



179.95 EUR
incl. 19% VAT, plus [shipping](#)

- Intel® Coffee Lake Core i7/i5/i3 / Pentium / Celeron LGA1151 processors
- Intel H310 Chipset
- 2x DDR4 SO-DIMM, support up to 32GB
- Support triple display for HDMI, Display Port and LVDS
- Support PCIe x4 (Gen 3) slot
- 3x SATA III
- 2x Intel Gigabit Ethernet
- 6x USB 2.0, 4 x USB3.1 (Gen 2), 4 x COM and 1 x MiAPI (configurable digital I/O)
- DC-in 19V power input

Attention : M.2 slot is without function.

PH12FEI (PH12FEI) Specifications

MECHANICAL

FORM FACTOR

Mini-ITX: 6.7" x 6.7" (170 mm x 170 mm)

SYSTEM	PROCESSOR	9th & 8th Gen Intel Coffee Lake LGA1151 Socket Processor, Core i7/i5/i3 6-core TDP Max. 65W, Core i9 8-core TDP Max 35W
	CHIPSET	Intel® H310 / Intel® Q370 (Support RAID 0 / 1 / 5)
	SYSTEM MEMORY	DDR4 2666MHz / 2 x 260-pin SO-DIMM / Max. 32GB (Non-ECC)
	GRAPHICS	Intel® HD Graphics
	ETHERNET	Intel® I219-LM Giga LAN + Intel® I210-AT Giga LAN
	AUDIO	Realtek® ALC662
	I/O CHIPSET	Nuvoton NCT6116D
	TPM	Nuvoton NPCT750AAAYX TPM2.0 (Optional)
	EXPANSION SLOT	
	BIOS	256 Mbit SPI
	H/W MONITOR	Temperature Monitor / Voltage Monitor / Fan Monitor
	WATCHDOG TIMER	1~255 steps by software program
	SMART FAN CONTROL	CPU Fan / System Fan
	VGA	-
GRAPHICS	DVI	-
	HDMI	Up to 4K (4096 x 2160) @30 Hz
	DISPLAYPORT	Up to 4K (4096 x 2304) @60 Hz
	LVDS	Up to 1920 x 1200 @60 Hz
	eDP (Option)	Up to 4K (4096 x 2304) @60 Hz
	USB	4 x USB 3.1 Gen 2 / 4 x USB 3.0 (H310)
REAR I/O	DISPLAY I/O	1 x HDMI 1.4 / 1 x DisplayPort 1.2
	AUDIO I/O	1 x Mic-in / 1 x Line-out
	LAN I/O	2 x RJ-45
	SERIAL PORT	-
	PS/2 PORT	-
	OTHERS	DC-in 19V (5.1 mm / ID, 7.4 mm / OD)

INTERNAL CONNECTORS	STORAGE	3 x SATAIII
	USB	6 x USB 2.0 (Q370) / 5 x USB 2.0 (H310)
	DISPLAY I/O	1 x LVDS (*Optional eDP SKU available) / 1 x Backlight Connector
	AUDIO I/O	1 x Audio Header (Front Panel Mic-in & Line-out)
	SERIAL PORT	4 x RS232 (One supports RS232 / 422 / 485)
	PARALLEL PORT	-
	GPIO	1 x MiAPI Header (Programmable. Support 10-bit GPIO)
	FAN	1 x 4-pin CPU Fan Header / 1 x 4-pin System Fan Header
	POWER	1 x ATX Power Connector / 1 x AT / ATX Mode Select Jumper
	OTHERS	1 x Chassis Intrusion / 1 x CMOS Jumper
POWER REQUIREMENT	POWER INPUT	DC-in 19V (5.1 mm / ID, 7.4 mm / OD) / ATX 2-pin 19V
ENVIRONMENTAL	OPERATING TEMPERATURE	0 ~ 60°C (32 ~140°F)
	STORAGE TEMPERATURE	-20 ~ 80°C (-4 ~176°F)
	OPERATING HUMIDITY	10% ~ 95% R/H (Non-condensing)
OS	CERTIFICATION	CE / FCC Class B
	OS SUPPORT	Windows® 10 64-bit / Linux (support by request)
PACKING LIST	PACKAGE	1 x Motherboard / 1 x 50 cm SATA Cable / 1 x 45 cm SATA Power Cable / 2 x I/O Bracket (Half and Full Height) / 1 x Quick Installation Guide / 1 x ATX 4-pin to DIN 4-pin Cable (12v SKU only)