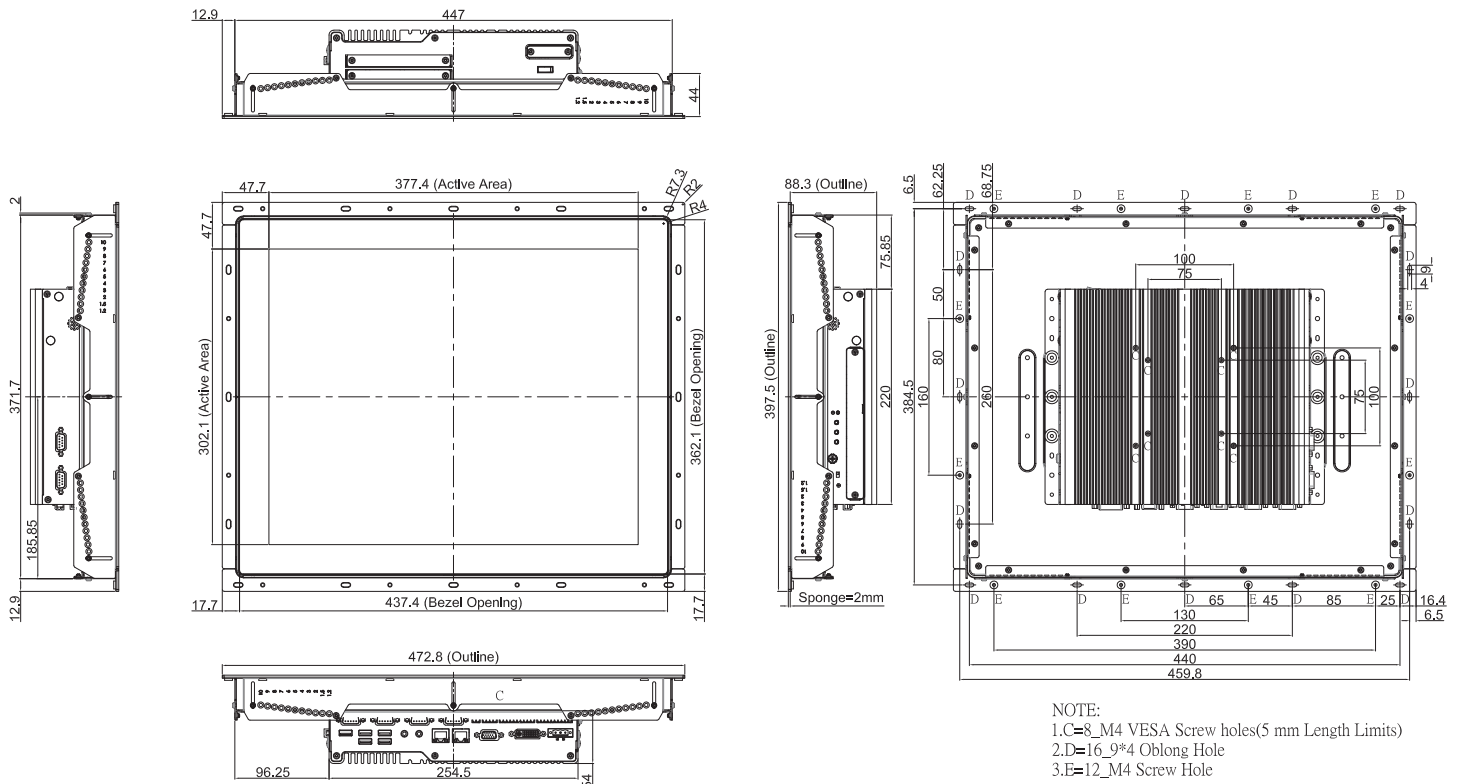
Left I/O



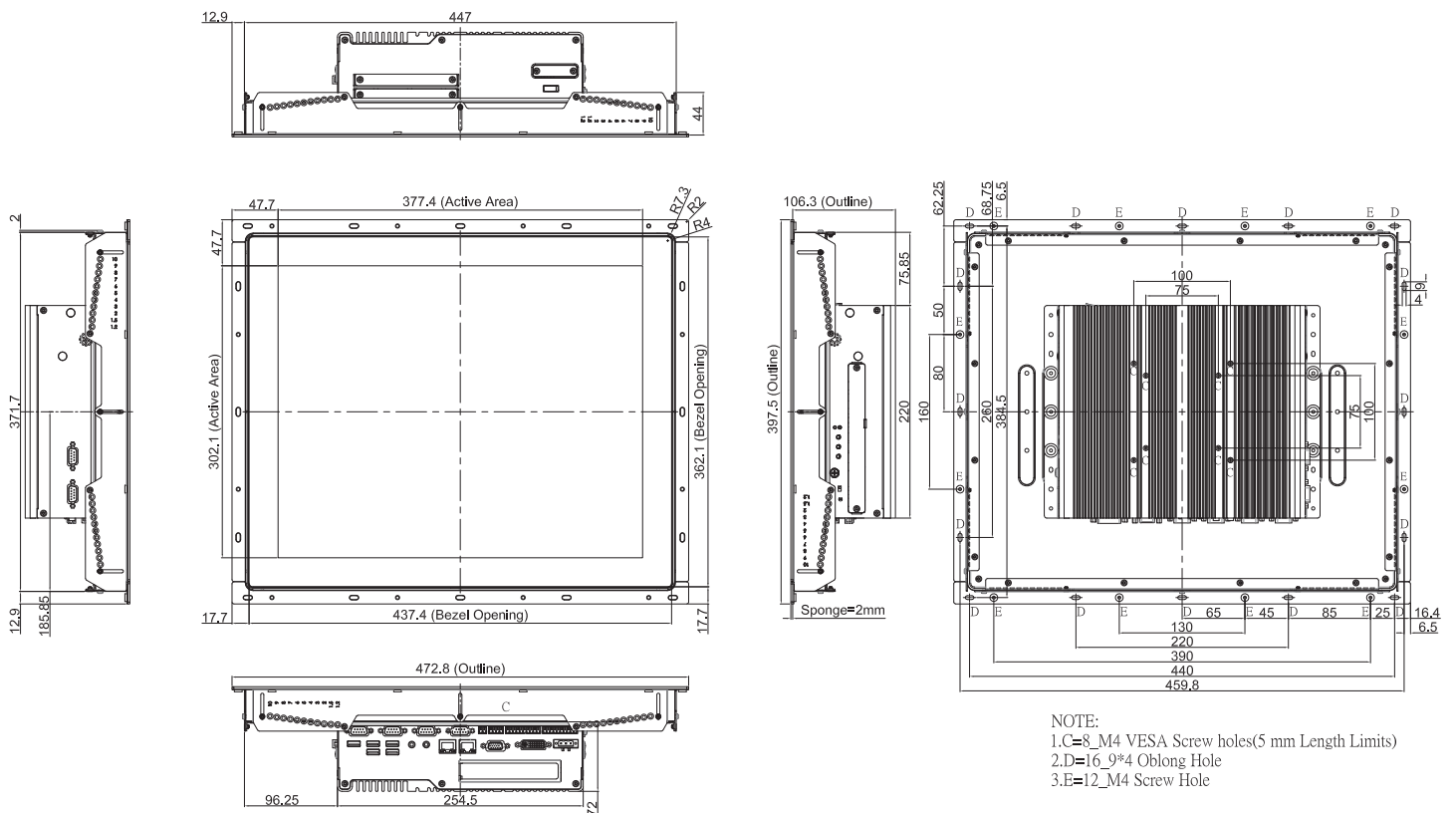
Right I/O



CO-119C/P2002 Dimensions



CO-119C/P2002E Dimensions



Unit: mm

Ordering Information

Available Models

Model No.	Description
CO-119C-R10/P2002-i5-R10	19" TFT-LCD SXGA 5:4 Open Frame Display Module with Projected Capacitive Touch and Intel 6th Gen. Core i5-6300U Fanless Computer, CFM Interface, CDS Interface
CO-119C-R10/P2002E-i5-R10	19" TFT-LCD SXGA 5:4 Open Frame Display Module with Projected Capacitive Touch and Intel 6th Gen. Core i5-6300U Expandable Fanless Computer, CFM Interface, CDS Interface
CO-119C-R10/P2002E-i5-E4-R10	19" TFT-LCD SXGA 5:4 Open Frame Display Module with Projected Capacitive Touch and Intel 6th Gen. Core i5-6300U Fanless Computer, CFM Interface, CDS Interface, 1x PCIe4 Expansion
CO-119C-R10/P2002E-i5-PI-R10	19" TFT-LCD SXGA 5:4 Open Frame Display Module with Projected Capacitive Touch and Intel 6th Gen. Core i5-6300U Expandable Fanless Computer, CFM Interface, CDS Interface, 1x PCI Expansion
CO-119C-R10/P2002-i3-R10	19" TFT-LCD SXGA 5:4 Open Frame Display Module with Projected Capacitive Touch and Intel 6th Gen. Core i3-6100U Fanless Computer
