



BAB TECHNOLOGIE GmbH

SMARTSURFACE

Mounting instructions

Version 1.0

Type 133 (13.3"), 156 (15.6"), 185 (18.5") and 215 (21.5")

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04900w, 04901w, 04902w and 04903w

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BAB TECHNOLOGIE GmbH

Hörder Burgstraße
DE - 44263 Dortmund

info@bab-tec.de

Tel.: +49 (0) 231 – 476 425 - 30
Fax.: +49 (0) 231 – 476 425 - 59
www.bab-tec.de



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SMARTSURFACE

No compromises. No detours. The brand-new **SMARTSURFACE** with brilliant Full HD display combines state-of-the-art technology and architecture-oriented design options. Whether drywall, masonry or furniture - flush mounted, the touch panel connects seamlessly with almost all surfaces.

The "SMART DOTS" integrated into the high-quality, continuous glass surface provides direct access to useful functions - without any detours. Thanks to its stationary installation and integrated presence detector, the **SMARTSURFACE** is immediately available as a control and information center as soon as you approach it. The uncompromising selection of components guarantees trouble-free and noiseless 24/7 operation.

The **SMARTSURFACE** is delivered ready for operation with an installed operating system.



1 NOTES

Important information:

Packaging:

- Do not unpack the **SMARTSURFACE** until you reach your destination.
- Only transport the **SMARTSURFACE** in its original packaging.
- Only ship the **SMARTSURFACE** in its original packaging. For this reason we recommend that you keep the original packaging!

NOTE: We would like to point out that the sender, not the carrier, is liable for damage caused by improper packaging.

Connect:

- Only use a sufficiently dimensioned power supply unit!
- Please pay attention to the polarity (+ plus and - minus) and the correct supply voltage (V DC Volt, see chapter "Power Supply Connection").
- For safety reasons, please also measure the voltage at the terminals directly on the **SMARTSURFACE**, even while the **SMARTSURFACE** is switched on (also under load).
- Use cables with sufficient cable cross-section and consider the voltage drop, depending on the cable length.

ATTENTION: Applying a voltage outside the permitted voltage range (see technical data) may damage the SMART SURFACE.

Installation:

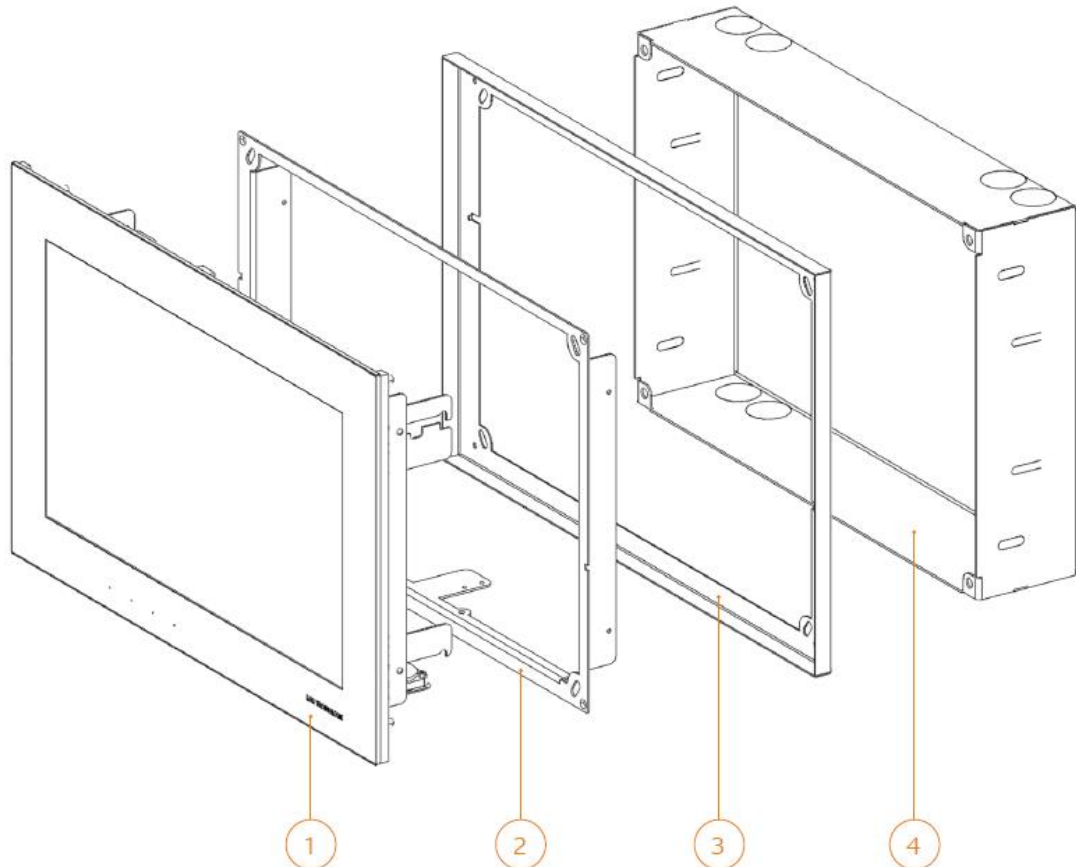
- Make sure (if you install the **SMARTSURFACE**) that there is sufficient ventilation on the back side of the **SMARTSURFACE**.
- Use the Wallbox to make sure there is enough space behind the **SMARTSURFACE**.
- Do not cover ventilation openings, openings or shadow gaps.

