

AW4 Series

All-Weather outdoor computers and monitors built with a solid-state design and NEMA 6/IP67 protection from the ingress of dust and water, including temporary submersion.

The very robust enclosure is milled from billet 6061 aircraft aluminum and offers a slim profile. Constructed to IP67 specifications, these fully sealed All-Weather displays and panel computers are protected from the ingress of dust and water, including temporary submersion. Designs to meet MIL-STD/MIL-Spec specifications for wide temperature ranges, shock and vibration protection, EMI protection, and direct sunlight conditions are available.



AW4 series standard in black powder coated aluminum.
Custom colored powder coating available.

Standard Features:

- Industrial-grade LED back-lit LCD.
- Touchscreen interface: USB or serial connections
- Manual front dimmer dial - 1000:1 dimming ratio
- Optical bonding (VBOND): adhering a cover glass, protective overlay, or touchscreen to the front surface of the LCD using an optical-grade silicone to increase solar reflectivity and ruggedness.
- Enclosure construction: fully sealed NEMA 6 submersible (IP67) powder coated machined 6061 T6 aluminum enclosure
- I/O connection type: IP67 push/pull locking style sealed connectors
- Power input: 12 VDC, 9-36 VDC, or 90-264 VAC internal power supply
- Mounting configurations: 100 mm VESA/RAM/panel, or console extreme

- Available touchscreens: resistive, PCAP and ArmorTouch
 - Operating temperature: -20° to 70° C (Extreme Temperature Package available depending on size. Please inquire.)
 - Relative humidity: ≤ 0% to ≤ 100%
 - Altitude: 10,000 ft MSL
 - 2-year warranty
- Computer Features:**
- Embedded computer
 - Solid-state components
 - Operating system: Windows 10 Professional 64-bit (standard)

Dimensions (W × H × D) and Specification Chart:

Size	Panel/VESA/RAM Dimensions*	Console & Console Extreme Dimensions*	Brightness	Resolution	Touchscreen**	Viewing Angle	Contrast	Aspect Ratio	Power Consumption (Calculated at 12 V DC)	Approx. Weight † ‡ (based on Panel Mount)	Maximum I/O Ports Avail. (Including Power)
8.4"	10.74" × 7.81" × 2.59"	12.14" × 9.21" × 2.59"	600 nits 900 nits ☀	XGA 1024 × 768 XGA 1024 × 768	Res/PCAP/AT	88°/88°/88°/88° 88°/88°/88°/88°	500:1 600:1	4:3	≈ 15 W ≈ 21 W	≈ 6.5 Lbs	5
10.4"	12.36" × 9.01" × 2.59"	13.76" × 10.41" × 2.59"	400 nits 1000 nits ☀	SVGA 800 × 600 XGA 1024 × 768	Res/PCAP/AT	80°/80°/80°/80° 80°/80°/65°/65°	1000:1 700:1	4:3	≈ 11 W ≈ 24 W	≈ 7.25 Lbs	
11.6" wide	13.94" × 8.53" × 2.76"	15.42" × 10.01" × 2.76"	300 nits 1600 nits ☀	FHD 1920 × 1080 FHD 1920 × 1080	PCAP/AT	80°/80°/80°/80° 80°/80°/80°/80°	800:1 900:1	16:9	≈ 13 W ≈ 27 W	≈ 7.25 Lbs	6
12.1"	13.85" × 9.85" × 2.59"	15.25" × 11.25" × 2.59"	400 nits 1200 nits ☀	XGA 1024 × 768 XGA 1024 × 768	Res/PCAP	85°/85°/85°/85° 85°/85°/85°/85°	750:1 750:1	4:3	≈ 9 W ≈ 22 W	≈ 10.25 Lbs	
12.1" wide	14.11" × 9.25" × 2.59"	15.51" × 10.65" × 2.59"	500 nits 1500 nits ☀	WXGA 1280 × 800 WXGA 1280 × 800	Res	85°/85°/85°/85° 80°/80°/80°/60°	750:1 700:1	16:10	≈ 17 W ≈ 34 W	≈ 10.25 Lbs	7
15"	16" × 11.75" × 2.59"	17.4" × 13.15" × 2.59"	400 nits 1500 nits ☀	XGA 1024 × 768 XGA 1024 × 768	Res/PCAP/AT	80°/80°/80°/80° 80°/80°/60°/80°	600:1 800:1	4:3	≈ 12 W ≈ 47 W	≈ 11.5 Lbs	
15.6" wide	17.49" × 10.38" × 2.59"	18.8" × 11.69" × 2.59"	400 nits 1500 nits ☀	FHD 1920 × 1080 FHD 1920 × 1080	Res/PCAP/AT	80°/80°/70°/70° 88°/88°/88°/88°	700:1 750:1	16:9	≈ 16 W ≈ 49 W	≈ 11.5 Lbs	
17"	17.34" × 13.85" × 2.59"	18.84" × 15.35" × 2.59"	350 nits 1000 nits ☀	SXGA 1280 × 1024 SXGA 1280 × 1024	Res/PCAP/AT	80°/80°/60°/80° 80°/80°/60°/80°	800:1 1000:1	5:4	≈ 25 W ≈ 62 W	≈ 13 Lbs	
19"	18.96" × 14.71" × 2.59"	20.44" × 16.19" × 2.59"	350 nits 1600 nits ☀	SXGA 1280 × 1024 SXGA 1280 × 1024	Res/PCAP/AT	85°/85°/80°/80° 85°/85°/80°/80°	1000:1 1000:1	5:4	≈ 20 W ≈ 60 W	≈ 16 Lbs	
21.5" wide	22.96" × 13.5" × 2.59"	24.5" × 15" × 2.59"	300 nits 1500 nits ☀	FHD 1920 × 1080 FHD 1920 × 1080	Res/PCAP/AT	89°/89°/89°/89° 89°/89°/89°/89°	5000:1 1000:1	16:9	≈ 24 W ≈ 42 W	≈ 20 Lbs	

