



This user manual applies to the Prowise Touchscreen One with the following model numbers:

- 65": PW.1.16065.0001
- 75": PW.1.16075.0001
- 86": PW.1.16086.0001

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## 2. Important safety instructions



**Warning!** Please read this user manual and the safety instructions (separate document) carefully before using the Prowise Touchscreen One. Follow the warnings stated on the device, the user manual and the safety instructions. Always keep the safety instructions and the user manual within reach.

### 2.1. Safety

- Never open the housing of the touchscreen! You can get an electric shock or cause a short circuit.
- Do not use the touchscreen during thunderstorms and unplug the power cable to avoid damage due to a lightning strike.
- Make sure your touchscreen does not get wet! This could lead to a short circuit and electrocution hazard. Do not install the device close to water and do not place objects containing liquid on or next to it.
- A high volume level can cause permanent hearing damage. If the device is used at high sound volume for an extended period of time, it can cause hearing damage to the listener.
- Use only the components and accessories supplied by Prowise.
- Always turn off the touchscreen and unplug it from the electrical outlet when changing a module.
- Do not insert objects into the openings of the touchscreen that are not intended for this purpose. This can cause short-circuit or even fire.

### 2.2. Placement

- We recommend not to install the touchscreen yourself or by a third party. Let Prowise or a certified Prowise partner install or mount the touchscreen to avoid possible damage. Prowise can not be held responsible for any damage or injury caused by incorrect installation by third parties. Damage due to incorrect installation by third parties will not be covered by the warranty.
- Do not install or place the touchscreen onto an unstable wall or floor.
- Do not use the touchscreen in an industrial environment where it is frequently exposed to vibrations and/or dust.
- Do not place the touchscreen close to equipment that generates heat.
- Make sure that all ventilation openings, located at the back of the touchscreen, stay uncovered, so hot air can escape.
- Only connect the touchscreen to an earthed electrical socket.

### 2.3 Repair

Never repair the touchscreen yourself!



**WARNING!** Warning for electrified parts! Never open the housing of the touchscreen! You can get an electric shock, cause a short circuit or even a fire. This can cause injuries or damage to yourself and/or the touchscreen.

Always contact Prowise or a certified partner in case of a defect, to avoid damage. Contact information can be found at: [www.prowise.com/en/contact](http://www.prowise.com/en/contact).

## 2.4. Environment

- Unplug the power cable if the screen will not be used for an extended period of time.
- The power consumption in standby mode is <0.5 watts.
- The Prowise Touchscreen One is ENERGY STAR certified.
- When the touchscreen is no longer usable, it can be disposed of at a designated collection point.



**PLEASE NOTE!** When WOL (wake on LAN) and WOS (wake on source) are enabled, the energy consumption in standby mode increases!

## 2.5 Recycling and disposal

If you have questions about the correct disposal of your touchscreen, please contact Prowise or a certified partner.



### Packaging

The device is packaged to prevent transport damage. Packaging is made of resources that can be reused or recycled.



### Device

Do not dispose of the device together with the household waste at the end of its lifespan. Enquire about the possibilities for an environmentally friendly and responsible method of disposal.



### Batteries

Depleted or defective batteries do not belong in the household waste. Dispose of them at a collection point for empty batteries. The remote control uses 1.5V AAA batteries.

## 3. Installation

A Prowise certified mechanic will install the Prowise Touchscreen on delivery and will ensure the screen is ready for use. We do not recommend it, but if you or someone else wants to install the screen, then please follow the steps below:

- Do not install the touchscreen alone.
- Use a certified Prowise bracket (not supplied on default) to mount the Prowise touchscreen to the wall.
- Use a Prowise VESA bracket (supplied with a Prowise lift system) when assembling the screen to a Prowise lift system.
- Please ensure the wall is strong enough to carry the weight of the touchscreen.
- Connect the cables (which cables you require depend on the external devices you use or other external sources like a lift system).
- When using a PC module, make sure that the module is placed correctly and is locked. Install the PC module as described in the chapter 'Install OPS PC module'.
- Make sure to only connect the power cable when the above elements have been connected and only use the power cable supplied by Prowise.



**CAUTION!** Prowise can not be held responsible for any damage or injury caused by the incorrect installation of the touchscreen done by third parties. Damage to the touchscreen, caused by incorrect installation by third parties is not covered by the warranty. Always contact Prowise or a certified partner if you have any questions about the installation.

### 3.1. Place of installation

Please follow the instructions below, these will help guarantee reliable functioning and a long lifespan of your touchscreen.

Keep the touchscreen and all connected devices away from water and avoid dust and heat. Do not place the touchscreen near devices which produce heat or in the vicinity of water. Non-compliance with these instructions can lead to faults or damage to the touchscreen.

The Prowise Touchscreen can be used at an ambient temperature from 0 °C to +38 °C (32 °F to 100,4 °F) and relative humidity from 10% to 90% (without condensation). When switched off, the touchscreen can be stored at a temperature from -20 °C to 60 °C (-4 °F to 140 °F) and relative humidity from 10% to 90% (without condensation).

Install the touchscreen on a stable, vibration-free floor/wall to avoid damage to the touchscreen. Make sure that all of the ventilation openings, located at the back of the screen, stay uncovered, so hot air can escape.



**WARNING!** Disconnect the power cable during a thunderstorm. For extra safety, we recommend using an overvoltage protection device, to prevent the touchscreen from sustaining damage as a result of power surges or lightning strikes.

## 3.2. Cabling

Only use the power cable supplied by Prowise to connect the Prowise Touchscreen to the mains power supply. The touchscreen must be placed close to the electrical outlet and the electrical outlet should be easy to reach. Cables should not be laid in the walkway to avoid anyone stepping on them or tripping over them. To avoid damage to the cables, do not place any objects on the cables. Prevent electrical overloads when using a distributing plug, as this can lead to a short circuit.

For extra safety, we recommend using a surge protector to prevent the touchscreen from sustaining damage as a result of power surges or lightning strikes.

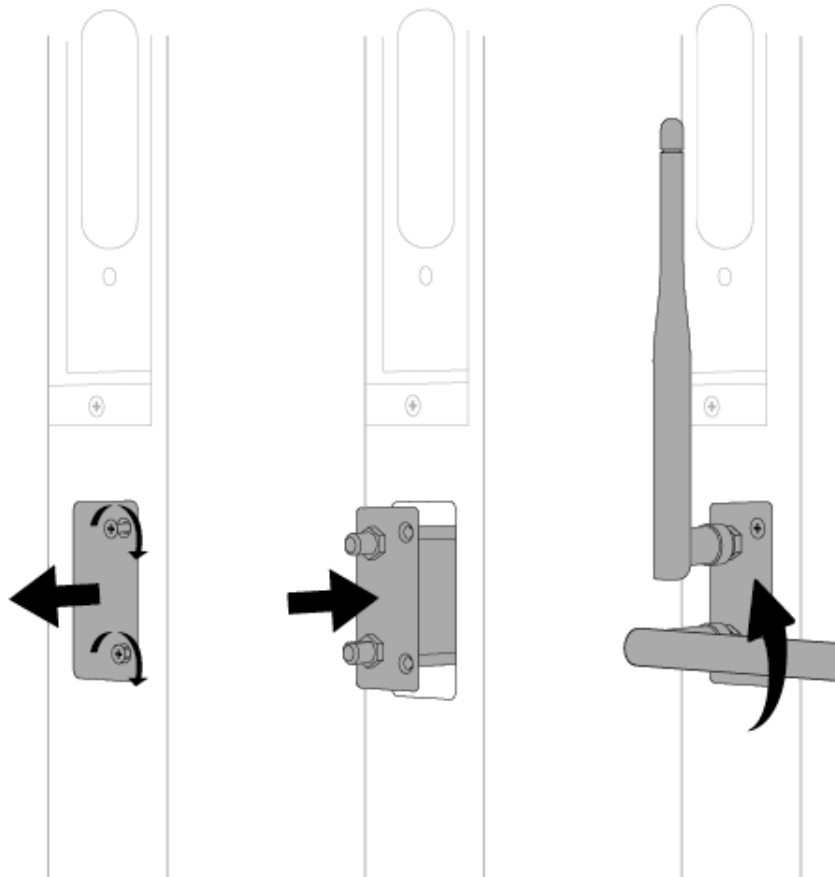


**CAUTION!** Only plug the power cable into grounded electrical outlets with AC 100-240V ~50/60Hz. If you are not sure about the power supply at the installation location, consult your energy company.



## 3.3. WiFi module

The Prowise Touchscreen is equipped with a WiFi module. Follow the steps below to successfully install the WiFi module.



**HAZARD WARNING!** Suffocation hazard. This product contains small parts that form a choking hazard for children. Keep this product out of reach for children when not installed into the touchscreen.



**WARNING!** Please make sure the power cable of the Prowise Touchscreen is disconnected before installation.

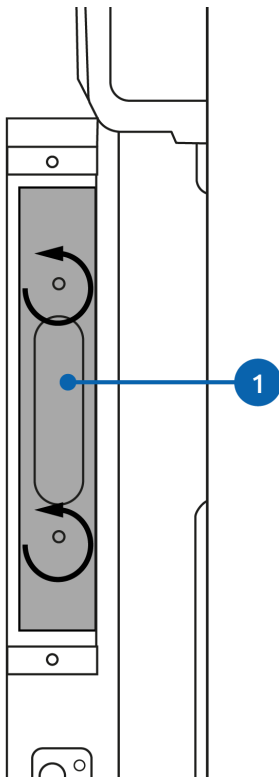
## 3.4 Install the OPS PC module

Follow the steps below to install the OPS PC module:

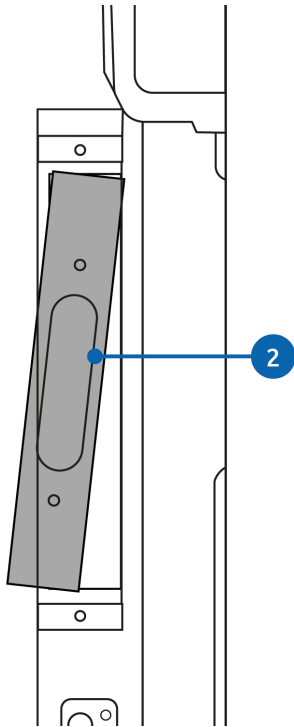
(Please note the OPS PC module is optional)



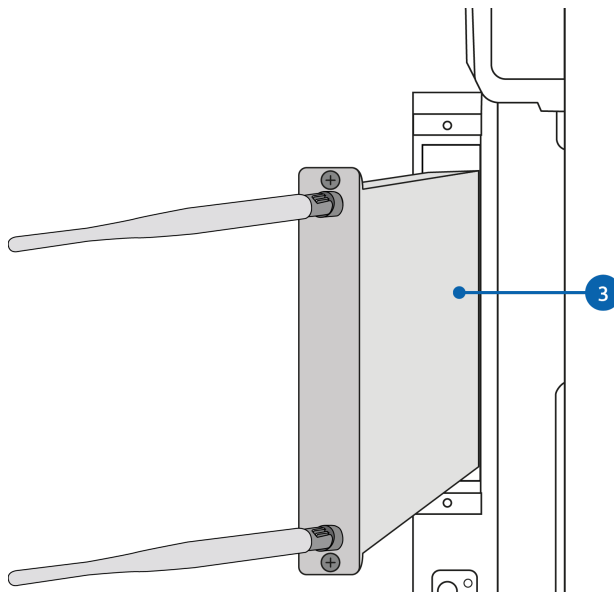
**CAUTION!** Please ensure the power cable is not connected to the main power supply while installing the OPS PC module.



