

# Specifications of Precision 7760

## Dimensions and weight

The following table lists the height, width, depth, and weight of your Precision 7760.

**Table 3. Dimensions and weight**

Description	Values
Height:	
Front height	25.98 mm (1.02 in.)
Rear height	28.60 mm (1.13 in.)
Width	400.00 mm (15.75 in.)
Depth	263.60 mm (10.38 in.)
Weight	3.01 kg (6.65 lb)
<b>NOTE:</b> The weight of your computer depends on the configuration ordered and manufacturing variability.	

## Processor

The following table lists the details of the processors that are supported by your Precision 7760 .

**Table 4. Processor**

Description	Option one	Option two	Option three	Option four	Option five	Option six	Option seven
Processor type	11 <sup>th</sup> Generation Intel Core i5-11500H, vPro	11 <sup>th</sup> Generation Intel Core i7-11600H	11 <sup>th</sup> Generation Intel Core i7-11800H	11 <sup>th</sup> Generation Intel Core i7-11850H, vPro	11 <sup>th</sup> Generation Intel Core i9-11950H, vPro	Intel Xeon W-11855M, vPro	Intel Xeon W-11955M, vPro
Processor wattage	45 W	45 W	45 W	45 W	45 W	45 W	45 W
Processor core count	6	6	8	8	8	6	8
Processor thread count	12	12	16	16	16	12	16
Processor speed	2.90 GHz to 4.60 GHz	2.90 GHz to 4.60 GHz	2.30 GHz to 4.60 GHz	2.50 GHz to 4.80 GHz	2.60 GHz to 5.00 GHz	3.20 GHz to 4.90 GHz	2.60 GHz to 5.00 GHz
Processor cache	12 MB	18 MB	24 MB	24 MB	24 MB	18 MB	24 MB
Integrated graphics	Intel UHD Graphics	Intel UHD Graphics	Intel UHD Graphics	Intel UHD Graphics	Intel UHD Graphics	Intel UHD Graphics	Intel UHD Graphics

# Chipset

The following table lists the details of the chipset supported by your Precision 7760.

**Table 5. Chipset**

Description	Values
Chipset	WM590
Processor	Intel Xeon Processor/11 <sup>th</sup> Generation Intel Core i5/i7/i9
DRAM bus width	64-bit
Flash EPROM	32 MB
PCIe bus	Up to Gen4

# Operating system

Your Precision 7760 supports the following operating systems:

- Windows 11 Home, 64-bit
- Windows 11 Pro, 64-bit
- Windows 11 Pro National Academic, 64-bit
- Windows 11 Pro for Workstations, 64-bit
- Windows 10 Home, 64-bit
- Windows 10 Pro, 64-bit
- Windows 10 Pro Education, 64-bit
- Windows 10 Pro China, 64-bit
- Windows 10 Enterprise, 64-bit
- RHEL 8.4
- Ubuntu 20.04 LTS, 64-bit

LaptopVANG.com

# Memory

The following table lists the memory specifications of your Precision 7760.

**Table 6. Memory specifications**

Description	Values
Memory slots	Four-SODIMM slots
Memory type	DDR4
Memory speed	<ul style="list-style-type: none"><li>• 3200 MHz</li><li>• 3466 MHz</li></ul>
Maximum memory configuration	128 GB
Minimum memory configuration	4 GB
Memory size per slot	4 GB, 8GB, 16 GB, 32 GB
Memory configurations supported	<ul style="list-style-type: none"><li>• 8 GB, 1 x 8 GB, DDR4, 3200 MHz, ECC</li><li>• 16 GB, 2 x 8 GB, DDR4, 3200 MHz, ECC</li></ul>

