

R12L100-GCN1-NI

12.1" GC Series NVIS Display



KEY FEATURES

- 12.1-inch 1024 x 768 Resolution
- Projected Capacitive Multi-Touch (PCAP)
- Front IP65 for protection against water and dust
- -20°C to 60°C wide operating temperature
- Wide Range 9 to 36V DC Input with isolation. Optional for Ignition On/Off delay
- Support Day Mode/NVIS Mode
- Compliance MIL-STD-3009

INTRODUCTION

Winmate's Defence NVIS Display Series is engineered for mission-critical performance in military and defense operations. Available in sizes from 8.4 inch to 21.5 inch, these displays feature a variety of touchscreen options, including 5-wire/4-wire resistive and projected capacitive (PCAP) technologies. Built to support both Day Mode and NVIS Mode, each unit complies fully with MIL-STD-3009, ensuring compatibility with night vision goggles (NVGs) without compromising visibility or safety. With rugged anti-corrosion housing, wide -20°C to 60°C temperature tolerance, and IP65/IP67 protection, this series offers dependable performance in harsh, tactical environments.

SPECTRUM DIAGRAM

Image 1: RGB Color Gamut Comparison (CIE 1931 Chromaticity Diagram)

This diagram compares the color gamut of LCDs using different backlights—CCFL, White LED, and RGB LED—against the NTSC television color gamut. Each triangle shows the color range that each backlight technology can produce. RGB LED offers the widest gamut, while CCFL has the smallest.

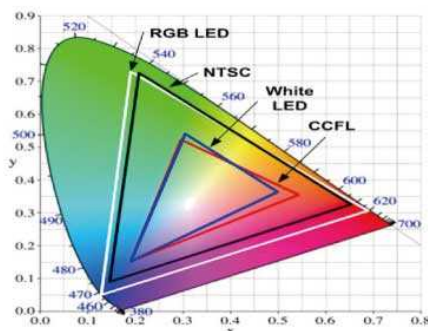
Image 2: CIE 1976 Chromaticity Diagram

This chart maps various colors in the CIE 1976 uniform chromaticity space. It shows specific color targets like GTLS GREEN, GTLS ORANGE, and their positions relative to the white point (WHITE LOCUS). This is typically used for precise color calibration in display and lighting technologies.

Image 3: NVG Spectral Response Curve

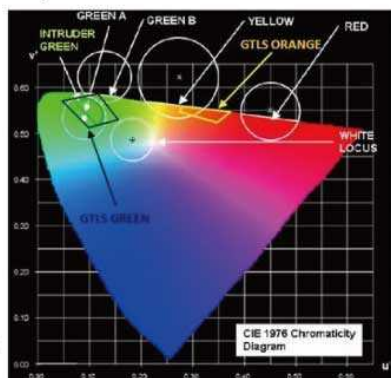
This graph shows the spectral sensitivity of Night Vision Goggles (NVG), Class A and Class B. It plots the relative response (%) over wavelengths from 450 nm to 950 nm. Both classes are most sensitive to wavelengths from about 625 nm (red) to 900 nm (near-infrared), indicating their performance range in low-light environments.

Image 1



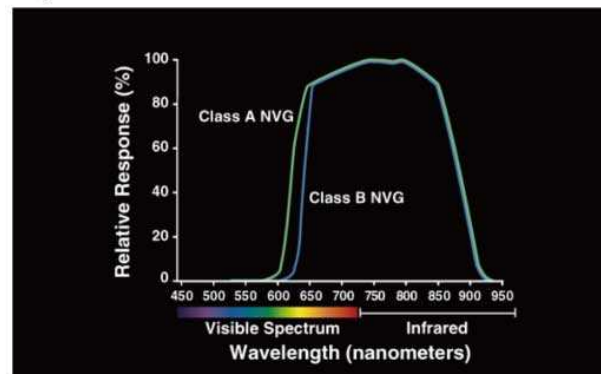
* Reference: Du, K., Liu, Y., Song, T., & Xue, Q. (2021). Color-independent visible light communications based on color space: State of the art and potentials. *Journal of Communications and Networks*, 23(1), 1–15. Figure 2: CIE1931 color space chromaticity diagram, p. 4.

Image 2



* Reference: Petr, P. (2010). Osobitý pilotní ích a vojensk ích hodinek — ě ů st sedm ů . [Blog post]. Chronomag Forum.

Image 3



* Reference: Transport Canada. (n.d.). Civil Aviation Use of NVG. Operational Standards Division, p. 9.

SPECIFICATIONS

Display

Touch / Glass	Projected Capacitive Multi Touch Screen Protection Glass (Optional)	Resolution	1024x768
Size	12.1 inches	Contrast Ratio	1000:1
Panel Brightness	1200/NVIS nits	Display Color	16.2M Colors
View Angles	88,88,88,88	Active Area	261.12x163.2 mm

Environment

Operating Humidity	10% to 90% RH, Non-Condensing	Operating Temperature	-10°C to 60°C
Storage Temperature	-30°C to 70°C		

Certification

Certification	CE, FCC
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IO Ports

USB Port	1 x USB for Touch Screen	Video	1 x VGA 1 x HDMI (Optional) 1 x DVI (Optional)
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Mechanical

Dimension	296.2 x 226.7 x 45.5 mm	Mounting	VESA mount Panel mount (Optional)
Enclosure	Aluminum	Cooling System	Fanless Design

Accessory

Accessory	1 x VGA cable 1 x HDMI cable 100~240V AC to DC Adapter Power Cord Manual VESA screws(Varies by product)	Optional Accessory	Remote Controller (Optional,Varies by product)
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Power

Power Rating	9V~36V DC In Terminal Block
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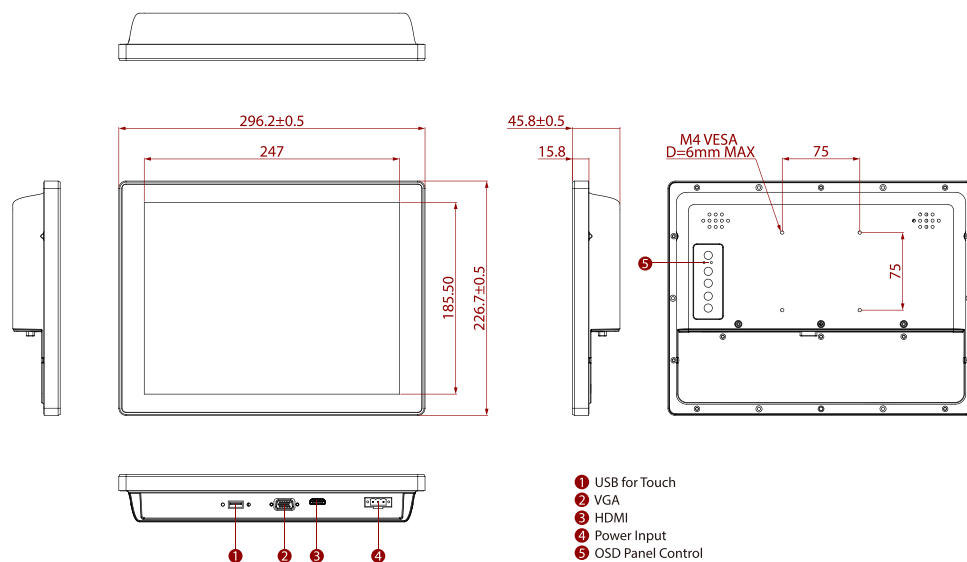
Control

Button	5 Keys: -, +, Power, Esc, Enter
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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.