Dell Thunderbolt Dock TB16

Product Overview

The Dell Thunderbolt Dock with Intel® Thunderbolt™ 3 technology is the ultimate docking solution. With one cable, power users can provide power to their laptop, connect to three FHD displays or two 4K displays or one 5K display at 60Hz, transfer files (such as video editing files) at up to 40 Gbps to Thunderbolt 3 devices, and connect to USB and audio peripherals.

One dock. One cable. Ultimate Performance.

Cable docking is the new normal. With the Dell Thunderbolt Dock users can connect a single cable to the Thunderbolt 3 port on their laptop to provide power and high-speed data and video. With the ability to connect to three FHD displays or two 4K displays or a single 5K display @ 60 Hz and all your essential peripherals, the Dell Thunderbolt Dock TB16 provides the ultimate performance and flexibility for docking in a compact form factor (5.7 x 5.7 x 2.05 in. / 145 x 145 x 52 mm).

One source for power

The Dell Thunderbolt Dock TB16 can provide power up to 130W* to your Thunderbolt 3 laptop and can also provide up to 60W of power to attached Thunderbolt 3 peripherals. Users can also charge smartphones or tablets with the USB 3.0 port with PowerShare.

Exclusive features for Dell laptops & 2-in-1s

With Dell Precision, Latitude or XPS laptops with a Thunderbolt 3 port, end-users can charge the system with up to 130W, can wake the system upon docking, and can use the convenient dock button, while IT Managers can easily deploy images to attached systems, lock down dock ports and deploy updates to the dock.

Ports

- Video ports: VGA, mDP, DP, HDMI, Thunderbolt 3
- Two USB 2.0 ports
- Three USB 3.0 ports (one with PowerShare)
- One Thunderbolt 3 port
- Speaker output (rear)
- Combo audio (front)
- Gigabit Ethernet
- Kensington Lock Slot
- 7.4mm barrel power port for Dell 180W/240W AC adapters

* 130W of power is exclusive feature to supported Dell platforms only. 3rd party products will only receive up to 60W if they accept voltage at 5V or 19.5V.

Dell Thunderbolt Dock
TB16
Technical Specifications

Product Specifications	Dell Thunderbolt Dock
Model	Dell Thunderbolt Dock – TB16
Video Ports	VGA, mDP, DP, HDMI, Thunderbolt 3
#Displays Supported	3
Max Resolution Support[1]	5120 x 2880 @ 60 Hz
USB Type-A Ports	(2) USB 2.0 (3) USB 3.0 – one USB 3.0 port on front with USB PowerShare
USB Type-C™ Ports	(1) Thunderbolt 3 Port
Audio/Headphone	(1) Combo / (1) Speaker Output
Network	Gigabit Ethernet
LED Indicators	Power Adapter LED / Docking Cable Connector LED / RJ-45 LEDs
AC Adapter Options	180W / 240W
Dimensions	145 x 145 x 52 mm 5.7 x 5.7 x 2.05 inches
Weight	720 g 1.58 lbs
Connector Cable	USB Type-C Thunderbolt (0.5 m)
System Requirements	PC's equipped with Thunderbolt ™ 3
Operating Systems	Microsoft® Windows® 7, 8, 8.1, 10 Ubuntu 14.04 SP1 (PRTS), RedHat Enterprise Linux v7.2(PRTS)
Systems Management[2]	Wireless vPro™ supported by the laptop, tablet, or mobile workstation
MAC Address[3]	Pass through MAC address
Warranty	If purchased as a tied laptop accessory, the Dell Dock will share the system warranty. If purchased APOS, 1 yr standard warranty. Advanced exchange (AMER/APJ). Next business day exchange (EMEA)

[1] 5120 x 2880 (5K) @ 60Hz only supported if 1) A USB Type C to Dual DisplayPort 1.2 adapter is plugged into the Thunderbolt 3 port on the back of TB16 which is then connected to two DisplayPort cables plugged into the 5K monitor or 2) System with discrete graphics has display setting set to discrete and 5K monitor is connected to mDP and DP ports of the dock with DisplayPort 1.2 cables

[2] Dell Thunderbolt Dock TB16 does not support wired vPro. If vPro is needed, the host Ethernet port can be used, or WiFi vPro within the host

[3] The dock will pass through the NB/Tablet MAC address

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Frequently Asked Questions

Q: What is the difference between USB-C and Thunderbolt ?

A: USB Type-C or USB-C is a connector specification that allows for a reversible or flippable cable. Various protocols such as USB 3.1, DisplayPort™ and Thunderbolt 3 can use a USB-C connector.

Q: How can a user tell the difference between DisplayPort over USB-C and a Thunderbolt 3 port or cable ?

A: The branding of the port or cable will have different labels

	DisplayPort over USB Type-C	Intel® Thunderbolt 3
Port	See Dell platforms with USB Type-C ports here	See Dell platforms with Thunderbolt 3 ports here
Cable		

Q: As the DisplayPort over USB-C and Thunderbolt cables and ports have the same USB-C connector shape, what happens if a user connects a DisplayPort over USB-C cable into a Thunderbolt port (and vice-versa)?

