Heavy Industrial Panel PC Solution

The Next Era IoT Panel PC Solution

IEI offers complete robust panel solutions for harsh industrial environments. The product portfolio varies from sizes and performance. To catch the wave of cloud computing and intelligent solutions, IEI introduces the iRIS remote management solution to enhance efficiency for system integration. With all these benefits, IEI is your solid solution for industrial computing.

Heavy Industrial Panel PC Product Line

General Purpose Panel PC

Size	Intel® Bay Trail	Intel® H81	Intel® Q370	Intel® ULT5
5.7"	PPC-F06B-BT			
8"	PPC-F08B-BT			
10.4"	PPC-F10B-BT			
12.1"	PPC-F12B-BT			
15"	PPC-F15B-BT	PPC-F15A-H81	PPC-F15C-Q370	PPC-F15D-ULT5
15.6"			PPC-FW15C-Q370	PPC-FW15D-ULT5
17"	PPC-F17B-BT	PPC-F17A-H81	PPC-F17C-Q370	PPC-F17D-ULT5
18.5"			PPC-FW19C-Q370	PPC-FW19D-ULT5
19"	PPC-F19B-BT			

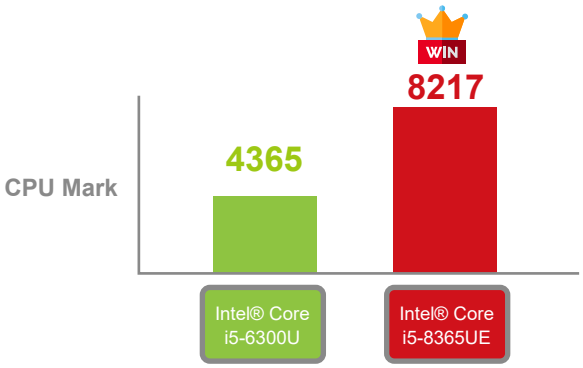
Verticak Market Panel PC

Solutions	Marine Series			UPC Series
Size	Intel® QM87 (PPC)	Monitor	Embedded Box	Intel® Skylake ULT
12”			SBOX-100-QM87	UPC-F12A-ULT3
15”				
19”	S19A-QM87	S19M-AD		

PPC-F-ULT5 Series

8th GEN. Intel® Core™ Mobile Processor

Powered by 8th Generation Intel® Whiskey Lake U-Series Processors, PPC-FxxD-ULT5 Series Panel PC not only delivers improved graphics performance but also supports passive cooling design without fans. In addition, it is equipped with HDMI port, allowing users to easily clone or extend screen to a second monitor.



	Intel® Core™ i5-6300U	Intel® Core™ i5-8365UE
Cores	2	4
Threads	4	8
Process	14nm	14nm
TDP	15W	15W
Cache	3MB	6MB
Base Clock	2.4GHz	1.6GHz
Boost Clock	3.0GHz	4.1GHz

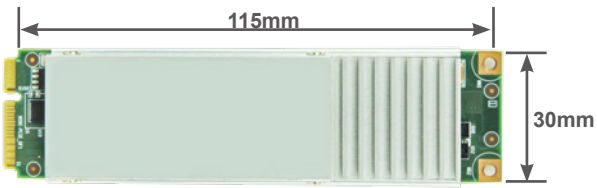
802.3bt PoE PD Supported

The PPC-FxxD-ULT5 industrial Power-over-Ethernet (PoE) modular panel PCs use a totally fanless cooling system and energy efficient CPU for optimal performance. The PoE-powered panel PC has been designed for use in Machine-to-Machine (M2M), Industrial Internet of Things (IIoT), and smart building automation.

PoE technology enables a facility to safely transfer electrical power, along with data, to touchscreen PCs over a standard category 5 cable in an Ethernet network. Thus, the panel PCs do not require modification of existing Ethernet cabling infrastructure and do not require a dedicated power source; making deployment fast, simple, and highly cost-effective. For added convenience and versatility, the PPC-FxxD-ULT5 panel PC with PoE function and P-CAP touchscreen can be mounted in panel, on wall or desktop.

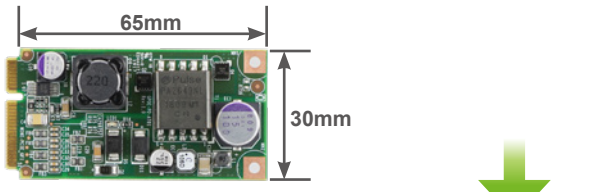
GPOE-PD-BT01-R10

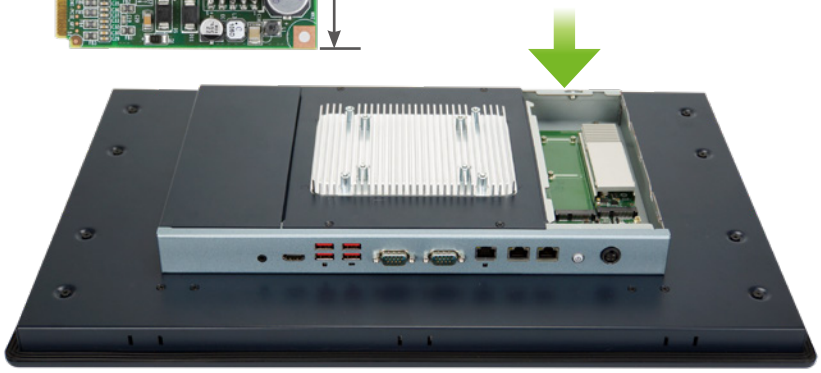
- Support PoE IEEE802.3 af/at/bt
- Support up to 71watt PD
- PCIe Mini form factor (IEI defined pinouts)



GPOE-PD-AT01-R10

- Support PoE IEEE802.3 af/at
- Support up to 25.5watt PD
- PCIe Mini form factor (IEI defined pinouts)





Modular Architecture

High Flexibility

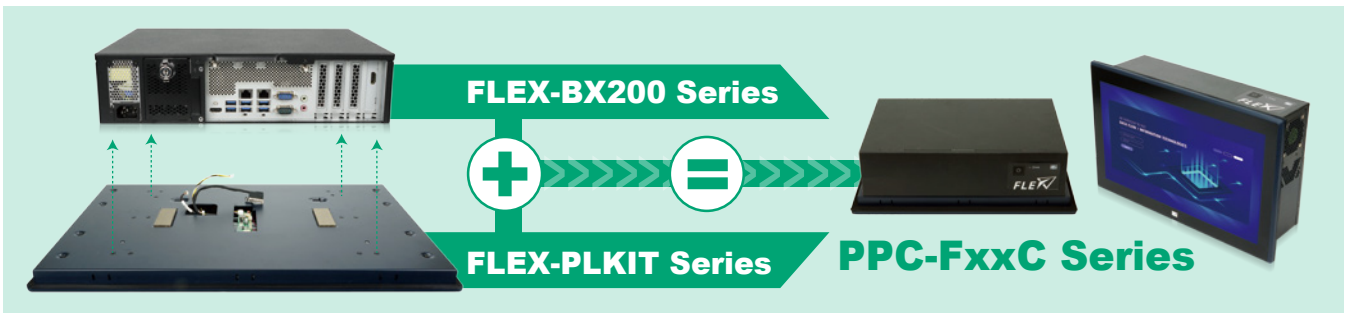
The panel modules (available in 6 sizes) installed on the box PC can be swapped to provide up to 7 platform solutions for diverse applications

Quick Maintenance

The defective module can be separated and replaced with a new module on site; there is no need to unmount the whole system, guaranteeing minimum downtime.

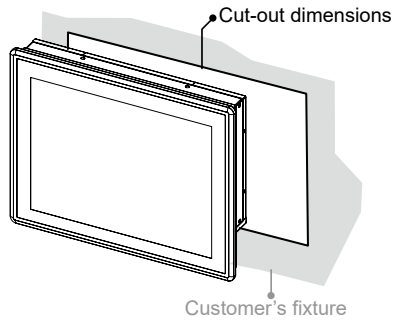
Faster Time to Market

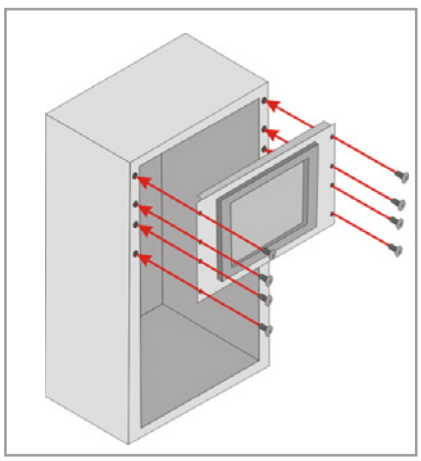
Build the system upon specific hardware (CPU, memory, add-on-card, etc.) requirement with faster time-to-market, reducing total cost of ownership for solution providers.

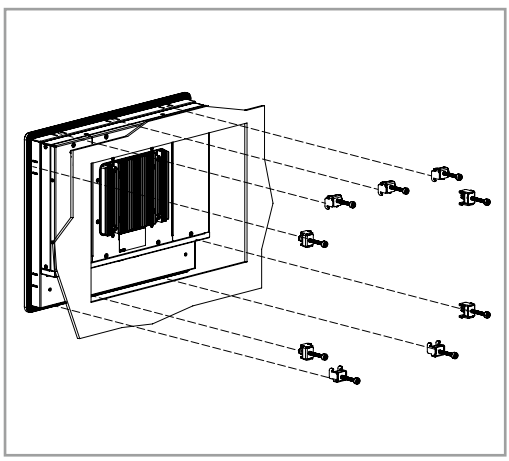


Backward-Compatible with PPC-F series

The cutout size of PPC-FxxD series is backward compatible with PPC-F series in panel mounting. There is no need to build a new fixture to integrate the PPC-FxxD series and it is easy to upgrade the performance from 4th Gen Intel® Core™ to 8th Gen Intel® Core™ with existing fixture.







PPC-F-ULT5 Series Selection Guide

LCD Size		15”	15.6”
Model		PPC-F15D-ULT5	PPC-FW15D-ULT5
TFT LCD	LCD Size	15”	15.6”
	Max. Resolution	1024 x768	1366x768
	Brightness (cd/m²)	450	400
	Contrast Ratio	800:1	500:1
	LCD Color	16.2M	16.2M
	Pixel Pitch (mm)	0.29 x 0.29	0.252 x 0.252
	Viewing Angle (H/V)	160°/150°	170°/160°
	Backlight MTBF (Hrs)	70,000	50,000
Touch Screen	Touchscreen Type	Projected capacitive type with 10-point multitouch and anti-glare coating	
	Touch Controller	EETI EXC3000	
System	CPU	8th Genertion Intel® Core™ i5-8365UE 4.10GHz 8th Genertion Intel® Celeron® 4305UE 2.00GHz	
	Memory	2 x 260-pin 2400 MHz dual-channel DDR4 unbuffered SO-DIMM supporting up to 32GB	
	Graphics Engine	Intel® HD Graphics Gen 9 Engines with 16 low-power execution units, 4K codec decode	
	Ethernet	2 x Intel® I211,1 x Intel® I219	
Storage		2.5” HDD/SSD SATA 6Gb/s bay	
I/O Ports and Switches		4 x USB 3.2 Gen 2 (10Gbps) 1 x HDMI output 1 x RS-232/422/485 1 x RS-232 3 x GbE LAN (2 for PoE PD GbE LAN)	1 x 12V DC jack 1 x Power switch with LED indicator (blue) 1 x AT/ATX switch 1 x Line-out 1 x Reset button
Expansion Slots		1 x NGFF M.2 2230 A Key (PCIe x1, USB signal) 1 x NGFF M.2 2280 M Key (support PCIe 3.0 x4 NVMe) 2 x PoE PD module socket (by IEI pin definition)	
Thermal Solution		Fanless	
Watchdog Timer		Software Programmable support 1~255 sec. system reset	
Construction	Dimensions (mm) (W x H x D)	378.5 x 303 x 75	400.1 x 253.3 x 77.1
	Cutout Dimensions (W x H) (mm)	361.1 x 285.6	379.1 x 232.3
	Net Weight (kg)	6.1	7.1
	Color	PANTONE 296 C	
	Front Frame	Aluminum die-casting	
	Rear Cover	Sheet metal	
	Mounting	Wall mount, Panel mount, Rack mount	
Environmental	Operating Temp.	-10°C ~ 50°C (with air flow)	
	Storage Temp.	-20°C ~ 60°C	
	Humidity	10% ~ 95% (non-condensing)	
	Vibration	5~17Hz, 0.1 double amplitude displacement 17~640Hz 1.5G acceleration peak to peak	
	Shock	10G acceleration part to part (11ms)	
	Safety & EMC	CE / FCC class A	
Power Input		12V DC input	

PPC-F-ULT5 Series Selection Guide

LCD Size		17”	18.5”
Model		PPC-F17D-ULT5	PPC-FW19D-ULT5
TFT LCD	LCD Size	17”	18.5”
	Max. Resolution	1280 x 1024	1366 x 768
	Brightness (cd/m²)	350	400
	Contrast Ratio	1000:1	1000:1
	LCD Color	16.7M	16.7M
	Pixel Pitch (mm)	0.26 x 0.26	0.3 x 0.3
	Viewing Angle (H/V)	170°/160°	170°/160°
	Backlight MTBF (Hrs)	50,000	50,000
Touch Screen	Touchscreen Type	Projected capacitive type with 10-point multitouch and anti-glare coating	
	Touch Controller	EETI EXC3000	
System	CPU	8th Genertion Intel® Core™ i5-8365UE 4.10GHz 8th Genertion Intel® Celeron® 4305UE 2.00GHz	
	Memory	2 x 260-pin 2400 MHz dual-channel DDR4 unbuffered SO-DIMM supporting up to 32GB	
	Graphics Engine	Intel® HD Graphics Gen 9 Engines with 16 low-power execution units, 4K codec decode	
	Ethernet	2 x Intel® I211, 1 x Intel® I219	
Storage		2.5” HDD/SSD SATA 6Gb/s bay	
I/O Ports and Switches		4 x USB 3.2 Gen 2 (10Gbps) 1 x HDMI output 1 x RS-232/422/485 1 x RS-232 3 x GbE LAN (2 for PoE PD GbE LAN)	1 x 12V DC jack 1 x Power switch with LED indicator (blue) 1 x AT/ATX switch 1 x Line-out 1 x Reset button
Expansion Slots		1 x NGFF M.2 2230 A Key (PCIe x1, USB signal) 1 x NGFF M.2 2280 M Key (support PCIe 3.0 x4 NVMe) 2 x PoE PD module socket (by IEI pin definition)	
Thermal Solution		Fanless	
Watchdog Timer		Software Programmable support 1~255 sec. system reset	
Construction	Dimensions (mm) (W x H x D)	408.4 x 341.4 x 75.6	469.8 x 289.2 x 76.9
	Cutout Dimensions (mm)	391 x 324	447.8 x 257.2
	Net Weight (kgs)	7.2	7.3
	Color	PANTONE 296 C	
	Front Frame	Aluminum die-casting	
	Rear Cover	Sheet metal	
	Mounting	Wall mount, Panel mount, Rack mount	
Environmental	Operating Temp.	-10°C ~ 50°C (with air flow)	
	Storage Temp.	-20°C ~ 60°C	
	Humidity	10% ~ 95% (non-condensing)	
	Vibration	5~17Hz, 0.1 double amplitude displacement 17~640Hz 1.5G acceleration peak to peak	
	Shock	10G acceleration part to part (11ms)	
	Safety & EMC	CE / FCC class A	
Power Supply		12V DC input	

PPC-F-ULT5

15”/15.6” Panel PC Based on Intel® Whiskey Lake ULT Processor

Features

- 15”~17” Panel PC with Intel® Whiskey Lake Core™ i5-8365UE, Intel® Celeron® 4305UE
- Low power consumption and fanless design
- IP66-rated front panel for water and dust resistance
- Modular architecture
- VESA 100 mm standard mounting holes for varied mounting demands
- Support PoE PD power
- Support NVMe SSD

Specifications

Model		PPC-F15D-ULT5	PPC-FW15D-ULT5
TFT LCD	LCD Size	15”	15.6”
	Max. Resolution	1024 x 768	1366 x 768
	Brightness (cd/m²)	450	400
	Contrast Ratio	800:1	500:1
	LCD Color	16.2M	16.2M
	Pixel Pitch (mm)	0.29 x 0.29	0.252 x 0.252
	Viewing Angle (H/V)	160°/150°	170°/160°
	Backlight MTBF (Hrs)	70,000	50,000
Touch Screen	Touchscreen Type	Projected capacitive type with 10-point multitouch and anti-glare coating	
	Touch Controller	EETI EXC3000	
System	CPU	8th Genertion Intel® Core™ i5-8365UE 4.10GHz 8th Genertion Intel® Celeron® 4305UE 2.00GHz	
	Memory	2 x 260-pin 2400 MHz dual-channel DDR4 unbuffered SO-DIMM supporting up to 32GB	
	Graphics Engine	Intel® HD Graphics Gen 9 Engines with 16 low-power execution units, 4K codec decode	
	Ethernet	2 x Intel® I211,1 x Intel® I219	
	TPM	On-board TPM2.0	
Storage		2.5” HDD/SSD SATA 6Gb/s bay	
I/O Ports and Switches		4 x USB 3.2 Gen 2 (10Gbps) 1 x HDMI output 1 x RS-232/422/485 1 x RS-232 3 x GbE LAN (2 for PoE PD GbE LAN) 1 x 12V DC jack 1 x Power switch with LED indicator (blue) 1 x AT/ATX switch 1 x Line-out 1 x Reset button	
Expansion Slots		1 x NGFF M.2 2230 A Key (PCIe x1, USB signal) 1 x NGFF M.2 2280 M Key (support PCIe 3.0 x4 NVMe) 2 x PoE PD module socket (by IEI pin definition)	
Thermal Solution		Fanless	
Watchdog Timer		Software Programmable support 1~255 sec. system reset	
Construction	Dimensions (mm) (W x H x D)	378.5 x 303 x 75	400.1 x 253.3 x 77.1
	Cutout Dimensions (W x H) (mm)	361.1 x 285.6	379.1 x 232.3
	Net Weight (kg)	6.1	7.1
	Color	PANTONE 296 C	
	Front Frame	Aluminum die-casting	
	Rear Cover	Sheet metal	
	Mounting	Wall mount, Panel mount, Rack mount	
Environmental	Operating Temp.	-10°C ~ 50°C (with air flow)	
	Storage Temp.	-20°C ~ 60°C	
	Humidity	10% ~ 95% (non-condensing)	
	Vibration	5~17Hz, 0.1 double amplitude displacement 17~640Hz 1.5G acceleration peak to peak	
	Shock	10G acceleration part to part (11ms)	
	Safety & EMC	CE / FCC class A	
Power Input		12V DC input	

PPC-F-ULT5

17”/18.5” Panel PC Based on Intel® Whiskey Lake ULT Processor

Features

- 17”~18.5” Panel PC with Intel® Whiskey Lake Core™ i5-8365UE, Intel® Celeron® 4305UE
- Low power consumption and fanless design
- IP66-rated front panel for water and dust resistance
- Modular architecture
- VESA 100 mm standard mounting holes for varied mounting demands
- Support PoE PD power
- Support NVMe SSD

Specifications

Model		PPC-F17D-ULT5	PPC-FW19D-ULT5
TFT LCD	LCD Size	17”	18.5”
	Max. Resolution	1280 x 1024	1366 x 768
	Brightness (cd/m²)	350	400
	Contrast Ratio	1000:1	1000:1
	LCD Color	16.7M	16.7M
	Pixel Pitch (mm)	0.26 x 0.26	0.3 x 0.3
	Viewing Angle (H/V)	170°/160°	170°/160°
	Backlight MTBF (Hrs)	50,000	50,000
Touch Screen	Touchscreen Type	Projected capacitive type with 10-point multitouch and anti-glare coating	
	Touch Controller	EETI EXC3000	
System	CPU	8th Genertion Intel® Core™ i5-8365UE 4.10GHz 8th Genertion Intel® Celeron® 4305UE 2.00GHz	
	Memory	2 x 260-pin 2400 MHz dual-channel DDR4 unbuffered SO-DIMM supporting up to 32GB	
	Graphics Engine	Intel® HD Graphics Gen 9 Engines with 16 low-power execution units, 4K codec decode	
	Ethernet	2 x Intel® I211, 1 x Intel® I219	
	TPM	On-board TPM2.0	
Storage		2.5” HDD/SSD SATA 6Gb/s bay	
I/O Ports and Switches		4 x USB 3.2 Gen 2 (10Gbps) 1 x HDMI output 1 x RS-232/422/485 1 x RS-232 3 x GbE LAN (2 for PoE PD GbE LAN) 1 x 12V DC jack 1 x Power switch with LED indicator (blue) 1 x AT/ATX switch 1 x Line-out 1 x Reset button	
Expansion Slots		1 x NGFF M.2 2230 A Key (PCIe x1, USB signal) 1 x NGFF M.2 2280 M Key (support PCIe 3.0 x4 NVMe) 2 x PoE PD module socket (by IEI pin definition)	
Thermal Solution		Fanless	
Watchdog Timer		Software Programmable support 1~255 sec. system reset	
Construction	Dimensions (mm) (W x H x D)	408.4 x 341.4 x 75.6	469.8 x 289.2 x 76.9
	Cutout Dimensions (mm)	391 x 324	447.8 x 257.2
	Net Weight (kgs)	7.2	7.3
	Color	PANTONE 296 C	
	Front Frame	Aluminum die-casting	
	Rear Cover	Sheet metal	
	Mounting	Wall mount, Panel mount, Rack mount	
Environmental	Operating Temp.	-10°C ~ 50°C (with air flow)	
	Storage Temp.	-20°C ~ 60°C	
	Humidity	10% ~ 95% (non-condensing)	
	Vibration	5~17Hz, 0.1 double amplitude displacement 17~640Hz 1.5G acceleration peak to peak	
	Shock	10G acceleration part to part (11ms)	
	Safety & EMC	CE / FCC class A	
Power Supply		12V DC input	

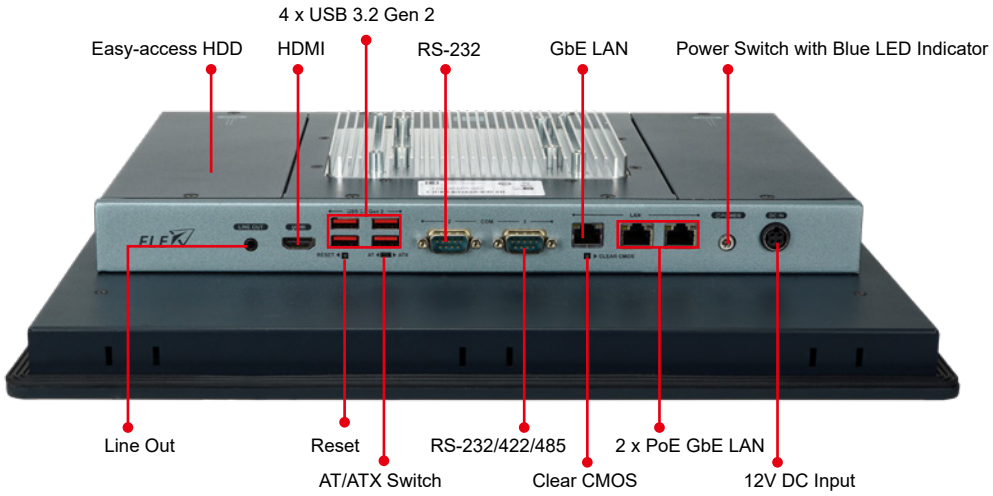
Ordering Information

Part No.		Description
15”	PPC-F15D-ULT5-i5/4G/PC-R10	15” 450 cd/m² 1024 x 768 Panel PC with 14nm 8th gen. Intel® Whiskey Lake Core™ i5-8365UE TDP 15W on-board Processor (ULT), 4GB DDR4 RAM x1, 12VDC input, PCAP touch with AG, R10
	PPC-F15D-ULT5-C/4G/PC-R10	15” 450 cd/m² 1024 x 768 Panel PC with 14nm 8th gen. Intel® Whiskey Lake Celeron® 4305UE TDP 15W on-board Processor (ULT), 4GB DDR4 RAM x1, 12VDC input, PCAP touch with AG, R10
15.6”	PPC-FW15D-ULT5-i5/4G/PC-R10	15.6” 400 cd/m² 1366 x 768 Panel PC with 14nm 8th gen. Intel® Whiskey Lake Core™ i5-8365UE TDP 15W on-board Processor (ULT), 4GB DDR4 RAM x1, 12VDC input, PCAP touch with AG, R10
	PPC-FW15D-ULT5-C/4G/PC-R10	15.6” 400 cd/m² 1366 x 768 Panel PC with 14nm 8th gen. Intel® Whiskey Lake Celeron® 4305UE TDP 15W on-board Processor (ULT), 4GB DDR4 RAM x1, 12VDC input, PCAP touch with AG, R10
17”	PPC-F17D-ULT5-i5/4G/PC-R10	17” 350 cd/m² 1280 x 1024 Panel PC with 14nm 8th gen. Intel® Whiskey Lake Core™ i5-8365UE TDP 15W on-board Processor (ULT), 4GB DDR4 RAM x1, 12VDC input, PCAP touch with AG, R10
	PPC-F17D-ULT5-C/4G/PC-R10	17” 350 cd/m² 1280 x 1024 Panel PC with 14nm 8th gen. Intel® Whiskey Lake Celeron® 4305UE TDP 15W on-board Processor (ULT), 4GB DDR4 RAM x1, 12VDC input, PCAP touch with AG, R10
18.5”	PPC-FW19D-ULT5-i5/4G/PC-R10	18.5” 400 cd/m² 1366 x 768 Panel PC with 14nm 8th gen. Intel® Whiskey Lake Core™ i5-8365UE TDP 15W on-board Processor (ULT), 4GB DDR4 RAM x1, 12VDC input, PCAP touch with AG, R10
	PPC-FW19D-ULT5-C/4G/PC-R10	18.5” 400 cd/m² 1366 x 768 Panel PC with 14nm 8th gen. Intel® Whiskey Lake Celeron® 4305UE TDP 15W on-board Processor (ULT), 4GB DDR4 RAM x1, 12VDC input, PCAP touch with AG, R10

Options

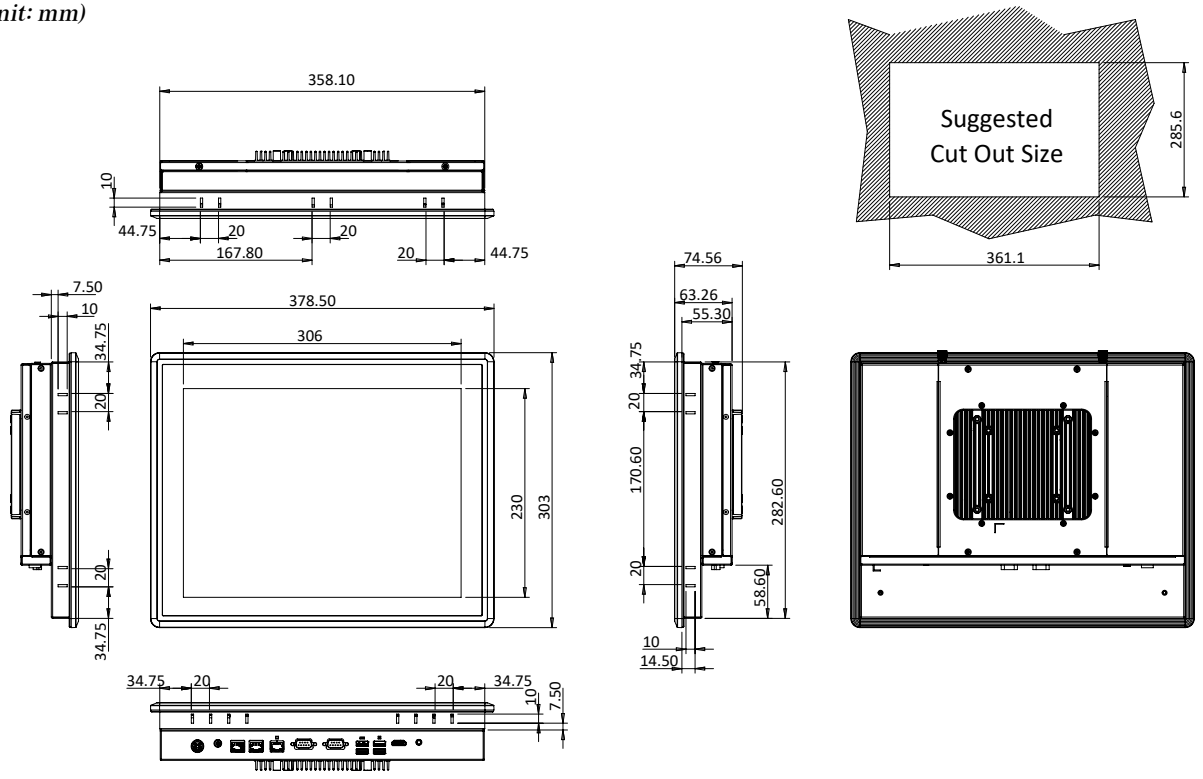
Item	PPC-F15D	PPC-FW15D	PPC-F17D	PPC-FW19D
Arm	ARM-31-RS			
Stand	SAND-A21-R10 STAND-C19-R10			
Wall Mount Kit	WK-190MS-R10			
Panel Mount Kit	FPK-12-R10	FPK-14-R10	FPK-13-R10	FPK-13-R10
Rack Mount Kit	FRK15C-R10	FRKW15C-R10	FRK17C-R10	FRKW19C-R10
PoE PD Kit	GPOE-PD-AT01-R10 (PoE IEEE802.3 af/at, 25.5W) GPOE-PD-BT01-R10 (PoE IEEE802.3 af/at/bt, 71W)			

