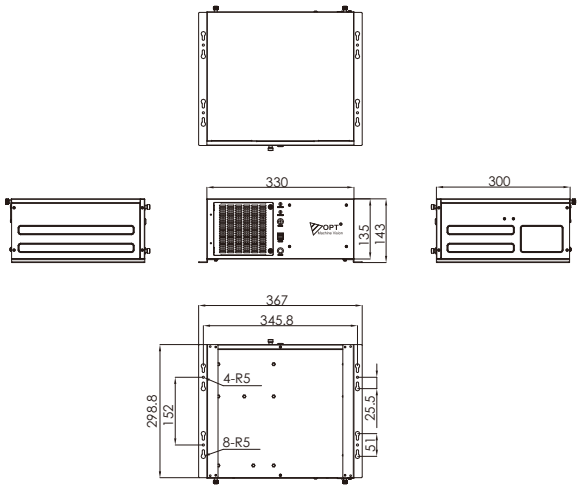
3U Desktop Industrial Computer

Features

- 3U Desktop Series, compact size, and strong environmental adaptability.
- Equipped with Intel CPUs, supports the full range of 6th to 13th generation CPUs, supports M.2 interface high-speed SSDs, dual-channel memory technology, up to PCIe 5.0 technology, and features 8/16-bit programmable GPIO.
- The 3U series full-steel industrial chassis complies with 'EIA' standards, features an anti-vibration design, undergoes professional thermal simulation analysis, and includes air duct convection and fan dust-proof design, enhancing the product's environmental adaptability.
- Featuring OS Recovery functionality, with a physical one-key recovery button, effectively reducing after-sales maintenance costs.
- Supports hardware TPM module.
- Supports 100-240V power supply with overvoltage and overcurrent protection to ensure stable operation of the device.
- Features a rich array of I/O interfaces and up to 7 expansion slots, compatible with various common cards available on the market.

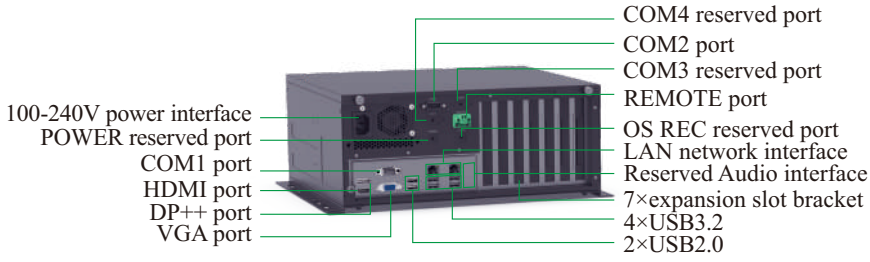
Dimensions (mm)



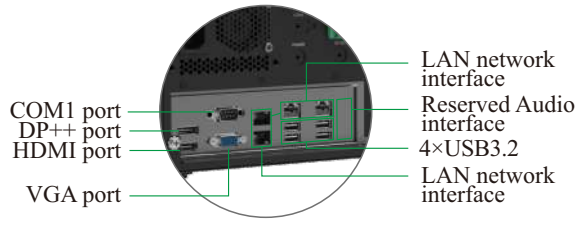
Connector Description

OPT-IPC-T31 (full series)

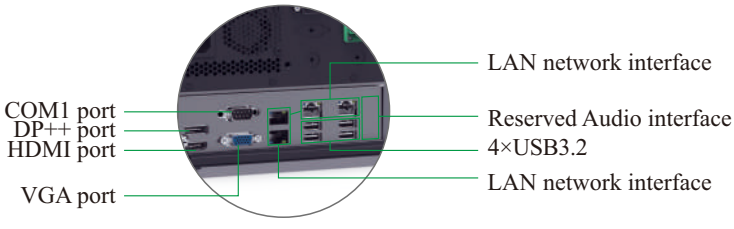
OPT-IPC-T31-0D(0E/0F)



