



## Features:

- Modular design available in sizes from 15 to 27 inches, supporting both square and widescreen displays.
- Ten-point capacitive touchscreen.
- All-plastic mold middle frame with a front panel designed to IP65 standards.
- Supports Intel® 6th to 9th Gen Core / Pentium/ Celeron Desktop CPUs, with a TDP of 35W.
- Equipped with the Intel® Q170 chipset.
- Two Intel Gigabit network interfaces and four DB9 serial ports.
- M.2 and 2.5-inch dual hard drive slots for storage support.
- Four display outputs: VGA, DVI-D, DP++, and internal LVDS, supporting up to 4K@60Hz resolution.
- 9~36V DC power supply (with an option for 12V).
- Embedded/VESA mounting options.



Remote Management



Status Monitoring



Remote Operations and Maintenance



Security Control

## Product Specifications

Model		PH150CL-E7L	PH156CL-E7L	PH170CL-E7L	PH185CL-E7L	PH190CL-E7L	PH215CL-E7L	PH238CL-E7L	PH270CL-E7L
LCD	Display Size	15.0"	15.6"	17.0"	18.5"	19.0"	21.5"	23.8"	27"
	Display Type	XGA TFT-LCD	WXGA TFT-LCD	SXGA TFT-LCD	WXGA TFT-LCD	SXGA TFT-LCD	FHD TFT-LCD	FHD TFT-LCD	FHD TFT-LCD
	Max.Resolution	1024 x 768	1920 x 1080	1280 x 1024	1366 x 768	1280 x 1024	1920 x 1080	1920 x 1080	1920 x 1080
	Aspect Ratio	4:3	16:9	5:4	16:9	5:4	16:9	16:9	16:9
	Viewing Angle	89/89/89/89	85/85/85/85	85/85/80/80	85/85/80/80	85/85/80/80	89/89/89/89	89/89/89/89	89/89/89/89
	Luminance	350 cd/m2	220 cd/m2	250 cd/m2	250 cd/m2	250 cd/m2	250 cd/m2	250 cd/m2	300 cd/m2
	Contrast Ratio	1000:1	800:1	1000:1	1000:1	1000:1	1000:1	1000:1	3000:1
	Backlight Lifetime	50,000 Hrs	50,000 Hrs	50,000 Hrs	30,000 Hrs	30,000 Hrs	30,000 Hrs	30,000 Hrs	30,000 Hrs
Touchscreen	Touch Type	Projected Capacitive Touch							
	Controller	USB Signal							
	Input	Finger/Capacitive Touch Pen							
	Light Transmission	≥85%							
	Hardness	≥6H							
Touchscreen	Touch Type	Projected Capacitive Touch							
	Controller	USB signal							
	Input	Finger/Capacitive Touch Pen							
	Light Transmission	≥85%							
	Hardness	≥6H							
Processor System	CPU	Intel® 6/7/8/9th Generation Core / Pentium/ Celeron Desktop CPU							
	TDP	35W							
	Socket	LGA1151							
	Chipset	Q170							
	BIOS	AMI UEFI BIOS (Support Watchdog Timer)							
Memory	Socket	2 * Non-ECC SO-DIMM Slot, Dual Channel DDR4 up to 2133MHz							
	Max Capacity	64GB, Single Max. 32GB							
Graphics	Controller	Intel® HD Graphics							
Ethernet	Controller	1 * Intel i210-AT GbE LAN Chip (10/100/1000 Mbps) 1 * Intel i219-LM/V GbE LAN Chip (10/100/1000 Mbps)							
	Storage	1 * SATA3.0, Quick release 2.5" hard disk bays (T≤7mm) 1 * SATA3.0, Internal 2.5" hard disk bays (T≤9mm, Optional) Support RAID 0, 1							
Expansion Slots	M.2	1 * M.2 Key-M (PCIe x4 Gen 3 + SATA3.0, NVMe/SATA SSD Auto Detect, 2242/2260/2280)							
	MXM/aDoor	1 * APQ MXM (Optional MXM 4 * LAN/4 * POE/6 * COM/16 * GPIO expansion card) 1 * aDoor Expansion Slot							
	Mini PCIe	1 * Mini PCIe (PCIe x1 Gen 2 + USB 2.0, with 1 * SIM Card)							
Front I/O	M.2	1 * M.2 Key-B (PCIe x1 Gen 2 + USB3.0, with 1 * SIM Card, 3042/3052)							
	Ethernet	2 * RJ45							
	USB	6 * USB3.0 (Type-A, 5Gbps)							
	Display	1 * DVI-D: max resolution up to 1920*1200 @ 60Hz 1 * VGA (DB15/F): max resolution up to 1920*1200 @ 60Hz 1 * DP: max resolution up to 4096*2160 @ 60Hz							
	Audio	2 * 3.5mm Jack (Line-Out + MIC)							
	Serial	2 * RS232/422/485 (COM1/2, DB9/M, Full Lanes, BIOS Switch) 2 * RS232 (COM3/4, DB9/M)							
Rear I/O	Button	1 * Power Button + Power LED 1 * System Reset Button (Hold down 0.2 to 1s to restart, and hold down 3s to clear CMOS)							
	Antenna	4 * Antenna hole							
Internal I/O	SIM	2 * Nano SIM card slots							
	USB	2 * USB2.0 (wafer)							
	LCD	1 * LVDS (wafer): max resolution up to 1920*1200 @ 60Hz							
	TFront Panel	1 * TF_Panel (3 * USB 2.0 + FPANEL, wafer)							
	Front Panel	1 * Front Panel (PWR + RST + LED, wafer)							
	Speaker	1 * Speaker (2-W (per channel)/8-Ω Loads, wafer)							
	Serial	2 * RS232 (COM5/6, wafer)							
	GPIO	1 * 16 bits DIO (8xDI and 8xDO, wafer)							
LPC	1 * LPC (wafer)								