Fully Integrated I/O



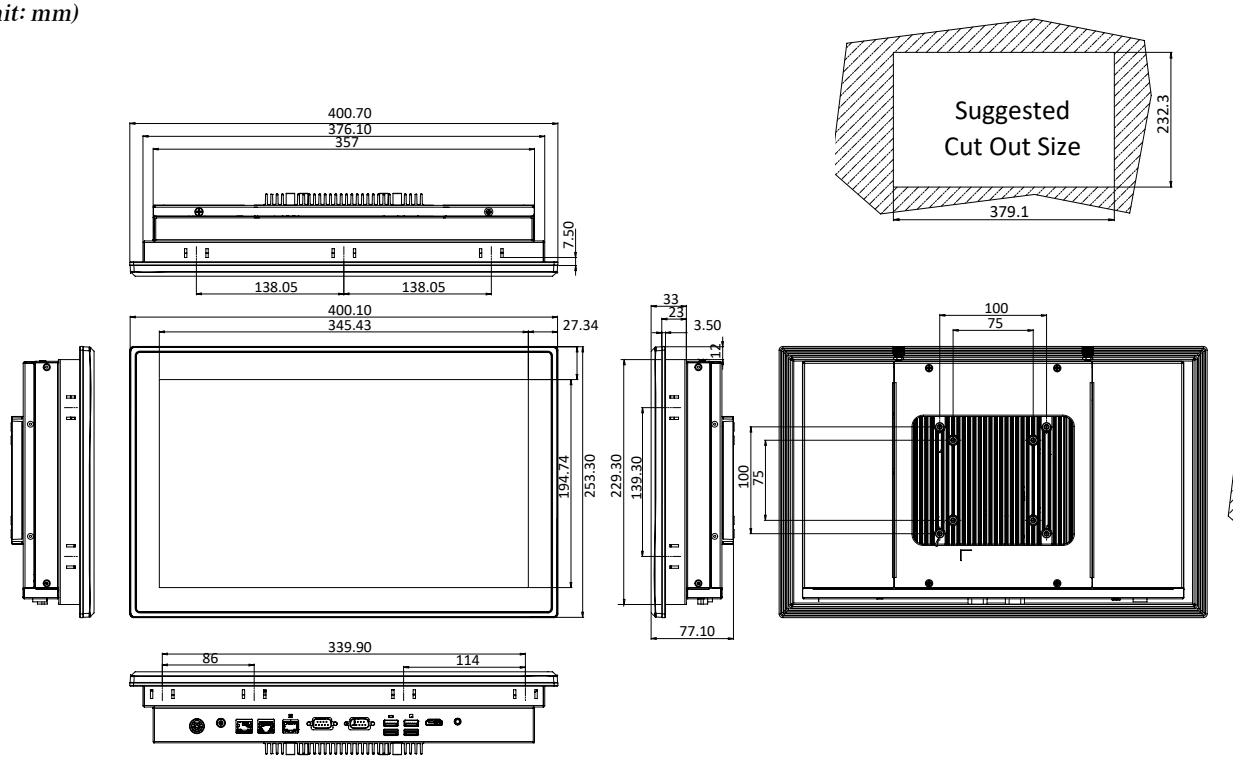
PPC-F15D-ULT5 Dimensions

(Unit: mm)



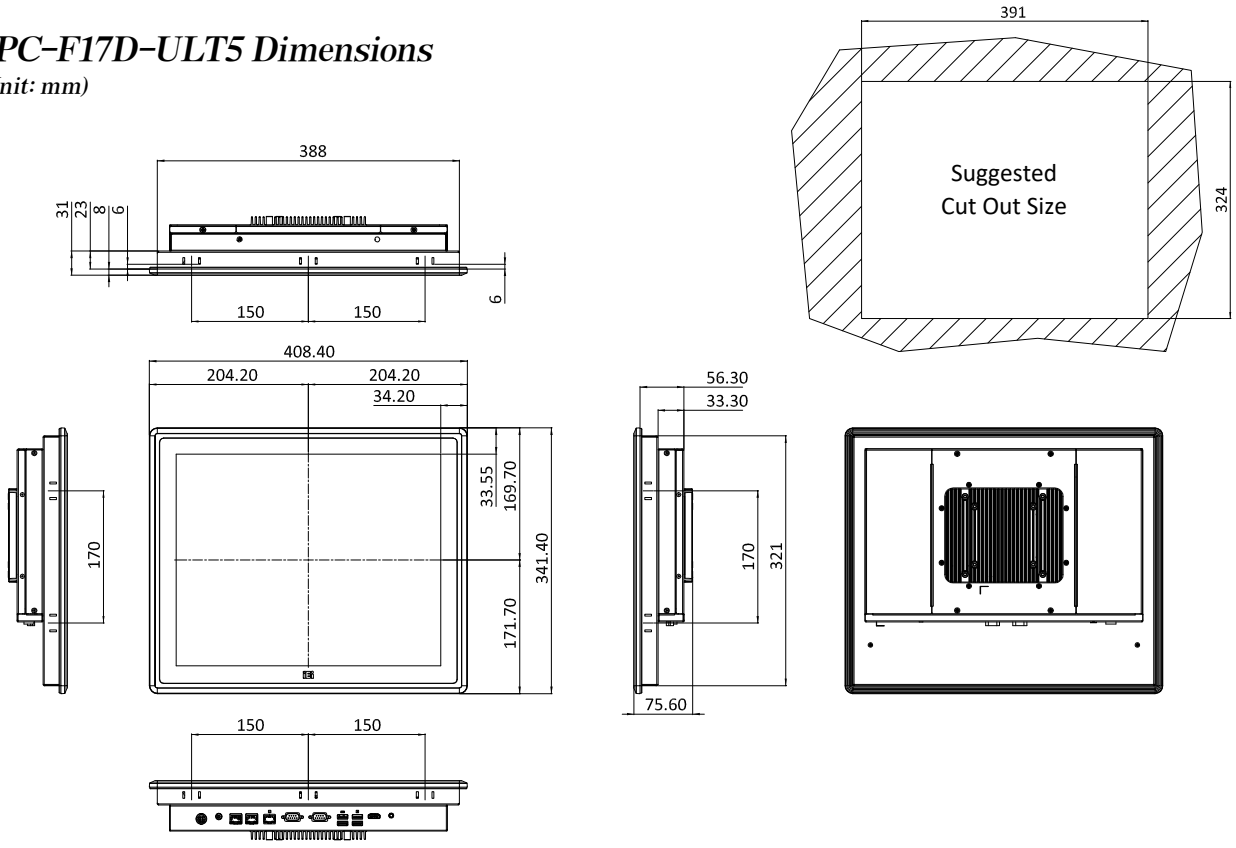
PPC-FW15D-ULT5 Dimensions

(Unit: mm)



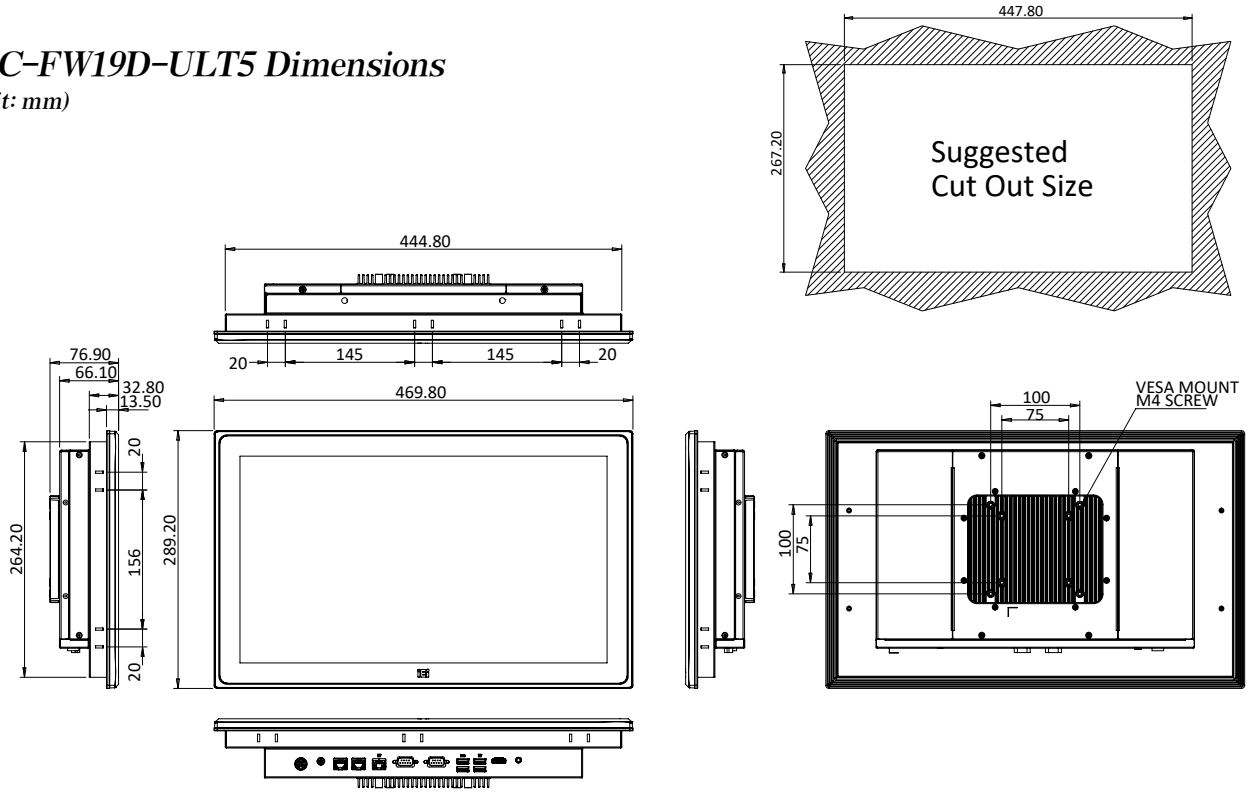
PPC-F17D-ULT5 Dimensions

(Unit: mm)



PPC-FW19D-ULT5 Dimensions

(Unit: mm)



PPC-F-Q370 Series

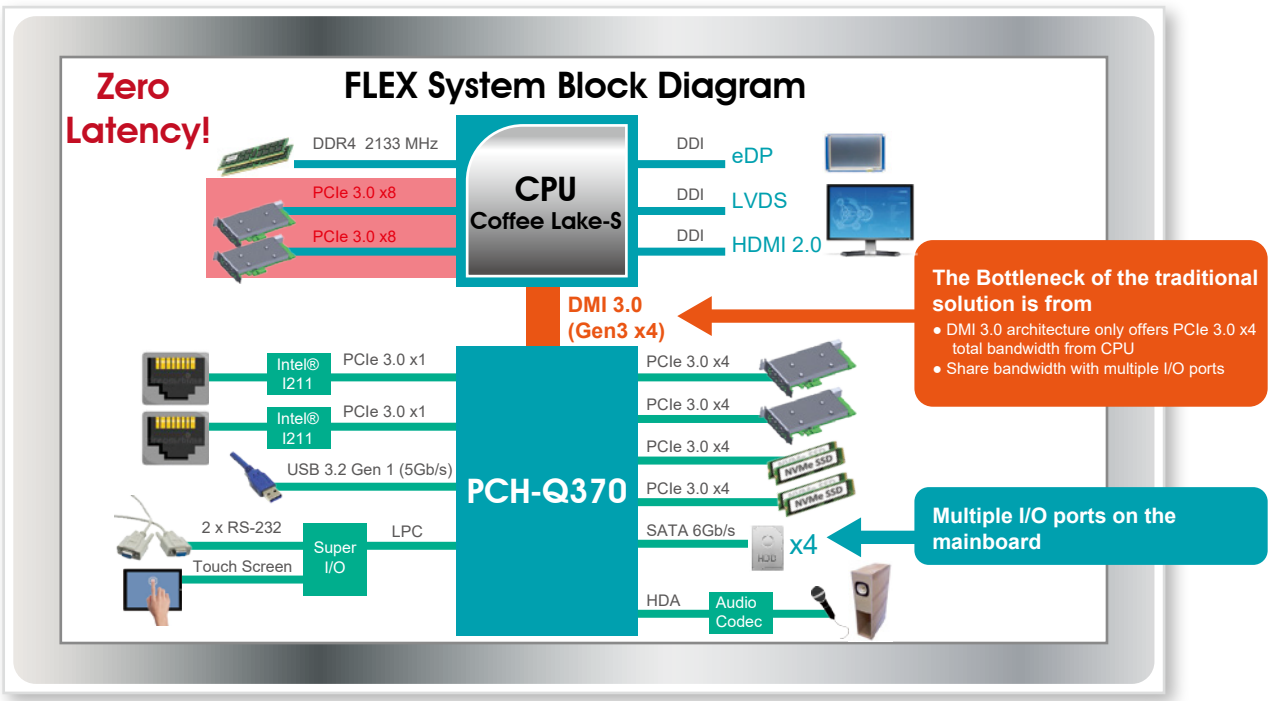
8th, 9th Generation Intel® Core™ Desktop Processors

IEI FLEX series adopts the 8th, 9th Generation Intel® Core™ desktop processor, of which the Core i7 is moving to six cores with Hyper Threading, Core i5 is moving to six cores, and Core i3 is moving to four cores. The equipped LGA 1151 socket supports a wide range of performance options up to 65W TDP processors. The dual DDR4 DIMM slots with more direct trace routes support up to 64GB of memory.

CPU Generation	P/N	Lithography	# of Cores	# of Threads	Frequency	TDP
8th Gen. Intel® Coffee Lake	i7-8700T	14nm	6	12	2.40GHz	35W
	i5-8500	14nm	6	6	3.0GHz	65W
	i5-8500T	14nm	6	6	2.10GHz	35W
	i3-8100T	14nm	4	4	2.40GHz	35W
	P-G5400T	14nm	2	4	3.10GHz	35W
7th Gen. Intel® Kaby Lake	i7-7700T	14nm	4	8	2.90GHz	35W
	i5-7500T	14nm	4	4	2.70GHz	35W
	i3-7100T	14nm	2	4	3.40GHz	35W
	C-G4900T	14nm	2	2	2.9GHz	35W

Breakthrough the Bottleneck of DMI 3.0

The signal of the two PCIe 3.0 by 8 slots directly connect to CPU instead of DMI 3.0 channel. By doing this, the PCIe 3.0 x8 add-on cards can run with lower latency and achieve complete AI card performance.

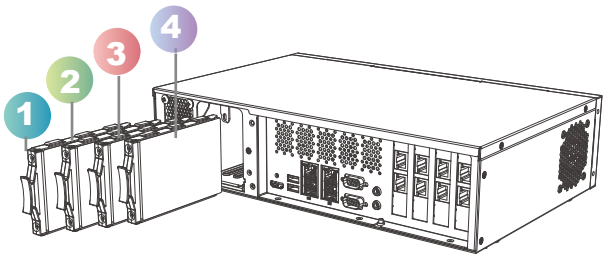


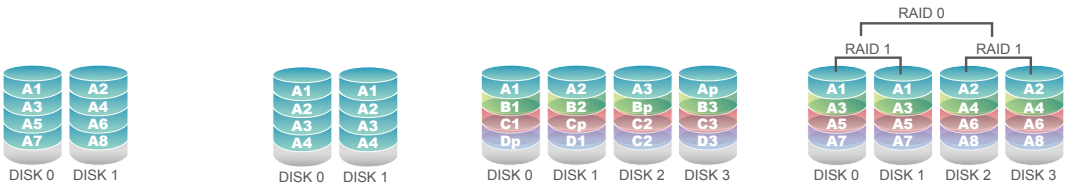
4-Bay Hot-Swappable HDD RAID 0/1/5/10 Protection

The FLEX series offers four 2.5”HDD bays with high speed SATA 6Gb/s interface that can expand storage capabilities and enable fast data transfers. The equipped Intel Q370 chipset provides reliable and high performance hardware RAID protection to back-up your media and critical information. You can configure the RAID 0/1/5/10 from the BIOS menu to increase performance and/or provide automatic protection against data loss from drive failure.

What type of RAID do I need?

- RAID 0 (Striping) -The highest performing level
- RAID 1 (Mirroring) -Data safety
- RAID 5 (Distributed Parity)-offers both data safety and performance
- RAID 10 (combining mirroring and striping) data safety and big data volume





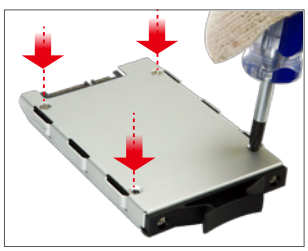
Features	RAID 0	RAID 1	RAID 5	RAID 10
Minimum # Drives	2	2	3	4
Data Protection	No	Single-drive failure	Single-drive failure	Up to one disk failure in each sub-array
Capacity Utilization	100%	50%	67%-94%	50%
Typical Application	High end workstations, data logging, real-time rendering, very transitory data	Operating system, transaction database	Data warehousing, web serving, archiving	Fast databases, applictaion servers

Secured and Strong HDD Bays

STEP 1
Unlock the HDD cover with the secured key

STEP 2
Open the HDD cover and you will see four drive trays

STEP 3
Pull out one of the drive trays

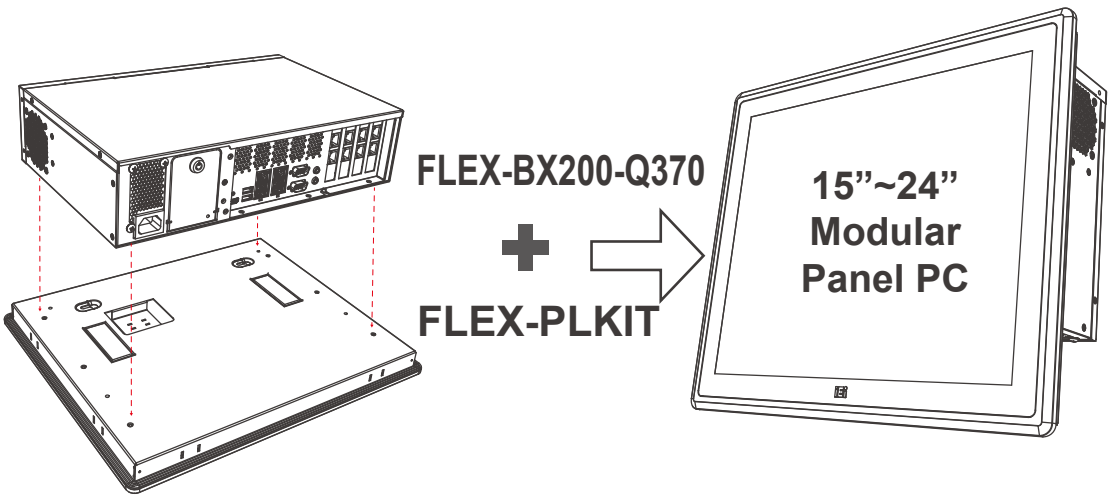


STEP 4
Mount the 2.5” SATA HDD /SSD on to the mounting bracket with 4 screws on the bottom of the drive enclosure

STEP 5
Slide the hard drive together with the bracket till the drive is fully inserted into the SATA connector

Modular Architecture

- Cut-out dimensions are backward compatible to PPC-F series, easy to upgrade your existing project
- More than 12 SKUs by various monitor choices: 15"/17"/15.6"/18.5"/22"/24"
- PCAP touch screen
- 250W/350W DC power supply
- Easy assembly and maintenance
- One-stop shopping and building your own system to accelerate time to market

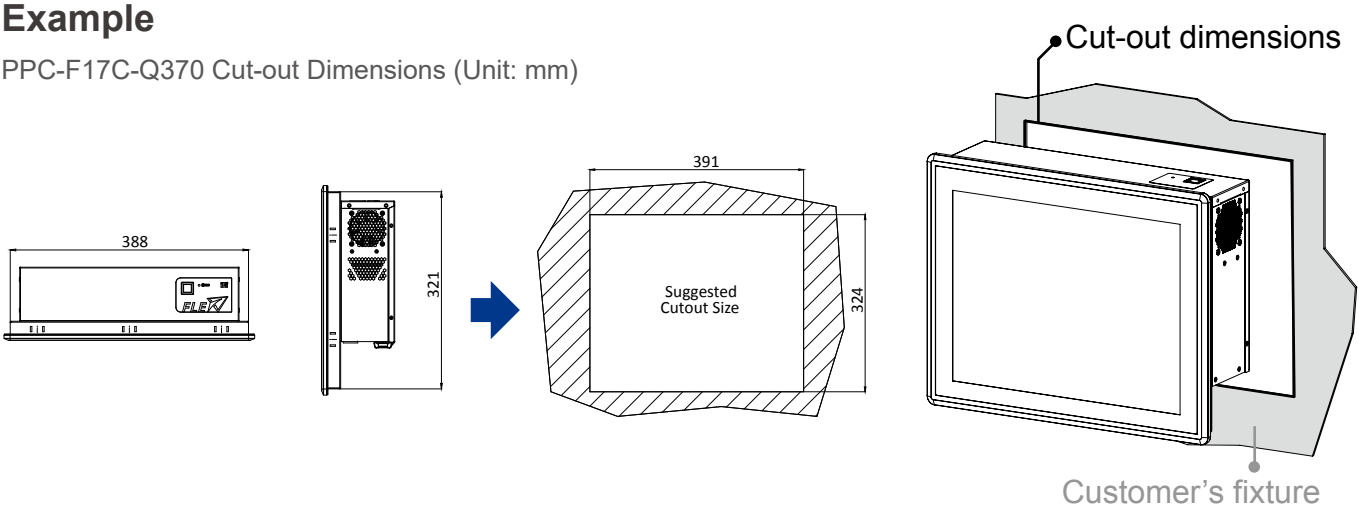


Backward Compatible with PPC-F-Q370 Series

The cutout size of the PPC-FxxC series is backward compatible with the previous PPC-F series in panel mounting. There is no need to build a new fixture for the PPC-FxxC series, making it easy to upgrade the performance from 4th Gen. Intel® Core™ to 8th Gen. Intel® Core™ with the existing fixture.

Example

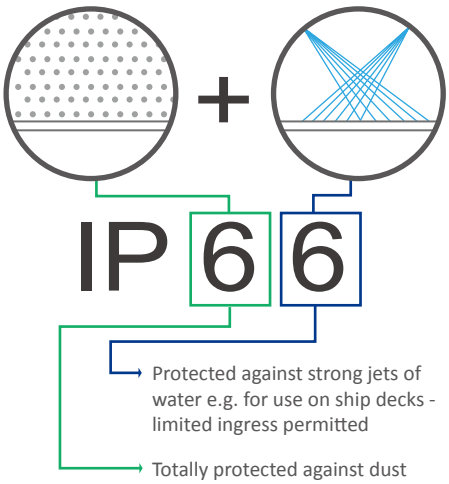
PPC-F17C-Q370 Cut-out Dimensions (Unit: mm)



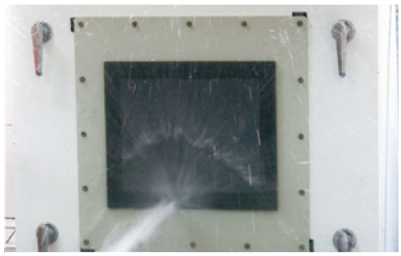
IP66 Front Panel Protection

PPC-FxxC series provides front mechanical IP dust and water resistant design. The sealing concept of PPC-FxxC contains the following product sealing to offer rugged IP66 front protection:

- PCAP touchscreen to front aluminum bezel with waterproof glue dispensing
- Internal dust sealing poron from LCD to the touchscreen
- Rubber sealing for mounting to the equipment



Test for protection against dust



Test for protection against water

Anti-glare and UV-resistant Touch Screen Ideal for Outdoor Applications

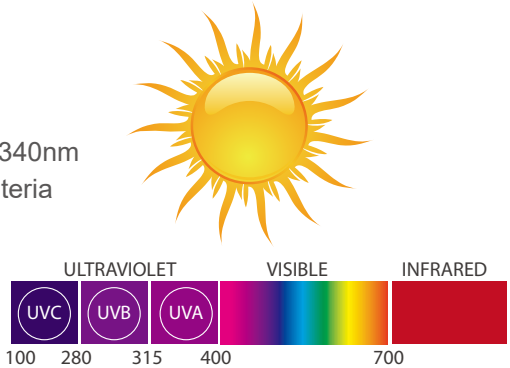
Etching anti-glare, never peel off!

The PPC-FxxC series is built with anti-glare touch screen, which has lower reflection compared to normal touch screen. The reflection will reduce from 8% to 1% and it will eliminate the interference of shine and lights on displays and improve the screen clarity.

UV-resistant ensures reliable continuous operation for mission critical applications

Outdoor applications exposing to direct sunlight and long-term ultraviolet (UV) light will affect PCAP panel appearance such as PCAP top glass hard coat cracking and hazing, or varying degrees of yellowing and bubbling. Thus, IEI offers a UV resistant PCAP touch solution to equip outdoor industrial systems exposed to direct long-term sunlight with anti-UV characteristics.

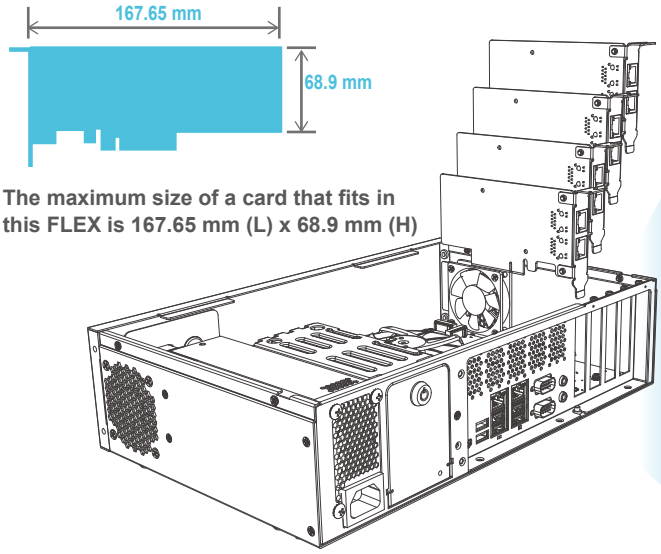
- Blocks UV wavelengths less than ≈340nm
- Meets ASTM G154 performance criteria Cycle 1 for 1000 hours



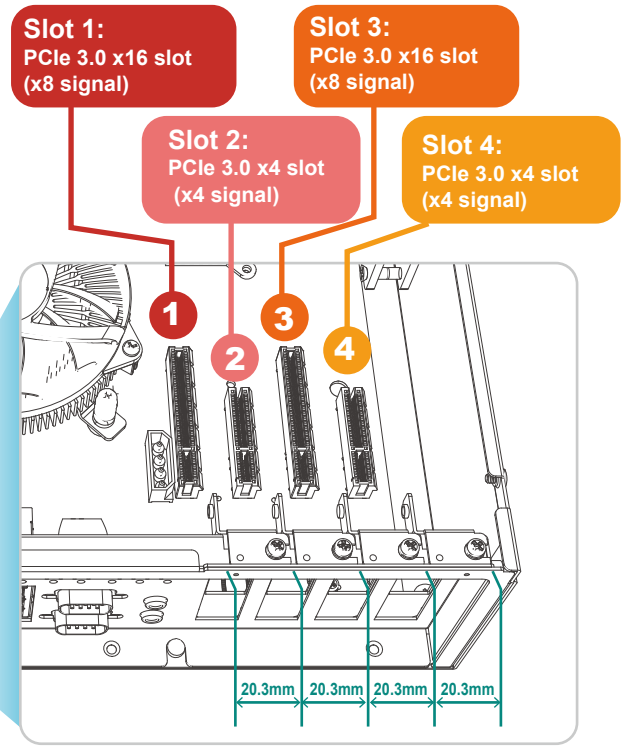
Four PCIe x4/x8 Low Profile Expansion Slots

The PPC-FxxC series supports multiple PCIe slots including two PCIe 3.0 x8 and two PCIe 3.0 x4 slots, which are compatible with standard low profile add-on cards, to meet different edge inference computing applications.

