## OVERVIEW

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Headphone / microphone combo jack (3.5mm)</td>
</tr>
<tr>
<td>2</td>
<td>SD card reader</td>
</tr>
<tr>
<td>3</td>
<td>HDMI 2.0</td>
</tr>
<tr>
<td>4</td>
<td>2x USB 3.2 Gen 1</td>
</tr>
<tr>
<td>5</td>
<td>Ethernet (RJ-45)</td>
</tr>
<tr>
<td>6</td>
<td>Kensington Security Slot</td>
</tr>
<tr>
<td>7</td>
<td>Power connector</td>
</tr>
<tr>
<td>8</td>
<td>USB-C 3.2 Gen 2 / Thunderbolt 3</td>
</tr>
<tr>
<td>9</td>
<td>Smart card reader *</td>
</tr>
</tbody>
</table>

**Notes:**

- Ports with * are only available on selected models
PERFORMANCE

Processor

**Processor Family**

10th Generation Intel® Core™ i5 / i7 Processor or Intel Xeon® W Processor

<table>
<thead>
<tr>
<th>Processor Name</th>
<th>Cores</th>
<th>Threads</th>
<th>Base Frequency</th>
<th>Max Frequency</th>
<th>Cache</th>
<th>Memory Support</th>
<th>Processor Graphics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core i5-10300H</td>
<td>4</td>
<td>8</td>
<td>2.5GHz</td>
<td>4.5GHz</td>
<td>8MB</td>
<td>DDR4-2933</td>
<td>Intel UHD Graphics</td>
</tr>
<tr>
<td>Core i7-10750H</td>
<td>6</td>
<td>12</td>
<td>2.6GHz</td>
<td>5.0GHz</td>
<td>12MB</td>
<td>DDR4-2933</td>
<td>Intel UHD Graphics</td>
</tr>
<tr>
<td>Core i7-10850H</td>
<td>6</td>
<td>12</td>
<td>2.7GHz</td>
<td>5.1GHz</td>
<td>12MB</td>
<td>DDR4-2933</td>
<td>Intel UHD Graphics</td>
</tr>
<tr>
<td>Core i7-10875H</td>
<td>8</td>
<td>16</td>
<td>2.3GHz</td>
<td>5.1GHz</td>
<td>16MB</td>
<td>DDR4-2933</td>
<td>Intel UHD Graphics</td>
</tr>
<tr>
<td>Xeon W-10855M</td>
<td>6</td>
<td>12</td>
<td>2.8GHz</td>
<td>5.1GHz</td>
<td>12MB</td>
<td>DDR4-2933</td>
<td>Intel UHD Graphics</td>
</tr>
</tbody>
</table>

Operating System

**Operating System**

- Windows® 10 Home 64
- Windows 10 Pro 64
- Windows 10 Pro 64 for Workstations
- Red Hat Enterprise Linux (certified only)
- Ubuntu Linux LTS
- No operating system

Graphics

**Graphics**

<table>
<thead>
<tr>
<th>Graphics</th>
<th>Type</th>
<th>Memory</th>
<th>Key Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel UHD Graphics</td>
<td>Integrated</td>
<td>Shared</td>
<td>DirectX® 12</td>
</tr>
<tr>
<td>NVIDIA® Quadro® P620</td>
<td>Discrete</td>
<td>4GB GDDR5</td>
<td>DirectX 12</td>
</tr>
</tbody>
</table>

Monitor Support

**Monitor Support**

Supports up to 3 independent displays via native display and 2 external monitors; supports external monitors via HDMI® (up to 4K@60Hz) or Thunderbolt™ (up to 5K@60Hz)

Chipset

**Chipset**

Intel WM490 chipset

Memory

**Memory Type**

- DDR4-2933 ECC
- DDR4-2933 non-ECC

**Memory Slots**

Two DDR4 SO-DIMM slots, dual-channel capable

**Memory Protection**

ECC on models with ECC DIMMs and Xeon processor

**Max Memory**

Up to 64GB

Notes:

1. Non-ECC memory is actually DDR4-3200 but may run at DDR4-2933 due to processor limitation
2. The max memory is based on the test results with current Lenovo® memory offerings. The system may support more memory as the technology develops.

Storage
Storage Support
Up to two drives, 2x M.2 2280 SSD
• M.2 2280 SSD up to 2TB each

RAID
RAID 0/1 support

Storage Type

<table>
<thead>
<tr>
<th>Disk Type</th>
<th>Interface</th>
<th>RPM</th>
<th>Security</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.2 2280 SSD</td>
<td>PCIe NVMe, PCIe 3.0 x4</td>
<td>-</td>
<td>Opal2</td>
</tr>
</tbody>
</table>

Removable Storage
Optical
None

Card Reader
SD card reader

Multi-Media
Audio Chip
High Definition (HD) Audio, Realtek® ALC3287 codec

Speakers
Stereo speakers, Dolby® Audio™

Microphone
• Dual array microphone, near-field
• No microphone

Camera
• 720p, with ThinkShutter, fixed focus
• IR & 720p, with ThinkShutter, fixed focus
• No camera

