17" Sunlight Readable Industrial Grade NEMA 4 (IP65) Panel Mount LCD Monitor

SUNLIGHT READABLE MONITOR

Model AS170P4HB2

Model AS170P4HB2 is a true Daylight Readable (even in direct sunlight) high-quality industrial LCD system offering NEMA 4 (IP65) level protection at the front bezel. The product boasts a 17" display size with 1280 x 1024 pixels, 1200 nits brightness (long-life LED backlight) and 700:1 contrast ratio. This industrial grade Sunlight Readable NEMA 4 IP65 LCD TFT monitor is designed for use throughout a wide range of harsh outdoor applications.

These rugged LCD displays are rigorously tested to ensure compliance with various industry standards and are engineered to withstand the effects of severe environments such as water, dust and dirt intrusion. These products perform well beyond ordinary ‘commercial’ type monitors. AbraxSys' high bright Sunlight Readable LCDs are ideal for use in any high ambient light condition, and will give you the intensity and brilliance your application requires.

PRODUCT SPECIFICATIONS

Display Size	17"
Display Type	Active Matrix TFT LCD
Backlight Technology	Solid State, Long-Life LED
Brightness	1200 nits (cd/m2)
Optical Bonding	Optical Bonding of Front Protective Glass or Touch Screen Window
Optical Films Enhancements	Boosts efficiency of the backlight's light utilization and minimizes the surface reflection of ambient light.

	The result is a transmissive enhancement that features higher contrast and a wider range of colors, even in bright outdoor light, than traditional reflective LCDs.
Backlight	Long-Life LED
Contrast Ratio	1000:1
Response Time	15/10 ms (Typical)
Video Input Signal	Video: Analog 0.7V p-p/75 Ω | Sync: Separate H&V, Combined, SOG
Aspect Ratio	4:3
Resolution (Max)	1280 x 1024 (SXGA) Native
Colors Supported	16.7 million
Dot Size	0.264
Viewing Angles	70° up 70° down, 80° left 80° right
Video Inputs	1x DVI & 1x HD15 (VGA) Optional S-Video & Composite available
User Controls	Front Keypad (can also be configured for rear controls, or Manual Full-Range Dimming Turn Pot, Automatic Dimming Sensor, or Remote Dimming)
Scaling	Scaling to full screen in all video modes
Protective Window	3mm Anti-Glare Optional Anti-Reflective (optional Touch Screen Technologies)
Power Source	90-264 VAC Auto Switching @ 50/60 Hz (Internal) [370 VDC] / 9-34 VDC [60 Watt]

PHYSICAL ATTRIBUTES

Front Bezel	6061 Grade Aluminum, Zinc-Chromate Dipped, Corrosion Resistant Thermoset Black Powder-Coating
Rear Enclosure	6061 Grade Aluminum, Zinc-Chromate Dipped, Corrosion Resistant Thermoset Black Powder-Coating
Overall Dimensions	15.88 x 13.34 x 2.08 in (403.4 x 338.8 x 52.8 mm)
Cutout	13.56” (344.4 mm) x 16.56” (420.6 mm)
Weight	18 lbs. (8.1 Kg)
Sealability	NEMA 4 (IP65)
Warranty Period	3 Years

ENVRIONMENTAL

Sunlight Readability	The latest optical technology for high ambient light conditions
Efficiency	Energy Efficient, Low Power Consumption
Design	High Environmental Performance and Reliability

Operating Temperature Range	0° to 50°C (32°F to 122°F) Extended Operational Temperature Ranges Available (down to -40C up to +70C)
Storage Temperature	-20° to 60° (-4°F to 140°F)
Fasteners	Vibration-proof, self-locking, fastener system which will not loosen regardless of seat torque. Designed to help make products safer, lower warranty costs and prolong equipment life by eliminating vibration; increased safety, reliability, operating life and reduced maintenance.
Humidity	5% to 95% RH (non-condensing)
Altitude	Operating 0 to 10,000 ft. / Storage 0 to 40,000 ft.
Shock	30g's, 11ms, ½ Sine
Vibration	1g RMS 20-500Hz
EMI	FCC Class A
Agency Compliance	CE
RoHS Compliant	Yes
Power Consumption	Configuration Dependent
Rating	NEMA 4 - IP65 / IP56

AVAILABLE ADD-ON OPTIONS

Touch Screen Technology | NEMA 4 - IP65 (USB or Serial): Links to the various touch technologies: Resistive Infrared Surface Capacitive Projected Capacitive (PCAP) - Multi-Touch Circularly Polarized Resistive Hardened Armored Touch Technology
Video Inputs: VGA (HD15) & DVI - standard; Optional Composite and S-Video, Optional HDMI Adapter
Dimming Capabilities: User Keypad (standard); Optional: Manual Full-Range, Automatic Dimming, or Remote Dimming
Custom Video Modes
NEMA 4X (IP66) Stainless Steel Front Bezel
Extended Operational Temperature Ranges (down to -40C up to +70C)
Optical Bonding
Power: 24VDC, 9-36 VDC, or AC
Conformal Coating of all Internal Circuit Boards
Private Labeling Services
Customization Services

