



### 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® 12th/13th Gen Core / Pentium/ Celeron Desktop CPUs, TDP 35W, LGA1700 socket.
- Equipped with the Intel® Q670 chipset.
- Two Intel network interfaces (1\*1GbE & 1\*2.5GbE).
- Three display outputs: HDMI, DP++ and internal LVDS, supporting up to 4K@60Hz resolution.
- Abundant USB, serial port expansion interfaces, and PCIe, mini PCIe, M.2 expansion slots.
- Fanless passive cooling design for silent operation.



Remote Management



Status Monitoring



Remote Operations and Maintenance



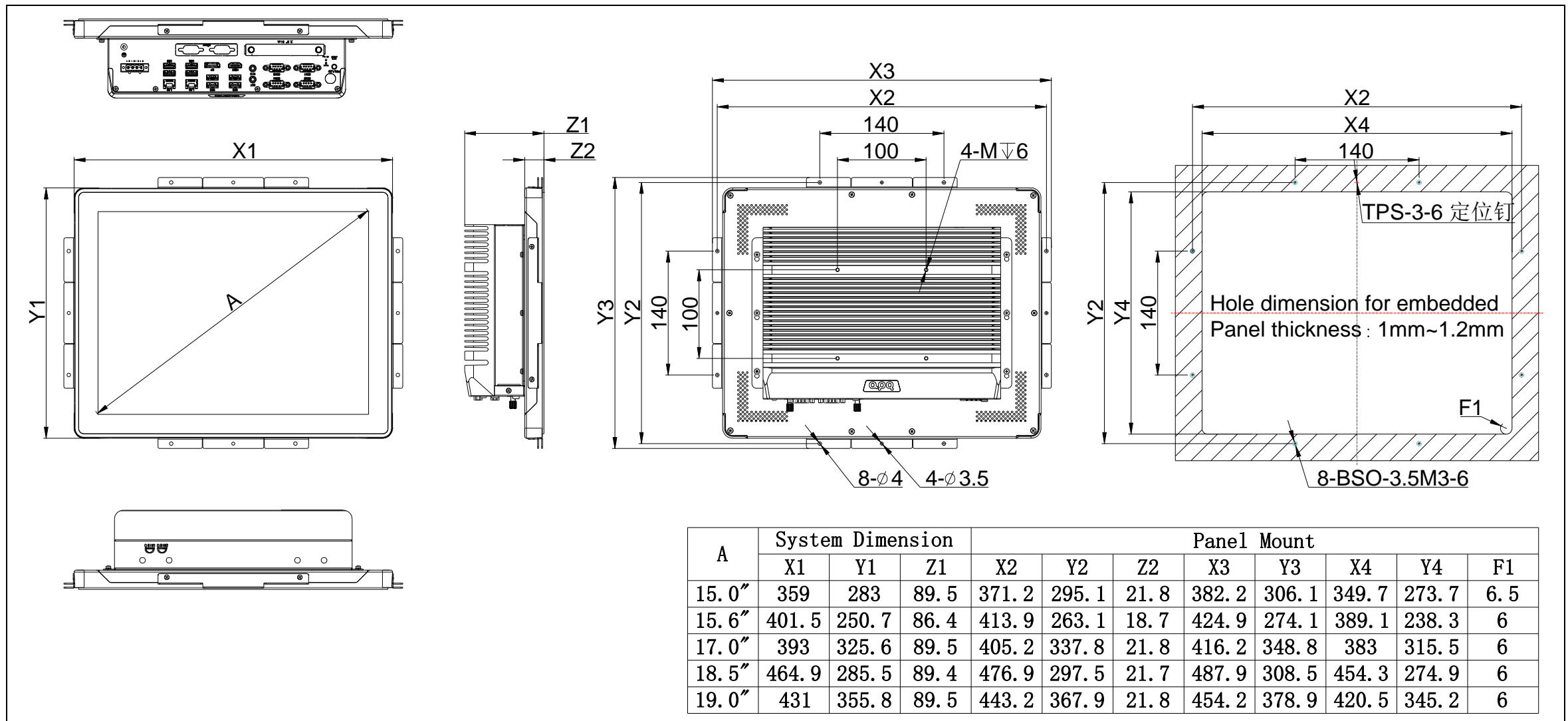
Security Control

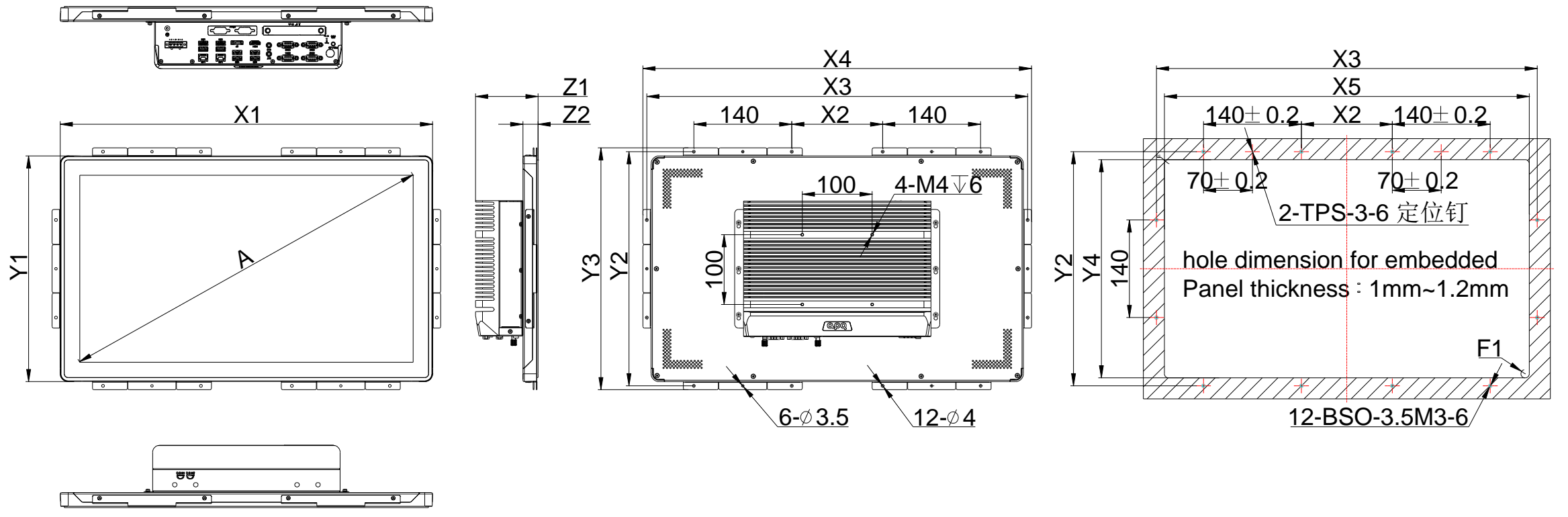
## Product Specifications

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							
Processor System	CPU	Intel® 12/13th Generation Core / Pentium/ Celeron Desktop CPU							
	TDP	35W							
	Socket	LGA1700							
	Chipset	Q670							
	BIOS	AMI 256 Mbit SPI							
Memory	Socket	2 * Non-ECC SO-DIMM Slot, Dual Channel DDR4 up to 3200MHz							
	Max Capacity	64GB, Single Max. 32GB							
Graphics	Controller	Intel® UHD Graphics							
Ethernet	Controller	1 * Intel i219-LM 1GbE LAN Chip (LAN1, 10/100/1000 Mbps, RJ45) 1 * Intel i225-V 2.5GbE LAN Chip (LAN2, 10/100/1000/2500 Mbps, RJ45)							
	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	aDoor	1 * aDoor Bus (Optional 4 * LAN/4 * POE/6 * COM/16 * GPIO expansion card)							
	Mini PCIe	2 * Mini PCIe (PCIe x1 Gen 3 + USB 2.0, with 1 * SIM Card)							
	M.2	1 * M.2 Key-E (PCIe x1 Gen 3 + USB 2.0, 2230)							
Front I/O	Ethernet	2 * RJ45							
	USB	2 * USB3.2 Gen2x1 (Type-A, 10Gbps) 6 * USB3.2 Gen 1x1 (Type-A, 5Gbps)							
	Display	1 * HDMI1.4b: max resolution up to 4096*2160 @ 30Hz 1 * DP1.4a: max resolution up to 4096*2160 @ 60Hz							
