interactive scape

Scape®
Tangible

st65-009

Operating instructions

Scape® Tangible
Operating instructions

Contents

1. General information 4
1.1. Safety instructions 4
1.2. Scope of delivery 6
1.3. Cleaning information 6
1.4. Transportation instructions 6

2. Function and structure 8
2.1. Connections & controls 8
2.2. Remote control 9

3. Assembly 10
3.1. Notes on ventilation 11
3.1.1. Guidelines for enclosing the hardware 12
3.1.2. Plan for enclosing a Scape® Tangible 12
3.1.3. Enclosure incl. additional heat sources 13

4. Connect 14
4.1. Notes 14
4.2. Connection to the power supply 14
4.3. Connection to the PC 14
4.4. Connection to the network 14

5. Power on 16

6. Instructions for use 17

7. Screen settings - OSD 18
7.1. Using the OSD (on-screen display) 18

8. Troubleshooting tips 19
8.1. Manufacturer - Support 19
8.2. Problems and solutions 20

9. Taking back old appliances 22

10. Appendix 23
10.1. Technical data 23
10.2. Technical drawings 25
10.2.1. Perspective 25
10.2.2. Top view 26
10.2.3. Bottom view 27
10.2.4. Front view 29
10.2.5. Side view, right 30
10.2.6. Power supply & media connections 31

Notes

This is a class A device according to EN55022.
Please also read 1.1 Safety instructions - Radio interference and interference.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
This Class A digital apparatus complies with Canadian ICES-003.

Patent notice

U.S. Patent No. 11,320,947
Pat. Reg. EP 3574398 (DE, FR, UK, PT)
KR Patent No. 10-2566520
JP Patent No. 7237143
CN Patent No. ZL 201880092584.6

This manual applies to the following device:

· Scape® Tangible 65" (st65-009)

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1. General information

This manual describes the safe commissioning, configuration and proper operation of the Scape® Tangible.
Observe any supplementary documents, such as installation instructions.

1.1. Safety instructions

Before commissioning and during operation of your Scape® Tangible keep in mind the following safety instructions to protect yourself, your surroundings and the Scape® Tangible from damage.

Fires and electric shocks

- Overloaded sockets, extension cables and multiple socket outlets can cause fires and electric shocks.
- Avoid using power strips and extension cables wherever possible.
- Do not connect several extension cables or socket strips together.

Overheating

Heat build-up can cause the screen to overheat. This can lead to damage to the device.

- Ensure sufficient air circulation around the Scape® Tangible.
- Make sure that all ventilation slots on the screen are always clear.

Surge damage due to lightning

During thunderstorms, there is a risk of overvoltage damage to connected electrical appliances due to lightning strikes.

- Install the Scape® Tangible during thunderstorms.
- Disconnect the appliances from the power supply during thunderstorms.

Moisture, liquids and vapors

Moisture, liquids and vapors that enter the interior of the Scape® Tangible can cause electric shocks or short circuits.

- Use the Scape® Tangible only inside buildings.
- Do not allow any liquids to enter the inside of the Scape® Tangible inside.
- Protect your Scape® Tangible from vapors and moisture.

Improper cleaning

Improper cleaning with harsh cleaning agents and solvents or dripping wet cloths can damage the Scape® Tangible.

· Please note the information on cleaning your Scape® Tangible (Chapter **1.3 Information on cleaning****).**

Improper opening and repair

Improper opening and improper repairs can result in hazards for users of the appliance.

· Do not open the housing of the device.

· Contact the manufacturer or specialist retailer if you need repairs.

Radio interference and interference

Radio interference can be generated by any device that emits electromagnetic signals. Due to the large number of devices that transmit and receive radio waves, interference can be caused by overlapping radio waves.

· Use the Scape® Tangible in places where the use of radio devices is prohibited.

· Especially in hospitals, outpatient health centers, doctors' surgeries and other medical facilities, follow the instructions and directions of authorized persons to switch off radio devices in order to avoid interference with sensitive medical equipment.

· Ask your doctor or the manufacturer of your medical device (pacemaker, hearing aid, implant with electronic control, etc.) whether it is compatible with the use of your Scape® Tangible works without interference.

· If necessary, maintain the minimum distance of 15 cm recommended by medical device manufacturers to avoid interference with your medical device.

Explosive environments

Under unfavorable circumstances, radio waves can cause fires or explosions in the vicinity of potentially explosive atmospheres.

· Install and operate the Scape® Tangible near potentially explosive atmospheres, flammable gases, areas where the air contains chemicals or particles such as grain, dust or metal powder, or near blasting sites.

· In places with potentially explosive atmospheres and in the vicinity of blasting sites, follow the instructions for switching off electronic devices to avoid interference with the blasting and ignition systems.

Load and damage to the surface

Rough, hard or sharp-edged materials and heavy objects can damage the screen surface of the Scape® Tangible can damage it.

· Do not place any heavy objects on the screen.

· Only use objects with smooth or soft surfaces on the screen.

· Clean the undersides of the objects before and after each use.

· The glass surface protrudes 1.5 mm on each side. Do not place the Scape® Tangible on its edge. When storing and transporting the device, ensure that it is in its original packaging or sufficiently soft.

1.2. Scope of delivery

The following accessories are included with your Scape® Tangible :

· IEC cable for connection to the power supply

· Network cable for connection to a local network

· USB cable for direct connection to a PC

· Infrared remote control (receiver on the back of the device)

· Screw cover

· Screen cleaning kit

· Operating instructions (if necessary by e-mail)

1.3. Cleaning information

The touch sensor of the Scape® Tangible does not usually require maintenance. Nevertheless, it is recommended to clean the glass surface of the screen regularly.

· Disconnect the appliance from the power supply before cleaning.

· Typically, a solution of isopropyl alcohol and water (mixing ratio 50:50) or the enclosed screen cleaning kit are best suited for cleaning the touch sensor.

· Apply the solution to a soft, lint-free cloth. Avoid coarse materials.

· Moisten the cloth and clean the glass surface. Only apply the liquid to the cloth and never directly to the appliance. This will prevent liquid from penetrating the inside of the appliance or staining the frame.