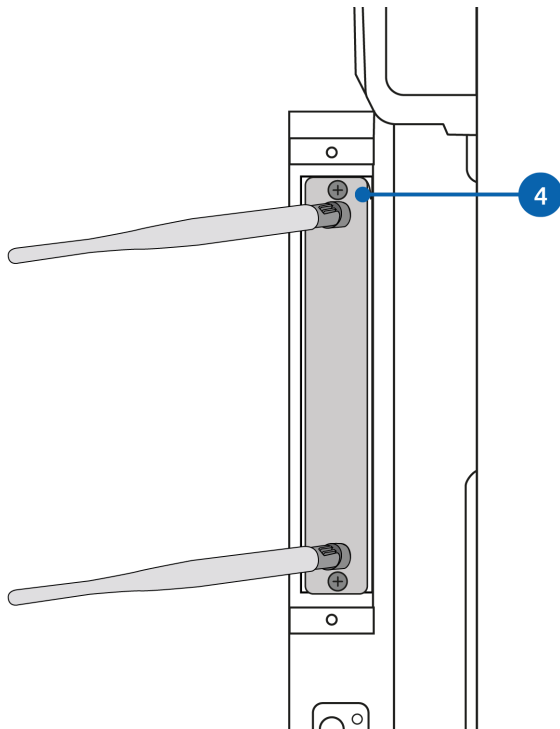
1. Unscrew the screws



2. Remove the cover plate



3. Insert the OPS PC module into the slot



4. Tighten the lock screw of the PC module

## 4. Becoming familiar with your product

We recommend not to install the touchscreen yourself or by a third party. Have Prowise or a certified partner install or mount your touchscreen to avoid possible damage.

Always adjust the screen to the correct height before use. Avoid standing in a stooped or bent posture and ensure that the ends of the screen are located within arm's reach.

The screen is in an optimal position if you can touch both the top and the bottom without bending down or reaching up high. By putting the screen in the right position you can prevent physical complaints caused by an incorrect posture. Avoid physical complaints caused by a poor posture.



**DANGER!** Risk of injury. Do not stand on a chair, stool or other object to operate the touchscreen. This especially applies to children! This involves a risk of falling that could result in serious injury. Ensure that the screen is installed at the correct height or that the lift is set to the correct height when the screen is used.

## 4.1. Product Specifications

Display	
Bezel colour	Matte black aluminium
Screen dimensions (inches)	65", 75", 86"
Screen type	Ultra HD LED - IPS
Resolution	3840 x 2160 @ 60Hz
Glass panel	Tempered, anti-glare
Thickness of glass panel	3.2 mm 0.13 inches
Hardness of glass panel	Mohs 7
Aspect ratio	16:9
Contrast ratio	1200:1
Dynamic contrast ratio	5000:1
Brightness	350 cd/m <sup>2</sup> (65") 400 cd/m <sup>2</sup> (75" and 86")
Number of colours	10 Bit (1.07B)
Viewing angle	178°
Refresh rate	60Hz
PC module slot	Yes, OPS module
Lifespan	50,000 hours

### Touch type

Type Exceptionally accurate IR technology

Multi-touch Yes (20 points)

Multi-writing Yes (10 points)

Auto-calibration Yes

Resistant to sunlight Yes

Supported OS Windows 7, 8.1 & 10/Mac OS/Linux/Android and Chrome OS

### Audio

Speakers 2.0 audio (2 front speakers)

Front speaker power 2 x 16W (8Ω)

Max. output amplifier 2 x 16W

### ProWrite

Number of pens 2

Simultaneous writing with multiple colours Yes

Simultaneous writing with multiple line thicknesses Yes

Windows Ink support Yes

### Prowise Central (4K)

Android version Android 8.0

Storage 16GB/32GB

Memory 3GB

Over-the-air updates (OTA)

Yes

<i>Ports on the motherboard</i>	
<i>Video input</i>	<i>2 HDMI (HDMI 2.0 Type A HDCP2.2 CEC)</i>
	<i>1 DP (DP 1.2)</i>
	<i>1 VGA input 1920x1080p @60Hz</i>
	<i>1 AV 567i</i>
	<i>1 YPBPR 1080P</i>
<i>Audio input</i>	<i>1 PC Audio in</i>
<i>Video output</i>	<i>1 HDMI OUT 2.0</i>
	<i>1 AV OUT</i>
<i>Audio output</i>	<i>1 (3.5mm headphone Jack female)</i>
	<i>1 Optical audio output; S/PDIF</i>
<i>USB 2.0 A</i>	<i>2</i>
<i>USB 2.0 B</i>	<i>1</i>
<i>RS232 Control (DB9 Female)</i>	<i>1 (Straight connection)</i>
<i>LAN (RJ45)</i>	<i>2</i>

<i>Front ports</i>	
<i>Video Input</i>	<i>1 HDMI (HDMI 2.0 Type A HDCP2.2)</i>
	<i>1 TYPE-C (HDMI 2.0+ 15W +Touch USB2.0)</i>
<i>USB 2.0 A</i>	<i>1</i>
<i>USB 2.0 B (Touch)</i>	<i>1</i>
<i>USB 3.0 A</i>	<i>1</i>

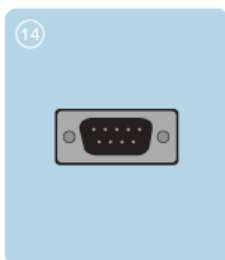
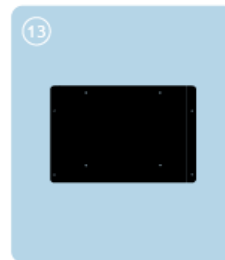
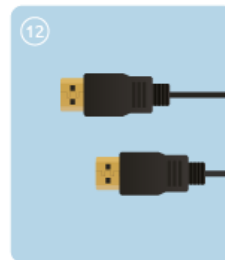
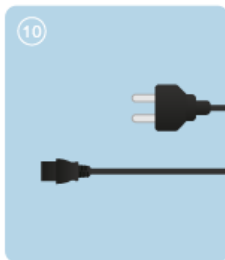
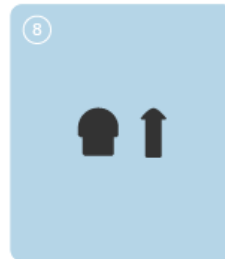
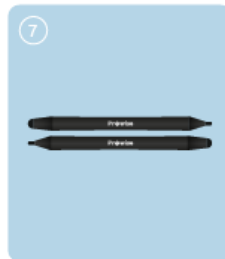
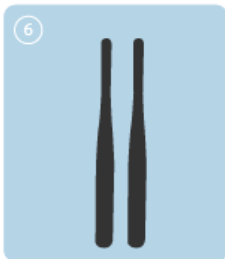
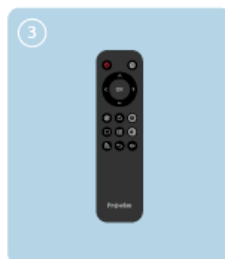
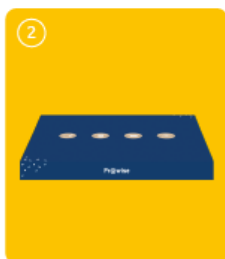
Ambient factors	
Ambient temperature during use	0°C - 40°C 32 - 100°F
Ambient temperature when stored	-20°C - 60°C -4 - 140°F
Humidity during use (no condensation)	10% - 90%
Humidity when stored (no condensation)	10% - 90%
General information	
Voltage	~ 100-240 V (50/60Hz)
Nominal power consumption (without modules)	65": 250 W 75": 400 W 86": 440 W
Energy consumption in ECO mode	65": 84.7 W 75": 134 W 86": 170 W
Energy consumption in on mode	65": 124.4W 75": 151.2W 86": 179W
Energy consumption in standby mode	≤ 0,5 Watt
Gross weight	65": 54±1.5 kg / 119.05lb ±3.5 lb 75": 74±1.5 kg/ 163.14lb ±3.5 lb 86": 94±1.5 kg / 207.23lb ±3.5 lb
Net weight	65": 39 kg±1.5kg / 85.98lb ±3.5 lb 75": 54 kg±1.5kg / 119.05lb ±3.5 lb 86": 74 kg±1.5kg / 163.14lb ±3.5 lb
Dimensions of the screen (W x H x D)	65": 1518.3 x 113.8 x 934.3 mm 59.78 x 4.48 x 36.78 inches  75": 1744.61 x 110.7 x 1063.16 mm 68.68 x 4.36 x 41.86 inches  86": 2241.7 x 116.4 x 1337.8 mm 88.26 x 4.59 x 52.67 inches
Dimensions of the packaging (W x H x D)	65": 1660 x 240 x 1045 mm 65.35 x 41.14 x 9.45 inches  75": 1895 x 240 x 1160 mm 74.61 x 45.67 x 9.45 inches



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	86": 2140 x 240 x 1310 mm 84.25 x 51.57 x 9.45 inches
VESA standard	65": 600 x 400 mm 75": 600 x 400 mm 86": 700 x 400 mm
VESA arrangement for external devices	VESA 100 x 100 mm
Certification	CE: EMC + LVD + RED / FCC-IC- VOC / RoHS / REACH/ RCM / WEEE and Energy Star
Warranty	5 years

## 4.2. In the box

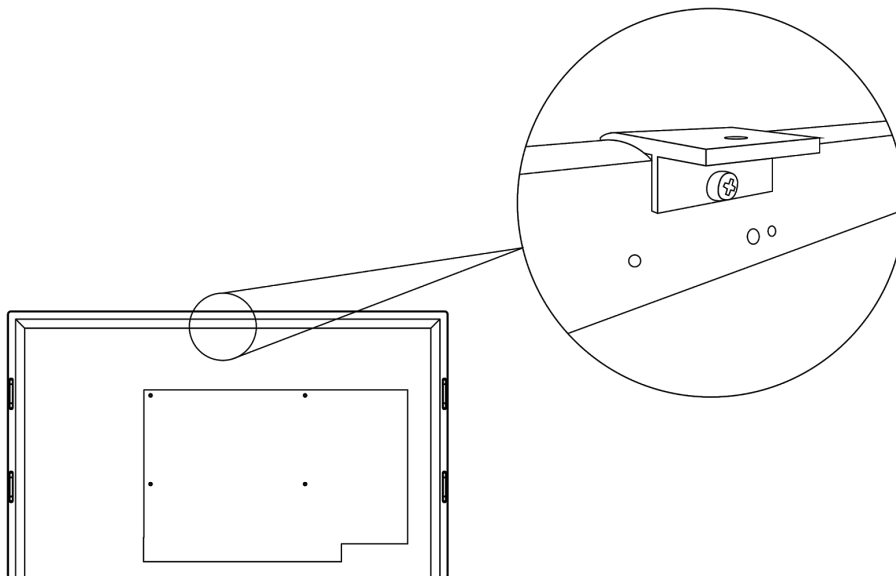


### 1. Prowise Touchscreen

## 2. Accessory box:

3. Remote control
4. 1.5V AAA batteries (2x)
5. Wi-Fi module
6. Wi-Fi antenna (2x)
7. ProWrite® pen dual writing pen including pen points (2x)
8. Pen tips (4x)
9. Quick start guide and safety instructions Prowise Touchscreen One
10. Power cord - EU
11. USB touch cable
12. HDMI cable
13. VESA plate 100 x 100 mm
14. RS232 adapter
15. Camera mount plate