**Table 6. Memory specifications (continued)**

Description	Values
	<ul style="list-style-type: none"> <li>● 32 GB, 2 x 16 GB, DDR4, 3200 MHz, ECC</li> <li>● 32 GB, 4 x 8 GB, DDR4, 3200 MHz, ECC</li> <li>● 64 GB, 2 x 32 GB, DDR4, 3200 MHz, ECC</li> <li>● 64 GB, 4 x 16 GB, DDR4, 3200 MHz, ECC</li> <li>● 96 GB, 2 x 16 GB + 2 x 32 GB, DDR4, 3200 MHz, ECC</li> <li>● 128 GB, 4 x 32 GB, DDR4, 3200 MHz, ECC</li> <li>● 8 GB, 1 x 8 GB, DDR4, 3200 MHz, Non ECC</li> <li>● 16 GB, 2 x 8 GB, DDR4, 3200 MHz, Non ECC</li> <li>● 32 GB, 2 x 16 GB, DDR4, 3200 MHz, Non ECC</li> <li>● 32 GB, 4 x 8 GB, DDR4, 3200 MHz, Non ECC</li> <li>● 64 GB, 2 x 32 GB, DDR4, 3200 MHz, Non ECC</li> <li>● 64 GB, 4 x 16 GB, DDR4, 3200 MHz, Non ECC</li> <li>● 96 GB, 2 x 16 GB + 2 x 32 GB, DDR4, 3200 MHz, Non ECC</li> <li>● 128 GB, 4 x 32 GB, DDR4, 3200 MHz, Non ECC</li> <li>● 16 GB, 2 x 8 GB, DDR4, 3466 MHz SuperSpeed, Non ECC</li> <li>● 32 GB, 4 x 8 GB, DDR4, 3466 MHz SuperSpeed, Non ECC</li> <li>● 32 GB, 2 x 16 GB, DDR4, 3466 MHz SuperSpeed, Non ECC</li> <li>● 64 GB, 4 x 16 GB, DDR4, 3466 MHz SuperSpeed, Non ECC</li> </ul>

## External ports

The following table lists the external ports of your Precision 7760.


**Table 7. External ports**

Description	Values
Network port	One RJ-45 Ethernet port 10/100/1000 Mbps
USB ports	<ul style="list-style-type: none"> <li>● Two USB 3.2 Gen 1 Type-A ports</li> <li>● One USB 3.2 Gen 1 Type-A port with PowerShare</li> <li>● Two USB 3.2 Gen 2 Type-C Thunderbolt 4 ports</li> </ul>
Audio port	One global headset jack
Video port	<ul style="list-style-type: none"> <li>● One HDMI 2.1 port</li> <li>● One mini DisplayPort 1.4</li> </ul>
Media-card reader	One SD-card slot
Smart card reader	One smart-card reader
Micro Subscriber Identity Module (uSIM) Card	One microSIM card
Power-adaptor port	One DC-in port (7.4 mm standard plug)
Security-cable slot	One wedge-shaped security slot

## Internal slots

The following table lists the internal slots of your Precision 7760.

**Table 8. Internal slots**

Description	Values
M.2	A combination of four M.2 solid-state drives (one M.2 2280 and/or three M.2 2230 or M.2 2280)   <b>NOTE:</b> To learn more about the features of different types of M.2 cards, see the knowledge base article 000144170 at <a href="http://www.dell.com/support">www.dell.com/support</a> .

## Ethernet

The following table lists the wired Ethernet Local Area Network (LAN) specifications of your Precision 7760.

**Table 9. Ethernet specifications**

Description	Values
Model number	Intel Ethernet Connection I219-LM
Transfer rate	10/100/1000 Mbps

## Wireless module

The following table lists the Wireless Local Area Network (WLAN) module supported on your Precision 7760.

**Table 10. Wireless module specifications**

Description	Values
Model number	Intel Wi-Fi 6E AX210
Transfer rate	3000 Mbps
Frequency bands supported	2.40 GHz/5 GHz/6 GHz
Wireless standards	<ul style="list-style-type: none"><li>• WiFi 802.11a/b/g</li><li>• Wi-Fi 4 (WiFi 802.11n)</li><li>• Wi-Fi 5 (WiFi 802.11ac)</li><li>• Wi-Fi 6 (WiFi 802.11ax)</li></ul>
Encryption	<ul style="list-style-type: none"><li>• 64-bit/128-bit WEP</li><li>• AES-CCMP</li><li>• TKIP</li></ul>
Bluetooth	Bluetooth 5.2

# WWAN module

The following table lists the Wireless Wide Area Network (WWAN) module supported on your Precision 7760.

