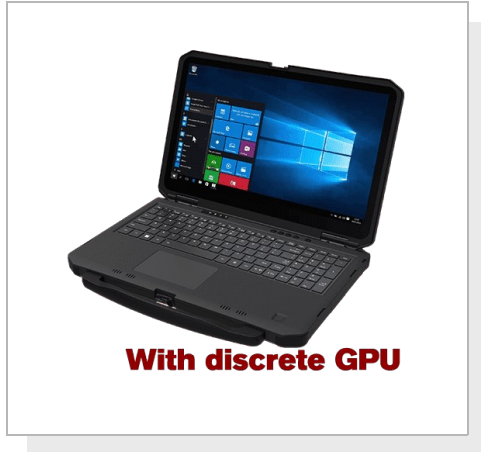


# L156AD-M1

## 15.6inch Rugged Laptop with Intel® Raptor Lake Processor



### KEY FEATURES

- 13th generation Intel® Processor Family – Raptor Lake Processor
- 15.6" 4K Panel resolution with PCAP touch
- Optional discrete Nvidia Graphic card
- Dual battery with hot-swappable design for whole-day-work
- Anti-glare technology for sunlight readability
- Magnesium alloy enclosure with double injection for drop protection
- IP65 waterproof and dustproof
- Utilizing Nvidia T1000 and A2000 Graphic Cards

