

User Manual

Touch Panels 5.8"

Version 05

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Caution

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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1. Introduction

1.1. Overview

The touch panel 5.8" is a stand-alone device with 5.8" color LCD flat screen, which displays control buttons with a description. The requested function is selected using a finger touch of a button on the screen. Its most important advantage is a display of only the buttons that are needed at a time.

All touch panel 5.8" models are fully compatible with Cue control units. All AV equipment, entire environment including lights, projection screens, window blinds, air-conditioning etc. can be controlled by just a touch of a finger. Each individual screen button is associated with sequences stored in a control unit.

User application screen layouts containing buttons, bargraphs, logos, drawings etc. are prepared on PC and downloaded into the touch panel. The user application can be developed using Cue Design Director.

1.2. Models

Model	Product code	Description
touchCUE-S 99	CS0157	Wired tabletop model in wooden enclosure.
touchCUE-S	CS0142	Wired tabletop model in plastic enclosure.
touchCUE-S /t	CS0143	Wired table built-in model.
touchCUE-S /w	CS0158	Wired wall mounted model.
touchCUE-S /r	CS0144	Wired 19" rack-mount model.
touchCUE-SRF	CS0188-x4	Wireless RF model in plastic enclosure with docking-station, 433.92 MHz
touchCUE-SRF	CS0188-x8	Wireless RF model in plastic enclosure with docking-station, 869.85 MHz
touchCUE-SRF	CS0188-x9	Wireless RF model in plastic enclosure with docking-station, 914.5 MHz

Note: x in Product code means color of the enclosure

1.3. Features

The main features of the mini touch panels are

- 5.8" diagonal color CSTN LCD display, 16 colors
- Screen resolution 320 x 240 pixels
- High resolution analog resistive touch panel
- Connection CUEwire (RS-485) or wireless RF communication

2. Mounting the Mini Touch Panels

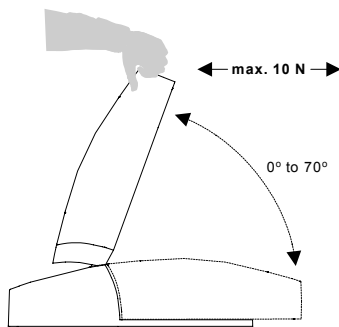
2.1. Desktop Models

2.1.1. Overview

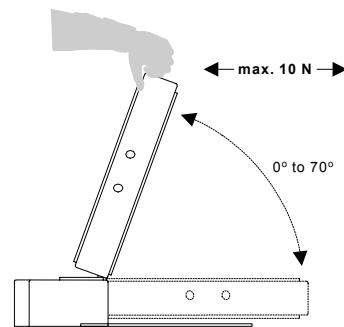
Desktop models can be placed on any flat surface. Don't forget to prepare rightful bushing for the cable incl. standard connector. Minimum diameter of the bushing for Sub-D, 9-pin, male connector is 35 mm, minimum diameter for 4-pin connector is 25 mm.

2.1.2. Screen Angle Adjusting

Adjust screen angle from 0 degrees to 70 degrees by hand (see pictures).