**Table 11. WWAN module specifications**

Description	Values
Model number	Qualcomm Snapdragon X55 Global 5G Modem (DW5930E)
Transfer rate	Up to 3 Gbps DL/250 Mbps UL (3GPP Release15 NR/LTE CAT20)
Frequency bands supported	<ul style="list-style-type: none"> <li>• LTE (1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 17, 18, 19, 20, 25, 26, 28, 29, 30, 32, 38, 39, 40, 41, 42, 43, 46, 66)</li> <li>• NR (1, 2, 3, 5, 7, 8, 12, 20, 28, 38, 41, 66, 71, 77, 78, 79)</li> <li>• HSPA+ (1, 2, 4, 5, 6, 8, 9,19)</li> </ul>
Wireless standards	<ul style="list-style-type: none"> <li>• NR FR1(Sub6) FDD/TDD</li> <li>• LTE FDD/TDD</li> <li>• WCDMA/HSPA+</li> <li>• GPS/GLONASS/Beidou/Galileo</li> </ul>
Encryption	Supported
Global Navigation Satellite System (GNSS)	Multi-constellation GNSS receiver
<p><b>NOTE:</b> For instructions on how to find your computer's IMEI (International Mobile Station Equipment Identity) number, see the knowledge base article <a href="https://www.dell.com/support">000143678</a> at <a href="https://www.dell.com/support">www.dell.com/support</a>.</p>	

# Audio

The following table lists the audio specifications of your Precision 7760.

**Table 12. Audio specifications**

Description	Values
Audio controller	ALC3204
Stereo conversion	Supported
Internal audio interface	High definition audio
External audio interface	Global headset jack
Number of speakers	Two
Internal-speaker amplifier	Supported (audio codec integrated)
External volume controls	Keyboard shortcut controls
Speaker output:	
Average speaker output	2 W
Peak speaker output	2.5 W

**Table 12. Audio specifications (continued)**

Description	Values
Subwoofer output	Not supported
Microphone	Dual-array microphones

## Storage

This section lists the storage options on your Precision 7760.

Your computer supports one of the following configurations:

- One M.2 2230 or M.2 2280 solid-state drive
- A combination of two M.2 solid-state drives (M.2 2230 or M.2 2280)
- A combination of four M.2 solid-state drives (one M.2 2280 and/or three M.2 2230 or M.2 2280)

The primary drive of your computer varies with the storage configuration. For systems with a M.2 drive, the M.2 drive is the primary drive .


**Table 13. Storage specifications**

Storage type	Interface type	Capacity
M.2 2230 solid-state drive	PCIe NVMe Gen3 x4	256 GB
M.2 2280 solid-state drive	PCIe NVMe Gen3 x4	Up to 1 TB
M.2 2280 solid-state drive, self-encrypting drive	PCIe NVMe Gen3 x4	512 GB
M.2 2280 solid-state drive	PCIe NVMe Gen4 x4	Up to 4 TB

## Media-card reader

The following table lists the media cards supported by your Precision 7760.

**Table 14. Media-card reader specifications**

Description	Values
Media-card type	SD card
Media-cards supported	<ul style="list-style-type: none"> <li>• Secure Digital (SD)</li> <li>• Secure Digital High Capacity (SDHC)</li> <li>• Secure Digital Extended Capacity (SDXC)</li> </ul>
<p> <b>NOTE:</b> The maximum capacity supported by the media-card reader varies depending on the standard of the media card installed in your computer.</p>	

## Keyboard

The following table lists the keyboard specifications of your Precision 7760.

**Table 15. Keyboard specifications**

Description	Values
Keyboard type	Backlit keyboard

**Table 15. Keyboard specifications (continued)**

Description	Values
Keyboard layout	QWERTY
Number of keys	<ul style="list-style-type: none"> <li>• United States and Canada: 101 keys</li> <li>• United Kingdom: 102 keys</li> <li>• Japan: 105 keys</li> </ul>
Keyboard size	X=18.70 mm key pitch Y=18.05 mm key pitch
Keyboard shortcuts	Some keys on your keyboard have two symbols on them. These keys can be used to type alternate characters or to perform secondary functions. To type the alternate character, press Shift and the desired key. To perform secondary functions, press Fn and the desired key. <b>NOTE:</b> You can define the primary behavior of the function keys (F1–F12) changing <b>Function Key Behavior</b> in BIOS setup program.

## Camera

The following table lists the camera specifications of your Precision 7760.

**Table 16. Camera specifications**

Description	Values
Number of cameras	One
Camera type	There are 2 camera options: <ul style="list-style-type: none"> <li>• HD RGB camera</li> <li>• IR camera</li> </ul>
Camera location	Front camera
Camera sensor type	Proximity sensor technology
Camera resolution:	
Still image	0.92 megapixel
Video	1280 x 720 (HD) at 30 fps
Infrared camera resolution:	
Still image	0.30 megapixel
Video	1280 x 720 (HD) at 30 fps
Diagonal viewing angle:	
Camera	74.9 degrees
Infrared camera	70 degrees

# Touchpad

The following table lists the touchpad specifications of your Precision 7760.

