



All-Weather 5 Computers & Monitors

Display Sizes: 8.4" - 32.0"

VarTech's ultra-rugged All-Weather computers and monitors are designed for marine and military applications and are built to withstand the world's harshest conditions.

Constructed to NEMA 6 and IP67/IP68 specifications, the All-Weather is fully sealed and operates in temperatures ranging from -40°C to 70°C. It offers a slim enclosure profile built with a milled aluminum faceplate. The flexible design enables greater customizability through options for custom enclosures and I/O connector placement, among other features.

The All-Weather offers multiple mounting styles and can be built to meet MIL-STD 461, MIL-STD 810, MIL-STD 1275, and MIL-STD 3009.

This specification summary represents VarTech Systems' baseline product configurations. All products are built to the exact requirements of our customer's applications and are customizable from the model shown.



Display Image: 15.6" monitor (left) with black powder-coat finish and computer (right) with white powder-coat finish.

Finishes: Standard finishes are black, white, and gray powder-coated aluminum. Custom colors of powder-coating are available.

Standard Features*

- **Display:** Industrial-grade LED back-lit LCD
- **Power Input:** 12 VDC, 9-36 VDC, 90-264 VAC internal power supply, or AC through external brick for small size units
- **Mounting Configurations:** 100 mm VESA, console, console extreme, panel, rack, RAM®
- **Touchscreens (dependent on size):** Standard resistive, PCAP (projected capacitive), or ArmorTouch resistive; USB or serial connections
- **Enclosure:** Powder-coated aluminum built to meet NEMA 6 and IP67
- **Operating Temperature:** 0°C to 60°C (Extreme Temperature Package ranges from -40°C to 70°C, depending on size)
- **Relative Humidity:** ≤ 100% (depending on mechanical build)
- **Warranty:** 3 years
- **Connectors:** IP67/IP68 seal connectors (Various styles available)

Computer Features:

- **Embedded Computer**
- **Supported Operating Systems:** Windows 11 Pro, Windows 11 Enterprise LTSC, Windows 11 IoT Enterprise LTSC
- **CPU Spec:** Up to 5.3GHz; up to 24 Cores
- **RAM:** Up to 64 GB available
- **Storage Capacity:** Up to 2 TB SSD available, removable drives, various capacities, multiple drives

Monitor Features:

- **OSD Button Placement:** OSD control buttons mounted on front of display
- **Fanless Design:** Solid-state components

*Available features are determined by your chosen configuration.

Optional Features**

- **Dimming:** Manual dimmer dial – 1000:1 dimming ratio, or auto-dimming
- **Optical Bonding (VBOND):** Optical bonding eliminates the air gap between display layers by adhering them together. This reduces glare, enhances display durability, and improves visibility in bright environments while preventing condensation and LCD overheating.
- **Private Labeling:** company logo or corporate identity for OEM/VAR applications
- **Finishes:** Custom powder coats, paint, and chemical-resistant finishes
- **Internal Conformal Coating:** Moisture, dust, and corrosion circuit board protection
- **Packages:** Environmental functional upgrade packages available

Computer Options:

- **Trusted Platform Module** (depending on configuration)
- **Supported Operating Systems:**
 - **Windows 10:** Windows 10 Pro (64-bit), Windows 10 Pro (32-bit), Windows 10 Enterprise, Windows 10 Enterprise LTSC
 - **Windows 7:** Windows 7 (64-bit, limited availability)
 - **Linux:** Linux (select versions supported)
- **Front Bezel Connections:** 2x circular sealed connectors
- **Storage:** removable drives, various capacities, multiple drives
- **Fanless Design:** solid-state components
- **ThinManager® Thin Client Management**
- **Wireless Connectivity:** Bluetooth, Wi-Fi, integrated router/Wi-Fi repeater, 4G-LTE
- **Removable Computer**
- **Sealed Speaker**
- **Pass Through Auxiliary Switch / Button**

Monitor Options:

- **OSD Options:** Bluetooth control, IR remote, programmable hotkeys, RS-232 OSD control (PC APP or OSD serial control)
- **Display Options:** USB failover, PiP, PbP, image rotate
- **Front Bezel Connections:** 1 x USB Type-A or Type-C
- **Audio Pass-Through**
- **Integrated KVM extender**
- **Other Video Support:** HD-SDI video signal