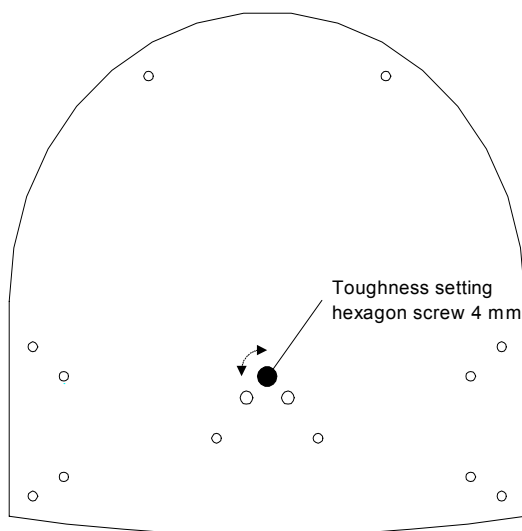


touchCUE-S or touchCUE-SRF side view

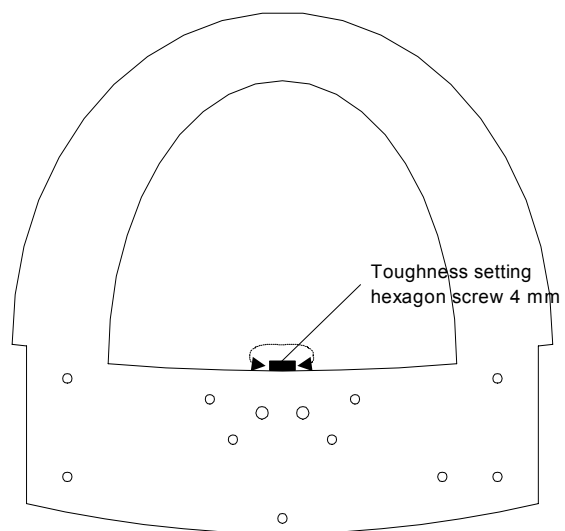


touchCUE-S 99 side view

In case you are not satisfied with display mechanism toughness, change carefully toughness using hexagon screw driver 4 mm. The toughness setting screw is located on the bottom panel of touchCUE-S, touchCUE-SRF or on the back side of touchCUE-S 99 (see pictures). Power for screen angle adjusting can be max. 10 N measured on the top edge of display part. If you set higher toughness, you can damage the display mechanism.