A: Host PCs with Thunderbolt ports support DisplayPort over USB-C peripherals as USB is a subset of Thunderbolt functionality. However, hosts PCs with DisplayPort over USB-C ports do not support Thunderbolt peripherals. In the matrix below, you can see that the Dell Dock WD15 uses a DisplayPort over USB-C cable while the Dell Thunderbolt Dock TB16 uses a Thunderbolt 3 cable and the supported features when connected to respective host PCs.

	Supported host PC with DisplayPort over USB Type-C	Supported host PC with Intel® Thunderbolt 3
Dell Dock WD15	**FULL FEATURES OF DELL DOCK WD15 SUPPORTED**	**FULL FEATURES OF DELL DOCK WD15 SUPPORTED**
Dell Thunderbolt Dock TB16	**NOT SUPPORTED**	**FULL FEATURES OF DELL THUNDERBOLT DOCK TB16 SUPPORTED**

Frequently Asked Questions (continued)

Q: What Dell systems are compatible with the Dell Thunderbolt Dock?

A: See compatibility matrix below.

2016 Docking Support (Intel 6th Gen Processors)		WD15	TB16
	Platform	DP USB-C	TBT 3
Latitude	Latitude 5175/5179	√	x
	Latitude 7275	√	√
	Latitude 7370	√	√
	Latitude E7270	x	x
	Latitude E7470	x	x
	Latitude E5270	x	x
	Latitude E5470	x	x
	Latitude E5570 (UMA)	x	x
	Latitude E5570 (H Discrete)	√	√
Precision	Precision 3510	√	√
	Precision 5510	√	√
	Precision 7510	√	√
	Precision 7710	√	√
XPS	XPS 12 9250	√	√
	XPS 13 9350	√	√
	XPS 15 9550	√	√

2017 Docking Support (Intel 7th Gen Processors)		WD15	TB16
	Platform	DP USB-C	TBT 3
Latitude	Latitude 5285	√	x
	Latitude 5289	√	x
	Latitude 5389	√	x
	Latitude 7285	√	√
	Latitude 7280	√	w/vPro
	Latitude 7380	√	w/vPro
	Latitude 7480	√	w/vPro
	Latitude 5280	√	x
	Latitude 5480 (U or H UMA)	√	x
	Latitude 5580 (U or H UMA)	√	x
	Latitude 5480 (H Discrete)	√	√
	Latitude 5580 (H Discrete)	√	√
Precision	Precision 3520	√	√
	Precision 5520	√	√
	Precision 7520	√	√
	Precision 7720	√	√
XPS	XPS 13 2n1 9365	√	√
	XPS 13 9360	√	√
	XPS 15 9560	√	√

Q: Are the Dell Dock and Dell Thunderbolt Dock compatible with non-Dell systems?

A: Dell is committed to open standards and has therefore allowed the cable docks to be compatible with third-party systems that support DisplayPort over USB Type-C™ or Thunderbolt 3 provided that the OEM has not blocked any third-party peripherals in their BIOS, firmware or OS. The ability to charge third-party devices will vary as competition can specify their input voltage requirement and TB16 only supports 5V or 19.5V. Dell exclusive features are only supported with Dell platforms.

Q: What is the difference between power share and power delivery?

A: PowerShare allows you to charge your phone or tablet without the laptop being turned on from the USB 3.0 port. Power delivery is a term used to describe the USB standard for power over USB-C, aka USB PD. USB PD means an AC adapter or docking station can negotiate with the host system on the power it requires and deliver the appropriate amount. While the Intel Thunderbolt spec for USB-PD over Thunderbolt is 100W, the standard does not dictate the voltage. Dell has chosen to deliver power over USB at 5V or 19.5V, so devices that accept those voltage inputs can receive power.

Q: Why is the cable only 0.5m long?

A: There are no cable providers that provide Thunderbolt 3 at 40 Gbps longer than 0.5m at this time. Cables that are 1m or 2m are Thunderbolt 3 supporting only 20 Gbps.

Frequently Asked Questions (continued)

Q: What are the Dell exclusive features on the Dell Thunderbolt Dock?

A: While the Dell Thunderbolt Dock meets open industry standards, Dell has invested in value added features that provide more features when the Dell Thunderbolt Dock is paired with a supported Dell laptop or 2-in-1. These features will not work with a third-party system as they are linked to the BIOS in Dell platforms.

Dell Latitude, Precision or XPS + TB16			3rd-party OEM + TB16
Category	**Dell Features**	**Benefit**	
User experience features	• Wake-on dock support • Dock button • Error messages & notifications	Users start their day faster.	These features will **not** work when a user connects TB16 with a non-Dell Thunderbolt 3 enabled PC + OEMS can choose to block
Power features	• Up to 130W • Leverages Dell power supplies	Users charge their devices faster and can reuse existing power adaptors.	
Deployment features	• Pre-OS support and PXE boot support with MAC address overwrite	IT can deploy corporate images more easily.	
Security and management features	• Port disablement	Users can work in a secure environment.	
Support features	• Ability to push firmware updates	IT is able to maintain the dock going forward.	

