

Features

- Intel Skylake/Kaby Lake Core i3/i5/i7 LGA1151 processor
- Intel Q170 Chipset
- Intel vPro technology support
- 2 x DDR4 SO-DIMM, up to 32GB
- Support triple displays for HDMI, Displayport, and LVDS/eDP
- Support PCIe x4 (Gen. 3) slot and Mini PCIe slot
- 4 x SATA III support RAID 0, 1, 5, 10
- 2 x Intel Gigabit Ethernet
- 6 x USB2.0, 4 x USB3.0, 2 x COM, 1 x GPIO
- DC-in 12/19V power input



Core System

CPU	Intel 6th/7th Skylake/Kaby Lake LGA1151 Socket Processor TDP Max. 65W
System Memory	2 x 260-pin DDR4 1866/2133MHz SO-DIMM, up to 32GB (Non-ECC)
Chipset	Intel H110/Q170 (Support RAID 0/1/5/10)
BIOS	AMI
Storage	4 x SATAIII (Q170)
Watchdog Timer	1 - 255 steps by software program
Expansion Slot	Mini PCIe Half size (PCIe/USB) Mini PCIe Full / Half size (PCIe/USB/SATA) PCIe x4 (Gen. 3) slot
Power Input	DC-in 19V / ATX 2-pin 19V DC-in 12V / ATX 4-pin 12V
Smart Fan Control	CPU Fan / System Fan
Dimensions	170 x 170 mm
Operating Temperature	0°C to +60°C (+32°F to +140°F)
Storage Temperature	-20°C to +70°C (-4°F to +158°F)
Humidity	10% to 95% relative humidity, non-condensing

Rear I/O

USB	4 x USB 3.0
Display I/O	1 x HDMI 1.4 1 x Display Port 1.2
Audio I/O	1 x Mic-in / 1 x Line-out
LAN I/O	2 x RJ-45, Intel I219-LM Giga LAN + Intel I210-AT Giga LAN
Serial Port	-
PS/2 Port	-
Others	1 x DC Jack

Internal Connectors

USB	6 x USB 2.0
Display I/O	1 x Backlight Connector 1 x LVDS
Audio I/O	1 x Line-out
Serial Port	2 x RS-232
Parallel Port	1 x Parallel Port Header
GPIO	1 x GPIO 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 COMS Jumper / 1 x Front Audio Header (Mic-in & Line-out)

Graphics

Chipset	Intel HD Graphics
VGA	-
DVI	-
HDMI	Up to 4K (3840 x 2160) @ 30Hz
Display Port	Up to 4K (4096 x 2304) @ 60Hz
LVDS	Up to 1920 x 1200 @ 60Hz
eDP (Option)	Up to 4K (4096 x 2304) @ 60Hz

Others

TPM Support	TPM 2.0 and above
OS Support	Windows 10, Windows 7, Linux
Certifications	CE / FCC Class B

Ordering Information

MF-H110	H110 Chipset, 1 x DP, 1 x HDMI, 1 x LVDS, 4 x USB3.0, 4 x USB2.0 3 x SATAIII, 2 x RS-232, DC-in 19V
MF-Q170-19V	Q170 Chipset, 1 x DP, 1 x HDMI, 1 x LVDS, 4 x USB3.0, 6 x USB2.0 4 x SATAIII, 2 x RS-232, DC-in 19V
MF-Q170-12V	Q170 Chipset, 1 x DP, 1 x HDMI, 1 x LVDS, 4 x USB3.0, 6 x USB2.0 4 x SATAIII, 4 x RS-232, DC-in 12V