Wincomm Corporation

Smart City for Outdoor & Semi-outdoor Solutions

With sunlight readable, smart thermal management, light control, anti-water condensation, full IP sealed and anti-acid corrosion products, ideal to any type of rugged semi-outdoor or outdoor environment.

With a focus on unique thermal solutions, Wincomm introduces the advanced technologies on HMI controller touch panel PC solutions designed toward outdoor to semi-outdoor environment requirement, size ranging from 10" to 21.5" to enlarge the use at rugged IIoT solutions. Designed for applications of rapid changed outdoor environment, Wincomm comes up with sunlight readable, smart thermal management, light control, anti-water condensation, water-proof, dust-proof and anti-acid corrosion products, making it ideals to any type of rugged semi-outdoor or outdoor environment.

Fig 1. Wincomm wide temp high brightness panel PC series are design for outdoor & semi-outdoor environment applications.

Medical Grade Series ◦ Industrial e-Platform Series ◦ Full IP Series ◦ Explosion Proof Series

There are three types of product series are designed to fulfill different outdoor and semi-outdoor environment requirement, such as industrial grade wide temp and high brightness touch panel PC WLP-H series, IP66/67/69K stainless steel touch panel PC full IP wide temp WTP-W series, and full IP wide temp high brightness touch panel PC WTP-O series.   All these above product series,

Housing	Wide Temp -20°C~65°C	High Brightness 1000 nits	IP	Product Model	Intel® CPU	RAM	HDD/SSD	Display	Touch	Certification	Power Input	Sunlight Readable
Front Bazel is Aluminum, others are SECC	V	V	Front IP66	WLP-7B20-10H	E3845	8G		10"	Full Flat Res.	CE, FCC, VCCI class B	DC 7~32V	By Request
	V	V		WLP-7B20-15H				15"				
	V	V		WLP-7D20-15H	Broadwell	16G		15"				
	V	V		WLP-7D20-19H				19"				
	V	V		WTP-8B66-15O				15"	Full Flat P-cap.			Default
Stainless Steel Enclosure	V	V	IP66/69K	WTP-8B66-10W	E3845	8G	128 SSD	10"	Full Flat Res.		DC 9~36V	By Request
	V	V		WTP-8B66-15W				15"				
	V	V		WTP-8B66-19W				19"				
	V	V		WTP-9C66-15W	Broadwell	16G		15"			DC 7~32V	
	V	V		WTP-9C66-19W				19"				
	V	V		WTP-9E66-15W	Skylake / Kaby Lake	32G		15"				
	V	V		WTP-9E66-19W				19"				

Fig 2. Wincomm wide-temp high brightness series provide a wide range of products from metal to stainless steel enclosure for different requirement to best suitable for rugged outdoor applications.

Sunlight Readable with Optical Bonding to Enhance Image Clarity

Under direct sunlight, there will comes with many troubles from physical phenomenon of light, such as light reflection. To provide the best visual experience, Wincomm provides high brightness, up to 1000 nits, panel with high contrast ration to make images clarity under sunlight, and either 5-wire resistive single touch or P-cap multi-touch for different applications.   Featuring at optical bonding technology, a dedicate technology to eliminate all the possible seams and air between layers to help light fully pass through the glass and avoid the ghost image caused by light fraction, this semi-outdoor versus outdoor series are designed to leverage not only optical boding, anti-reflective, and anti-glare treatment to help with visibility at different viewing angles, but also anti-UV design to keep touch screen & LCD from sunlight damage.   Moreover, the whole panel PC could be verified under solar radiation test which uses xenon light to simulate solar energy to proof its performance and quality.

Fig 3. With optical bonding, the pictures quality under sunlight could increase the visual clarity obviously.
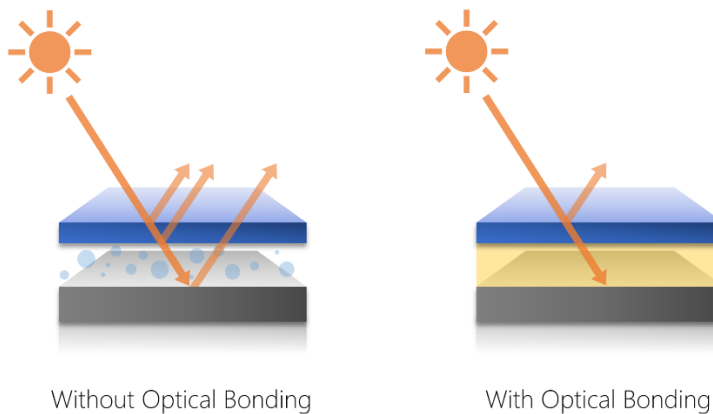
Medical Grade Series ◦ Industrial e-Platform Series ◦ Full IP Series ◦ Explosion Proof Series

Without Optical Bonding   With Optical Bonding

Fig 4. With anti-UV light touch screen, the pictures quality under sunlight could provide much better experience and avoid sunlight damage.