Installing camera mount plate:



1. Place the plate on the bezel (align with screw holes)
2. Mount the plate to the back wall with a screw.
3. Secure the camera with the ¼ inch screw thread

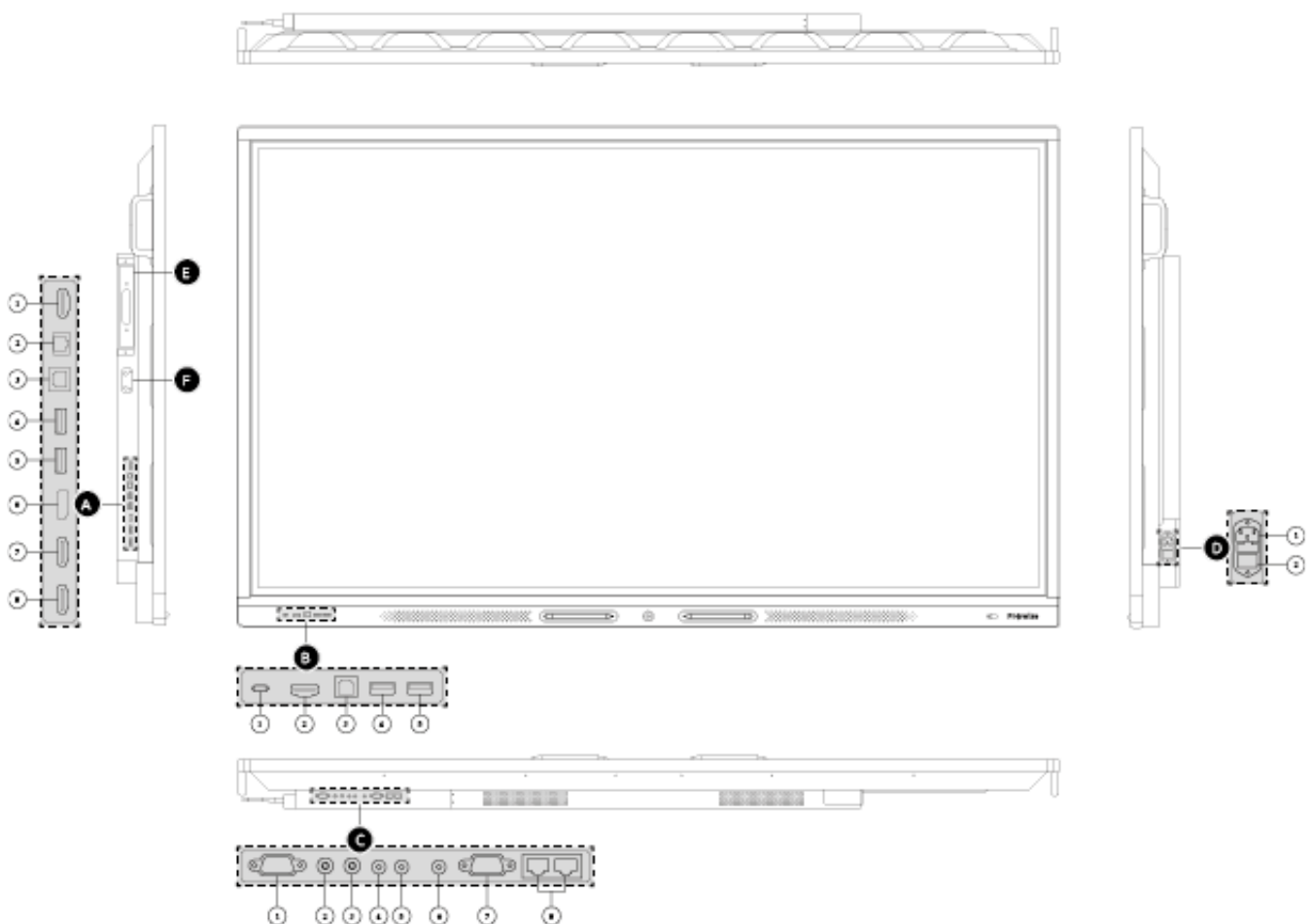


**WARNING!** Keep the packaging material, such as plastic foil, away from children. Improper use of packaging materials can result in a choking hazard.



**PLEASE NOTE!** Check whether the supplied package is complete in case anything is missing, please contact our service desk within 5 days after delivery. Please provide the serial number and a copy of the invoice.

## 4.3. Product overview



Side ports (left - motherboard)

- 1 HDMI output 2.0
- 2 Optical Audio input; S/PDIF
- 3 USB 2.0 Type B (Touch port)
- 4 USB 2.0 Type A

- 5 USB 2.0 Type A
- 6 Display port 1.2 (DP 1.2)
- 7 HDMI 2.0 Type A (HDCP2.2 CEC)
- 8 HDMI 2.0 Type A (HDCP2.2 CEC & ARC)

#### Front ports

- 1 USB 3.0 Type A
- 2 USB 2.0 Type B (Touch port)
- 3 USB 2.0 Type A
- 4 USB Type C (HDMI 2.0 + 15W power + USB 2.0 Touch)
- 5 HDMI 2.0 Type A (HDCP2.2)

#### Bottom ports (mainboard)


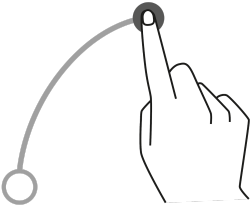
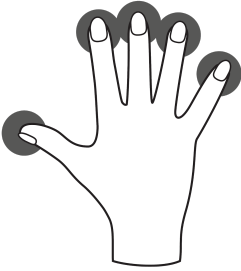

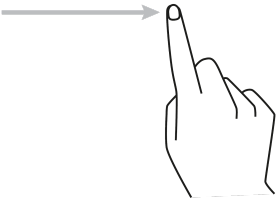
- 1 VGA input (1920x1080p @60Hz)
- 2 PC Audio input
- 3 Audio output - Headphones
- 4 AV Video output
- 5 AV Video input (567i)
- 6 Component Video input
- 7 RS232 serial port (Straight connection)
- 8 2x LAN Port (RJ45)

#### AC input and main switch (right)

- 1 AC input
- 2 Main switch
- OPS Slot (Left)
- Wi-Fi Module Slot (Left)

## 4.4. Touchscreen control

The Prowise Touchscreen is fitted with 20-points multi-touch. The screen recognises up to 20 simultaneous touch points. This allows you to use the touchscreen with multiple people at once.

	<p>Click</p>	<p>To click on a part of the screen, gently tap with one finger on the touchscreen.</p>
	<p>Drag</p>	<p>Tap with one finger on the item that you want to move and drag it to the new location without releasing your finger from the screen.</p>
	<p>Opening Prowise Central menu</p>	<p>Place five fingers of one hand on the screen for at least 2 seconds. The menu will appear.</p>
	<p>Right-click (context menu) (PC module)</p>	<p>Tap and hold one finger on the screen for a few seconds for the right click function.</p>
	<p>Scroll</p>	<p>Slide one finger across the screen in the desired direction.</p>

The touchscreen can also be controlled by using a computer mouse or with the supplied remote control. Furthermore, you can use the control button, located in the centre of the speaker bar of the touchscreen, to turn the screen ON or OFF or to open the Central menu.

## 4.5. The control button

The control button can be found in the middle of the speaker bar of the touchscreen.



## Control button

- When the touchscreen is in standby mode, short-press this button to turn it back on again.
- When the touchscreen is turned on, long-press this button to turn it off.
- When the touchscreen is turned on, short-press this button to open the Central menu.



The LED inside the control button indicates the touchscreen's status.

- The touchscreen is switched on: White
- Background lighting is disabled: White
- Sleep mode: Flashing red (every 2 seconds)
- Standby mode: Red

## 4.8. ProWrite® technology

The Prowise Touchscreen is equipped with two pens. These are conveniently located at the front of the screen and will automatically click into place when you hold a pen in front of the docking location.

What makes the ProWrite® technology and pen combination unique in the market is that the pen has two different font sizes to choose from when writing on the screen. The advantages of this are:

- Start small and switch to big without changing the settings
- Switch between colours by turning around the pen
- Write simultaneously in 2 different colours and sizes

In addition to the uniquely designed pens we enhanced the technology to ensure a better writing experience. The highlights of this are:

- Fast writing response
- Accurate touch detection
- Full support for Windows Ink
- 20-points touch support
- 10-points writing support

With this technology the Prowise Touchscreen is an ideal touchscreen for collaboration and writing.



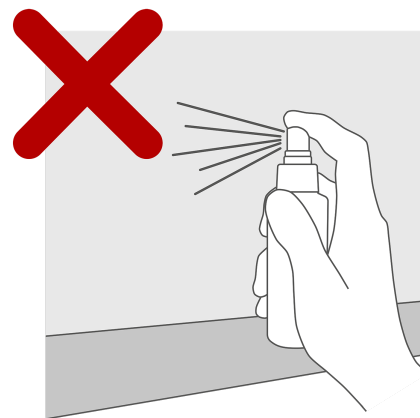
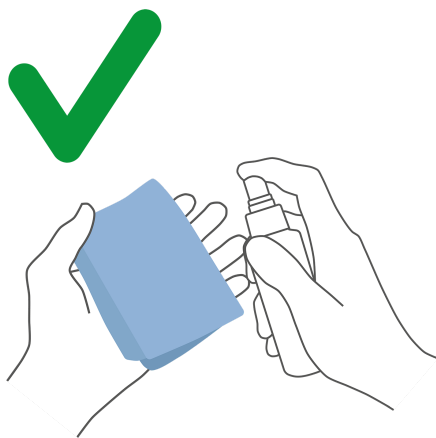


## 4.9. Cleaning

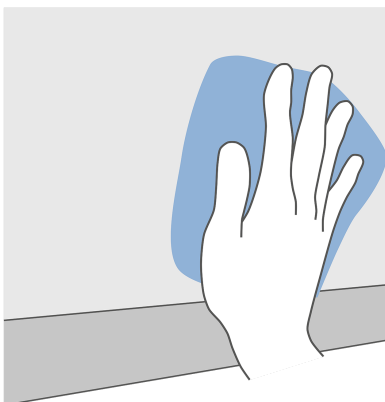
Clean the screen with a dry, lint-free, microfibre cloth. Ensure this cloth is free of impurities.

If you wish to use a cleaning agent, always use one recommended by Prowise. Do not use any aggressive cleansers as these can cause damage to the screen.

Never spray a cleanser directly onto the screen, apply it to a cloth first. The cloth may be slightly damp, but not wet, as this can cause damage to the screen.