touchCUE-S or touchCUE-SRF bottom view

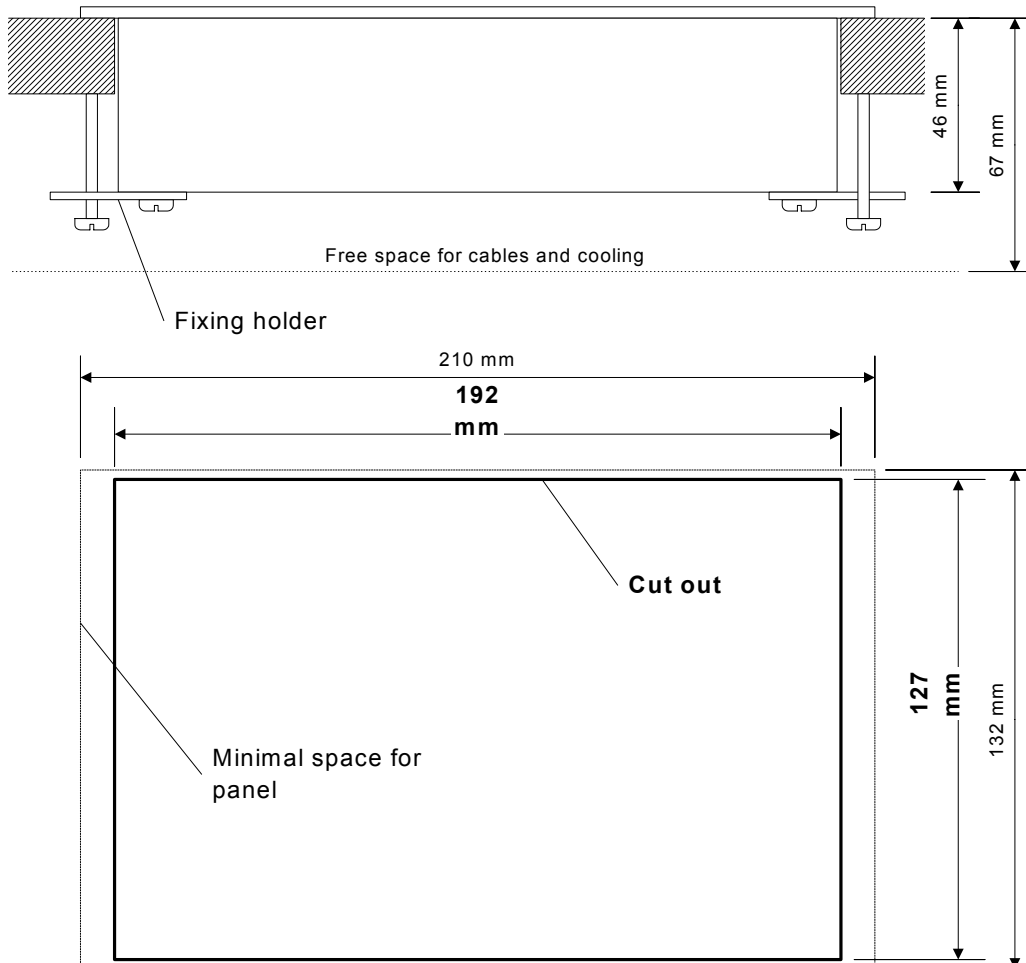


touchCUE-S 99 bottom view

2.2. Table Built-in Model

Steps are

1. Cut out the surface using dimensions shown in figure below.
2. Place the touch panel into the cutout.
3. Fix two fixing holders to touch panel case by using four shorter screws.
4. Fix the touch panel to surface bottom side by using two longer screws.



2.3. Wall Mounted Model

A wall mounted model allows to install a mini touch panel to the wall. A recommended distance from the floor is **1 500 mm**. The wall mounted model has two parts - the built-in case and the front panel with the display.

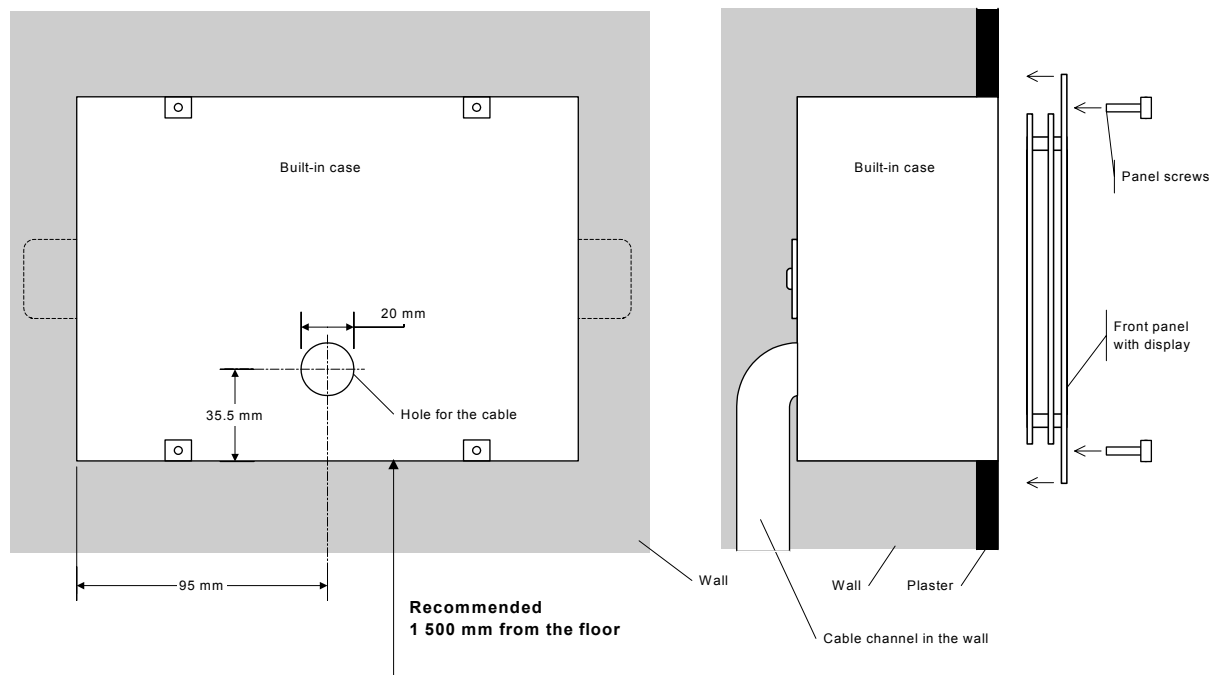
In advance of the mini touch panel installation only the built-in case must be installed into the wall. Steps are