17” Sunlight Readable High Brightness NEMA 4 IP65 Panel Mount LCD Flat Panel Display

WHAT MAKES A DISPLAY RUGGED?
What exactly is a rugged display? How do you ruggedize your products? How are your displays different than a consumer display? These are questions that often arise when we are talking to potential customers so we thought that we would take the time to address them in this article. There are several key design features that distinguish a rugged display from a similar consumer monitor. Make sure you consider these before purchasing a rugged monitor:

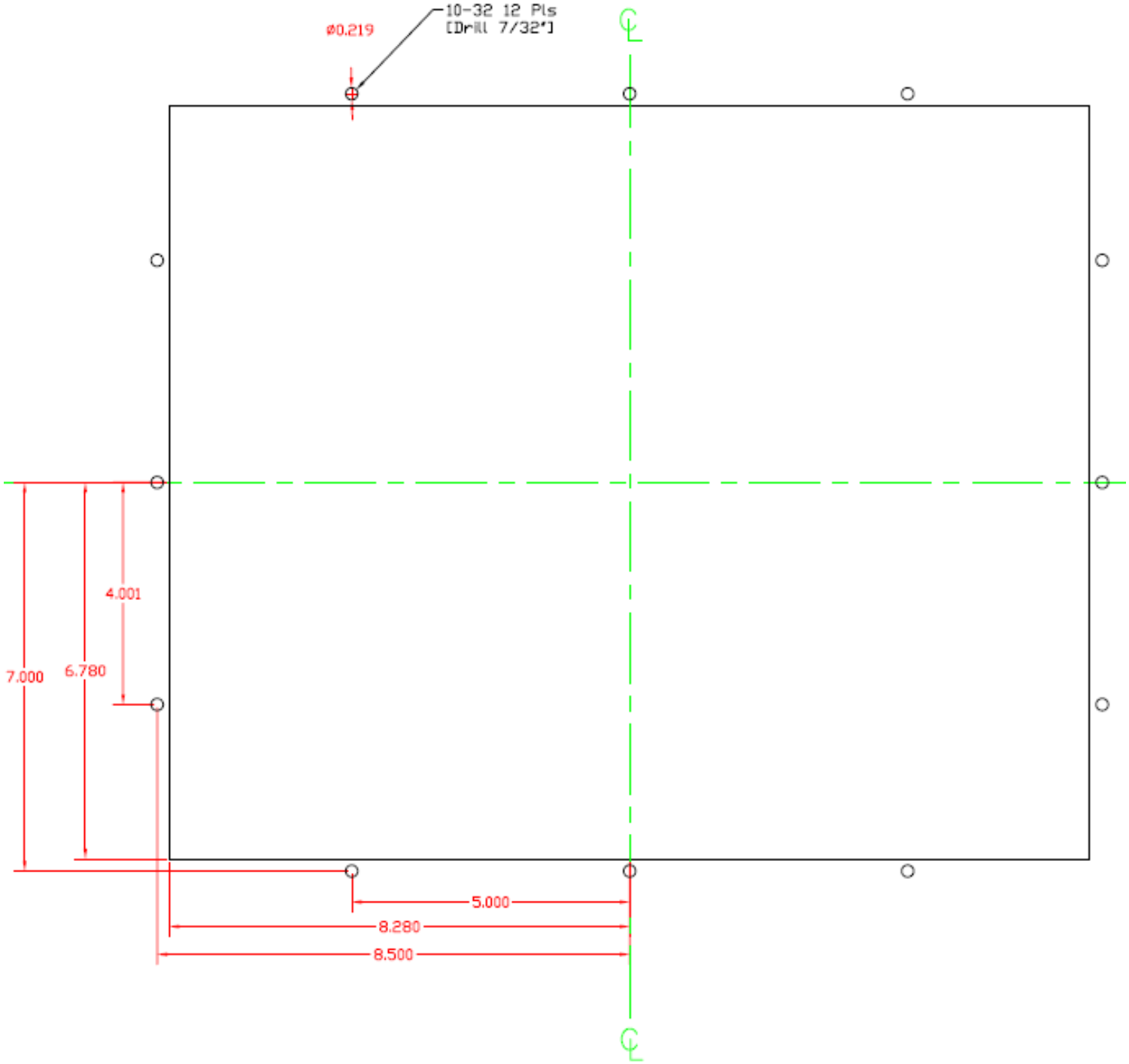
Metal Enclosure:
Most consumer displays are enclosed in plastic. Plastic is typically not a suitable material for use in a rugged product because it cracks under heavy vibration or shock and has a relatively low melting point compared to metal. It’s also more challenging to minimize electro-magnetic interference (EMI) when using a plastic enclosure. As a result, most rugged monitors are housed in a lightweight aluminum enclosure.