1.4. Transportation instructions

The safest way to transport your device is in a flight case for the Scape® Tangible (available separately).

· Transport the appliance in an upright position.

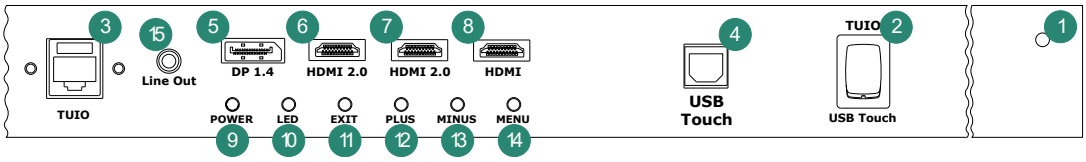
· Do not transport the appliance upside down.

· Secure the appliance against slipping and tipping.

Never lift the device by the sensor glass itself.
The adhesive used to secure the glass is not designed to support the weight of the device.

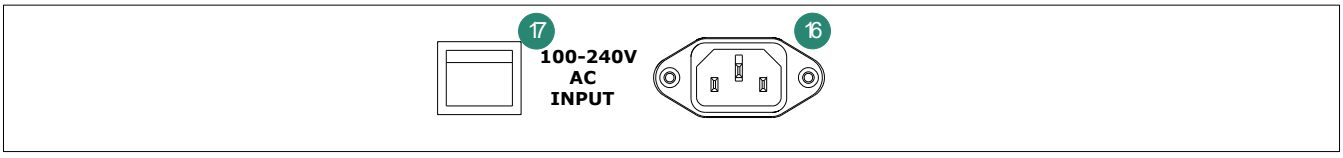
2. Function and structure

2.1. Connections & controls



1	IR sensor for remote control
2	Touch TUIO / USB Touch switchover
3	RJ-45 Lan interface - for using the Touch & Object Assistant
4	USB connection type B - for direct connection of touch and PC
5	Line Out output
6	DisplayPort 1.4 input
7	2x HDMI 2.0 input (UHD 60 Hz)
8	HDMI 1.4 input
9	Stand-by *(17)
10	Status LED
11	Close OSD / Back / Display input selection *(21)
12	Plus / Right *(23)
13	Minus / Left *(22)
14	OSD displays / confirm selection *(20)
15	Line Out - Audio Output

*analogous to the button on the remote control



16	IEC socket for connection to 100 - 240 V, 50/60 Hz
17	Main switch of the power supply

2.2. Remote control

17	Stand-by *(9)
18	Show display mode selection
19	Display input selection
20	OSD displays / confirm selection *(14)
21	Close OSD *(11)
22	Left / Minus *(13)
23	Right / Plus *(12)

*analogous to the button on the screen

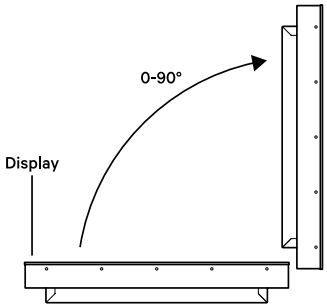
All buttons on the remote control that are not described are not used to operate the Scape® Tangible and have no function.

3. Assembly

The Scape® Tangible is approved for upright or suspended operation as well as for horizontal operation.

If possible, additionally secure the screen against falling using the metal eyelets mounted on the top when it is suspended.
If necessary, you can unscrew the metal eyelets and insert the cover caps supplied.

The Scape® Tangible may only be operated at a tilt angle of 0° - 90°.



Observe the marking on the back of the device.
The device may only be operated vertically in landscape and portrait orientation.
Operation in the flipped direction can irreparably damage the panel.

The Scape® Tangible is supplied with VESA-compatible threads. The monitor can be mounted on the threads.

For mounting with VESA mounting brackets, a suitable wall bracket must be used whose load capacity corresponds to the weight of the monitor. Four M8x25 metal screws must be used to secure the VESA bracket.

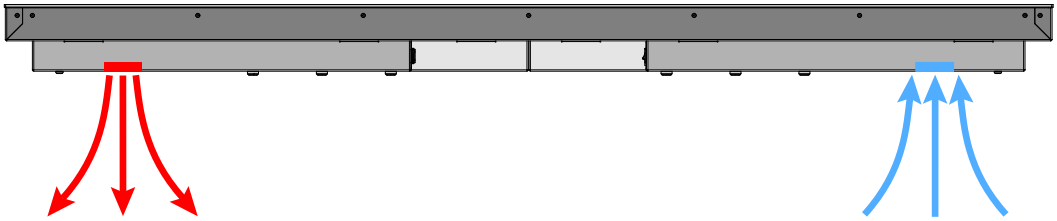
VESA formats:
MIS-F 400 x 400 mm (M8)
MIS-F 600 x 400 mm (M8)
MIS-F 800 x 400 mm (M8)

