



DiamondVue Computers & Monitors

Display Sizes: 6.5" - 43.0"

Our flagship DiamondVue series of industrial computers and monitors are available in numerous sizes and over half a dozen mounting styles.

Built to meet NEMA and IP protection standards, the adaptive design of the DiamondVue enables the same mechanical footprint for standalone displays and computers, expanding versatility to a wider range of applications.

Compact displays starting at 6.5" fit into tight spaces while large, wide-format screens measuring 27", 32", and 43" allow operators to have improved visibility and operability of HMI functions and process control.

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: 18.5" computer (left) with black powder-coat finish. 11.6" monitor (right) with stainless-steel grained finish.

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

Standard Features*

- **Display:** Industrial-grade LED back-lit LCD
- **Power Input:** 12 VDC, 9-36 VDC, or 90-264 VAC internal power supply
- **Mounting Configurations:** Panel with studs, panel with clips, console, console extreme, rack, chassis, VESA (100mm VESA pattern for sizes 10.4" to 24.0", 200mm VESA for 32.0", 300mm VESA for 43.0"), or standard RAM®
- **Touchscreens (dependent on size):** Standard resistive, PCAP (projected capacitive), or ArmorTouch resistive
- **Rear Enclosure:** Rugged black powder-coated aluminum
- **Operating Temperature:** -10°C to 60°C (Extreme Temperature Package available depending on size)
- **Relative Humidity:** ≤ 95% (depending on mechanical build)
- **Warranty:** 3 years

Computer Features:

- **Embedded Computer**
- **Supported Operating Systems:** Windows 11 Pro, Windows 11 Enterprise LTSC, Windows 11 IoT Enterprise LTSC
- **LAN:** 2 x 10/100/1000 Mbps
- **CPU Spec:** up to 5.3GHz; up to 24 Cores
- **RAM:** up to 64 GB available
- **Storage Capacity:** up to 2 TB SSD available
- **Expansions:** PCI, PCIe, mPCIe, m.2, SIM card slot

Monitor Features:

- **OSD Button Placement:** OSD membrane control buttons can be mounted in alternate locations on front or rear of the display (front mounting options not available on all mechanical designs), or wired remote OSD
- **Fanless Design:** Solid-state components

*Available features are determined by your chosen configuration.

Optional Features**

- **I/O Connector Types:** Additional and/or alternate I/O ports available
- **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:** Circuit board protection from moisture, dust, and corrosion
- **Mounting Configurations:** RAM® mount
- **Available Accessories:** Glare protection hood, keyboard bracket, protective door
- **Packages:** Environmental functional upgrade packages available. See page 3.

Computer Options:

- **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:** 1x USB (Type-A or Type-C available on 11.6" and larger)
- **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

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:** Pass-through USB port
- **Audio Pass-Through**
- **Integrated KVM extender**
- **Legacy Video Support:** 15 kHz to 30 kHz, and SOG/composite/separate horizontal and vertical sync (VGA only)
- **Other Video Support:** HD-SDI video signal