THIS IS IMPORTANT for the (convection) cooling of the SMART SURFACE!

2 OVERVIEW OF COMPONENTS

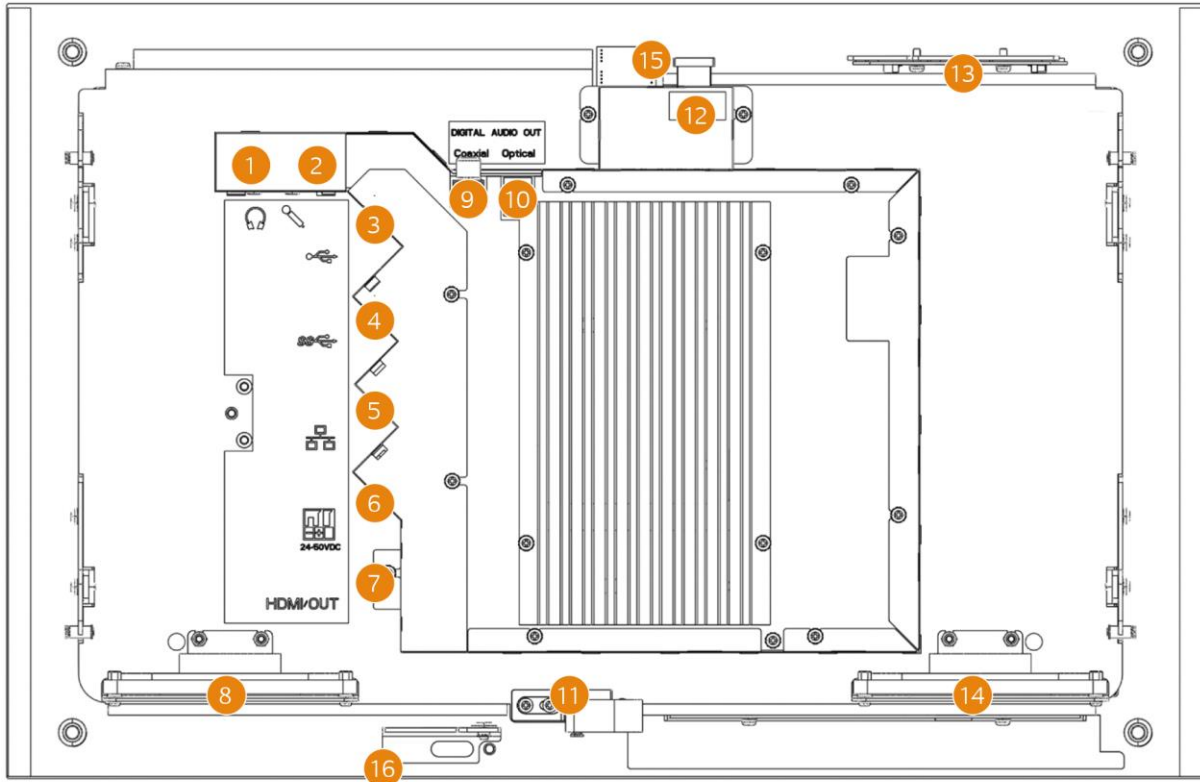
In the appendix under "Article numbers and identifiers" the components are again listed with the article number for inspection.

All dimensions of the individual components can also be found in the appendix under the chapter "Dimensions".



