# USER MANUAL

POS-Line High Brightness Series



POS-Line monitors high brightness

54.7 cm (21.5") and 80 cm (31.5")

**FORTEC**
**INTEGRATED**

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## Table of Contents

# 1. General Specifications

## Scope of Document

This user manual is valid for all POS-Line high bright monitors with a diagonal of 54.7 cm (21.5") and 80.0 cm (31.5"). POS-Line high bright monitors are offered in different screen sizes and with various controllers and other options.

Important note: This user manual is complemented by other additional documents when indicated.

All documents are also available for download from Data Display Group web site: www.fortec-integrated. de/en/service/downloads/monitor-downloads/.

## POS-Line high bright monitor versions 21.5":

POS-Line High Bright Video PMEII:     Monitor with integrated AD converter board, 1 x RGB, 1 x HDMI,

1 x Display Port.

## POS-Line high bright monitor versions:

POS-Line High Bright Video PMEII:     Monitor with integrated AD converter board, 1 x RGB, 1 x HDMI,

1 x Display Port.

POS-Line High Bright VideoPoster:     Monitor with integrated network media player for video play lists
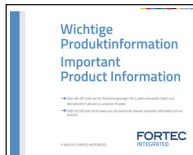
POS-Line High Bright IoT:     Monitor with integrated Raspberry® Pi CM3+ ARM Modul

## 2.    Scope of Delivery

When unpacking the monitor, please check if the following accessories are included in the shipment:

⚠️   Note: Pictures can differ from actually supplied products.



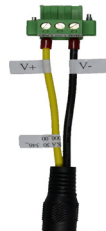☐  Product information      ☐  HDMI cable[3]    ☐ Power cable[1]    ☐ USB stick [2]



☐  USB cable[4]      ☐  Adapter for Power cable[4]    ☐  Remote control[3]



☐ ALS sensor[4]      ☐  Cable for ALS[4]

1    Cable may vary depending on country, not included with 21,5 monitor

2     for monitors of VideoPoster series only

3     for monitors of PME series only

4    for HB monitors 21,5 only

## 3.    General Safety Regulations

### Safety information

Please read this safety information carefully for your personal safety and for the prevention of property damage.

In case of a malfunction immediately disconnect the power plug and contact your dealer or the next Data Display Group service center. A malfunction is also considered if the housing, a control element or cable is damaged or if liquids or other objects penetrate the monitor.

Please read the safety information carefully before intalling devices. If you have any doubts about whether the device may be used in a particular environment, please contact our service partner.

### Repairs

Repairs may only be carried out by authorized technical personnel. Unauthorized access or improper repairs might cause serious property damage or cause danger to the user. In addition to that, any legitimate warranty claim expires.

### Electrical connection

Disconnect the monitor from mains before carrying out any work. Do not touch or connect data cables or power cables during thunderstorms.

### System start-up

Before system start-up slowly adjust the monitor temperature to the ambient temperature. Do not expose device to direct heat radiation. In case of condensation, please wait minimum 12 hours before setting the monitor into operation. The monitor may only be installed and operated as described in this documentation or the corresponding data sheets. Only qualified personnel may carry out the initial installation and system start -up.

### Qualified personnel

Qualified personnel, in terms of the safety information of this documentation, are persons who are qualified to activate, ground and label devices, systems and circuits according to the safety standards.

### Operation

For a trouble-free and safe operation of the product, adequate transportation, storage, installation and assembly as well as careful handling and maintenance are essential. The device is only certified for in-door operation. Avoid extreme ambient conditions. Protect the monitor from dust, humidity and heat. Do not expose the monitor to direct sunlight.

### Transport

Unpack the monitor at place of installation. Use only original packaging for transportation. Please observe these rules for any later transport.

### Condensation

Avoid condensation during transport at low temperatures or at extreme fluctuations of temperature.

## Safety guidelines for the handling of LCD monitors

→ If the device is not in use over a longer period of time, unplug the power cable.

→ To unplug the device without problems, sockets have to be easily accessible.

→ Do not unplug the power cable while the device is powerd on, except for emergencies.

→ Ensure that the power cable does not get pinched or kinked.

→ Do not place heavy objects on the power cable.
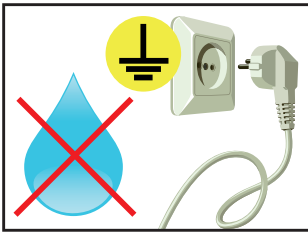
→ Do not use damaged or loose sockets to plug in the device.

→ Plug the device in earthed sockets only.

→ Operate the device with our power cables included in the delivery only.

→ Use undamaged power cables only.

→ When plugging in and out, do not touch the power cable with wet hands.

→ Ensure that the power cable is plugged in the socket safely and correctly.
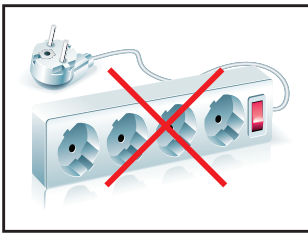
→ Do not use multiple sockets to plug several devices into a single socket.

→ According to size, devices may be difficult to handle and very heavy. Ensure that at least two people lift and carry the device.

→ Put down the device slowly and carefully to avoid damaging the LCD screen. Ensure that the device stands stable.

→ Keep packaging away from children. Danger of suffocation!

→ Use our specified and professionally mounted wall mounting only.

→ Do not put objects onto the device.

→ Do not place candles, heaters or humidifier near the device.

→ Keep the device away from fireplaces and flammable materials.
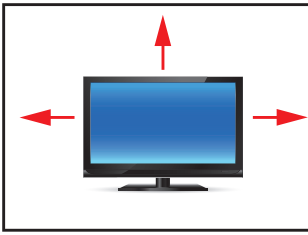
→ Ensure sufficient ventilation of the device.

→ Keep a minimum distance of at least 10 mm devices to the wall, for devices with integrated PC of at least 40 mm.

→ Pay attention to the compliance with the operating temperature.
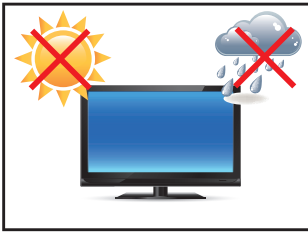
→ Do not install the device in places where it is exposed to environmental impacts such as rain or direct sunlight.

→ Do not install the device in places where it is exposed to high humidity, dust or smoke. In case of doubt, please contact your sales partner.

→ Please use a soft, moist cloth for cleaning.

→ For cleaning the screen, please only use commercially available screen cleaner. Do not spray the cleaner onto the device directly but onto a cloth.

→ Please clean ventilation slots regularly to ensure a good air circulation.
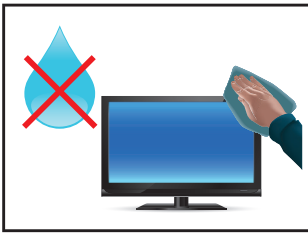
→ Protect your device from splash water.

→ When cleaning, please make sure that no liquids get into the device.

→ Screens and surfaces can be scratched easily. Therefore, please use the prescribed cloth only.

→ Caution high voltage! Never open the device yourself.

→ In case of unusual noises, burnt smell or smoke unplug the power cable.

→ Do not insert objects into the device through the ventilation slots.

→ If the same picture is displayed over a longer period of time, an after-image may arise.

→ When exchanging batteries of remote control, pay attention to the polarity. Keep batteries away from children and ensure an environmentally correct disposal.

# 4.    First Installation

## Position of connectors and controls

All the connectors for power and cables are located at the bottom of the back side of the display. The OSD keyboard is located at the top of the back side.
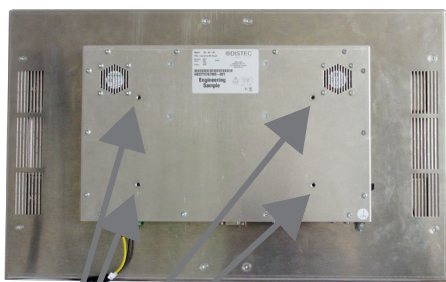


Position of the OSD keyboard

Position of the connector for ambient light sensor
Position of the connectors for power and signal cables

## Mounting with VESA compliant monitor brackets



VESA- mounting points

The POS Line monitor has an integrated VESA mounting.
The operating position of the device is perpendicular (90 degrees to the floor). For wall mounting, the permissible tilt angle is observed.
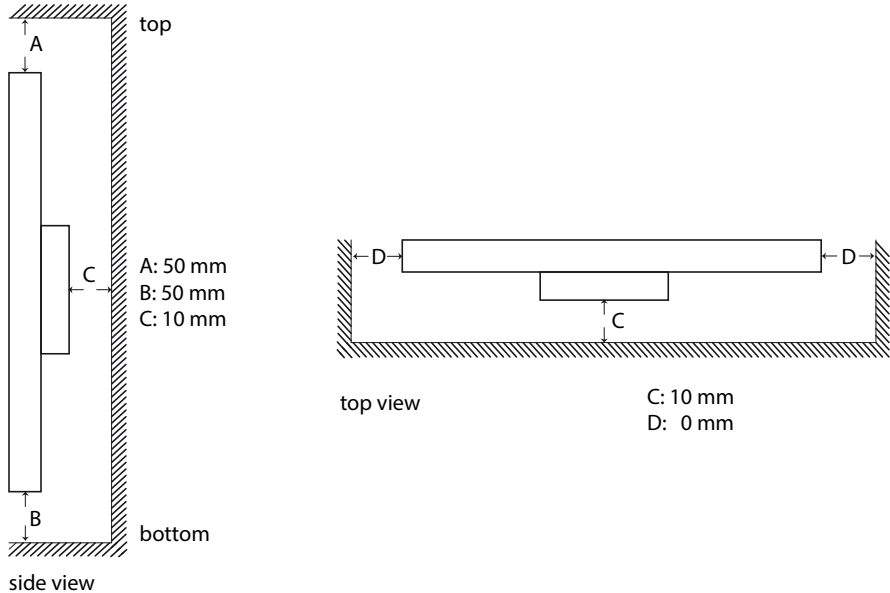The device can be operated only in landscape mode.

VESA formats:
VESA 200x100 POS Line

## Mounting on wall

### Distance to wall:

→ device without integrated PC: min. 10 mm



```
        top
    A

              A: 50 mm
    C         B: 50 mm
              C: 10 mm


        bottom
  side view
```

```
 D→            ←D
         C
  top view        C: 10 mm
                  D:  0 mm
```
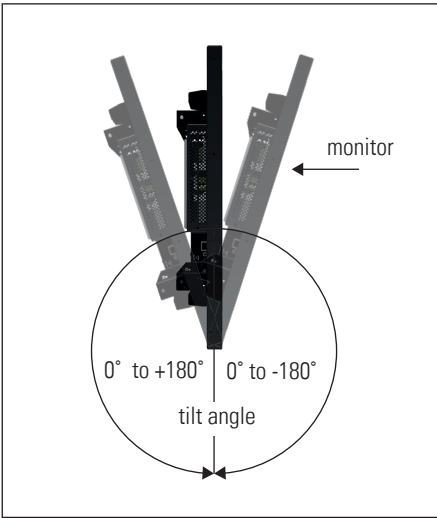
⚠ **ATTENTION:**

When installing the monitor, especially when installing it on the front, make sure that the device is installed tension-free and tension-free, as otherwise parts of the monitor, such as the panel, glass or touch panel, could be damaged.

⚠ **Allowed tilt angle for mounting**

The monitor may be mounted only with a tilt angle of 0° - +180°:



monitor

0° to +180°  0° to -180°

tilt angle

## Connecting to Power

⚠️ Note: POS-Line HB monitor can be supplied with a suitable power supply from our accessories store. Please observe the notes in the section "Connecting to an existing power supply".