Battery
Battery
Integrated Li-Polymer 68Wh battery, supports Rapid Charge (charge up to 80% in 1hr)

Max Battery Life
MobileMark® 2014: 10 hr
MobileMark 2018: 7.2 hr
JEITA 2.0: 11 hr

Notes:
All battery life claims are approximate maximum and based on results using the MobileMark 2014, MobileMark 2018, and/or JEITA 2.0 battery-life benchmark tests. Actual battery life will vary and depends on many factors such as product configuration and usage, software use, wireless functionality, power management settings, and screen brightness. The maximum capacity of the battery will decrease with time and use.

Power Adapter
Power Adapter
• 135W slim tip AC adapter (2-pin)
• 135W slim tip AC adapter (3-pin)

DESIGN

Display

<table>
<thead>
<tr>
<th>Size</th>
<th>Resolution</th>
<th>Touch</th>
<th>Type</th>
<th>Brightness</th>
<th>Surface</th>
<th>Aspect Ratio</th>
<th>Contrast Ratio</th>
<th>Color Gamut</th>
<th>Viewing Angle</th>
<th>Key Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.6&quot;</td>
<td>FHD</td>
<td>None</td>
<td>IPS</td>
<td>250 nits</td>
<td>Anti-</td>
<td>16:9</td>
<td>800:1</td>
<td>45% NTSC</td>
<td>170°</td>
<td>-</td>
</tr>
</tbody>
</table>
### Connectivty

**Network**

**Onboard Ethernet**
- Gigabit Ethernet, Intel Ethernet Connection I219-V (non-vPro models)
- Gigabit Ethernet, Intel Ethernet Connection I219-LM (vPro models)

**WLAN + Bluetooth™**
- Intel Wi-Fi 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.1, M.2 Card
- No WLAN and Bluetooth

**WWAN**
- Wireless WAN upgradable
- Not Support
- Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, MIMO 2x2, M.2 card

**SIM Card**
No SIM card
NFC
Not support

**Ports**

Standard Ports:
- 1x USB-C 3.2 Gen 2 / Thunderbolt 3 (support data transfer, Power Delivery and DisplayPort™)
- 2x USB 3.2 Gen 1 (one Always On)
- 1x Security keyhole
- 1x HDMI 2.0
- 1x SD card reader
- 1x Ethernet (RJ-45)
- 1x headphone / microphone combo jack (3.5mm)

Optional Ports:
- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN models)

Notes:
1. The transfer speed of following ports will vary and, depending on many factors, such as the processing speed of the host device, file attributes and other factors related to system configuration and your operating environment, will be slower than theoretical speed.
   - USB 2.0: 480 Mbit/s;
   - USB 3.2 Gen 1 (SuperSpeed USB 5Gbps, formerly USB 3.0 / USB 3.1 Gen 1): 5 Gbit/s;
   - USB 3.2 Gen 2 (SuperSpeed USB 10Gbps, formerly USB 3.1 Gen 2): 10 Gbit/s;
   - USB 3.2 Gen 2x2 (SuperSpeed USB 20Gbps): 20 Gbit/s;
   - Thunderbolt 3: 40 Gbit/s;
   - FireWire 400: 400 Mbit/s;
   - FireWire 800: 800 Mbit/s
2. Depending on many factors, actual data transfer speed may be lower than theoretical speed

**Monitor Cable**

Monitor Cable:
- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to DisplayPort Adapter
- Lenovo USB-C to VGA Adapter
- No monitor cable

**SECURITY & PRIVACY**

**Security**

Security Chip:
- Discrete TPM 2.0, TCG certified
- Firmware TPM 2.0 integrated in chipset
- Disabled (in some regions)

Physical Locks:
Kensington® Security Slot

Smart Card Reader:
- Smart card reader
- No smart card reader

Fingerprint Reader:
Touch style fingerprint reader on palm rest, match-on-chip

BIOS Security:
- Power-on password
- Supervisor password
- Hard disk password
- Self-healing BIOS

Other Security:
- (Optional) ThinkShutter camera cover
- (Optional) IR camera for Windows Hello
MANAGEABILITY

System Management

- Intel vPro Technology, DASH
- None

SERVICE

Warranty

Base Warranty

- 1-year depot service
- 1-year limited onsite service
- 1-year depot with 2-year system board service
- 1-year + 2-year depot service
- 1-year + 2-year limited onsite service
- 3-year (1-yr battery) depot service
- 3-year (1-yr battery) limited onsite service
- No base warranty

ACCESSORIES

Bundled Accessories

None

CERTIFICATIONS

Green Certifications

- EPEAT™ Gold
- ENERGY STAR® 8.0
- RoHS compliant

Other Certifications

Mil-Spec Test

MIL-STD-810G military test passed

ISV Certifications

Please visit www.thinkworkstations.com/isv-certifications/