Smart Thermal Solution w/IP66/69K Enclose in Rugged Environment

Under extreme climate changes environment and rapid temperature changes, Wincomm RD team have designed the motherboard to be able to operate normally in an extensive outdoor temperature range, from -20℃ to 60 ℃. For higher temperature locations, it is used an exclusive cooling technology called i-Cooling Smart Thermal Control, which uses the BIOS to control the core speed and to prevent the CPU from overheating. For low temperature environments, the motherboard's preheating circuit ensures for a circuit warm-up and system start-up. Users do not have to worry about motherboard components failure caused by low temperatures. The peripheral components of this system such as the LCD, touch, RAM, SSD, and HDD are all rigorously selected for their wide temperature range designs and capabilities. This out-door to semi-outdoor series are assured to operate 24/7/365 in either outdoor or semi-outdoor environments low temperatures down to -20℃ and direct or indirect sunshine high-temperature environment.

To be designed specifically for outdoor applications, such as outdoor information stations, vending machines, parking meters, outdoor ordering system, desert solar power stations and other automation equipment, it is provided with full sealed enclosures, a waterproof design which would save the cost for users to attach on another shell to cover the computer. The IP66/IP69K waterproof and dustproof specifications mean it can withstand high water spray pressure and dust spreading. Capable to pass IP67 rating, it means that Wincomm team could provide the product that is able to withstand being submerged in 1 meter deep water for up to 30 minutes. In quality assurance, for Wincomm's Full IP66/IP69K/IP67 stainless panel PC series, each individual machine has been through Wincomm's rigorous testing procedures to ensure that the WTP series models are waterproof and dustproof to the certified IP66/69K/67 rating.

Light Control to Dynamic Dimming for Day-Night Running

Due to high brightness LCD is too bright at night and wastes energy, it is designed with brightness automatically control timely by a light sensor to detect the ambient light, and thus makes LCD picture readiness quality during day-night with better cost saving.

Smart Ventilation to Prevent Water Condensation

It is equipped with strategically placed ventilation holes to prevent screen condensation from wide outside temperature fluctuations in outdoor environments. In long time direct sunlight, it will not produce screen albino.

COM and Power Port Available

In this series, it is supported with wide-voltage input to secure system from power instability, from 7 to 32 volts. Besides, end user may use a COM interface device, such as barcode scanner, which needs COM plus DC power from PC via single cable to operate. The way COM cable works is that a serial connection does not use all its pins in the interface with a COM cable. Therefore, Wincomm customizes the mother board with a 5V or 12V power supply in COM port.

Fig 5 Leverage COM port to provide power support to any type or mobile device in various power voltage input.

Flexible Options and Customization Capability

The wide-temp, high brightness series equipped with various I.O. ports, USB up to 4 (Optional USB 3.0), COM x 2, LAN x 1, and optional External LAN x 2 (occupied one COM port). Toward IIoT trend, Wincomm offered optional add-on parts to support more workplace application, such as customized 2nd HDD for RAID 0,1, sunlight readable optical bonding (Impact protection level: IK08), waterproof cable gland, speaker, and so on.

FCC, CE (EMC), VCCI Class B certification standards

The wide temp high brightness series has passed FCC, CE (EMC), VCCI Class B certification standards, which results in an upgraded product for industrial, to home, to office, and laboratory usage. It secures users to have a higher protection level in their health and safety while using our products.
without any data loss, and maintain IP66/69K design to fulfill versatile harsh

environment requirement.

More design features, such as to keep data safe, the 2nd HDD bay can be integrated for preventing data loss if the master HDD crashed, and downward external IO to minimized installation space requirement with wall mount, table mount stand availability.

Application Case

In this case, it is an outdoor kiosk and which is required sunlight readable, wide temp around -20~65°C operation capability, IP66 proof front side, panel mount and it has been approved by EMC class B. After competing within other products, it has been selected to install based on its excellent thermal management design and light control auto dimming to save energy versus cost.

In this case, the fire engine is required to be water proof, dust proof and anti-corrosion with strong M12 metal connector to secure the operation safety. Besides, it has passed EMC class B, which is friendly to human health in near distance operation and thus well protected the fireman under emergency rescue.

If you have any product or customization requirements, please contact Wincomm sales (mail: sales_support@wincomm.com.tw). For more product information, please visit the Wincomm website at http://www.wincomm.com.tw/

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