Corrosion & Scratch Resistance:
Most rugged products are housed in a metal enclosure so it’s important to coat or seal the metal with a finish that it is scratch and corrosion resistant. This is typically done with power coating or anodizing. All of AbraxSys' displays are treated with an industrial grade, high-thermal set powder coating finish. The coating is typically applied electrostatically and is then cured under heat to allow it to flow and form a "skin". It is usually used to create a hard finish that is tougher than conventional paint. There are several advantages of powder coating over conventional liquid coatings: (1) Powder coatings emit zero or near zero volatile organic compounds (VOC), (2) Powder coatings can produce much thicker coatings than conventional liquid coatings without running or sagging, (3) Powder coating overspray can be recycled and thus it is possible to achieve nearly 100% use of the coating, (4) Powder coating production lines produce less hazardous waste than conventional liquid coatings.

Industrial Components and Conformal Coating:
A circuit board won’t survive an in extreme environment unless it’s designed with components that can handle the wide operating temperature that the product may be exposed to. Additionally, certain components and connectors may need to be attached to the board using through-hole components instead of surface mount so that they don’t detach from the board in high vibration or shock conditions. All of the components on the circuit boards should be covered with a layer of transparent conformal coating to protect the components against moisture, dust, and external chemicals.

Optically Bonded Glass with Anti-Reflective Coating:
When sunlight readability is important or when changing temperatures are commonplace throughout the environment or additional protection is needed at the front LCD window, most consumer displays are not viewable in direct sunlight since they aren’t normally used outdoors. Rugged displays are typically used in outdoor environments so they must be designed to be sunlight readable. This is done by attaching a piece of glass to the front of the display that has been covered with a special coating to minimize reflection. Such coatings will typically reduce the glare and reflection on the glass by 95%. This glass also protects the LCD from the elements and increases the contrast of the display.

Options:
Many traditional displays (both consumer and rugged) are designed and offered in a manner which limits the amount of add-on features are available. AbraxSys realizes that each customer's application is unique and as such has engineered its products to be very versatile and configurable. A multitude of various optional features are available for ALL of its products without the need to totally customize from scratch each and every model for each and every environment.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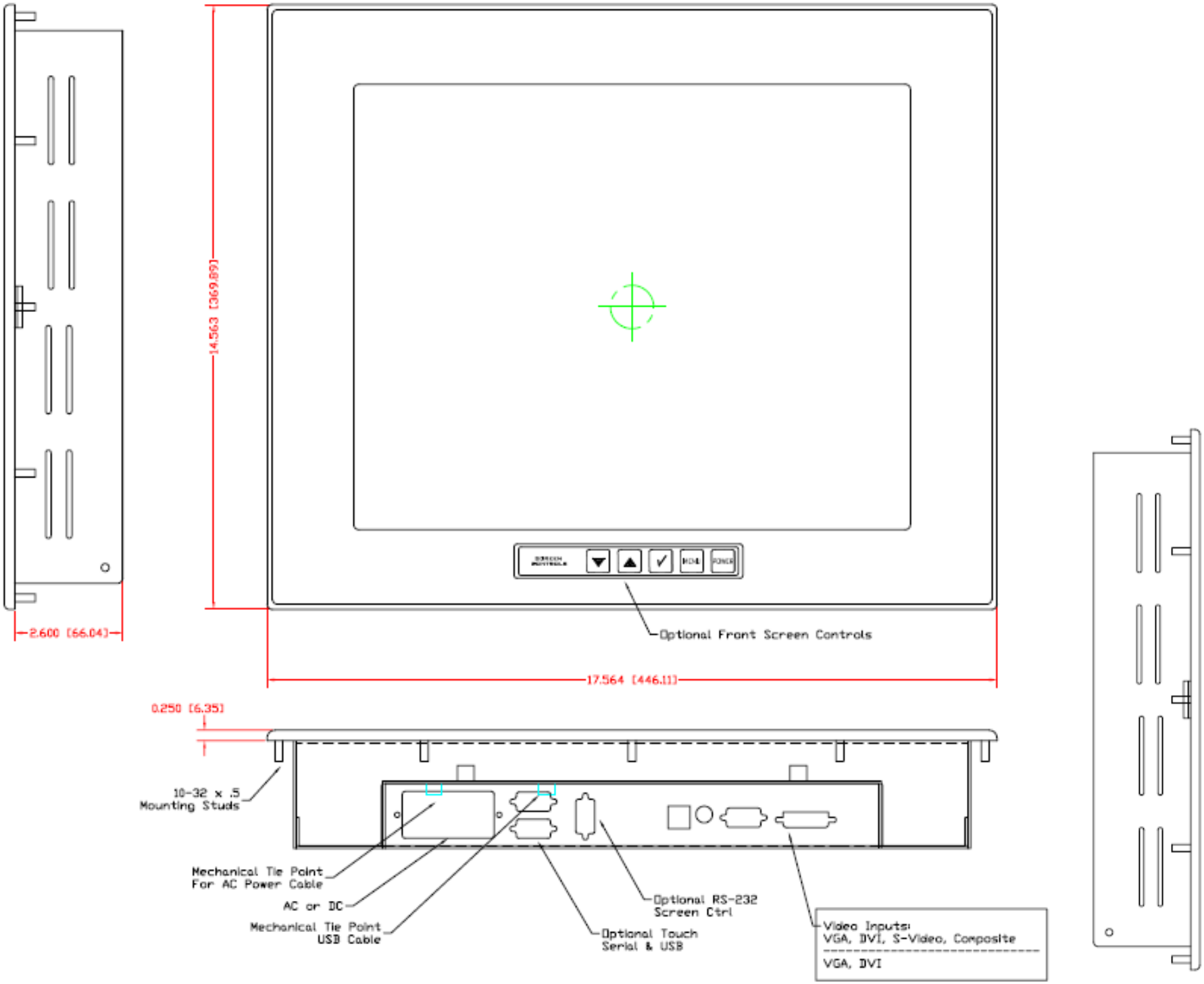
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0.250 [6.35]
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Mounting Studs
Mechanical Tie Point
For AC Power Cable
AC or DC
Mechanical Tie Point
USB Cable
Optional Touch
Serial & USB
Optional RS-232
Screen Ctrl
Video Inputs:
VGA, DVI, S-Video, Composite
VGA, DVI