3.1. Notes on ventilation

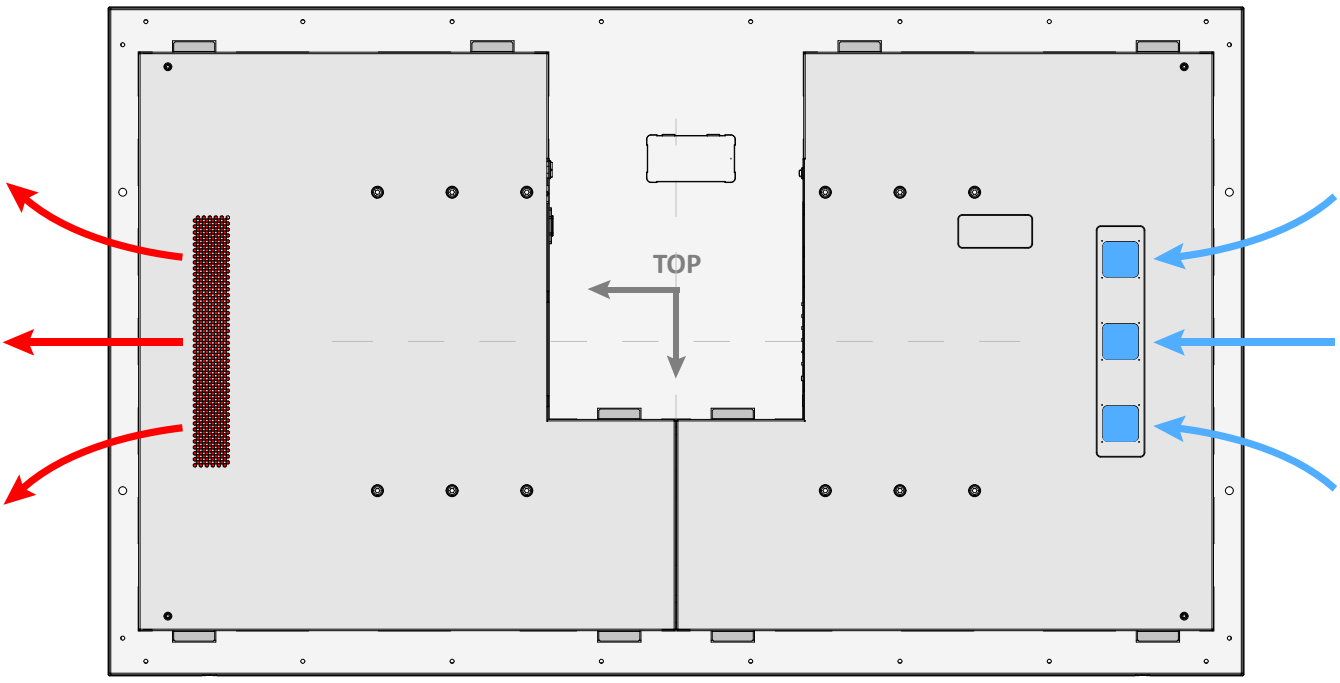
The following ventilation instructions apply to trouble-free operation under normal conditions. In adverse environments with, for example, high temperatures, polluted air or high humidity, special protective measures must be taken.

For ventilation, the Scape® Tangible has 6 fans at the rear to supply fresh air - 3 for intake and 3 for exhaust. Both the inlet and outlet sides convey 0.5 m³ air / min.

Front side:



Underside (top front):



blue: cold intake air | red: warm exhaust air

3.1.1. Guidelines for enclosing the hardware

· When installing a Scape® Tangible keep a minimum distance of 10 cm from the underside.

· When installing the appliances, make sure that all supply and exhaust air flows are directed in the same direction! Mixing the cold air with the warm exhaust air reduces the cooling capacity and therefore the service life of all appliances.

· Thermally separate the intake and exhaust air openings of all actively ventilated appliances using a partition wall to prevent the cold air from heating up (4).

· The opening for the cold air intake on the enclosure (2) should at least correspond to the surface area of the sum of the intake openings of all installed appliances. The exhaust air opening (6) should be adapted in the same way. Circular or square openings are more suitable than narrow openings.

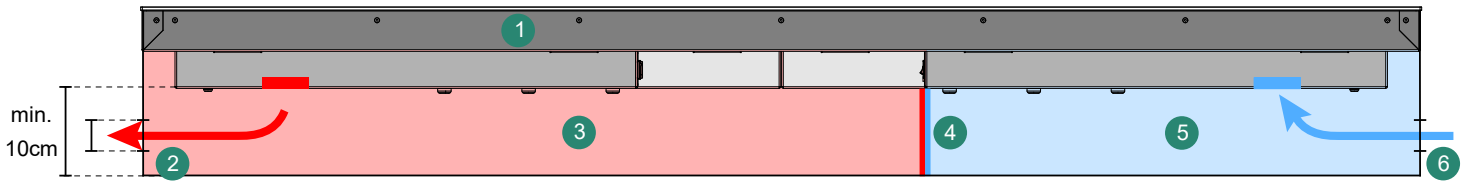
· Scape® Tangible = at least 150 cm²

· Scape® Tangible + Silent-PC = min. 200 cm²

· If the intake and exhaust air openings of the enclosure cannot comply with the recommended size, the air flow must be additionally increased by installing active fans at the openings.

Ensure that the back side of the display remains accessible for maintenance, repair, or replacement work after installation, for example by including a service hatch.

3.1.2. Plan for enclosing a Scape® Tangible



1	Scape® Tangible
2	Housing opening for cold air (Scape® Tangible = at least 150 cm²)
3	Cold air chamber
4	Partition wall
5	Exhaust air chamber
6	Housing opening for exhaust air (Scape® Tangible = min. 150 cm²)

The Scape® Tangible is equipped with temperature sensors that can be read out via the Touch & Object Assistant. If one of the sensors exceeds the maximum value of 60 °C (temperature 1) or 40 °C (temperature 2 & 3), please adjust your ventilation system!

Any operation of the devices above the recommended range will shorten their service life! Functional impairments or hardware failure due to overheating of the systems are not covered by the warranty obligation of Interactive Scape GmbH.

3.1.3. Enclosure incl. additional heat sources

The ventilation instructions in this document refer exclusively to the hardware provided by Interactive Scape GmbH. If you would like to integrate other heat-generating devices into the enclosure, we will be happy to provide you with a quotation to check your individual configuration.

4. Connect

4.1. Notes

Observe the following instructions when setting up the appliance:

· Give the appliance sufficient time to adjust to the ambient temperature. Otherwise, the appliance may be damaged or destroyed by condensation inside the appliance.

· Operate the Scape® Tangible indoors only.

· The Scape® Tangible should not be exposed to direct sunlight.

4.2. Connection to the power supply

Connect the Scape® Tangible with the supplied power cable via the power connection socket on the backside of the device (see chapter 2.1 - Connections & controls - point 15) to the mains supply.
To do this, first insert the IEC plug into the corresponding connection and then insert the earthing contact plug into the socket.

When disconnecting the appliance from the mains, always grasp the plug and do not pull on the cable.
Do not touch the plug with wet hands.

4.3. Connection to the PC

Connect the display with the enclosed HDMI cable via HDMI (see chapter 2.1 - Connections & controls - point 7) to your application PC.