1. **SMART SURFACE**
2. Mounting frame
3. Universal Cover Frame
4. Wallbox

2.1 TOUCH PANEL (REAR SIDE)

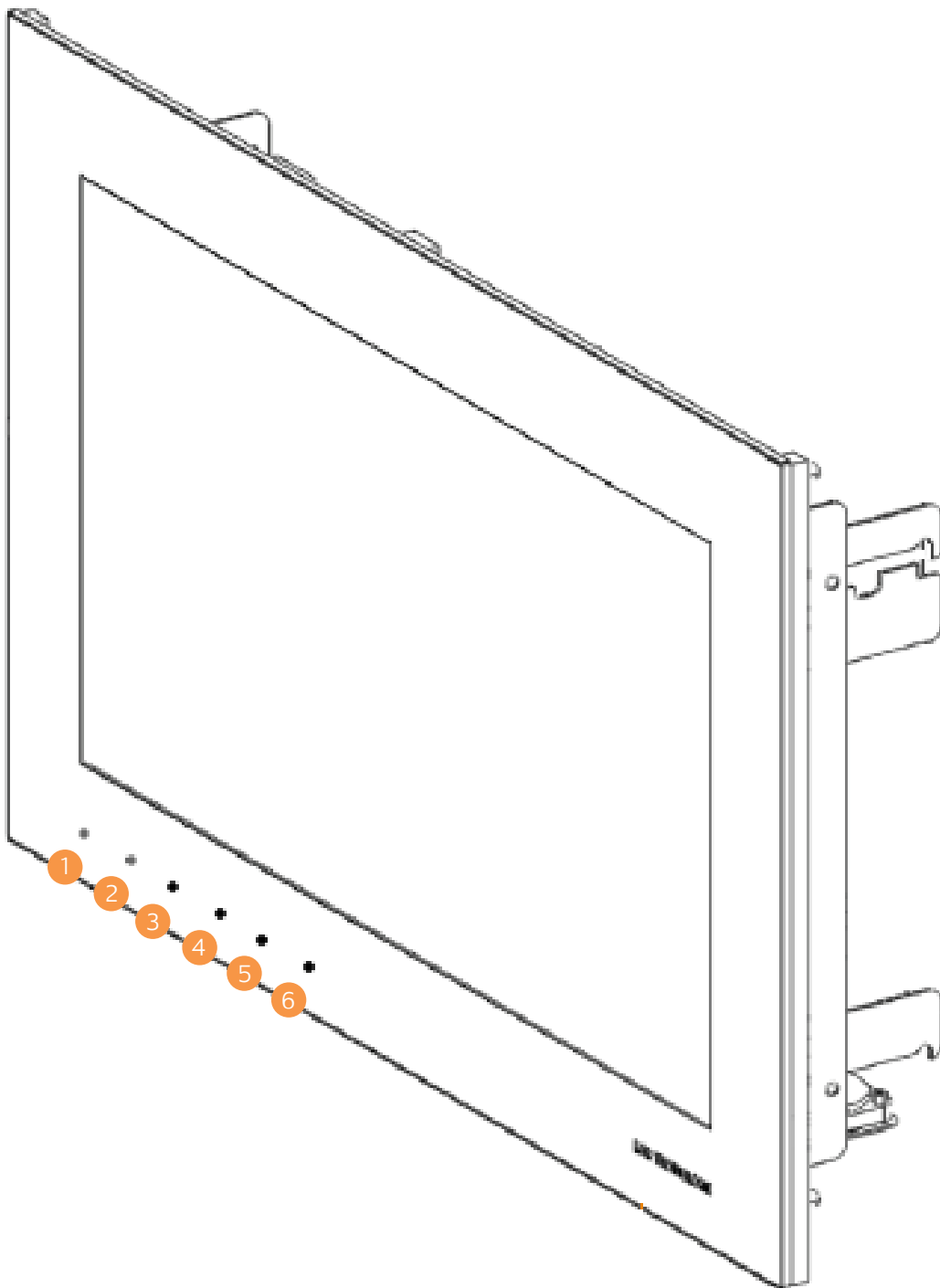


1. Headphone jack (3,5 mm)
2. Microphone connection (3,5 mm)
3. 2 x USB 2.0
4. 2 x USB 3.0
5. Network connection (RJ 45)
6. Power supply connection
7. HDMI output
8. Loudspeaker right
9. Digital Audio Output (Coaxial)
10. Digital Audio Output (Optical)
11. Locking mechanism
12. USB service port
13. Integrated microphone (optional)
14. Loudspeaker left
15. Proximity sensor
16. Anti-theft protection

The intelligent cooling concept and the use of high-quality SSD memories enable trouble-free and noiseless 24/7 operation.



2.2 TOUCH PANEL (FRONT SIDE)



1. Power on / off switch (mark not visible)
2. Adjust brightness (mark not visible)
3. First SMART DOT
4. Second SMART DOT
5. Third SMART DOT
6. Fourth SMART DOT

Note: The operation of the SMART DOTS is confirmed by an LED. The LED is placed to the left below for each SMART DOTS.

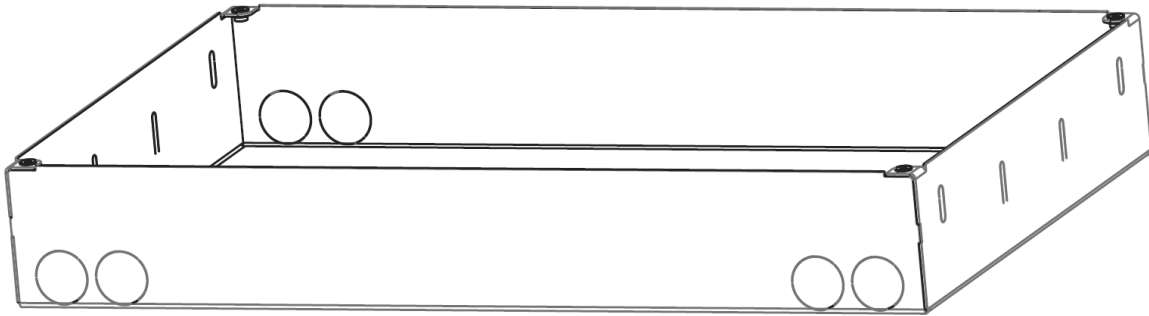
2.3 WALLBOX

The Wallbox is used for mounting of the **SMARTSURFACE** in walls.

To setup the **SMARTSURFACE**, cables for the power supply (24-50 V DC via 3-pin, plug-in terminal) and network must be available at the installation location of the Wallbox

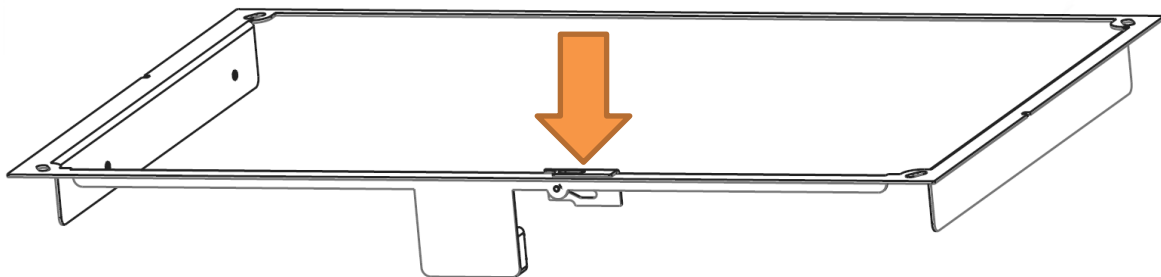
To mount the cables in the Wallbox, there are 2 pre-punched round cut-outs on the left and right side on the upper and lower sides..

