

# L156AD-4KM1

15.6inch Ultra Rugged Laptop with Intel® Alder Lake Processor



**With discrete GPU**



## KEY FEATURES

- 12th generation Intel® Processor Family – Alder 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
- Optional GPU Graphic Cards

## INTRODUCTION

Winmate L156 Series Rugged Laptop is a high-performance solution for professionals working in demanding environments. Powered by Intel® Alder Lake processors, it features a 15.6" FHD or optional 4K display with PCAP touch and anti-glare technology for sunlight readability. With a magnesium alloy enclosure, IP65-rated protection, and dual hot-swappable batteries, it ensures durability and all-day productivity. Optional NVIDIA and Intel GPU support makes it ideal for graphics-intensive tasks, from industrial applications to field operations.

## SPECIFICATIONS

### Display

|                |                                          |                  |                                  |
|----------------|------------------------------------------|------------------|----------------------------------|
| Bonding        | Optical Bonding for Sunlight Viewability | Type             | Projected Capacitive Multi Touch |
| Resolution     | 3840x2160                                | Size             | 15.6 inches                      |
| Contrast Ratio | 800:1                                    | Panel Brightness | 400.0 nits                       |
| View Angles    | 85,85,85,85                              |                  |                                  |

### System Specification

|                   |                                                                                                                                                                        |                     |                                                             |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------------------------------------------|
| Processor         | Intel Core i7-12700H (up to 4.7GHz) (Default)<br>Intel Core i9 Processor (Optional)                                                                                    | Memory              | 8+8GB (Default)<br>16+16GB (Optional)<br>32+32GB (Optional) |
| Storage           | 128GB SSD (Default)<br>256GB SSD (Optional)<br>512GB SSD (Optional)<br>1TB SSD (Optional)<br>2TB SSD (Optional)<br>2nd storage available with up to 2TB SSD (Optional) | Security            | Trusted Platform Module (TPM) 2.0<br>Kensington Lock        |
| Operating System  | Windows 11 IoT Enterprise LTSC (64 bit) (Default)<br>Windows 10 IoT Enterprise LTSC (64 bit) (Optional)                                                                | WLAN                | Support                                                     |
| BT                | Support                                                                                                                                                                | WWAN                | 4G LTE (Optional)                                           |
| GNSS              | GPS, GLONASS                                                                                                                                                           | RFID                | HF RFID reader 13.56 MHz (Optional)                         |
| Smart Card Reader | Smart Card Reader                                                                                                                                                      | Fingerprint Scanner | Fingerprint scanner (Optional)                              |
| Discrete GPU      | M1: A1000 MXM Graphic card (Optional)<br>M2: A2000 MXM Graphic card (Optional)                                                                                         |                     |                                                             |

M3: A500 MXM Graphic card (Optional)

## Camera

**Front Camera** 2MP front camera

## Mechanical

**Dimension** 387.6 x 256 x 38.8 mm **Weight** 3.8 kg  
**Cooling System** Fan Design

## IO Ports

**USB Port** 1 x USB 3.0 (Type C with ALT, PD function)  
3 x USB 3.0 (Type A) **Serial Port** 1 x DB9 (RS232 / RS422 / RS485, software switchable)  
**SD Card Slot** 1 x Micro SDXC Slot **SIM Card Slot** 1 x Nano SIM card slot  
**Video** 1 x HDMI 4K Output (Optional) **Audio** 1 x Audio combo 3.5mm audio combo jack  
Dual Digital Mic With Noise Cancellation  
Dual Speaker  
**LAN** 2 x RJ45-10/100/1000 GigaLAN port **Indicator** 4x LED Indicator for Power, Drive, Battery1, Bttery2

## Environment

**Operating Humidity** 10% to 90% RH, non-condensing **Operating Temperature** -29°C to 63°C  
**Storage Temperature** -30°C to 70°C **Shock** USA: MIL-STD-810H Method 516.8 Procedure I (Default)  
NATO: STANAG 4370/AECTP400 Edition 3 Method AECTP 402–  
Procedure I (Optional)  
**Vibration** USA: MIL-STD-810H Method 514.8 Procedure I (Default)  
NATO: STANAG 4370/AECTP400 Edition 3 Method AECTP 401–  
Procedure I (Optional) **IP rating** IP65  
**Drop** USA: MIL-STD-810H Method 516.8 Procedure IV, 4 ft (Default)  
NATO: STANAG 4370/AECTP400 Edition 3 Method AECTP 404 –  
Procedure II, 4 ft (Optional) **EMC** USA:  
MIL-STD-461G CE101, CE102, RE101, RE102, CS118(Default)  
(Default)  
MIL-STD-461G CS101, CS114, CS115, CS116, RS101, RS103  
(Optional)  
MIL-STD-461G RE102 Ground Army Grade (Optional)  
NATO:  
STANAG 4370/AECTP501 NCE01, NCE02, NRE01, NRE02,  
NCS12(Default)  
STANAG 4370/AECTP501 NCS01, NCS07, NCS08, NCS09, NRS01,  
NRS02 (Optional)  
STANAG 4370/AECTP501 NRE02-2 Land Environment (Optional)  
**TEMPEST** (Default)  
USA: NSA NSTISSAM TEMPEST/192 (Optional)  
NATO: SDIP27 (Optional)

## Certification

**Certification** CE, FCC

## Security Function

**SOTI MobiControl** SOTI MobiControl Compliance **Kensington Lock** Kensington Lock Support

## Control

**Button** 1 x Power,  
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, 240W / 20V DC

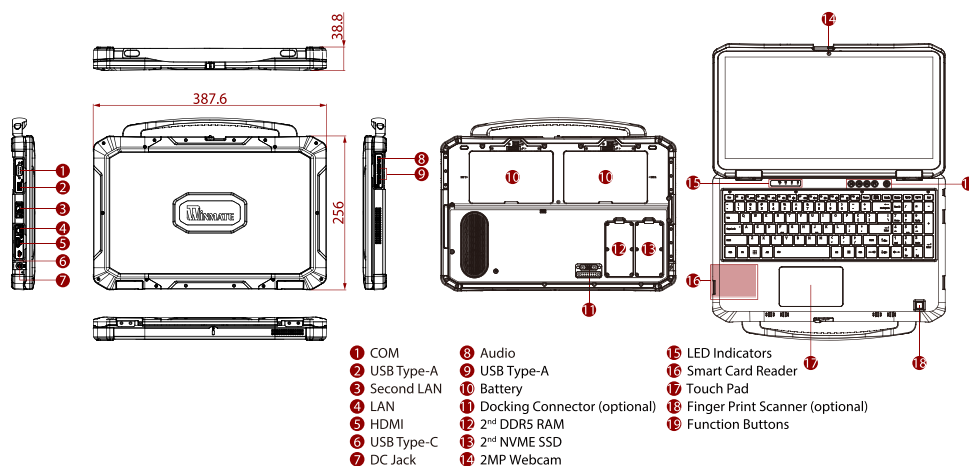
## Accessory

**Accessory** Adapter and Power Cord  
Standard Battery **Optional Accessory** Spare Battery (Optional)  
High Capacity Battery (Optional)  
Vehicle Charger (Optional)  
Carry Bag (Optional)

## 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.