The display automatically recognizes the selected interface.

In order to use your Scape® Tangible as a pure USB HID touch input device, connect the USB port on the backside of the device (see chapter 2.1 - Connections & controls - point 4) directly to your application PC.
Set the switch for the touch signal to "Touch USB" (see chapter 2.1 - Connections & operating elements - point 2).
However, Scape X® object recognition is not possible in this way.

4.4. Connection to the network

The Scape® Tangible works completely without an internet connection.

To use Scape X® object recognition or touch via TUIO, connect the network connection on the backside of the Scape® Tangible (see chapter 2.1 - Connections & operating elements - point 3) with your application PC or your existing network via which your application PC can be reached. Set the switch for the touch signal to "TUIO" (see chapter 2.1 - Connections & operating elements - point 2).

By default, the integrated Touch & Object Assistant has the IP address 10.0.0.20 with the subnet 255.255.255.0, but can also receive IP addresses from a DHCP server. You can then reach the Touch & Object Assistant via the assigned IP address or the host name (requires a DNS server in the network). The host name can be found on the type plate on the backside of the Scape® Tangible.

For further information on setting up the Scape X® object recognition, read the operating instructions for the "Touch & Object Assistant".

5. Power on

Switch on your device at the main switch (see chapter 2.1 - Connections & controls - point 16).
First switch on the display and then your PC.

The device takes around 1.5 hours to reach its final operating temperature after being switched on. During this time, the device's touch sensor constantly adapts to its environment. This has a direct effect on long-term object detection.

If object detection does not work properly at any point on the device, remove all objects from the device for 2 seconds.

6. Instructions for use

Clean the touch sensor and the objects used regularly during operation.
Fine sand and quartz dust in particular can lead to heavy wear on the sensor glass if objects are used intensively.
If necessary, use protective films to protect your touch sensor from scratching.

Interesting:
We test our objects in robot-supported load tests on our displays for wear and tear on the objects and effects on the sensor disks.
For these tests, we let a cobot use objects for approx. 15h / or 10km continuously on a Scape Tangible 55.
A distance of 10 km on the sensor corresponds to several years of intensive use of an object.
The robot simulates
average object use in a "normal" application.
It performs random translational and rotational movements with the object on the display.
The object is repeatedly lifted up and placed back down in another area of the screen.
Only movements during which the object is in contact with the sensor are counted as distance traveled.
The force with which the object is pressed onto the screen is approx. 2N.
The test environment is neither clean nor excessively dirty.
Neither the sensor nor the object are cleaned during a test run.
As a result, we have so far been unable to detect any excessive object wear or damage to the sensor glass.

Avoid putting too much strain on the touch sensor.
To ensure error-free object detection, the total mass of all objects on the device must not exceed **3 kg.**

Always ensure that your appliance is sufficiently cooled.
This considerably extends the service life of the installed panel.

Signs of wear on the sensor and objects are unavoidable under normal use.

Avoid an application design that encourages the use of objects on a small exclusive area of the device.

Even if the maximum load for the sensor is higher, you should not exceed a weight of 500g per object.

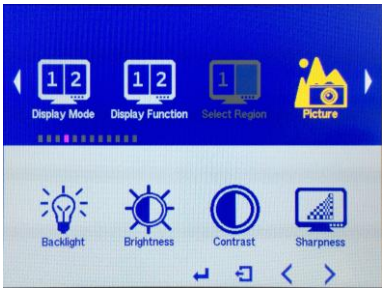
7. Screen settings - OSD

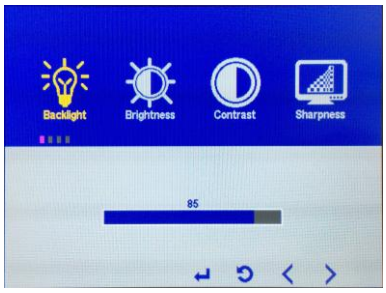
7.1. Using the OSD (on-screen display)

The OSD of the Scape® Tangible offers various setting options for the screen, such as "Signal input", "Display mode" and color and brightness settings.
The factory settings are suitable for most applications.

To display the OSD, press the Menu button (20) (see chapter 2.1 - Connections & controls - 14).
Use the Plus (22) and Minus (23) buttons to navigate through the individual menu items.
Use the Menu button (20) to go to the next level of the selected menu item or setting.
Use the Plus (22) and Minus (23) buttons to adjust the values for the respective setting or to select the corresponding option. The Menu button (20) activates the selected option and returns to the last selection level.
The Exit button (21) sets the setting to its original value and returns to the next higher menu level or closes the OSD if you are at the top menu level.

The OSD is automatically closed after a few seconds of inactivity.





Menu open - select menu item Menu item selected - confirmSetting set open - value

Select image source

If no active device is connected to the selected input of the screen, you can only use the OSD to a limited extent. Press Input (19) or Exit (21) on the IR remote control to open the input selection. Use the Plus (22) and Minus (23) buttons to select the appropriate input and confirm your selection with the Menu button (20).

Input selection

The signal source is set to "Auto" by default and automatically recognizes the corresponding input.

8. Troubleshooting tips

Do not open the housing of the Scape® Tangible.
If your Scape® Tangible does not work as intended, refer to chapter 8.2 - Troubleshooting tips - Problems and solutions to see if there is a solution to your problem.

If you cannot find a solution, please contact Interactive Scape Hardware Support. You can reach them on weekdays on +49 30 698 094 150.