To feed the cables into the Wallbox, they can simply be broken out.



2.4 MOUNTING FRAME

The mounting frame is always supplied together with the **SMARTSURFACE**. This frame is used to hold the **SMARTSURFACE** and connect it with the Wallbox.

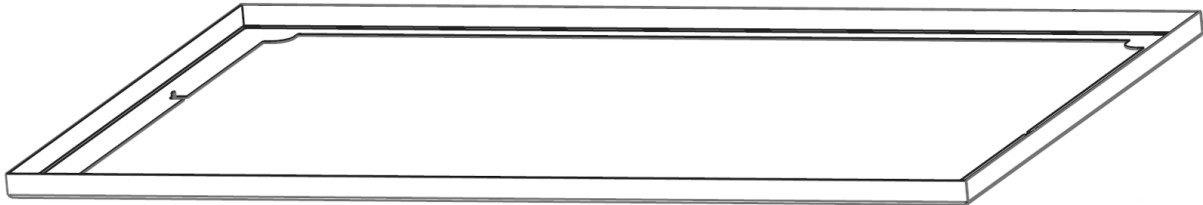


The mounting frame is mounted with four Torx screws to the Wallbox.

The **SMARTSURFACE** has a safety mechanism (orange arrow) which prevents unauthorized removal of the panel. If necessary, the mechanism can be locked and unlocked using the appropriate tool (e.g. an Allen key with a slightly longer leg).

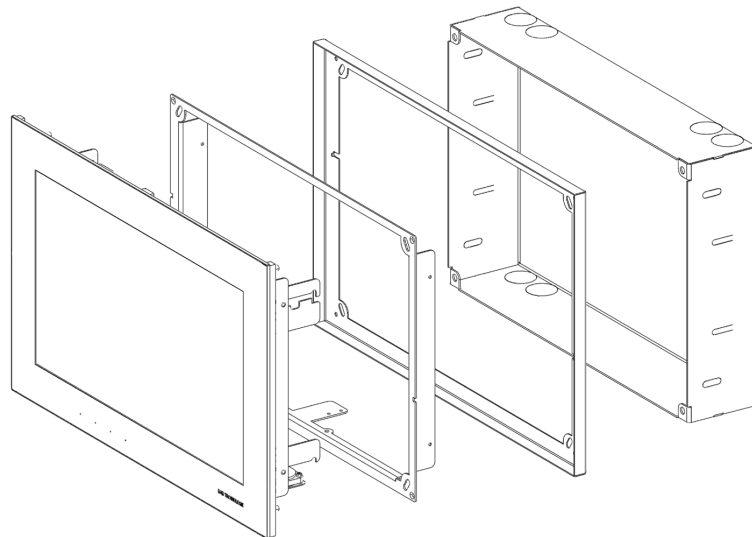
2.5 UNIVERSAL COVER FRAME

The glass pearl blasted universal cover frame allows a noble finish in all installation situations. With the "surface-mounted" type of installation, the **SMARTSURFACE** thus has an optically appealing finish. In a "flush-mounted" installation, the cover frame is completely built into the wall or plastered, thus forming an accurate and clean transition to the wall.



2.6 ORDER OF COMPONENTS FOR INSTALLATION

The following figure shows how the individual components are arranged and in which order they are assembled together:



The next chapter provide details of mounting and shows how to assemble the components.



3 ASSEMBLY

The **SMARTSURFACE** can be mounted in two different ways. They differ in how deeply the panel is built into the wall. A special frame construction enables both wall flush mounting (lower illustration) and conventional surface mounting (upper illustration)

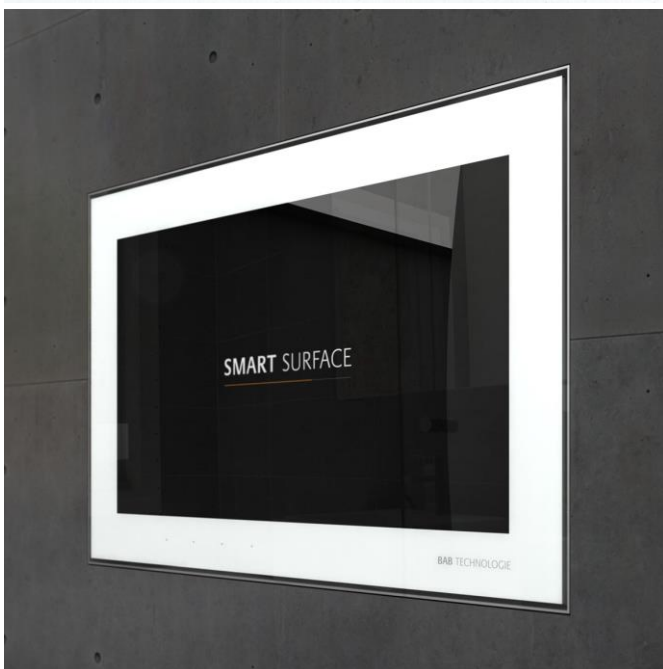
3.1 MOUNTING TYPE

Here are the two types of mounting in detail:

- The **SMARTSURFACE** on the first picture, a part of the cover frame lies on the wall or plaster, hence the term "**surface-mounted**" installation type.
- In the second picture, the cover frame is embedded so deeply into the wall that it is flush with the wall. This type of mounting is called "**wall flush-mounted**".