- **High Speed:** 10GbE card, fiber network card
- **I/O card:** Serial port card, USB card, LAN card, etc.
- **AI accelerating card:** VPU card, FPGA, GPU card, etc.
- **Wireless card:** Wi-Fi card, mobile wireless card, etc.
- **Storage card**



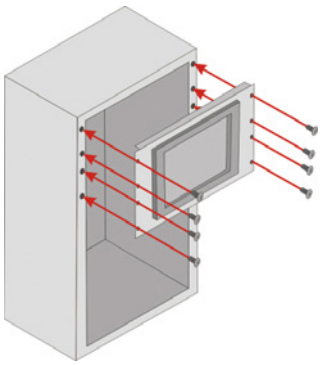
The maximum size of a card that fits in this FLEX is 167.65 mm (L) x 68.9 mm (H)



Flexible Deployment

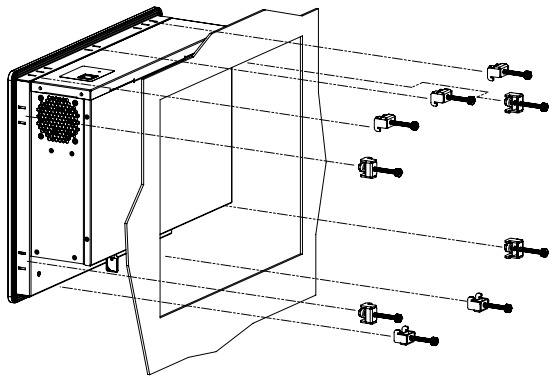
Rack Mount

The PPC-FxxC with rack mounting kit can easily fit the standard 19" cabinet for industrial applications.



Panel Mount

Panel mounting is the mounting way that mounts product into an opening of a customer's fixture from the front and secured from the rear. All user controls are located on the rear of the mechanism, making the panel mount displays a good choice for applications requiring a display with no external or exposed controls such as CNC equipment, gaming, casino system, ATM, and kiosk.



PPC-F-Q370 Series Selection Guide

LCD Size		15”	W15”
Model		PPC-F15C-Q370	PPC-FW15C-Q370
TFT LCD	LCD Size	15”	15.6"
	Max. Resolution	1024x768	1366x768
	Brightness (cd/m²)	450	400
	Contrast Ratio	800:1	500:1
	LCD Color	16.2M	16.2M
	Viewing Angle (H/V)	160°/150°	170°/160°
	Backlight MTBF (Hrs)	70,000	50,000
Touch Screen		PCAP touch with 10-point multitouch, anti-glare coating	
Mainboard	CPU	8th Generation Intel® Core™ i7/i5/i3 and Pentium® processor in the LGA 1151 package	
	Chipset	Intel® Q370 Chipset	
	Memory	2 x 288-pin 2666/2400 MHz dual-channel DDR4 unbuffered DIMM slot supporting up to 64GB	
	Graphics Engine	Intel® HD Graphics Gen 9 Engines with 16 low-power execution units, supports DX2015, OpenGL 5.X and OpenCL 2 x, ES 2.0	
	Ethernet	Intel® I211 & I219 controller	
Storage		(1) 4 x Accessible 2.5” SATA 6Gb/s HDD/SSD bay (RAID 0/1/5/10 support) with LED indicator (2) 2 x M.2 2280 PCIe Gen 3.0 x4 NVMe™ SSD socket	
I/O Ports and Switches		1 x HDMI output 2 x GbE LAN 6 x USB 3.2 Gen 1 (5Gb/s) Type-A 2 x RS-232 DB-9 type 1 x Mic in	1 x Line out 1 x AC power in Inlet Power button with power LED (power on=Blue) AT/ATX mode switch Reset button
Expansion Slots		2 x PCIe 3.0 by 8 (by 16 slot) 2 x PCIe 3.0 by 4 (maximum card size supported: 68 mm x 167 mm) 1 x NGFF M.2 (2230) A Key socket (support Wi-Fi) 1 x NGFF M.2 (3042) B Key socket (support WWAN wits SIM slot)	
Thermal Solution		Smart Fan	
Power Supply		AC input ATX power supply 1. 250W power supply - Input: 115VAC~230VAC, 50/60Hz - Output (max.): 3.3V@12A, 5V@14A, 12V@25A, -12V@0.3A,+5Vsb@3A 2. 350W power supply (Build to Order) - Input: 115VAC~264VAC, 50/60Hz - Output (max.): 3.3V@14A, 5V@16A, 12V@29A, -12V@0.3A,+5Vsb@3A -Efficiency: Full load (100%) 87%, Typical load (50%) 90%, Light load (20%) 87%	
Watchdog Timer		Software Programmable support 1~255 sec. system reset	
Construction	IP Rating	IP66-rated front panel	
	Chassis Construction	Metal Housing	
	Mounting	Rack/Panel Mount	
	Color	Front Bezel : Cyan-blue (PSM 296C), Others: Black C	
	Cut-out dimensions (LxDxH) (mm)	361.1 x 285.6	379.1 x 232.3
	Dimensions (LxDxH) (mm)	378.5 x 303 x 118	400.1 x 253.3 x 121
Environmental	Operating Temperature	-20°C ~ 50°C (with SSD and up to TDP 65W processor) -20°C ~ 40°C (with HDD or add-on cards without fan)	
	Storage Temperature	-30°C ~ 60°C	
	Operating Humidity	5% ~95%, non-condensing	
	Vibration	5~17Hz, 0.1 double amplitude displacement 17~640Hz 1.5G acceleration peak to peak	
	Shock	10G acceleration part to part (11ms)	

PPC-F-Q370 Series Selection Guide

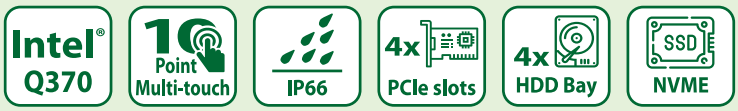
LCD Size		17”	18.5”
Model		PPC-F17C-Q370	PPC-FW19C-Q370
TFT LCD	LCD Size	17”	18.5"
	Max. Resolution	1280x1024	1366x768
	Brightness (cd/m²)	350	400
	Contrast Ratio	1000:1	1000:1
	LCD Color	16.7M	16.7M
	Viewing Angle (H/V)	170°/160°	170°/160°
	Backlight MTBF (Hrs)	50,000	50,000
Touch Screen		PCAP touch with 10-point multitouch, anti-glare coating	
Mainboard	CPU	8th Generation Intel® Core™ i7/i5/i3 and Pentium® processor in the LGA 1151 package	
	Chipset	Intel® Q370 Chipset	
	Memory	2 x 288-pin 2666/2400 MHz dual-channel DDR4 unbuffered DIMM slot supporting up to 64GB	
	Graphics Engine	Intel® HD Graphics Gen 9 Engines with 16 low-power execution units, supports DX2015, OpenGL 5.X and OpenCL 2 x, ES 2.0	
	Ethernet	Intel® I211 & I219 controller	
Storage		(1) 4 x Accessible 2.5” SATA 6Gb/s HDD/SSD bay (RAID 0/1/5/10 support) with LED indicator (2) 2 x M.2 2280 PCIe Gen 3.0 x4 NVMe™ SSD socket	
I/O Ports and Switches		1 x HDMI output 2 x GbE LAN 6 x USB 3.2 Gen 1 (5Gb/s) Type-A 2 x RS-232 DB-9 type 1 x Mic in	1 x Line out 1 x AC power in Inlet Power button with power LED (power on=Blue) AT/ATX mode switch Reset button
Expansion Slots		2 x PCIe 3.0 by 8 (by 16 slot) 2 x PCIe 3.0 by 4 (maximum card size supported: 68 mm x 167 mm) 1 x NGFF M.2 (2230) A Key socket (support Wi-Fi) 1 x NGFF M.2 (3042) B Key socket (support WWAN wits SIM slot)	
Thermal Solution			Smart Fan
Power Supply		AC input ATX power supply 1. 250W power supply - Input: 115VAC~230VAC, 50/60Hz - Output (max.): 3.3V@12A, 5V@14A, 12V@25A, -12V@0.3A,+5Vsb@3A 2. 350W power supply (Build to Order) - Input: 115VAC~264VAC, 50/60Hz - Output (max.): 3.3V@14A, 5V@16A, 12V@29A, -12V@0.3A,+5Vsb@3A -Efficiency: Full load (100%) 87%, Typical load (50%) 90%, Light load (20%) 87%	
Watchdog Timer		Software Programmable support 1~255 sec. system reset	
Construction	IP Rating	IP66-rated front panel	
	Chassis Construction	Metal Housing	
	Mounting	Rack/Panel Mount	
	Color	Front Bezel : Cyan-blue (PSM 296C), Others: Black C	
	Cut-out dimensions (LxDxH) (mm)	391 x 324	447.8 x 267.2
	Dimensions (LxDxH) (mm)	408.4 x 341.4 x 119	469.8 x 289.2 x 120.8
Environmental	Operating Temperature	-20°C ~ 50°C (with SSD and up to TDP 65W processor) -20°C ~ 40°C (with HDD or add-on cards without fan)	
	Storage Temperature	-30°C ~ 60°C	
	Operating Humidity	5% ~95%, non-condensing	
	Vibration	5~17Hz, 0.1 double amplitude displacement 17~640Hz 1.5G acceleration peak to peak	
	Shock	10G acceleration part to part (11ms)	

PPC-F-Q370 Series

15”/15.6” AI Ready Panel PC Based on Intel® OpenVINO™ toolkit

Features

- 15”/15.6” Panel PC with 8th/9th Generation LGA 1151 Intel® Core™ i7/i5/i3 and Pentium® processor
- Four hot-swappable and accessible HDD drive bays, support RAID 0/1/5/10
- Two PCIe 3.0 by 4 and two PCIe 3.0 by 8 slots
- M.2 2280 PCIe Gen 3.0 x4 NVMe™ SSD support



Specifications

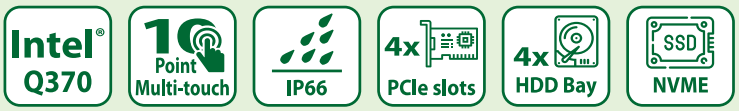
Model		PPC-F15C-Q370	PPC-FW15C-Q370
TFT LCD	LCD Size	15”	15.6"
	Max. Resolution	1024x768	1366x768
	Brightness (cd/m²)	450	400
	Contrast Ratio	800:1	500:1
	LCD Color	16.2M	16.2M
	Viewing Angle (H/V)	160°/150°	170°/160°
	Backlight MTBF (Hrs)	70,000	50,000
Touch Screen		PCAP touch with 10-point multitouch, anti-glare coating	
Mainboard	CPU	8th/9th Generation Intel® Core™ i7/i5/i3 and Pentium® processor in the LGA 1151 package	
	Chipset	Intel® Q370 Chipset	
	Memory	2 x 288-pin 2666/2400 MHz dual-channel DDR4 unbuffered DIMM slot supporting up to 64GB	
	Graphics Engine	Intel® HD Graphics Gen 9 Engines with 16 low-power execution units, supports DX2015, OpenGL 5.X and OpenCL 2 x, ES 2.0	
	Ethernet	Intel® I211 & I219 controller	
Storage		(1) 4 x Accessible 2.5” SATA 6Gb/s HDD/SSD bay (RAID 0/1/5/10 support) with LED indicator (2) 1 x M.2 2280 PCIe Gen 3.0 x4 NVMe™ SSD socket	
I/O Ports and Switches		1 x HDMI output 2 x GbE LAN 6 x USB 3.2 Gen 1 (5Gb/s) Type-A 2 x RS-232 DB-9 type 1 x Mic in	1 x Line out 1 x AC power in Inlet Power button with power LED (power on=Blue) AT/ATX mode switch Reset button
Expansion Slots		2 x PCIe 3.0 by 8 (by 16 slot) 2 x PCIe 3.0 by 4 (maximum card size supported: 68 mm x 167 mm) 1 x NGFF M.2 (2230) A Key socket (support Wi-Fi) 1 x NGFF M.2 (3042) B Key socket (support WWAN wits SIM slot)	
Thermal Solution		Smart Fan	
Power Supply		AC input ATX power supply 1. 250W power supply - Input: 115VAC~230VAC, 50/60Hz - Output (max.): 3.3V@12A, 5V@14A, 12V@25A, -12V@0.3A,+5Vsb@3A 2. 350W power supply (Build to Order) - Input: 115VAC~264VAC, 50/60Hz - Output (max.): 3.3V@14A, 5V@16A, 12V@29A, -12V@0.3A,+5Vsb@3A -Efficiency: Full load (100%) 87%, Typical load (50%) 90%, Light load (20%) 87%	
Watchdog Timer		Software Programmable support 1~255 sec. system reset	
Construction	IP Rating	IP66-rated front panel	
	Chassis Construction	Metal Housing	
	Mounting	Rack/Panel Mount	
	Color	Front Bezel : Cyan-blue (PSM 296C), Others: Black C	
	Cut-out dimensions (LxDxH) (mm)	361.1 x 285.6	379.1 x 232.3
	Dimensions (LxDxH) (mm)	378.5 x 303 x 118	400.1 x 253.3 x 121
Environmental	Operating Temperature	-20°C ~ 50°C (with SSD and up to TDP 65W processor) -20°C ~ 40°C (with HDD or add-on cards without fan)	
	Storage Temperature	-30°C ~ 60°C	
	Operating Humidity	5% ~95%, non-condensing	
	Vibration	5~17Hz, 0.1 double amplitude displacement 17~640Hz 1.5G acceleration peak to peak	
	Shock	10G acceleration part to part (11ms)	
	Safety and EMC	CE & FCC Class A certified	

PPC-F-Q370 Series

17”/18.5” AI Ready Panel PC Based on Intel® OpenVINO™ toolkit

Features

- 17”/18.5" Panel PC with 8th/9th Generation LGA 1151 Intel® Core™ i7/i5/i3 and Pentium® processor
- Four hot-swappable and accessible HDD drive bays, support RAID 0/1/5/10
- Two PCIe 3.0 by 4 and two PCIe 3.0 by 8 slots
- M.2 2280 PCIe Gen 3.0 x4 NVMe™ SSD support



Specifications

Model		PPC-F17C-Q370	PPC-FW19C-Q370
TFT LCD	LCD Size	17”	18.5"
	Max. Resolution	1280x1024	1366x768
	Brightness (cd/m²)	350	400
	Contrast Ratio	1000:1	
	LCD Color	16.7M	
	Viewing Angle (H/V)	170°/160°	
	Backlight MTBF (Hrs)	50,000	
Touch Screen		PCAP touch with 10-point multitouch, anti-glare coating	
Mainboard	CPU	8th/9th Generation Intel® Core™ i7/i5/i3 and Pentium® processor in the LGA 1151 package	
	Chipset	Intel® Q370 Chipset	
	Memory	2 x 288-pin 2666/2400 MHz dual-channel DDR4 unbuffered DIMM slot supporting up to 64GB	
	Graphics Engine	Intel® HD Graphics Gen 9 Engines with 16 low-power execution units, supports DX2015, OpenGL 5.X and OpenCL 2 x, ES 2.0	
	Ethernet	Intel® I211 & I219 controller	
Storage		(1) 4 x Accessible 2.5” SATA 6Gb/s HDD/SSD bay (RAID 0/1/5/10 support) with LED indicator (2) 1 x M.2 2280 PCIe Gen 3.0 x4 NVMe™ SSD socket	
I/O Ports and Switches		1 x HDMI output 2 x GbE LAN 6 x USB 3.2 Gen 1 (5Gb/s) Type-A 2 x RS-232 DB-9 type 1 x Mic in	1 x Line out 1 x AC power in Inlet Power button with power LED (power on=Blue) AT/ATX mode switch Reset button
Expansion Slots		2 x PCIe 3.0 by 8 (by 16 slot) 2 x PCIe 3.0 by 4 (maximum card size supported: 68 mm x 167 mm) 1 x NGFF M.2 (2230) A Key socket (support Wi-Fi) 1 x NGFF M.2 (3042) B Key socket (support WWAN wits SIM slot)	
Thermal Solution		Smart Fan	
Power Supply		AC input ATX power supply 1. 250W power supply - Input: 115VAC~230VAC, 50/60Hz - Output (max.): 3.3V@12A, 5V@14A, 12V@25A, -12V@0.3A,+5Vsb@3A 2. 350W power supply (Build to Order) - Input: 115VAC~264VAC, 50/60Hz - Output (max.): 3.3V@14A, 5V@16A, 12V@29A, -12V@0.3A,+5Vsb@3A -Efficiency: Full load (100%) 87%, Typical load (50%) 90%, Light load (20%) 87%	
Watchdog Timer		Software Programmable support 1~255 sec. system reset	
Construction	IP Rating	IP66-rated front panel	
	Chassis Construction	Metal Housing	
	Mounting	Rack/Panel Mount	
	Color	Front Bezel : Cyan-blue (PSM 296C), Others: Black C	
	Cut-out dimensions (LxDxH) (mm)	391 x 324	447.8 x 267.2
	Dimensions (LxDxH) (mm)	408.4 x 341.4 x 119	469.8 x 289.2 x 120.8
Environmental	Operating Temperature	-20°C ~ 50°C (with SSD and up to TDP 65W processor) -20°C ~ 40°C (with HDD or add-on cards without fan)	
	Storage Temperature	-30°C ~ 60°C	
	Operating Humidity	5% ~95%, non-condensing	
	Vibration	5~17Hz, 0.1 double amplitude displacement 17~640Hz 1.5G acceleration peak to peak	
	Shock	10G acceleration part to part (11ms)	
	Safety and EMC	CE & FCC Class A certified	

Ordering Information

	Part No.	Description
15”	PPC-F15C-Q370-P/PC/25-R20	15" 450cd/m² 1024 x768 AI modular Panel PC , Intel® Pentium® Gold G5400T Processor (2-core, 4-thread, 3.10 GHz) TDP 35W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 250W PSU, R20
	PPC-F15C-Q370-i3/PC/25-R20	15" 450cd/m² 1024 x768 AI modular Panel PC, Intel® Core™ i3-8100T Processor (4-core, 4-thread, 3.10 GHz) TDP 35W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 250W PSU, R20
	PPC-F15C-Q370-i5/PC/25-R20*	15" 450cd/m² 1024 x768 AI modular Panel PC, Intel® Core™ i5-8500T Processor (6-core, 6-thread, 2.1 GHz) TDP 35W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 250W PSU, R20
	PPC-F15C-Q370-i7/PC/25-R20*	15" 450cd/m² 1024 x768 AI modular Panel PC, Intel® Core™ i7-8700T Processor (6-core,12-thread,2.4 GHz) TDP 35W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 250W PSU, R20
15.6”	PPC-FW15C-Q370-P/PC/25-R20	15.6" 400cd/m² 1366 x 768 AI modular Panel PC, Intel® Pentium® Gold G5400T Processor (2-core, 4-thread, 3.10 GHz) TDP 35W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 250W PSU, R20
	PPC-FW15C-Q370-i3/PC/25-R20	15.6" 400cd/m² 1366 x 768 AI modular Panel PC, Intel® Core™ i3-8100T Processor (4-core, 4-thread, 3.10 GHz) TDP 35W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 250W PSU, R20
	PPC-FW15C-Q370-i5/PC/25-R20*	15.6" 400cd/m² 1366 x 768 AI modular Panel PC, Intel® Core™ i5-8500T Processor (6-core, 6-thread, 2.1 GHz) TDP 35W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 250W PSU, R20
	PPC-FW15C-Q370-i7/PC/25-R20*	15.6" 400cd/m² 1366 x 768 AI modular Panel PC, Intel® Core™ i7-8700T Processor (6-core,12-thread,2.4 GHz) TDP 35W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 250W PSU, R20
17”	PPC-F17C-Q370-P/PC/25-R20	17" 350cd/m² 1280 x 1024 AI modular Panel PC, Intel® Pentium® Gold G5400T Processor (2-core, 4-thread, 3.10 GHz) TDP 35W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 250W PSU, R20
	PPC-F17C-Q370-i3/PC/25-R20	17" 350cd/m² 1280 x 1024 AI modular Panel PC, Intel® Core™ i3-8100T Processor (4-core, 4-thread, 3.10 GHz) TDP 35W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 250W PSU, R20
	PPC-F17C-Q370-i5/PC/25-R20*	17" 350cd/m² 1280 x 1024 AI modular Panel PC, Intel® Core™ i5-8500T Processor (6-core, 6-thread, 2.1 GHz) TDP 35W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 250W PSU, R20
	PPC-F17C-Q370-i7/PC/25-R20*	17" 350cd/m² 1280 x 1024 AI modular Panel PC, Intel® Core™ i7-8700T Processor (6-core,12-thread,2.4 GHz) TDP 35W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 250W PSU, R20
18.5”	PPC-FW19C-Q370-P/PC/25-R20	18.5" 400cd/m² 1366 x 768 AI modular Panel PC, Intel® Pentium® Gold G5400T Processor (2-core, 4-thread, 3.10 GHz) TDP 35W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 250W PSU, R20
	PPC-FW19C-Q370-i3/PC/25-R20	18.5" 400cd/m² 1366 x 768 AI modular Panel PC, Intel® Core™ i3-8100T Processor (4-core, 4-thread, 3.10 GHz) TDP 35W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 250W PSU, R20
	PPC-FW19C-Q370-i5/PC/25-R20*	18.5" 400cd/m² 1366 x 768 AI modular Panel PC, Intel® Core™ i5-8500T Processor (6-core, 6-thread, 2.1 GHz) TDP 35W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 250W PSU, R20
	PPC-FW19C-Q370-i7/PC/25-R20*	18.5" 400cd/m² 1366 x 768 AI modular Panel PC, Intel® Core™ i7-8700T Processor (6-core,12-thread,2.4 GHz) TDP 35W, two PCIe x4 and two PCIe x8 slots, four HDD bays, 250W PSU, R20

*Build to order
**350W AC PSU models are by build-to-order manufacturing

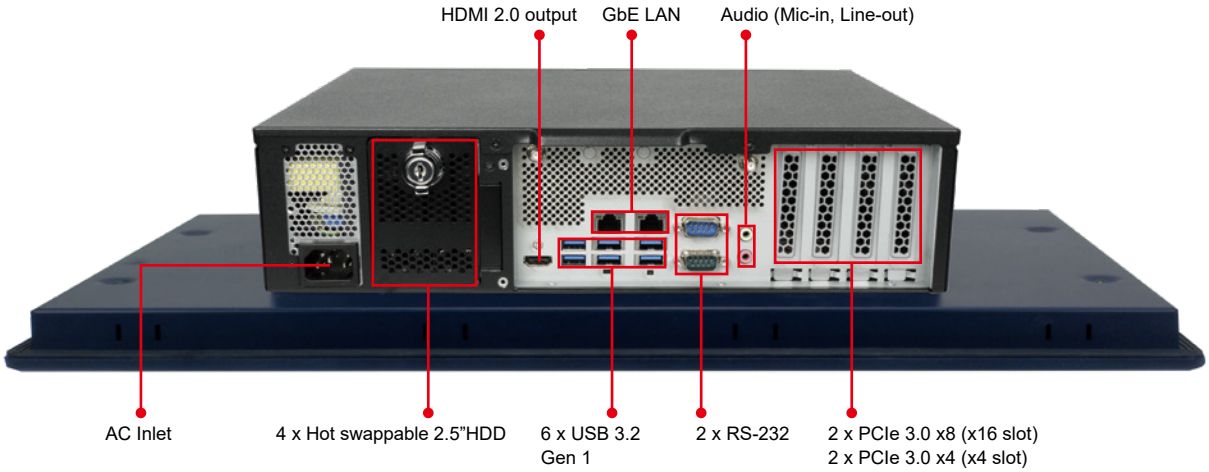
Options

Item	PPC-F15C	PPC-FW15C	PPC-F17C	PPC-FW19C
Panel Mount Kit	FPK-12-R10	FPK-14-R10	FPK-13-R10	FPK-13-R10
Rack Mount Kit	FRK15C-R10	FRKW15C-R10	FRK17C-R10	FRKW19C-R10

Packing List

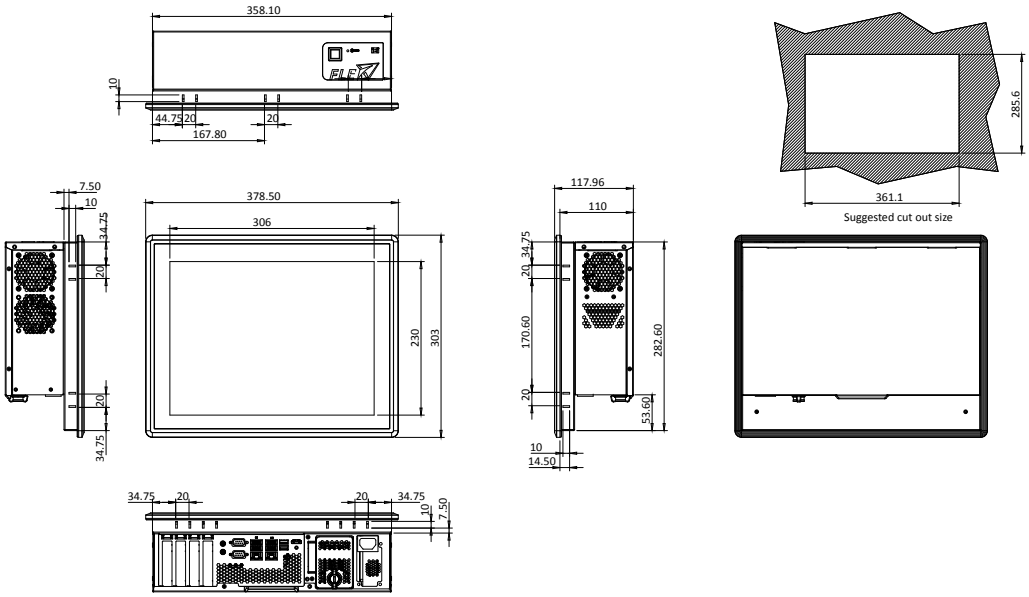
Item	Q'ty	Description
44013-030041-RS	16	Flat head screws for HDD bracket, M3*4
32702-000200-100-RS	1	European power cord, 1830mm