8.1. Manufacturer - Support

Interactive Scape GmbH
Wilhelmine-Gemberg-Weg 6
10179 Berlin

+49 (0)30 698 094 150

8.2. Problems and solutions

Error	Possible cause	Possible troubleshooting
The screen shows no picture even though the PC is switched on.	The DisplayPort or HDMI cable is not plugged in correctly	Check DisplayPort or HDMI cable for correct installation
		Replace any defective cables
	The screen is switched to the wrong signal input.	Set the signal input correctly
	The screen is switched to standby using the IR remote control or the OSD	Deactivate stand-by mode using the IR remote control or the OSD buttons
	The screen is switched off at the main switch of the device	Switch the device on at the main switch of the device
Touch and Object Assistant is not available	The screen system has not started correctly	Switch the device off at the main switch, wait 10 seconds and switch it on again. The start-up process takes approx. 1 minute.
	Network cable is not installed correctly	Check that the network cable is correctly installed between the screen and the PC
	Network settings on the PC are not correct	Check the network settings of your PC. The default IP address of your Scape Tangible is 10.0.0.20 (subnet 255.255.255.0)
"No Touch Device Found" is displayed in the Touch and Object Assistant	TUIO / USB Touch switch is set to USB Touch	Switch the TUIO / USB Touch switch to TUIO Touch
Object tracking does not work in the touch and object test	Invalid Scape X license	Check whether a valid Scape X license is stored on your device
	TUIO / USB Touch switch is set to USB Touch	Switch the TUIO / USB Touch switch to TUIO Touch
Touch tracking does not work in the touch and object test	TUIO / USB Touch switch is set to USB Touch	Switch the TUIO / USB Touch switch to TUIO Touch

Objects are poorly recognized	Objects improperly attached to conductive materials	Check whether you are using your Scape X objects in accordance with the specifications in the "Scape X objects" manual
	High electromagnetic radiation in the environment	Calibrate the sensor in Touch and Object Assistant
Objects are recognized with incorrect IDs	Objects are used improperly	Check whether you are using your Scape X objects the right way round (top side away from the sensor) or whether you have attached them improperly to conductive material sheets.
	Configuration of the objects in the touch and object test changed	Check the individual incorrectly recognized objects in the Touch and Object Test for changed ID settings

Always carry out touch and object recognition tests using the Touch and Object Test in the Touch and Object Assistant. This is the only way you can be sure that the cause of your observations lies not in an application or the operating system of the connected PC.

Unfortunately, we cannot provide support for connected PCs that were not supplied by Interactive Scape.

To avoid possible support costs for you, please check whether your problem can be solved with one of the above measures

9. Taking back old appliances

As a supplier and manufacturer, we are obliged under the German Electrical and Electronic Equipment Act (ElektroG) to take back all electrical and electronic equipment that we place on the market and to recycle it in accordance with certain ecological standards.

All devices and system solutions marketed by Interactive Scape in Germany can be registered for return at the end of their service life by sending an email to support@interactive-scape.com or by calling Interactive Scape.

We will send you an order confirmation for the return. You can then return the goods to us and we will ensure that they are disposed of in an environmentally friendly and legally compliant manner.

· Waste batteries and accumulators that are not permanently installed in the waste electrical appliance must be removed from the appliance and completely discharged before being returned (ElektroG 3 § 10 Paragraph 2 Sentence 2).

· When returning old appliances containing batteries and/or accumulators, please observe the relevant shipping instructions.

· When returning lithium batteries, please mark the shipment with the words **LITHIUM BATTERIES FOR RECYCLING.**

The symbol of a crossed-out wheeled garbage can regularly shown on electrical and electronic appliances indicates that the appliance in question must be collected separately from unsorted municipal waste at the end of its service life.

10. Appendix

10.1. Technical data

Item number		st65-009

Display

Display diagonal		64.5 inches
Resolution		3840 x 2160 (UHD) @60 Hz
Format		16:9
Brightness (Panel)		700 cd/m²
Contrast (Panel)		4000:1
Backlight		LED
Viewing angle		178° / 178°
Color gamut		16.7 million
Latency (on/off)		8 ms
Backlight – lifetime		50,000 h
Pixel class		ISO 9241-307 (Pixel Error Class II)
Operational period		24/7
Max. ambient humidity	Operation	10 ~ 90% (not condensing)
Max. ambient humidity	Storage	10 ~ 90% (not condensing)
Max. ambient temperature	Operation	0 ~ 35 °C / 32 ~ 95 °F
Max. ambient humidity	Storage	-20 ~ 60 °C / -4 ~ 140 °F
Dimensions (W x H x D)		1521,5 x 896,4 x 97 mm
Weight		72 kg
Mounting		VESA 400x400 mm, 600x400 mm, 800x400 mm
Max. tipping angle		0° - 180°
Panel orientation		Landscape / Portrait / Flat (table)
Air flow cooling		0.5 m³ / min
Material		steel, powder-coated, matt black

Touch controller

Sensor	Projective Capacitive (PCAP) - Silver Nanowire
USB Touch	80 touches
TUIO Touch	>100 touches

Interfaces

Touch	HID USB / TUIO 1.1 / 2.0
Video	2x HDMI 2.0 / 1x HDMI 1.4 / 1x DisplayPort 1.4

Electrical specifications

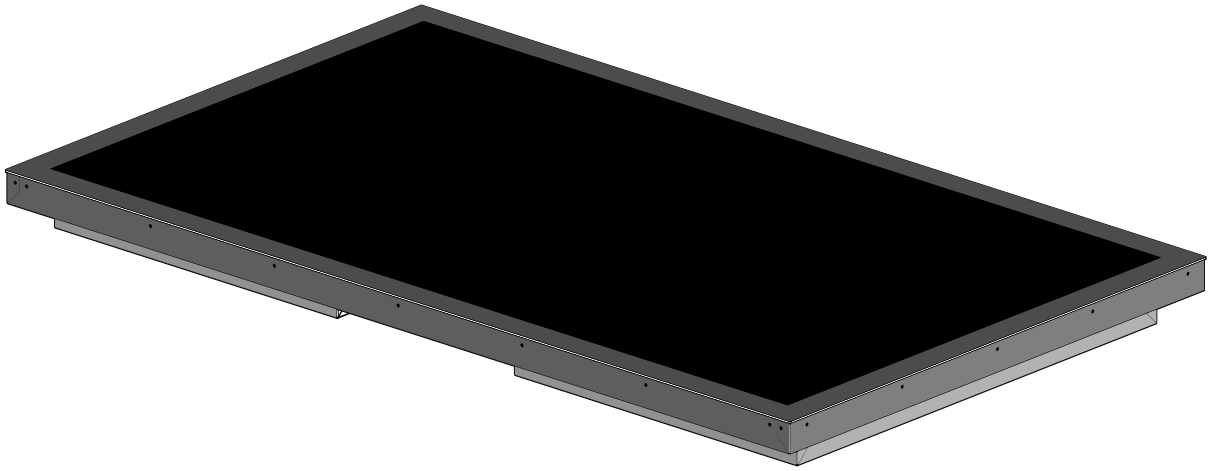
Operating voltage	100 – 240 VAC 50/60Hz
Power draw	230 W
Certifications	CE, RoHS, FCC