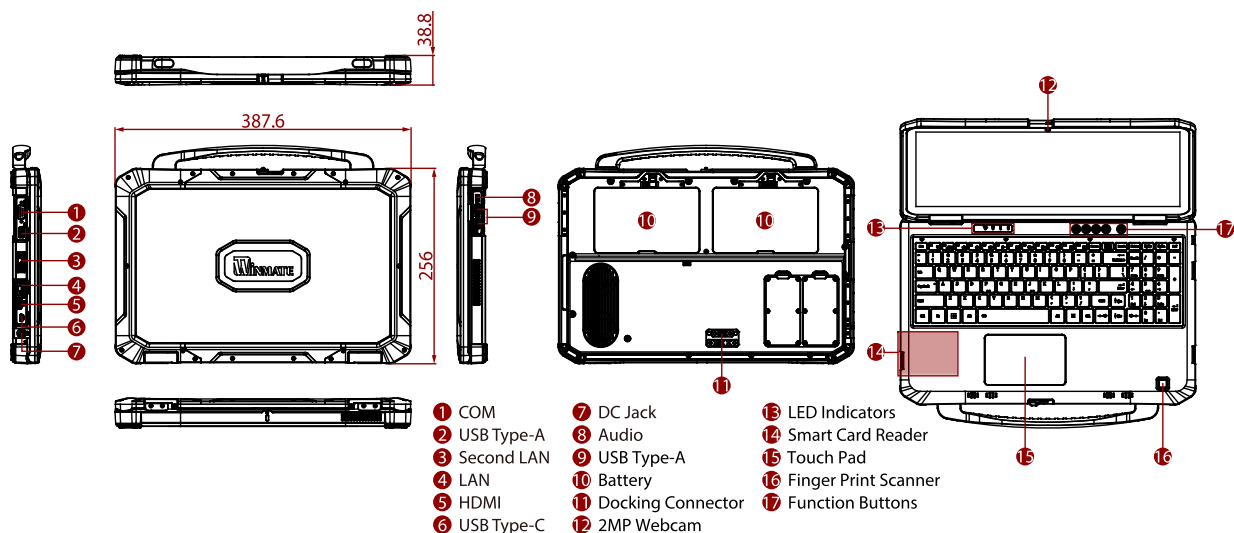


### SPECIFICATIONS

| Display                  |                                                                                                                                                                                   |                            |                                                                                    |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------------------------------------------------------------------------------|
| <b>Bonding</b>           | Optical Bonding for Sunlight Viewability                                                                                                                                          | <b>Type</b>                | Projected Capacitive Multi Touch                                                   |
| <b>Resolution</b>        | 1920x1080<br>3840x2160(4K) (Optional)                                                                                                                                             | <b>Size</b>                | 15.6 inches                                                                        |
| <b>Contrast Ratio</b>    | 800:1                                                                                                                                                                             | <b>Panel Brightness</b>    | 800 nits<br>400 nits(Optional)                                                     |
| <b>View Angles</b>       | 85,85,85,85                                                                                                                                                                       |                            |                                                                                    |
| System Specification     |                                                                                                                                                                                   |                            |                                                                                    |
| <b>Processor</b>         | Intel Core i7-13700H (up to 5.0GHz)<br>Intel Core i9-13900H (up to 5.4GHz) (Optional)                                                                                             | <b>Memory</b>              | 8+8GB DDR5 SDRAM<br>16+16GB DDR5 SDRAM (Optional)<br>32+32GB DDR5 SDRAM (Optional) |
| <b>Storage</b>           | 256GB M.2 NVMe SSD<br>512GB M.2 NVMe SSD (Optional)<br>1TB M.2 NVMe SSD (Optional)<br>2TB M.2 NVMe SSD (Optional)<br>2nd storage available with up to 2TB M.2 NVMe SSD (Optional) | <b>Security</b>            | Trusted Platform Module (TPM) 2.0<br>Kensington Lock                               |
| <b>Operating System</b>  | Windows 10 IoT Enterprise LTSC (64 bit)<br>Windows 11 IoT Enterprise SAC (64 bit) (Optional)                                                                                      | <b>WLAN</b>                | Support                                                                            |
| <b>BT</b>                | Support                                                                                                                                                                           | <b>WWAN</b>                | 4G LTE (Optional)                                                                  |
| <b>GNSS</b>              | GPS, GLONASS                                                                                                                                                                      | <b>RFID</b>                | HF RFID reader 13.56 MHz (Optional)                                                |
| <b>Smart Card Reader</b> | Smart Card Reader                                                                                                                                                                 | <b>Fingerprint Scanner</b> | Fingerprint scanner (Optional)                                                     |
| <b>Discrete GPU</b>      | M1: T1000 MXM Graphic card<br><br>M2: A2000 MXM Graphic card (Optional)                                                                                                           |                            |                                                                                    |
| Camera                   |                                                                                                                                                                                   |                            |                                                                                    |
| <b>Front Camera</b>      | 2MP front camera                                                                                                                                                                  |                            |                                                                                    |
| Mechanical               |                                                                                                                                                                                   |                            |                                                                                    |
| <b>Dimension</b>         | 387.6 x 256 x 38.8 mm                                                                                                                                                             | <b>Weight</b>              | 2.8kg                                                                              |
| <b>Cooling System</b>    | Fan design                                                                                                                                                                        |                            |                                                                                    |
| IO Ports                 |                                                                                                                                                                                   |                            |                                                                                    |
| <b>USB Port</b>          | 3 x USB 3.0 (Type A), 1 x USB 3.0 (Type C)                                                                                                                                        | <b>Serial Port</b>         | 1 x RS232 (DB9)                                                                    |
| <b>SD Card Slot</b>      | 1 x Micro SDXC Slot                                                                                                                                                               | <b>SIM Card Slot</b>       | 1 x Nano SIM card slot                                                             |

|                     |                                                            |                        |                                                                                                                              |
|---------------------|------------------------------------------------------------|------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Video               | 1 x HDMI 4K Output (Optional)                              | Audio                  | 1 x Audio combo 3.5mm audio combo jack<br>Dual Digital Mic With Noise Cancellation<br>Dual Speaker                           |
| LAN                 | 2 x RJ45-10/100/1000 GigaLAN port                          | Indicator              | 4x LED Indicator for Power, Battery, HDD, RF status                                                                          |
| Environment         |                                                            |                        |                                                                                                                              |
| Operating Humidity  | 10% to 90% RH, non-condensing                              | Operating Temperature  | -20°C to 60°C                                                                                                                |
| Storage Temperature | -30°C to 70°C                                              | Shock                  | MIL-STD-810H Method 516.8 Procedure I                                                                                        |
| Vibration           | MIL-STD-810H Method 514.8 Procedure I                      | IP rating              | IP65                                                                                                                         |
| Drop                | MIL-STD-810H Method 516.8, 3 ft                            | EMC                    | MIL-STD-461G CE101, CE102, RE101, RE102, CS118 (Default)<br>MIL-STD-461G CS101, CS114, CS115, CS116, RS101, RS103 (Optional) |
| Certification       |                                                            |                        |                                                                                                                              |
| Certification       | CE, FCC                                                    |                        |                                                                                                                              |
| Security Function   |                                                            |                        |                                                                                                                              |
| SOTI MobiControl    | SOTI MobiControl Compliance                                | Kensington Lock        | Kensington Lock Support                                                                                                      |
| Control             |                                                            |                        |                                                                                                                              |
| Button              | 1 x Power,<br>4 x Programmable Function Keys               |                        |                                                                                                                              |
| Power               |                                                            |                        |                                                                                                                              |
| Battery             | Hotswappable 2 x 11.55V typ. 3220 mAh Lilon Battery (3S1P) | Battery Operating Time | Standard. Battery: 11 hours                                                                                                  |
| Power Rating        | 19V DC                                                     | Adapter                | 100-240V, 50-60Hz, 230W / 19V DC                                                                                             |
| Accessory           |                                                            |                        |                                                                                                                              |
| Accessory           | Adapter and Power Cord<br>Standard Battery                 |                        |                                                                                                                              |

## DIMENSIONS UNIT:MM



## NOTE

1. This is a simplified drawing and some components are not marked in detail.
2. Please contact our sales representative if you need further product information.
3. All specifications are subject to change without prior notice.
4. The product shown in this datasheet is a standard model. For diagrams that contain customized or optional I/O, please contact the Winmate Sales Team for more information.

## Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

### US

[sales@assured-systems.com](mailto:sales@assured-systems.com)

Sales: +1 347 719 4508

Support: +1 347 719 4508

1309 Coffeen Ave  
Ste 1200  
Sheridan  
WY 82801  
USA

### EMEA

[sales@assured-systems.com](mailto:sales@assured-systems.com)

Sales: +44 (0)1785 879 050

Support: +44 (0)1785 879 050

Unit A5 Douglas Park  
Stone Business Park  
Stone  
ST15 0YJ  
United Kingdom

VAT Number: 120 9546 28

Business Registration Number: 07699660