Depending on controller and on ordered options, POS-Line monitors have different power requirements. The following table lists all the POS-Line versions and their operating power:

| Monitor Version | Operating Power | | | Power Supply Included |
|---|---|---|---|---|
| | min. | typ. | max. | |
| POS-Line High Bright monitor 21.5 | 21.6 V DC | 24 V DC | 26.4 V DC | No |

| Display | Input voltage | Output voltage | Output current | Power |
|---|---|---|---|---|
| Power supply für POS-Line PME High Bright 21.5 | 100-240 V AC | 24V DC | 3 A | 60 Watts |

The power is connected to the display via the green female connector at the back side.

Female connector: Phoenix Contact DFK-MSTB-2,5 / 3-GF
Male plug:          Phoenix Contact MSTB 2,5 / 3-STF

## Connecting to power with optional power supply

⚠️ Note: Connect the data cables to external devices before plugging the display to the power.

An adapter cable to connect the optional AC power adapter is included to all monitors in the package.

→ Connect the adapter cable to the display.

→ Connect the adapter cable to the 24 V connector of the power supply.

→ Connect the power cable to the power supply.

→ Connect the power cable to a power socket.

→ Disconnect device: The AC main power supply can be disconnected via the Phoenix connector (DC), via the POS-Line high bright monitor or the AC adapter's plug.
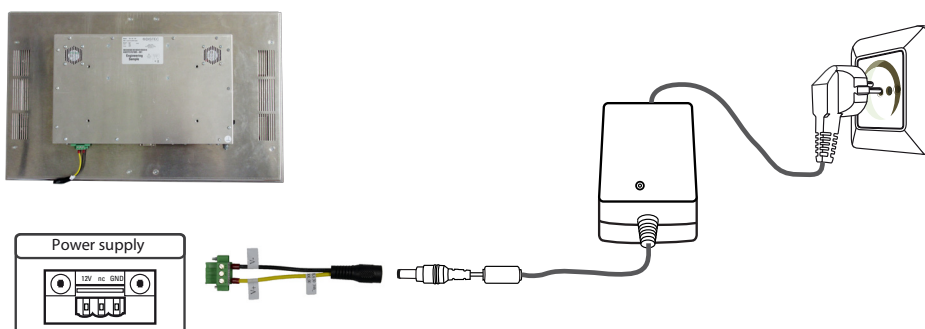
## Connecting to an existing power supply

⚠️ Caution: POS-Line high bright monitors with an input voltage of 24V can only be used with a current source of limited power (see standard EN 62368-1, chapter Q, table Q.1 "Limited power sources" with max. 24V / 4A 100VA).

→ Make sure that your external power supply is sufficient for the display. The maximum power consumption of the display is indicated in the data sheet and the display label.

→ Disconnect the adapter cable, if necessary, the device and the power supply.

→ Disconnect the green connector from the adapter cable.

→ Connect your POS-Line monitor to your power source. Pay attention to polarity of the green connector!

→ Connect the green connector to the device.

→ Disconnector: The DC supply network can be disconnected via the Phoenix connector, at the POS-Line monitor.
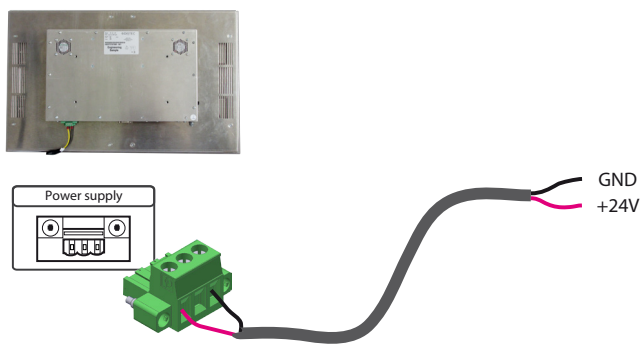
## Grounding the display chassis

The housing of the monitor is equipped with a function grounding. This can be connected optionally to the earthing of the system. Use the connector on the bottom of the monitor as well as a ground cable with a sufficient cross-section (for example 0.75 mm²).

12
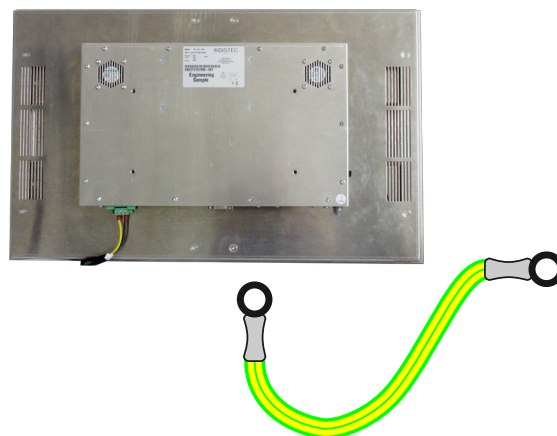
# 5.　　Ambient Light Sensor

The scope of delivery includes the ambient light sensor and the ALS cable. In order to be able to use the Ambient Light Sensor, two work steps have to be carried out.
The first step is to connect the cable to the ambient light sensor. When installing the ALS cable, make sure that it is installed the right way round. Furthermore, the cable must first be threaded into the housing with the "noses", now press the connector down and clip it in. Here are two pictures for a better understanding.



In the second step, the cable must be connected to the monitor.
The ALS cable is mounted on the monitor via a connection socket.
Important, the plug only fits in one direction, please note.



If the monitor is switched on, the ALS function is active. The ambient light sensor is to be mounted using the screw connection point on the circuit board.

# 6.　　Touch Sensors

The POS-Line high bright monitor has installed a HID touchscreen as standard. HID devices do not need drivers for Windows 10 and higher. Please contact our support center if you are using LINUX based computers.
If a driver is required, the touch on this driver must be calibrated. Is it a HID Touch, Windows calibration in the control panel must be performed.
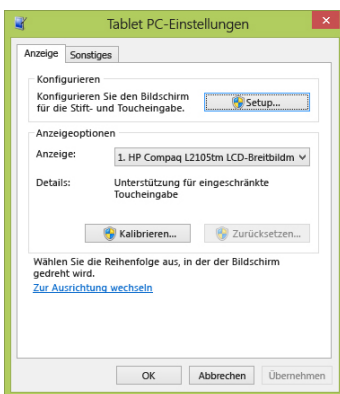


path:
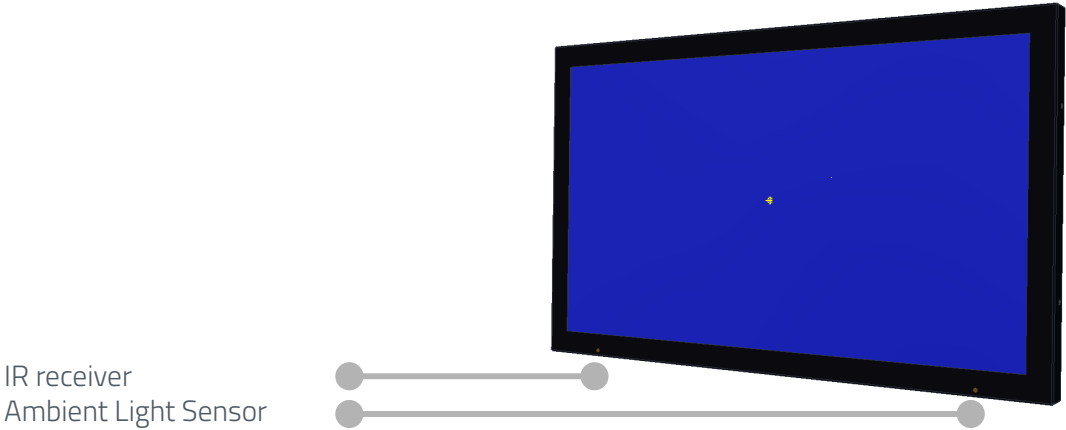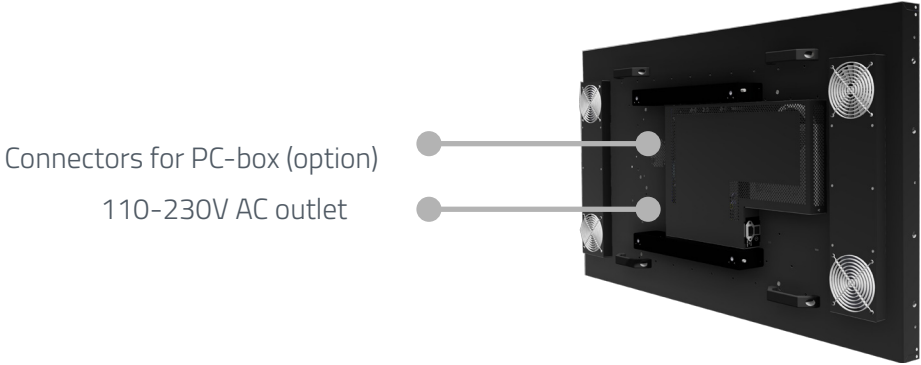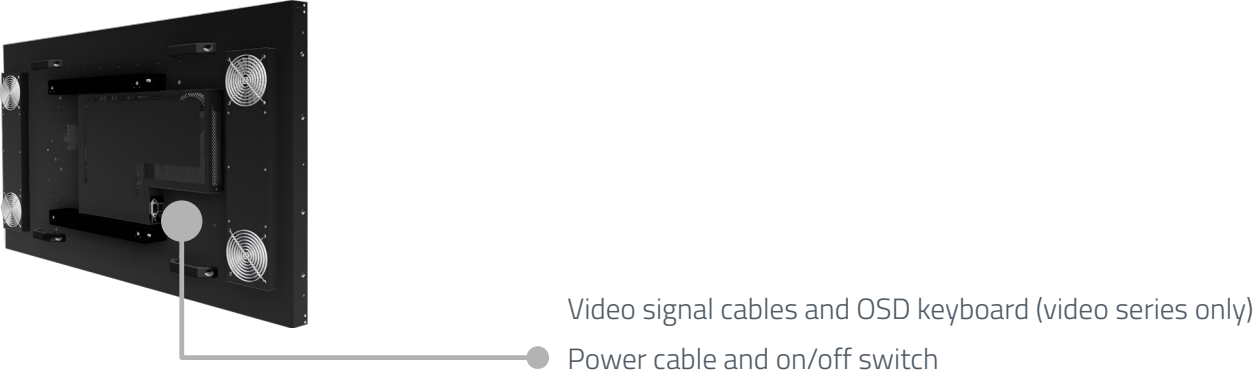Control Panel \ All Control Panel Items \ Tablet PC Settings

Note: All drivers for the touch sensors can be found on our website: https://www.fortec-integrated.de/en/service/downloads/monitor-downloads/. The following table gives an overview over the touch systems including web addresses for driver downloads.

| Panel size | Touch technology | Driver download |
|---|---|---|
| 21.5" | P-CAP | http://www.ilitek.com |

## 7.    First Installation

### Position of connectors and controls

All connectors for power and cables are located at the bottom of the back side of the display.



Video signal cables and OSD keyboard (video series only)

Power cable and on/off switch

Connectors for PC-box (option)

110-230V AC outlet



IR receiver
Ambient Light Sensor

## Mounting

### Distance to wall:

→  devices without integrated PC: min. 10 mm

→  devices with integrated PC: min. 40 mm

A: 50 mm
B: 50 mm
C: 10 mm

side view

top view

C: 10 mm
D:  0 mm
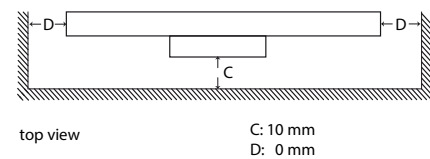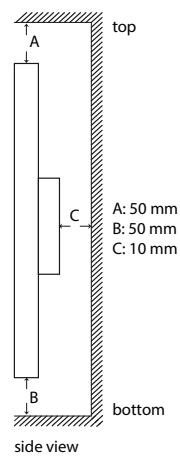
## Mounting with VESA compatible brackets

POS-Line high bright displays are shipped with factory installed mounting angles for VESA compatible brackets. The mounting angles are, without further modification suited for landscape or portrait mode and comply with the minimum required distances between the back side of the display and the wall.