Surface-mounted

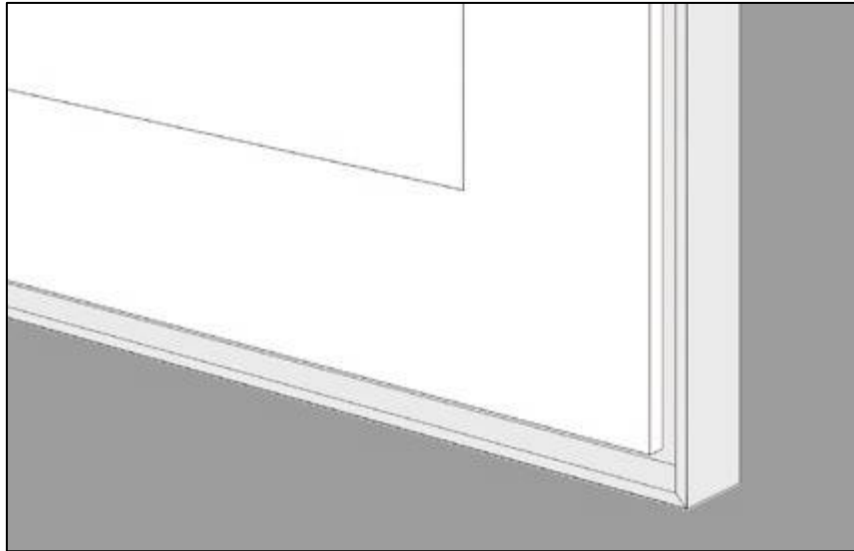


Wall flush-mounted

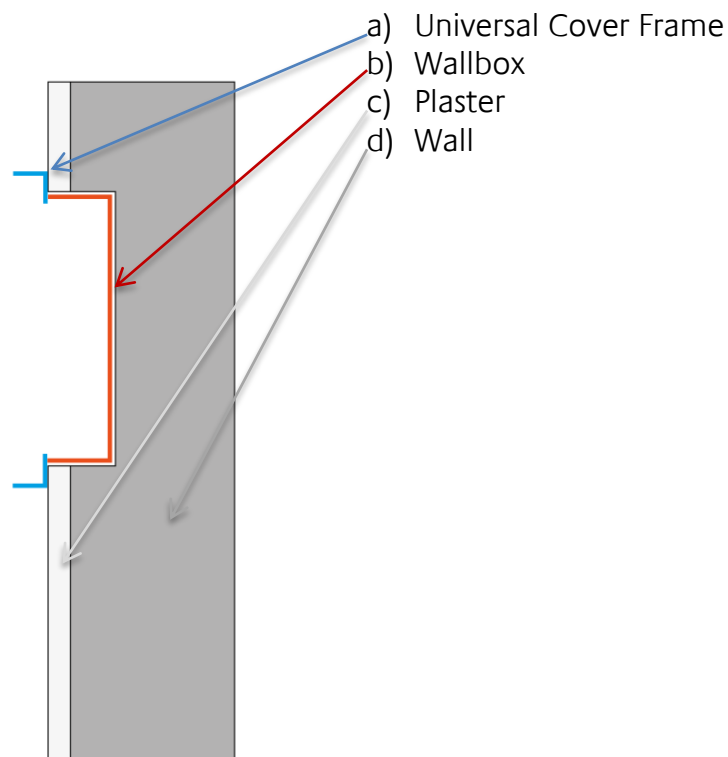


3.2 MOUNTING TYPE „SURFACE-MOUNTED“

With this type of installation, the Wallbox is inserted so deeply into the wall that the upper edge of the Wallbox is flush with the plaster of the wall. The mounting frame and cover frame are screwed onto the Wallbox after the Wallbox has been installed.



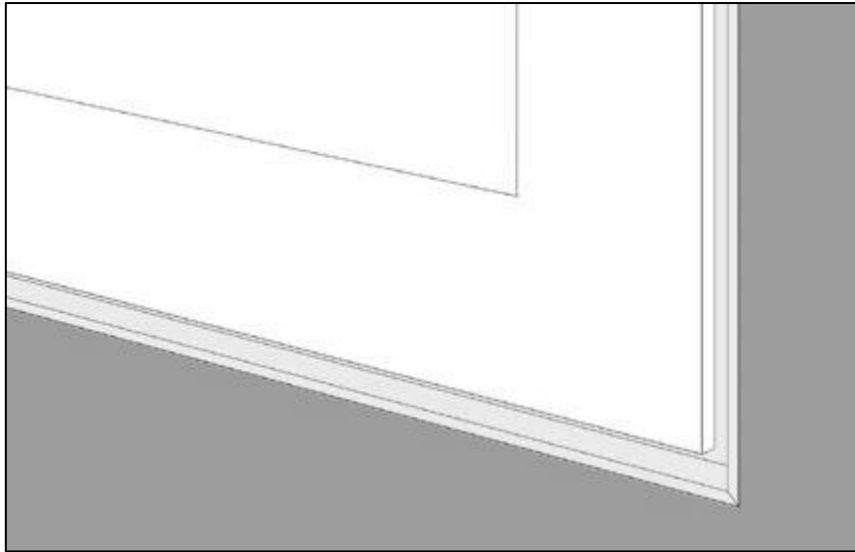
The following drawing shows a cross-section through the wall to illustrate the mounting method:



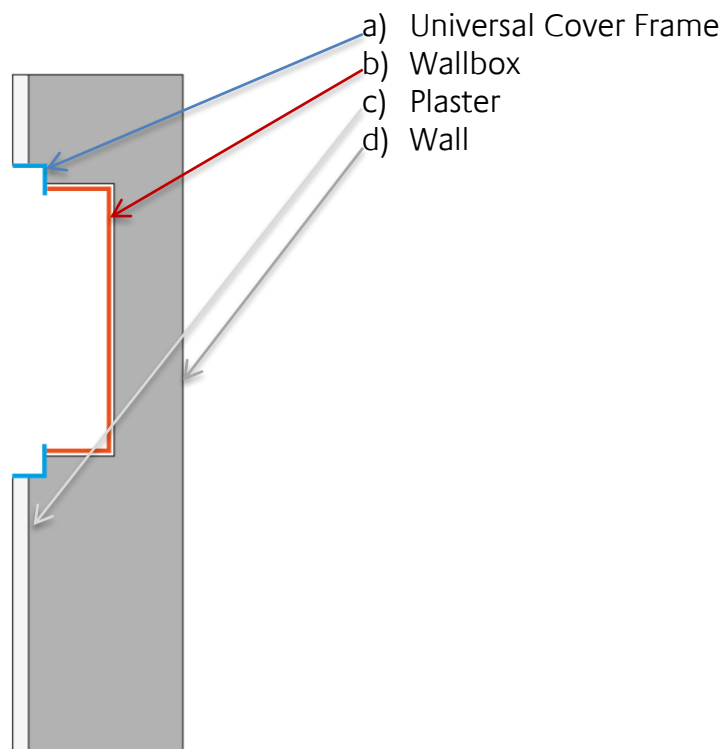


3.3 MOUNTING TYPE „WALL FLUSH-MOUNTED“

In this type of installation, the Wallbox is inserted flush with the wall **together** with the cover frame and the mounting frame so that the top edge of the **cover frame is flush with the plaster of the wall**.



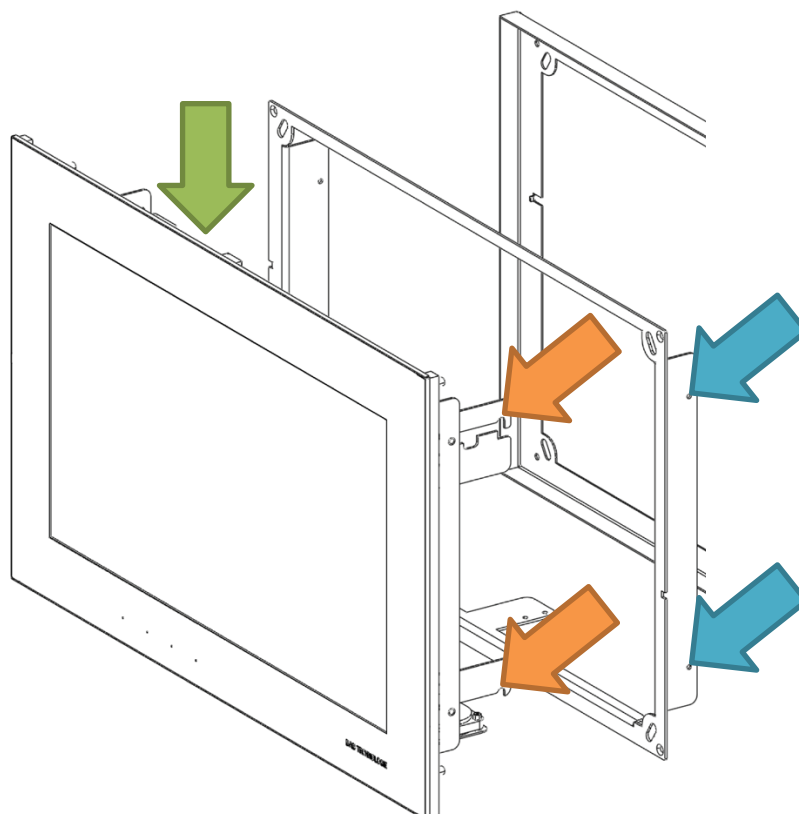
The following drawing shows a cross-section through the wall to illustrate the mounting method:



3.4 PANEL MOUNTING

After the Wallbox with the frame is mounted into the wall, the panel can be inserted.

1. Connect the wires of the power supply with the 3-pin plug (pay attention to the polarity and the permissible voltage value).
2. Next, connect the power supply and the network cable to the Panel PC.
3. Hang the Panel PC in the Wallbox.
The Panel PC is suspended from the mounting frame by means of guides and sleeves. The following illustration shows the orange arrows on the guides and the blue arrows on the sleeves on the mounting frame.

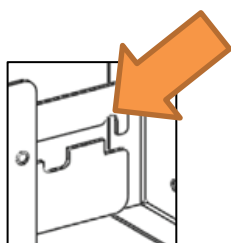


IMPORTANT HINT:

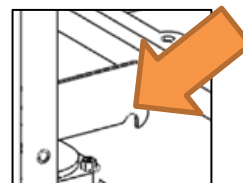
Make sure that the **SMARTSURFACE** is locked at the top and (!) at the bottom!

(Enlarged image)

Upper slider:



Lower slider:



When mounted like this, the Panel PC is in the service position. In this position the upper USB port (green arrow) is accessible.

