

				
	PPC-F15D-ULT5	PPC-F17D-ULT5	PPC-FW15D-ULT5	PPC-FW19D-ULT5
LCD Size	15"	17"	15.6"	18.5"
Brightness(cd/m2)	450	350	400	400
Max Resolution	1024 x 768	1280 x 1024	1366 x 768	1366 x 768
Contrast Ratio	800:1	1000:1	500:1	1000:1
Backlight MTBF(hrs)	70000	50000	50000	50000
Cooling method / System Fan	Fanless	Fanless	Fanless	Fanless
CPU	8th Genertion Intel® Core™ i5-8365U 4.10GHz 8th Genertion Intel® Celeron® 4305U 2.20GHz	8th Genertion Intel® Core™ i5-8365U 4.10GHz 8th Genertion Intel® Celeron® 4305U 2.20GHz	8th Genertion Intel® Core™ i5-8365U 4.10GHz 8th Genertion Intel® Celeron® 4305U 2.20GHz	8th Genertion Intel® Core™ i5-8365U 4.10GHz 8th Genertion Intel® Celeron® 4305U 2.20GHz
Chipset	Intel® Whiskey Lake-U	Intel® Whiskey Lake-U	Intel® Whiskey Lake-U	Intel® Whiskey Lake-U
Memory Max.	32GB	32GB	32GB	32GB
Storage	2.5" HDD/SSD SATA 3(6.0Gb/s) bay	2.5" HDD/SSD SATA 3(6.0Gb/s) bay	2.5" HDD/SSD SATA 3(6.0Gb/s) bay	2.5" HDD/SSD SATA 3(6.0Gb/s) bay
Ethernet	2x Intel® I211 1x Intel® I219	2x Intel® I211 1x Intel® I219	2x Intel® I211 1x Intel® I219	2x Intel® I211 1x Intel® I219
Audio Codec	ALC888S	ALC888S	ALC888S	ALC888S
Input	+12VDC	+12VDC	+12VDC	+12VDC
Power adapter	12V @ 8A(96W)	12V @ 8A(96W)	12V @ 8A(96W)	12V @ 8A(96W)
Operating Temperature	-10°C ~ 50°C (with air flow)	-10°C ~ 50°C (with air flow)	-10°C ~ 50°C (with air flow)	-10°C ~ 50°C (with air flow)
Operating Vibration	5~17Hz, 0.1 double amplitude displacement 17~640Hz 1.5G acceleration peak to peak	5~17Hz, 0.1 double amplitude displacement 17~640Hz 1.5G acceleration peak to peak	5~17Hz, 0.1 double amplitude displacement 17~640Hz 1.5G acceleration peak to peak	5~17Hz, 0.1 double amplitude displacement 17~640Hz 1.5G acceleration peak to peak
Operating Shock	10G acceleration part to part (11ms)	10G acceleration part to part (11ms)	10G acceleration part to part (11ms)	10G acceleration part to part (11ms)
Safety & EMC	CE, FCC	CE, FCC	CE, FCC	CE, FCC
Humidity	10% ~ 95% (non-condensing)	10% ~ 95% (non-condensing)	10% ~ 95% (non-condensing)	10% ~ 95% (non-condensing)
Storage Temperature	-20°C ~ 60°C	-20°C ~ 60°C	-20°C ~ 60°C	-20°C ~ 60°C

Color	PANTONE 296 C	PANTONE 296 C	PANTONE 296 C	PANTONE 296 C
Mounting	Wall mount, Panel mount, Rack mount	Wall mount, Panel mount, Rack mount	Wall mount, Panel mount, Rack mount	Wall mount, Panel mount, Rack mount
Dimensions (LxWxH) (mm)	378.5 x 303 x 74.6	408.4 x 341.4 x 75.6	400.1 x 253.3 x 77.1	469.8 x 289.2 x 76.9
Net Weight	5.7kg	6.7kg	6.1kg	6.9kg
Power consumption	56W	66W	55W	57W
Expansion Slots	M.2 2230 A-Key(PCle x1, USB 2.0; support Wi-Fi, BT) M.2 2280 M-Key(PCle x4; support NVMe SSD)	M.2 2230 A-Key(PCle x1, USB 2.0; support Wi-Fi, BT) M.2 2280 M-Key(PCle x4; support NVMe SSD)	M.2 2230 A-Key(PCle x1, USB 2.0; support Wi-Fi, BT) M.2 2280 M-Key(PCle x4; support NVMe SSD)	M.2 2230 A-Key(PCle x1, USB 2.0; support Wi-Fi, BT) M.2 2280 M-Key(PCle x4; support NVMe SSD)
LCD Color	16.2M	16.7M	16.2M	16.7M
Pixel Pitch (mm)	0.29 x 0.29	0.26 x 0.26	0.25 x 0.25	0.3 x 0.3
Viewing Angle (H-V)	160°/150°	170°/160°	170°/160°	170°/160°
Touch Screen	PCAP 10-point	PCAP 10-point	PCAP 10-point	PCAP 10-point
Touch Controller	EETI	EETI	EETI	EETI
IP Level	Front panel IP66	Front panel IP66	Front panel IP66	Front panel IP66
Construction Front Panel	Aluminum	Aluminum	Aluminum	Aluminum
TPM	TPM 2.0(on-board)	TPM 2.0(on-board)	TPM 2.0(on-board)	TPM 2.0(on-board)
Cutout Dimensions	361.1 x 285.6	391 x 324	379.1 x 232.3	447.8 x 257.2
I/O Interface	1 x AT/ATX Switch 1 x Clear CMOS 1 x Power Switch(with LDE(Blue)) 1 x Line out 2 x RS-232(1 x RS-232/422/485, 1 x RS-232) 1 x HDMI 3 x LAN(2 x Support PoE(IEEE 802.3at/bt, optional)) 1 x DC Input Jack(12V Din 4Pin/lock) 1 x Reset Button 4 x USB 3.2 Gen2x1	1 x AT/ATX Switch 1 x Clear CMOS 1 x Power Switch(with LDE(Blue)) 1 x Line out 2 x RS-232(1 x RS-232/422/485, 1 x RS-232) 1 x HDMI 3 x LAN(2 x Support PoE(IEEE 802.3at/bt, optional)) 1 x DC Input Jack(12V Din 4Pin/lock) 1 x Reset Button 4 x USB 3.2 Gen2x1	1 x AT/ATX Switch 1 x Clear CMOS 1 x Power Switch(with LDE(Blue)) 1 x Line out 2 x RS-232(1 x RS-232/422/485, 1 x RS-232) 1 x HDMI 3 x LAN(2 x Support PoE(IEEE 802.3at/bt, optional)) 1 x DC Input Jack(12V Din 4Pin/lock) 1 x Reset Button 4 x USB 3.2 Gen2x1	1 x AT/ATX Switch 1 x Clear CMOS 1 x Power Switch(with LDE(Blue)) 1 x Line out 2 x RS-232(1 x RS-232/422/485, 1 x RS-232) 1 x HDMI 3 x LAN(2 x Support PoE(IEEE 802.3at/bt, optional)) 1 x DC Input Jack(12V Din 4Pin/lock) 1 x Reset Button 4 x USB 3.2 Gen2x1
Memory Ext.	2 x 260-pin 2400 MHz dual-channel DDR4 unbuffered	2 x 260-pin 2400 MHz dual-channel DDR4 unbuffered	2 x 260-pin 2400 MHz dual-channel DDR4 unbuffered	2 x 260-pin 2400 MHz dual-channel DDR4 unbuffered

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