Gently wipe down the screen with the cloth. Clean the screen with gentle, circular movements without pressure to gain the best result. Never use an abrasive cleanser.





**WARNING!** In the unlikely event that the touchscreen gets wet, do not turn the power on and do not insert the power cable into the electrical outlet. This can result in an electric shock. Should the touchscreen get wet when it's turned on, immediately turn off the power supply and disconnect the power cable of the touchscreen from the electrical outlet to avoid a short circuit.



**CAUTION!** Unplug the power cord before cleaning the screen.

## 5. Getting started

### 5.1. Turn the touchscreen on and off

#### Enable

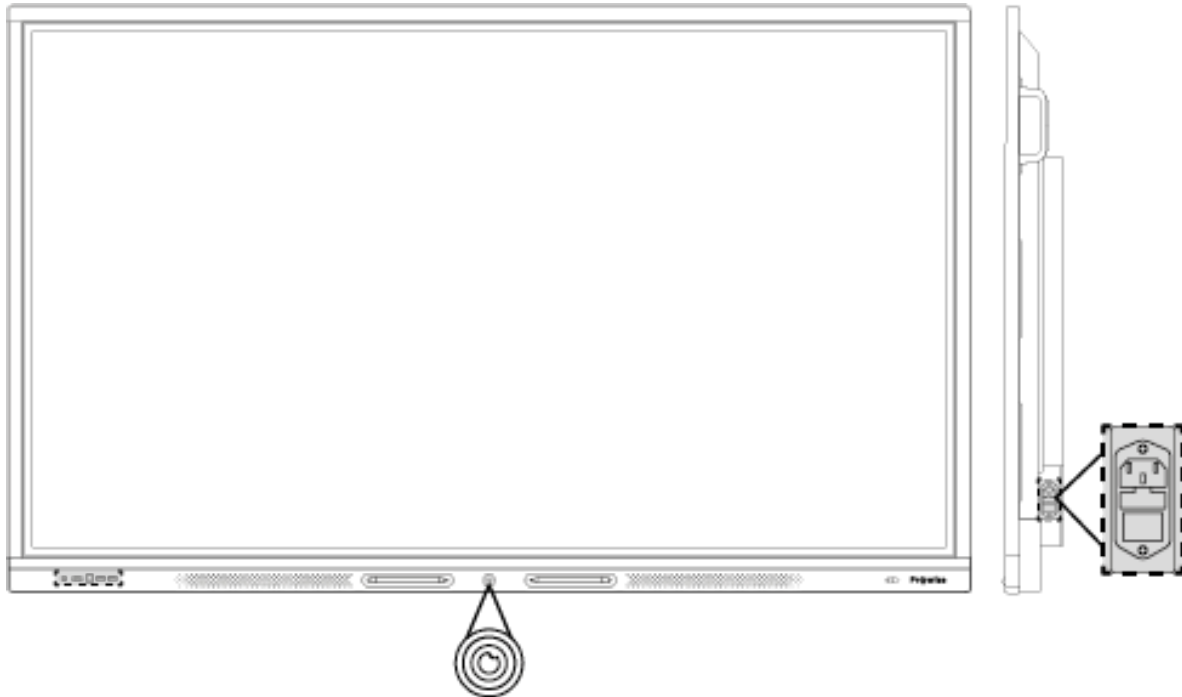
1. Ensure the touchscreen is connected to the mains power supply.
2. Turn ON the power switch on the bottom left-hand side of the touchscreen.

There are a few different options to turn on the touchscreen once activated:

- Press the control button located in the middle of the speaker bar of the touchscreen
- Press the on/off button on the supplied remote control

## Disable

### Using the on/off button of the control panel



1. Press the control button in the middle of the speaker bar.
2. The notification 'The system will shut down in 15 seconds' will appear.
3. Select 'Shut down' if you want to shut down the touchscreen immediately, or wait 15 seconds. Press 'Cancel' to cancel the shut-down process.
4. Turn off the main power supply by using the power switch on the left hand side of the touchscreen (see picture).

### Shut down automatically

When no active input source has been detected in a specific input channel, a notification will appear after 1 minute to shut down the touchscreen. This notification will be automatically accepted after 15 seconds by the system and the touchscreen will be shut down.



**PLEASE NOTE!** Turn the touchscreen off completely when moving the screen by turning off the power switch and removing the power cable from the screen.

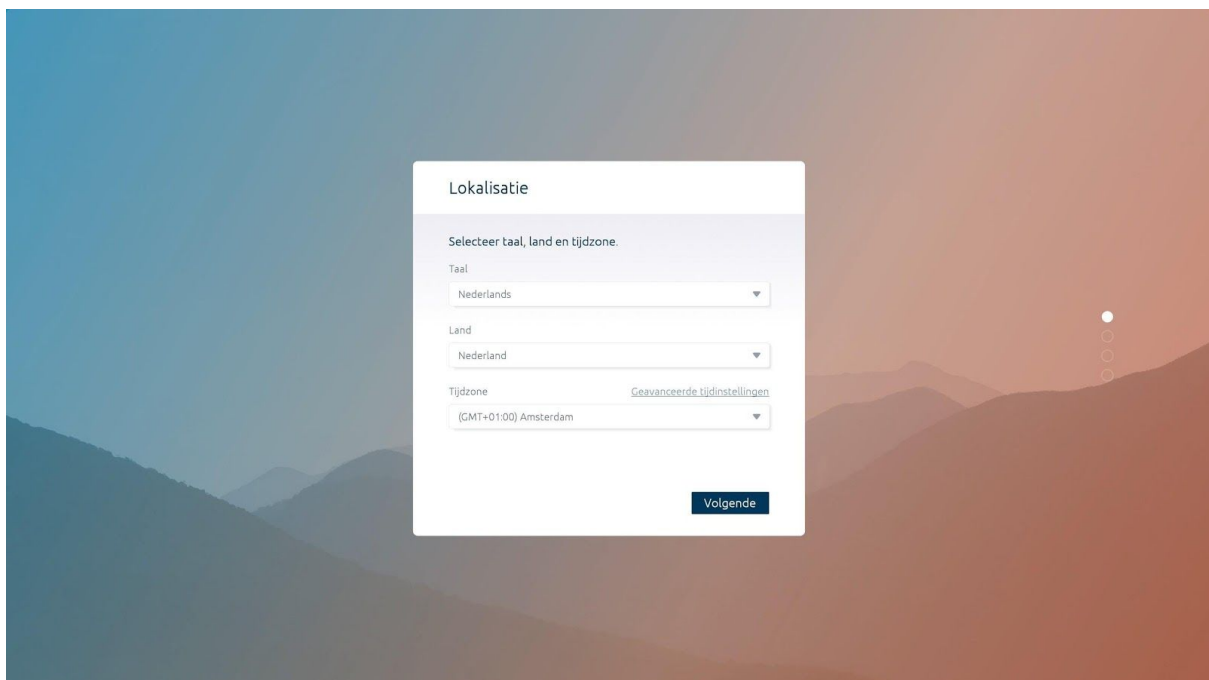
## 5.2. Starting your device for the first time

When starting up the Prowise touchscreen for the first time after installing Prowise Central 3.0, we take you through several important steps.

Press 'Start' to begin.

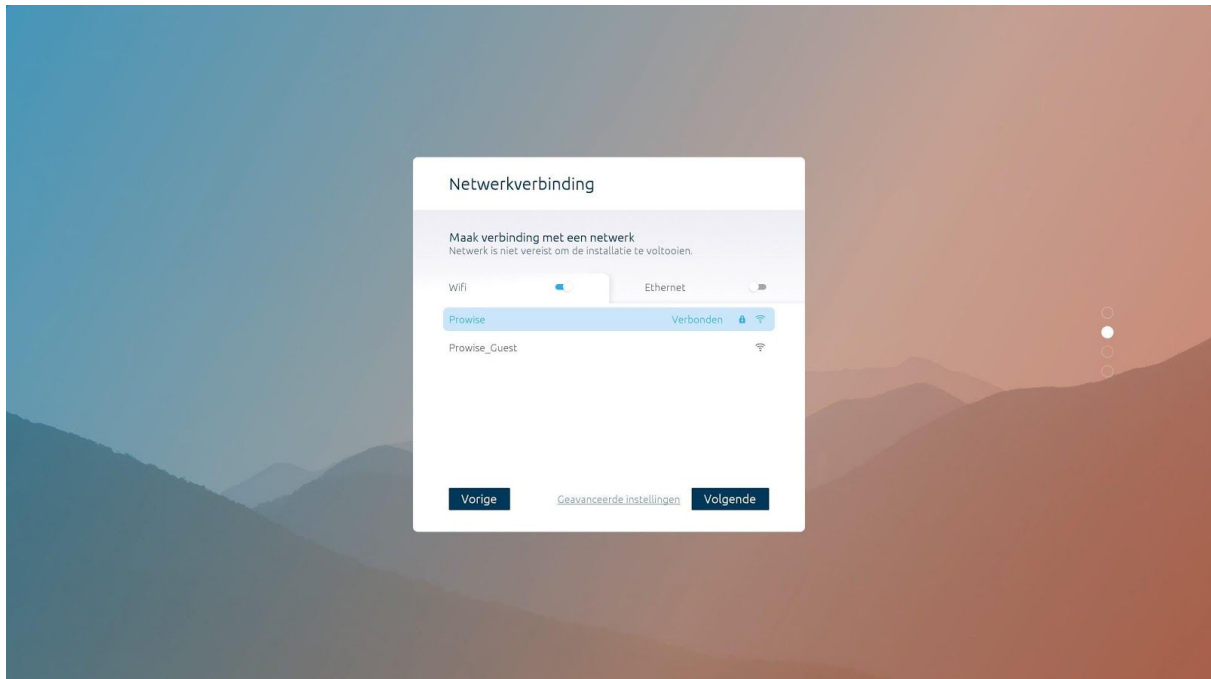


### Country and language



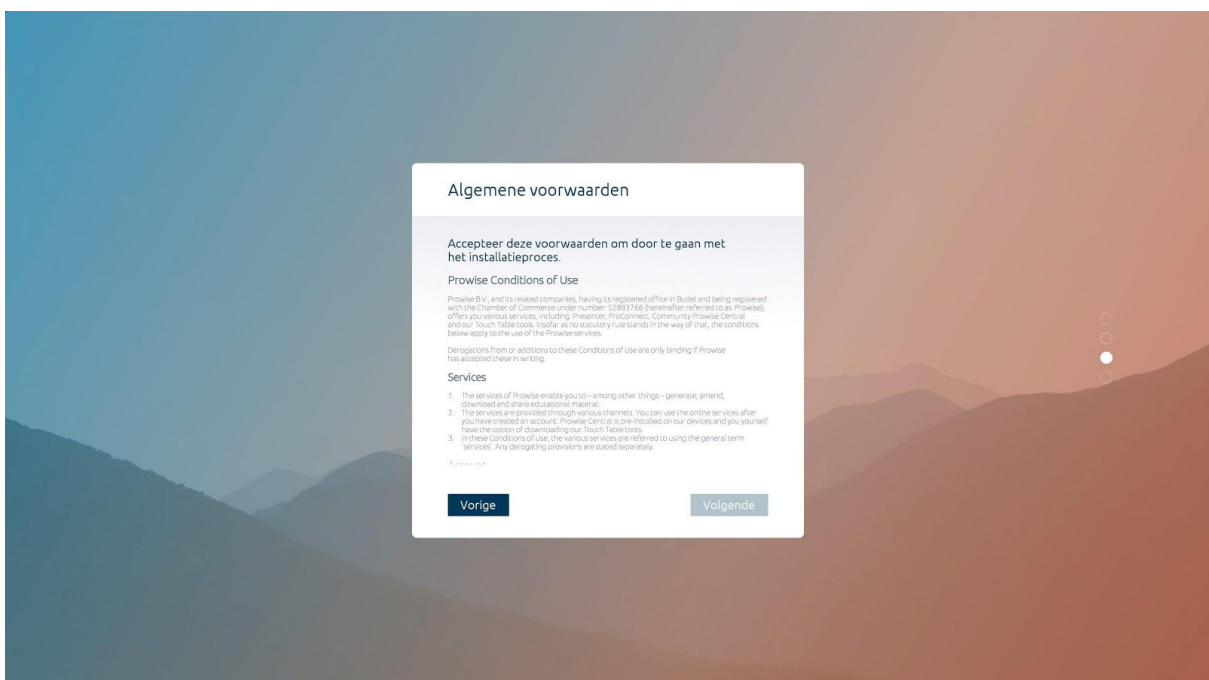
- Select your preferred language
- Select your country
- Select your time zone