The operating position of the device is perpendicular (90 degrees to the floor). Pay attention to the permissible tilt angle for wall mounting.

The device can be operated both in landscape mode and in portrait mode. The information is for positioning to note on the back of the device, always.

For mounting on the pre-assembled VESA brackets, a suitable wall bracket must be used whose load-bearing capacity corresponds to the weight of the monitor. For fastening to the VESA brackets, use 4 metal screws of size M6x25.
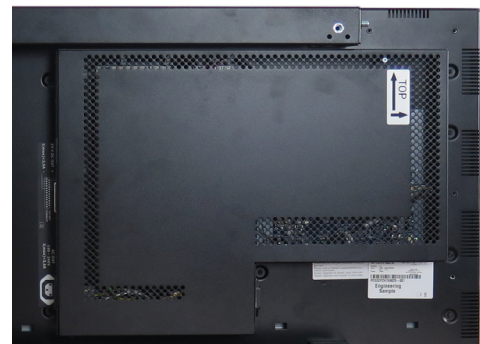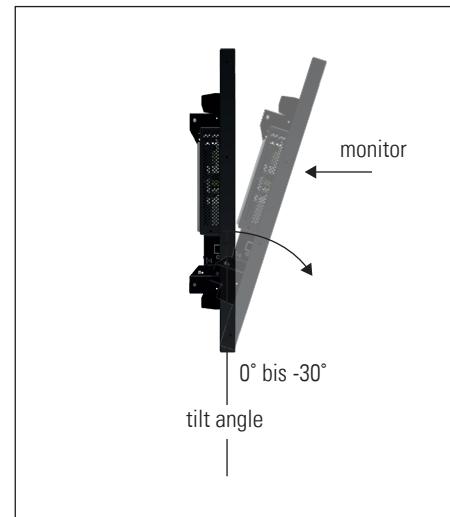
VESA standards:
MIS-F 400 x 400 mm (M6)

Mounting holes for VESA compatible brackets
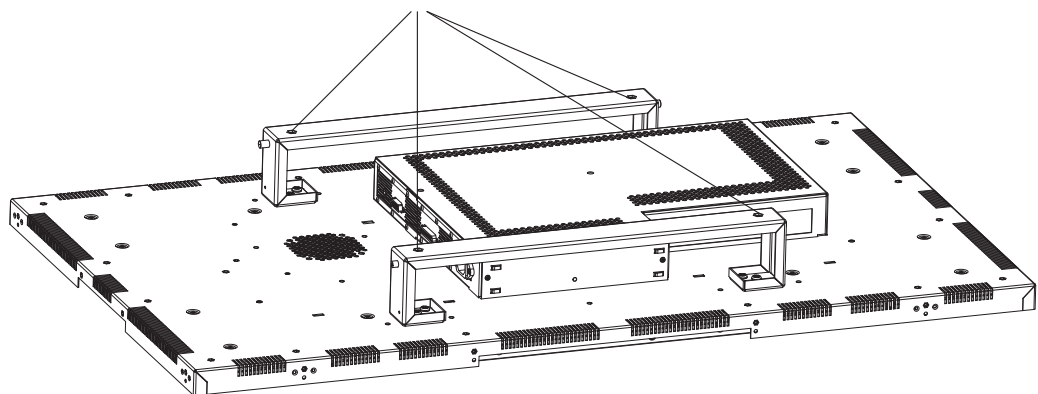
## Allowed tilt angle for mounting

⚠️ Attention! The monitors may be mounted only with a tilt angle of 0° to -30°:
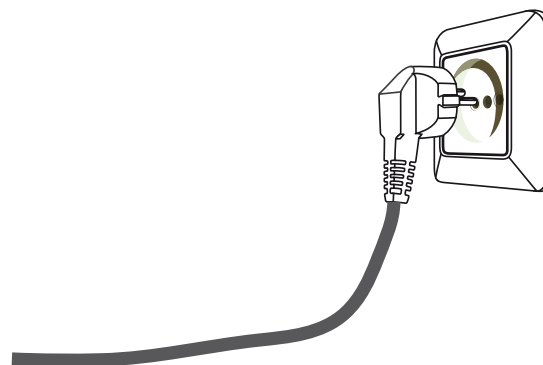


monitor

0° bis -30°
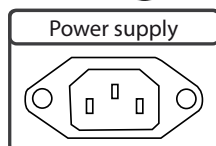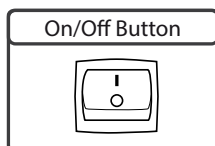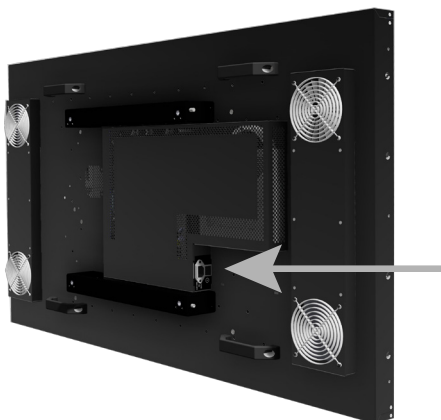
tilt angle

## Connecting to power

POS-Line displays require a voltage of 110V - 230V AC.

⚠️ Note: Install all data cables to external devices before connecting the display to power.

→ Switch the on/of switch in position off.

→ Connect the power cable to the display.

→ Connect the power cable to a power socket.

→ Switch the display on .



| On/Off Button | Power supply |
|---|---|

## OSD navigation through IT Remonte Control

Alternative to the external keypads, the Prisma-IIIA can also be controlled through a remote control device.



| Key | HEX | Function | | |
|---|---|---|---|---|
| | | General | OSD Closed | OSD Open |
| Power | 01 | Power on/off | - | - |
| Number Keys | 00-0E | Not used | - | - |
| Number „0" | 13 | Not used | - | - |
| ID | 19 | Not used | - | - |
| Recall/Return | 10 | Not used | - | - |
| Disp | 1D | Not used | Display Mode | - |
| Mute | 12 | Not used | - | - |
| Input | 18 | - | Input Select | |
| Menu | 41 | - | Opens OSD | Select |
| Exit | 09 | - | - | Exit /Back |
| Up | 17 | Not used | - | - |
| Left | 0D | - | Volume - | - |
| OK | 15 | - | - | Select |
| Right | 14 | - | Volume + | - |
| Down | 1A | Not used | - | - |

## OSD navigation through IT Remonte Control - second variant of remote control

Alternative to the external keypads, the Prisma-IIIA can also be controlled through a remote control device.

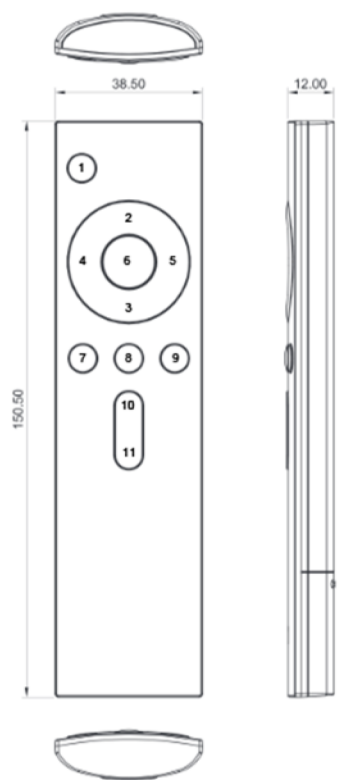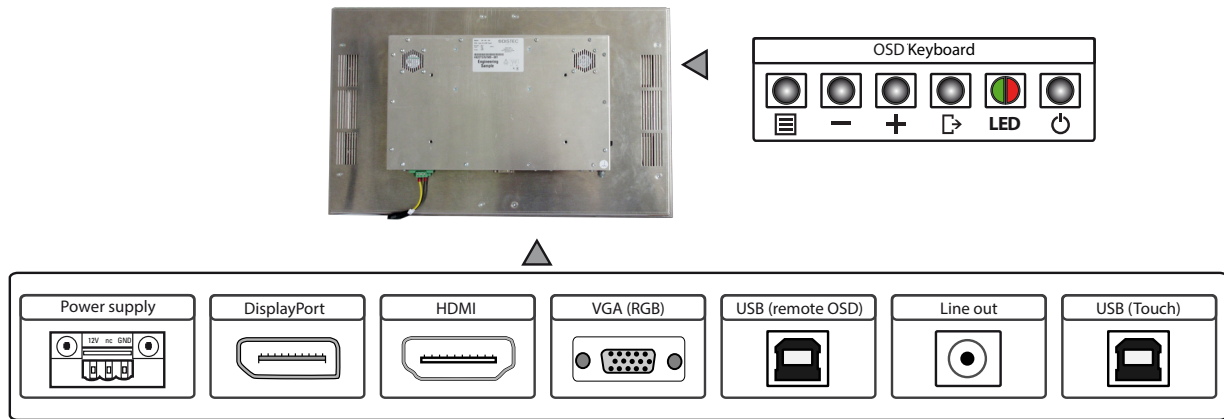| Position | Code | Function | RC-10-007 Button Position | RC-10-007 Picture |
|---|---|---|---|---|
| 1 | 0x01 | Power | | |
| 2 | 0x0D | Key Up | | |
| 3 | 0x11 | Key Down | | |
| 4 | 0x0E | Key Left / decrease Brightness | | |
| 5 | 0x10 | Key Right / increase Brightness | | |
| 6 | 0x0F | Key Enter | | |
| 7 | 0x27 | Menu | | |
| 8 | 0x13 | Exit | | |
| 9 | 0x05 | Mute | | |
| 10 | 0x04 | Volume + | | |
| 11 | 0x03 | Volume - | | |

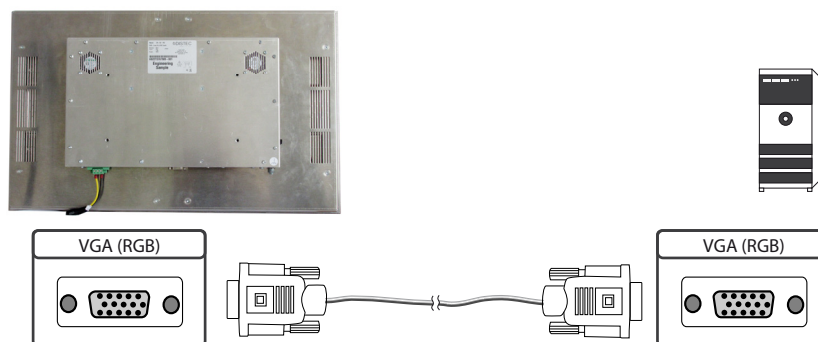# 8.    POS-Line High Bright Video PME II