Q: How many monitors can be supported and what is max monitor resolution?

A: With the Intel HD Integrated Graphics, the Dell Dock can support 2 external displays at 60 Hz and the Dell Thunderbolt Dock can support 3 external displays at 60 Hz. Refer to the table below for additional details. Additional configurations are possible if the laptop has a discrete graphics card. Please see the Dell Thunderbolt Dock TB16 User Guide for more details.

`	Dell Dock		Dell Thunderbolt Dock	
Resolutions	**# Displays**	**Refresh Rate**	**# Displays**	**Refresh Rate**
1920 x 1080	2*	60 Hz	3	60 Hz
1920 x 1200	2*	60 Hz	3	60 Hz
2048 x 1536	1	60 Hz	3	60 Hz
2560 x 1080	1	60 Hz	3	60 Hz
2560 x 1440	1	60 Hz	3	60 Hz
2560 x 1600	1	60 Hz	3	60 Hz
3440 x 1440	1	30 Hz	2	60 Hz
3840 x 2160	1	30 Hz	2	60 Hz
5120 x 2880	-	-	1	60 Hz

Notes:

* A 3rd display cab be connected with the VGA port and the image will be in clone mode vs. Extended Desktop.

Maximum resolution that can be supported with VGA is 2048 x 1536 @ 60 Hz

Frequently Asked Questions (continued)

Q: Why are there different choices for power adapters are required for the dock to work with my platform?

A: The power adapter for the Dell Thunderbolt Dock needs to provide power to the dock itself, the host system and to Thunderbolt 3 peripherals. Therefore, the 180W adapter is the minimum requirement for Dell host systems that require up to 65W and the 240W adapter is recommended for Dell host systems that require 90W or more. The Dell Thunderbolt Dock with a 240W adapter can be used with all systems. The matrix below ensures that the Dell host system gets up to 130W and also allows 60W of power to be provided to peripherals attached to the Thunderbolt 3 port. Pairing a Dell host system that requires 90W or more with a Dell Thunderbolt Dock with a 180W adapter will reduce or eliminate the power available to the Thunderbolt 3 port on the back of TB16.

2016 Docking Support (SKL)			
	Platform	**TB16**	**TB16 Power Adapter**
Latitude	Latitude 5175/5179	x	
	Latitude 7275	√	**180W**
	Latitude 7370	√	**180W**
	Latitude E7270	x	
	Latitude E7470	x	
	Latitude E5270	x	
	Latitude E5470	x	
	Latitude E5570 (UMA)	x	
	Latitude E5570 (H Discrete)	√	**240W**
Precision	Precision 3510	√	**240W**
	Precision 5510	√	**240W**
	Precision 7510*	√	**240W**
	Precision 7710*	√	**240W**
XPS	XPS 12 9250	√	**180W**
	XPS 13 9350	√	**180W**
	XPS 15 9550	√	**240W**

*Dell Precision 7510/7520/7710/7720 require the workstation power adapter for charging, as these systems require more power than 130W

2017 Docking Support (KBL)			
	Platform	**TB16**	**TB16 Power Adapter**
Latitude	Latitude 5285	x	
	Latitude 5389	x	
	Latitude 7389	x	
	Latitude 7285	√	**180W**
	Latitude 7389	√	**180W**
	Latitude 7280	w/vPro	**180W**
	Latitude 7380	w/vPro	**180W**
	Latitude 7480	w/vPro	**180W**
	Latitude 5280	x	
	Latitude 5480 U or H UMA	x	
	Latitude 5580 U or H UMA	x	
	Latitude 5480 H Discrete	√	**240W**
	Latitude 5580 H Discrete	√	**240W**
Precision	Precision 3520	√	**240W**
	Precision 5520	√	**240W**
	Precision 7520*	√	**240W**
	Precision 7720*	√	**240W**
XPS	XPS 13 2n1 9365	√	**180W**
	XPS 13 9360	√	**180W**
	XPS 15 9560	√	**240W**

Q: Can the E-Dock port and Type-C port be used simultaneously on laptops that support both E-Dock and Type-C?

A: Yes. The laptop takes power from E-Dock as primary, DC-input as second, and Type-C as third. Monitor support is limited to the laptop's capability.

Q: Are any drivers required to be installed for the docking stations?

A: Yes. Drivers can be found on www.dell.com/support

Q: Is the Dell Thunderbolt Dock TAA Compliant?

A: The docks are not built in a TAA facility. When a dock is attached to an order at POS with a laptop or tablet that ships from a TAA factory , the dock also qualifies as TAA compliant. If the dock is ordered APOS it is not considered TAA compliant.

Q: Does the Dell Thunderbolt Dock assign a unique MAC address?

A: The NIC in the dock will pass the MAC address from the system to the IT management tools. This allows the MAC address to follow the system vs the dock. The IT manager can choose to use either the MAC address from the embedded NIC or the WLAN depending on their preference during imaging.