R08L100-VMN1-NI

8.4" G-WIN Resistive Touch NVIS Display

KEY FEATURES

- High Quality 8.4” panel, 800 x 600 resolution
- 5 wire / 4 wire Resistive Touch Display
- -20°C to 60°C wide operating temperature
- Anti-Corrosion housing with Fanless Design
- Front IP65 Dust & Waterproof Protection (Except I/O ports)
- 9~36V DC Isolation Wide Range Power Input. Optional Ignition on/off control function.
- Support Day Mode/NVIS Mode
- Compliance MIL-STD-3009

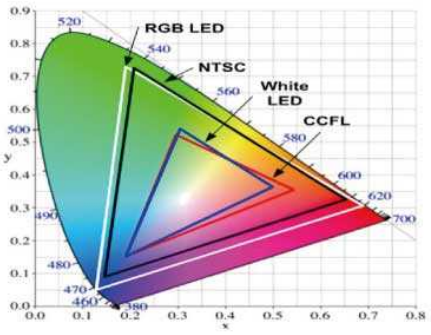
INTRODUCTION

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

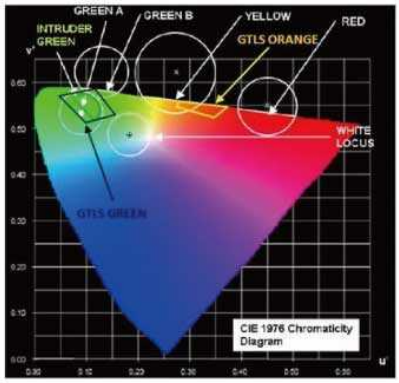
Image 1: RGB Color Gamut Comparison (CIE 1931 Chromaticity Diagram)
This diagram compares the color gamut of LCDs using different backlights—CCFL, White LED, and RGB LED—against the NTSC television color gamut. Each triangle shows the color range that each backlight technology can produce. RGB LED offers 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



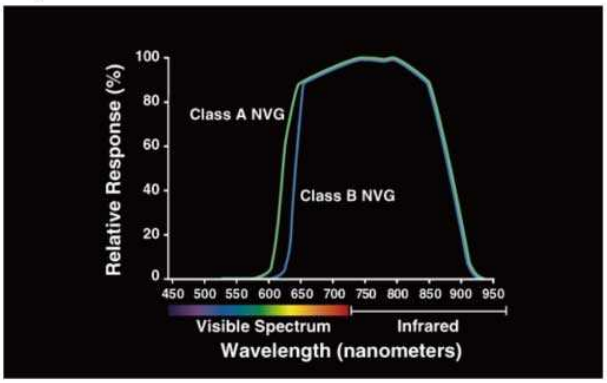
*Reference: Du, K., Liu, Y., Song, T., & Xue, Q. (2021). Color-independent visible light communications based on color space: State of the art and potentials. Journal of Communications and Networks, 23(1), 1—15. Figure 2: CIE1931 color space chromaticity diagram, p. 4.

Image 2



*Reference: Petr_P. (2010). Osvity pilotn í ch a vojensk ch hodinek — č 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	Resistive Touch Screen (Optional) Protection Glass w/o Touch Function (Optional)	**Resolution**	800x600
Size	8.4 inches	**Contrast Ratio**	1000:1
Panel Brightness	1000/NVIS nits	**Display Color**	16.7M Colors
View Angles	89,89,89,89	**Active Area**	170.4x127.8 mm

Mechanical

Dimension	277 x 219.5 x 59.6 mm	**Weight**	2.2 kg
Mounting	VESA mount Yoke mount (Optional)	**Enclosure**	Aluminum Housing
Cooling System	Fanless Design		

Environment

Operating Humidity	10% to 90% RH, Non-Condensing	**Operating Temperature**	-10°C to 60°C
Storage Temperature	-30°C to 70°C	**Shock**	MIL-STD-810G Method 516.6 Procedure I (Optional)
Vibration	MIL-STD-810G Method 514.6 Procedure I	**IP rating**	Front IP65

Certification

Certification	CE, FCC

IO Ports

USB Port	1x USB type-A for touch screen control (Optional)	**Serial Port**	1 x RS232 D-sub9 for touch screen control (Optional)
Video	1x VGA input 1x HDMI input (Optional)	**Indicator**	1 x LED Indicator for power 1 x LED Indicator for status

Control

Button	1 x Power Button 1 x Adjust up button 1 x Adjust down button 1 x ESC (Auto) button 1 x Menu button

Accessory

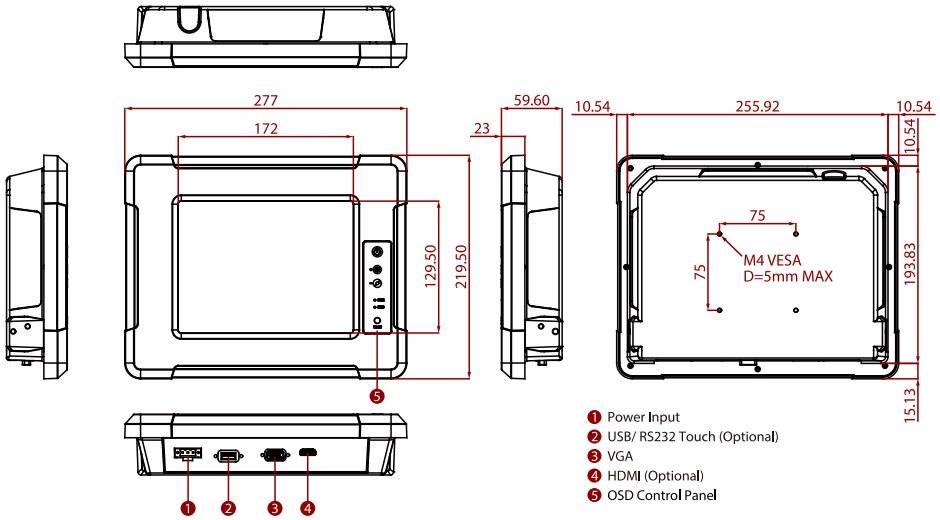
Accessory	Open Wire Cable with terminal block connector External VGA cable VESA screws	**Optional Accessory**	Yoke mount stand (Optional) 100~240V AC to DC 50W Adapter with power cord (Optional) External USB/COM cable for touchscreen control (Optional) External HDMI cable (Optional)

Power

Power Rating	9V~36V DC In Terminal Block

System Specification

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.