CO-119C-R10/P2002E-i3-R10	19" TFT-LCD SXGA 5:4 Open Frame Display Module with Projected Capacitive Touch and Intel 6th Gen. Core i3-6100U Expandable Fanless Computer, CFM Interface, CDS Interface
CO-119C-R10/P2002E-i3-E4-R10	19" TFT-LCD SXGA 5:4 Open Frame Display Module with Projected Capacitive Touch and Intel 6th Gen. Core i3-6100U Fanless Computer, CFM Interface, CDS Interface, 1x PCIe4 Expansion
CO-119C-R10/P2002E-i3-PI-R10	19" TFT-LCD SXGA 5:4 Open Frame Display Module with Projected Capacitive Touch and Intel 6th Gen. Core i3-6100U Expandable Fanless Computer, CFM Interface, CDS Interface, 1x PCI Expansion

Model Configuration

	CO-119C	P2002 (i3/i5)	P2002E (i3/i5/E4/PI)
CO-119C/P2002	V	V	--
CO-119C/P2002E	V	--	V

V : Compatible

Package Checklist

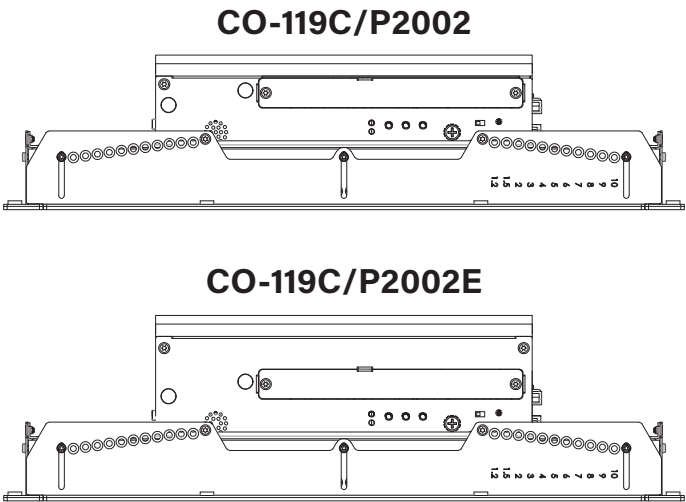
• CO-119C/P2002 Series Panel PC x 1	• DIO Terminal Block Connector x 2
• Wall / CDS Mounting Kit x 1	• Remote Power On/Off Terminal Block Connector x 1
• Power Terminal Block Connector x 1	• Screw Pack x 1
• Fan Terminal Block Connector x 1	

Optional Modules and Accessories

Model No.	Description