Fully Integrated I/O



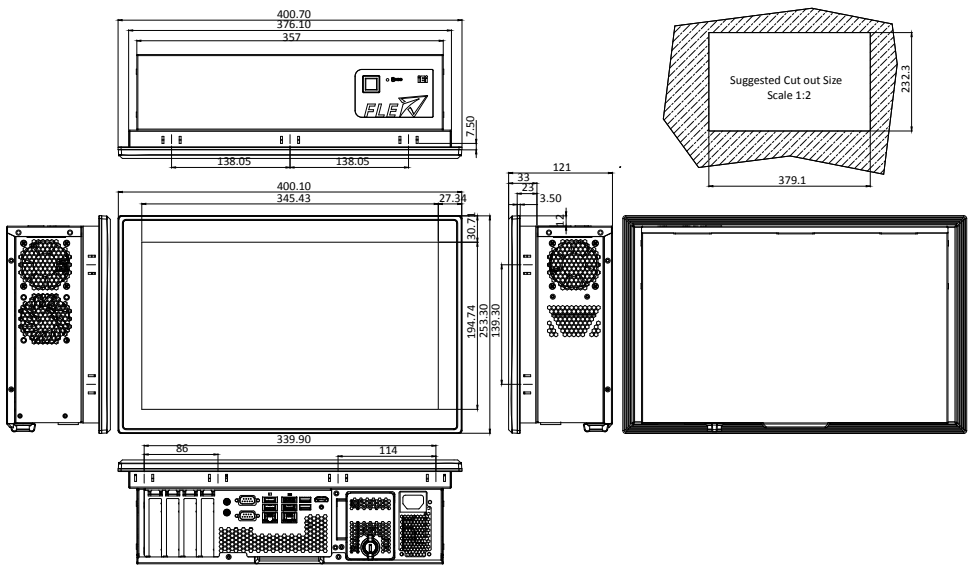
PPC-F15C-Q370 Dimensions

(Unit: mm)



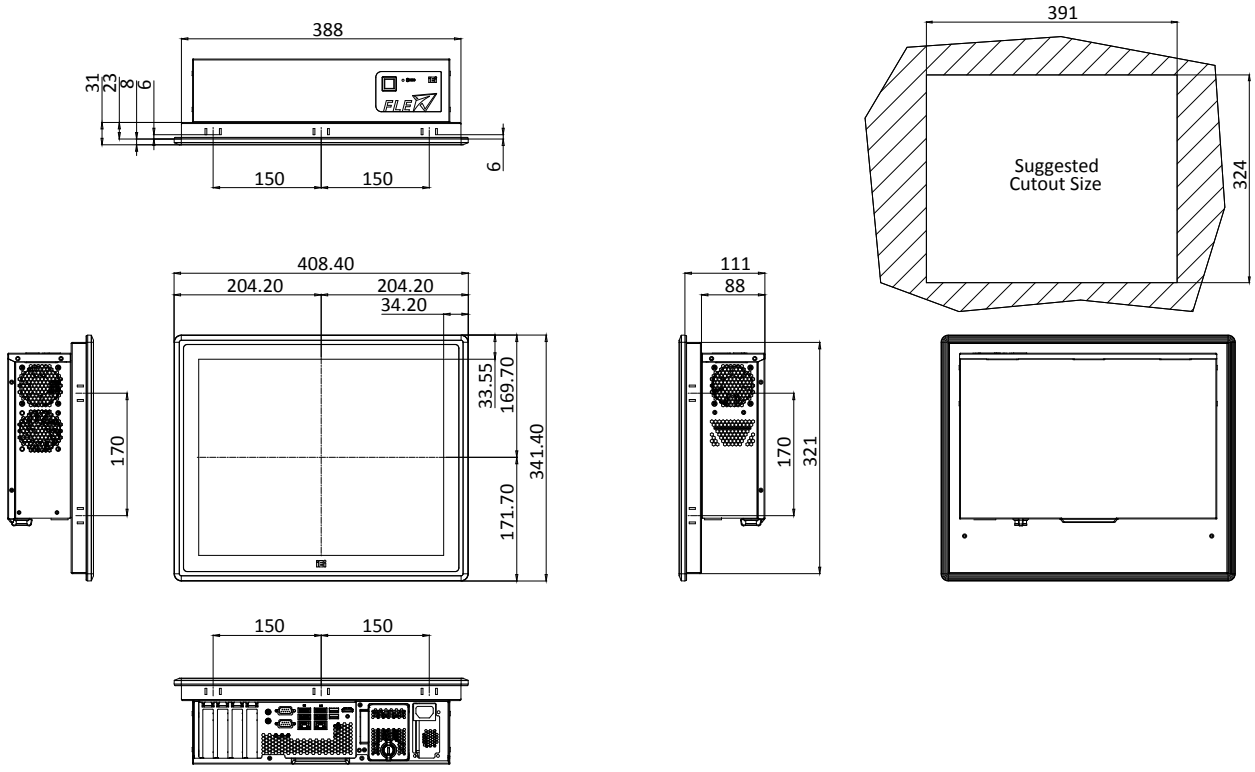
PPC-FW15C-Q370 Dimensions

(Unit: mm)



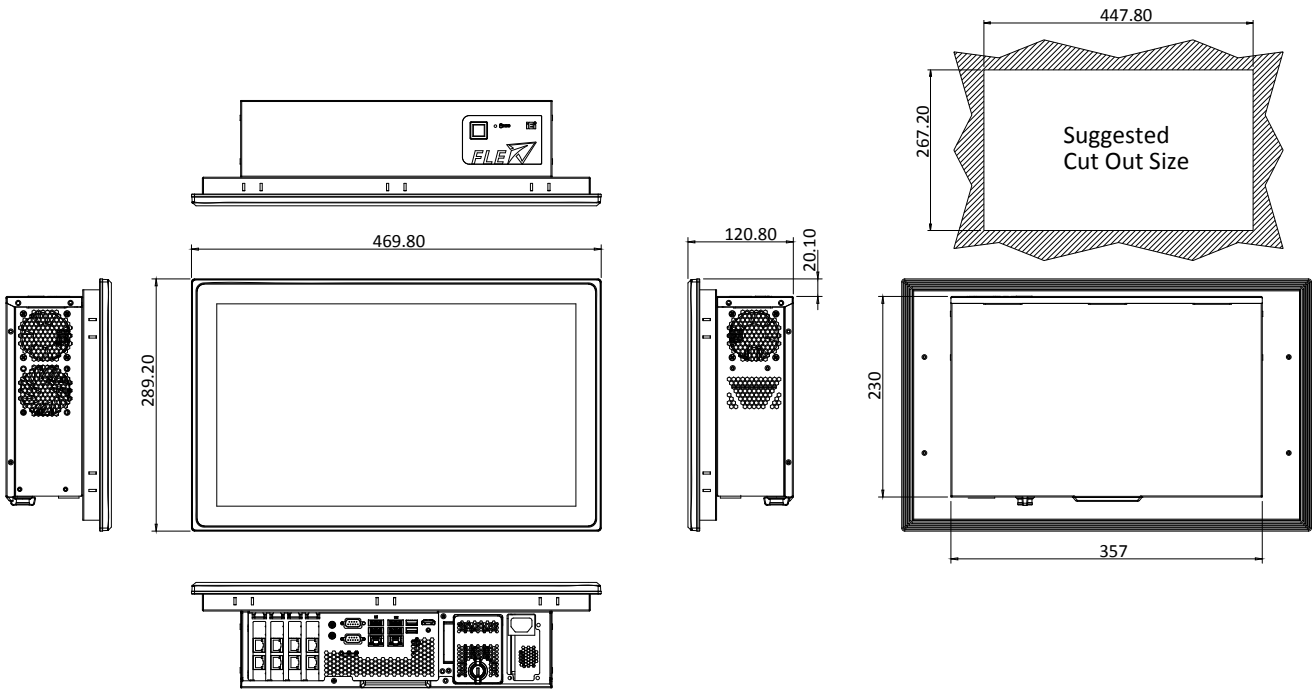
PPC-F17C-Q370 Dimensions

(Unit: mm)



PPC-FW19C-Q370 Dimensions

(Unit: mm)



PPC-F Series

IEI is dedicated to developing impeccable industrial panel PC products.The PPC and PPC-F series industrial panel PCs not only keep rugged design of IP65 protection but also enrich aesthetic experience by implementing the seamless mounting method. The projected capacitive touch option is added to these new series of products to provide up to 2 points multi-touch solution! Additionally, we also provide high performance H81 series and low power consumption Bay Trail series to meet customers' requests.

■ PPC-F Industrial Panel PC Series

The PPC-F series aims at slim and compact design. Therefore, this new series makes a huge improvement in mechanical design to achieve the goal.

PPC-F15A-H81
262.2 x 322.2 mm

PPC-5150A-H61
309 x 410 mm

■ 8mm Ultra Thin Bezel Design

To enhance aesthetic experience in industrial automation applications, the depth of the front bezel of the PPC-F is only 8mm to minimize the gap between the wall and the system in wall/panel mounting, which is neat and simple during integration.

■ 10-Point Multi Touch

The PPC series supports 10-point projected capacitive touch, enhancing smooth operations! IEI also provides 12" to 24" resistive single type and projected capacitive type touchscreen options to enrich simple and intuitive user experience.

■ Impeccable Front Panel

6H Anti-scratch Touch

The PPC-F series equipped with projected capacitive touchscreen uses 6H hardness vandal proof strengthened glass to prevent damages from physical impact.

Front Bezel IP65 Protection

Designed for harsh environments, the PPC-F series provides front bezel IP65 protection to resist dust and water jet.

■ IEI Remote Intelligent Management System

The PPC-F supports iEi iRIS remote management, which helps users to manage multiple devices through single management interface and elevates work efficiency. iRIS solution only requires a module and Internet connection! (For PPC-F H81 & PPC-F 12B/15B/17B only)

iRIS™ IPMI 2.0 Compliant

Remote Power Management

Users can remotely power on/off all the iRIS devices and set up power cycle to simplify power control process.

ON OFF

Unify industrial automation process through a simple setting!

24H Active Recovery

With remote troubleshooting everywhere, there is no need to send out maintenance staff anymore!

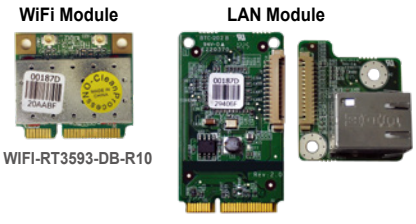
■ Built-in 80-Plus Silver Power Supply

The 80-plus silver power supply is implemented into the PPC-F H81 series, which reduces power loss and increases efficiency during power transition. With the certified power supply, the power transition between AC source and DC source couldmaintain up to 85% efficiency, and the power loss is only 15% or less. For customers, the high efficiency of power transition could reduce not only cost but also heat loss.. Furthermore, it could make a friendly environment. (For PPC-F H81 series only)

Parameters	Loading	Gold	Silver	Bronze	80 Plus
Efficiency	20%	87%	85%	82%	80%
	50%	90%	88%	85%	80%
	100%	87%	85%	82%	80%
Power Factor	50%	90% (across the full range)			90% (@100% Load)

■ PCIe Mini Card Expansion

Two full-size PCIe Mini card expansion slots are reserved in the PPC-F series (Depends on models). With a wide variety of IEI PCIe Mini card solutions, it is flexible and easy to add extra functions in the system.



PPC-F Series Selection Guide




LCD Size		5.7”	8”	10.4”	12”
Model		PPC-F06B-BT	PPC-F08B-BT	PPC-F10B-BT	PPC-F12B-BT
Display	LCD Size	5.7” (4:3)	8” (4:3)	10.4”	12” (4:3)
	Max. Resolution	640 (W) x 480 (H)	800 (W) x 600 (H)	800 (W) x 600 (H)	1024 (W) x 768 (H)
	Brightness (cd/m²)	550	500	400	600
	Contrast Ratio	800 : 1	500 : 1	700 : 1	700 : 1
	LCD Color	262K	16.2M	16.2M	16.2M
	Pixel Pitch (mm) (HxV)	0.18 x 0.18	0.2025 x 0.0675	0.264 x 0.264	0.24 x 0.24
	Viewing Angle (V/H)	160° / 140°	140° / 120°	160° / 140°	160° / 140°
	Backlight MTBF (hrs)	50000	50000	30000	50000
Touch	TouchScreen	4-wire resistive type flat touch window, 3H	5-wire resistive type flat touchscreen, 3H	5-wire resistive type flat touchscreen, 3H	5-wire resistive single touch window, 3H (Anti-glare Surface) 10-point Projected capacitive touch window, 6H (Anti-UV, Anti-glare Surface)
	Touch Controller	PenMount DMC9000	PenMount DMC9000	PenMount DMC9000	Penmount DMC 9000 EETI EXC3188
Motherboard	CPU	Intel® Celeron® processor N2807,dual-core, 1.58GHz	Intel® Celeron® J1900 on-board SoC, quad-core, 2GHz	Intel® Celeron® J1900 on-board SoC, quad-core, 2GHz	Intel® Celeron® quad-core J1900 SoC, 2GHz
	Chipset	N/A	N/A	N/A	N/A
	RAM	2GB DDR3L 1600MHz on-board RAM (system max. 4GB by MOQ=300pcs)	1 x 204-pin DDR3L SO-DIMM slot (max. 8GB)	1 x 204-pin DDR3L SO-DIMM slot (max. 8GB)	2 x 204-pin 1066/1333 MHz DDR3L SO-DIMM supported (max. 8GB)
	Ethernet	2 x RTL 8111HN	2 x RTL 8111HN	2 x RTL 8111HN	1 x PCIe GbE by Intel® I210 controller 1 x PCIe GbE by Intel® I211 controller
	Audio Codec	Realtek ALC662 HD codec	Realtek ALC892 HD codec	Realtek ALC892 HD codec	Realtek ALC662 HD codec
I/O Ports and Switches		1 x RJ-45 LAN port 1 x RS-232 COM port (DB-9 connector) (RI/5V/12V) 1 x RS-422/485 2 x USB 3.2 Gen 1 (5Gb/s) 2 x USB 2.0 1 x 9 V~36 V DC lockable jack (2-pin) 1 x Audio port (line-out) 1 x Power switch 1 x Reset button 1 x AT/ATX switch	1 x RS-232 COM port (RJ-45 connector) 1 x RS-232/422/485 COM port (DB-9 connector) (RI/5V/12V) 2 x USB 3.2 Gen 1 (5Gb/s) 2 x GbE LAN 1 x Power switch 1 x Reset button 1 x AT/ATX switch 1 x Audio port (line-out) 1 x 9 V~30 V lockable power jack	1 x RS-232 COM port (RJ-45 connector) 1 x RS-232/422/485 COM port (DB-9 connector) (RI/5V/12V) 2 x USB 2.0 2 x USB 3.2 Gen 1 (5Gb/s) 2 x GbE LAN 1 x Power switch 1 x Reset button 1 x AT/ATX switch 1 x Audio port (line-out) 1 x 9 V~30 V lockable power jack	2 x RJ-45 LAN port 2 x USB 3.2 Gen 1 (5Gb/s) 2 x USB 2.0 1 x HDMI 2 x RS-232 1 x RS-232/422/485 1 x VGA 1 x 9 V~36 V DC jack (4-pin) 1 x 9 V~36 V DC terminal block 1 x Power switch
Drive Bay	HDD Driver Bay	N/A	N/A	1 x 2.5” HDD bay	1 x 2.5” HDD bay
	SSD	mSATA			
Expansion Slot		1 Full Size PCIe Mini Slot (with mSATA, PCIe/USB Signal)	1 x Full-size PCIe Mini slot (with mSATA/PCIe/USB signal) 1 x Half-size PCIe Mini slot for Wi-Fi modules		1 x Full-size PCIe Mini card slot 1 x Full-size PCIe Mini card slot colay mSATA
System Cooling		Fanless	Fanless	Fanless	Fanless
Environment	Operating Temperature	-10°C~50°C (14°F~122°F)			
	Storage Temperature	-20°C~60°C (-4°F~140°F)			

PPC-F Series Selection Guide

LCD Size		15”		17”		19”
Model		PPC-F15A-H81	PPC-F15B-BT	PPC-F17A-H81	PPC-F17B-BT	PPC-F19B-BT
Display	LCD Size	15” (4:3)	15” (4:3)	17”	17”	19”
	Max. Resolution	1024 (W) x 768 (H)		1280 (W) x 1024 (H)		
	Brightness (cd/m²)	450		350		
	Contrast Ratio	800 : 1		1000 : 1		
	LCD Color	16.2M		16.7M		
	Pixel Pitch (mm) (HxV)	0.297 x 0.297		0.26 x 0.26	0.26 x 0.26	0.294 x 0.294
	Viewing Angle (V/H)	160° / 150°		170° / 160°	170° / 160°	170° / 160°
	Backlight MTBF (hrs)	70000		50000		
Touch	Touchscreen	5-wire resistive single touch window, 3H (Anti-glare Surface) 10-point Projected capacitive touch window, 6H (Anti-UV, Anti-glare Surface)				
	Touch Controller	Penmount DMC 9000 EETI EXC3188				
Motherboard	CPU	4th generation Intel® Core™ i7/ i5, Pentium® and Celeron® processor, up to TDP 65W CPU	Intel® Celeron® quad-core J1900 SoC, 2GHz	4th generation Intel® Core™ i7/ i5, Pentium® and Celeron® processor, up to TDP 65W CPU	Intel® Celeron® quad-core J1900 SoC, 2GHz	Intel® Celeron® processor J1900 (2M cache, up to 2.42 GHz)
	Chipset	N/A	Intel® H81	Intel® H81	N/A	N/A
	RAM	2 x 204-pin DDR3 SO-DIMM slots (max. 16GB)	2 x 204-pin 1066/1333 MHz DDR3L SO-DIMM supported (max. 8GB)	2 x 204-pin DDR3 SO-DIMM slots (max. 16GB)	2 x 204-pin 1066/1333 DDR3L SO-DIMM supported (max. 8GB)	2 x 204-pin DDR3L SO-DIMM slot (max. 8GB), pre-installed with 2GB
	Ethernet	1 x PCIe GbE by Intel® I210 controller 1 x PCIe GbE by Intel® I211 controller				
	Audio Codec	Realtek ALC662 HD codec				
I/O Ports and Switches		2 x RJ-45 LAN Port 2 x USB 3.2 Gen 1 (5Gb/s) 4 x USB 2.0 1 x HDMI output 4 x RS-232 1 x RS-422/485 1 x MIC-in 1 x Line-out 1 x VGA output 1 x AC/DC power plug (DC model is by build to order manufacturing) 1 x AT/ATX switch 1 x Clear CMOS 1 x Reset button 1 x Power switch	2 x RJ-45 LAN port 2 x USB 3.2 Gen 1 (5Gb/s) 2 x USB 2.0 1 x HDMI 2 x RS-232 1 x RS-232/422/485 1 x VGA 1 x 9 V~36 V DC jack (4-pin) 1 x 9 V~36 V DC terminal block 1 x Line-out 1 x Power switch	2 x RJ-45 ：LAN Port 2 x USB 3.2 Gen 1 (5Gb/s) 4 x USB 2.0 1 x HDMI output 4 x RS-232 1 x RS-422/485 1 x MIC-in 1 x Line-out 1 x VGA output 1 x AC/DC power plug (DC model is by build to order manufacturing) 1 x AT/ATX switch 1 x Clear CMOS 1 x Reset button 1 x Power switch	2 x RJ-45 LAN port 2 x USB 3.2 Gen 1 (5Gb/s) 2 x USB 2.0 1 x HDMI 2 x RS-232 1 x RS-232/422/485 1 x VGA 1 x DC jack (4-pin) 1 x Terminal block 1 x Microphone & speaker 1 x power switch	2 x RJ-45 LAN port 2 x USB 3.2 Gen 1 (5Gb/s) 2 x USB 2.0 1 x HDMI 2 x RS-232 1 x RS-232/422/485 1 x VGA 1 x 9 V~36 V DC jack (4-pin) 1 x 9 V~36 V DC terminal block 1 x Line-out (PPC-F15B & PPC-F17B & PPC-F19B only) 1 x Power switch
Drive Bay	HDD Driver Bay	1 x 2.5” HDD bay		1 x 2.5” SATA HDD bay with anti-shook		
	SSD	mSATA				
Expansion Slot		1 x Full-size PCIe Mini card 1 x Full-size PCIe Mini card co-lay mSATA				
System Cooling		Active fan	Fanless	Active fan	Fanless	Fanless
Environment	Operating Temperature	-10°C~50°C (14°F~122°F)				
	Storage Temperature	-20°C~60°C (-4°F~140°F)				

PPC-F H81 Series

Intelligent Industrial Panel PC

Features

- Support IEI iRIS-2400 IEI remote intelligent solution
- Scalable Intel® H81 chipset supports LGA1150 Intel® 4th generation Core™ i7/i5, Pentium® or Celeron® processor with up to 65W TDP
- Robust IP65 aluminum front bezel
- Aesthetic ultra-thin bezel for seamless panel mount installation
- Projected capacitive multi-touch
- Dual full-size PCIe Mini card expansion

IPMI 2.0 Compliant | FHD | Multi-touch | IP65 | PCIe Mini | USB 3.2 | MOUNT

Specifications

Model		PPC-F15A	PPC-F17A
LCD	LCD Display	15" (4:3)	17" (5:4)
	Max. Resolution	1024 (W) x 768 (H)	1280 (W) x 1024 (H)
	Brightness (cd/m²)	450	350
	Contrast Ratio	800 : 1	800 : 1
	LCD Color	16.2M	16.7M
	Pixel Pitch (mm)	0.297 x 0.297	0.26 x 0.26
	Viewing Angle (H-V)	160° / 150°	170° / 160°
	Backlight MTBF (hrs)	70000	50000
Motherboard	SBC Model	FPPCMB-H81-R10	
	CPU	LGA1150 Intel® 4th generation Core™ i7/i5, Pentium® or Celeron® processor with up to 65W TDP	
	Chipset	Intel® H81	
	RAM	Support 2 x 204-pin 1066/1333/1600 MHz dual-channel DDR3 SO-DIMM slots (max. 16GB)	
Touch	Touchscreen & Controller	5-wire resistive single touch window, 3H/Penmount 9000 (Anti-glare Surface) 10-point Projected capacitive touch window, 6H/EETI EXC3188 (Anti-UV, Anti-glare Surface)	
Input Interfaces	I/O Ports & Switch	2 x RJ-45 LAN Port 2 x USB 3.2 Gen 1 (5Gb/s) 4 x USB 2.0 1 x HDMI output 4 x RS-232 1 x RS-422/485 1 x MIC-in 1 x Line-out	
	Expansion	1 x Full-size/half-size PCIe Mini card (PCIe and USB signal) 1 x Full-size/half-size PCIe Mini card (PCIe , USB and mSATA signal)	
Wireless LAN		802.11 b/g/n (optional)	
Storage		1 x 2.5" HDD/SSD drive bay 1 x mSATA	
iRIS Remote Management Solution		iRIS-2400 (optional)	
Physical	Construction Material	Aluminum front cover and sheet metal rear cover	
	Mounting	Panel mount, rack mount, 100x100 VESA mount	
	Enclosure Color	Black C	
	Dimensions (mm)	303 x 378.5 x 68.7	341.4 x 408.4 x 73.8
	Cutout Dimensions (mm)	285.6 x 361.1	323 x 390
	Net/ Gross Weight (kg)	5.6/ 8.3	7.5/10.7
Environment	Operating Temperature (with air flow)	-10°C ~ 50°C	
	Storage Temperature	-20°C ~ 60°C	
	Humidity	10% to 95% (non-condensing)	
	IP Level	Front IP 65	
	Safety and EMC	CE & FCC certified	
Power Supply	AC Input	AC input ATX power supply - P/N: 63030-010220-100-RS - 220W power supply - Input: 90VAC-264VAC, 50/60Hz - Output (max.): 3.3V@10A, 5V@14A, 12V@14A, -12V@0.3A	
Power Consumption		80W	100W

Ordering Information

Part No.		Description
15”	PPC-F15AA-H81i-P/4G/PC-R23	15" 450 cd/m² XGA Panel PC with Intel® H81 chipset, Intel® Pentium® Processor G3420 (3M Cache, 3.20 GHz), TDP 53W, 2GB RAM*2, support iRIS-2400, black color, PSU ACE-A622C, projective capacitive touch window with AG coating, R23
	PPC-F15AA-H81i-i5/4G/PC-R23	15" 450 cd/m² XGA Panel PC with Intel® H81 chipset, Core i5 Quad Core i5-4570S Processor (6M Cache, up to 3.60GHz), TDP 65W, 2GB RAM*2, support iRIS-2400, black color, PSU ACE-A622C, PCAP touch window with AG coating, R23
	PPC-F15AA-H81i-P/4G/R-R23	15" 450 cd/m² XGA Panel PC with Intel® H81 chipset, Intel® Pentium® Processor G3420 (3M Cache, 3.20 GHz), TDP 53W, 2GB RAM*2, support iRIS-2400, black color, PSU ACE-A622C, resistive touch window with AG coating, R23
	PPC-F15AA-H81i-i5/4G/R-R23	15" 450 cd/m² XGA Panel PC with Intel® H81 chipset, Core i5 Quad Core i5-4570S Processor (6M Cache, up to 3.60GHz), TDP 65W, 2GB RAM*2, support iRIS-2400, black color, PSU ACE-A622C, resistive touch window with AG coating, R23
17”	PPC-F17AA-H81i-P/4G/PC-R14	17" 350 cd/m² SXGA Panel PC with Intel® H81 chipset, Intel® Pentium® Processor G3420 (3M Cache, 3.20 GHz), TDP 53W, 2GB RAM*2, support iRIS-2400, black color, PSU ACE-A622C, projective capacitive touch window with AG coating, R14
	PPC-F17AA-H81i-i5/4G/PC-R14	17" 350 cd/m² SXGA Panel PC with Intel® H81 chipset,Core i5 Quad Core i5-4570S Processor(6M Cache,up to 3.60GHz),TDP 65W,2GB RAM*2,support iRIS-2400,black color, PSU ACE-622C ,projective capacitive touch window with AG coating, R14
	PPC-F17AA-H81i-P/4G/R-R14	17" 350 cd/m² SXGA Panel PC with Intel® H81 chipset, Intel® Pentium® Processor G3420 (3M Cache, 3.20 GHz), TDP 53W, 2GB RAM*2, support iRIS-2400, black color, PSU ACE-A622C, resistive touch window with AG coating, R14
	PPC-F17AA-H81i-i5/4G/R-R14	17" 350 cd/m² SXGA Panel PC with Intel® H811 chipset, Core i5 Quad Core i5-4570S Processor (6M Cache, up to 3.60 GHz), TDP 65W, 2GB RAM*2, support iRIS-2400, black color, PSU ACE-622C, resistive touch window with AG coating, R14

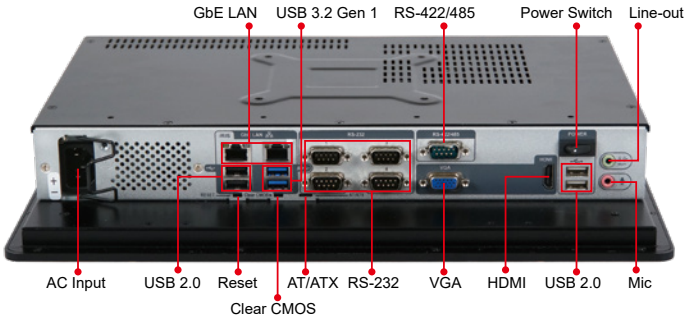
Options

Item	PPC-F15A	PPC-F17A
Arm	ARM-31-RS	ARM-31-RS
Stand	STAND-A21 STAND-A19-RS STAND-C19-R10	STAND-C19-R10 STAND-A21-R10
Wall Mount Kit	WK-190MS-R10	
Panel Mount Kit	FPK-04-R10	
Rack Mount Kit	FRK15-R10	FRK17-R10
iRIS (IEI Remote Intelligent System) Kit	iRIS-2400-R10	