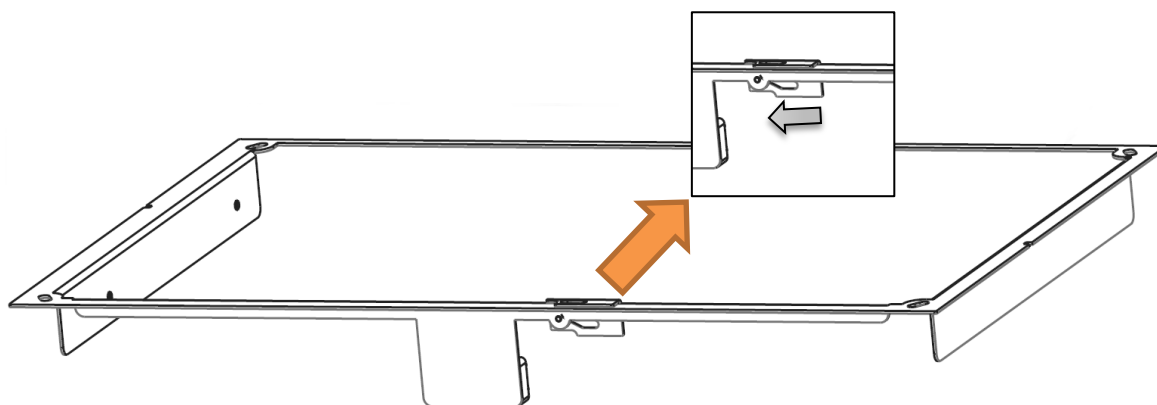
4. Push the upper side of the panel slowly into the Wallbox until it stops.
5. Finally, by pressing on the lower half, the Panel PC is snapped into the final position.



To remove the Panel PC or set it up in the service position, press the lower half of the Panel PC again. The locking mechanism pushes the lower half of the panel out of the Wallbox by means of a spring mechanism. So it can be removed or brought into the service position.

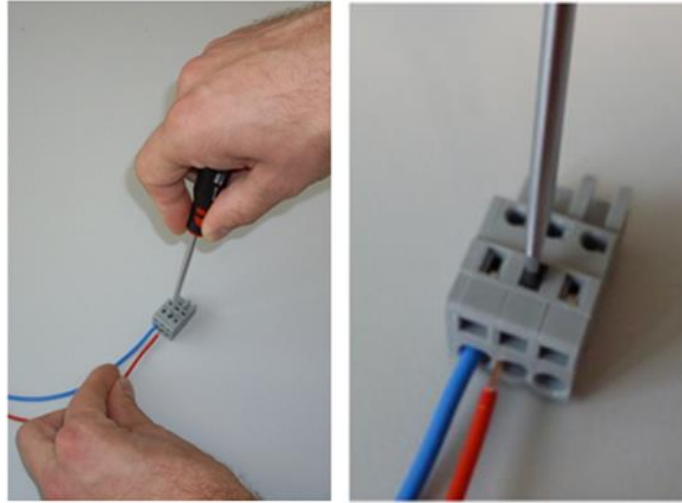
The anti-theft device (orange arrow) blocks the locking mechanism. To block the locking mechanism, slide the anti-theft device from "right to left" using a suitable tool (e.g. an Allen key with a slightly longer leg).

The locking mechanism must be released so that the Panel PC can be removed again or brought into service position. The anti-theft device will be moved from "left to right".



4 POWER SUPPLY CONNECTION

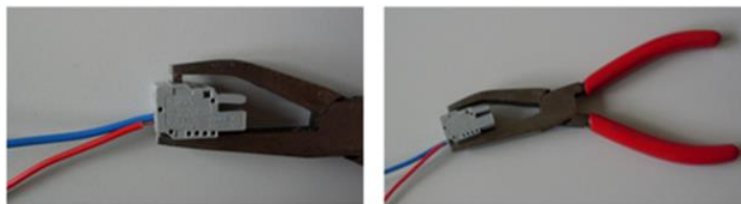
Handling the gray 3-pin coded socket connector (cage-clamp/spring-loaded terminal block) from Wago® with CAGE CLAMP® connection.



Use a suitable screwdriver to push the spring contacts downwards and insert the insulated stranded wire.

Then pull out the slotted screwdriver. The stranded wire is clamped in place.

Alternatively, the connection can also be used with actuating pliers for Wago® female connectors.



Assignment of the female connector.

The female connector is equipped with two long and one short "coding finger". The following picture shows the encoding fingers.



The polarity of the power supply is

- The middle pole for Plus and
- The pole with the short coding finger for minus.



5 OPERATION

5.1 SMART SURFACE SWITCHING ON/OFF AND ADJUSTING BRIGHTNESS

On the upper left side of the panel there are six so called Smart Dots (capacitive switch) . Four Smart Dots are visible dots. Two more Dots are not marked (hidden). (See 2.2 **Touch Panel** (front side))

Power On:

To turn on the **SMARTSURFACE**, press the first Smart Dots (hidden) "On/Off" for 3 seconds.

A white LED, which is placed to the left below the Dot, will flash, which indicates that the switch is being pressed.

A pair of two LEDs on behind the glas near of the microphone (upper left corner) will light up red when the **SMARTSURFACE** is turned on.

Shut Down:

Always shut down the **SMARTSURFACE** via the operating system!

If this is not possible, you can also turn off the **SMARTSURFACE** using the first Smart Dot. To do so, press the Dot "On/Off" for 23 seconds. The red LED near the microphone indicates the process.

The red LED flashes for the first 10 seconds and the last 13 seconds before the panel switch off.

Adjust brightness:

The brightness of the display can be adjusted in twelve steps. The brightness is changed via the second (hidden) Smart Dot "Brightness adjustment" (see 2.2 **Touch Panel** (front side)). The brightness is changed by a long press or tap (in steps).

