

# SEA-MIL-22T-NVIS

21.5" G-WIN Full IP67 NVIS Display



## KEY FEATURES

- High Quality 21.5" Panel, 1920 x 1080 resolution
- Pcap multi touch screen Optical Bonding with Panel to increase the clarity and transparency
- Optional AntiReflective
- Protection Glass Optical Bonding with Panel
- Dust/ Water proof design with VESA mount Full IP67 Monitor
- Aluminum DieCasting Housing with AntiCorrosion Treatments
- Build in ambient Light sensor
- 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 MILSTD3009

## INTRODUCTION

The Defense 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/4wire 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.

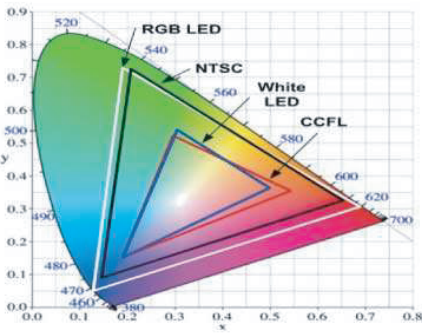
### Image 2: CIE 1976 Chromaticity Diagram

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

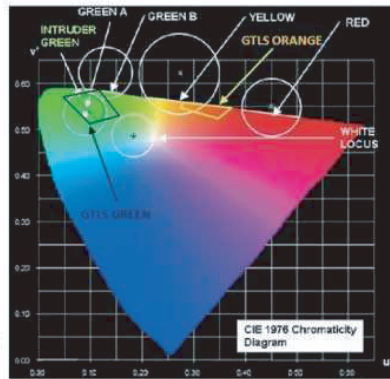
This graph shows the spectral sensitivity of Night Vision Goggles (NVG), Class A and Class B. It plots the relative response (%) over wavelengths from 450 nm to 950 nm. Both classes are most sensitive to wavelengths from about 625 nm (red) to 900 nm (nearinfrared), indicating their performance range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

Image 1



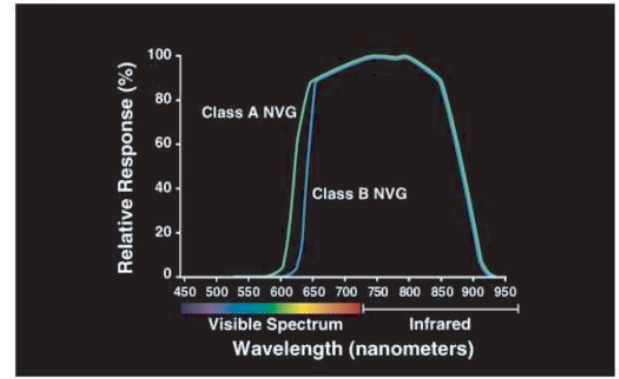
\* Reference: Du, K., Liu, Y., Song, T., & Xue, Q. (2021). Color-independent visible light communications based on color space: State of the art and potentials. *Journal of Communications and Networks*, 23(1), 1–15. Figure 2: CIE1931 color space chromaticity diagram, p. 4.

Image 2



\* Reference: Petr, P. (2010). Osuvity pilotů i ch a vojensk ch hodinek – č ů št sedm ů . [Blog post]. Chronomag Forum.

Image 3



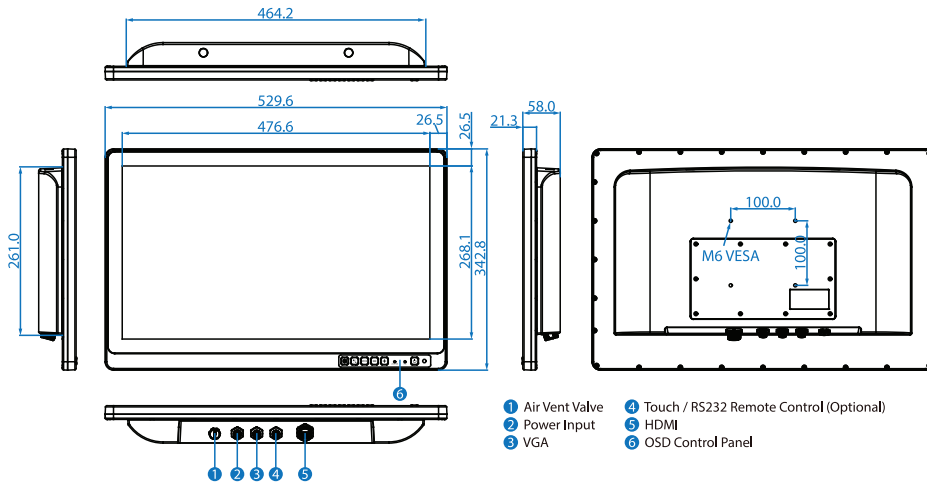
\* Reference: Transport Canada. (n.d.). Civil Aviation Use of NVG. Operational Standards Division, p. 9.

## SPECIFICATIONS

Display			
<b>Touch / Glass</b>	Projected Capacitive Multi Touch Screen Bonding With Panel Ture Flat Protection Glass Bonding With Panel (Optional)	<b>Resolution</b>	1920x1080
<b>Size</b>	21.5 inches	<b>Contrast Ratio</b>	1000:1
<b>Panel Brightness</b>	1000/NVIS nits	<b>Display Color</b>	16.7M Colors
<b>View Angles</b>	89,89,89,89	<b>Active Area</b>	476.64x268.11 mm
Mechanical			
<b>Dimension</b>	529.6 x 342.8 x 58 mm	<b>Weight</b>	8.67 kg
<b>Mounting</b>	VESA mount	<b>Enclosure</b>	Aluminum Housing Pre finish: Surtec 650, Type II, Class 3 Coating: Polyester powder coating
<b>Cooling System</b>	Fanless Design		
Environment			
<b>Operating Humidity</b>	10% to 90% RH, NonCondensing	<b>Operating Temperature</b>	20°C to 60°C
<b>Storage Temperature</b>	30°C to 70°C	<b>Shock</b>	MILSTD810G Method 516.6 Procedure I
<b>Vibration</b>	MILSTD810G Method 514.6 Procedure I	<b>IP rating</b>	IP67
Certification			
<b>Certification</b>	CE, FCC		
IO Ports			
<b>Power Input</b>	1 x M12 waterproof connector for 9~36V DC	<b>USB Port</b>	1x M12 type connector for Touchscreen via USB signal
<b>Serial Port</b>	1 x M12 type connector for Touchscreen via RS232 signal (Optional) 1 x M12 type connector for RS232 Remote Control (Optional)	<b>Video</b>	1x M12 type connector for VGA input 1x Waterproof connector for HDMI input
<b>Indicator</b>	1 x LED Indicator for power 1 x LED Indicator for lock/unlock status		
Control			
<b>Button</b>	1 x "Power" key to power on the device. 1 x "+" key to increase screen brightness. 1 x "-" key to decrease screen brightness. 1 x "Menu" key can Automatically or manually adjusts brightness of the display screen 1 x Day / Night Mode button 1 x LED indicator brightness adjustment button 1 x Ambient Light sensor		
Accessory			
<b>Accessory</b>		<b>Optional Accessory</b>	100~240V AC to DC 50W Adapter with power cord (Optional) External COM cable with waterproof connector (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 our Sales Team for more information.