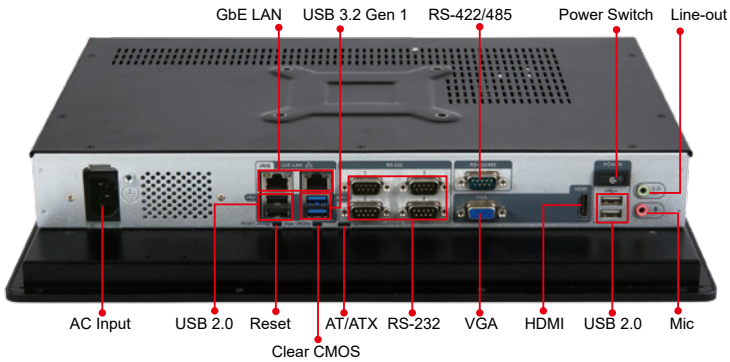
Packing List

Item	Q’ty	Remark
Power Cord	1	Depends on shipping region
Screw Kit	1	

PPC-F15A
Fully Integrated I/O

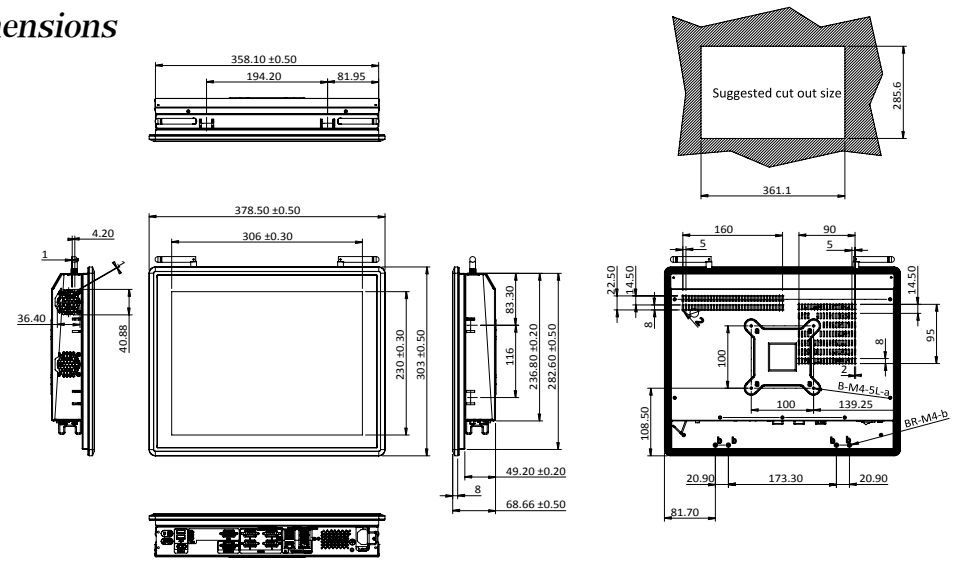


PPC-F17A
Fully Integrated I/O



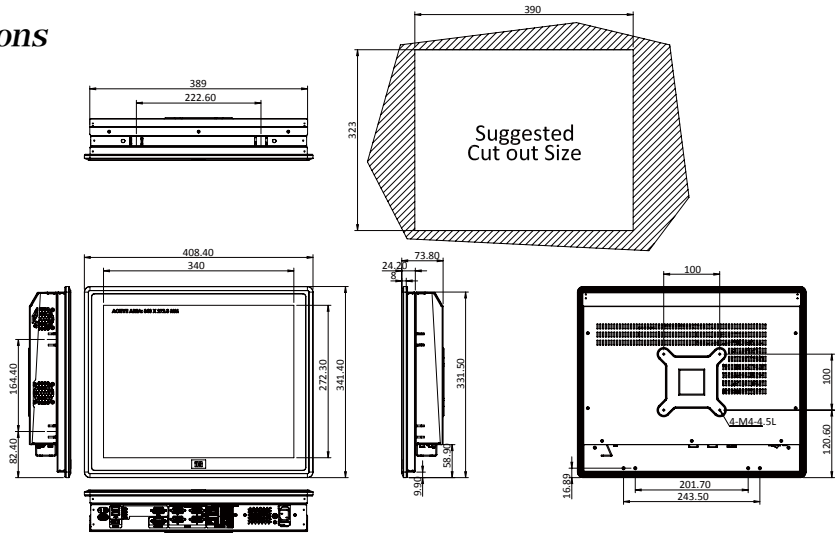
PPC-F15A Dimensions

(Unit: mm)



PPC-F17A Dimensions

(Unit: mm)



PPC-F Bay Trail Fanless Series

5.7”/8”/10.4” Fanless Intel® Bay Trail Solution

Features

- 5.7”, 8” and 10.4” fanless industrial panel PC
- 2.0 GHz Intel® Celeron® J1900 quad-core processor or 1.58 GHz Intel® Celeron® N2807 dual-core processor
- Low power consumption DDR3L memory supported
- IP 65 compliant front panel
- 9 V~30 V wide DC input
- mSATA SSD suppoted
- Dual GbE for backup
- -10°C~50°C extended operating temperature

Specifications

Model		PPC-F06B-BT	PPC-F08B-BT	PPC-F10B-BT
LCD	LCD Display	5.7” (4:3)	8” (4:3)	10.4”
	Max. Resolution	640 (W) x 480 (H)	800 (W) x 600 (H)	800 (W) x 600 (H)
	Brightness (cd/m²)	550	500	400
	Contrast Ratio	800:1	500:1	700:1
	LCD Color	262K	16.2M	16.2M
	Pixel Pitch (mm)	0.18 (H) x 0.18 (V)	0.2025 (H) x 0.0675 (V)	0.264 (H) x 0.264 (V)
	Viewing Angle (H-V)	160° / 140°	140° / 120°	160° / 140°
	Backlight MTBF (hrs)	50000	50000	30000
Motherboard	CPU	Intel® Celeron® N2807 dual-core processor, 1.58GHz	Intel® Celeron® J1900 quad-core on-board SoC, 2GHz	
	RAM	2GB DDR3L 1600MHz on-board RAM (system max. 4GB, by MOQ=300pcs)	1 x 204-pin DDR3L SO-DIMM slots (max. 8GB)	
Touch	Touchscreen & Controller	4-wire resistive type flat touch window, PenMount DMC9000	5-wire resistive type flat touchscreen, PenMount DMC9000	
	Surface Hardness	3H	3H	3H
Input Interfaces	I/O Ports & Switches	2 x RJ-45 LAN port 1 x RS-232 COM port (DB-9 connector) (RI/5V/12V) 1 x RS-422/485 2 x USB 3.2 Gen 1 (5Gb/s) 2 x USB 2.0 1 x 9 V~30 V DC lockable DC jack (2-pin) 1 x Audio port (line-out) 1 x Power switch 1 x Reset button 1 x AT/ATX switch	1 x RS-232 COM port (RJ-45 connector) 1 x RS-232/422/485 COM port (DB-9 connector) (RI/5V/12V) 2 x USB 3.2 Gen 1 (5Gb/s) 2 x GbE LAN 1 x Power switch 1 x Reset button 1 x AT/ATX switch 1 x Audio port (line-out) 1 x 9 V~30 V lockable power jack	1 x RS-232 COM port (RJ-45 connector) 1 x RS-232/422/485 COM port (DB9 connector) (RI/5V/12V) 2 x USB 2.0 2 x USB 3.2 Gen 1 (5Gb/s) 2 x GbE LAN 1 x Power switch 1 x Reset button 1 x AT/ATX switch 1 x Audio port (line-out) 1 x 9 V~30 V lockable power jack
Expansion		1 x Full-size PCIe Mini slot (mSATA/PCIe/USB signal)	1 x Full-size/half-size PCIe Mini slot (mSATA/PCIe/USB signal) 1 x Half-size PCIe Mini slot (PCIe signal only)	
Wireless LAN		802.11 b/g/n (optional)		
Storage	SSD	mSATA	mSATA	mSATA
	HDD	N/A	N/A	1 x 2.5” HDD bay
Physical	Construction Material	Aluminum front bezel		
	Mounting	Stand, panel mount, rack mount, VESA 75x75	Stand, panel mount, rack mount, VESA 75x75	Stand, panel mount, rack mount, VESA 75x75/100x100
	Enclosure Color	Black C		
	Dimensions (mm)	136.4 x 178.5 x 56.3	182.2 x 222.2 x 44	232.4 x 285.2 x 44
	Net Weight	0.89 kg	1.17 kg	1.77 kg
	Cut-out Dimensions (mm)	157.5 x 115.4	207 x 154	267.2 x 214.4
Environment	Operating Temperature (with air flow)	-10°C~50°C (14°F~122°F)		
	Storage Temperature	-20°C~60°C (-4°F~140°F)		
	Humidity	10% to 95% (non-condensing)		
	IP Level	IP 65 compliant front panel		
	Safety and EMC	CE & FCC Class A certified		
Power	Power Adapter	P/N: 63040-010036-210-RS 36W Power Adapter Input: 90 - 264V AC, 50/60Hz Output: 12V DC		
	Power Requirement	9 ~ 30V DC		
	Power Consumption	24W	28W	34W

Ordering Information

Part No.	Description
PPC-F06B-BT-N1/2G/R-R11	5.7" 450 cd/m² VGA panel PC with Intel® Celeron® processor N2807, TDP 4.3W, 2GB on-board DDR3L RAM, black color, 9-30V DC input, resistive touch window, R11
PPC-F08B-BT-J1/2G/R-R11	8" 500 cd/m² SVGA panel PC with Intel® Celeron® processor J1900, TDP 10W, 2GB DDR3L RAM, black color, 9-30V DC input, resistive touch window, R11
PPC-F10B-BT-J1/2G/R-R11	10.4" 400 cd/m² SVGA panel PC with Intel® Celeron® processor J1900, TDP 10W, 2GB DDR3L RAM, black color, 9-30V DC input, resistive touch window, R11

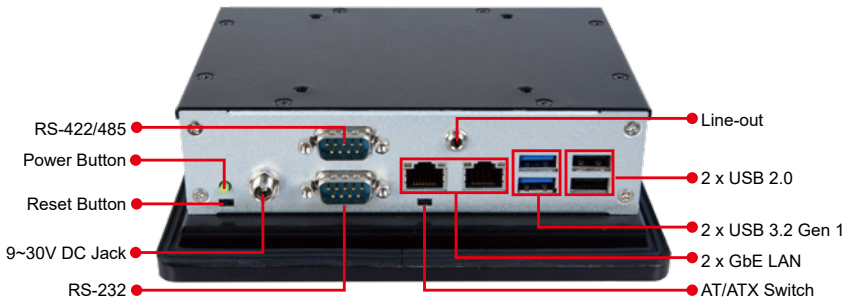
Options

Item	PPC-F06B	PPC-F08B	PPC-F10B
Arm	ARM-11-RS	ARM-11-RS	ARM-11-RS
Stand	STAND-100-RS STAND-B08	STAND-100-RS STAND-B08 STAND-C12-R10	STAND-100-RS STAND-B08 STAND-C12-R10
Wall Mount Kit	AFLWK-12	AFLWK-12	AFLWK-12
Panel Mount Kit	FPK-07-R10	FPK-07-R10	FPK-09-R10
Wi-Fi Kit	EMB-WIFI-KIT01-R20		

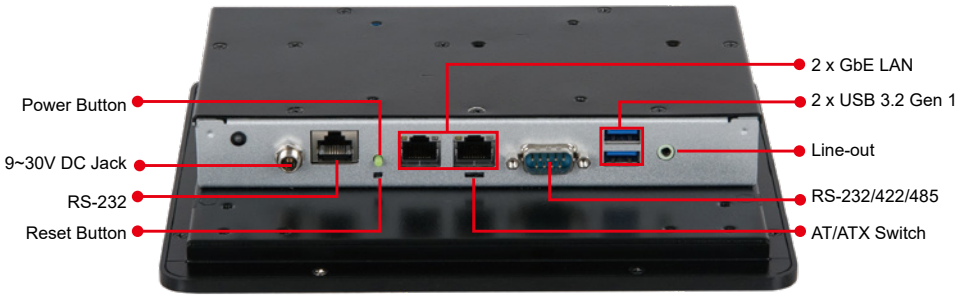
Packing List

Item	Q'ty	Remark
PPC-FxxB-BTi Panel PC	1	
Power Cord	1	Part numbers vary by regions
Screw Pack	1	Including necessary screws
Power Adapter	1	9V~30V DC P/N: 63040-010036-210-RS

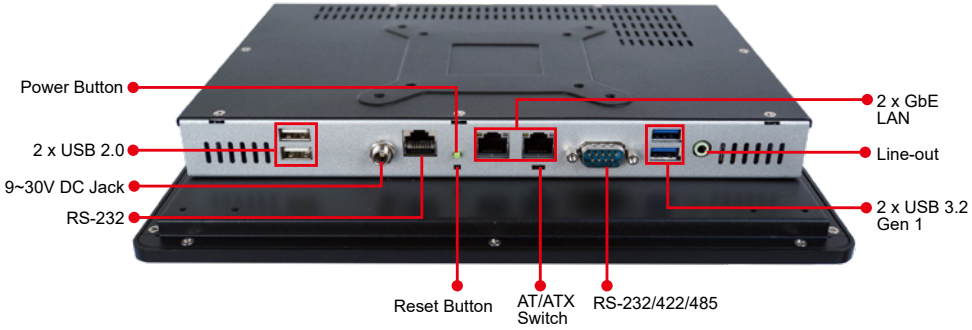
PPC-F06B
Fully Integrated I/O



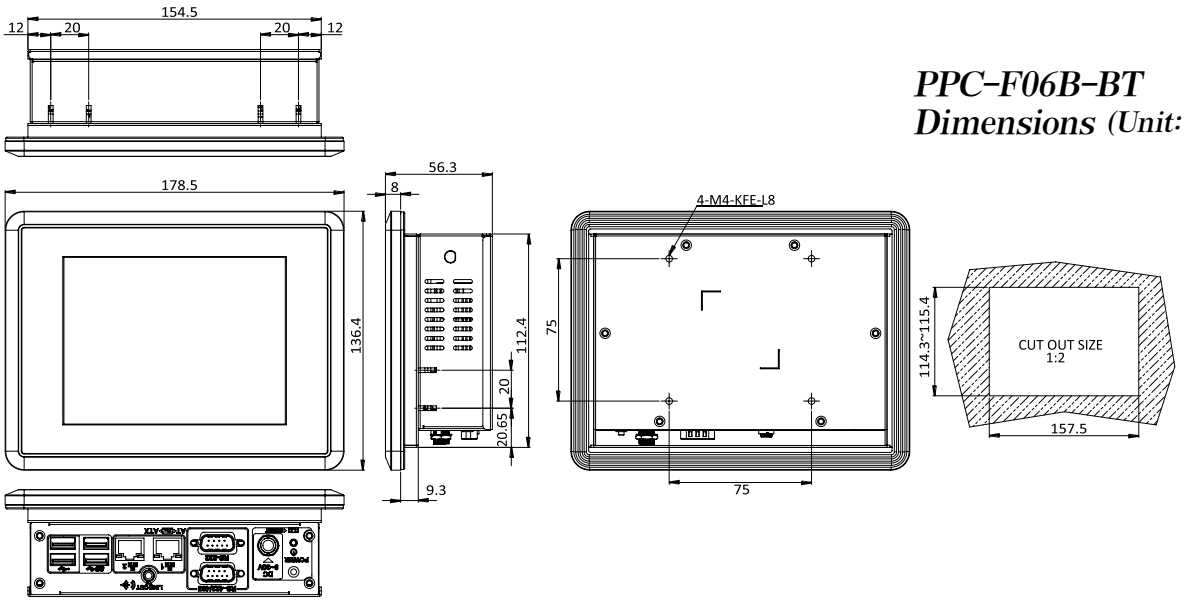
PPC-F08B
Fully Integrated I/O



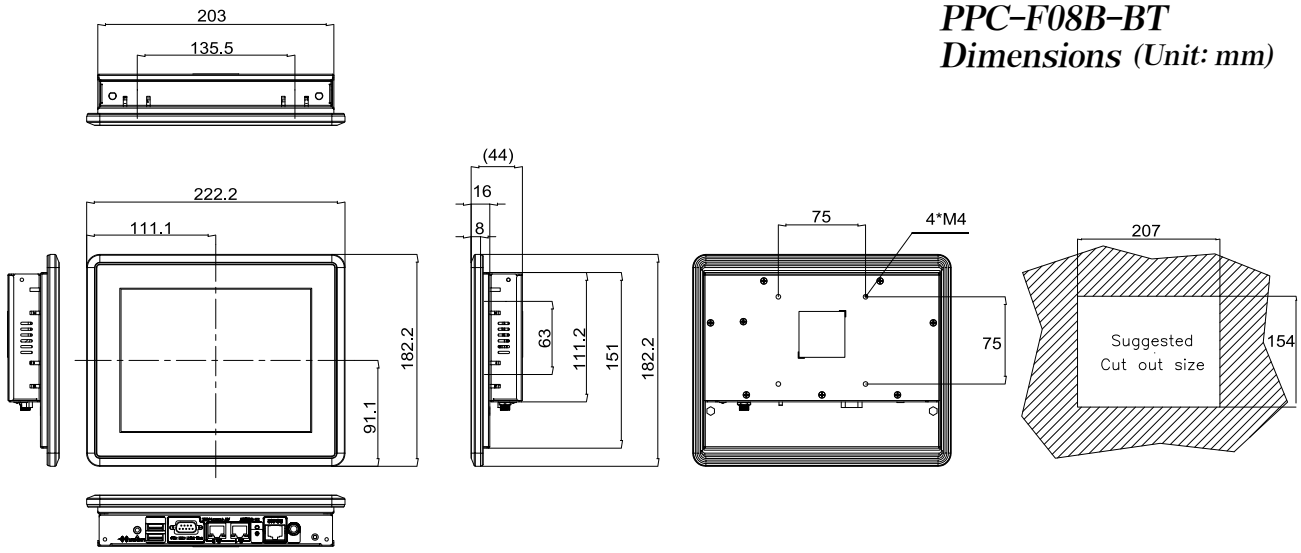
PPC-F10B
Fully Integrated I/O



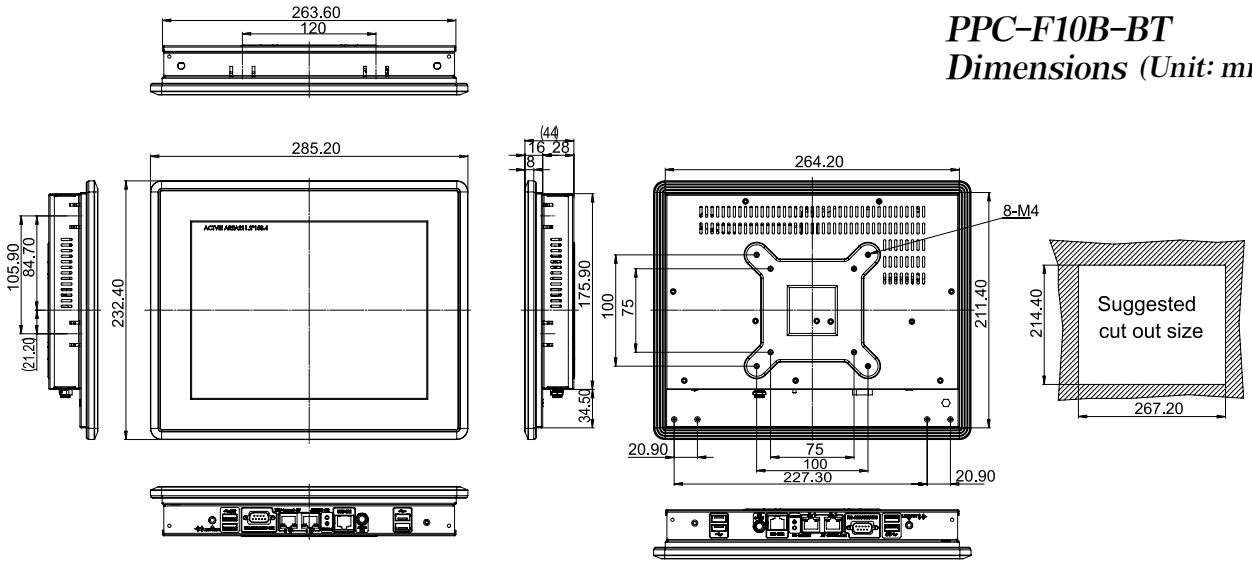
PPC-F06B-BT Dimensions (Unit: mm)



PPC-F08B-BT Dimensions (Unit: mm)



PPC-F10B-BT Dimensions (Unit: mm)



PPC-F Bay Trail Fanless Series

12”/15”/17”/19” Fanless Intel® Bay Trail Solution

Features

- Support IEI iRIS-2400 remote intelligent solution
- Intel® Celeron® J1900 quad-core SoC
- Robust IP65 aluminum front bezel
- Aesthetic ultra-thin bezel for seamless panel mount installation
- Projected capacitive multi-touch and resistive single touch options
- Dual full-size PCIe Mini card expansion
- 9V~36V DC wide range DC input

iRIS™ IPMI 2.0 Compliant | Fanless | Multi-touch | IP65 | PCIe Mini | USB 3.2 | MOUNT

Specifications

Model		PPC-F12B-BT	PPC-F15B-BT	PPC-F17B-BT	PPC-F19B-BT
LCD	LCD Display	12.1” (4:3)	15” (4:3)	17” (5:4)	19” (5:4)
	Max. Resolution	1024 (W) x 768 (H)	1024 (W) x 768 (H)	1280 (W) x 1024 (H)	1280 (W) x 1024 (H)
	Brightness (cd/m²)	600	450	350	350
	Contrast Ratio	700 : 1	800 : 1	800 : 1	1000 : 1
	LCD Color	16.2M	16.2M	16.7M	16.7M
	Pixel Pitch (mm)	0.24 x 0.24	0.297 x 0.297	0.26 x 0.26	0.294 x 0.294
	Viewing Angle (H-V)	160° / 140°	160° / 150°	170° / 160°	170° / 160°
	Backlight MTBF (hrs)	50000	70000	50000	50000
Motherboard	CPU	Intel® Celeron® processor J1900 (2M cache, up to 2.42 GHz)			
	RAM	2 x 204-pin DDR3L SO-DIMM slot (max. 8GB), pre-installed with 2GB			
Touch	Touchscreen & Controller	5-wire resistive single touch window, 3H/Penmount DMC9000 (Anti-glare Surface) 10-point Projected capacitive touch window, 6H/EETI EXC3188 (Anti-UV, Anti-glare Surface)			
Input Interfaces	I/O Ports & Switches	2 x RJ-45 LAN port 2 x USB 3.2 Gen 1 (5Gb/s) 2 x USB 2.0 1 x HDMI 2 x RS-232 1 x RS-232/422/485 1 x VGA 1 x 9 V~36 V DC jack (4-pin) 1 x 9 V~36 V DC terminal block 1 x Line-out (PPC-F15B & PPC-F17B & PPC-F19B only) 1 x Power switch			
	Expansion	1 x Full-size PCIe Mini slot (mSATA/PCIe/USB signal) 1 x Full-size/half-size PCIe Mini slot (PCIe/USB signal)			
Wireless LAN		802.11 b/g/n (optional)			
Drive Bay		1 x 2.5” HDD/SSD drive bay			
Remote Management Solution		iRIS-2400			
Physical	Construction Material	Aluminum front panel and sheet metal rear cover			
	Mounting	Panel mount, rack mount, VESA 100x100			
	Enclosure Color	Black C			
	Dimensions (mm) (W x L x D)	262.2 x 322.2 x 47.2	303 x 378.5 x 46.2	341.4 x 408.4 x 51.8	372.4 x 447.4 x 52.87
	Weight (Net)	3.2 kg	4.1 kg	5 kg	6.5 kg
	Cutout Dimensions (mm)	244.8 x 304.8	285.6 x 361	323 x 390	355 x 430
Environment	Operating Temperature (with air flow)	-10°C~50°C (14°F~122°F)			
	Storage Temperature	-20°C~60°C (-4°F~140°F)			
	Humidity	10% to 95% (non-condensing)			
	IP Level	IP 65 compliant front panel			
	Safety and EMC	CE & FCC Class A certified			
Power	Power Adapter	P/N: 63040-010060-220-RS 60W Power Adapter Input: 90 ~ 264V AC, 50/60Hz Output: 12V DC			
	Power Requirement	9 V~36 V DC			
	Power Consumption	40W	41W	42W	33W

Ordering Information

Part No.	Description
PPC-F12B-BTi-J1/2G/PC-R13	12.1" 600 cd/m² XGA Panel PC with Intel® Celeron® Processor J1900, TDP 10W, 2GB RAM*1, support iRIS-2400, black color, 9-36V DC input, projected capacitive touch window with AG coating, R13
PPC-F12B-BTi-J1/2G/R-R13	12.1" 600 cd/m² XGA Panel PC with Intel® Celeron® Processor J1900, TDP 10W, 2GB RAM*1, support iRIS-2400, black color, 9-36V DC input, resistive touch window with AG coating, R13
PPC-F15B-BTi-J1/2G/PC-R23	15" 450 cd/m² XGA Panel PC with Intel® Celeron® Processor J1900, TDP 10W, 2GB RAM*1, support iRIS-2400, black color, 9-36V DC input, projected capacitive touch with AG coating, R23
PPC-F15B-BTi-J1/2G/R-R23	15" 450 cd/m² XGA Panel PC with Intel® Celeron® Processor J1900, TDP 10W, 2GB RAM*1, support iRIS-2400, black color, 9-36V DC input, resistive touch window with AG coating, R23
PPC-F17B-BTi-J1/2G/PC-R13	17" 350 cd/m² SXGA Panel PC with Intel® Celeron® Processor J1900, TDP 10W, 2GB RAM*1, support iRIS-2400, black color, 9-36V DC input, projected capacitive touch window with AG coating, R13
PPC-F17B-BTi-J1/2G/R-R13	17" 350 cd/m² SXGA Panel PC with Intel® Celeron® Processor J1900, TDP 10W, 2GB RAM*1, support iRIS-2400, black color, 9-36V DC input, resistive touch window with AG coating, R13
PPC-F19B-BTi-J1/2G/PC-R12	19" 350 cd/m² SXGA Panel PC with Intel® Celeron® Processor J1900, TDP 10W, 2GB RAM*1, support iRIS-2400, black color, 9-36V DC input, AG projected capacitive touch window, R12
PPC-F19B-BTi-J1/2G/R-R12	19" 350 cd/m² SXGA Panel PC with Intel® Celeron® Processor J1900, TDP 10W, 2GB RAM*1, support iRIS-2400, black color, 9-36V DC input, AG resistive touch window, R12

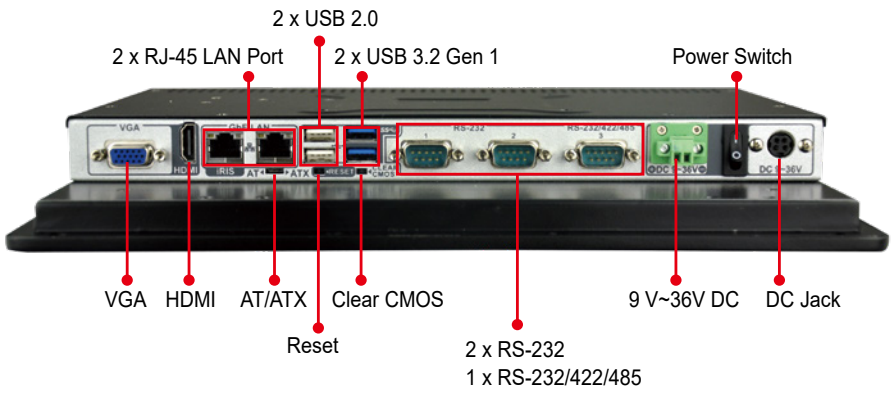
Options

Item	PPC-F12B	PPC-F15B	PPC-F17B	PPC-F19B
Arm	ARM-31-RS			
Stand	STAND-C12-R10 STAND-A12-RS	STAND-C19-R10 STAND-A19-RS	STAND-C19-R10 STAND-A19-RS	STAND-C19-R10 STAND-A19-RS
Wall Mount Kit	WK-190MS-R10			
Panel Mount Kit	FPK-09-R10	FPK-10-R10	FPK-10-R10	FPK-11-R10
Rack Mount Kit	FRK12-R10	FRK15-R10	FRK17-R10	FRK19P-R10
Wi-Fi Kit	EMB-WIFI-KIT01-R20	EMB-WIFI-KIT11-R20	EMB-WIFI-KIT11-R20	EMB-WIFI-KIT11-R20
iRIS (IEI Remote Intelligent System) Kit	iRIS-2400-RS			