**Table 17. Touchpad specifications**

Description	Values
Touchpad resolution:	>300 dpi
Touchpad dimensions:	
Horizontal	105 mm (4.13 in.)
Vertical	65 mm (2.56 in.)
Touchpad gestures	For more information about touchpad gestures available on Windows, see the Microsoft knowledge base article <a href="https://support.microsoft.com/4027871">4027871</a> at <a href="https://support.microsoft.com">support.microsoft.com</a> .

# Power adapter

The following table lists the power adapter specifications of your Precision 7760.

**Table 18. Power adapter specifications**

Description	Values
Type	240 W E5 DC-in
Connector dimensions:	
External diameter	7.40 mm
Internal diameter	5.10 mm
Input voltage	100 VAC x 240 VAC
Input frequency	50 Hz x 60 Hz
Input current (maximum)	3.50 A
Output current (continuous)	12.30 A
Rated output voltage	19.50 VDC
Temperature range:	
Operating	0°C to 40°C (32°F to 104°F)
Storage	-40°C to 70°C (-40°F to 158°F)

# Battery

The following table lists the battery specifications of your Precision 7760.

**Table 19. Battery specifications**

Description	Option one	Option two	Option three
Battery type	6-cell, 68 WHr, Lithium-ion, ExpressChargeBoost	6-cell, 95 WHr, Lithium-ion, ExpressChargeBoost	6-cell, 95 WHr, Lithium-ion LcL




**Table 19. Battery specifications (continued)**

Description		Option one	Option two	Option three
Battery voltage		11.40 VDC	11.40 VDC	11.40 VDC
Battery weight (maximum)		0.39 Kg (0.86 lb)	0.43 kg (0.95 lb)	0.43 kg (0.95 lb)
Battery dimensions:				
	Height	10.3 mm (0.41 in.)	10.3 mm (0.41 in.)	10.3 mm (0.41 in.)
	Width	284.00 mm (11.18 in.)	284.00 mm (11.18 in.)	284.00 mm (11.18 in.)
	Depth	76.75 mm (3.02 in.)	76.75 mm (3.02 in.)	76.75 mm (3.02 in.)
Temperature range:				
	Operating	0°C to 60°C (32°F to 140°F)	0°C to 60°C (32°F to 140°F)	0°C to 60°C (32°F to 140°F)
	Storage	-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)
Battery operating time		Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.	Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.	Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.
Battery charging time (approximate)		<p><b>Express Charge Method:</b></p> <ul style="list-style-type: none"> <li>0 - 15°C maximum allowable charge time from 0 to 100% RSOC is 4 hours</li> <li>16 - 45°C normal express charge</li> <li>46 - 50°C maximum allowable charge time from 0 to 100% RSOC is 3 hours</li> </ul> <p><b>Standard Charge/ Predominately AC User Charge Method:</b></p> <ul style="list-style-type: none"> <li>0 - 15°C maximum allowable charge time from 0 to 100% RSOC is 4 hours</li> <li>16 - 50°C maximum allowable charge time from 0 to 100% RSOC is 3 hours</li> </ul> <p><b>Express Charge Boost Charge Method (Fast Charge for Initial 35%):</b></p> <ul style="list-style-type: none"> <li>16 - 45°C target charge time from 0 to 35% RSOC is 20 mins for Accelerated Charge</li> </ul>	<p><b>Express Charge Method:</b></p> <ul style="list-style-type: none"> <li>0 - 15°C maximum allowable charge time from 0 to 100% RSOC is 4 hours</li> <li>16 - 45°C normal express charge</li> <li>46 - 50°C maximum allowable charge time from 0 to 100% RSOC is 3 hours</li> </ul> <p><b>Standard Charge/ Predominately AC User Charge Method:</b></p> <ul style="list-style-type: none"> <li>0 - 15°C maximum allowable charge time from 0 to 100% RSOC is 4 hours</li> <li>16 - 50°C maximum allowable charge time from 0 to 100% RSOC is 3 hours</li> </ul> <p><b>Express Charge Boost Charge Method (Fast Charge for Initial 35%):</b></p> <ul style="list-style-type: none"> <li>16 - 45°C target charge time from 0 to 35% RSOC is 20 mins for Accelerated Charge</li> </ul>	<p><b>Standard Charge/ Predominately AC User Charge Method:</b></p> <ul style="list-style-type: none"> <li>0 - 15°C maximum allowable charge time from 0 to 100% RSOC is 4 hours</li> <li>16 - 50°C maximum allowable charge time from 0 to 100% RSOC is 3 hours</li> </ul>
<p><b>i NOTE:</b> Control the charging time, duration, start and end time, and so on, using the Dell Power Manager application. For more information on the Dell Power Manager, see <i>Me and My Dell</i> on <a href="http://www.dell.com">www.dell.com</a>.</p>				
Coin-cell battery		Supported	Supported	Supported