	SATA	2 * SATA 7P Connector							
	SATA Power	2 * SATA Power (SATA_PWR1/2, wafer)							
	FAN	1 * CPU FAN (wafer) 2 * SYS FAN (wafer)							
Power Supply	Type	DC, AT/ATX							
	Power Input Voltage	9 ~ 36VDC, P≤240W							
	Connector	1 * 4Pin Connector, P=5.00/5.08							
	RTC Battery	CR2032 Coin Cell							
OS Support	Windows	6/7th Core™: Windows 7/10/11 8/9th Core™: Windows 10/11							
	Linux	Linux							
Watchdog	Output	System Reset							
	Interval	Programmable via Software from 1 to 255 sec							
Mechanical	Enclosure Material	Radiator: Aluminum alloy, Box: SGCC							
	Mounting	VESA, embedded							
	Dimensions (L * W * H, Unit: mm)	359*283*89.5	401.5*250.7*86.4	393*325.6*89.5	464.9*285.5*89.4	431*355.8*89.5	582.3*323.7*89.4	585.4*357.7*89.4	662.3*400.9*89.4
	Weight	Net: 7.4Kg Total: 8.9Kg	Net: 7.5Kg Total: 9.0Kg	Net: 8.4Kg Total: 9.9Kg	Net: 8.5Kg Total: 10.0Kg	Net: 9.3Kg Total: 10.8Kg	Net: 9.5Kg Total: 11.0Kg	Net: 11.1Kg Total: 12.6Kg	Net: 12.2Kg Total: 13.7Kg
Environment	Heat Dissipation System	Passive heat dissipation							
	Operating Temperature	-20~60℃	-20~60℃	-20~60℃	-20~60℃	-20~60℃	0~50℃	0~50℃	0~50℃
	Storage Temperature	-20~60℃	-20~70℃	-30~80℃	-30~70℃	-30~70℃	-20~60℃	-20~60℃	-20~60℃
	Relative Humidity	5 to 95% RH (non-condensing)							
	Vibration During Operation	With SSD: IEC 60068-2-64 (1Grms@5~500Hz, random, 1hr/axis)							
Shock During Operation	With SSD: IEC 60068-2-27 (15G, half sine, 11ms)								

## Product Dimensions

A	System Dimension						Panel Mount					
	X1	Y1	Z1	X2	Y2	Z2	X3	Y3	X4	Y4	F1	
15.0"	359	283	89.5	371.2	295.1	21.8	382.2	306.1	349.7	273.7	6.5	
15.6"	401.5	250.7	86.4	413.9	263.1	18.7	424.9	274.1	389.1	238.3	6	
17.0"	393	325.6	89.5	405.2	337.8	21.8	416.2	348.8	383	315.5	6	
18.5"	464.9	285.5	89.4	476.9	297.5	21.7	487.9	308.5	454.3	274.9	6	
19.0"	431	355.8	89.5	443.2	367.9	21.8	454.2	378.9	420.5	345.2	6	

  

A	System Dimension						Panel Mount					
	X1	Y1	Z1	X2	Y2	Z2	X3	Y3	X4	Y4	X5	F1
21.5"	532.3	323.7	89.4	130	335.8	21.7	544.4	346.8	555.4	313.1	521.6	6
23.8"	585.4	357.7	89.4	130	369.8	21.7	597.5	380.8	608.5	347.1	574.8	6
27.0"	662.3	400.9	89.4	190	413.2	21.7	674.6	424.2	685.6	390.5	651.9	6

# Product I/O