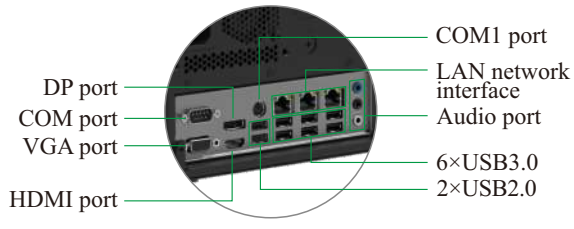
OPT-IPC-T31-0A



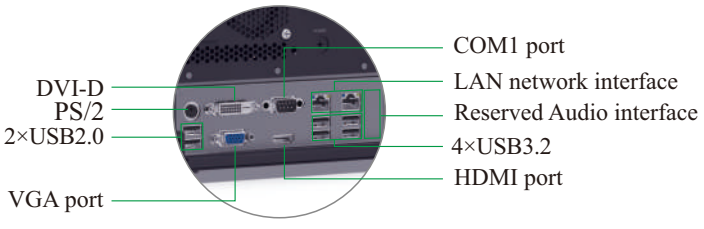
OPT-IPC-T31-0G



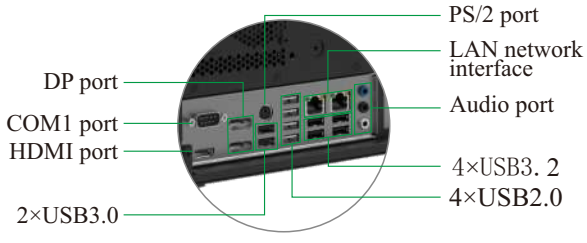
OPT-IPC-T31-0B



OPT-IPC-T31-0H



OPT-IPC-T31-0-C



OPT-IPC-T31-0L

Specifications

Series		OPT-IPC-T31-0A Series	OPT-IPC-T31-0B Series	OPT-IPC-T31-0C Series
System	Processor	Support Intel®10/11th generation Core™I9/I7/I5/I3/Pentium®/Celeron® CPUs	Support Intel®6th/7th/8th/9th generation Core™I7/I5/I3 Pentium®/Celeron®CPUs	Support Intel® 6th/7th generation Core™ I7/I5/I3/Pentium®/Celeron® CPUs
	Chipset	Intel® Q470 Chipset	Intel® Q170 Chipset	Intel® H110 Chipset
	Memory	Supports dual-channel (Non-ECC) DDR4 2666/ 2933/320MHz DIMM×4 Up to 128GB memory	Supports Dual Channel (Non-ECC) DDR4 2400/2666MHz DIMM×4 Up to 64GB memory	Supports Dual Channel (Non-ECC) DDR4 2133/2400/2666MHz DIMM×2 Up to 32GB
	Storage	Support M.2 2280 SATA/NVMe PcIe x4 SSD, SATA3.0	Support M.2 2280,SATA SSD, SATA3.0	
	Graphics	Intel CPU Integrated Display Controller (depending on CPU)		
	Operating system	Supports Windows 10/Windows 11 64bit,Linux	Support Windows 7 32/64bit,Windows 10 64bit, Linux(Only Intel 6th generation CPU supports Windows 7 OS)	
	Watchdog timer	System reset, programmable 255-level timer interval, 1~255 (seconds or minutes)		
Extended Interface	Interface	2×PCIe x16 (Gen3) (11th generation CPU can support Gen4), 3×PCIe x4 (Gen3), 2×PCI	2×PCIe x16(Gen3), 2×PCIe x4(Gen3), 3×PCI	1×PCIe x16(Gen3), 1×PCIe x4(Gen2), 5×PCI
Front I/O	Switch	1× Power Button		
	LED	1× HDD LED, 1× Power LED		
	USB	2× USB 2.0		
	System Restore	1× OS Recovery		