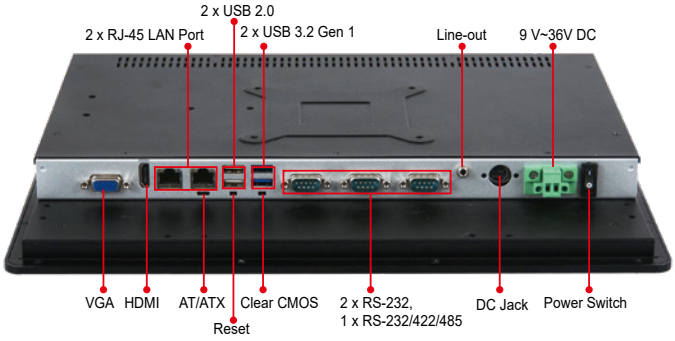
Packing List

Item	Q'ty	Remark
PPC-FxxB-BTi Panel PC	1	
Power Cord	1	Part numbers vary by regions
Screw Pack	1	Including necessary screws
Power Adapter	1	9V~36V DC (P/N: 63040-010060-220-RS)

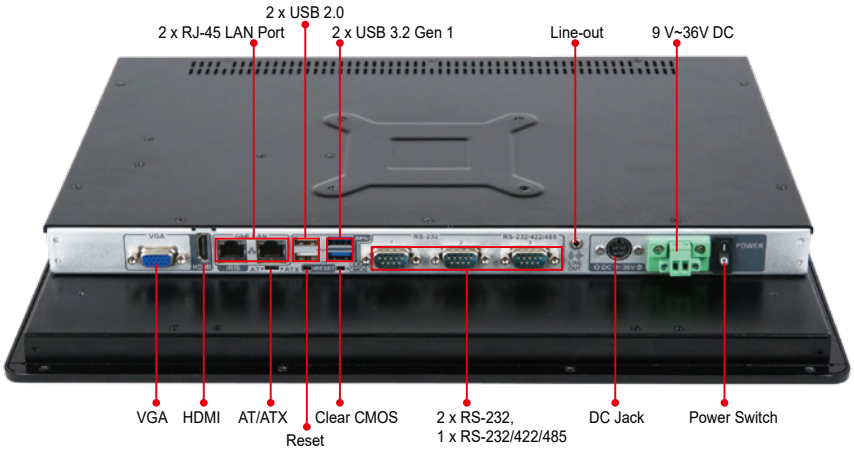
PPC-F12B
Fully Integrated I/O



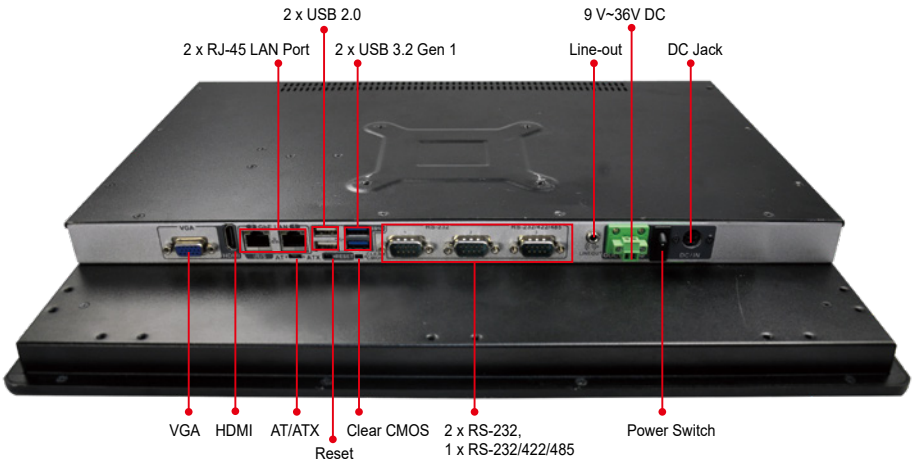
PPC-F15B
Fully Integrated I/O



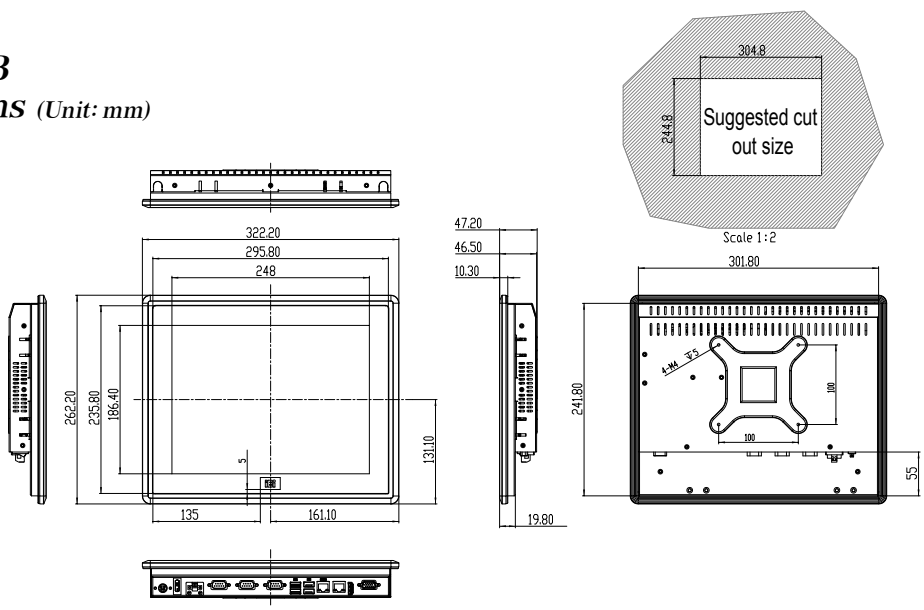
PPC-F17B
Fully Integrated I/O



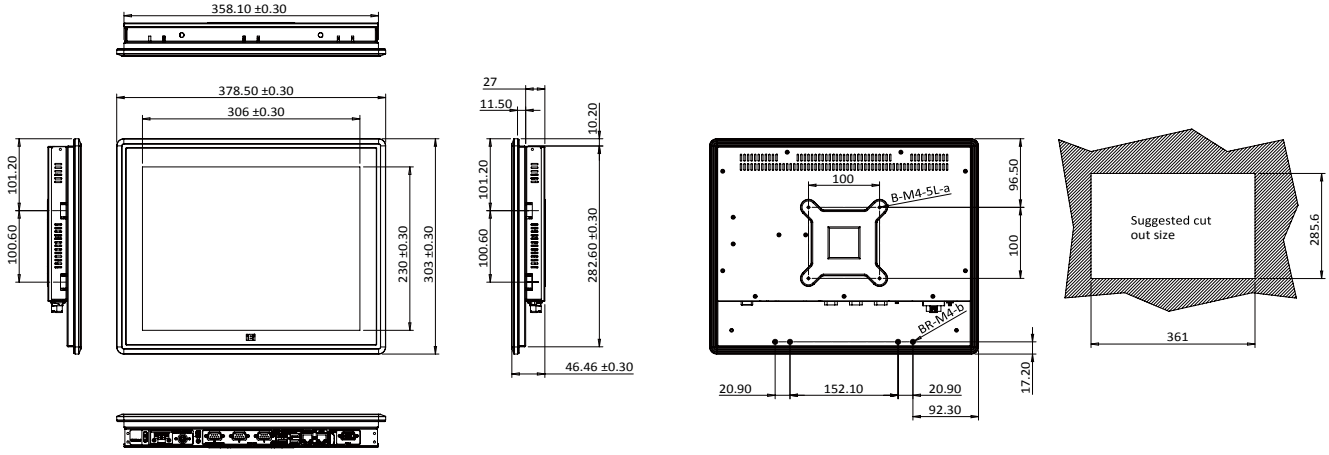
PPC-F19B
Fully Integrated I/O



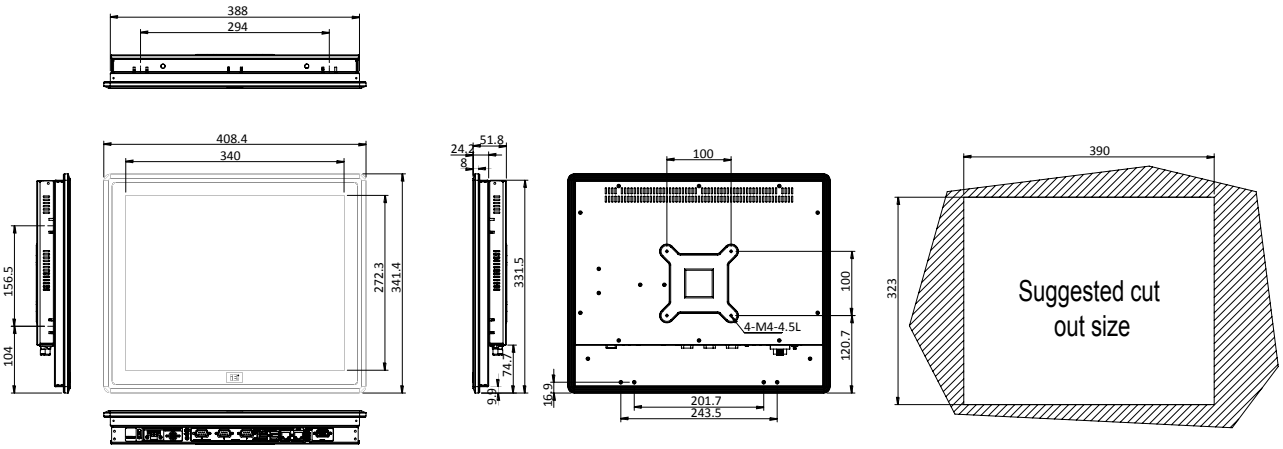
PPC-F12B
Dimensions *(Unit: mm)*



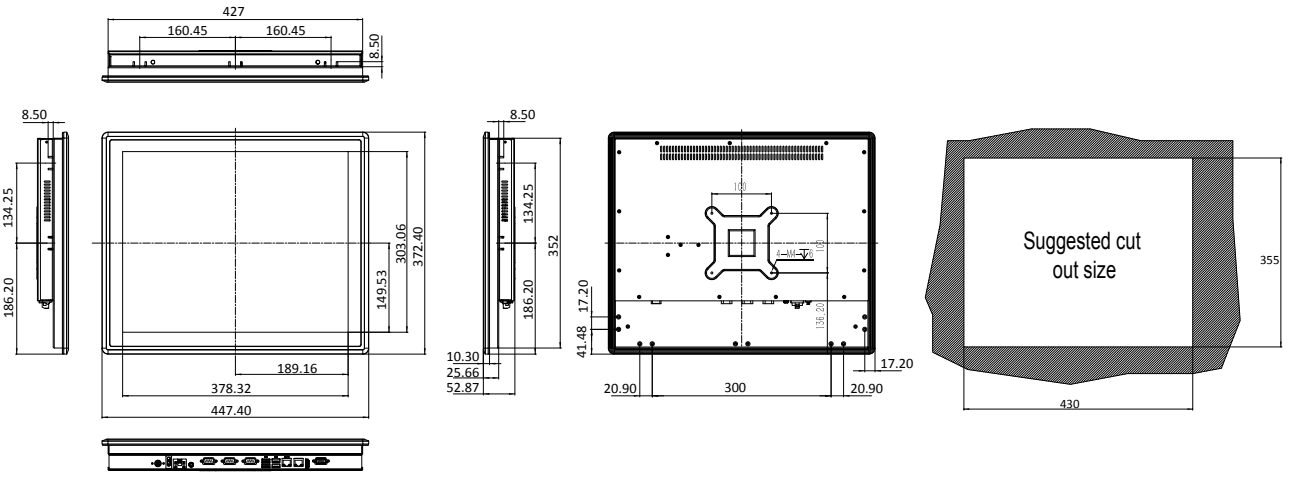
PPC-F15B Dimensions (Unit: mm)



PPC-F17B Dimensions (Unit: mm)



PPC-F19B Dimensions (Unit: mm)



Vertical Market PPC Selection Guide

Marine Series

Model		S19A-QM87	S24A-QM87	S19M	S24M
Display	LCD Size	19"	24"	19"	24"
	Max. Resolution	1280 x 1024	1920 x 1080	1280 x 1024	1920 x 1080
	Brightness (cd/m²)	300	300	300	300
	Contrast Ratio	2000:1	5000:1	2000:1	5000:1
	LCD Color	16.7M	16.7M	16.7M	16.7M
	Pixel Pitch (mm) (HxV)	0.294 x 0.294	276.75 x 276.75	0.294 x 0.294	276.75 x 276.75
	Viewing Angle (V/H)	178° / 178°	178° / 178°	178° / 178°	178° / 178°
	Backlight MTBF (hrs)	50000	50000	50000	50000
Touch	Touchscreen	Projected capacitive touch with USB interface, 6H			
Motherboard	CPU	Intel® 22nm 4th Generation Mobile Core™ i5-4400E 2.7GHz processor		-	-
	Chipset	Intel® QM87	Intel® QM87	-	-
	RAM	Two 204-pin 1600/1333 MHz dual-channel DDR3 SDRAM support up to 16GB		-	-
	Ethernet	GbE1: Intel® I217LM with Intel® AMT 9.0 support GbE2: Intel® I210-AT PCIe controller		-	-
	Audio Codec	N/A	N/A	-	-
I/O Ports and Switches		3 x USB 2.0 2 x USB 3.2 Gen 1 (5Gb/s) 1 x VGA 1 x DVI-D 1 x HDMI 1 x PS/2 (through Y-type cable supporting KB/MS) 2 x CAN-bus 2.0B, 3-pin terminal block (2.5KV isolation protection) 1 x DB-9 RS-232 (non-isolated) , 4 x DB-9 RS-232/422/485 (2.5KV isolation protection) 2 x RJ-45 GbE LAN with teaming support (2KV isolation protection) 1 x Mic-in 1 x Line-out 1 x Line-in 2 x Antenna SMA hole (reserved) 1 x Isolated 9V ~ 36V DC 3-pin terminal block 1 x Power button		• DVI-D Signal Input: 2 x DVI (24-pin, female) • VGA Signal Input: 2 x D-sub (15-pin, female) • VGA Signal Output: 1 x D-sub (15-pin, female) - Clone of VGA IN* • Composite Video Input: 1 x BNC connector (female) Composite Video Output: 1 x BNC connector (female) • RS-232/422/485 for remote control (Non-isolated) • Touchscreen: 1 x USB Type A connector (female) • Ethernet: 1 x RJ-45 connector for remote control • Isolated AC Power Inlet: 100V~240V AC • Isolated DC Terminal Block: 18V~36V DC • 1 x Buzzer	
Drive Bay	HDD Driver Bay	-	-	-	-
	SSD	2 x SSD Bay & 1 x CFast	2 x SSD Bay & 1 x CFast	-	-
Expansion Slot		2 x PCIe Mini card	2 x PCIe Mini card	-	-
System Cooling		Fanless	Fanless	Fanless	Fanless
Environment	Operating Temperature	-15°C to 55°C (5% to 95% RH)			
	Storage Temperature	-20°C to 60°C			
IP Rating		Front IP 66 / Rear IP 22			

Marine Series

The maritime field faces critical environmental challenges, making reliable and rugged systems essential. IEI provides maritime professionals and marine-grade panel PCs and monitors and embedded box that use leading technologies and reliable designs which are perfect for applications on the dock, on the open deck, or in the control room or bridge.

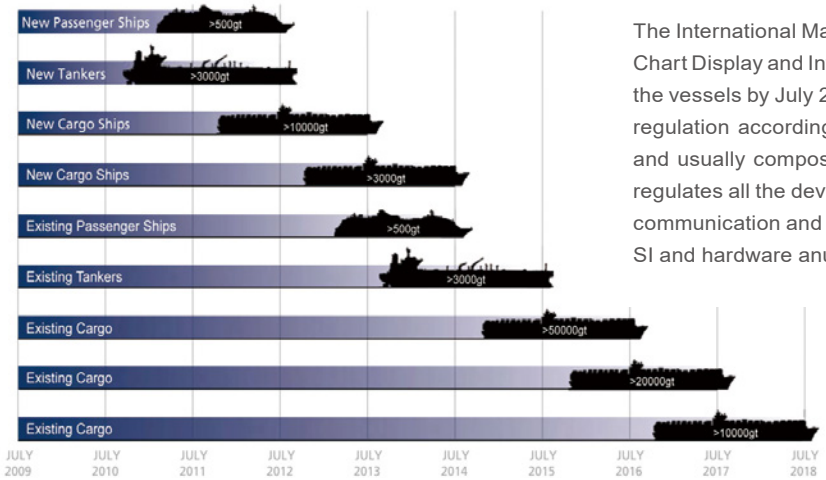
iRIS™ IPMI 2.0 Compliant

TYPE APPROVED PRODUCT DNV·GL MARITIME

IEC 60945

IACS -E10

ECDIS Implementation Schedule

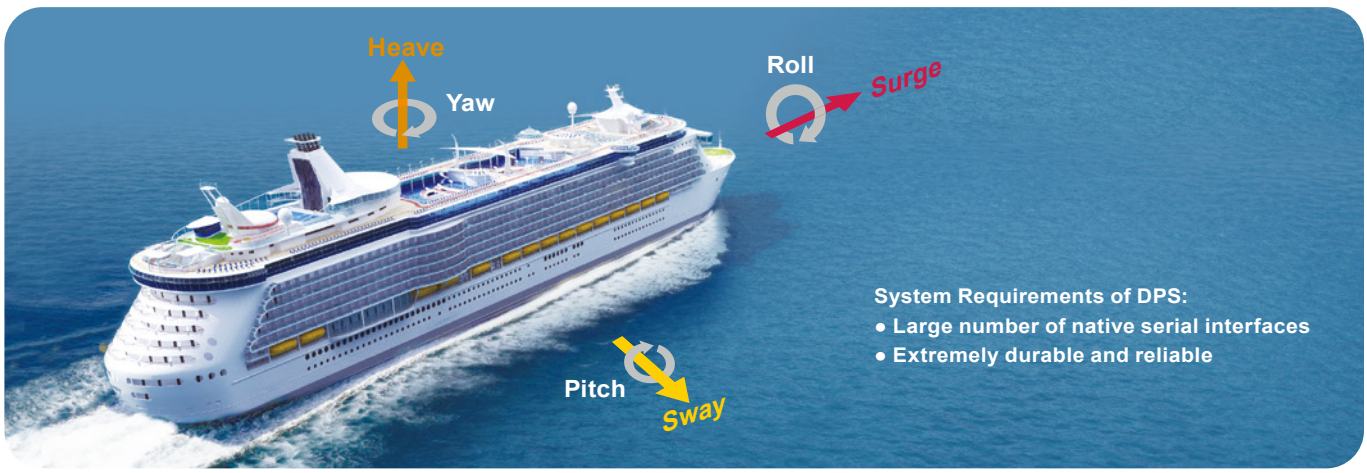


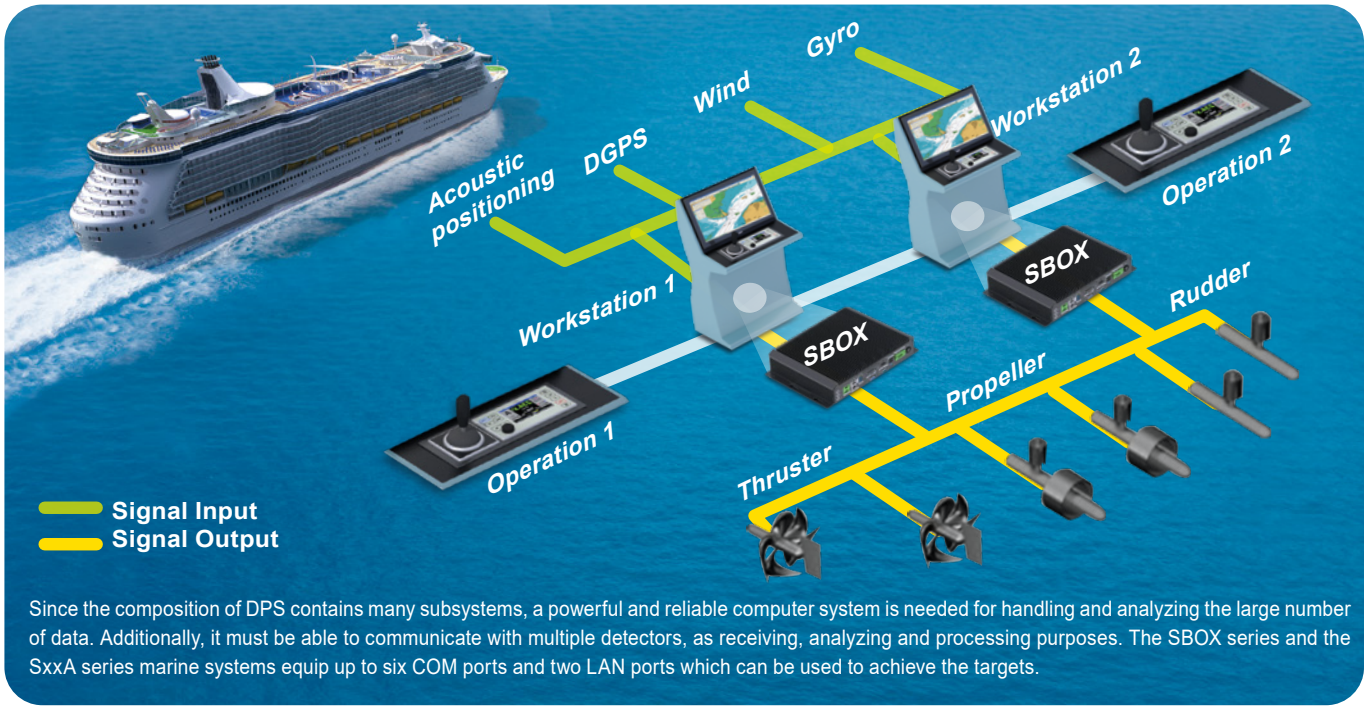
The International Maritime Organization (IMO) has announced that Electronic Chart Display and Information System (ECDIS) should be implemented into all the vessels by July 2018. Both new ships and existing ships should follow this regulation according to the timetable. The bridge systems are complicated and usually composed of multiple sub-systems. ECDIS clearly defines and regulates all the devices and connections, which include data collection, data communication and color calibration. Therefore, this is a huge opportunity for SI and hardware anufacturers.

Dynamic Position System (DPS)

Dynamic Positioning System (DPS) is a closed-loop control system. It is driven by the control system of the ship to counteract the environmental forces to the ship, such as wind, waves and ocean currents. This mechanism could make ship remain in the position on the sea. DPS precisely calculates the propellant force by continuously monitoring the ship position deviation and analyzing the natural forces which could affect ship's navigation direction. This process could make the ship remain in the correct position and maintain the right direction.

DPS is commonly used at various marine applications, such as subsea engineering work, underwater salvage, marine resources survey, marine engineering lifting, marine engineering umbilical laying, deep diving support, underwater engineering operations and marine engineering comprehensive test. DPS consists of measurement systems, control systems, power systems and propulsion systems, and other components. DPS possesses many functions which include maintaining the specified location, targeting, automatic searching for the best bow position, turning point tracking, ROV automatic tracking, changing the center of rotation, automatic navigation, parallel movement and other functions.

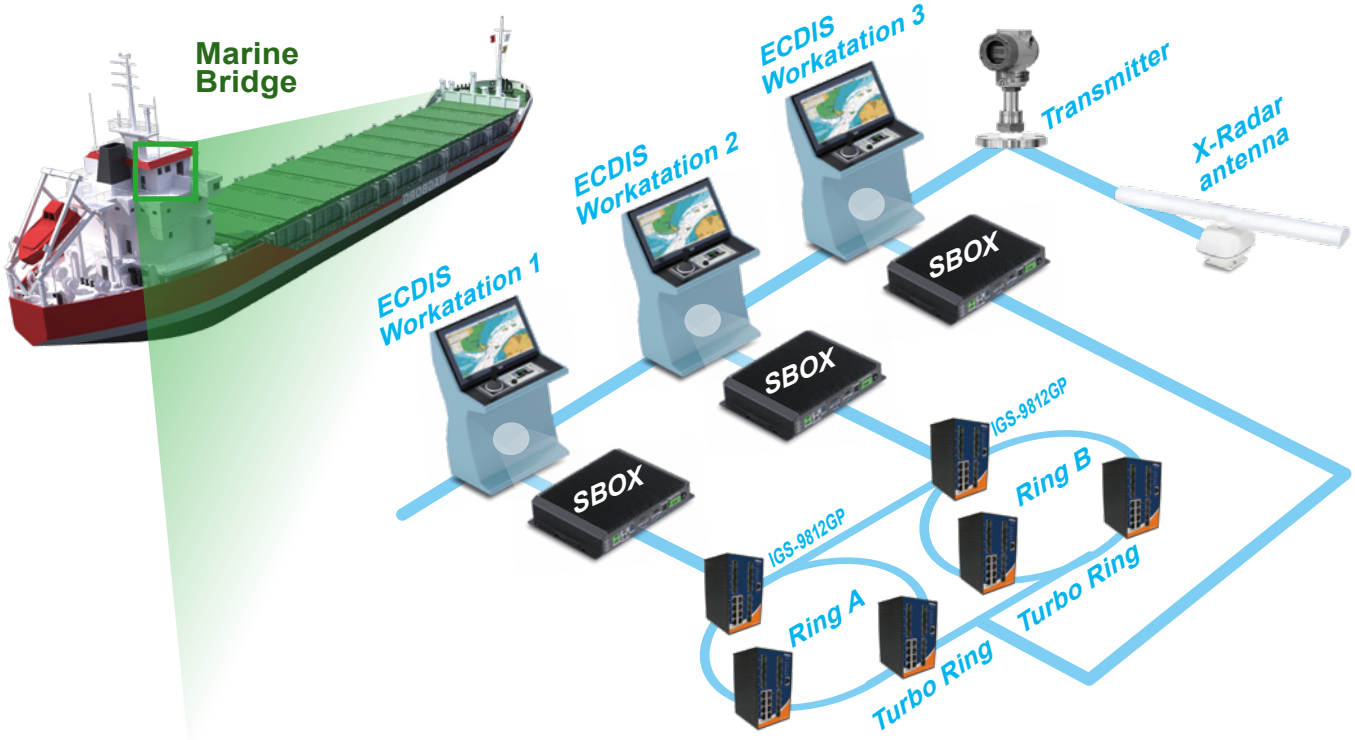




Since the composition of DPS contains many subsystems, a powerful and reliable computer system is needed for handling and analyzing the large number of data. Additionally, it must be able to communicate with multiple detectors, as receiving, analyzing and processing purposes. The SBOX series and the SxxA series marine systems equip up to six COM ports and two LAN ports which can be used to achieve the targets.

Electronic Chart Display and Information System (ECDIS)

The bridge system usually needs to collect and analyze many observation data, including anemometer stations, speed logs, weather stations and GPS signal. In order to precisely observe the changing walruses, the sensors are usually located at the top of ship or in the open deck. Therefore, with the long distance communication, these signals and communication paths should all follow specific regulation such as NEMA 0813. There are large amounts of data received at bridge, and they should be carefully processed and precisely analyzed. A powerful and reliable embedded box or panel PC is necessary for this task. IEI marine embedded box, the SBOX series, equips up to six COM ports which can be used to synchronously handle a large amount of data. The system of ship bridge consists of many sub-systems, which includes navigation system, path control system, radar system, etc. Most of them usually have dual system in order to prevent the failure of primary system. Additionally, dual system could also appear the identical information such as sea chart to the captain and pilot simultaneously. In practical application, dual or more LAN ports are necessary for connecting and controlling multiple monitors. The SBOX series and the S24A/S19A series contain six ports and two LAN ports to fulfill the requirements mentioned above.