Quality. Reliability. Rugged Technology. Innovativeness. Customer Oriented. AbraxSys.

2013 INNOVATION AWARDS

Quality. Reliability. Rugged Technology. Innovativeness. Customer Oriented. AbraxSys.

The company is a worldwide leader of Industrial, Rail type, Military grade, and Marine type LCD Flat Panel Displays, Panel PC, Sunlight & Daylight Readable Technology, Fully-Enclosed Touch Screen Computers and Workstations. With two facilities in North America and a number of valued distribution centers strategically situated throughout the globe, AbraxSys supports its customers with not only innovative and high-quality productions, but as well unparalleled customer support. The company offers the industry's best and most comprehensive three-year warranty on the majority of our products. We're as passionate about building Abraxsys products as our customer are about using with them. We innovate. We over-engineer. And then we use high-grade, heavy-duty materials to create the most powerful products available. At AbraxSys, it's more than just quality on the line. It's our pride.

AbraxSys supports systems designed to survive the harshest real-world environments including:

• Extended operational temperature needs
• Direct wash-down Excessive vibration and shock
• 24 hours, 7 days per week, 365 days per year usage
• Extended humidity Excessive touch interface
• High solar load Image washout due to high ambient lighting conditions
• Electromagnetic and environmental effects
• Full-Range Dimming
• Vandal situations

Product Capabilities
AbraxSys provides a diverse range of products to a vast array of vertical markets.

• NEMA 4 (IP65) & NEMA 4X (IP66) rated LCD Flat Panel Displays
• IP67 Rated All-Weather All-Terrain LCD Monitors
• NEMA 4 (IP65) & NEMA 4X (IP66) Panel PCs
• Fully-Enclosed LCD Touch Screen Computers
• Rugged Marine Grade LCD Display Systems
• Hardened designed Military Flat Panels
• Touch Screen Monitors (Resistive, Capacitive, Infrared, Projected Capacitive)

- High Brightness Sunlight & Daylight Readable LCDs & Computers
- Small Form-Factor (SFF) Computers
- Low & High Level Temperature Qualified Products
- Sealed products to combat steam, waterjet cleaning, 100% humidity with condensation, saltwater &/or particle contamination, etc.
- Industrial Grade Workstations
- Specialty Process Controls Flat Panels
- Legacy Video Format LCD Systems
- CRT to LCD Conversion Models
- Commercial Off the Shelf (COTS) Products
- Hazardous Area (Class 1 Division 1 and Div 2, ATEX, Zone 1 and Zone 2)
- Optically Bonded (ABOND) Products
- Custom Designed & Configured Products
- Rugged Mounting Arms and Brackets

Rugged technology, when the ordinary just won't do.

CUSTOMER First GUARANTEE

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