Rear I/O	Network Port	2×RJ45(10/100/1000 Mbps), Intel®LAN	4×RJ45(10/100/1000 Mbps), Intel®LAN	2×RJ45(10/100/1000 Mbps), Intel®LAN
	Display	1×VGA, 1×HDMI, 1×DP, supports three independent displays		1×VGA, 1×HDMI, 1×DVI-D, supports two independent displays
	Serial Port	2×COM(RS232/RS422/RS485)		
	USB	4×USB3.2, 2×USB2.0	4×USB3.2	4×USB3.0, 2×USB2.0
	Remote Power Switch Interface	1× Remote Power Switch Interface		
	PS/2	/		1×PS/2
Internal Expandable Interface	USB	1× Vertical USB 2.0 Type A	1× Vertical USB 2.0 Type A, 2× USB 3.2 (pin header), 2× USB 2.0 (pin header)	1× Vertical USB 2.0 Type A
	M.2	1× M.2 2280 slot, supports SATA/PCIe x4 NVMe SSD	1× M.2 2280 slot, supports SATA SSD	
	GPIO	1× 16-bit editable GPIO, defaulting to 8 inputs and 8 outputs		
	PS/2	1×PS/2		
	Serial Port	4×COM(RS232)		
	SATA	3× SATA 3.0 (6Gb/s), supports RAID 0, 1, 5, 10	5× SATA 3.0 (6Gb/s), supports RAID 0, 1, 5, 10	4× SATA 3.0(6Gb/s)
	EDP	/		
	Mini-PCIe	/		
	LPT	1×LPT		
	SIM card	1×SIM		
	SPI	1×SPI		
	eSPI	/		
	DVI	/		
	Security	1× TPM 2.0 (pin header)		
Structure	Dimensions	330×300×135(mm)		
	Installation method	Desktop		
General specifications	Certification	Complies with CE, CCC, RoHS		
Power input	Power consumption	FleX-ATX power supply 300W/500W		
	Power input	AC100~240V, 50~60Hz input		
Environment	Operating temperature	0℃~50℃		
	Storage temperature	-20℃~60℃		
	Operating humidity	40℃ @ 95% , non-condensing		
	Storage humidity	60℃ @ 95% , non-condensing		
	Vibration	GB/T2423.10, Sinusoidal Vibration: Vibration Frequency: 10~55~10(Hz)≤LOCT/MIN; Displacement: 1.5mm; Peak Acceleration: 20g		
	Mechanical shock	Operating: maximum 10G@11ms, Non-operating: maximum 30G@11ms		