## Connectors and OSD buttons of POS-Line High Bright Video PME II 21.5"



## Connectors and OSD buttons of POS-Line High Bright Video PME II 31.5"
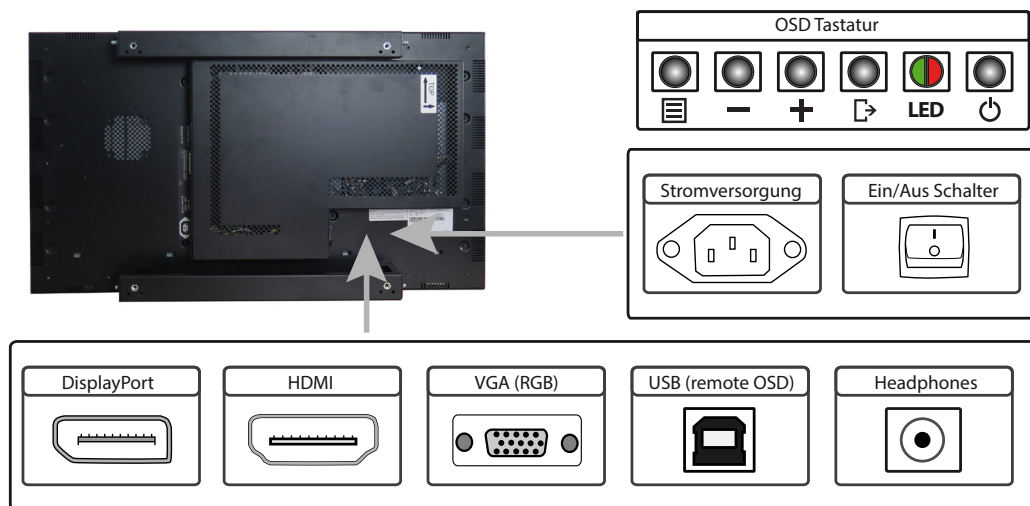


## Connecting to a PC with VGA cable

## Connecting to a PC with HDMI-DVI cable



| HDMI | | DVI |
|------|------|------|
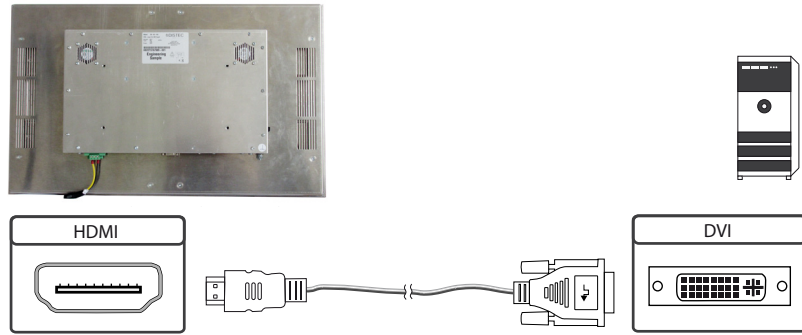
## Connecting to a PC with HDMI cable



| HDMI | | HDMI |
|------|------|------|
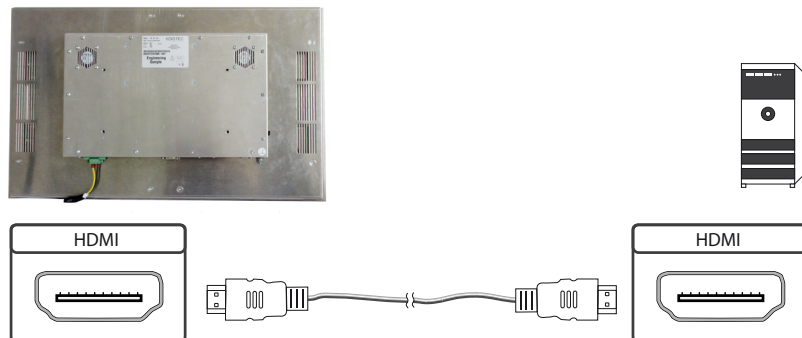
## Connecting to a PC with DisplayPort cable



| DisplayPort | | DisplayPort |
|-------------|------|-------------|
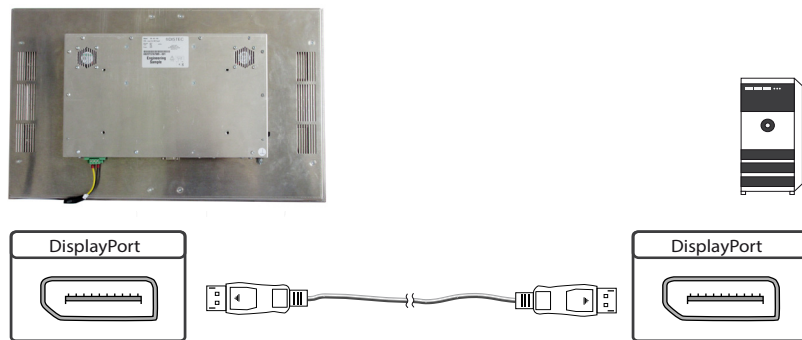
## Connecting the Remote-OSD to a PC with USB cable



| USB (remote OSD) | | USB |
|------------------|------|------|
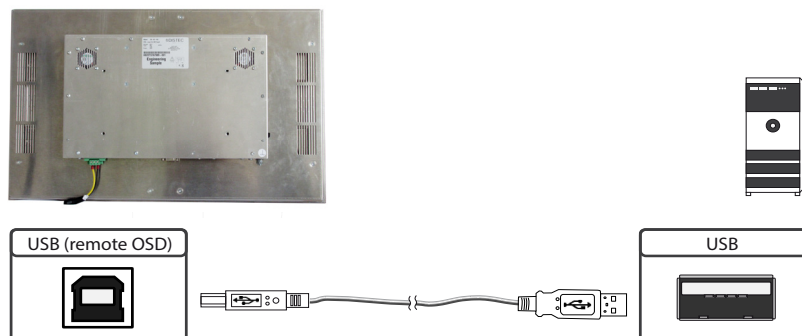
## Connecting the touch to a PC with USB cable (for displays with touch sensor only)
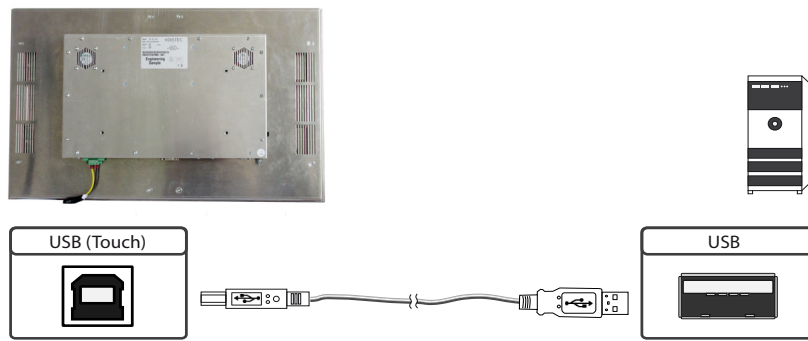


## Connecting active speakers with audio cable
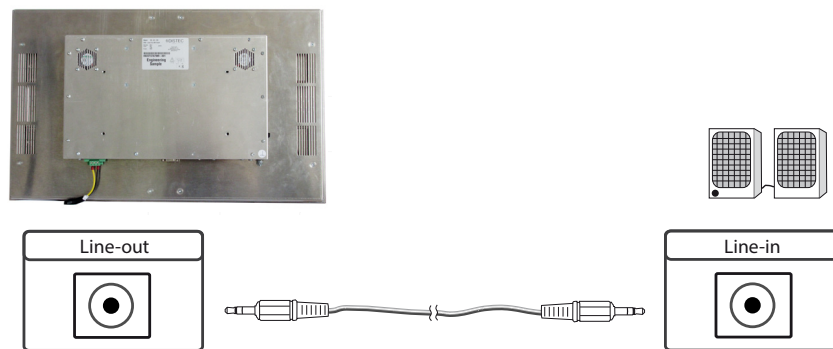


### Remote OSD control

You can control the monitor remotely from an external computer. To do this, connect the monitor and com-puter with a USB cable as described above. Please read the instructions for the remote control, which you can find on our website at https://www.fortec-integrated.de/en/service/downloads/monitor-downloads/. This document describes the structure of the control telegrams and the command set. .

### OSD keyboard

The OSD functions of the monitor can be controlled via OSD key pad. The OSD allows the selection of the input source and the fine tuning of various functional parameters like brightness, contrast etc.

**The following tables give an overview of the functions:**

Direct functions:

| Key | Function | Comment |
|---|---|---|
| Menu | Open the OSD menu | |
| — | Open volume control | |
| + | Open brightness control | |
| Exit | Select signal input | |
| Power | On/ Off | |

Navigation in OSD menu:

| Key | Function | Comment |
|---|---|---|
| Menu | Open sub menu | when in main |
| | Confirm entry | when in main |
| — | Cursor down | when in main or in sub menu |
| | Cursor/ slider to the left | when in main or in sub menu |
| + | Cursor up | when in main or in sub menu |
| | Cursor/ slider to the right | when in main or in sub menu |
| Exit | Leave OSD menu | when in main |
| | Leave sub menu | when in sub menu |

The green/red LEDs (single package) on the external keypad show the current status of the board:

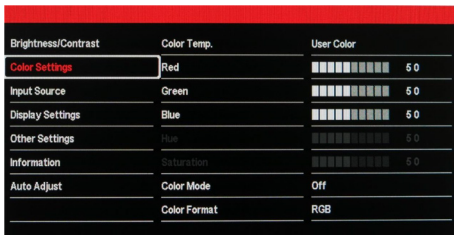| Color | Meaning | Remark |
|---|---|---|
| Green | Signal found | |
| Green blink | Search signal | |
| Red | Power safe mode | |
| LED off | Monitor off | |

## OSD menu



**Brightness/Contrast Menu:**

Brightness: Adjusts the luminance of the screen

Contrast: Adjusts the contrast of the screen

## Color Settings Menu:

Color Temp.: Selects one of the following predefined or custom color temperature schemes: 9300K, 6500K, 5700K, sRGB, User Color

Red: Gain for the red color signal. Adjustable, if User Color is selected

Green: Gain for the green color signal. Adjustable, if User Color is selected

Blue: Gain for the blue color signal. Adjustable, if User Color is selected

Hue: Allows you to adjust the hue in the UV range change affects all color channels and all input types, only available if the input color space is not RGB

Saturation: Allows you to adjust the saturation in the UV range, the change affects all color channels and all input types, only available if the input color space is not RGB

Color Mode: Not adjustable

Color Format: Selects RGB or YUV color format of the input signal
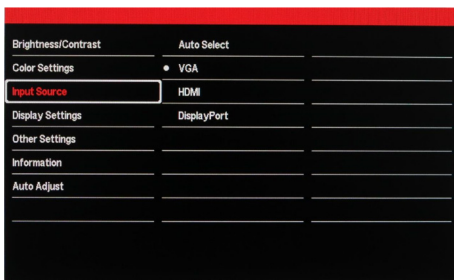
## Input Source Menu:

DisplayPort: DisplayPort is the only input port available
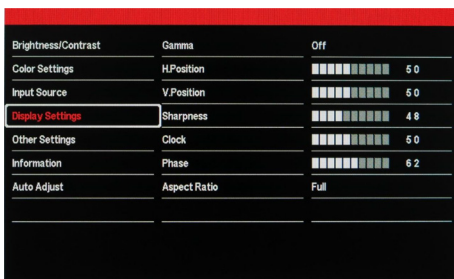
## Display Settings Menu:

Gamma: Enables or disables the Gamma correction for the screen

H.Position: Allows horizontal adjustment of the input image (only available for the analog input)

V.Position: Allows vertical adjustment of the input image (only available for the analog input)

Sharpness: Allows you to adjust the sharpness of the input image (only available for the analog input)

Clock: The sample rate of the analogue interface can be set supports the improvement the image quality in non-standard display modes (only available for analog inputs).

