

## TSP Panel Enclosure Kiosks

Rugged panel enclosure kiosk computer with NEMA protection for operator interface applications in industrial environments.

This rugged panel enclosure workstation is an ideal solution for process control and monitoring of industrial operations such as factory automation, oil refining, chemical processing, power generating plants, or work environments that require regular washdown of equipment with uninterrupted operation.



TSP standard in stainless steel or black powder coated aluminum. Custom colored powder coating available.



### Standard Features:





- Industrial-grade LED back-lit LCD
- Mounting configuration: pedestal, mounting tabs, and swing arm/swivel
- Construction/environmental design: fully sealed, NEMA 4X (IP66) 316 stainless steel or NEMA 4 (IP65) powder coated aluminum enclosure
- Hinged front enclosure door with quarter-turn cam locks
- Power input: 12 VDC, 9-36 VDC or 90-264 VAC internal power supply
- I/O connection type: sealed IP68 general purpose connectors
- Operating temperature: -20° to 60° C (Extreme Temperature Package available depending on size. Please inquire.)
- Relative humidity: ≤ 0% to ≤ 90%


- Altitude: 10,000 ft MSL
- 2-year warranty

### Computer Features:

- Embedded computer
- Solid-state components
- Available touchscreens: resistive, PCAP, and ArmorTouch
- Operating system: Windows 10 Professional 64-bit (standard)
- 2 × 10/100/1000 Mbps LAN

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

Size	Enclosure Dimensions	Brightness	Resolution	Touchscreen*	Viewing Angle	Contrast	Aspect Ratio	Power Consumption (Calculated at 12 V DC)	Approx. Weight** (Stainless Steel)	Approx. Weight** (Aluminum)
15"	24.5" × 18.78" × 9.01"	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	≈ 48 Lbs	≈ 33 Lbs
17"	24.5" × 18.78" × 9.01"	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	≈ 50 Lbs	≈ 35 Lbs
19"	24.5" × 18.78" × 9.01"	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	≈ 53 Lbs	≈ 38 Lbs
21.5" wide	24.5" × 18.78" × 9.01"	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	≈ 55 Lbs	≈ 40 Lbs

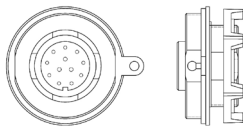
 Sunlight readable LCD

\*\* Weight may differ based on overall configuration

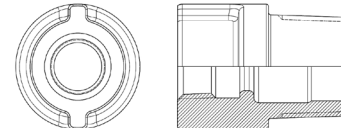
\* Res - resistive touch, PCAP - projective capacitive touch, and AT - ArmorTouch glass-on-film resistive touch

### Standard I/O Connectors: bottom or rear exit connectors

Sealed IP68: general purpose connector for ToughStation fully sealed series

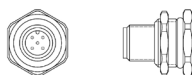


Sealing hub with gasket and locknut: used in our general purpose and hazardous area workstations

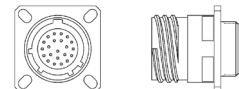


### Available Ruggedized I/O Connectors:

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



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



**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
C	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
D	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
E	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
F	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:**

- 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.
- Wide temperature LCD panel
- Harsh duty video controller board or motherboard/SSD/RAM
- Extreme temperature: -20° to 70°C (-4° to 158°F) available for select builds. Please inquire.

Environmental Functional Upgrade Packages available. See below.

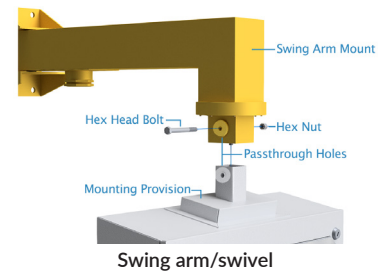
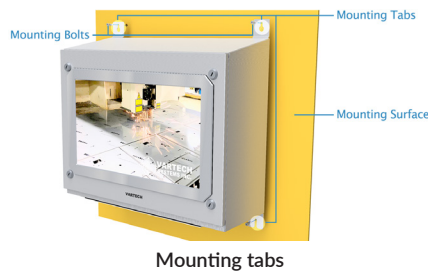
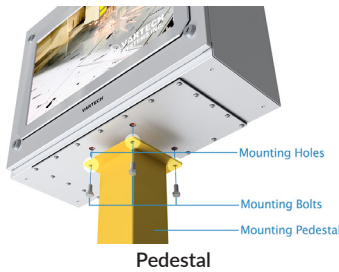
**Computer Options:**

- System memory: 4 GB to 32 GB (depending on the motherboard)
- 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)
- Additional and/or alternate I/O ports available: Please contact your sales representative

**Monitor Options:**

- Available touchscreens: resistive, PCAP, and ArmorTouch
  - Touchscreen interface: USB, or serial connections
- All available options are subject to mechanical design limitations. Please inquire.

**Mounting Option Examples:**

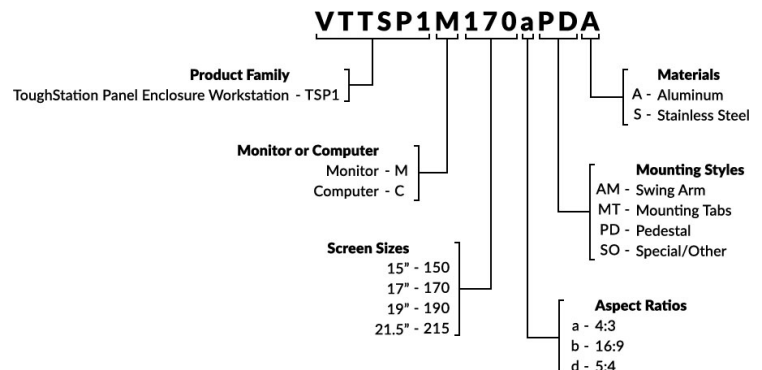


**Environmental Functional Upgrade Packages:**

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

High Bright Sunlight Readable Package	Extreme Temperature Package (-40° C to 70° C)	Vandal/Impact Resistant Package
<ul style="list-style-type: none"> <li>• High luminance LED backlights</li> <li>• Proprietary optical film stack</li> <li>• Optical bonding of protective window or touchscreen to LCD</li> <li>• Anti-reflective coatings</li> <li>• Brightness levels ranging from 700 nits to 1500 nits (depending on screen size)</li> <li>• Dimming: Manual dimmer dial – 1000:1 dimming ratio, or auto-dimming</li> <li>• Optional: backlight kill switch</li> </ul>	<ul style="list-style-type: none"> <li>• Integrated heater and thermostat</li> <li>• Wide temperature LCD panel</li> <li>• Harsh environment video controller board or motherboard/SSD/RAM</li> <li>• Optional: heat-reflective powder coat</li> <li>• Optional: uninterrupted wide temperature dual Power Supply Unit (PSU) system</li> </ul>	<ul style="list-style-type: none"> <li>• Impact resistant protective overlay glass</li> <li>• 8H abrasion-resistant overlay glass</li> <li>• Chemical and stain resistant glass and surfaces</li> <li>• Tamper-proof conduit connectors</li> <li>• Optional: PCAP touchscreen</li> </ul>

**ToughStation Workstation Core Model Number Breakdown:**



**Over 30 Years of Rugged HMI and Industrial Computer Manufacturing Experience**