☀ Sunlight readable LCD

* For solutions with heat sink, add 1.062" to depth (D)

** Res - resistive touch, PCAP - projective capacitive touch, and AT - ArmorTouch glass-on-film resistive touch

† Weight may differ based on overall configuration

‡ Heatsink adds approximately 4 Lbs

LCD Controller Board Specifications:

Option	Resolution	Available Video I/O Ports	Horizontal/Vertical Scan
A*	Up to 1440 × 900, 8-bit	1 × DVI, 1 × VGA	60 Hz up to 1440 × 900
B*	Up to 1600 × 1200, 8-bit	1 × DVI, 1 × VGA, 1 × Composite (PAL/NTSC)	60 Hz up to 1600 × 1200
C	Up to 1920 × 1200, 8-Bit	1 × HDMI, 1 × Display Port, 1 × VGA	60 Hz up to 1920 × 1200
D	Up to 1920 × 1200, 10-bit	1 × HDMI, 1 × DVI, 1 × VGA 1 × Composite (PAL/NTSC)	60 Hz up to 1920 × 1200

Non-standard controller boards and I/O ports available depending on panel size. Please inquire.
* Not compatible with FHD screen resolution

Standard Motherboard Specifications:

Option	Processor	Memory	Storage Drive	Operating System	Available I/O Ports
E	Intel Atom E3845	Up to 8 GB	1 × SATA-300 1 × CFAST	Win 7: 32/64-bit, Win 10: 32/64-bit	2 × RS-232/422/485 3 × USB 2.0 1 × LAN
F	Intel J1900 Quad-Core	Up to 8 GB	1 × SATA-300 1 × CFAST	Win 7: 32/64-bit, Win 10: 32/64-bit	2 × RS-232/422/485 3 × USB 2.0 1 × LAN
G	i5-7300U	Up to 16 GB	1 × SATA-300 1 × mSATA/SIM	Win 10: 64-bit	2 × RS-232/422/485 4 × USB 3.0 2 × LAN
H	Celeron G3900TE, i3-6100TE, i5-6500TE, i7-6700TE	Up to 32 GB	1 × SATA-600	Win 10: 64-bit	1 × RS-232/422/485 3 × USB 3.0 1 × USB 2.0 2 × LAN

