MODEL NO.: 25-0101

Description: TYPE-C Portable Docking Station, with 3 video ports (4K 2x HDMI + VGA), Gigabit LAN RJ45, 3x USB3.0 A, 100W PD power charging.

1. BRIEF INTRODUCTION

The uniquely designed portable docking station, with on-product tailed upstream type-C cable for Video/Data/Power together, to support MacBook Pro/MacBook Air, Windows laptops, which get the latest Type-C/Thunderbolt3 ports, to lead out
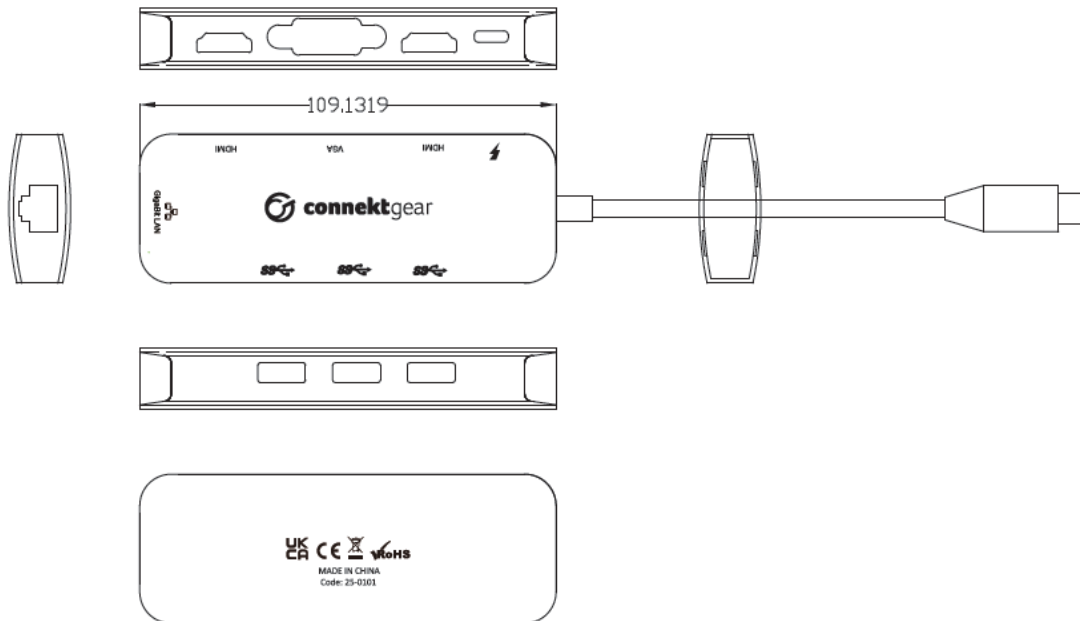
- 2 x HDMI video output ports, 4K@30Hz, and VGA video ports. Working for MacBook, at Mirror mode: total 3 external displays supported simultaneously, with all the same display contents.   Working at EXTEND Mode: MacBook/Pro/Air contents different from external displays.

Working for Windows laptop with WIN10 OS, at Mirror Mode, same contents among the displays, at Extend contents: Windows laptop/HDMI1/HDMI2, or Windows laptop/HDMI1/VGA all different contents with different applications, to increase productivity.   Support Samsung DEX, and support iPad, and other android smartphones with type-C ALT function, to extended video outputs from HDMI/VGA output

- gigabit ethernet LAN RJ4
- 3 x USB3.0 A 5Gbps data, and BC1.2 charging and data sync.
- up to 100W type-C PD Power Delivery charging.

