

NVIS DISPLAY SERIES

10.4" Sunlight Readable AMLCD with NVIS Dual Mode

The ruggedised display module features a high resolution 1024x768 AMLCD and life-of-the-aircraft LED backlight designed for standard avionics ambient-lighting applications. It provides high contrast ratio and superior color stability, very wide viewing angles and superior brightness in day, night and NVIS modes.

The ruggedisation of the LCD includes the following enhancements. Indium Tin Oxide (ITO) coated Glass with Alumnum Busbars which will act as the heater. Woven Wire Mesh placed above provides the EMI shielding. Anti Glare Glass with Broad/Band Anti-Reflective(BBAR) Coating reduces the glare. All the above items are glued to the LCD using an optically clear adhesive (OCA). Available optionally with Resistive Touch Panel

- Cost effective
- Very high reliability
- Life-of-the-aircraft, solid-state LED light source with low cost of ownership LED array
- Low weight
- Low operating temperature
- Very low power consumption for increased LRU power budget
- Full night-vision compliance optional (NVIS Class B. Compatible with NVIS Class B & C Goggles)
- Vivid primary colors
- Very wide viewing angle



- Full-array LED backlighting optimized for low power consumption and extended operational lifetime
- Best-in-class true 8-bit AMLCD technology delivering accurate and superior color reproduction
- Guaranteed brightness and color performance over the full operating temperature range throughout the product lifetime
- Environmentally qualified for continuous operation up to 71 °C
- NVIS Class B compliant for night-vision compatibility
- Slim, lightweight construction with passive cooling for high reliability and efficiency

| General Specifications | | |
|-------------------------------------|---|------|
| LCD Type | AMLCD 10.4 inch | |
| Resolution | 1024 pixels x 768 pixels | |
| Action Display Area | 157.80x 210.4 mm | |
| Pixel Pitch | 0.1983 X 0.1983 mm | |
| Aspect Ratio | 4:3 | |
| Operating Temperature | -55 °C to +55 °C | |
| Intermittent Operation | 71 °C | |
| Storage Temperature | -55 °C to +90 °C | |
| Altitude | 50000 ft | |
| Signal Interface | LVDS | |
| Optical Characteristics | | |
| Luminance: | Typically 470 cd/m ² | |
| Uniformity | 1.33% | |
| Contrast | 3000:1 | |
| Day Mode Brightness : | 470 cd/m ² (Max) | |
| Night mode Brightness : | 0.85 cd/m ² (Min) | |
| Viewing Angle | | |
| Horizontal axis | -89° to +89° | |
| Vertical axis | -89° to +89° | |
| Response Time | Rising - 10 msec | |
| | Falling 20 msec | |
| Number of colors | 16.2M /262K Colors | |
| Chromaticity | CIE 1976 | |
| NVIS | | |
| Compatibility | MIL-STD-3009 Type I/II, NVIS Class B ; MIL-L85762 Type I/II, NVIS Class B | |
| NVIS Backlight u' ang v' Parameters | | |
| White Light | u' | 0.14 |
| | v' | 0.52 |
| Red Light | u' | 0.33 |
| | v' | 0.52 |
| Green Light | u' | 0.12 |
| | v' | 0.56 |
| Blue Light | u' | 0.11 |
| | v' | 0.37 |
| Heater | | |
| W-W Resistance | 12 ohms nominal | |
| Power Consumption | 70 W Max | |
| EMI Glass | | |
| Thickness | 3mm | |
| Surface | AR Coating | |
| EMI Shielding Type | Mesh Film | |

| Electrical Interface | | | | | |
|----------------------|--------|-------------|-----|---------|---------------|
| Pin | Symbol | Description | Pin | Symbol | Description |
| 1 | NC | NC | 16 | Rino- | LVDS Data |
| 2 | GND | Ground | 17 | GND | Ground |
| 3 | Rin3+ | LVDS Data | 18 | NC | No Connection |
| 4 | Rin3- | LVDS Data | 19 | GND | Ground |
| 5 | GND | Ground | 20 | SEL6/8 | 6/8 bits |
| 6 | CLK+ | LVDS Clock | 21 | NC | No Connection |
| 7 | CLK- | LVDS Clock | 22 | NC | No Connection |
| 8 | GND | Ground | 23 | NC | No Connection |
| 9 | Rin2+ | LVDS Data | 24 | Reverse | Reserved |
| 10 | Rin2- | LVDS Data | 25 | GND | Ground |
| 11 | GND | Ground | 26 | GND | Ground |
| 12 | Rin1+ | LVDS Data | 27 | GND | Ground |
| 13 | Rin1- | LVDS Data | 28 | VCC | +3.3V |
| 14 | GND | Ground | 29 | VCC | +3.3V |
| 15 | Rino+ | LVDS Data | 30 | VCC | +3.3V |

| Electrical Specifications | | | | |
|------------------------------|------|-------|-------|------|
| | Min | Typ | Max | Unit |
| Module | | | | |
| Power Supply Voltage VCC | 3 | 3.3 | 3.6 | V |
| Logic Input Voltage VIH | | | 100 | mV |
| Logic Input Voltage VIL | -100 | | | mV |
| Voltage Day Mode Backlight | | 24 | 28 | V |
| Current Day Mode Backlight | | 0.10 | 0.125 | A |
| Voltage NVIS Mode Back Light | | 21 | 25 | V |
| Current NVIS Mode Backlight | | 0.007 | 0.015 | A |

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The information and data given are typical for the equipment described. However, any individual item is subject to change without any notice

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