

## Universal rugged All-in One Panel PC solution with Panel or VESA mounting capability

### General Description

The silent, space saving PANEL21 is specifically designed as front-end interface for rugged, secure sensitive environments where reliability and quality are major issues. The PANEL21 complements the rugged embedded "All-in-One" Panel-PC Family from MPL. The Panel PC solution is compact and easy-to-integrate in new or existing environments. The "All-in-One" Panel PC product range is specifically designed and built for none standard environments to sustain most sever ambients. This combines a 21.5" display with excellent optical specifications, an optional touch screen and a complete range of embedded MPL designed low power CPU based single board computer from single-core Atom up to i7 quad-core.

### PANEL21 Highlights

The front of the Panel21 is IP65 protected and comes with a stainless steel front. On the back side, interfaces of your choice will be available. Like all other MPL products, the PANEL21 requires no fan, is rugged, extremely flexible, therefore expandable for basically all customer needs and applications.

#### Key features are:

- Space saving, integrated, All-in-One solution
- Silent, fanless design
- IP65 protected (front)
- Stainless steel front panel
- Panel or VESA mounting
- Wide choice of processor (Intel Atom to i7)
- Optionally easy operation, navigation over touch screen
- Choice of various operating systems

The robust and front IP65 protected PANEL21 is the perfect solution as man machine/front-end interface for harsh applications like in transportation, maritime or mining and cement industry. Further as a space saving, fanless and noiseless system, the PANEL21 is the ideal solution for cabinet applications in telecommunication, kiosk information systems and Internet access points.

All MPL products are fanless, shock and vibration proof, low power, rugged, and long-term available. The perfect solution for a system to be used in rugged environments.



PANEL21 Solution used in Maritime Environment



PANEL21 Solution used in Industrial Environment



PANEL21 Solution used in Railway Application



All MPL products are 100% designed and manufactured in Switzerland.

MPL AG is an ISO9001 certified company

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## Technical Features

### CPU Boards / Motherboards

Use of our reliable, long-term available Embedded Computer Boards out of the PIP and CEC product range. All boards are well equipped and offer the standard interfaces on board.

CPU	PIP30 Family up to Intel i7 or CEC10 Family up to Atom quad-core
Memory	Up to 16GB possible ( depending on the CPU board)
Storage	Wide selection of HDD or solid-state flash drive available
I/Os	depending on the selected CPU board
Expansion	Specific interfaces like (Bluetooth, GPS, Fieldbus, LTE,...) are available on request Based on your needs, we can integrate even your custom boards

### LCD Characteristics

We are not aligned to a certain display type, therefore please ask us in case you have specific needs. The below given values are from our used standard high quality 21.5" LCD.

Display Size	21.5" TFT LCD
Resolution	HD resolution (1920x1080 pixels)
Color Depth	16.7M
Brightness	400 nits
Contrast Ratio	1000:1
Viewing Angle	horizontal 170° / vertical 160°
Backlight lifetime	40'000 hrs

### Touch Screen (Optional)

Type	Analog touch screen
Surface	Hard coating, anti-glare treatment

### Housing Characteristics

Front Panel	Stainless steel
Mounting Options	Panel or VESA mounting
Protection Class	IP65/NEMA4 compliant front bezel

### Power

Power Supply	11-32 VDC input, any other supply voltage ( 48VDC, 110VDC..) is possible too
Power Consumption	Display & Inverter typ. 30W, please add CPU board power consumption according data sheet

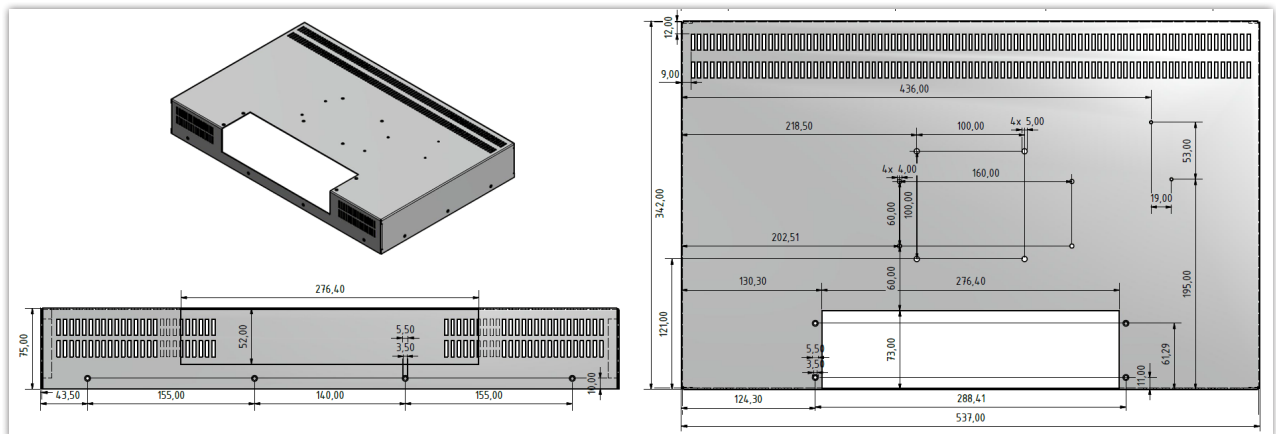
### Environment

Operating Temperature	0°C up to +50°C (32°F to +122°F)
Storage Temperature	-20°C up to +60°C (-4°F to +140°F)
Relative Humidity	10% to 90% non condensing

### Standard Compliance

The PANEL21 is designed to meet or exceed the most common standards. Particular references are:

EMC	EN 55022, EN 55024, EN 61000, MIL-STD-461E
Shock & Vibration	EN 60068
Environmental & Safety	EN 50155, MIL-STD-810-F, EN 60601, EN 60950
Approval List	CE, IEC 60945, IACS E10



MPL AG is an ISO9001 certified company