Phase: The sampling phase of the analogue interface can be adjusted for optimal picture and quality should be the input pixels at the ideal sampling points are scanned (only available for analog inputs)

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Aspect Ratio: Selects the scaling function for the input signal:

Full, 4:3, 16:9, 1:1, KeepInputRatio, OverScan

## Other Settings Menu:

Volume:    Adjusts the volume of the stereo line out signal of the screen

only available for digital signals and at presence of an audio output

OSD Transparency: Adjusts the OSD transparency in 6 steps

OSD H.Position: Adjusts the horizontal position of the OSD on the screen

OSD V.Position: Adjusts the vertical position of the OSD on the screen

OSD Timeout: Adjusts the timeout for the OSD between 10 and 100

seconds. After the selected time of inactivity the menu closes automatically.

OSD Rotation: Selects the orientation of the OSD on the screen between

Off, 90°, 180° and 270°

Factory Reset: Resets all user settings in the OSD to the factory defaults

## Information Menu:

Resolution:  Displays the resolution of the current input signal

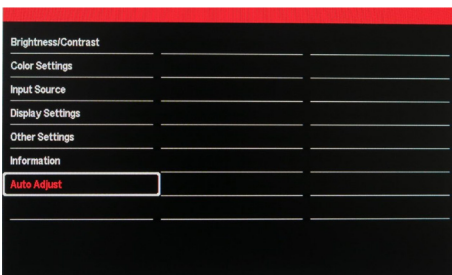H.Freq:      Displays the line frequency of the current input signal

V.Freq:      Displays the frame rate of the current input signal

V.Total:     Displays the number of total lines of the current input signal

Color Format: Displays the selected color format RGB or YUV

Fw Version:  Displays the firmware version of the screen

## Auto Adjust Menu:

Performs the automatic adjustment (only available for analog inputs)

# 9.    POS-Line High Bright VideoPoster

⚠ Note: Further information on media player, play list structure, handling, utilization and supporting software modules are available at https://www.fortec-integrated.de/en/service/downloads/video-poster-downloads/

⚠ Note: This Gerhardt display is equipped with a battery. Please read the following information carefully:

→ Unplug the power cable before exchanging the battery.

→ There is a risk of explosion if the battery is not installed correctly.

→ Replace the battery always with  a battery of the same type.

→ Recycle empty batteries with the free battery collection system. Please read the chapter "Disposal" in this document.

## Connectors of POS-Line High Bright VideoPoster series



## Connecting to a network using a patch cable



25
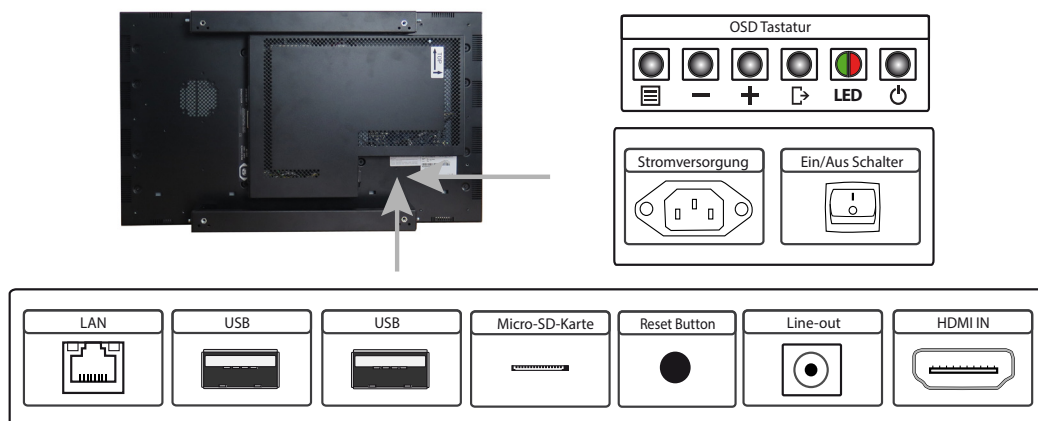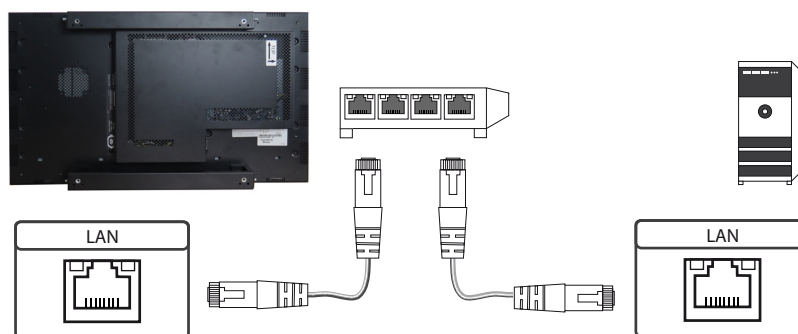
## Connecting to a PC using a cross-over cable



## Connecting an USB stick



## Connecting active speakers



## Connecting a signal source using a HDMI cable
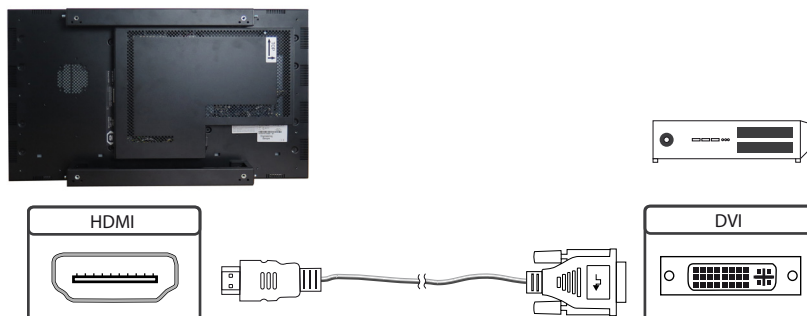
## Connecting a signal source using a HDMI-DVI cable
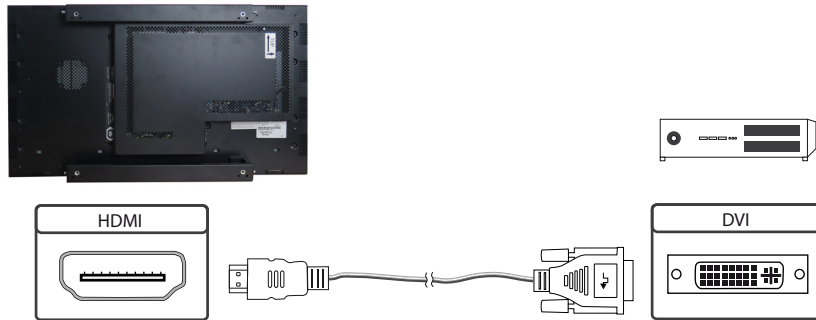


## Factory configuration at the time of delivery

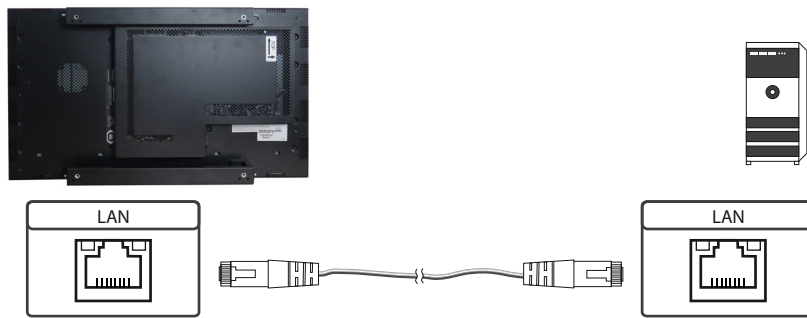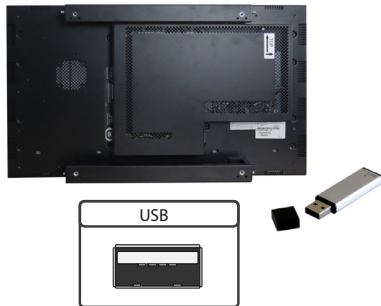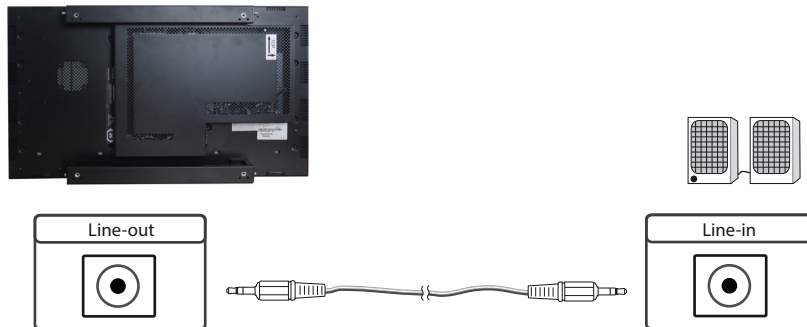POS-Line VideoPoster is a network (Ethernet) device. Please note that inaccurate network configuration can have unintended influence on network operations and cause a breakdown of the entire network. To setup the device properly, you must be familiar with the basic operating parameters of your network.

Factory configuration of POS-Line VideoPoster at time of delivery:

→ DHCP: on

→ IP-Address: assigned by DHCP server (fallback to static IP address 192.168.0.1, if no DHCP server is available in the network)

→ Netmask: assigned by DHCP server (fallback to 255.255.255.0, if no DHCP server is available in the network)

→ Hostname: Videoposter-IV-xx-xx-xx (last 6 bytes of the devices MAC address)

→ Login Name: Artista

→ Password: Artista

→ Content auto update: off

## MicroSD Card

The Mediaplayer stores its playlists on the internal memory. A microSD card, however, can be extended, if the internal memory is not enough. If a microSD card is plugged in, it must not be removed during operation!

## Supported media formats

Video:

→ MPEG-4 AVC / H.264

→ Quicktime

→ Flash Video

→ MPEG Transport Stream

Still images:

→ PNG

→ JPG

→ BMP

## Functional description

POS-Line VideoPoster is a networked stand alone media player to playback play lists. Operating systems or other client-based software components are not required. Play lists are based on a XML structure and can include videos and images. The media player controlls  the play list. A play list is looped endlessly until a new play list is loaded or the player is switched off. A play list may contain several sub play lists which can be triggered by an internal timer or other external events like push buttons or proximity switches (optional external I/O board).

POS-Line VideoPoster does not need any local operation. As soon as a play list is loaded, the media player will automatically start with playback. Power can be switched off at any time, a shut down procedure is not required. After power on, the media player will automatically playback the current play list.

## Connecting an external source with priority

An external source like video player or sat receiver can be connected to the POS-Line VideoPoster via HDMI. If priority of the HDMI connector has been activated, the playback of the play list will stop as soon as a HDMI signal is detected. In this case, the HDMI signal  is shown on the screen. If the external player is switched off, the media player will automatically start or continuing playing back the internally stored play list.

## Software

The following software and accompanying documentation were made available to you by e-mail:

**ACC:** Windows software to create play lists for POS-Line VideoPoster devices. Use ACC to transfer play lists to VideoPoster, and to store play lists on USB sticks for manual transfer.

**ADF:** Windows software to support installation and configuration of VideoPoster devices. Connect your VideoPoster as shipped (factory configuration) to the network. ADF will detect all VideoPosters and allow an easy configuration of the network parameters.

## Downloading play lists

There are basically four methods to download play lists:

**Via USB**: If a USB stick with a playlist is inserted into the Mediaplayer, it is loaded and started automatically. In this operating mode, a network connection is not necessary..

**Via ACC:** This is a free software for Windows to create play lists and to upload play lists to one or more media player in the network.

**Via FTP Server:** The media player connects to a FTP server in configurable time intervals and searches for new playlists. The differences between the existing and the new playlist are loaded automatically and playback of the new content starts.

**Via HTTP-Protocol:** Use HTTP protocol to transfer and control VideoPoster from any existing Content Management System.