Non-standard motherboards and processors available depending on panel size. Please inquire.
Motherboard selection may affect operational temperature

Available Options:

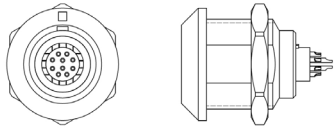
- Private labeling: company logo or corporate identity for OEM/VAR applications
 - Coatings: custom powder coat, paint, and chemical resistant finishes
- Computer Options:**
- Removable computer: highly secure TCP (Trusted Platform Module)
 - Wireless connectivity: Bluetooth, WiFi, integrated router/WiFi repeater
 - Expansions: PCI, PCIe, mPCIe, M.2, SIM card slot
 - Storage: HDD, SSD, removable drives, various capacities, multiple drives
 - Operating system: Windows 10 Professional – 32 & 64-bit, Windows 10 Enterprise, Windows 7 – 32 & 64-bit, Linux (select versions of Linux supported)
 - ThinManager® thin client management
 - 1 × VGA, 1 × HDMI
 - Additional and/or alternate I/O ports available: Please contact your sales representative

Monitor Only Options:

- Display options: USB failover, PiP
 - Legacy video support: 15 kHz to 30 kHz, and SOG/composite/separate horizontal and vertical sync
- All available options are subject to mechanical design limitations. Please inquire.
Environmental Functional Upgrade Packages available. See next page.

Standard I/O Connectors: bottom or rear exit connectors

IP67 push/pull locking style: standard connector for All-Weather series



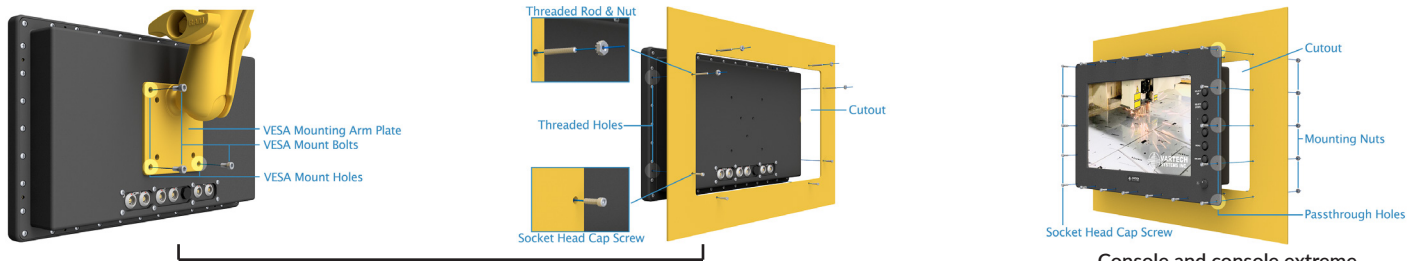
Available Ruggedized I/O Connectors:

M8/M12/M23: industrial automation, vibration and shock-resistant

MIL-DTL 38999: military standard, sealed, vibration and shock-resistant quick-coupling circular locking connectors



Mounting Option Examples:



Diverse 3-in-1 mounting style: supports VESA/RAM/panel

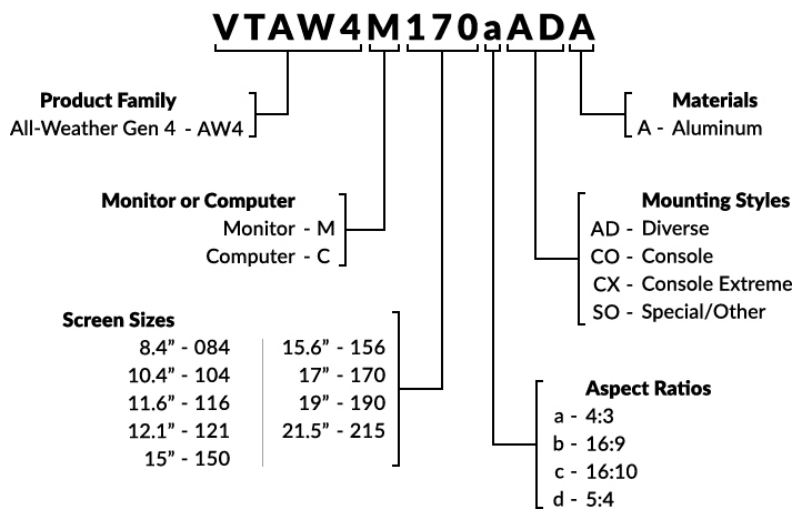
Console and console extreme

Environmental Functional Upgrade Packages:

VarTech's Environmental Functional Upgrade Packages allow for custom COTS solutions using standard feature sets.