**Available features are determined by your chosen configuration.





Specifications Chart*

Display Size	VESA/RAM® Dimensions (W x H x D)	Brightness (nits)	Resolution	Touchscreen**	Viewing Angle	Contrast	Aspect Ratio
8.4"	10.62" x 7.82" x 2.59"	A: 600 B: 1000 🌞	A: XGA 1024 x 768 B: XGA 1024 x 768	AT/PCAP	A: 88°/88°/88°/88° B: 88°/88°/88°/88°	A: 1000:1 B: 1000:1	4:3
10.4"	12.32" x 9.02" x 2.59"	A: 600 B: 1300 🌞	A: XGA 1024 x 768 B: XGA 1024 x 768	Res/PCAP/AT	A: 85°/85°/85°/85° B: 88°/88°/88°/88°	A: 700:1 B: 1000:1	4:3
11.6" Wide	13.92" x 8.32" x 2.59"	A: 300 B: 1600 🌞	A: FHD 1920 x 1080 B: FHD 1920 x 1080	AT	A: 89°/89°/89°/89° B: 88°/88°/88°/88°	A: 800:1 B: 900:1	16:9
12.1"	13.85" x 9.82" x 2.59"	A: 400 B: 1300 🌞	A: XGA 1024 x 768 B: XGA 1024 x 768	Res/PCAP/AT	A: 85°/85°/85°/85° B: 88°/88°/88°/88°	A: 750:1 B: 1000:1	4:3
12.1" Wide	14.22" x 9.22" x 2.59"	A: 500 B: 1500 🌞	A: WXGA 1280 x 800 B: WXGA 1280 x 800	Res/PCAP/AT	A: 85°/85°/85°/85° B: 85°/85°/85°/85°	A: 750:1 B: 750:1	16:10
15.0"	16.02" x 11.72" x 2.59"	A: 400 B: 1800 🌞	A: XGA 1024 x 768 B: XGA 1024 x 768	Res/PCAP/AT	A: 80°/80°/80°/80° B: 80°/80°/70°/80°	A: 600:1 B: 800:1	4:3
15.6" Wide	17.42" x 10.32" x 2.59"	A: 400 B: 1000 🌞	A: FHD 1920 x 1080 B: FHD 1920 x 1080	AT/PCAP	A: 80°/80°/70°/70° B: 89°/89°/89°/89°	A: 700:1 B: 1000:1	16:9
17.0"	17.32" x 13.82" x 2.59"	A: 350 B: 1500 🌞	A: SXGA 1280 x 1024 B: SXGA 1280 x 1024	Res/PCAP/AT	A: 80°/80°/60°/80° B: 80°/80°/60°/80°	A: 800:1 B: 800:1	5:4
17.3" Wide	18.92" x 11.22" x 2.59"	A: 400 B: 1000 🌞	A: FHD 1920 x 1080 B: FHD 1920 x 1080	AT	A: 80°/80°/60°/80° B: 80°/80°/60°/80°	A: 600:1 B: 600:1	16:9
18.5" Wide	20.02" x 11.92" x 2.59"	A: 500 B: 1500 🌞	A: FHD 1920 x 1080 B: FHD 1920 x 1080	AT/PCAP	A: 89°/89°/89°/89° B: 89°/89°/89°/89°	A: 1000:1 B: 1000:1	16:9
19.0"	18.92" x 14.62" x 2.59"	A: 350 B: 1600 🌞	A: SXGA 1280 x 1024 B: SXGA 1280 x 1024	Res/PCAP/AT	A: 85°/85°/80°/80° B: 85°/85°/80°/80°	A: 1000:1 B: 1000:1	5:4
21.5" Wide	23.02" x 13.52" x 2.59"	A: 350 B: 1500 🌞	A: FHD 1920 x 1080 B: FHD 1920 x 1080	AT/PCAP	A: 89°/89°/89°/89° B: 89°/89°/89°/89°	A: 5000:1 B: 1000:1	16:9
24.0" Wide	24.82" x 14.72" x 2.59"	A: 300 B: 1500 🌞	A: FHD 1920 x 1080 B: FHD 1920 x 1080	AT/PCAP	A: 89°/89°/89°/89° B: 89°/89°/89°/89°	A: 5000:1 B: 5000:1	16:9
27.0" Wide	28.02" x 16.42" x 2.59"	A: 350 B: 1000 🌞	A: FHD 1920 x 1080 B: FHD 1920 x 1080	PCAP	A: 89°/89°/89°/89° B: 89°/89°/89°/89°	A: 3000:1 B: 1000:1	16:9
32.0" Wide	31.62" x 18.32" x 2.59"	A: 500 B: 1500 🌞	A: FHD 1920 x 1080 B: FHD 1920 x 1080	PCAP	A: 89°/89°/89°/89° B: 89°/89°/89°/89°	A: 3000:1 B: 4000:1	16:9