**Available features are determined by your chosen configuration.

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Specifications Chart*

Display Size	Brightness (nits)	Resolution	Touchscreen**	Viewing Angle	Contrast	Aspect Ratio	Power Consumption***
6.5"	A: 800 B: 1400 ●	A: VGA 640 x 480 B: XGA 1024 x 768	Res	A: 88°/88°/88°/88° B: 85°/85°/85°/85°	A: 900:1 B: 800:1	4:3	A: ~33 W B: ~35 W
8.4"	A: 600 B: 900 ●	A: XGA 1024x768 B: XGA 1024x768	AT/PCAP	A: 88°/88°/88°/88° B: 88°/88°/88°/88°	A: 1000:1 B: 1000:1	4:3	A: ~35.5 W B: ~38.5 W
10.4"	A: 600 B: 1300 ●	A: XGA 1024x768 B: XGA 1024x768	Res/PCAP/AT	A: 85°/85°/85°/85° B: 85°/85°/85°/85°	A: 700:1 B: 700:1	4:3	A: ~31 W B: ~31.5 W
11.6" Wide	A: 300 B: 1600 ●	A: FHD 1920x1080 B: FHD 1920x1080	AT	A: 89°/89°/89°/89° B: 88°/88°/88°/88°	A: 800:1 B: 900:1	16:9	A: ~33 W B: ~43.5 W
12.1"	A: 400 B: 1300 ●	A: XGA 1024x768 B: XGA 1024x768	Res/PCAP/AT	A: 85°/85°/85°/85° B: 88°/88°/88°/88°	A: 750:1 B: 1000:1	4:3	A: ~31 W B: ~32 W
12.1" Wide	A: 500 B: 1500 ●	A: WXGA 1280x800 B: WXGA 1280x800	Res/PCAP	A: 85°/85°/85°/85° B: 85°/85°/85°/85°	A: 750:1 B: 750:1	16:10	A: ~31 W B: ~32 W
15.0"	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	A: ~38 W B: ~50 W
15.6" Wide	A: 400 B: 1000 ●	A: FHD 1920x1080 B: FHD 1920x1080	AT/PCAP	A: 80°/80°/70°/70° B: 89°/89°/89°/89°	A: 700:1 B: 1000:1	16:9	A: ~44 W B: ~59 W
17.0"	A: 350 B: 1500 ●	A: SXGA 1280x1024 B: SXGA 1280x1024	Res/PCAP/AT	A: 80°/80°/60°/80° B: 80°/80°/60°/80°	A: 800:1 B: 800 :1	5:4	A: ~52 W B: ~60 W
17.3" Wide	A: 400 B: 1000 ●	A: FHD 1920x1080 B: FHD 1920x1080	AT	A: 80°/80°/60°/80° B: 80°/80°/60°/80°	A: 600:1 B: 600:1	16:9	A: ~56.5 W B: ~60 W
18.5" Wide	A: 500 B: 1500 ●	A: FHD 1920x1080 B: FHD 1920x1080	AT/PCAP	A: 89°/89°/89°/89° B: 89°/89°/89°/89°	A: 1000:1 B: 1000:1	16:9	A: ~58 W B: ~72 W
19.0"	A: 350 B: 1600 ●	A: SXGA 1280x1024 B: SXGA 1280x1024	Res/PCAP/AT	A: 85°/85°/80°/80° B: 85°/85°/80°/80°	A: 1000:1 B: 1000:1	5:4	A: ~43 W B: ~80 W
21.5" Wide	A: 300 B: 1500 ●	A: FHD 1920x1080 B: FHD 1920x1080	AT/PCAP	A: 89°/89°/89°/89° B: 89°/89°/89°/89°	A: 5000:1 B: 1000:1	16:9	A: ~50 W B: ~119.5 W
24.0" Wide	A: 300 B: 1500 ●	A: FHD 1920x1080 B: FHD 1920x1080	AT/PCAP	A: 89°/89°/89°/89° B: 89°/89°/89°/89°	A: 5000:1 B: 5000:1	16:9	A: ~53 W B: ~79 W
27.0" Wide	A: 350 B: 1000 ●	A: FHD 1920x1080 B: FHD 1920x1080	PCAP	A: 89°/89°/89°/89° B: 89°/89°/89°/89°	A: 3000:1 B: 1000:1	16:9	A: ~57 W B: ~113.5 W
32.0" Wide	A: 500 B: 1500 ●	A: FHD 1920x1080 B: FHD 1920x1080	PCAP	A: 89°/89°/89°/89° B: 89°/89°/89°/89°	A: 3000:1 B: 4000:1	16:9	A: ~53 W B: ~132 W
43.0" Wide	A: 700 B: 1500 ●	A: FHD 1920x1080 B: FHD 1920x1080	PCAP	A: 89°/89°/89°/89° B: 89°/89°/89°/89°	A: 3000:1 B: 4000:1	16:9	A: ~63 W B: ~171 W

● represents sunlight-readable display brightness.

*A and B represent two different LCD panel options.

