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The Wayback Machine - https://web.archive.org/web/20150317074024/http://www.vartechsystems.com/techsheets/VT121X…

VARTECH SYSTEMS INC.
Solutions for Demanding Applications

Made in America | Microsoft CERTIFIED Partner | GSA Schedule Contract GS-35F-0060P | ISO 9001:2008 REGISTERED

Technical Data Sheet

All-Weather All-Terrain Fully Sealed IP67 (NEMA 6) Submersible Extreme Operational Temperature Sunlight Readable LCD



FEATURES

- Engineered for All-Weathers even in direct sunlight
- 12.1" Very Bright Active Matrix Sunlight Readable TFT Display, 1000 nits cd/m2
- Mounting Configurations: RAM, VESA, Panel, Console or Flush Mount
- Optical Bonding of Protective Window (or Touch Screen) Directly to the Front Surface of the LCD Face (**VBOND**)
- Integration of light management films
- A multitude of Video Inputs: HD15(F), DVI-D Pin, Composite BNC, Mini Din (S-video)
- High Contrast Ratio; 600:1
- Machined NEMA 6 (IP67) Rated, Black Powder Coated, Very Rugged Aluminum Gasket Sealed Enclosure
- Wide Color Gamut
- Very Wide Viewing Angles: 45 ° / 55° / 70° /70°
- 16.8 million colors
- Energy Efficient, Low Power Consumption
- High Environmental Performance and Reliability
- Anti-Reflective Protective Window
- Standard: XGA 1024 x 768 Resolution

VarTech's 12.1" All-Weather, All-Terrain, Harsh-Duty LCD Display System is waterproof (fully submersible) to IP67 standards and engineered to withstand the harshest environments and most demanding real world applications. The sunlight readable VT121XB4 is equipped with VarTech's proprietary Enhanced Light Transmission Technology (ELTT) which allows for true Sunlight Readability and as well provides exceptional clarity and viewing angles. This advanced user friendly LCD display system provides extensive operational temperatures of -20°C to +70°C (-4° to 158°F)(standard) or -40°C to +70°C (-40°F to +158°F) (optional) and unprecedented video input capabilities from traditional VGA to up to FOUR individual direct composite BNC video feeds with easy one-touch toggle select function between each input.

This Model is Available with 6 Programmable Function Keys. Click HERE to View

Features

Construction
IP67 (NEMA 6) Fully Enclosed / Fully Sealed Submersible Machined
6061 T6 Aluminum Enclosure

Display Size – Viewable Area
12.1 inches

Panel Type
Harsh Duty LCD cell w/ Optically Bonded Protective Overlay (VBOND)

Resolution
Standard: XGA 1024 x 768 Native

Brightness
True High Brightness:
Standard: XGA Type: 1000 nits (cd/m2)
Low-power, high reliability Solid State LED Backlighting

Pixel Pitch
0.24 x 0.24

Response Time
33ms

Color
16.77 M

Backlight MTBF
65,000 hours

Dimming Ratio
5000:1 minimum

Backlight Driver
VarTech's advanced VTLED driver technology, the latest in technology for driving solid state High Bright Light Emitting Diodes (HBLEDs)

Viewing Envelope
Standard: Up/Dwn/L/R: 45°/55°/70°/70°

Contrast Ratio
600:1

- Advanced Thermal Management System
- Wide Operational Temperature Range: Standard -20° to +70°C (-4°F to 158°F), Optional -40° to +70°C (-40°F to 158°F)
- Harsh Duty Variable Power Supply, 9 to 36 VDC, Wide Range, Low Noise, Wide Operational Temperature (Optional AC Power, Universal Input 85 to 264 VAC)
- RoHS Compliant
- Engineered and Manufactured by VarTech Systems, an ISO 9001 Registered Company
- **Engineered, Fabricated and Assembled in the USA**
- Two (2) Year Warranty

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MARKS OF CONFORMITY

FCC47 CFR part 15, subpart B
EMC: EN 55022:2006, EN 55024:1998, CISPR 22:2005, CISPR 24:1997
Canada: ICES-003
Australia/New Zealand: AS/NZS CISPR 22
CE
RoHS
WEEE