## Network connection



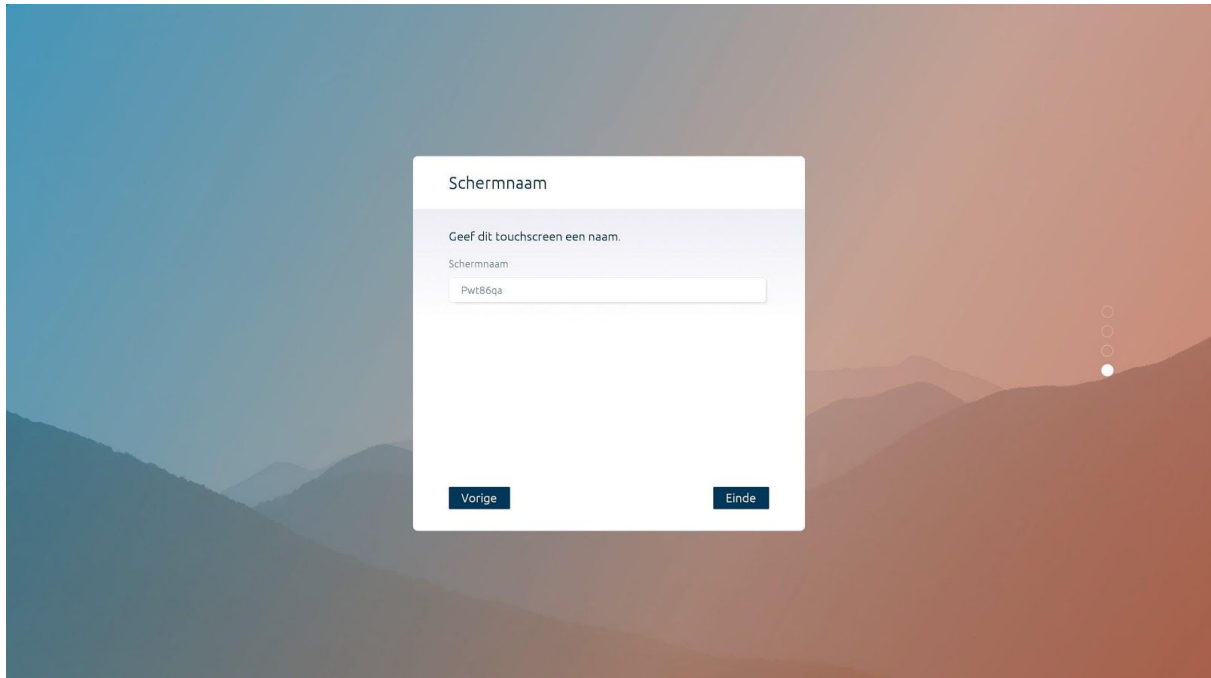
- Select a network to connect with. You can choose between a Wi-Fi network or Ethernet connection

## Terms and conditions



- Read and accept our general terms and conditions

## Screen name and registration



- Personalise your Prowise touchscreen by giving it a name or title

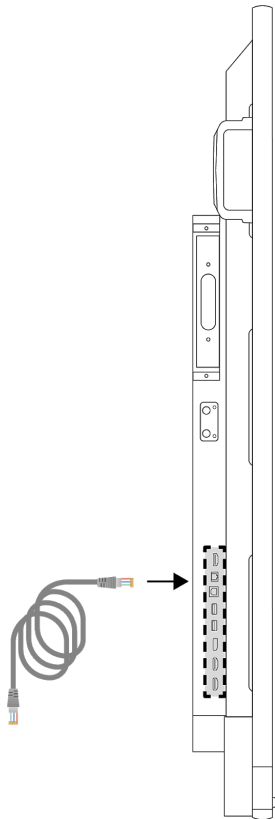
Press 'Finish' to complete the settings. You can now get started with Prowise Central.

## 5.3. Connecting to a network

Connect your touchscreen to a wireless Wi-Fi network or via a network cable.

### **Ethernet**

Connect the network cable to the LAN port of your touchscreen. The touchscreen will automatically detect the network and connect to it as soon as 'Ethernet' has been activated in the settings menu.



Follow the steps below to view the specifications of the network:

1. Place five fingers on the screen for at least 2 seconds to launch the Prowise Central menu
2. Press 'Settings' and then select 'Connectivity'
3. The network specifications will be displayed

## **Wi-Fi connection**

Follow the steps below to set up a connection to a Wi-Fi network:

1. Make sure the Wi-Fi module is installed correctly
2. Place five fingers on the screen for at least 2 seconds to launch the Prowise Central menu
3. Press 'Settings' and then select 'Connectivity'
4. Select 'Wi-Fi'. The touchscreen will scan for available networks
5. Select the preferred network. Click on 'Advanced' if you want to connect with an advanced network
6. Enter the network password. Click on the eye icon to reveal the password.
7. Press the 'Connect' button to connect to the wireless network

## 5.4. Adjusting the volume

The volume of the touchscreen can be adjusted in different ways:

- With the remote control:
  - Use the volume buttons to adjust the volume.
- With the Central Menu:

Adjust the volume with this feature of the Prowise Central menu. Drag the dot to the right to increase the volume and to the left to decrease the volume. Click on the mute button to turn off all sound at once.

## Prowise Centra

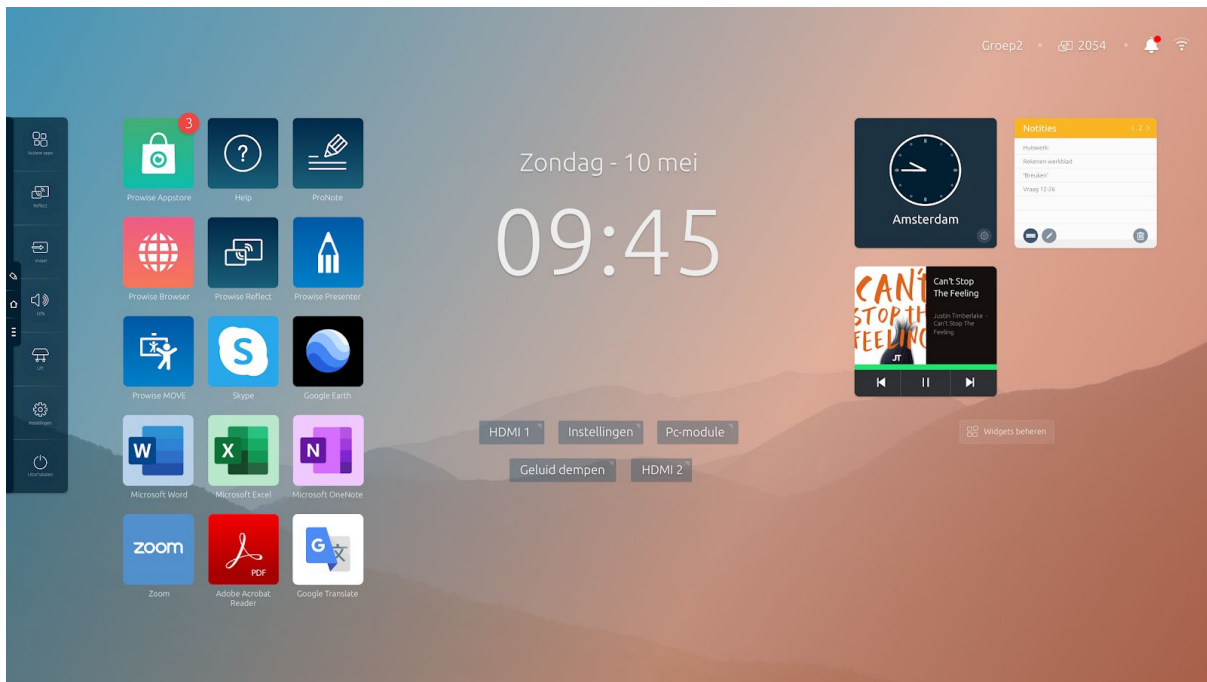


**PLEASE NOTE!** In the future, extra features will be added to Prowise Central. The updates for Central will be installed on the touchscreen via OTA updates. More information about OTA updates can be found in "OTA (Over-The-Air) updates".

## 6.1. Prowise Central home

Prowise Central is the smart operating system of your Prowise touchscreen. Software that is specially developed to be compatible with our hardware and to make life as easy as possible for you as the user. Fully and easily optimise all the features you use on a daily basis in an utmost secure environment.





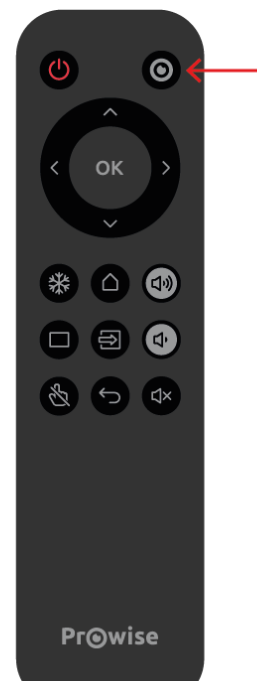
## 6.2. The Prowise Central menu

Three icons are always visible on the left-hand side of the Prowise touchscreen.

- ProNote icon: open ProNote, the integrated whiteboard software
- Home icon: go to Prowise Central home
- Three dots: open the Prowise Central menu

The Prowise Central menu unfolds on the left-hand side of the Prowise touchscreen. You can open the Prowise Central menu in three ways.

1. Press the three dots on the left-hand side of the screen
2. Press and hold down five fingers on the screen for a minimum of two seconds
3. Press the Prowise Central home button on the remote control



The Prowise Central menu consists of the following items:

- Active apps
- Screencasting
- Input sources
- Volume
- Lift control
- Settings
- Power button



## 7. Changing the settings

The Central settings menu is located in the menu. Here you can adjust multiple settings of your Prowise touchscreen, such as: display and audio settings, connectivity and other settings.