🌞 represents sunlight-readable display brightness

*A and B represent two different LCD options

**Touchscreens: Res = Standard resistive, PCAP = Projected capacitive, AT = ArmorTouch resistive

Motherboard Specifications

Option	Available I/O Ports	Memory (RAM)	Operating System	Processor	Storage Drive
A	HDMI, RS-232, LAN, USB 2.0, USB 3.2	Up to 64 GB	Windows 11	Intel® 12, 13th, 14th Gen	Up to 2 TB
B	USB 3.2, 2.5GbE LAN, HDMI, DisplayPort	Up to 32 GB	Windows 11	Intel® 11th Gen, i5-1145G7E	Up to 2 TB
C	DisplayPort, USB 3.2, USB 2.0, LAN, HDMI	Up to 32 GB	Windows 11	Intel® Atom® x6413	Up to 2 TB
D	LAN, USB 3.1, RS 232, HDMI	Up to 32GB	Windows 11	Intel® J6412 Quad-Core	Up to 2 TB





LCD Controller Boards

Option	Available Video I/O Ports	Horizontal/Vertical Scan	Resolution
E	1 x DVI, 1 x VGA	60 Hz up to 1440 x 900	Up to 1440 x 900, 8-bit
F	1 x HDMI, 1 x VGA, 1 x DisplayPort	60 Hz up to 1920 x 1200	Up to 1920 x 1200, 8-bit
G	1 x HDMI, 1 x DVI, 1 x VGA, 1 x Composite (PAL/NTSC)	60 Hz up to 1920 x 1200	Up to 1920 x 1200, 10-Bit
H	1 x HDMI, 1 x DVI, 1 x VGA, 1 x DisplayPort	60 Hz up to 1920 x 1200	Up to 1920 x 1200, 10-bit

Product Packages

Package	Details	Package	Details
Component Ruggedization Package	- Potted components where applicable - Vibration dampening - MIL-DTL 38999 I/O connectors - Shock/vibration resistant hardware: motherboard, cable assemblies/connectors - Optical bonding of protective window or touchscreen to LCD - Designed to meet tolerances specified by select subcategories of MIL-STD 810F and/or DEFSTAN 00-35 inclusive of Part 3 Issue 4.	High-Bright Sunlight-Readable Package	- High-luminance LED backlights - Proprietary optical film stack - Optical bonding of protective window or touchscreen to LCD - Anti-reflective coating - Brightness levels ranging from 700 nits to 1800 nits (depending on screen size) - Dimming: Manual dimmer dial - 1000:1 dimming ratio, or auto dimming - Optional: backlight kill switch
EMI/EMC 461 AS Package	- All-surface ingress protection and Faraday cage design - Protective window or touchscreen equipped with 8 Ohm ITO for surface ship limits or 160 OPI PCM (printed copper mesh) busbar for Army ground limits - Chromated metal and EMI copper conductive tape to ensure conductivity of ITO/busbar and enclosure - Enhanced EMI conductive gaskets for MIL-STD 461 protection while maintaining seal up to IP65 - Cable braiding, ferrites, and in-line bandpass filters where applicable - CE101, CE102, CS101, CS106, CS114, CS115, CS116, RE101, RE102, RS101, RS103 (Designed to meet based on similar VarTech Systems Designs) - Optional: MIL-STD 1275	Keypad Function Control Package	- Rows of sealed dome push button function keys embedded around the display's perimeter - Integrated HID keyboard emulator converts push buttons to standard keyboard code - Available as an auxiliary interface for a remote PC or integrated with a computer solution
EMI/EMC 461 FS Package	- EMI protection at front-surface - Protective window or touchscreen equipped with 8 Ohm ITO for surface ship limits or 160 OPI PCM (printed copper mesh) busbar for Army ground limits - Enhanced EMI conductive gaskets for MIL-STD 461 protection while maintaining seal up to IP65 at front panel surface - CE101, CE102, CS101, CS106, CS114, CS115, CS116, RE101, RE102, RS101, RS103 (Designed to meet based on similar VarTech Systems designs) - Note: This package is typically coupled with console mount design	Light Duty General Purpose Industrial Package	- IP54 enclosure - Non-sealed standard I/O connectors -10°C to 60°C operational temperature range 300-600 nit brightness LCD (based on display size) - Mylar (OSD) membrane switch on monitor models for controlling video and brightness - Standard processor/ storage/RAM on computer models; 2GHz quad core/128 GB SSD/8 GB RAM 12 VDC PSU (available with optional AC/DC 90-264 VAC external power brick) - Optional: Optical bonding of protective window or touchscreen to LCD
Extreme Temperature Package	- Harsh environment video controller board or motherboard/SSD/RAM - Wide temperature LCD panel - Max Range: -40°C to 70°C - Optional: White powder coat - Integrated heater and thermostat	NVIS Dual Mode Compatibility Package	- NVIS MIL-STD 3009 Class B (night mode) - Brightness levels from 4 nits to 30 nits (night mode) - Toggle between day/night mode via the one-touch tactile button - Dimming: Manual dimmer dial - 1000:1 dimming ratio, or auto dimming - Optional: Backlight kill switch - ITAR restrictions apply
		Vandal/Impact Resistance Package	- Impact resistant protective overlay glass 8H abrasion-resistant overlay glass - Chemical and stain-resistant glass and surfaces - Tamper-proof conduit connectors - Optional: Vandal-proof PCAP touchscreen