**i NOTE:** Dell Technologies recommends that you charge the battery regularly for optimal power consumption. If your battery charge is completely depleted, connect the power adapter, turn on your computer, and then restart your computer to reduce the power consumption.

**Table 19. Battery specifications (continued)**

Description	Option one	Option two	Option three
 <b>CAUTION: Operating and storage temperature ranges may differ among components, so operating or storing the device outside these ranges may impact the performance of specific components.</b>			

## Display

The following table lists the display specifications of your Precision 7760.

**Table 20. Display specifications**

Description	Option one	Option two	Option three
Display type	17.3-inch Full High Definition (FHD)	17.3-inch Full High Definition (FHD)	17.3-inch Ultra High Definition (UHD)
Display-panel technology	Wide-viewing angle (WVA)	Wide-viewing angle (WVA), WLED	Wide-viewing angle (WVA), WLED
Display-panel dimensions (active area):			
Height	214.81 mm (8.46 in.)	214.81 mm (8.46 in.)	214.81 mm (8.46 in.)
Width	381.89 mm (15.04 in.)	381.89 mm (15.04 in.)	381.89 mm (15.04 in.)
Diagonal	438.16 mm (17.30 in.)	438.16 mm (17.30 in.)	438.16 mm (17.30 in.)
Display-panel native resolution	1920 x 1080	1920 x 1080	3840 x 2160
Luminance (typical)	220 nits	500 nits	500 nits
Megapixels	2.07	2.07	8.29
Color gamut	45% NTSC	100% DCIP3	100% Adobe
Pixels Per Inch (PPI)	127 ppi	127 ppi	255 ppi
Contrast ratio (typ)	600:1	600:1	1200:1
Response time (max)	35 ms	35 ms	35 ms
Refresh rate	60 Hz	60 Hz	120 Hz
Horizontal view angle	+/- 80 degrees(min)	+/- 80 degrees(min)	+/- 80 degrees(min)
Vertical view angle	+/- 80 degrees(min)	+/- 80 degrees(min)	+/- 80 degrees(min)
Pixel pitch	0.198 x 0.198 mm	0.198 x 0.198 mm	0.099 x 0.099 mm
Power consumption (maximum)	5.20 W	9 W	12.2 W
Anti-glare vs glossy finish	Anti-glare	Anti-glare	Anti-glare
Touch options	No	No	No

## Fingerprint reader (optional)

The following table lists the specifications of the optional fingerprint reader of your Precision 7760.

**Table 21. Fingerprint reader specifications**

Description	Power Button Option	FIPS Option (on palmrest)
Fingerprint-reader sensor technology	Capacitive	Capacitive
Fingerprint-reader sensor resolution	500 dpi	508 dpi
Fingerprint-reader sensor pixel size, X	108	256
Fingerprint-reader sensor pixel size, Y	88	360

## GPU—Integrated

The following table lists the specifications of the integrated Graphics Processing Unit (GPU) supported by your Precision 7760.

**Table 22. GPU—Integrated**

Controller	Memory size	Processor
Intel UHD Graphics	Shared system memory	Intel Xeon/11 <sup>th</sup> Generation Intel Core i5/i7/i9

## GPU—Discrete

The following table lists the specifications of the discrete Graphics Processing Unit (GPU) supported by your Precision 7760.

**Table 23. GPU—Discrete**

Controller	Memory size	Memory type
NVIDIA T1200	4 GB	GDDR6
NVIDIA RTX A3000	6 GB	GDDR6
NVIDIA RTX A4000	8 GB	GDDR6
NVIDIA RTX A5000	16 GB	GDDR6

## Multiple display support matrix

The following table lists the multiple display support matrix supported by your Precision 7760.