## Configuration

Use any Internet browser like Firefox, Internet Explorer, Chrome, etc. for the configuration of the VideoPoster. Enter the URL (i.e. IP address or network device name) to open the device's web interface. Please enter the password if required (factory settings: Login name: Artista; Password: Artista).

## Layout of the web interface:

### Information

System Information:   Here you can find all the information about the system like software revision. In case of a support request please add a printout of this page to your mail for a fast processing.

View Logs:   VideoPoster creates log files to allow an easy monitoring of operations. The following log files are available:

Player – shows the log file of the video player and error messages.

Updater – shows the log file of content updates and error messages.

Setup Manager – shows the list of executed setup files.

Event Manager – shows error messages of the event manager.

### Configuration

Network Configuration:   This page includes all entries for the network configuration. Click on „Submit Configuration" to store the settings and change the configuration. Clicking on „Reset Configuration" deletes all entries in the web page but does not change the configuration.

Date and Time:   Enter date, time and time zone. Enter a network time server for automatic synchronization (NTP).

Content Auto Update:   To configure automatic content updates with FTP server, enter the FTP server access information and update time interval here.

Audio Settings:   Volume settings for speakers.

Display Settings:   Panel brightness settings.

HTTP Access:   Enter password. It is recommended to change the password after installation.

Advanced:   Firmware updates, microSD card (optinal) formating,reset of hardware configuration to factory defaults and priority setting for HDMI input.

### Restart

Restart:   Media player restart.

### On-screen display of IP-address and host name

IP-address and host name are shown on the screen for 5 seconds during the boot process.

## 10.    POS-Line High Bright IoT

The POS-Line IoT monitor is equipped with the Raspberry® Pi compute module 3+ (CM3+). The specification can be found under the following link: https://www.raspberrypi.org/products/compute-module-3-plus/

⚠️ Note:
The full driver package for the IoT monitor can be found on our website: https://www.fortec-integrated.de/en/service/downloads/artista-iot-downloads/.
The device is equipped with a battery. Please note the following:
→ Disconnect the devise from the power supply before replacing the battery.

→ If the battery is not replaced properly there is a risk of explosion.

→ Always replace the battery with another one of the same type.

→ Supply empty batteries to the local waste battery return system. Please also observe the notes in chapter „Disposal".

### Passive cooling

Monitors of the POS-Line High Bright IoT series are equipped with a passive cooling system. Passively cooled monitors divert the heat of the processor to the monitor's housing. Passively cooled devices have no moving parts.

### Spezification

Please refer to the current data sheet for the details of the IoT monitor specification.
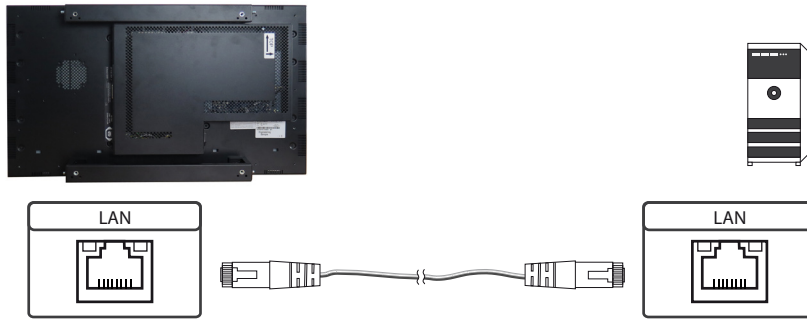
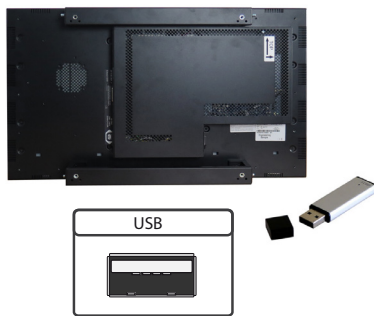### Connectors of POS-Line High Bright VideoPoster series
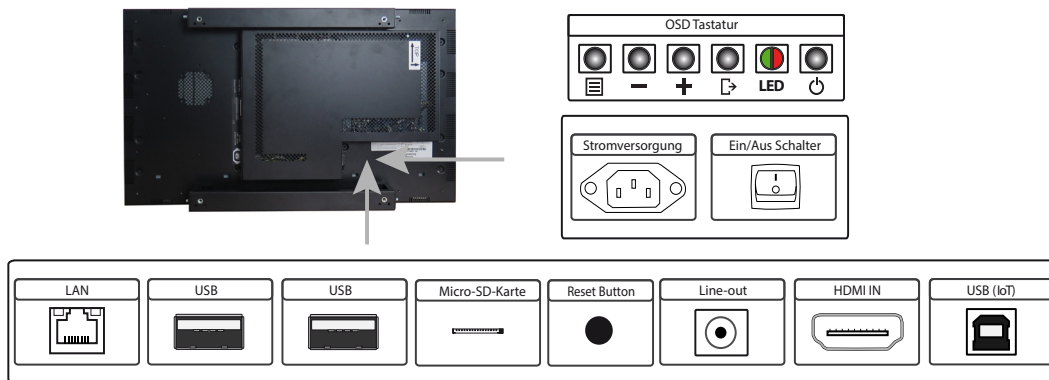


### Connecting to a network using a patch cable
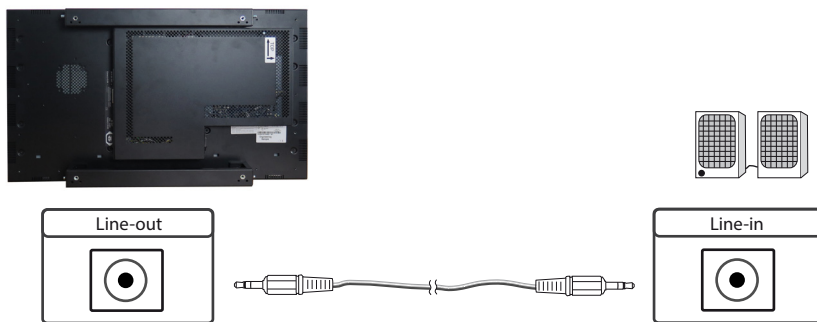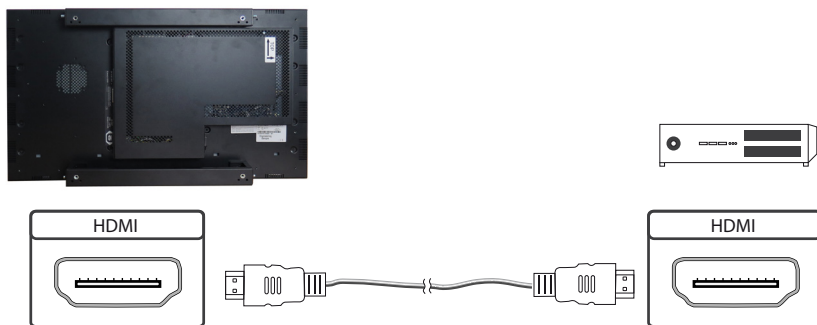
## Connecting to a PC using a cross-over cable
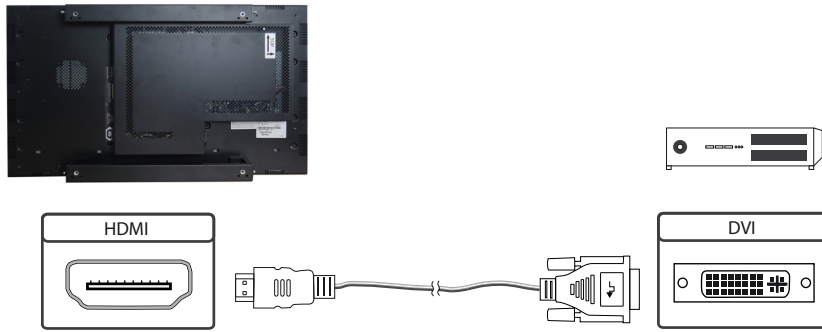
LAN

LAN
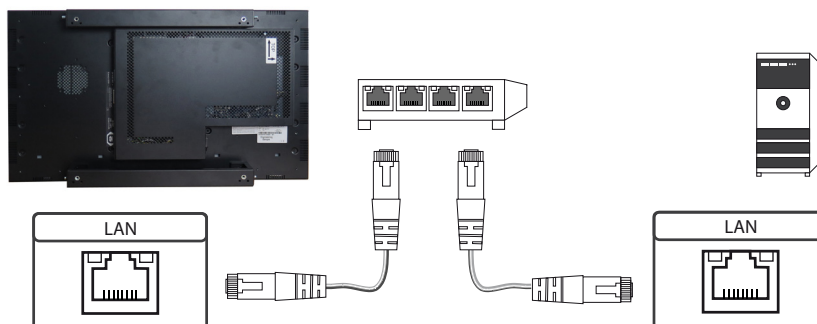
## Connecting to an USB stick or keyboard/ mouse

USB

## Connecting active speakers

Line-out

Line-in

## Connecting a signal source using a HDMI cable

HDMI

HDMI

## Connecting a signal source using a HDMI-DVI cable



## Switch on/ off

After the supply voltage has been applied, the IoT monitor starts automatically. To switch off, you must select „Shut down" in the operating system.

## Operating systems

The IoT Monitor comes with the operating system Raspbian, which is equipped with all necessary drivers. This operating system is the official version of the community, reduced to the internal memory of the compute module. It is only used for the first commissioning of the monitors.

The IoT Monitor can be equipped and programmed by the customer with its own operating system/ image. For this, the USB port on the back of the monitor in the connection cover can be used, which is located under the OSD menu.
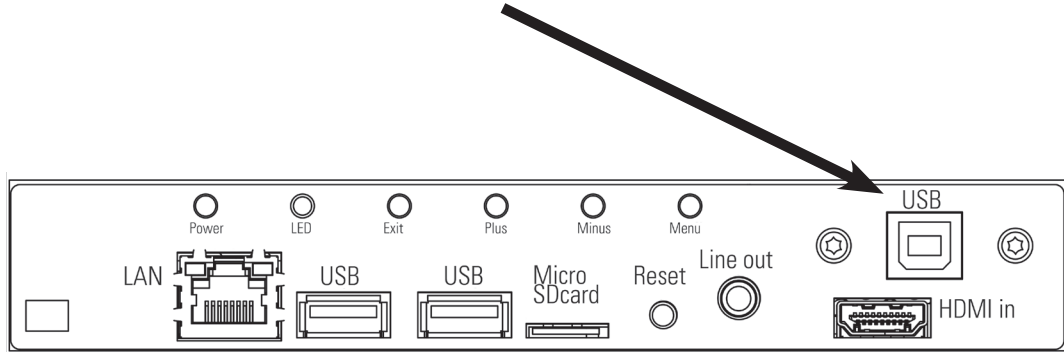


A guide for the integration of an image can be found on the enclosed DVD or on our homepage:

https://www.fortec-integrated.de/en/products/tft-controller/iot-industry-40-raspberry/

In the community of Raspberry® Pi (https://www.raspberrypi.org/forums/) you can find many problem-solving and help to integrate and create your own system.

# 11.   PC box Intel Celeron extern

⚠️  Note: The High Bright 21.5' is not designed for mounting the PC Box. All the Celeron main board drivers you can find at: https://www.fortec-integrated.de/en/service/downloads/monitor-downloads/

⚠️ Note: This POS-Line display is equipped with a battery. Please read the following note carefully:

→ Unplug the power cable before exchanging the battery.

→ There is a risk of explosion if the battery is not installed correctly.

→ Replace the battery always with  a battery of the same type.

→ Recycle empty batteries with the free battery collection system. Please read the chapter "Disposal" in this document.