Mounts

Console



Console Extreme



Panel with Studs



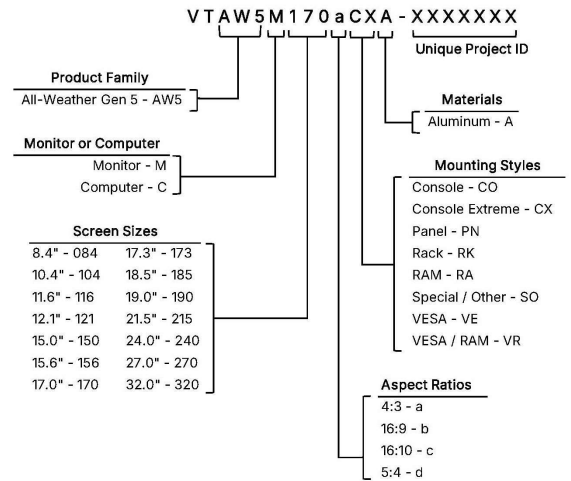
Rack



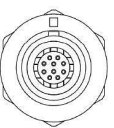
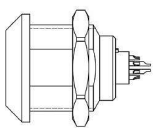
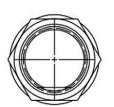
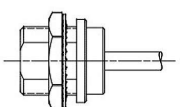
VESA or RAM®



Core Model Number Breakdown



I/O Connectors

MIL-DTL 38999	Military-grade circular connector with high environmental resistance and EMI shielding.	 
IP67 Push/Pull Lock	Dust-tight and waterproof connector with quick-connect/disconnect mechanism.	 
Standard Waterproof	Fully-shielded IP67 connectors.	 





The VarTech Standard



Best-in-Class Engineered Solutions

Our in-house team of highly-experienced engineers stand ready to design computing solutions tailored to the specific needs of your application.



Built-to-Spec Customization

VarTech offers industry-leading customization capabilities with countless options, features, and packages to ensure all the needs of your project are met.



Order Size Flexibility

We combine big business capability with small business agility to deliver both highly specialized low-volume orders and mass quantities for larger projects.



Short Lead Times

Our vertically-integrated manufacturing operation in Clemmons, North Carolina, USA affords our customers short lead times on custom projects.



End-to-End Project Support

A dedicated project manager will guide your project from the design phase through post-sale support and is always accessible to you throughout the process.



Unrivalled Product Durability

We set the standard for durability in extreme operating conditions with only the highest quality components used in our manufacturing processes.



Robust Product Portfolio

Our products range from small form factor computers to purge-protected workstations ensuring a perfect solution for your operating environment.



Industrial-Strength Protection

VarTech offers powerful NEMA and IP-protected solutions as well as hazardous area-certified products to protect your operations and minimize downtime.



Made in the U.S.A

We proudly design, engineer, manufacture, and assemble all of our products in our Clemmons, North Carolina Manufacturing and Research Facility.

Over 35 years of rugged and industrial computer, monitor, and workstation manufacturing experience!