If the maximum or minimum brightness value is reached, the brightness is reduced or increased when pressed again.

5.2 WRITE PROTECTION

The **SMARTSURFACE** is delivered with an activated write protection. The operation of the write protection is explained in the separate document "**SMARTSURFACE** UWF write protection configuration" (file name **SMARTSURFACE** write protection-EN.PDF).

If you do not have this document, please contact us at info@bab-tec.de.



6 APPENDIX

6.1 ARTICLE NUMBERS AND IDENTIFIERS

SMARTSURFACE

(SPECIAL COLOURS on request)

SMARTSURFACE 133 Obsidian Black (UP-Touch Panel PC x86 13.3" FHD-wide)	04900s
SMARTSURFACE 133 Crystal White (UP-Touch Panel PC x86 13.3" FHD-wide)	04900w
SMARTSURFACE 156 Obsidian Black (UP-Touch Panel PC x86 15.6" FHD-wide)	04901s
SMARTSURFACE 156 Crystal White (UP-Touch Panel PC x86 15.6" FHD-wide)	04901w
SMARTSURFACE 185 Obsidian Black (UP-Touch Panel PC x86 18.5" FHD-wide)	04902s
SMARTSURFACE 185 Crystal White (UP-Touch Panel PC x86 18.5" FHD-wide)	04902w
SMARTSURFACE 215 Obsidian Black (UP-Touch Panel PC x86 21.5" FHD-wide)	04903s
SMARTSURFACE 215 Crystal White (UP-Touch Panel PC x86 21.5" FHD-wide)	04903w

Wallbox for **SMARTSURFACE**

Wallbox for SMARTSURFACE 133	04920
Wallbox for SMARTSURFACE 156	04921
Wallbox for SMARTSURFACE 185	04922
Wallbox for SMARTSURFACE 215	04923

Universal Cover Frame for **SMARTSURFACE**

Universal Cover Frame for SMARTSURFACE 133	04930
Universal Cover Frame for SMARTSURFACE 156	04931
Universal Cover Frame for SMARTSURFACE 185	04932
Universal Cover Frame for SMARTSURFACE 215	04933



6.2 DIMENSIONS

SMARTSURFACE	BREITE	HÖHE	TIEFE
SMARTSURFACE 133 (33,8cm)	370.4	242	73.7
SMARTSURFACE 156 (39,6cm)	424.5	274	78.7
SMARTSURFACE 185 (47,0cm)	490.4	311.5	78.7
SMARTSURFACE 215 (54,6cm)	563.7	355.3	78.7

Wallbox for **SMARTSURFACE**

Wallbox for SMARTSURFACE 133 (33,8cm)	340	225	80
Wallbox for SMARTSURFACE 156 (39,6cm)	398.1	260.1	80
Wallbox for SMARTSURFACE 185 (47,0cm)	466.5	304	80
Wallbox for SMARTSURFACE 215 (54,6cm)	531.55	340	80

Universal Cover Frame for **SMARTSURFACE**

Universal Cover Frame for SMARTSURFACE 133 (33,8cm)	380	251.5	14
Universal Cover Frame for SMARTSURFACE 156 (39,6cm)	434.1	283.6	14
Universal Cover Frame for SMARTSURFACE 185 (47,0cm)	500	321.1	14
Universal Cover Frame for SMARTSURFACE 215 (54,6cm)	571.5	363	14



6.3 TECHNICAL DATA

6.3.1 GENERAL TECHNICAL DATA:

- Panel PC with capacitive Multi Touch technology
- Front: continuous hardened protective screen
- Front colour: Crystal White / Obsidian Black
- Display: Industrial Colour TFT Display, LED Backlight
- Resolution: Full HD, 1920x1080
- Housing: stainless steel
- Fan: Fanless
- Processor: Intel® Pentium™ N3710 quad-Core
- RAM: 4 GB DDR3L
- Memory: 64 GB mSATA Industrial flash memory I-Temp MLC

- Graphic:
 - With Intel® Pentium™ N3710: HD Graphics 405
 - Intel® Core™ i3 / i5 / i7 processor: Intel HD Graphics 520 with 3 D Support

- Connections:
 - Network: 1 x Ethernet connection, 10/100/1000 Mbit/s
 - USB: 4 x ports (2 x USB 2.0 / 2 x USB 3.0) + 1 x port (USB 2.0 accessible in service position)
 - Video output: 1 x HDMI
 - SPDIF: 1 x TOS Link (POF) & 1 x RCA (coaxial)
 - Audio output: 1 x stereo jack socket, 3.5 mm
 - Microphone input: 1 x jack socket, 3.5 mm
 - Loudspeaker: 2 x 2.8 W Loudspeaker (built-in)
 - Sensor: Presence detector with radar technology
 - Sensor keys: 6 x (2 x sensor keys (power/brightness) + 4 x sensor keys freely configurable)

- Power supply: 24 - 50 V DC via 3-pole, female connector
- Ambient temperature: 0 - 45 °C (during operation)

6.3.2 SIZE SPECIFIC TECHNICAL DATA:

Type:	133	156	185	215
Display size:	13.3 inch	15.0 inch	18.5 inch	21.5 inch
Display diagonal:	33,8 cm	39,6 cm	47,0 cm	54,6 cm
Brightness:	400 cd/m ²	400 cd/m ²	350 cd/m ²	300 cd/m ²
Power consumption:	40W max.	42W max.	44W max.	47W max.
Weight:	3,15 kg	4,45 kg	6,5 kg	8,5 kg