Specifications

Series		OPT-IPC-T31-0D Series	OPT-IPC-T31-0E Series	OPT-IPC-T31-0F Series
System	Processor	Support Intel®6/7th generation Core™I7/I5/I3/Pentium®/Celeron® CPUs	Support Intel®10th/11th generation Core™I7/I5/I3 Pentium®/Celeron®CPUs	Support Intel® 8th/9th generation Core™ I7/I5/I3/Pentium®/Celeron® CPUs
	Chipset	Intel® H110 Chipset	Intel® Q470 Chipset	Intel® Q370Chipset
	Memory	Supports dual-channel (Non-ECC) DDR4 2133/ 2400/2666MHz DIMM×2 Up to 32GB memory	Supports Dual Channel (Non-ECC) DDR4 2666/ 2933/3200MHz DIMM×4 Up to 128GB memory	Supports Dual Channel (Non-ECC) DDR4 2400/2666MHz DIMM×4 Up to 128GB
	Storage	Supports mSATA interface, SATA SSD, SATA 3.0	Support M.2 2280 SATA/NVMe PCIe x4 SSD, SATA3.0	
	Graphics	Intel CPU Integrated Display Controller (depending on CPU)		
	Operating system	Supports Windows 7 32/64-bit, Windows 10 64-bit, Linux (only Intel 6th generation CPUs support Windows 7 operating system).	Supports Windows 10/Windows 11 64-bit, Linux	
	Watchdog timer	System reset, programmable 255-level timer interval, 1~255 (seconds or minutes)		
Extended Interface	Interface	1×PCIe x16(Gen3), 1×PCIe x4(x2 signal Gen2), 1×PCIe x1(Gen2), 4×PCI	2×PCIe x16(Gen3), 3×PCIe x4(Gen3), 2×PCI	
Front I/O	Switch	1× Power Button		
	LED	1× HDD LED, 1× Power LED		
	USB	2× USB 2.0		
	System Restore	1× OS Recovery		
Rear I/O	Network Port	2×RJ45(10/100/1000 Mbps), Intel®LAN		
	Display	1×VGA, 1×HDMI, 1×DVI-D, supports two independent displays		1×VGA, 1×HDMI, 1×DP, supports three independent displays
	Serial Port	1×COM(RS232/RS485), 1×COM(RS232)		1×COM(RS232/RS422/RS485), 1×COM(RS232)
	USB	4×USB3.0, 2×USB2.0		
	Remote Power Switch Interface	1× Remote Power Switch Interface		
	PS/2	1×PS/2		
Internal Expandable Interface	USB	1× Vertical USB 2.0 Type A, 2× USB 2.0 (pin header)	1× Vertical USB 2.0 Type A, 2× USB 3.0 (pin header), 2× USB 2.0 (pin header)	
	M.2	/	1× M.2 2242/2280 slot, supports SATA/PCIe x4 NVMe SSD	
	GPIO	1× 8-bit editable GPIO, defaulting to 4 inputs and 4 outputs		
	PS/2	/		
	Serial Port	1×COM(RS232/RS422/RS485), 3×COM(RS232)		
	SATA	3× SATA 3.0 (6Gb/s)	4× SATA 3.0(6Gb/s),supports RAID 0, 1, 5, 10	
	EDP	1×EDP (pin row), max. resolution up to 1920×1200@60Hz		
	Mini-PCIe	1× Full-size Mini-PCIe		
	LPT	/		
	SIM card	/		
	SPI	/		
	eSPI	/		
	DVI	/		
	Security	/	1×TPM 2.0	
Structure	Dimensions	330×300×135(mm)		
	Installation method	Desktop		
General specifications	Certification	Complies with CE, CCC, RoHS		
Power input	Power consumption	FleX-ATX power supply 300W/500W		
	Power input	AC100~240V, 50~60Hz input		
Environment	Operating temperature	0℃~50℃		
	Storage temperature	-20℃~60℃		
	Operating humidity	40℃ @ 95% , non-condensing		
	Storage humidity	60℃ @ 95%, non-condensing		
	Vibration	GB/T2423.10, Sinusoidal Vibration: Vibration Frequency: 10~55~10(Hz)≤LOCT/MIN; Displacement: 1.5mm; Peak Acceleration: 20g		
	Mechanical shock	Operating: maximum 10G@11ms, Non-operating: maximum 30G@11ms		