## Passive cooling

The IQ Celeron PC box is passively cooled. The device must be mounted at a sufficient distance from the wall.

Passively cooled monitors have a heat pipe that routes by which the heat of the processor to a heat sink on the back of the monitor. Passively cooled devices have no moving parts.

## PC specification

Please inform yourself current data sheet POS Line High Bright about the details of the PC specification of the IQ Intel Core Celeron.

## PC Box

The integrated PC is installed in a separate box which can be removed from the display for maintenance purposes. The PC box must be plugged into the display for operation.

The power supply for the PC and all other data lines are integrated into the plug-and-socket connection between PC box and display. Additional cables between PC box and display are not required. A dismounted PC, box can be connected to an external power supply and operated separately from the display.



PC box                                                Display with space for PC box

## Mounting and dismounting the PC box

⚠️ Note: The display must be switched off before dismounting or mounting the PC box. Not confirming to the rules may electronically damage the display and the PC box.

⚠️ Note: The two interfaces on the POS-Line Monitor may only be used for the PC-Box (option). Other uses are not permitted, otherwise they could damage the device.

To remove the PC box please proceed as follows:

→ Make sure that the display is completely disconnected from power. Unplug the power cable or switch the monitor off with the main power on/off switch.

→ Remove the safety screw (1) from the PC box .

→ Pull carefully at the handle of the PC box (2) and lift the PC box from the bolts.

To mount the PC-box please proceed as follows:

→ Make sure that the display is completely disconnected from power. Unplug the power cable or switch the monitor off with the main power on/off switch.

→ Carefully plug the PC box into the connectors.

→ Fasten the PC box with the safety screw.(1).
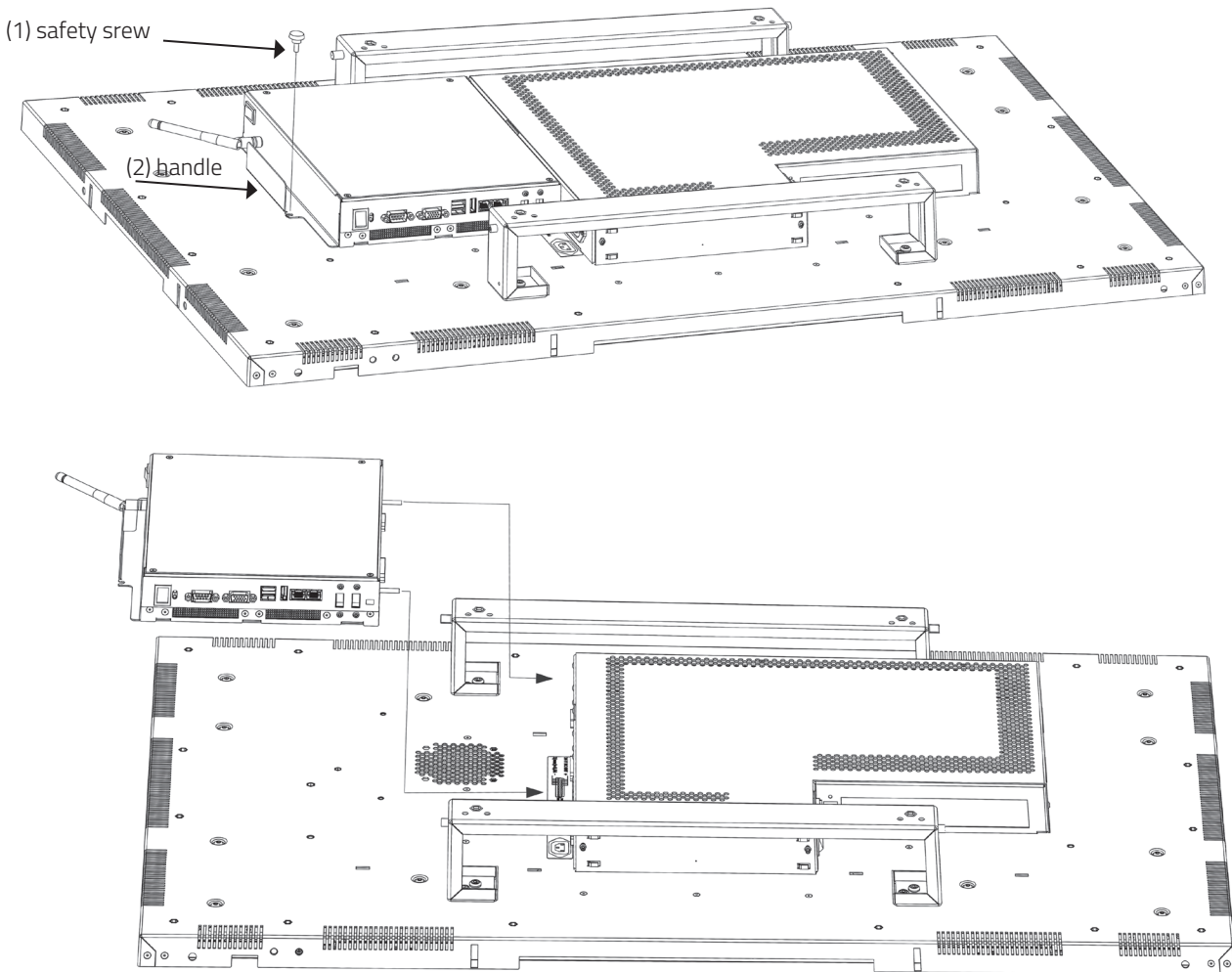
(1) safety srew

(2) handle

## Operating the PC box without display

The PC box can be operated as stand alone device without display for maintenance purposes. This requires an external power supply with cable (12V DC, 60 Watt) which is available as kit for maintenance (order number DS-91-945).

Please connect monitor, keyboard and mouse before switching on power.
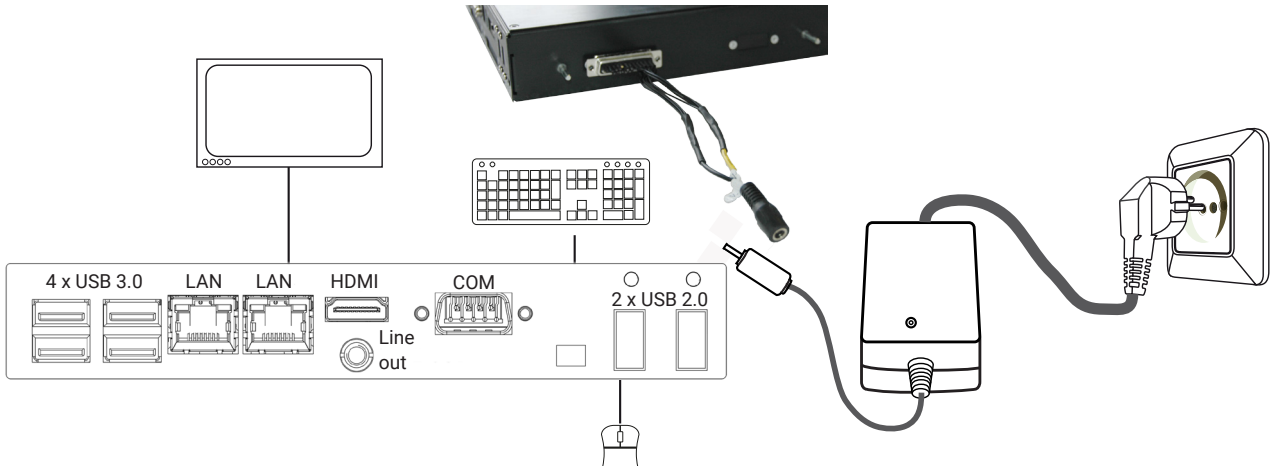


## PC box connectors
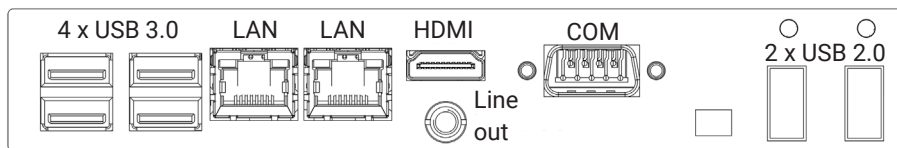


## Power on/off

After applying the supply voltage, the PC starts automatically. When the power supply is connected, the PC is switched on or off with the push button. During operation, the PC is shut down by briefly pressing the push button. Briefly pressing the push button switches the PC on.
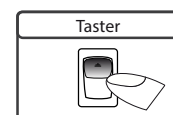


Taster

## BIOS settings

A Phoenix UEFI Flash BIOS is installed on the PC main board. To change BIOS settings press the 'Entf' key on your keyboard during the boot process of the PC.

## Operating systems

An operating system is pre-installed if your POS-Line display has been ordered with this option. In this case all main board drivers or touch drivers are installed.

Activating the operating system:

→ Windows 10 IoT: This OS is already activated. The license key sticker is located on the back side of the display.

→ Windows 10: This OS is not activated. The license key sticker is added to the product documentation. After switching on the display for the first time Windows will prompt for the key

## 12.  PC box IQ Core™-i5 extern

⚠️ Note: The High Bright 21.5' is not designed for mounting the PC Box. All the Core™-i5  main board drivers you can find at: https://www.fortec-integrated.de/en/service/downloads/monitor-downloads/

⚠️ Note: This POS-Line display is equipped with a battery. Please read the following note carefully:

→ Unplug the power cable before exchanging the battery.

→ There is a risk of explosion if the battery is not installed correctly.

→ Replace the battery always with  a battery of the same type.

→ Recycle empty batteries with the free battery collection system. Please read the chapter "Disposal" in this document.

### Passive cooling

The IQ Core-i5 PC box is passively cooled. The device must be mounted at a sufficient distance from the wall.

Passively cooled monitors have a heat pipe that routes by which the heat of the processor to a heat sink on the back of the monitor. Passively cooled devices have no moving parts.

### PC specification

Please inform yourself current data sheet POS Line High Bright about the details of the PC specification of the IQ Core™-i5.

### PC Box

The integrated PC is installed in a separate box which can be removed from the display for maintenance purposes. The PC box must be plugged into the display for operation.

The power supply for the PC and all other data lines are integrated into the plug-and-socket connection between PC box and display. Additional cables between PC box and display are not required. A dismounted PC, box can be connected to an external power supply and operated separately from the display.

PC box                                    Display with space for PC box

## Mounting and dismounting the PC box

⚠️ Note: The display must be switched off before dismounting or mounting the PC box. Not confirming to the rules may electronically damage the display and the PC box.

⚠️ Note: The two interfaces on the POS-Line Monitor may only be used for the PC-Box (option). Other uses are not permitted, otherwise they could damage the device.

To remove the PC box please proceed as follows:

→ Make sure that the display is completely disconnected from power. Unplug the power cable or switch the monitor off with the main power on/off switch.

→ Remove the safety screw (1) from the PC box .

→ Pull carefully at the handle of the PC box (2) and lift the PC box back away.

To mount the PC-box please proceed as follows:

→ Make sure that the display is completely disconnected from power. Unplug the power cable or switch the monitor off with the main power on/off switch.

→ Place the PC box on the display module. Make sure that the guide pins on the box dive into the round openings of the display module.

→ Slide the PC box inward so that the connectors fully engage.