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

***Power consumption is measured in watts at 12 VDC

Motherboard Specifications

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





Dimensions (W x H x D) Specifications Chart

Display Size	Console/Extreme Dimensions	Chassis Dimensions	Panel with Clips Dimensions	Panel with Studs Dimensions	Rack Dimensions	VESA/RAM Dimensions
6.5"	9.63" x 8.38" x 3.75"	N/A	8.88" x 7.63" x 3.75"	9.63" x 8.38" x 3.75"	4U 3.75" Depth	N/A
8.4"	11.25" x 9.5" x 3.75"	10.25" x 7" x 3.5"	10.5" x 8.75" x 3.75"	11.25" x 9.5" x 3.75"	5U 3.75" Depth	9.88" x 8.13" x 3.75"
10.4"	13" x 10.5" x 3.75"	11.78" x 8.13" x 3.5"	12.25" x 9.75" x 3.75"	13" x 10.5" x 3.75"	6U 3.75" Depth	11.63" x 9.13" x 3.75"
11.6" Wide	14.5" x 10.13" x 3.75"	13.5" x 7.63" x 3.5"	13.75" x 9.38" x 3.75"	14.5" x 10.13" x 3.75"	5U 3.75" Depth	13.13" x 8.75" x 3.75"
12.1"	14.13" x 11.75" x 3.75"	13.13" x 9.25" x 3.5"	13.38" x 11" x 3.75"	14.13" x 11.75" x 3.5"	6U 3.75" Depth	12.75" x 10.38" x 3.75"
12.1" Wide	14.75" x 10.88" x 3.75"	13.75" x 8.38" x 3.5"	14.00" x 10.13" x 3.75"	14.75" x 10.88" x 3.75"	6U 3.75" Depth	13.38" x 9.5" x 3.75"
15.0"	16.5" x 13.5" x 3.75"	15.5" x 11.00" x 3.5"	15.75" x 12.75" x 3.75"	16.5" x 13.5" x 3.75"	7U 3.75" Depth	15.13" x 12.13" x 3.75"
15.6" Wide	18.00" x 12.13" x 3.75"	17" x 9.63" x 3.5"	17.25" x 11.38" x 3.75"	18.00" x 12.13" x 3.75"	7U 3.75" Depth	16.63" x 10.75" x 3.75"
17.0"	17.75" x 15.13" x 3.75"	16.75" x 12.63" x 3.5"	17.00" x 14.38" x 3.75"	17.75" x 15.13" x 3.75"	8U 3.75" Depth	16.38" x 13.75" x 3.75"
17.3" Wide	19.5" x 12.88" x 3.75"	18.5" x 10.375" x 3.5"	18.75" x 12.13" x 3.75"	19.5" x 12.88" x 3.75"	N/A	18.13" x 11.5" x 3.75"
18.5"	20.5" x 13.5" x 3.75"	19.5" x 11.00" x 3.5"	19.75" x 12.75" x 3.75"	20.5" x 13.5" x 3.75"	7U 3.75" Depth	19.13" x 12.13" x 3.75"
19.0"	19.25" x 16.38" x 3.75"	18.25" x 13.88" x 3.5"	18.5" x 15.63" x 3.75"	19.25" x 16.38" x 3.75"	9U 3.75" Depth	17.88" x 15" x 3.75"
21.5" Wide	23.25" x 15" x 3.75"	22.25" x 13.63" x 3.5"	22.5" x 14.25" x 3.75"	23.25" x 15.00" x 3.75"	N/A	21.88" x 13.63" x 3.75"
24.0" Wide	25.38" x 16.25" x 3.75"	24.38" x 14.88" x 3.5"	24.63" x 15.5" x 3.75"	25.38" x 16.25" x 3.75"	N/A	24" x 14.88" x 3.75"
27.0" Wide	28.25" x 18.13" x 3.75"	N/A	27.5" x 17.38" x 3.75"	28.25" x 18.13" x 3.75"	N/A	26.88" x 16.75" x 3.75"
32.0" Wide	32.13" x 20.13" x 4.08"	31.13" x 18.75" x 3.5"	31.38" x 19.38" x 4.08"	32.13" x 20.13" x 4.08"	N/A	30.75" x 18.75" x 4.08"
43.0" Wide	N/A	N/A	40.75" x 25" x 4.08"	N/A	N/A	40.13" x 24.38" x 4.08"

LCD Controller Board Specifications

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
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.
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 - Optional: redundant power supply unit (PSU)
EMI/EMC 461 FS Package	- EMI protection front-surface - Protective window or touchscreen equipped with 8 Ohm ITO treatment or 160 OPI PCM (printed copper mesh) and busbar - Chromated metal and EMI copper conductive tape to ensure conductivity of busbar and enclosure - 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) - This package is typically coupled with clip mount, console extreme, or panel mount design
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
Railway Ruggedization Package	- Built to meet EN50155 24, 48, 72, 96, and 110 VDC nominal inputs available - Universal power input screw terminal connector - Vibration dampening - Reverse polarity protection - Fanless - Fuseless (upon request) - Protective coating on all circuit boards - Optical bonding of protective window or touchscreen to LCD - Optional: M-Series connectors or D38999 connectors
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





Mounts

Chassis



Panel with Studs



Console



Rack



Console Extreme



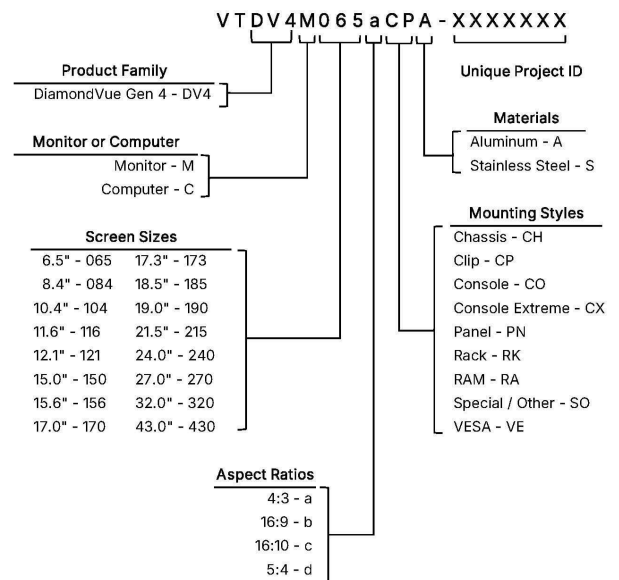
VESA or RAM®



Panel with Clips



Core Model Number Breakdown





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!