Patents

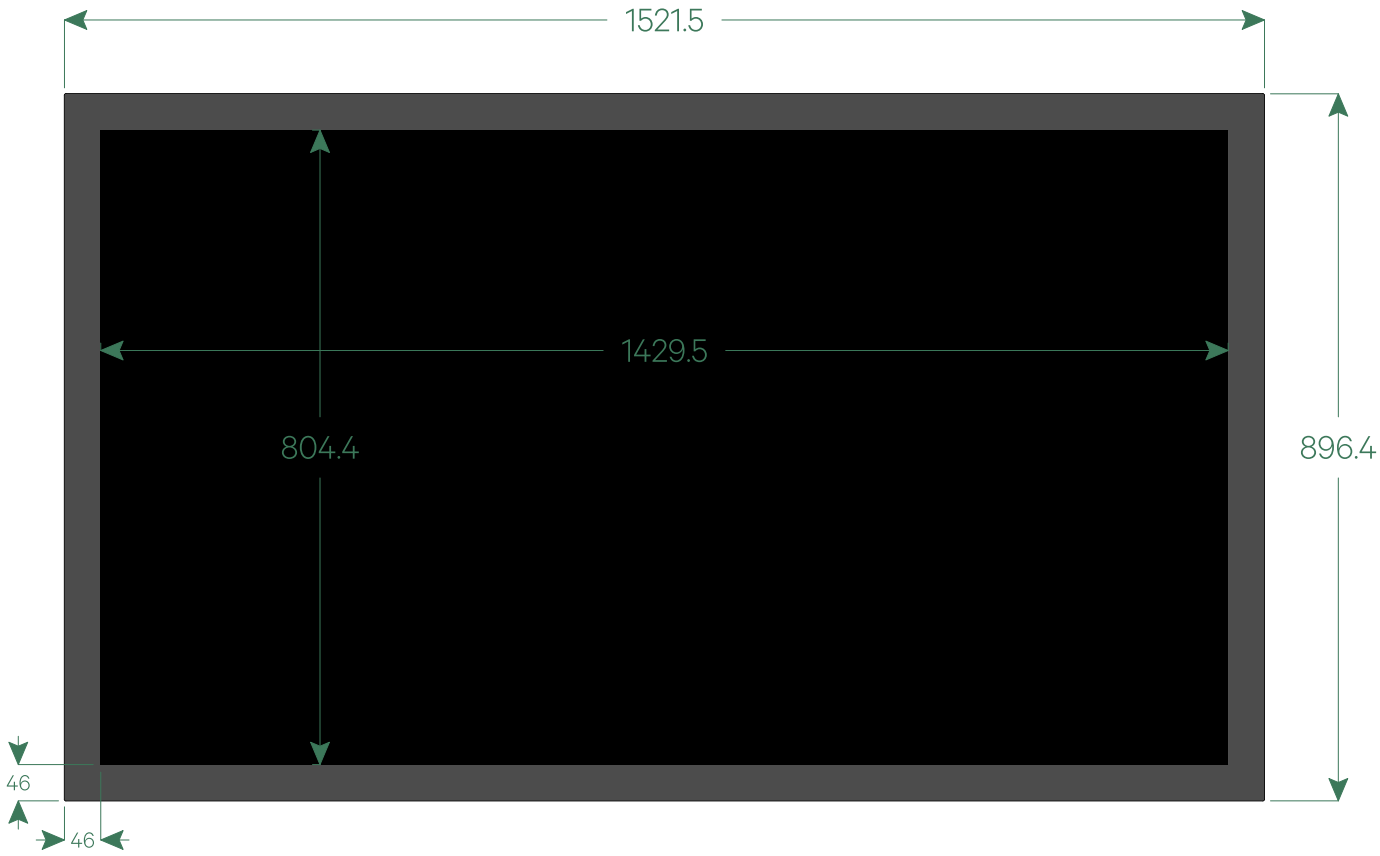
U.S. Patent No.	11,320,947
Pat. Reg.	EP 3574398 (DE, FR, UK, PT)
KR Patent No.	10-2566520
JP Patent No.	7237143
CN Patent No.	ZL 201880092584.6