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2. PRODUCT   2D DRAWING

3. PRODUCT FEATURES

-FOR HUB SECTION:

1. compliant with USB specification Revision 3.0
   - upstream port supports super speed (SS) high speed (HS) and full speed (FS) traffic
   - Downstream ports support SS, HS, FS and Low Speed (LS) traffic
   - 1 control pipe and 1 interrupt pipe.
   - Backward compatible to USB specification Revision 2.0/1.1
2. Compatible with USB Battery Charging Revision V1.2
   - Turning downstream port from a standard downstream port (SDP) into charging downstream port (CDP) or Dedicated Charging Ports (DCP)
   - Enable portable device to charge from VBUS even when the USB hubs is in suspend.
   - With external AC/DC adapter, used as fast charging charger, support iPad/iPhone/android device, **with current up to 2.4A. in standalone no PC connection to be charger only, or connection with PC for data sync and together for fast charging simultaneously at same time.**

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3. On-chip 8-bit micro-processor
   - RISC-like architecture
   - USB optimized instruction set
   - 1 cycle instruction execution
   - Performance: 12 MIPS @ 12MHz
   - With 256-byte RAM, 16K-byte internal ROM & 16K-byte SRAM
4. Multi Transaction Translator (TT) architecture
   - provides dedicated TT control logics for each downstream port
superior performance when multiple FS devices operate concurrently.

-FOR GIGA-BIT 10/100/1000Mb FAST ETHERNET LAN SECTION

- Single chip USB 3.0 to 10/100/1000Mbit fast Ethernet controller with Energy Efficient Ethernet (EEE) base on digital signal processing (DSP) technology with low dissipation
- USB Device Controller
  - Integrates on-chip USB 3.0 PHY and controller compliant to USB Spec 2.0 and 1.1
  - Supports USB Super/High/Full Speed modes with Bus-power or Self-power device auto-detect capability
  - High performance packet transfer rate over USB bus using proprietary burst transfer mechanism (US Patent Approval)
- Fast Ethernet Controller
  - Supports IEEE 802.3az (Energy Efficient Ethernet)
  - IEEE 802.3, 802.3u and 802.3ab compatible
  - Integrates 10/100Mbps Fast Ethernet MAC/PHY
  - Supports parallel detection and automatic polarity correction
  - Supports crossover detection and auto- correction
  - Supports IPv4/IPv6 packet Checksum Offload Engine (COE) to reduce CPU loading, including IPv4 IP/TCP/UDP/ICMP/IGMP & IPv6 TCP/UDP/ICMPv6 checksum check & generation
  - Supports TCP Large Send Offload V1
  - Supports full duplex operation with IEEE 802.3x flow control and half duplex operation with back-pressure flow control
  - Supports IEEE 802.1P Layer 2 Priority Encoding and Decoding
  - Supports IEEE 802.1Q VLAN tagging and 2 VLAN ID filtering; received VLAN Tag (4 bytes) can be stripped off or preserved
  - Supports Jumbo frame
  - PHY loop-back diagnostic capability
- Support Wake-on-LAN Function
  - Supports suspend mode and remote wakeup via link-change, Magic Packet, Microsoft Wakeup Frame and external wakeup pin
  - Supports Bonjour wake-on-demand

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- Advanced Power Management Features
  - Supports power management offload (ARP & NS)
  - Supports dynamic power management to reduce power dissipation during idle or light traffic
  - Supports Auto Detach power saving
  - Supports advanced link down power saving when Ethernet cable is unplugged

-FOR HDMI x 2 ports.

- Compliant with HDMI2.0, HDMI1.4 and DVI1.0
- Dual HDMI ports
- Integrated one HDCP2.2 engine and one HDCP1.4
- engine, each for one HDMI transmitter
- Data rate up to 6Gbps

- FOR VGA

- Compliant with VESA VSIS1.2
- 200MSPS throughput and WUXGA timing support
- Support CSC(Color Space Conversion) between RGB
- and YCbCr 4:4:4, YCbCr 4:4:4 and YCbCr 4:2:2
- Amplitude calibration
- YPbPr output capable
- R/B swappable
- Support separate SYNC or embedded SYNC
- (SOG/SOY)
- Load sensing
- 5V tolerance DDC I/Os

- FOR TYPE-C POWER DELIVERY

- PD3.0, up to 100W passing-through power delivery charging to computer.

- FOR HOUSING

High quality aluminum, with sanderized surface treatment.

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PRODUCT SPECIFICATION

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- SYSTEM REQUIREMENTS

● Macbook/windows laptops, with a type-c/thunderbolt3 ports, type-C with ALT function to lead out DP for external video ports outputs HDMIX2, VGA

● Windows 10 or above, Mac OS 10.X,X on-ward, Chromebook, iPad, Android devices with TYPE-C port and ALT function.