For more information about adjusting the settings in Prowise Central, please read the Prowise Central manual.

## 8. OTA updates (over-the-air updates)

OTA updates (over-the-air updates) ensure that you always have the latest software version installed on the touchscreen. The only thing you need for the OTA updates is a stable internet connection with Prowise Central. This can either be a Wi-Fi or an Ethernet connection.

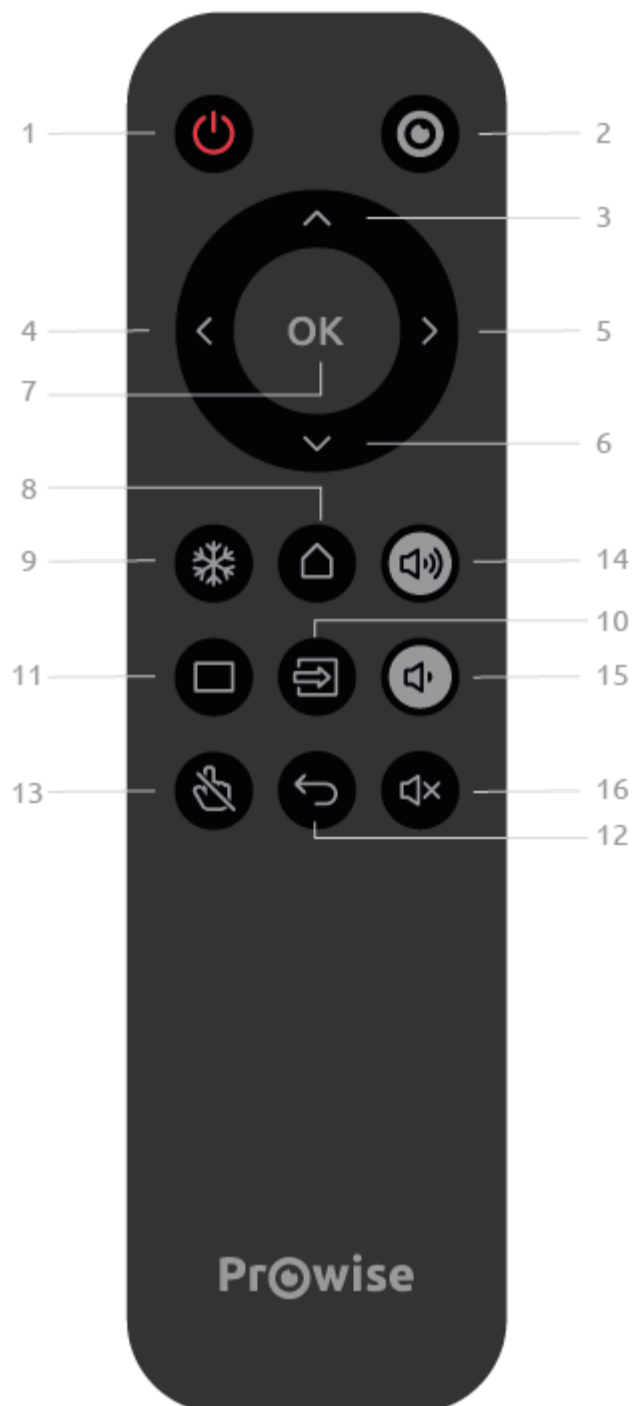
OTA updates are enabled by default. Updates are installed once the touchscreen is switched off. This can be switched off in the 'General settings' menu. However, Prowise recommends always having OTA updates activated.


















**PLEASE NOTE!** OTA updates require a Wi-Fi or an ethernet (wired network) connection to Prowise Central.

## 9. Remote control

### 9.1. Schematic overview and explanation of the buttons



1		Press this button to turn the touchscreen on or off. Press this button to switch the touchscreen off and then press Enter to confirm.
2		Opens the Prowise Central menu.
3		Navigation button – up
4		Navigation button – Left
5		Navigation button – Right
6		Navigation button – Down
7	Ok	Confirm selection.
8		If an input other than Prowise Central home is active, this button can be used to return to Prowise Central home.
9		Freeze button: pause the screen
10		Change input source
11		Temporarily disables the screen. This is depicted in the form of a black screen.
12		Go back one menu. If Central menu is active then this closes the menu
13		Enable or disable the IR touch functionality of the touchscreen.
14		Increase the volume level
15		Lower the volume level
16		Enable or disable the internal speakers of the touchscreen.

## 9.2. Angle at which to use the remote control

To use the remote control, point it to the IR receiver of the touchscreen (bottom right corner of the touchscreen). The remote control has a range of around 8 metres.

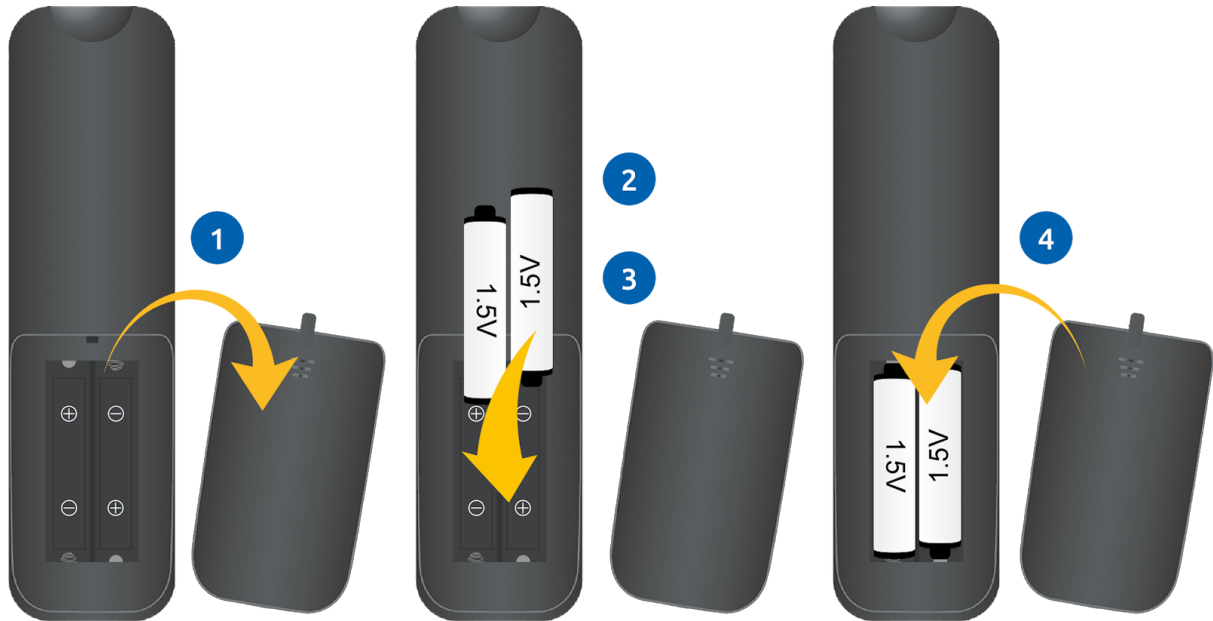


**CAUTION!** Any obstacles between the remote control and the receiver of the touchscreen can obstruct the signal and cause the remote control to not work properly.

## 9.3. Replacing the batteries of the remote control

Before using the remote control for the first time, you must insert the two (1.5V AAA) batteries, supplied with the remote control. Once the batteries are running out and the remote control is no longer working properly, you must change the batteries. You can do this as follows:

1. Carefully remove the cover plate on the reverse side of the remote control.
2. Insert the two batteries (1.5V, AAA) into the remote control.
3. Place them with the positive and negative poles as indicated by the (+) and (-) signs in the battery compartment.
4. Close the battery compartment again by carefully replacing the cover plate.



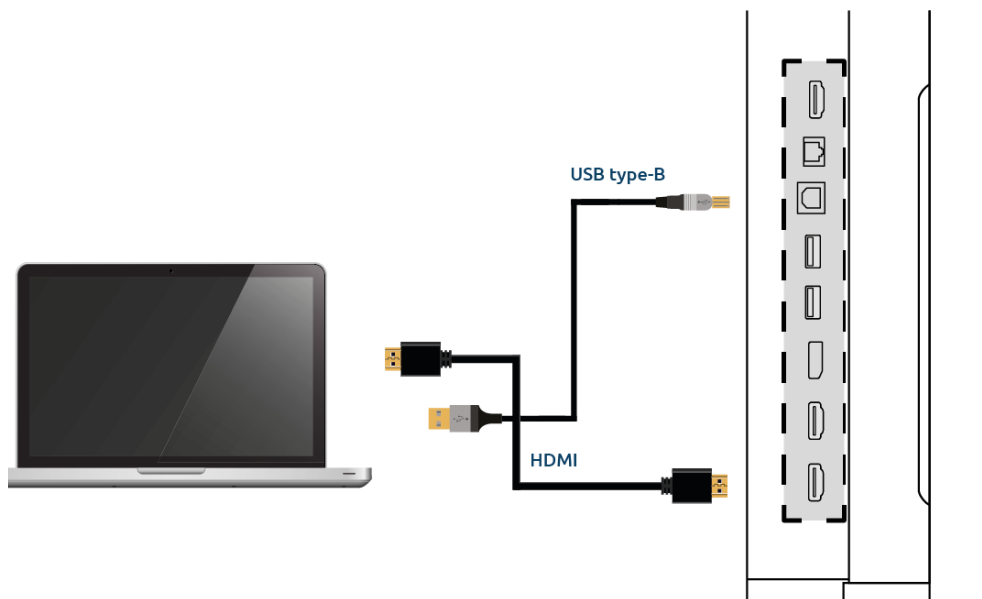
**WARNING!** Remove any leaking batteries as quickly as possible from the remote control. Thoroughly wash your hands afterwards. The leaking chemicals are toxic and must never come into contact with the mouth, skin or eyes.



**PLEASE NOTE!** Only use 1.5 V AAA batteries. Insert them as shown by the instructions on the remote control.

## 10. Connecting auxiliary equipment

### 10.1.1. HDMI

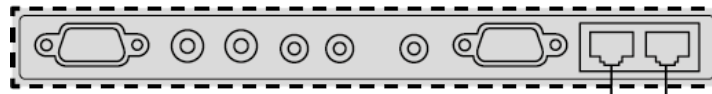


In addition to an HDMI connection, a USB touch connection is also available on the right-hand side of the touchscreen. This can be used to connect an external PC with touch functionality.

1. Connect an HDMI cable to the HDMI port of the external PC and to the HDMI input port of the touchscreen.
2. Connect the USB touch cable to the touch USB port of the touchscreen and to a USB port on the external PC.
3. Once all cables have been connected, switch on the touchscreen and the external PC.
4. Once the touchscreen and the external PC have booted up, navigate in the Central menu to 'Input' and select the correct HDMI source.



**PLEASE NOTE!** We recommend using a cable that is as short as possible for the best connection quality and is no longer than 3 metres.