10.2. Technical drawings

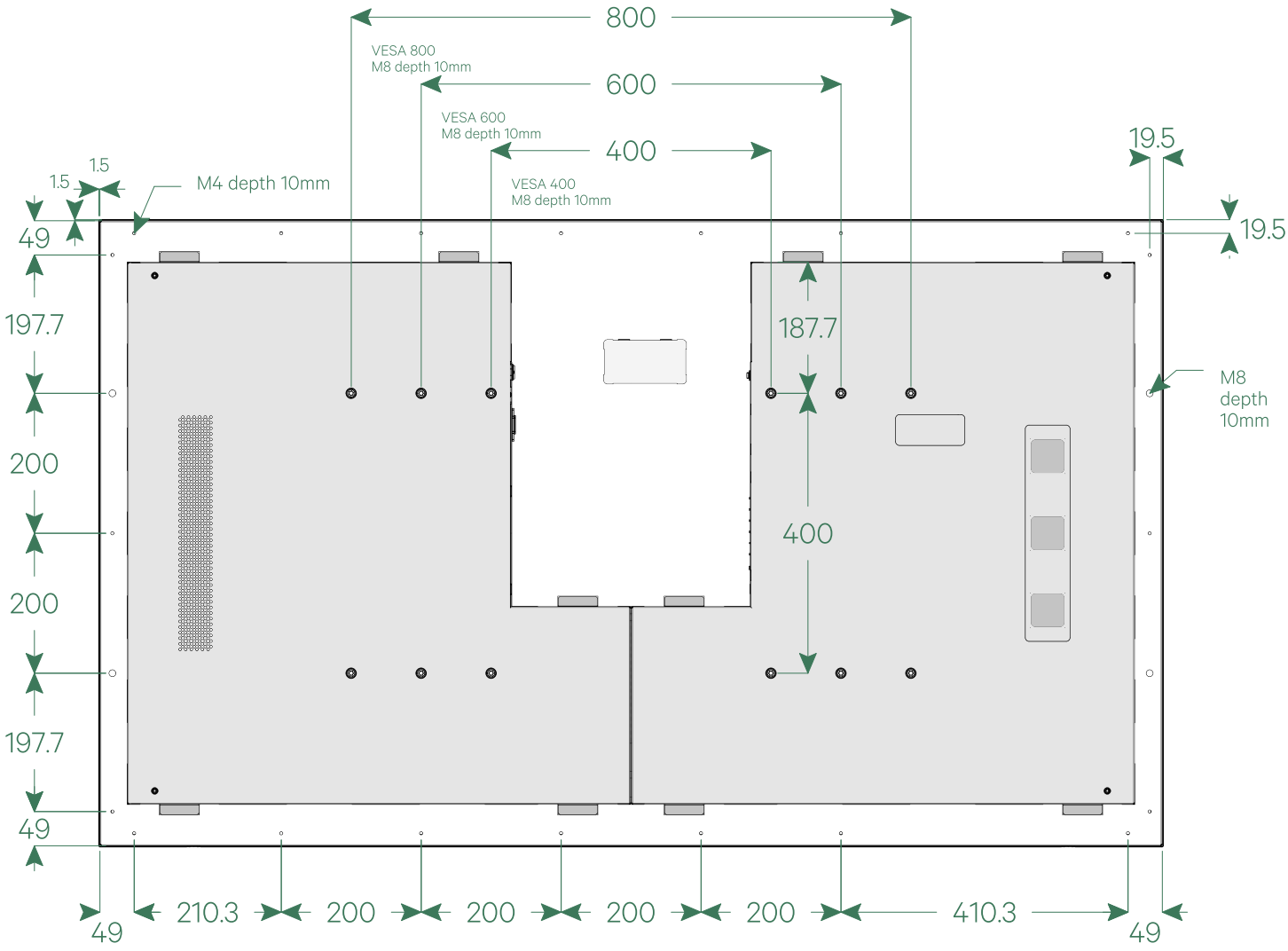
10.2.1. Perspective

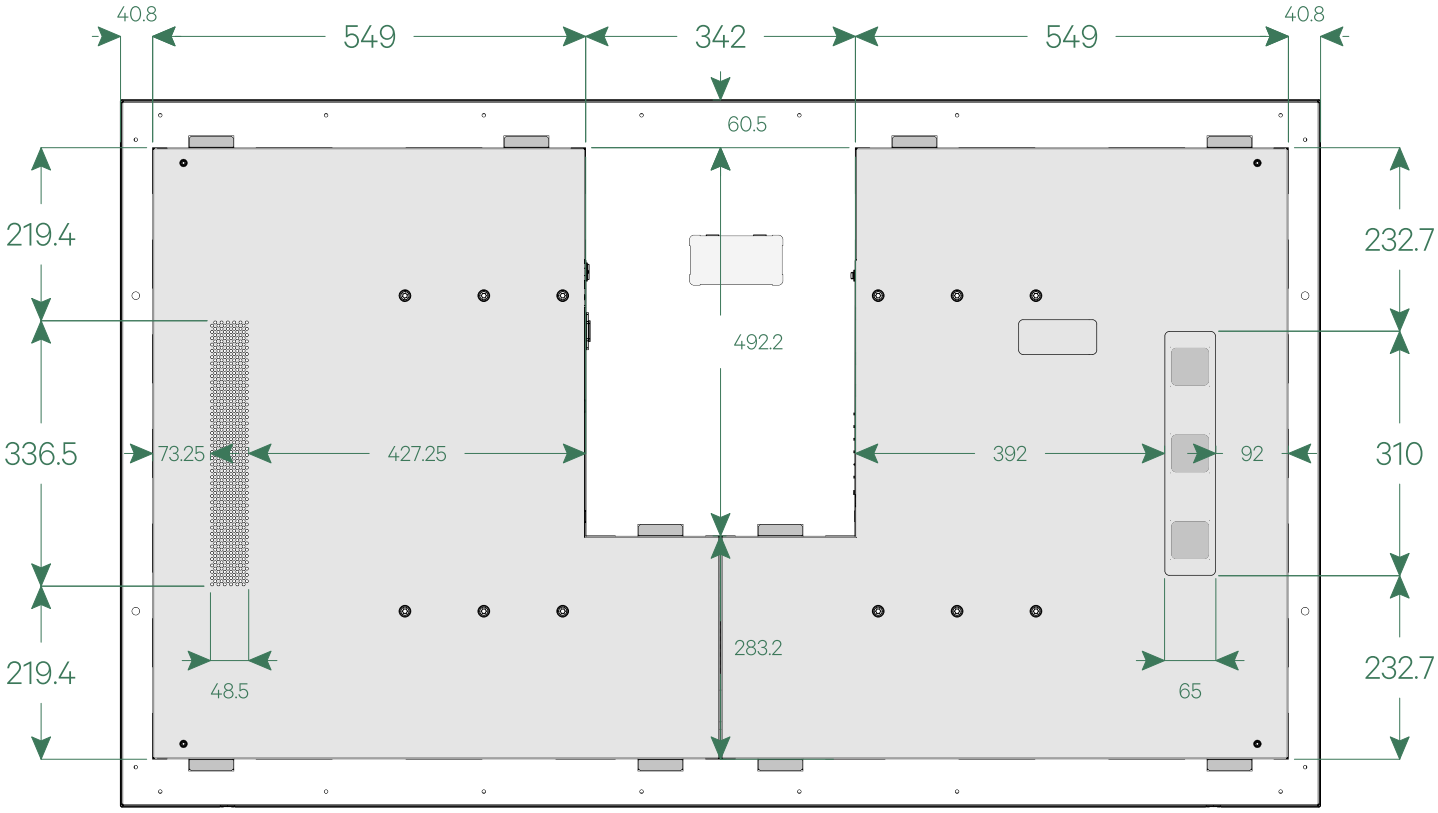


10.2.2. Top view

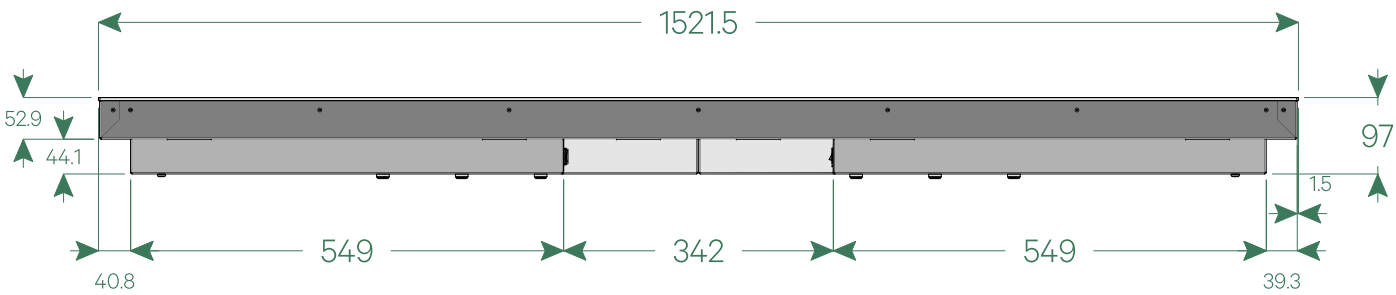


10.2.3. Bottom view

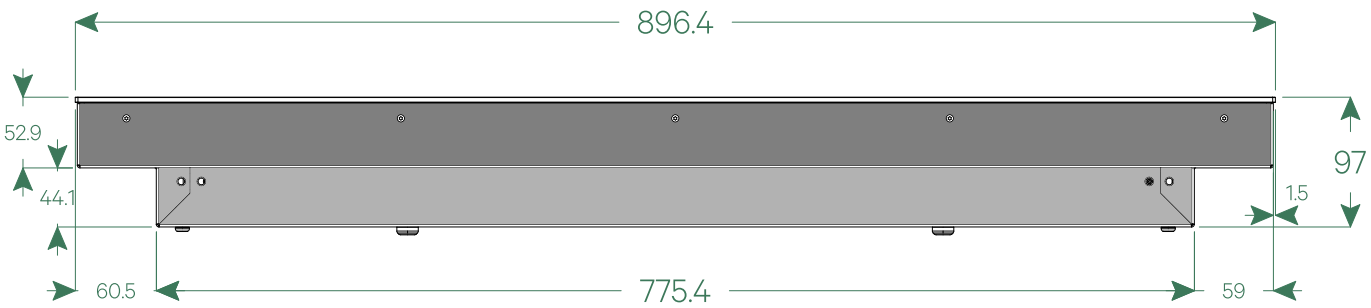



40.8
549
342
549
40.8
60.5
219.4
232.7
492.2
336.5
73.25