Marine Panel PC Series

S19A-QM87

Intel® Core™ i5 Dual-core Processor

- **19"Fanless Panel PC with 4th Generation Intel® Core™ i5 Dual-core Processor**
- **-15°C ~ +55°C Wide Temperature and IP66 Protection with Flat-bezel Projected Capacitive Touchscreen**
- **Excellent Visual Performance**
  - Three independent displays
  - Full OSD function configuration
  - 0%~100% full range dimming
  - 178°/178° wide viewing angles
  - Optical bonding improves visibility under bright light (optional)
- **Isolation Protection**
  - RS-232/422/485 isolated serial ports
  - Isolated 18V ~ 36V DC input
  - 2 x Isolated CAN-bus 2.0B
- **iRIS Remote Management Module**

IPMI 2.0 Compliant | IEC 60945 | IACS -E10 | Fanless | Triple Display | Dual GbE

Specifications

Model		S19A-QM87		
LCD	LCD Size	19"		
	Panel Type	PMVA		
	Max. Resolution	1280 x 1024 (5:4)		
	Contrast Ratio	2000 : 1		
	Brightness (cd/m²)	300		
	LCD Color	16.7M		
	Pixel Pitch (um)	294 x 294		
	Viewing Angles (H-V)	178° / 178°		
	Backlight MTBF (HRs)	50000		
Touchscreen & Controller		EEX3188 (10 point), 6H		
System	SBC Model	SMB-QM87-R10		
	Chipset	Intel® QM87		
	CPU	Intel® 22nm 4th generation Mobile Core™ i5-4400E 2.7GHz processor		
	RAM	4GB 1600MHz DDR3 SDRAM (2GB*2) Two 204-pin 1600/1333 MHz dual-channel DDR3 SDRAM support up to 16GB		
Input Interfaces	I/O Ports & Switch	2 x USB 2.0 2 x USB 3.2 Gen 1 (5Gb/s) 1 x VGA 1 x DVI-D 1 x HDMI 1 x Mic-in	1 x Line-out 1 x Line-in 2 x Antenna SMA hole (reserved) 1 x Isolated 18V ~ 36V DC 3-pin terminal block 1 x Power button 1 x PS2 (through Y-type cable supporting KB/MS)	4 x DB-9 RS-232/422/485 (2.5 kv isolation protection) 2 x RJ-45 GbE LAN with teaming support (2KV isolation protection) 2 x CAN-bus 2.0B, 3-pin terminal block (2.5 kv isolation protection) 1 x DB-9 RS-232 (non-isolated)
	Expansion	2 x Full-size PCIe Mini slot, 1 x iRIS-2400 slot (iRIS remote management module)		
Ethernet Controller		GbE1: Intel® I217LM with Intel® AMT 9.0 support GbE2: Intel® I210-AT PCIe controller		
Sensor		Ambient light sensor (0% ~ 100%)		
OSD		Menu, brightness down, brightness up, LCD on/off by cap-sensor (graphics engine: Genesis STDP6038)		
Storage		2 x 2.5" SSD bay with RAID 0/1 function 1 x Accessible CFast socket		
LED Indicator		Power (power on: green; power off: orange)/storage (red, blinking)/IPMI (blue)		
Power Requirement		Isolated 24V DC (18~31.2 V DC), screw-type 3-pin terminal block		
Operating Temperature		-15°C ~ 55°C (5°F ~ 131°F)		
Storage Temperature		-20°C ~ 60°C (-4°F ~ 140°F)		
Humidity		5% to 95% RH		
Thermal Design		Fanless		
Watchdog Timer		Supports 1~255 sec. system reset		
Certifications		EMC: CE, FCC Safety: DNV GL CG-0339, IEC 60945 4th, IACS-E10, IEC 61174 IP rating: IP66 compliant front panel and IP22 compliant rear cover		
Housing		Front aluminum sheet metal (Black C)		
Cut-out Dimensions (L x W)		442 mm x 373 mm		
Dimensions (L x W x H)		463 mm x 394 mm x 113 mm		
Net Weight (kg)		9.91		
Gross Weight (kg)		13.38		
Vibration and Shock		IEC 60945 / DNV GL CG-0339 / IACS-E10		
Power Supply (DC Input)		DC Input ATX Power Supply - P/N: 041D710-00-101-RS - 150W power supply	- Input: 24V DC, 8-4A (max.) - Output (max.): 12V @13A	
Power Consumption		112W		

Ordering Information

P/N	Description
S19A-QM87i-i5/PC/4G-R11	19” 300cd/m² SXGA marine panel PC with Intel® Mobile Core™ i5-4400E 2.7GHz CPU, 2*2GB DDR3 RAM, projected capacitive touch screen, isolated 18-36V DC, iRIS-2400 supported, R11

Options

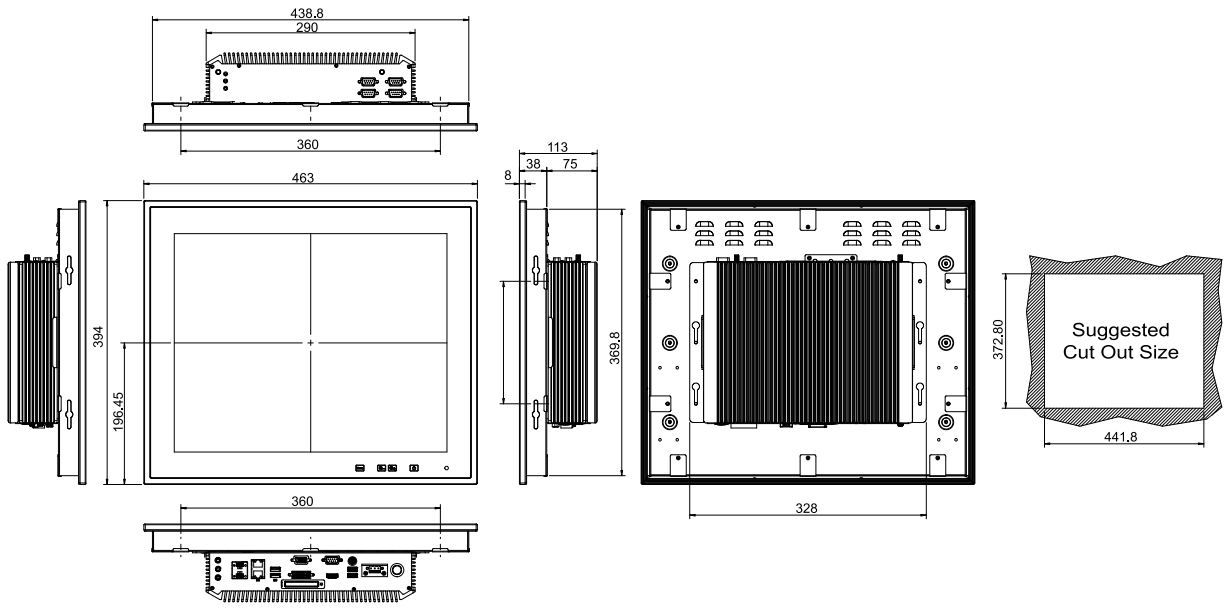
Item	Part No.	Description
Panel Mount Kit	PK-S19A-R10	For S19A
Desktop Stand	STAND-S24A-R10	For S19A
Ceiling Mount Kit	CEILMT-S24-R10	For S19A
HDMI Lockable Kit	HDMI-LK-R10	Universal HDMI Locking Adapter
iRIS Module	iRIS-2400-R10	IPMI 2.0 adapter card with AST2400 BMC chip for DDR3 SO-DIMM socket interface

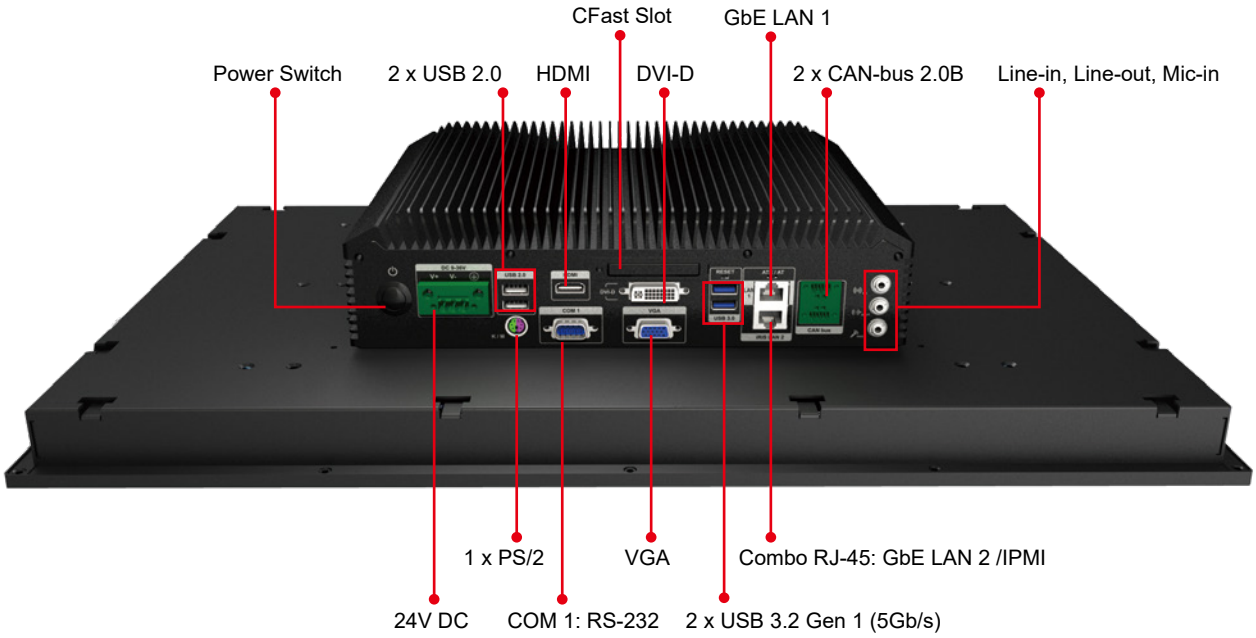
Packing List

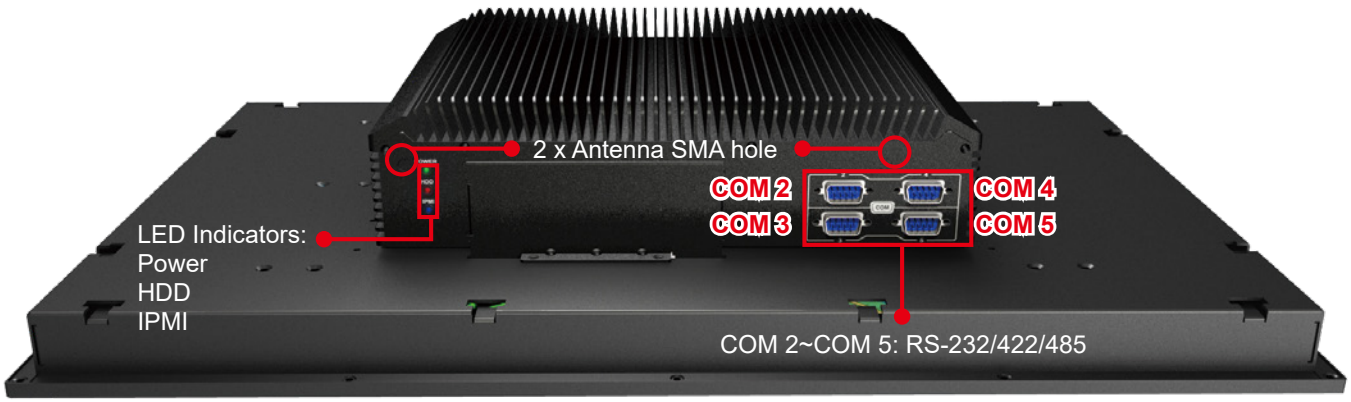
Item	Q’ty	Remark
S19A-QM87	1	
Screw Pack	1	Including necessary screws
PS/2 Cable	1	Round cable; PS/2 cable
Wire Strain Band	3	Wire strain band

S19A-QM87 Dimensions

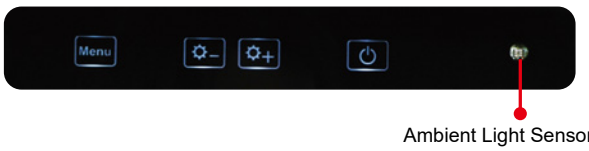
(Unit: mm)







Four OSD Keys by Cap-sensor
(Menu, Brightness down, Brightness up, LCD on/off)



www.ieiworld.com

IEI Marine System

Marine Embedded Box Series

SBOX-100-QM87

Intel® Core™ i5 Dual-core Processor

Features

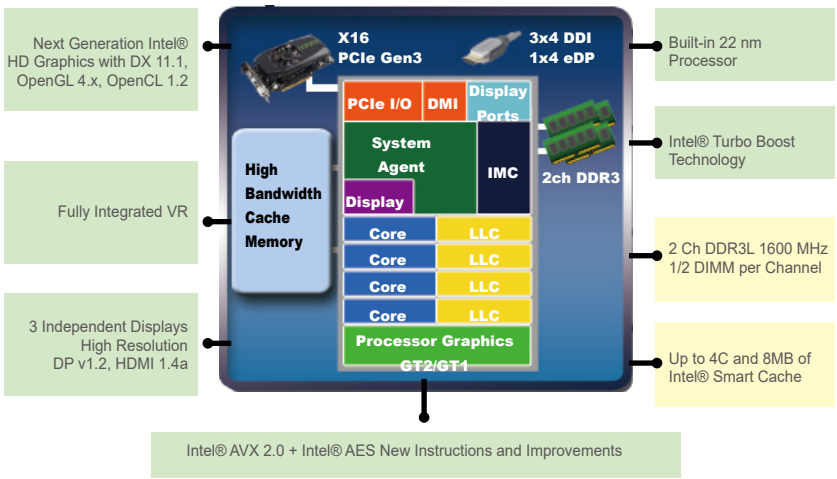
- Fanless marine computer with 4th Generation Intel® Core™ i5 dual-core processor
- -15°C ~ +55°C wide temperature
- Isolation protection
  - » 4 x RS-232/422/485 isolated serial ports
  - » Isolated 18 V~24 V DC input
  - » 2 x Isolated CAN-bus 2.0B
- 2 x 2.5" SSD bay with RAID 0/1 function
- Supports IEI iRIS-2400 (IPMI 2.0 compliant)

QTS-Gateway | IPMI 2.0 Compliant | Fanless | CAN-Bus | Triple Display | Dual HDD

■ Intel® Core™ i5 High Performance Computing Power in a Fanless Design

IEI's high performance marine solutions are built with the powerful Intel® Core™ i5 CPU within a fanless system architecture. No matter your applications are general marine system management, monitoring or conning systems, radar systems, or ECDIS navigation, IEI's marine computers will give you the most stability than ever.

• Improved CPU performance with Intel® 22nm 4th Generation Mobile Core™ i5-4400E 2.7 GHz processor
• Two 204-pin 1600/1333MHz dual-channel DDR3 SDRAM support up to 16 GB

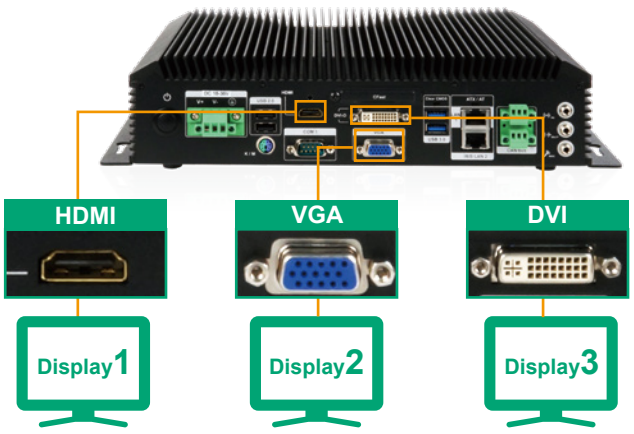


With IEI's fanless solutions, your vessels can avoid the bothersome of replacement of fan, increasing safety and efficiency for the crew and the entire ship.

Three independent aluminum heat sinks help the heat dissipate averagely, and help the system efficiently achieve wide operating temperature range between -15°C~55°C.

■ 3 independent displays: HDMI, DVI, and VGA

The three simultaneously independent displays are supported via the on-board video output combinations of VGA, DVI and HDMI. This versatile combination of display output options make the marine system ideal for multi-monitor required applications in the bridge room.



■ Multiple Isolated Ports for Comprehensive Protection against Electrical Surges

Ground loop and electric surges are common in the marine applications of electronic products due to the dense placement of devices. These stray electrical signals can cause equipment damage or malfunction.

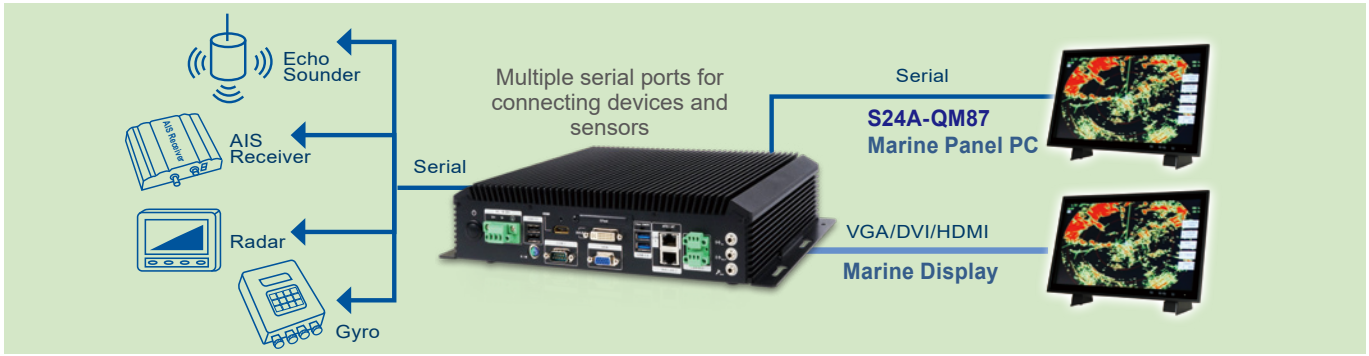
■ Isolated 18 V~24 V DC power 2250 V DC Input to Output Basic Insulation

■ 2.5 kV isolation protection on the RS-232/422/485

IEI marine computer is protected from any stray electrical signals from other devices on the ship. Electric surges that were generated from other electronic devices which often passed through serial lines to the marine computer can cause severe damage and malfunction to the computers.

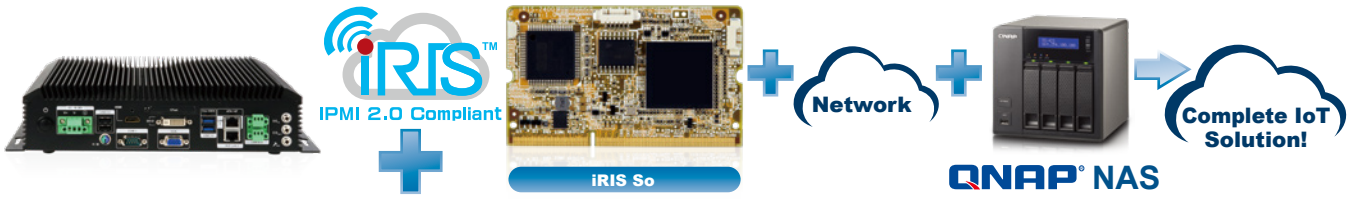
■ Two independent CAN 2.0B channels with 2.5 kV isolation protection

CAN 2.0B is a kind of marine electronic data network for communication between marine electronic devices such as chart plotters, navigation instruments, GPS receivers, etc.



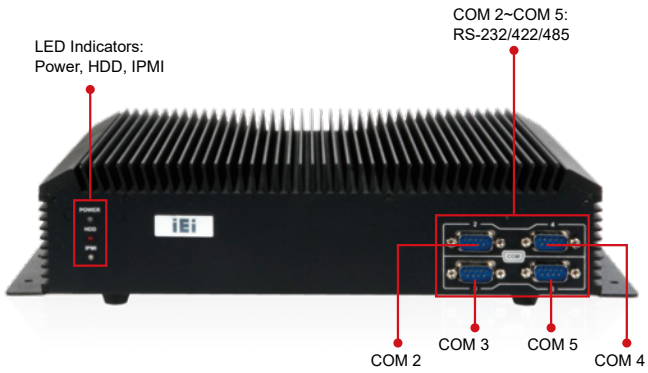
■ IEI Remote Intelligent Management System

The marine computer supports IEI iRIS remote management solution which helps users to manage multiple devices through single management interface and elevates work efficiency. The iRIS solution only requires a module and Internet connection!

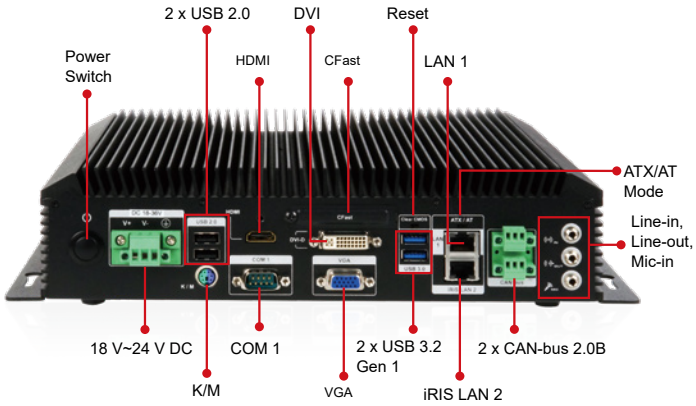


iRIS Key Feature	Detailed Functions	iRIS Key Feature	Detailed Functions
System health monitor	• Hardware monitor • Health log • Event log	**Screen record**	• Remote video streaming record • Event Trigger Setting & video record
Remote system maintenance	• Remote BIOS update • Remote OS recovery • Remote KVM + One Key Recovery • Remote out-off-band backup	**Remote power control**	• Reset Power • Power Off Server – Immediately • Power Off Server – Orderly • Power On Server • Power Cycle Server
Active alert & notice	• Send instant system alerts via e-mail • Send instant system alerts via SMS • Send instant system alerts to management server	**Remote troubleshooting**	• Remote software update • Remote OS installation & recovery • Remote KVM • Post code display
Remote device control	• Fan control • Remote KVM • Remote setting BIOS	**Diagnose before dispatch**	• Health log analysis • Event log analysis
		Group control	• Group control

Front view



Rear view

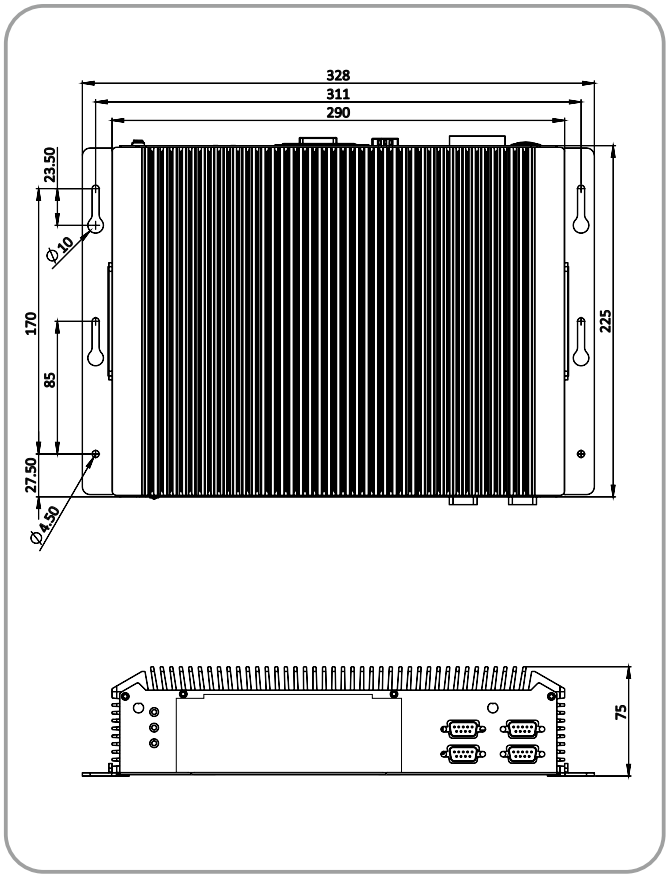


Specifications

Model		SBOX-100-QM87
Chassis	Color	Black
	Dimensions (WxHxD) (mm)	290 x 75 x 225
	System Fan	Fanless
	Chassis Construction	Extruded aluminum alloy
Motherboard	CPU	Intel® mobile Core™ i5-4400E (2.7 GHz, 37W)
	Chipset	Intel® QM87
	System Memory	2 x 204-pin DDR3 SO-DIMM slot (system max. 16 GB) Pre-installed 4 GB DDR3 SO-DIMM
IPMI	iRIS Solution	iRIS-2400
Storage	Hard Drive	2 x 2.5" SATA 6Gb/s SSD bay with RAID 0/1 function
	CF Card/CFast	1 x CFast
I/O Interfaces	PS2 (KB/MS)	1
	USB 3.2 Gen 1	2
	USB 2.0	2
	Ethernet	2 x RJ-45 with teaming support 1 x PCIe GbE by Intel® I217LM 1 x PCIe GbE by Intel® I210-AT (2 with 2 kV isolation)
	COM Port	1 x DB-9 (non-isolated) 4 x RS-232/422/485 (with 2.5 kV isolation)
	CAN-bus/OBD-II	2 x CAN-bus (with 2.5 kV isolation)
	Display	1 x VGA, 1 x DVI-D, 1 x HDMI
	Resolution	VGA: Up to 1920 x 1200 @ 60 Hz HDMI: Up to 2500 x 1600 @ 60 Hz DVI-D: Up to 2500 x 1600 @ 60 Hz
	Audio	1 x Line-out, 1 x Line-in, 1 x Mic-in
	Wireless	2 x Antenna SMA hole (reserved)
Expansions	PCIe Mini	2 x Full size*
LED Indicator & Button	Indicator	Power (power on: green, power off: orange), storage (red, blinking), IPMI (blue)
Power	Power Input	Terminal block: Isolated 24V DC (18~31.2 V DC)
	Consumption	100 W (Intel® mobile Core™ i5-4400E with 4 GB DDR3 memory)
Reliability	Mounting	Wall mount
	Operating Temperature	-15°C ~ 55°C (5°F ~131°F) with air flow (SSD)
	Storage Temperature	-20°C ~ 60°C (-4°F ~140°F)
	Humidity	5% ~ 95%, non-condensing
	Operating Shock	IEC 60945 and DNV 2.4 IASC-E10 compliant
	Operating Vibration	
	Weight (Net/Gross)	4.08 kg / 6.03 kg
	Safety/EMC	EMC/CE/FCC/DNV GL CG-0339, IEC 60945 4th, IACS-E10, IEC 61174 compliant IP rating: IP22 compliant rear cover
OS	Supported OS	Microsoft® Windows® Embedded 8, Microsoft® Windows® Embedded Standard 7 E

*SBOX-100-QM87i-QGW-R10 has only one Half-size PCIe Mini slot

Dimensions *(Unit: mm)*



Ordering Information

Part No.	Description
SBOX-100-QM87i-i5/4G-R10	Fanless marine computer with Intel® Mobile Core™ i5-4400E 2.7 GHz processor, 4 GB DDR3 memory, iRIS-2400 supported, isolated 18 V~36 V DC, R10
SBOX-100-QM87i-QGW-R10	Fanless marine computer with Intel® Mobile Core™ i5-4400E 2.7GHz Processor, DDR3 8GB, iRIS-2400 supported, with QTS-Gateway, isolated 18~36V DC, RoHs

Packing List

Item	P/N	Qty	Remark
PS/2 cable	32006-000300-100-RS	1	PS/2 cable
Rubber pad & screw pack		1	Rubber pad & screw pack

Marine Monitor Series

The marine monitor series possesses many sophisticated features that fit with practical marine environment, including front panel IP 66 dust- and water-proof level, wide-rang operating temperatures, multi-point capacitive touch, wide viewing angles and OSD control. Especially, optical bonding is a good choice for the use of high brightness environments. Versatile mounting ways offer customers flexible methods in accordance with different operating environments.

■ Optical Bonding Enhance Visibility (optional)

The lightness is a crucial factor to sailing safety. IEI provides an option for optical bonding between touchscreen and LCD panel. The light transmitting between various medias could produce reflection. Traditionally, there is an air gap between touchscreen and LCD panel, which could reflect light seriously. It could affect the sailing security tremendously. Adding optical bonding material between touchscreen and LCD panel can improve reflection effectively and increase brightness by 10%. Furthermore, it not only increases hardness of touchscreen but also reduces power consumption.