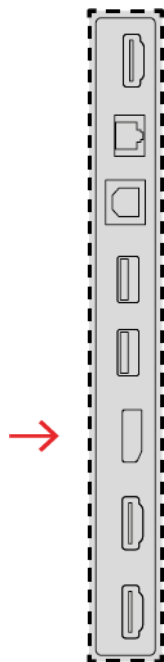


### 10.1.2 VGA

You can also connect an external device with the Prowise Touchscreen via VGA cable. Please note: this only enables a video connection. Add an audio signal by plugging in a 3.5mm jack (stereo) in the Audio in port. Connect a USB touch cable if you also want to use the touch feature.

1. Connect a VGA cable to the VGA port of the external PC and the VGA port of the touchscreen.
2. Once all cables are connected, switch on the touchscreen and the external device.
3. As soon as the touchscreen and the external PC have booted up, navigate to 'Input' in the Central menu and select the VGA source.

### 10.1.3 DP

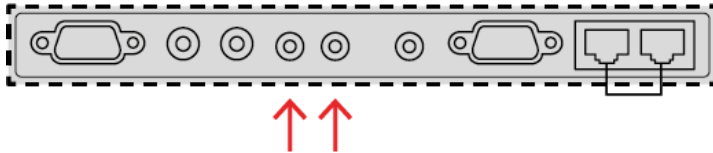


You can also connect an external device to the Prowise Touchscreen via a DP port. Connect a USB touch cable if you also want to use the touch feature.

1. Connect a cable to the DP port of the external PC and to the DP input of the touchscreen.
2. Once the cables have been connected, switch on the touchscreen and the external PC.
3. As soon as the touchscreen and the external PC have booted up, navigate to 'Input' in the Central menu and select the source.

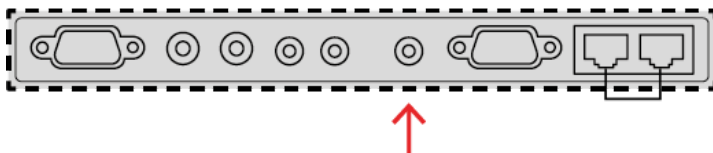


### 10.1.4 AV



The composite video signal is a signal that emits transmits both video and audio. You can connect the composite video with the Prowise Touchscreen with a 3.5mm Jack plug (Male with 3 rings) in the AV in port (Audio L, Audio R and Video). Connect a USB touch cable if you also want to use the touch feature.

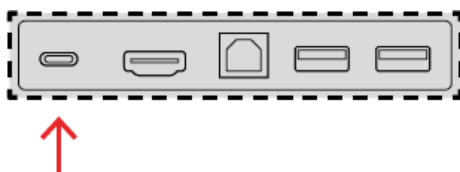
### 10.1.5 YPbPr



The analogue Component video signal (YPbPr) is a video signal split in 3 signals (Luminance signal Y, Chrominance signal Blue and Chrominance signal Red). This signal does not include audio.

Connect the component video signal with the Prowise Touchscreen with a 3.5mm Jack plug (Male with 3 rings) via the YpbPr port (luminance and 2x chrominance) Connect the audio signal to the Prowise Touchscreen with a 3.5mm Jack plug (stereo) in the AV in port. To receive both video and audio signals on the Prowise Touchscreen, you need to connect two jack plugs split into 5 RCA connectors at the source. (Red, Green, Blue)(Red, White).

### 10.1.6 USB-C

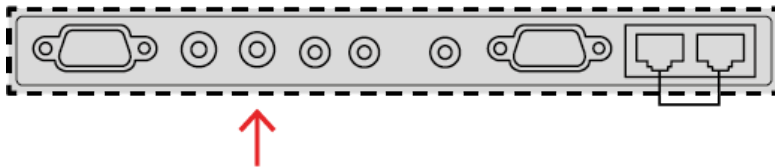


The USB-C port at the front of the screen has multiple functionalities. This port can be used for visuals, sounds, touch, data and transferring a 15W electric current. Connect your device to this port with a USB-C cable to get started straight away with only one cable.

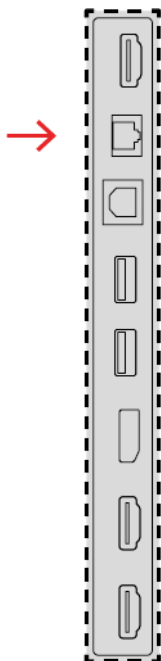
## 10.2. Connecting the Prowise Touchscreen to audio equipment

### 10.2.1. Connecting headphones

Connect headphones by plugging them into the analogue audio output “headphones”. Use the touchscreen’s volume control to adjust the headphones volume.



### 10.2.2. Connecting an amplifier



Connect an amplifier via the digital S/PDIF port. Use the amplifier’s volume control to adjust the amplifier’s volume.

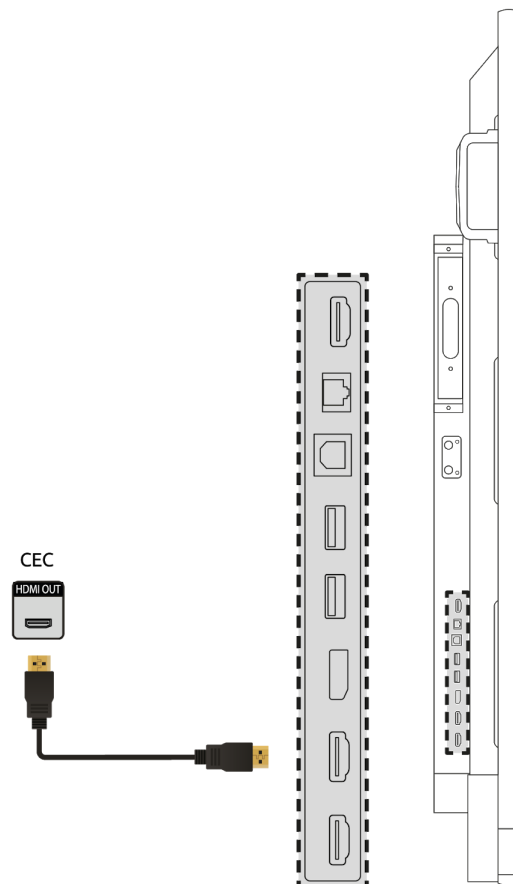


**PLEASE NOTE!** *The audio output (the digital S/PDIF) is always active. If you connect an external audio device to the touchscreen and only wish to use this audio device, press the "Mute" button on the remote control or in the Central menu to turn off the touchscreen's internal speakers.*

### 10.2.3. Connecting using the HDMI port (CEC)

CEC (Consumer Electronics Control) is a functionality that works via HDMI. The devices that are connected to each other in this way communicate via CEC. This allows these devices to be controlled via the touchscreen's remote control.

Connect a device via CEC by inserting an HDMI cable in the touchscreen's HDMI port.

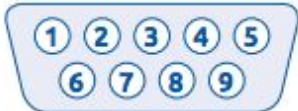


# Appendix

## RS232 protocol and code list

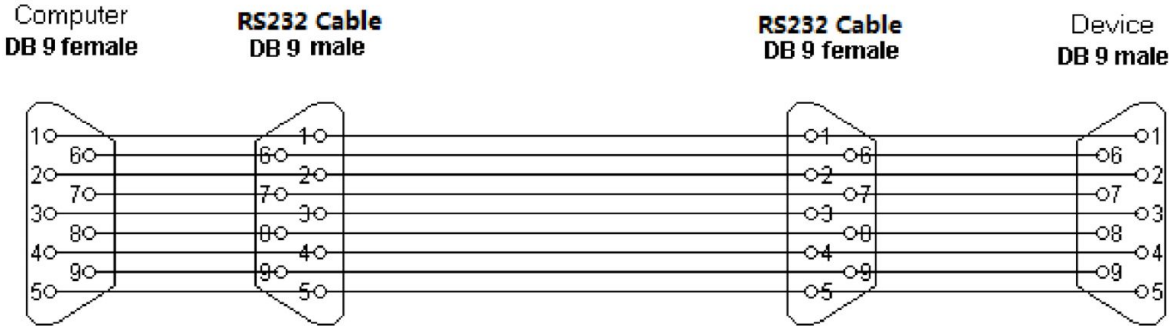
This appendix describes the hardware interface specification and software protocols of RS232 interface communication between the touchscreen and the connected PC or other control unit with RS232 protocol.

**Male DSUB 9Pin  
(outside view)**

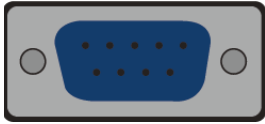


Pin #	Signal	Remark
1	NC	
2	TXD	Output to TV
3	RXD	Input from TV
4	NC	
5	GND	
6	NC	
7	NC	
8	NC	
9	NC	
frame	GND	

Pin2 is TXD Pin3 is RXD. Pin to Pin connection as below.



1. Female DB9 terminal on the motherboard.



2. To establish a serial connection between the motherboard and a RS232 console (Female DB9), a Straight RS232 cable is required.

### Serial Port Settings

Items	Value
Baud Rate	9600 Baud (fixed)
Data Bits	8 (fixed)
Stop Bits	1 (fixed)
Parity	None (fixed)
Stream Control	None (fixed)

## Protocol description

### Command format

Version	0.9
Command Head	AA BB CC
Command Body	3 bytes + 1 byte checksum (of leading 3 bytes)
Command Tail	DD EE FF

No.	Content	Description	Remark
1	0xAA	Head	Fixed value
2	0xBB		Fixed value
3	0xCC		Fixed value
4		Main Command	
5		Subcommand	
6	0x00	Length	Valid Data
7	checksum	Checksum	Sum from No.4 to No.6
8	0xDD	End	Fixed value
9	0xEE		Fixed value
10	0xFF		Fixed value

## RS232 code list

Category	Function	Code	Note
Power	Enable	AA BB CC 01 00 00 01 DD EE FF	
	Disable	AA BB CC 01 01 00 02 DD EE FF	
Source	HDMI 1	AA BB CC 02 06 00 08 DD EE FF	
	HDMI 2	AA BB CC 02 07 00 09 DD EE FF	
	HDMI Front port	AA BB CC 02 05 00 07 DD EE FF	
	PC	AA BB CC 02 08 00 0A DD EE FF	
	Central	AA BB CC 02 0A 00 0C DD EE FF	
	DP	AA BB CC 02 11 00 13 DD EE FF	
	VGA	AA BB CC 02 03 00 05 DD EE FF	
	AV	AA BB CC 02 02 00 04 DD EE FF	
	YPBPR	AA BB CC 02 04 00 06 DD EE FF	
	Audio	Volume (0 - 100)	AA BB CC 03 00 value checksum DD EE FF
Mute		AA BB CC 03 01 00 04 DD EE FF	
Unmute		AA BB CC 03 01 01 05 DD EE FF	
Bass		AA BB CC 03 07 value checksum DD EE FF	value 0 <-> 100 (hex code)
Treble		AA BB CC 03 08 value checksum DD EE FF	value 0 <-> 100 (hex code)
Balance		AA BB CC 03 04 value checksum DD EE FF	value -50 <-> 50 (hex code)
Default audio setting: Standard		AA BB CC 03 06 00 09 DD EE FF	