4. Product specification

4.1 physical specification

Description	Specification & criteria
PCB layer	6 layers
PCB dimension	Main board: 109*36.2 mm;
PCB thickness	1.2 mm
cable length	USB TYPE-C to TYPE-C full featured cable, 15CM length.
USB cable length	15cm
Aluminum housing	109*39mm
All materials	RoHS compliant

4.2 Electrical specification

Description	Specification & criteria
HUB Chipset	RT5411(HUB)
LAN controller	USB3.0 GIGA-BIT LAN controller RTL8153, from Realtek semiconductor
Video processor	LT8712EXI,
File format	FAT/FAT32/NTFS/exFAT
Firmware upgrade	EEPROM, firmware upgradable.
Indicator	LEDs for flash card acc., Power, LAN access
Interface operation	150mm full featured type-c cable with male plug, tailed cable
Operating voltage	5Vdc input, USB BUS POWERED
Power consumption	<500mA

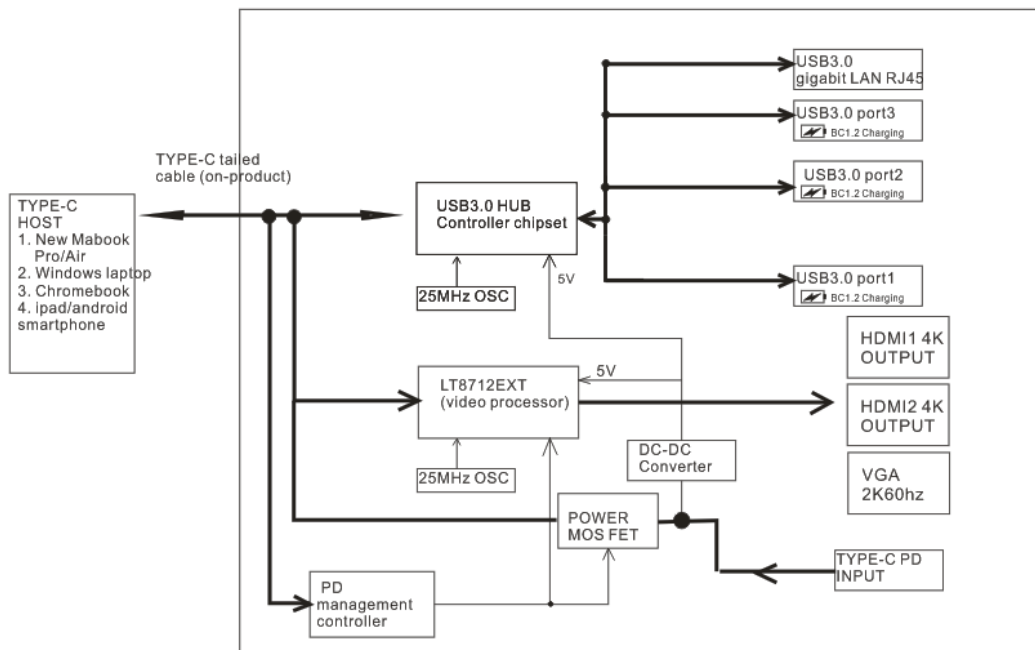## 4.3 Operating System supported; NO DRIVER REQUIRED:

1. WIN10
2. MAC10.X or higher
3. Chromebook, Android 10.X

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4.4. Environmental specification

Description	Specification
Operating temperature	0°C to 50°C
Storage temperature	-20°C to 60°C
Relative humidity	0 to 80% RH no condensation

5. BLOCK DIAGRAM

6. COMPATILITY LIST
- MacBook Air, Pro13/15/16, Mac mini
- Lenovo Y7000, YOGA6/7 pro, c640/c940/s730, ThinkPad X1 Yoga
- Huawei magic book pro, matebook
- Xiaomi Air, Pro
- Asus, ZenBook Pro, Deluxe series
- HP 4Pro/5/5plus,
- DELL: 5000, 7000, G3 series
- Google Pixel, Chromebook
- Microsoft Surface3 13.5/15 inch
- Alienware