Improving the viewing experience

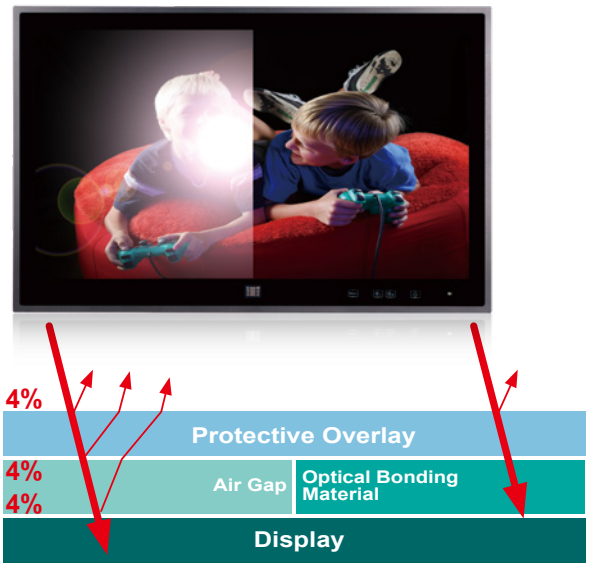
- Increase contrast ratio by 400% in sunlight
- Increase brightness by 10%

Increasing the display ruggedness

- Increase the falling ball impact resistance by up to 3 times

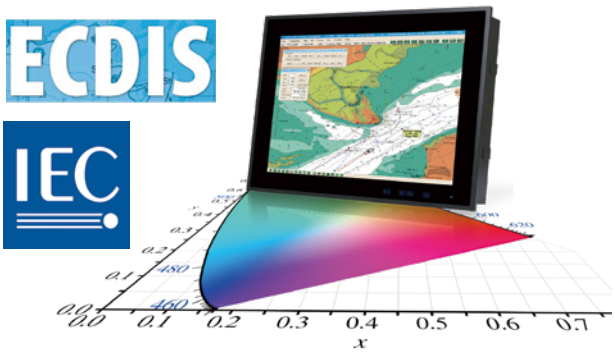
Reduced power consumption

- By reducing the light loss due to reflection



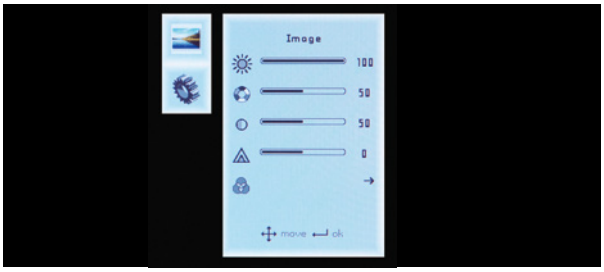
■ ECDIS (optional)

For industrial and commercial applications, color rendering accuracy and consistency are absolutely essential. The human eye is generally likely to be impacted by environment and misled presentation of colors in the brain. The maritime environment is much more ruggedized compared with general industrial environment. The requirements for the degree of light and dark and color of accuracy are more stringent. Color calibration technology ensures that monitor would effectively show the largest accuracy and minimum deviation of artificial color. IEI marine monitors and panel PCs follow the IEC 61174 ECDIS regulation. It is performed by monitoring up to N checkpoints and measuring the color and brightness of the display. After precisely calculating and highly reliable calibrating, the profile matrix will be stored in the firmware of monitor. The monitors (PPCs) compliant with ECDIS specifications will provide a more safe and secure maritime environment.



■ Adjustable LCD Brightness and Auto-Dimming Available

The auto-dimming function could slightly modify LCD brightness according to ambient light. To consider the safety of navigation and operators' eye comfort, both LCD brightness and OSD brightness are designed to be programmable.



OSD Control on Front Panel

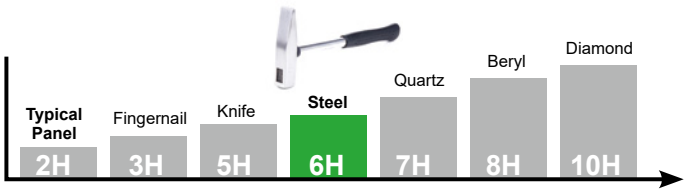
On Screen Display (OSD) offers customers a quick way to modify the LCD brightness. In contrary to traditional tuner, the full flat OSD design not only features beautiful outward appearance but also improves the shortcoming of dust accumulation in physical button.

Lockable HDMI Cable Support (optional)

The lockable HDMI cable design not only increase reliability but also reduces the possibilities of accidental human errors. Therefore, important information could be displayed continuously.

6H Multiple Projected Capacitive Touchscreen

The IEI marine products provide capacitive multi-touch up to 10 points (2-point on 24" model). In practical applications, 10-point touch can simulate engine button and pump switch so that there will be less real buttons. This can enhance the reliability of marine infrastructure.



MOH's Hardness Rating

6H 10-point Touch for S19M **6H 2-point Touch for S24M**

Picture-in-Picture (PIP) Function & Surveillance Application

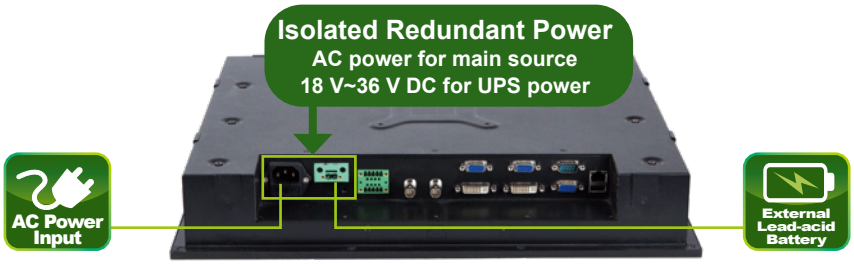
Picture-in-Picture function offers high efficiency to surveillance. You can monitor the radar information and observe surveillance video simultaneously. Simply connect BNC camera to BNC input port and link DVR to BNC output port. Therefore, you can monitor and record at the same time, and the record can be saved for further use.

PIP Matching Table

		Main Channel				
		VGA1	VGA2	DVI1	DVI2	CVBS1
Sub Channel	VGA1	X		X	X	X
	VGA2		X	X	X	X
	DVI1	X	X	X		X
	DVI2	X	X		X	X
	CVBS1	X	X	X	X	X

Reliable Power System

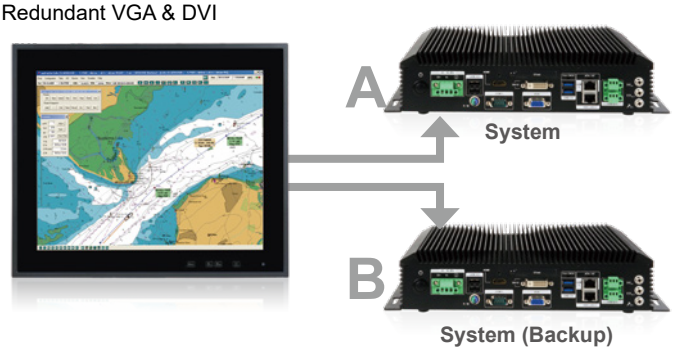
There are usually two systems - one master for use, and one slave for backup. IEI provides isolated redundant power, which means you will have separate power inputs, including AC source and DC source. When AC source is terminated, the DC source will continue to supply power to the device.

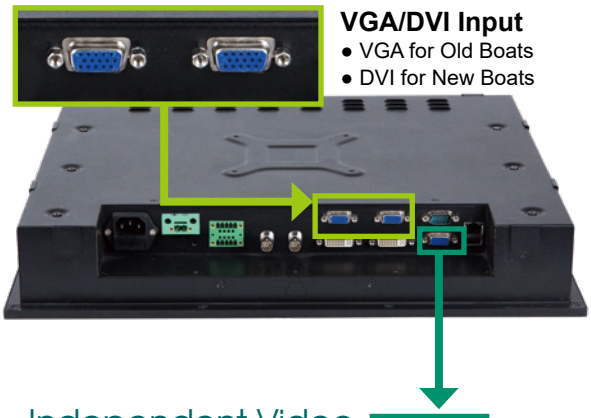


■ Dual Video Input Support

The IEI marine products equips with two VGA inputs and two DVI inputs. VGA is designed for the old ships while DVI is designed for the new ones. Additionally, in order to prevent failure of the main system, dual video input design is provided for much more reliability. Hence, operation will not be terminated due to switching between systems

Dual Video Input Support
Redundant VGA & DVI





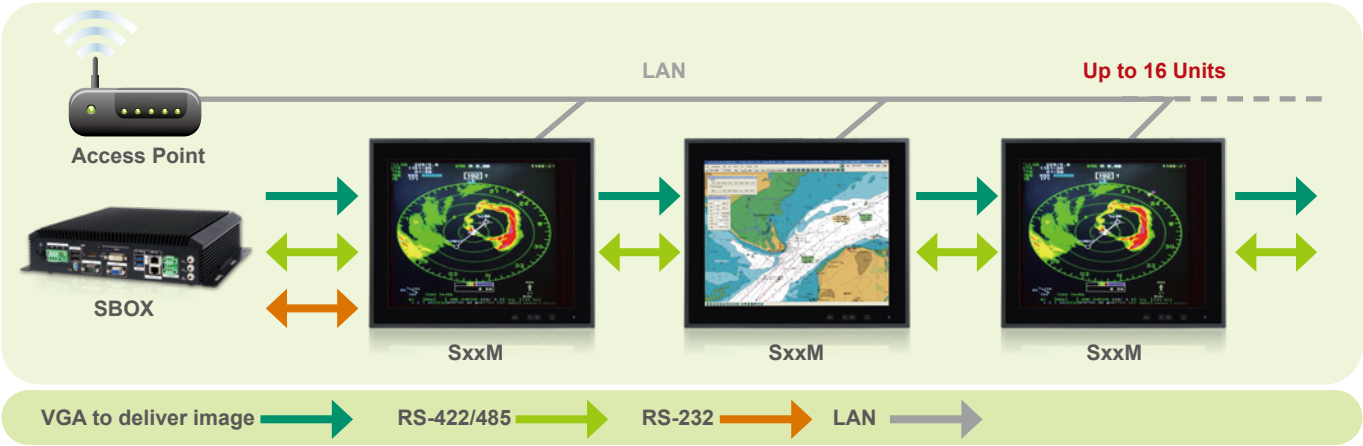
VGA/DVI Input
- VGA for Old Boats
- DVI for New Boats

■ Independent Video Output Support

VGA output port features display cascade function, providing a convenient way to duplicate display signal. This function helps customers to connect devices quickly and easily.

■ Daisy Chain OSD Remote Control

It is essential to show the same displays to captains and pilots through the monitors which are usually cascaded at the ship bridge. The marine monitor equips both VGA input and VGA output. By connecting the VGA-out of the first monitor to the VGA-in of the second monitor, the IEI marine monitors feature group display with maximum up to 16 screens in the group. To comply with the ECDIS regulation, adjusting the brightness and contrast on all monitors at the same time is necessary, and this can be achieved through the Ethernet or serial COM ports. LAN is used to communicate in long distance in the group; as for short distance, COM port is the best choice. The LAN port can also be used for updating firmware and maintaining service.



■ Versatile Mounting Methods (optional)

Versatile mounting methods provide customers a secure way to settle the instrument. We provide three different mounting kits for customers, which include stand, ceiling mount kit and panel mount kit.


Stand Alone


Ceiling Mount


Panel Mount

IEI Marine System www.ieiworld.com

Marine Monitor Series

S19M

19” IP66 Marine Monitors

Features

- **IP66 Front / IP22 Rear**
- **-15°C ~ +55°C Wide Temperature and Flat-bezel Projected Capacitive Touchscreen**
- **Excellent Visual Performance**
  - Full OSD function configuration
  - 0%~100% full range dimming
  - 178°/178° wide viewing angles
- **Multiple Video Input**
  - Two VGA, two DVI, and one BNC
- **Multiple Video Output**
  - One VGA and one BNC
- **Dual Isolated AC/DC Input with Redundant Power Protection**
- **Remote OSD Settings through LAN, RS-232, RS-422 and RS-485**

Specifications

Model		S19M
LCD	LCD Size	19"
	Panel Type	PMVA
	Max. Resolution	1280 x 1024 (5:4)
	Contrast Ratio	2000 : 1
	Brightness (cd/m²)	300
	LCD Color	16.7M
	Pixel Pitch (um)	294 x 294
	Viewing Angles (H-V)	178° / 178°
	Backlight MTBF (HRs)	50000
Touchscreen & Controller		EXC7920 (10-point), 6H
Scalar Chip		STDP8028
I/O Ports		• DVI-D Signal Input: 2 x DVI (24-pin, female) • VGA Signal Input: 2 x D-sub (15-pin, female) • VGA Signal Output: 1 x D-sub (15-pin, female) - Clone of VGA IN* • Composite Video Input: 1 x BNC connector (female) Composite Video Output: 1 x BNC connector (female) • RS-232/422/485 for Remote control (non-isolated) • Touchscreen: 1 x USB Type A connector (female) • Ethernet: 1 x RJ-45 connector for remote control • Isolated AC Power Inlet: 100V~240V AC • Isolated DC Terminal Block: 18V~36V DC • 1 x Buzzer
PIP		Yes
OSD Button		P-CAP button (LCD on/off, Menu, Auto, Up, Down, Left, Right)
LED/Sensor		Ambient light sensor (0%~100%)
Power Requirement		Multi-power Supply: Isolated AC Power: 100-240V, 2-1A, 50-60Hz Isolated DC Power: 18-36V, 8-4A
Operating Temperature		-15°C ~ 55°C
Storage Temperature		-20°C ~ 60°C
Humidity		5% to 95% RH
Thermal Design		Fanless
Housing		Aluminum front , sheet metal back (Black C)
Cut-out Dimensions (W x L)		442 mm x 373 mm
Dimensions (W x L x D)		463 mm x 394 mm x 113 mm
Mounting		VESA 100mm x 100mm
Net Weight (kg)		7.74
Gross Weight (kg)		11.54
Approvals		EMC: CE, FCC
		Safety: DNV GL CG-0339, IEC 60945 4th, IACS-E10
		IP Rating: IP66 front, IP22 rear

Ordering Information

PN	Description
S19M-AD/PC-R11	19" SXGA 300cd/m² Marine Display with AC and DC redundant power, PCAP touch screen, R11

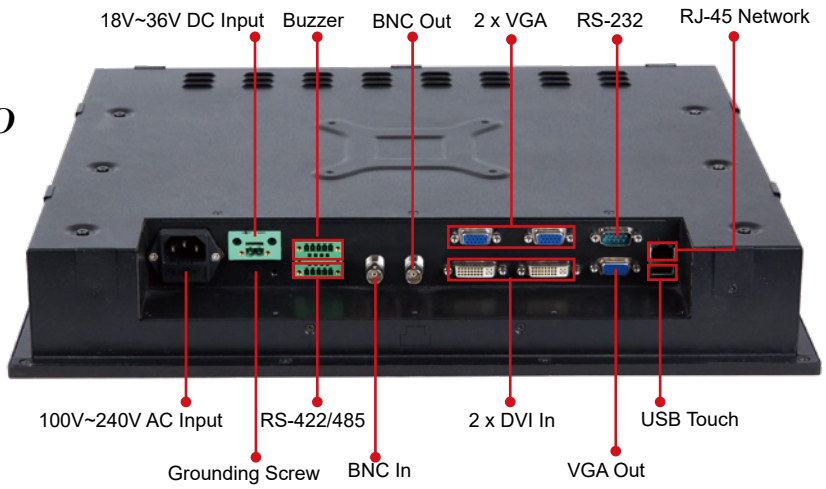
Options

Item	Part No.	Description
Panel Mount Kit	PK-S19M-R10	For S19M
Desktop Stand	STAND-A21-R10	For S19M

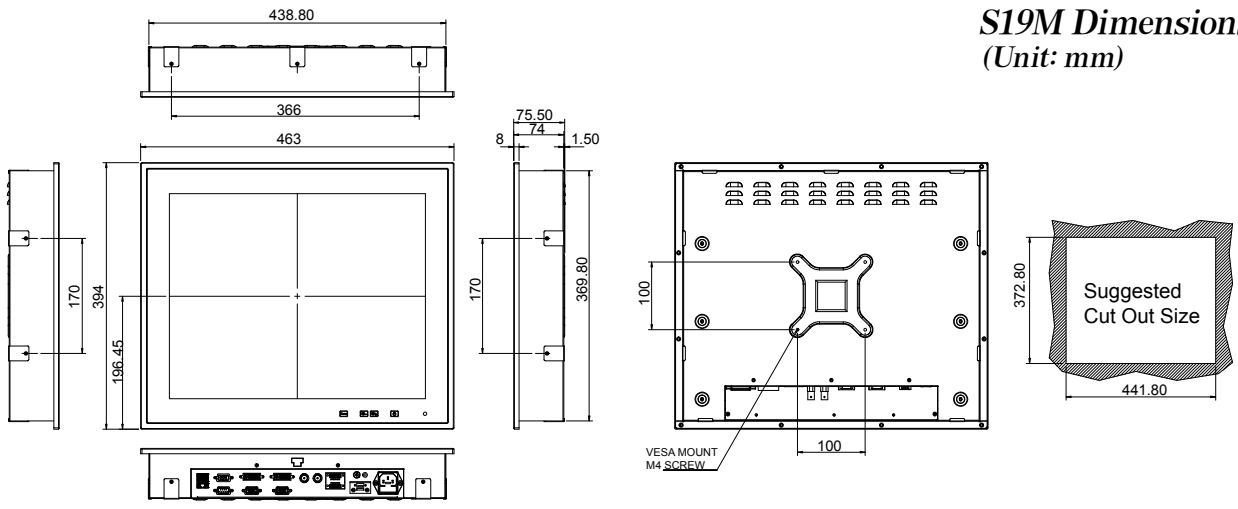
Packing List

Item	Q'ty	Remark
VGA	1	VGA signal cable
DVI	1	DVI signal cable
USB	1	USB touchscreen cable
Power Cord	1	Power cord
S19M	1	

S19M
Fully Integrated I/O



S19M Dimensions
(Unit: mm)



UPC Series

UPC-F12C-ULT3

Intel® Core™ i5 and Celeron® ULT Processor

Features

- 12.1" fanless panel PC with Intel® Skylake ULT processor
- IP65 6-side protection with standard cable I/O cover
- Built-in wireless 802.11 a/b/g/n/ac and Bluetooth V4.0
- Operating temperature : -20°C ~ 60°C
- Flat glass PCAP touch with 6H hardness, resistive touch window

5 YEARS 5-YEAR SUPPLY GUARANTEE

Wireless 802.11b/g/n | Fanless | Touchscreen | IP66 | -40°C~60°C | Redundant Dual DC

Specifications

Model		UPC-F12C-ULT3
Display	LCD Display	12.1"
	Max Resolution	1024(W) x 768(H)
	Brightness (cd/m²)	600
	Contrast Ratio	700:1
	LCD Color	16.2M
	Pixel Pitch (mm)	0.24(H) x 0.24(V)
	Viewing Angle (H-V)	178° / 178°
	Backlight MTBF (Hrs)	50,000
Motherboard	CPU	6th generation Intel® Core™ i5 and Celeron® ULT processor
	RAM	1 x 260-pin 2133/1867 MHz single-channel DDR4 SO-DIMMs
	Ethernet	PCIe GbE by Intel® I211 controller
Touchscreen		P-CAP / Resistive Touch
Input Interfaces	I/O Ports & Switch	Standard Type: 1 x DC jack (12V-36V DC) 1 x DC-in terminal block (12V-36V DC) 1 x HDMI 1 x VGA 1 x RS-232 (COM1 RJ-45) 1 x RS-232/422/485 (COM2 RJ-45) 2 x LAN 2 x USB 2.0 2 x USB 3.2 Gen 1 (5Gb/s)
Expansion		1 x Full-size/half-size PCIe Mini card slot (PCIe x1 and USB 2.0 signals)
Connectivity	Wi-Fi & BT	802.11 a/b/g/n/ac + Bluetooth v4.0
	RFID	Reserved RFID antenna area (optional)
Storage		1 x 2.5" HDD bay
		1 x M.2 (B key 2242 with USB 2.0 and SATA signal)
Physical	Construction	Aluminum die-casting
	Mounting	VESA 100mm x 100mm
	Net/Gross Weight (kg)	5.02 kg / 7.40 kg
	Dimensions (W x L x D) (mm)	316 x 279 x 67
Environment	Operating Temperature (with air flow)	-20°C ~ 60°C (without heater solution)
	Storage Temperature	-20°C ~ 70°C
	IP Level	Full IP65 or Full IP66 (with M12 connectors)
	Safety	CE / FCC
Power	Power Requirement	Power 1: 12V ~ 36V (terminal block)
		Power 2: 12V ~ 36V (DC jack)

Ordering Information

Part No.	Description
UPC-F12C-ULT3-C/R/4G-R11	12.1" 600cd/m² XGA fanless ultra panel PC with Intel® 14nm 6th generation mobile Celeron® 3955U (15W) on-board processor (ULT), one 4GB DDR4 RAM, 802.11a/b/g/n/ac Wi-Fi module, resistive touch, R11
UPC-F12C-ULT3-C/PC/4G-R11	12.1" 600cd/m² XGA fanless ultra panel PC with Intel® 14nm 6th generation mobile Celeron® 3955U (15W) on-board processor (ULT), one 4GB DDR4 RAM, 802.11a/b/g/n/ac Wi-Fi module, PCAP touch, R11
UPC-F12C-ULT3-i5/R/4G-R11	12.1" 600cd/m² XGA fanless ultra panel PC with Intel® 14nm 6th generation mobile Core™ i5-6300U (15W) on-board processor (ULT), one 4GB DDR4 RAM, 802.11a/b/g/n/ac Wi-Fi module, resistive touch, R11
UPC-F12C-ULT3-i5/PC/4G-R11	12.1" 600cd/m² XGA fanless ultra panel PC with Intel® 14nm 6th generation mobile Core™ i5-6300U (15W) on-board processor (ULT), one 4GB DDR4 RAM, 802.11a/b/g/n/ac Wi-Fi module, PCAP touch, R11

Optional

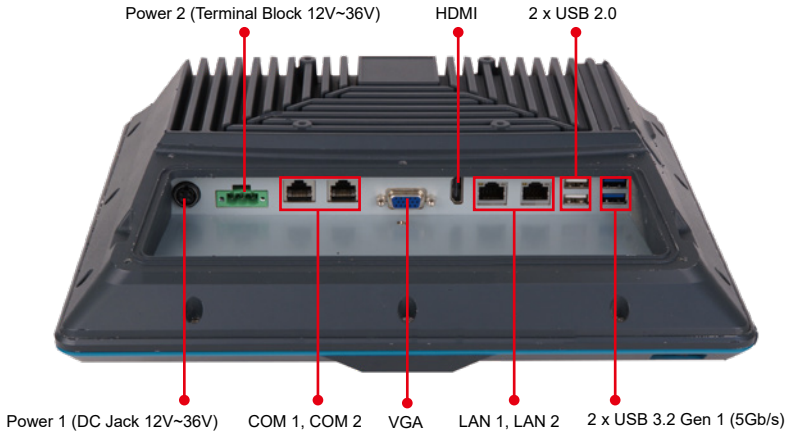
Item	Description
63040-010060-110-RS	Power Adapter (for standard only)
Arm	ARM-11-RS
Stand	STAND-A12-RS / STAND-C12-R10
MIFARE RFID Kit	UPC-F-MF-RFID-KIT01-R10 (ATO only)

Packing List

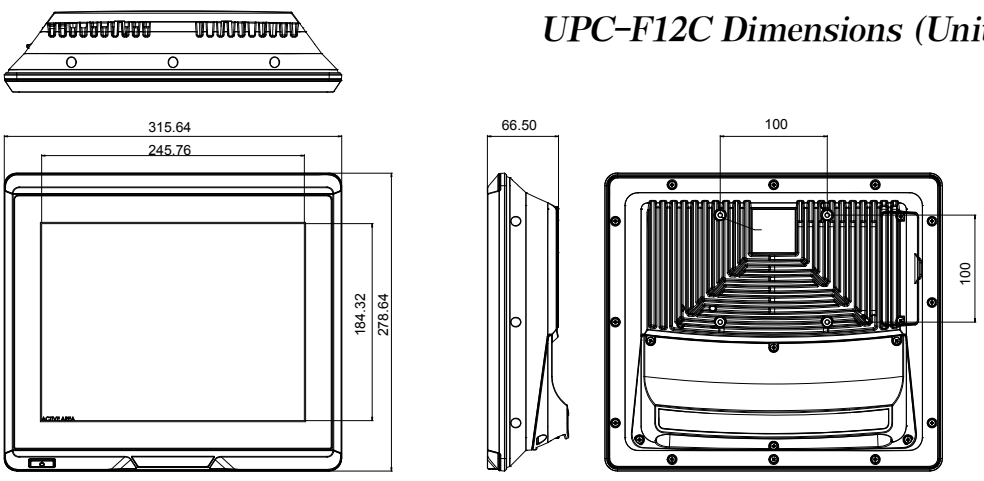
Item	Q'ty	Remark
Touch Pen	1	Resistive type only
Ferrite core	2	
D-Sub to RJ45 cable	2	for standard only
Waterproof plugs: Φ3	10	Φ3x2, Φ4x1, Φ5x1, cover x 6 (for standard only)

I/O Interface

Standard IO cover



UPC-F12C Dimensions (Unit: mm)



Waterproof Certification Laboratory

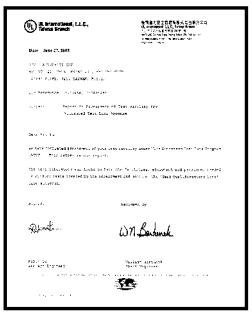
IEI follows standard testing procedures (UL 50) to design ruggedized LCD products with high reliability. We mainly provide IP 64, IP 65 and the latest IP 67 specifications in various dust and water resistant mechanical designs, ideal for outdoor and harsh environment applications.

IEI's LCD products are front sealed and tested in the certified house chamber under UL's Witnessed Test Data Program (WTDP).

IP 66 / UL 50

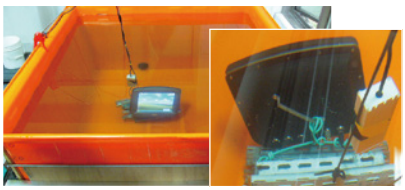
IP 64

IP 65



UL 50 Certificate
Chamber strickly approved by Underwriters Laboratories Inc.
IEI's in-house water resistance chamber is approved by the UL organization commonly recognized in North America.

IP 69K



IP 67

The IP Code defined in international standard IEC 60529 classifies the degrees of protection provided against the intrusion of solid objects, dust, accidental contact, and water in electrical enclosures. It consists of the letters IP followed by two digits and an optional letter. The digits indicate conformity with the conditions summarized in the tables below.

First digit

The first digit indicates the level of protection that the enclosure provides against access to hazardous parts

Level		Object size protected against	Effective against
0		-	No protection against contact and ingress of objects
1	Ø50mm	>50 mm	Any large surface of the body, such as the back of a hand, but no protection against deliberate contact with a body part
2	Ø12.5mm	>12.5 mm	Fingers or similar objects
3	2.5mm	>2.5 mm	Tools, thick wires, etc.
4	1mm	>1 mm	Most wires, screws, etc.
5		dust protected	Ingress of dust is not entirely prevented, but it must not enter in sufficient quantity to interfere with the satisfactory operation of the equipment; complete protection against contact
6		dust tight	No ingress of dust; complete protection against contact

Second digit

Protection of the equipment inside the enclosure against harmful ingress of water.

Level		Protected against	Details
0	-	not protected	—
1		dripping water	Dripping water (vertically falling drops) shall have no harmful effect
2		dripping water when tilted up to 15°	Vertically dripping water shall have no harmful effect when the enclosure is tilted at an angle up to 15° from its normal position
3		spraying water	Water falling as a spray at any angle up to 60° from the vertical shall have no harmful effect
4		splashing water	Water splashing against the enclosure from any direction shall have no harmful effect
5		water jets	Water projected by a nozzle against enclosure from any direction shall have no harmful effects
6		powerful water jets	Water projected in powerful jets against the enclosure from any direction shall have no harmful effects
7		immersion up to 1 m	Ingress of water in harmful quantity shall not be possible when the enclosure is immersed in water under defined conditions of pressure and time (up to 1 m of submersion)
8		immersion beyond 1 m	The equipment is suitable for continuous immersion in water under conditions which shall be specified by the manufacturer
9K	90° 60° 0°	Powerful high temperature water jets	Protected against close-range high pressure, high temperature spray downs.Test duration: 30 seconds in each of 4 angles,Water temperature: 80°C