**Table 24. Supported display via host display port under different modes**

Graphics card mode	Connect to External Displays			
	1 External Display	2 External Displays	3 External Displays	4 External Displays
UMA	Type-C: 8K* @60Hz	<ul style="list-style-type: none"> <li>Type-C: 8K* @60Hz</li> <li>mDP or HDMI:4K@60</li> </ul>	<ul style="list-style-type: none"> <li>HDMI: 4K@60Hz</li> <li>mDP: 4K@60Hz</li> <li>Type-C:4K@60Hz</li> </ul>	(Internal Display Off) <ul style="list-style-type: none"> <li>HDMI: 4K@60Hz</li> </ul>

**Table 24. Supported display via host display port under different modes (continued)**

Graphics card mode	Connect to External Displays			
	1 External Display	2 External Displays	3 External Displays	4 External Displays
				<ul style="list-style-type: none"> <li>mDP: 4K@60Hz</li> <li>Type-C : 4K@60Hz</li> <li>Type-C : 4K@60Hz</li> </ul>
Hybrid mode	mDP/HDMI/Type-C:8K@60Hz	<ul style="list-style-type: none"> <li>mDP/HDMI/Type-C:8K@60Hz*1</li> <li>mDP/HDMI/Type-C:8K@60Hz*1</li> </ul>	<ul style="list-style-type: none"> <li>HDMI: 8K@60Hz</li> <li>mDP: 8K@60Hz</li> <li>Type-C:8K@60Hz</li> </ul>	(Internal Display Off) <ul style="list-style-type: none"> <li>HDMI: 8K@60Hz</li> <li>mDP: 8K@60Hz</li> <li>Type-C : 4K@60Hz</li> <li>Type-C : 4K@60Hz</li> </ul>
Hybrid mode with Direct Output	mDP/HDMI/Type-C:8K@60Hz	<ul style="list-style-type: none"> <li>mDP/HDMI/Type-C:8K@60Hz*1</li> <li>mDP/HDMI/Type-C:8K@60Hz*1</li> </ul>	<ul style="list-style-type: none"> <li>HDMI: 8K@60Hz</li> <li>mDP: 4K@60H</li> <li>Type C: 4K@60Hz</li> </ul>	(Internal Display Off) <ul style="list-style-type: none"> <li>HDMI: 4K@60Hz</li> <li>mDP: 4K@60Hz</li> <li>Type-C : 4K@60Hz</li> <li>Type-C : 4K@60Hz</li> </ul>
Discrete Mode	mDP/HDMI/Type-C:8K@60Hz	<ul style="list-style-type: none"> <li>mDP/HDMI/Type-C:8K@60Hz*1</li> <li>mDP/HDMI/Type-C:8K@60Hz*1</li> </ul>	(Internal Display Off) <ul style="list-style-type: none"> <li>HDMI: 8K@60Hz</li> <li>mDP: 4K@60Hz</li> <li>Type-C : 4K@60Hz</li> </ul>	(Internal Display Off) <ul style="list-style-type: none"> <li>HDMI: 4K@60Hz</li> <li>mDP: 4K@60Hz</li> <li>Type-C : 4K@60Hz</li> <li>Type-C : 4K@60Hz</li> </ul>

When connecting via docking station, additional external displays can be connected under Hybrid mode (with Internal Display Off).

**i** **NOTE:** Discrete mode and UMA modes are disabled when additional external displays are connected via docking station.

**Table 25. Supported display via docking station under Hybrid mode**

Hybrid mode		
TBT Dock	Type-C TBT + DP + DP + HDMI/MFDP: *4k@60HZ + 2k@60Hz*3	<ul style="list-style-type: none"> <li>Up to 3 if internal display on</li> <li>Up to 4 if internal display off</li> <li>Connect either HDMI or MFDP only, do not connect both of them</li> </ul>
Single Cable Dock	<ul style="list-style-type: none"> <li>DP + DP + HDMI : FHD@60Hz*3</li> <li>DP + DP + MFDP : FHD@60Hz*3</li> </ul>	
Dual Cable Dock	<ul style="list-style-type: none"> <li>DP + DP + HDMI: 2k@60Hz*3</li> <li>DP + DP + MFDP: 2k@60Hz*3</li> </ul>	

**Table 26. Supported display via docking station under Discrete mode**

Discrete mode		
TBT Dock	<ul style="list-style-type: none"> <li>DP + DP: 8K@60Hz*1</li> <li>DP + HDMI: 4K@60Hz*2</li> <li>MFDP/HDMI+DP1+DP2: 4K@60Hz*3</li> <li>TBT + DP1+DP2+HDMI: 4K@60Hz*4</li> </ul>	<ul style="list-style-type: none"> <li>Up to 3 if internal display on</li> <li>Up to 4 if internal display off</li> <li>Connect either HDMI or MFDP only, do not connect both of them</li> </ul>
Single Cable Dock	<ul style="list-style-type: none"> <li>DP + DP: 4K@60Hz *2</li> </ul>	