Video Input
- IP67 Sealed VGA Connector for Computer interface
OPTIONAL
- IP67 Sealed Single VGA Connector, Single Composite BNC Feed for NTSC/PAL, Optional Touch Interface
- IP67 Sealed Single VGA Connector, Dual Composite BNC Feed for NTSC/PAL, Optional Touch Interface
- IP67 Sealed Single Composite BNC Feed for NTSC/PAL
- IP67 Sealed Dual Separate Composite BNC Feed for NTSC/PAL
- IP67 Sealed Three Separate Composite BNC Feed for NTSC/PAL
- IP67 DVI Input only or with various combinations including VGA and BNC video feeds
- IP67 Sealed Four Separate Composite BNC Feed for NTSC/PAL
- Also available with MIL-DTL-38999 connectors
COMING SOON, CALL
- IP67 Sealed Dual VGA Connectors with/without Optional Touch Interface
- IP67 Sealed Dual VGA Connectors, Single Composite BNC Feed for NTSC/PAL, Optional Touch Interface
- IP67 Sealed Dual VGA Connectors, Dual Composite BNC Feed for NTSC/PAL, Optional Touch Interface

Video Controller
VarTech's Harsh Environment Controller Board – MTBF in Excess of 260,000 hours

Max Power Requirements
32 watts, 40 watts w/heater

Electrical Input
Harsh Duty Variable Power Supply, 9 to 36 VDC, Wide Range, Low Noise, Wide Operational Temperature (Optional AC Power, Universal Input 85 to 264 VAC)

Wide Operational Temperatures
Standard -20° to +70°C (-4°F to 158°F)
Optional -40° to +70°C (-40°F to 158°F)
Storage Temperature
-40° to +75°C (-40°F to 167°F)

Dimensions
W = 13.85", H = 9.85", Depth = 2.59"

Humidity
Operating: 0 to 100%

Altitude
10,000 ft. (optional 45,000 ft.)

EMI / EMC
Designed to meet FCC Class B (optional MIL-STD-461E)

Shock
Designed to meet MIL-S-901D

Weight
9 lbs.

Vibration
Designed to meet MIL-STD-167
Designed to meet Marine IEC 60945 and IACS-E10

Environmental Design
Designed to meet MIL-STD-810F
Airborne Equipment Environmental Conditions
Designed to meet DO-160E
MIL-L-85762A
sunlight readability (air force - open canopy)
MIL-C-22750 (CARC)
Enclosure aluminum, black finish with Corrosion Protection
All input connectors are rated for full submersion including:
Power, VGA, Touch and BNC Composite Video and to ensure that each connector maintains its sealing, the socket is additionally tested for helium leakage (according MIL 1344A)

Available
Optional MIL-DTL-38999 qualified - connectors

MIL-STD-1275
wide range DC power input 9-36 VDC (12 VDC, 24 VDC, 28 VDC nominal)

Cables
Length - 3m (9'10") each
Available IP67 Connector (monitor end) Cables:
Power
Video - 15-pin D-Sub
Touch (optional) - Serial or USB
Direct Composite BNC Video Feed (optional)
Touch Screen (optional)
5-Wire, Durable, Resistive OR Armor Touch

Mounting
RAM/VESA Mounting - standard
Flush Mounting - optional
Console Mounting

Electrical Protection
Internal Short Circuit Protection, Load Dump Protection, Over Voltage Protection, Reverse Polarity Protection
Optional Connectors
Optional "Right Angle" Connectors, MIL-DTL-38999 qualified - connectors
MIL-STD-461E (FCC Class B is standard)

Warranty
2 years

** If a KVM extender or video amplifier is being used, please inquire about compatibility.*

Options

- **Optional Connectors**

- "Right Angle" Connectors
- MIL-DTL-38999 qualified - connectors

- **Optional Touch Screen**

- 5-Wire, Dureable, Resistive Touch Screen
- VarTech's Armor Touch (learn more)

- **Dual Mode NVIS Compatibility**

- NVIS MIL-STD-3009 Class B Green (Night mode)
- Toggle between Day/Night Mode via one touch tactile button
- 4 nit brightness (Night Mode)

- **Optional Blackout Button** - 1-touch tactile interface button for instantaneous enable/disable of display backlight.

- **Mechanical Mounting Options**

- RAM (learn more)
- VESA Mounting (100mm)
- Flush Mounting
- Console Mounting

- **Optional EMI/EMC**

- MIL-STD-461E (FCC Class B is standard)

- **Optional User Interface**

- Programmable Function Keys

- **Optional D38999 Military Style Connectors**

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