CFM-IGN100	CFM Module with Power Ignition Sensing Control Function, 12V/24V Selectable (41 x 35 mm)
CFM-PoE100	CFM Module with PoE Control Function, Individual Port 25.5W (50 x 44 x 15 mm)(For P2002 only)
CFM-PoE101	CFM Module with PoE Control Function, Individual Port 25.5W (50 x 44 x 33 mm) (For P2002E only)
RC-E4-01	Riser Card with 1x PCIe4 Slot (For P2002E only)
RC-PI-01	Riser Card with 1x PCI Slot (For P2002E only)

Model No.	Description
MEC-COM-M212	Mini-PCle Module with 2x COM Ports
MEC-COM-M334	Mini-PCle Module with 4x RS-232/422/485 Serial Ports
MEC-LAN-M102-30	Mini-PCle Module with 2x LAN Ports, 2x 30cm cable
MEC-USB-M102-30	Mini-PCle Module with 2x USB 3.2 Gen1 Ports, 1x 30cm cable
UB0503	1x Universal Bracket with 2x DB9 Cutout (154 x 17 mm)
UB0504	1x Universal Bracket with 4x DB9 Cutout (154 x 17 mm)
UB0511	1x Universal Bracket with 2x RJ45 Cutout (154 x 17 mm)
UB0514	1x Universal Bracket with 2x USB Cutout (154 x 17 mm)
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 (For P2002E only)
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)

Optional Module Configuration (For P2002E only)



Model Configuration

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

V : Compatible