**Table 26. Supported display via docking station under Discrete mode (continued)**

Discrete mode		
	<ul style="list-style-type: none"> <li>• DP + HDMI: 4 K@60Hz*2</li> <li>• DP + MFDP: 4K@60Hz*2</li> </ul>	
Dual Cable Dock	<ul style="list-style-type: none"> <li>• DP + DP: 8K@60Hz*1</li> <li>• DP+DP+HDMI/MFDP: 4K@60Hz*3</li> </ul>	

**NOTE:** For more information on connecting multiple displays, see the computer's *External display connection guide* at [www.dell.com/support](http://www.dell.com/support).

## Hardware security

The following table lists the hardware security of your Precision 7760.

**Table 27. Hardware Security**

Hardware security options
NIST 800-147 protocol
Intel vPro Technology (iAMT 12) (optional, requires Intel WiFi Link WLAN and a vPro compatible processor)
Dell Client Command Suite available ( <a href="http://dell.com/command">dell.com/command</a> )
Factory Installed Dell Client Command   Update, Dell Command   Power Manager
Hardware Trusted Platform Module (TPM) 2.0 discrete (offering available in selected regions only): Discreet TPM 2.0 IC FIPS-140-2 Certified / TCG Certified, TCG Certification for TPM (Trusted Computing Group)
Two Optional fingerprint readers: <ul style="list-style-type: none"> <li>• On Power button</li> <li>• FIPS fingerprint reader in the palmrest</li> </ul>
FIPS 140-2 certification for TPM
TCG Certification for TPM (Trusted Computing Group)
FIPS 201 Full Scan FPR and Control Vault 3
Statement of Non-Volatility
Wedge-shaped lock
Optional Security Hardware Authentication Bundles: <ul style="list-style-type: none"> <li>• Touch Fingerprint Reader (in Power Button) with Control Vault 3.0 Advanced Authentication with FIPS 140-2 Level 3 Certification.</li> <li>• Contacted Smart Card and Control Vault 3 Advanced Authentication with FIPS 140-2 Level 3 Certification</li> <li>• Touch Fingerprint Reader (in Power Button), Contacted Smart Card, and Control Vault 3 Advanced Authentication with FIPS 140-2 Level 3 Certification.</li> <li>• Touch Fingerprint Reader in Power Button, Contacted Smart Card, Contactless Smart Card, NFC, and Control Vault 3 Advanced Authentication with FIPS 140-2 Level 3 Certification.</li> <li>• Optional Face IR camera (Windows Hello compliant) with Proximity Sensor</li> </ul>

# Smart-card reader

## Contactless smart-card reader


The following table lists the contactless smart-card reader specifications supported by your Precision 7760.

**Table 28. Contactless smart-card reader**

Title	Description	Dell ControlVault 3 contactless smart-card reader with NFC
Felica Card Support	Reader and software capable of supporting Felica contactless cards	Yes
Prox (Proximity) (125kHz) Card support	Reader and software capable of supporting Prox/Proximity/125kHz contactless cards	No
ISO 14443 Type A Card Support	Reader and software capable of supporting ISO 14443 Type A contactless cards	Yes
ISO 14443 Type B Card Support	Reader and software capable of supporting ISO 14443 Type B contactless cards	Yes
ISO/IEC 21481	Reader and software capable of supporting ISO/IEC 21481 compliant contactless cards and tokens	Yes
ISO/IEC 18092	Reader and software capable of supporting ISO/IEC 21481 compliant contactless cards and tokens	Yes
ISO 15693 Card Support	Reader and software capable of supporting ISO15693 contactless cards	Yes
NFC Tag Support	Supports reading and processing of NFC compliant tag information	Yes
NFC Reader Mode	Support for NFC Forum Defined Reader mode	Yes
NFC Writer Mode	Support for NFC Forum Defined Writer mode	Yes
NFC Peer-to-Peer Mode	Support for NFC Forum Defined Peer to Peer mode	Yes
EMVCo Compliant	Compliant with EMVCO smart card standards as posted to <a href="http://www.emvco.com">www.emvco.com</a>	Yes
EMVCo Certified	Formally certified based on EMVCO smart card standards	Yes
NFC Proximity OS Interface	Enumerates NFP (Near Field Proximity) device for OS to utilize	Yes
PC/SC OS interface	Personal Computer/Smart Card specification for integration of hardware readers into personal computer environments	Yes
CCID driver compliance	Common driver support for Integrated Circuit Card Interface Device for OS level drivers	Yes
Windows Certified	Device certified by Microsoft WHCK	Yes