Specifications

Series		OPT-IPC-T31-0G Series	OPT-IPC-T31-0H Series	OPT-IPC-T31-0L Series
System	Processor	Support Intel®12/13th generation Core™I7/I5/I3/Pentium®/Celeron® CPUs	Support Intel®10th/11th generation Core™I7/I5/I3 Pentium®/Celeron®CPUs	Support Intel® 12th/13th generation Core™ I9/I7 /I5/I3/Pentium®/Celeron® CPUs Also supports 12th/13th generation XeonW series server CPUs
	Chipset	Intel® Q670 Chipset	Intel® B560 Chipset	Intel® W680 Chipset
	Memory	Supports dual-channel (Non-ECC) DDR4 3200MHz DIMM×4 Up to 128GB memory	Supports Dual Channel (Non-ECC) DDR4 2400/2666/ 2933/3200MHz DIMM×4 Up to 128GB memory	Supports dual-channel (Non-ECC/ECC) DDR5 4400/4800/5200/5600MHz DIMM×4 up to 128GB memory. With 12th generation CPU, two modules support up to DDR5-4800MHz (black slots), and with 13th generation CPU, two modules support up to DDR5-5600MHz (black slots), while four modules support up to DDR5-4000MHz.
	Storage	Support M.2 2280 SATA/NVMe PCIe x4 SSD, SATA3.0	Support M.2 2242/2280, SATA/NVMe SSD, SATA3.0	Support M.2 2242/2280, SATA/NVMe PCIe x4 SSD, SATA3.0
	Graphics	Intel CPU Integrated Display Controller (depending on CPU)		
	Operating system	Supports Windows 10/Windows 11 64-bit, Linux		
	Watchdog timer	System reset, programmable 255-level timer interval, 1~255 (seconds or minutes)		
Extended Interface	Interface	2×PCIe x16(Gen5), 3×PCIe x4(Gen4), 1×PCIe x1(Gen3), 1×PCI	1× PCIe x16 (Gen3) (11th generation CPU supports Gen4) 1×PCIe x4(Gen3), 5×PCI	1× PCIe x16 (x8 signaling Gen5), 1× PCIe x16 (x8 signaling Gen4), 2× PCIe x4 (Gen4), 2× PCIe x4 (Gen3), 1× PCI
Front I/O	Switch	1× Power Button		
	LED	1× HDD LED, 1× Power LED		
	USB	2× USB 2.0		
	System Restore	1× OS Recovery		
Rear I/O	Network Port	4×RJ45(10/100/1000 Mbps), Intel®LAN	3×RJ45(10/100/1000 Mbps), Intel®LAN	2×RJ45(10/100/1000 Mbps), Intel®LAN
	Display	1×VGA, 1×HDMI, 1×DP, supports three independent displays		2×DP, 1×HDMI, supports four independent displays (standard 3 display interfaces, 1 internal expansion display interface)
	Serial Port	2×COM(RS232/RS485)		1×COM(RS232/RS422/RS485), 1×COM(RS232)
	USB	4×USB3.0, 2×USB2.0	6×USB3.0, 2×USB2.0	10×USB3.2
	Remote Power Switch Interface	1× Remote Power Switch Interface		
	PS/2	1×PS/2		
Internal Expandable Interface	USB	1× Vertical USB 2.0 Type A, 4× USB 3.2 (pin header)	1× Vertical USB 2.0 Type A, 2× USB 2. 0 (pin header)	2× Vertical USB 2.0 Type A, 2× USB 2. 0 (pin header)
	M.2	1× M.2 2280 slot, supports SATA / PCIe x4 NVMe (Gen4) SSD; 1× M.2 2230 for Wi-Fi 6 --- Key E, with PCIe/CNVI interface; 1× M.2 3052 for 5G, (USB/PCIe) --- Key B, USB 3.1 interface	2× M.2 2242/2280 slot, M.2-slot supports SATA/NVMe, M.2-slot2 supports NVMe	2×M.2 2242/2280 slot, Key M supports NVMe PCIe x4 (M2-Key M2 supports SATA3.0/NVMe PCIe x4 adaptive)
	GPIO	1 x 16bit editable GPIO, 8 inputs and 8 outputs by default		
	PS/2	/		
	Serial Port	4×COM(RS232)	1×COM(RS232/RS422/RS485), 3×COM(RS232)	
	SATA	4×SATA3.0(6Gb/s), support RAID 0, 1, 5, 10	3×SATA 3.0(6Gb/s)	4× SATA 3.0(6Gb/s),supports RAID 0, 1, 5, 10
	EDP	/		
	Mini-PCIe	/		
	LPT	/	1×LPT	
	SIM card	1×SIM	/	
	SPI	1×SPI	/	
	eSPI	/	1×eSPI	
	DVI	/		1×DVI
	Security	1× TPM2.0 (pin header)	1× TPM2.0 (default) / BOM optional TCM chip	1×TPM 2.0
Structure	Dimensions	330×300×135(mm)		
	Installation method	Desktop		
General specifications	Certification	Complies with CE, CCC, RoHS		
Power input	Power consumption	FleX-ATX power supply 300W/500W		
	Power input	AC100~240V, 50~60Hz input		
Environment	Operating temperature	0℃~50℃		
	Storage temperature	-20℃~60℃		
	Operating humidity	40℃ @ 95% , non-condensing		
	Storage humidity	60℃ @ 95%, non-condensing		
	Vibration	GB/T2423.10, Sinusoidal Vibration: Vibration Frequency: 10~55~10(Hz)≤LOCT/MIN; Displacement: 1.5mm; Peak Acceleration: 20g		
	Mechanical shock	Operating: maximum 10G@11ms, Non-operating: maximum 30G@11ms		