427.25
392
92
310
283.2
219.4
48.5
65
232.7

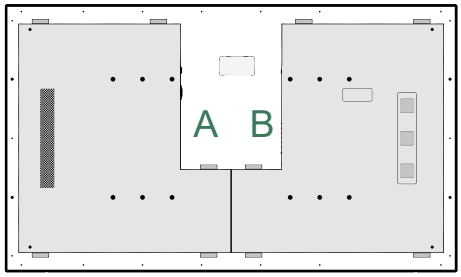
10.2.4. Front view

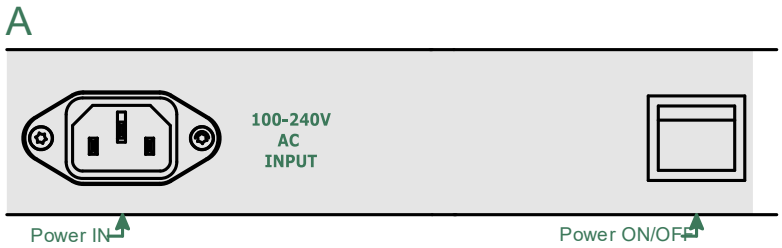


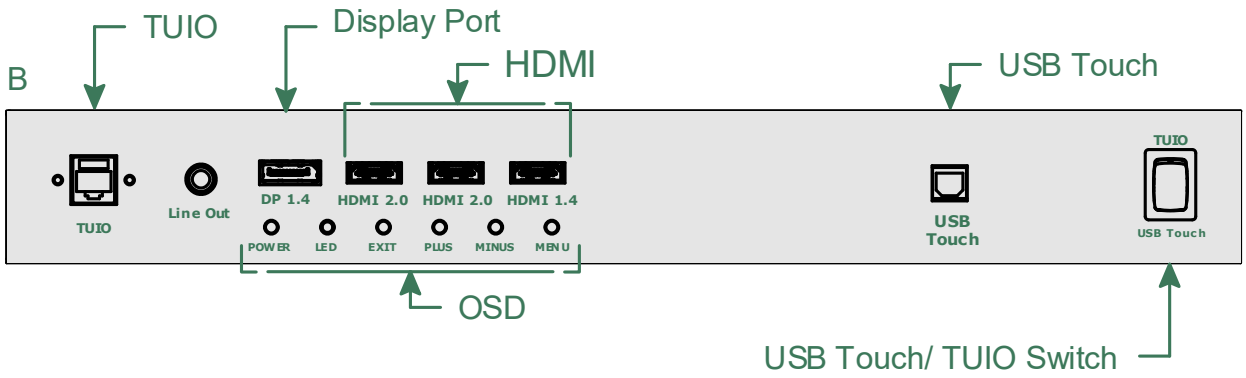
10.2.5. Side view, right



10.2.6. Power supply & media connections







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