→ Fix the PC box with the locking screw (1).
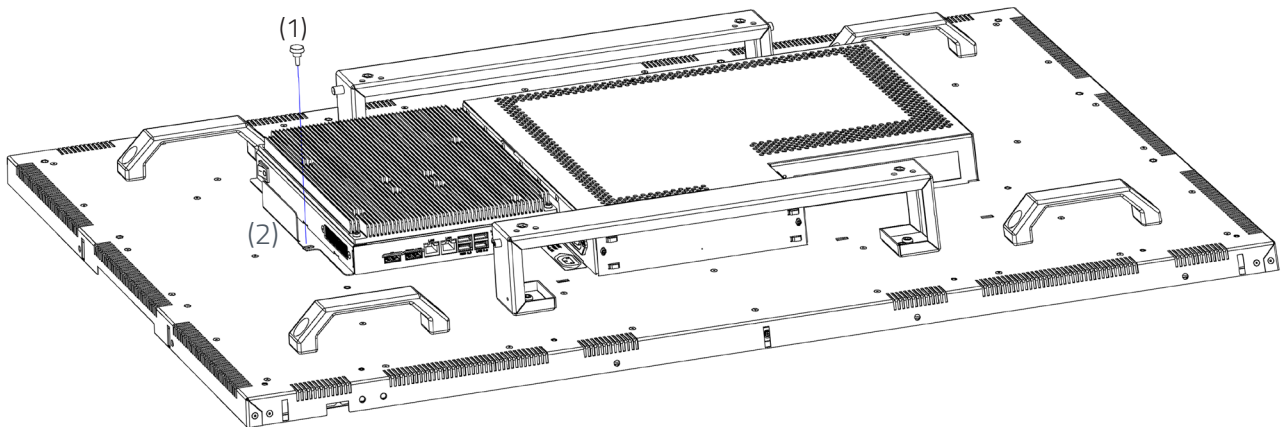
## Operating the PC box without display

The PC box can be operated as stand alone device without display for maintenance purposes. This requires an external power supply (12V DC, 60 Watt) which is available as option (order number DS-91-945).

Please connect monitor, keyboard and mouse before switching on power.
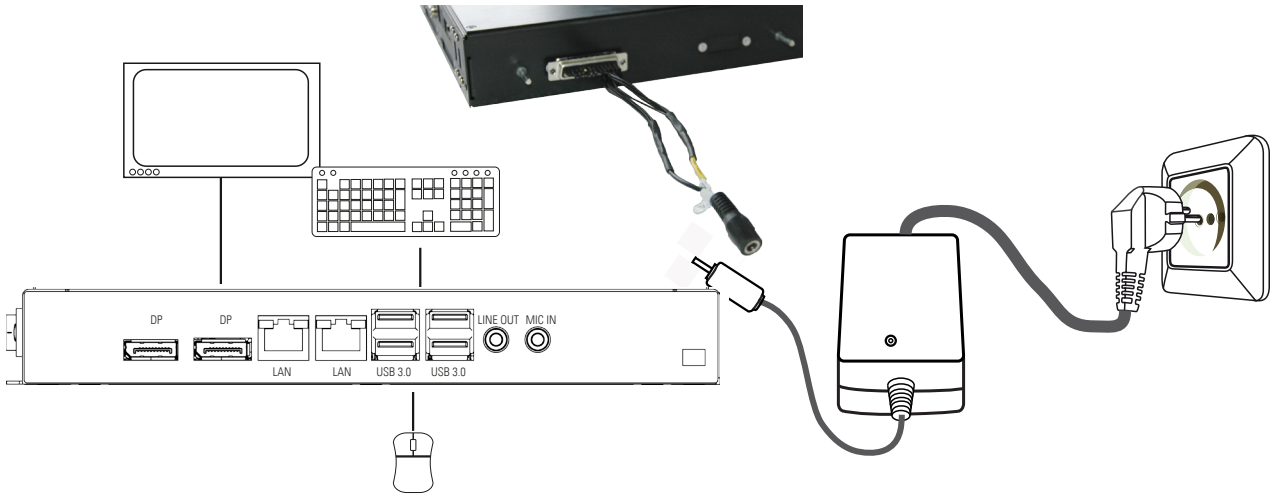


## PC box connectors
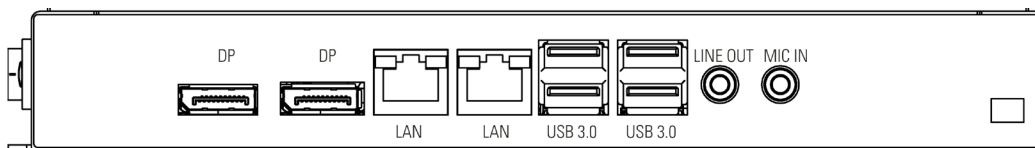


## Power on/off

The display boots automatically after connecting to power. Use the push button to switch the display on and off. If in normal operation, push the push button once to shut down the system into sleep mode. The panel is switched off. If switched off, push the push button once to wake up the display.
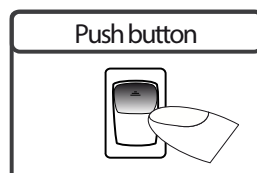


Push button

**39**

## BIOS settings

A Phoenix UEFI Flash BIOS is installed on the PC main board. To change BIOS settings press the 'ENTF/DEL' key on your keyboard during the boot process of the PC.

## Operating systems

An operating system is pre-installed if your POS-Line display IQ Core™-i5 has been ordered with this option. In this case all main board drivers or touch drivers are installed.

Activating the operating system:

→ Windows 10 IoT: This OS is already activated. The license key sticker is located on the back side of the display.

→ Windows 10: This OS is not activated. The license key sticker is added to the product documentation. After switching on the display for the first time Windows will prompt for the key.

# 13.  Maintenance

Systems with active cooling require cleaning of ventilation slots every 6 months. Systems with passive cooling must be cleaned every 12 months.

# 14.  Guarantee / Service

## Guarantee

FORTEC GROUP garants a manufacturer's guarantee of two years from the date of delivery.

The performance of guarantee claims shall cause neither an extension nor a restart of the guarantee period.

During the guarantee period, FORTEC GROUP shall correct product faults based on material or production defects. The guarantee service is executed at FORTEC GROUP's discretion through repair, replacement of defective parts or by exchanging a product for a product of equal quality without charging the customer for material or labor.

Guarantee claims are only accepted, if FORTEC GROUP receives notification of a defective product within the guarantee period and the product is presented to the FORTEC GROUP Service Centre together with all information as specified in the RMA process.

## Guarantee Exclusions and Limitations

This guarantee does not apply to any defect for which FORTEC GROUP is not responsible and which include but are not limited to the following:

→ Unauthorized opening or disassembling of the product

→ Faulty maintenance by non-observation of maintenance instructions

→ Inappropriate storage or cleaning of the product

→ Unauthorized modification of the product

→ Incorrect use or misuse

→ Non-observation of operating and installation instructions

→ Permanent display of fixed images (causing image retention or image sticking)

→ Operating the product in conditions which exceed the limitations of the specification

→ Use of inappropriate boxes, packaging or modes of shipment

→ Force majeure like fire, acts of war, acts of violence, chemical or biological impacts, lightning strikes, over voltage or similar events

→ Fault resulting from the use of software which was not originally supplied with the product or which is incorrectly installed

→ Normal wear and tear and wearing parts (i.e. LCD panel)

Mechanical damage like scratches, pressure or break points are excluded from this guarantee.

This guarantee does not include accessory parts which are not integral part of the product like boxes, batteries).

Pixel errors only constitute a fault under the terms of this guarantee if they deviate from the product specification (i.e. ISO 9241-307 pixel failure class II).

## Display Quality - Prevention of after image burn in effects

After image burn-in means that an image or part of an image (i.e. logo) remains visible on the screen even if the image on the screen is changed. This should not occur if the LCD panel is operated in normal conditions with changing content To prevent burn-in effects please follow the following guidelines.

→ Don't display fixed patterns for an extended time period of more then 12 hours.

→ Power-off the monitor for 4 hours after using it for 20 hours, and for 2 hours after using it for 12 hours.

→ Use the power scheme and power management of the PC.

→ Use plain-colored screen savers.

→ Avoid patterns with a strong difference in brightness and contrast.

→ Avoid gray colors.

→ Change images and logos regularly. Show animated pictures for 60 seconds after 4 hours of operation.

→ The best way to protect your display is to switch the monitor off when not in use or to use screen savers.

Non-observance of these guidelines may have effects on warranty.

## Guarantee Processing

Group RMA process. In order to avoid unnecessary charges, it is important to adhere to the RMA regulations.

Products must be packed appropriate and professional for a safe return to the FORTEC GROUP Service Centre. Products with panel sizes equal or larger 81 cm (32") must be shipped on pallets in upright position.

FORTEC GROUP does not assume liability for any customer data stored on products which are returned to FORTEC GROUP.

## Limitations of Liability and Benefits

With this guarantee declaration, FORTEC GROUP exclusively guarantees that the product is free of material and manufacturing faults.

FORTEC GROUP does not issue any other guarantee or similar statements other than this declaration.

This guarantee does not impair or affect a buyer's statutory claims against the seller due to material damage. Such claims can be asserted instead of guarantees agreed to here at the buyer's discretion.

Mandatory legal rights and mandatory claims under the German Product liability remain unaffected.

## Applicable Law and Place of Jurisdiction

The laws of the Federal Republic of Germany apply.

Place of jurisdiction is Munich.

## Service addresses

| Germany | Great Britain | USA |
|---|---|---|
| FORTEC Integrated GmbH | FORTEC Technology UK Ltd. | Apollo Corp. |
| Werk Kindel | Osprey House, 1 Osprey Court | 87 Raynor Avenue, Unit 1 |
| Am Künkelhof 4 | Hichingbrooke Business Park | Ronkonkoma NY 11779 |
| 99820 Hörselberg-Hainich | Huntingdon, Cambridgeshire, PE29 6FN | +1 631 / 580-4360 |
| +49 89 / 89 43 63 0 | +44 14 80 41 16 00 | info@apollodisplays.com |
| rma@fortec-integrated.de | info@fortec.uk | |

Please go to the following web address for further information about our RMA regulations and RMA forms: https://www.fortec-integrated.de/en/service/return-rma/

# 15. Disposal

## Disposal of old devices

If the acquired FORTEC GROUP product is to be disposed of, must be implemented into national law the Directive "2012/19 / EU".
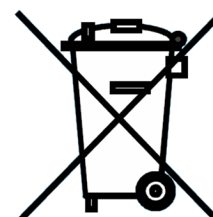
## Disposal of batteries

Applicable in all countries of the EU and in countries with separate battery collection systems.

The Batteries in this product should not be disposed with other household waste. The chemical symbol Pb, CD or Hg indicate that the battery contains lead, cadmium or mercury above the reference level in EC directive 2012/19/ EG.

Batteries which are not disposed correctly can cause harm environment and health.

Our environment is close to our hearts. Please help us to protect our environment and recycle empty batteries with the free battery collection system.
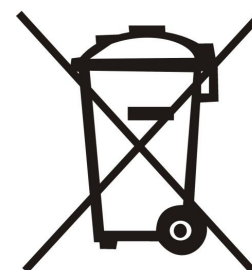
## 16.    Declaration of Conformity

### Declaration

Hereby the FORTEC Integrated GmbH declared that the unit EU is in compliance with the essential requirements and other relevant provisions of Directives 2014/30/EU, 2014/35/EU and 2011/65/EU.

If a CE declaration of conformity is required, please request it from support on our website: https://www.fortec-integrated.de/en/service/technical-support/

### FCC-Declaration of conformity

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

### Canadian Department of Communications Compliance Statement

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Observation des normes-Class A - Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

### FCC Information:

→ Changes or modifications not expressly approved by Distec GmbH could void the user's authority to operate the equipment.

→ Use the attached specified cables with the POS-Line monitor so as not to interfere with radio and television reception.

→ Please use the supplied power cord or equivalent to ensure FCC compliance.

→ Please use the supplied shielded video signal cable, Mini D-SUB 15 pin to Mini D-SUB.