**Table 28. Contactless smart-card reader (continued)**

Title	Description	Dell ControlVault 3 contactless smart-card reader with NFC
Dell ControlVault support	Device connects to Dell ControlVault for usage and processing	Yes

 **NOTE:** 125 Khz proximity cards are not supported.

**Table 29. Supported cards**

Manufacturer	Card	Supported
HID	jCOP readertest3 A card (14443a)	Yes
	1430 1L	
	DESFire D8H	
	iClass (Legacy)	
	iClass SEOS	
NXP/Mifare	Mifare DESFire 8K White PVC Cards	Yes
	Mifare Classic 1K White PVC Cards	
	NXP Mifare Classic S50 ISO Card	
G&D	idOnDemand - SCE3.2 144K	Yes
	SCE6.0 FIPS 80K Dual+ 1 K Mifare	
	SCE6.0 nonFIPS 80K Dual+ 1 K Mifare	
	SCE6.0 FIPS 144K Dual + 1 K Mifare	
	SCE6.0 nonFIPS 144K Dual + 1 K Mifare	
	SCE7.0 FIPS 144K	
Oberthur	idOnDemand - OCS5.2 80K	Yes
	ID-One Cosmo 64 RSA D V5.4 T=0 card	
Gemalto	TOP DL GX4 144K card	Yes
Sony	Felica RC-S962	Yes
	Felica RC-S966	Yes
PIVKey	C910 PKI	Yes
IDENTIV	PIV programmed cards	Yes

## Contacted smart-card reader

The following table lists the contacted smart-card reader specifications supported by your Precision 7760.

**Table 30. Contacted smart-card reader**

Title	Description	Dell ControlVault 3 contacted smart-card reader
ISO 7816 -3 Class A Card Support	Reader capable of reading 5V powered smart card	Yes
ISO 7816 -3 Class B Card Support	Reader capable of reading 3V powered smart card	Yes

**Table 30. Contacted smart-card reader (continued)**

Title	Description	Dell ControlVault 3 contacted smart-card reader
ISO 7816 -3 Class C Card support	Reader capable of reading 1.8V powered smart card	Yes
T=0 support	Cards support character level transmission	Yes
T=1 support	Cards support block level transmission	Yes
EMVCo Compliant	Compliant with EMVCo (for electronic payment standards) smart card standards as posted to <a href="http://www.emvco.com">www.emvco.com</a>	Yes
EMVCo Certified	Formally certified based on EMVCO smart card standards	Yes
PC/SC OS interface	Personal Computer/Smart card specification for integration of hardware readers into personal computer environments	Yes
CCID driver compliance	Common driver support for Integrated Circuit Card Interface Device for OS level drivers	Yes
Windows Certified	Device certified by Microsoft WHCK	Yes
FIPS 201 (PIV/HSPD-12) Compliant via GSA	Device compliant with FIPS 201/PIV/HSPD-12 requirements	Yes
ISO 7816-1 Compliant -	Specification for the reader	Yes
ISO 7816 -2 Compliant -	Specification for smart card device physical characteristics (size, location of connection points, etc.)	N/A
Dell ControlVault support	Device connects to Dell ControlVault for usage and processing	Yes

## Operating and storage environment

This table lists the operating and storage specifications of your Precision 7760.

**Airborne contaminant level:** G1 as defined by ISA-S71.04-1985

**Table 31. Computer environment**

Description	Operating	Storage
Temperature range	0°C to 35°C (32°F to 95°F)	-40°C to 65°C (-40°F to 149°F)
Relative humidity (maximum)	10% to 90% (non-condensing)	0% to 95% (non-condensing)
Vibration (maximum)*	0.66 GRMS	1.30 GRMS
Shock (maximum)	110 G†	160 G†
Altitude range	-15.2 m to 3048 m (4.64 ft to 5518.4 ft)	-15.2 m to 10668 m (4.64 ft to 19234.4 ft)

**CAUTION:** Operating and storage temperature ranges may differ among components, so operating or storing the device outside these ranges may impact the performance of specific components.

\* Measured using a random vibration spectrum that simulates user environment.