High Bright Sunlight Readable Package	Component Ruggedization Package	Extreme Temperature Package (-40° C to 70° C)
<ul style="list-style-type: none"> High luminance LED backlights Proprietary optical film stack Optical bonding of protective window or touchscreen to LCD Anti-reflective coatings Brightness levels ranging from 700 nits to 1500 nits (depending on screen size) Dimming: Manual dimmer dial - 1000:1 dimming ratio, or auto-dimming Optional: backlight kill switch 	<ul style="list-style-type: none"> Shock/Vibration resistance: video controller board or motherboard, cable assemblies/connectors Potted components where applicable Vibration dampening Optical bonding of protective window or touchscreen to LCD MIL-DTL 38999 I/O connectors (not available on hazardous area models) <p>Designed to meet tolerances specified by select subcategories of MIL-STD 810F and/or DEFSTAN 00-35 inclusive of Part 3 Issue 4.</p>	<ul style="list-style-type: none"> Integrated heater and thermostat Wide temperature LCD panel Harsh environment video controller board or motherboard/SSD/RAM Optional: heat-reflective powder coat Optional: uninterrupted wide temperature dual Power Supply Unit (PSU) system
EMI/EMC 461 AS Package	EMI/EMC 461 FS Package	NVIS Dual Mode Compatibility Package
<ul style="list-style-type: none"> All-Surface ingress protection and Faraday cage design Protective window or touchscreen equipped with 8 Ohm ITO for surface ship limits and 100 OPI SSTL mesh or 160 OPI copper printed mesh for Army ground limits Enhanced EMI conductive gaskets for MIL-STD 461 protection while maintaining seal up to IP67 MIL-DTL 38999 connectors with backshell assembly 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 	<ul style="list-style-type: none"> EMI protection front surface Protective window or touchscreen equipped with 8 Ohm ITO for surface ship limits and 100 OPI SSTL mesh or 160 OPI copper printed mesh for Army ground limits Chromated metal and EMI copper conductive tape to assure conductivity of ITO/busbar and enclosure Enhanced EMI conductive gaskets for MIL-STD 461 protection while maintaining seal up to IP66 at front panel surface CE101, CE102, CS101, CS106, CS114, CS115, CS116, RE101, RE102, RS101, RS103 (Designed to meet based on similar VarTech Systems Designs) <p>This package is typically coupled with panel mount design</p>	<ul style="list-style-type: none"> NVIS MIL-STD 3009 class B green (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 ITAR restrictions apply Optional: backlight kill switch
Light Duty General Purpose Industrial Package	Keypad Function Control Package	Vandal/Impact Resistant Package
<ul style="list-style-type: none"> IP54 enclosure Non-sealed standard I/O connectors -10 to 60 C operational temperature 350-450 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: 2 GHZ quad core/128 GB SSD/4 GB 12 VDC PSU (available with optional AC/DC 90-264 VAC external power transformer) Optional: optical bonding of protective window or touchscreen to LCD 	<ul style="list-style-type: none"> Rows of sealed dome push button function keys embedded around the display's perimeter Push button switch converts to a standard USB keyboard code USB keyboard encoders enumerate as a standard HID keyboard Available as an auxiliary interface for a remote PC or integrated with a computer solution 	<ul style="list-style-type: none"> Impact resistant protective overlay glass 8H abrasion-resistant overlay glass Chemical and stain resistant glass and surfaces Tamper-proof conduit connectors Optional: PCAP touchscreen

All-Weather Core Model Number Breakdown:



Over 30 Years of Rugged HMI and Industrial Computer Manufacturing Experience