	Default audio setting: Movie	AA BB CC 03 06 01 0A DD EE FF	
	Default audio setting: Meeting	AA BB CC 03 06 02 0B DD EE FF	
	Audio preset: Classroom	AA BB CC 03 06 03 0C DD EE FF	
	Default audio setting: Custom	AA BB CC 03 06 04 0D DD EE FF	
Display	Brightness	AA BB CC 08 09 value checksum DD EE FF	value 0 <-> 100 (hex code)
	Contrast	AA BB CC 08 0A value checksum DD EE FF	value 0 <-> 100 (hex code)
	Default display setting: Normal	AA BB CC 08 0D 00 15 DD EE FF	
	Default display setting: Dynamic	AA BB CC 08 0D 01 16 DD EE FF	
	Default display setting: Vivid	AA BB CC 08 0D 02 17 DD EE FF	
	Default display setting: Soft	AA BB CC 08 0D 03 18 DD EE FF	
	Default display setting: User	AA BB CC 08 0D 04 19 DD EE FF	
Settings	Language: English	AA BB CC 38 02 00 3A DD EE FF	
	Language: Dutch	AA BB CC 38 02 01 3B DD EE FF	
	Language: German	AA BB CC 38 02 02 3C DD EE FF	
	Language: French	AA BB CC 38 02 03 3D DD EE FF	
	Language: Italian	AA BB CC 38 02 04 3E DD EE FF	
	Language: Spanish	AA BB CC 38 02 05 3F DD EE FF	
	Language: Swedish	AA BB CC 38 02 06 40 DD EE FF	
	Language: Norwegian	AA BB CC 38 02 07 41 DD EE FF	
	Language: Danish	AA BB CC 38 02 08 42 DD EE FF	



	Language: Slovak	AA BB CC 38 02 09 43 DD EE FF	
	Language: Czech	AA BB CC 38 02 0A 44 DD EE FF	
	Language: Estonian	AA BB CC 38 02 0B 45 DD EE FF	
	Language: Lithuanian	AA BB CC 38 0 02 0C DD EE FF	
	Language: Latvian	AA BB CC 38 02 0D 47 DD EE FF	
	Language: Polish	AA BB CC 38 02 0E 48 DD EE FF	
	Language: Portuguese	AA BB CC 38 02 0F 49 DD EE FF	
	Language: Romanian	AA BB CC 38 02 10 4A DD EE FF	
	Language: Hungarian	AA BB CC 38 02 11 4B DD EE FF	
	Language: Finnish	AA BB CC 38 02 12 4C DD EE FF	
	Language: Welsh	AA BB CC 38 02 13 4D DD EE FF	
	User menu: Menu gesture off	AA BB CC 38 03 01 3C DD EE FF	
	User menu: Menu gesture on	AA BB CC 38 03 00 3B DD EE FF	
	Key lock: Off	AA BB CC 38 04 00 3C DD EE FF	
	Key lock: On	AA BB CC 38 04 01 3D DD EE FF	
	IR lock (remote control): Off	AA BB CC 38 05 00 3D DD EE FF	
	IR lock (remote control): On	AA BB CC 38 05 01 3E DD EE FF	
	Touch: Off	AA BB CC 38 07 00 3F DD EE FF	
	Touch: On	AA BB CC 38 07 01 40 DD EE FF	
PC	PC Power ON	AA BB CC 09 01 00 0A DD EE FF	
	PC Power OFF	AA BB CC 09 00 00 09 DD EE FF	

RC	Freeze/Unfreeze	AA BB CC 07 1C 00 23 DD EE FF	
	Display	AA BB CC 07 4C 00 53 DD EE FF	
	Input	AA BB CC 07 07 00 0E DD EE FF	
	Home	AA BB CC 07 48 00 4F DD EE FF	
	Corner menu	AA BB CC 07 0D 00 14 DD EE FF	
	Backspace	AA BB CC 07 40 00 47 DD EE FF	
	Blank screen	AA BB CC 07 4E 00 55 DD EE FF	
	Up	AA BB CC 07 47 00 4E DD EE FF	
	Down	AA BB CC 07 4D 00 54 DD EE FF	
	Left	AA BB CC 07 49 00 50 DD EE FF	
	Right	AA BB CC 07 4B 00 52 DD EE FF	
	Enter	AA BB CC 07 4A 00 51 DD EE FF	
	Back / Escape	AA BB CC 07 0A 00 11 DD EE FF	
	VOL+	AA BB CC 07 03 00 0A DD EE FF	
	VOL-	AA BB CC 07 41 00 48 DD EE FF	
Custom	Custom	AA BB CC 07 09 value checksum DD EE FF	

## Polling code list

Mode	Polling Code	Response Code (polling)	Status (polling)
Obtain Power status	AA BB CC 01 02 00 03 DD EE FF	AA BB CC 80 00 00 80 DD EE FF	On
		AA BB CC 80 01 00 81 DD EE FF	Standby
Obtain volume status	AA BB CC 03 02 00 05 DD EE FF	AA BB CC 82 00 xx ** DD EE FF	Volume level
Obtain mute status	AA BB CC 03 03 00 06 DD EE FF	AA BB CC 82 01 00 83 DD EE FF	Muted
		AA BB CC 82 01 00 83 DD EE FF	Unmuted
Obtain input status	AA BB CC 02 00 00 02 DD EE FF	AA BB CC 81 03 00 84 DD EE FF	VGA
		AA BB CC 81 06 00 87 DD EE FF	HDMI1
		AA BB CC 81 07 00 88 DD EE FF	HDMI2
		AA BB CC 81 05 00 86 DD EE FF	HDMI3
		AA BB CC 81 11 00 92 DD EE FF	DP
		AA BB CC 81 02 00 83 DD EE FF	AV
		AA BB CC 81 08 00 89 DD EE FF	PC
		AA BB CC 81 04 00 85 DD EE FF	YPBPR
		AA BB CC 81 0A 00 8B DD EE FF	Android
Obtain PC status	AA BB CC 09 02 00 0B DD EE FF	AA BB CC 83 01 00 84 DD EE FF	PC Off
		AA BB CC 83 00 00 83 DD EE FF	PC On
		AA BB CC 83 02 00 85 DD EE FF	PC Sleep
		AA BB CC 83 03 00 86 DD EE FF	PC Hibernate
Obtain Blank screen status	AA BB CC 35 02 00 37 DD EE FF	AA BB CC 35 03 01 39 DD EE FF	Blank screen active
		AA BB CC 35 03 00 38 DD EE FF	Blank screen inactive
Obtain Key lock status	AA BB CC 39 00 00 39 DD EE FF	AA BB CC 40 00 01 41 DD EE FF	Key lock active
		AA BB CC 40 00 00 40 DD EE FF	Key lock inactive
Obtain IR lock status	AA BB CC 39 01 00 3A DD EE FF	AA BB CC 40 01 01 42 DD EE FF	IR lock active
		AA BB CC 40 01 00 41 DD EE FF	IR lock inactive

Obtain brightness status	AA BB CC 39 02 00 3B DD EE FF	AA BB CC 40 02 xx ** DD EE FF	Brightness level
Obtain contrast status	AA BB CC 39 03 00 3C DD EE FF	AA BB CC 40 03 xx ** DD EE FF	Contrast level
Obtain hue status	AA BB CC 39 04 00 3D DD EE FF	AA BB CC 40 04 xx ** DD EE FF	Hue level
Obtain sharpness status	AA BB CC 39 05 00 3E DD EE FF	AA BB CC 40 05 xx ** DD EE FF	Sharpness level
Obtain display preset	AA BB CC 39 06 00 3F DD EE FF	AA BB CC 40 06 00 46 DD EE FF	Standard
		AA BB CC 40 06 01 47 DD EE FF	Bright
		AA BB CC 40 06 02 48 DD EE FF	Colourful
		AA BB CC 40 06 03 49 DD EE FF	Soft
		AA BB CC 40 06 04 4A DD EE FF	Custom
Obtain Aspect Ratio status	AA BB CC 39 07 00 40 DD EE FF	AA BB CC 40 07 01 48 DD EE FF	4:3
		AA BB CC 40 07 02 49 DD EE FF	16:9
		AA BB CC 40 07 03 4A DD EE FF	PTP
Obtain bass status	AA BB CC 39 08 00 41 DD EE FF	AA BB CC 40 08 xx ** DD EE FF	Bass level
Obtain treble status	AA BB CC 39 09 00 42 DD EE FF	AA BB CC 40 09 xx ** DD EE FF	Treble level
Obtain balance status	AA BB CC 39 0A 00 43 DD EE FF	AA BB CC 40 0A yy ** DD EE FF	Balance level
Obtain sound preset	AA BB CC 39 0B 00 43 DD EE FF	AA BB CC 40 0B 00 4B DD EE FF	Standard
		AA BB CC 40 0B 01 4C DD EE FF	Movie
		AA BB CC 40 0B 02 4D DD EE FF	Meeting
		AA BB CC 40 0B 03 4E DD EE FF	Class
		AA BB CC 40 0B 04 4F DD EE FF	Custom
Obtain audio output state	AA BB CC 39 0C 00 45 DD EE FF	AA BB CC 40 0C 00 4C DD EE FF	Internal
		AA BB CC 40 0C 00 4D DD EE FF	External
		AA BB CC 40 0C 00 4E DD EE FF	Both
Obtain language status	AA BB CC 39 0F 00 48 DD EE FF	AA BB CC 40 0F 00 4F DD EE FF	English
		AA BB CC 40 0F 01 50 DD EE FF	English (United Kingdom)
		AA BB CC 40 0F 02 51 DD EE FF	German
		AA BB CC 40 0F 03 52 DD EE FF	French
		AA BB CC 40 0F 04 53 DD EE FF	Italian

		AA BB CC 40 0F 05 54 DD EE FF	Spanish
		AA BB CC 40 0F 06 55 DD EE FF	Swedish
		AA BB CC 40 0F 07 56 DD EE FF	Norwegian
		AA BB CC 40 0F 08 57 DD EE FF	Danish
		AA BB CC 40 0F 09 58 DD EE FF	Slovak
		AA BB CC 40 0F 0A 59 DD EE FF	Czech
		AA BB CC 40 0F 0B 5A DD EE FF	Estonian
		AA BB CC 40 0F 0C 5B DD EE FF	Lithuanian
		AA BB CC 40 0F 0D 5C DD EE FF	Latvian
		AA BB CC 40 0F 0E 5D DD EE FF	Polish
		AA BB CC 40 0F 0F 5E DD EE FF	Portuguese
		AA BB CC 40 0F 10 5F DD EE FF	Romanian
		AA BB CC 40 0F 11 60 DD EE FF	Hungarian
		AA BB CC 40 0F 12 61 DD EE FF	Finnish
		AA BB CC 40 0F 13 62 DD EE FF	Welsh
Obtain Touch status	AA BB CC 39 12 00 4B DD EE FF	AA BB CC 40 12 01 53 DD EE FF	Touch active
		AA BB CC 40 12 00 52 DD EE FF	Touch inactive
Obtain RS232 status	AA BB CC 39 13 00 4B DD EE FF	AA BB CC 40 13 01 54 DD EE FF	RS232 active
xx=from 0-100, for Volume, Bass Treble Brightness Contrast Hue and Sharpness			
yy=From -50 to 50, for balance			