	Audio	2 * 3.5mm Jack (Line-Out + MIC)							
	Serial	2 * RS232/485/422 (COM1/2, DB9/M, Full Lanes, BIOS Switch) 2 * RS232 (COM3/4, DB9/M, Full Lanes)							
	Button	1 * Power Button + Power LED 1 * AT/ATX Button 1 * OS Recover Button 1 * System Reset Button							
Rear I/O	Antenna	4 * Antenna hole							
	SIM	2 * Nano SIM card slots							
Internal I/O	USB	6 * USB2.0 (wafer)							
	LCD	1 * LVDS (wafer): LVDS Resolution up to 1920*1200 @ 60Hz							
	Front Panel	1 * FPanel (PWR+RST+LED, wafer)							
	Audio	1 * Audio (Header) 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	3 * SATA 7P Connector, up to 600MB/s							
	SATA Power	3 * SATA Power (wafer)							
	FAN	1 * CPU FAN (wafer) 2 * SYS FAN (KF2510-4A)							
Power Supply	Type	DC, AT/ATX							
	Power Input	9~36VDC, P≤240W							
	Voltage	18~60VDC, P≤400W							
	Connector	1 * 4Pin Connector, P=5.00/5.08							
	RTC Battery	CR2032 Coin Cell							
OS Support	Windows	Windows 10/11							
	Linux	Linux							
Watchdog	Output	System Reset							
	Interval	Programmable 1 ~ 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	532.3*323.7*89.4	585.4*357.7*89.4	662.3*400.9*89.4
	Weight	Net: 6.9Kg Total: 8.4Kg	Net: 7.2Kg Total: 8.7Kg	Net: 7.9Kg Total: 9.4Kg	Net: 8Kg Total: 9.7Kg	Net: 8.8Kg Total: 10.5Kg	Net: 9Kg Total: 11Kg	Net: 10.6Kg Total: 12.6Kg	Net: 11.7Kg Total: 13.7Kg
Environment	Heat Dissipation System	Fanless Passive Cooling							
	Operating Temperature	0~50°C	0~50°C	0~50°C	0~50°C	0~50°C	0~50°C	0~50°C	0~50°C
	Storage Temperature	-20~60°C	-20~60°C	-20~60°C	-20~60°C	-20~60°C	-20~60°C	-20~60°C	-20~60°C
	Relative Humidity	10 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	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