1. Prepare the necessary space in the wall. Space dimensions are approx. width 230 mm, height 140 mm and depth 80 mm.
2. Insert the built-in case into the prepared space and fix the right position using the standard wall or plaster material.

Very important note: **the position must be with $\pm 0.0^\circ$ tolerance in horizontal level and the front side of the wall built-in case must be on equal level with the surface of the plaster.**

Now you can install the front panel with the display. Steps are

1. Insert the front panel into the built-in case.
2. Line up the top right and bottom left screws, then line up the bottom right and top left screws.
3. Tighten all the screws.



2.4. Rack-mount Model

Steps are

1. Insert the touch panel into the 19" rack. Necessary rack space is 3 units.
2. Line up the top right and bottom left screws, then line up the bottom right and top left screws.
3. Tighten all the screws.

3. Cleaning the Mini Touch Panels

You should clean the mini touch panel screen overlay after each day's use.

Materials required are

1. Two clean, soft texture cloths (cotton).
2. Spray bottle of cleaning solution without alcohol (window cleaner).
3. Stainless steel parts of mini touch panels should be cleaned using special cleaning solution, for example 3M Stainless Steel Cleaner & Polish, SS9100 2648 3.

Steps are

1. Turn the mini touch panel off.
2. Spray a small amount of the cleaning solution onto one of the cloths.
3. Clean the mini touch panel overlay with the damp cloth.
4. Wipe the mini touch panel overlay with the dry cloth.

4. Connecting the Wired Models

4.1. Overview

A wired mini touch panel uses a connector or a screw terminal for data (RS-485) and power supply. Using this connector or terminal the panels can be connected to

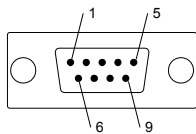
1. Assistant or Assistant-S using a Control Panel Cable 485 or user made cable.
2. RS-485 bus installation. For more details see **RS-485 Connection User Manual**.

The power consumption of the mini touch panel is max. 0.4 A. Up to four mini touch panels can be powered from the Assistant or Assistant-S, for more touch panels power supply see **RS-485 Connection User Manual**.

After switching the power supply off a minimum pause of 5 seconds is necessary before switching the power supply of the touch panel unit on again.

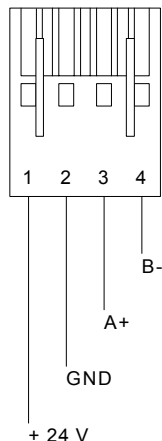
4.2. Tabletop and Table Built-In Models

Tabletop and table built-in models use a standard cable 3 m length with Sub-D, 9-pin, male connector or 10 m length with 4-pin connector for CUEwire connection (data and power). Connect the Sub-D, 9-pin connector to the system and fix it firmly with the screws on the plug.



Sub-D, 9 pin, male connector pinouts

- Pin 1: ground
- Pin 2: B- (RS-485 signal)
- Pin 3: A+ (RS-485 signal)
- Pin 4: not used
- Pin 5: ground
- Pin 6: not used
- Pin 7: not used
- Pin 8: not used
- Pin 9: power supply + 24 VDC

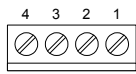


4-pin connector pinouts

- Pin 1: power supply + 24 VDC
- Pin 2: ground
- Pin 3: A+ (RS-485 signal)
- Pin 4: B- (RS-485 signal)

4.3. Wall Mounted Model

A wall mounted model uses a screw terminal located on the back side of the front panel part. An user made cable is necessary for a connection to the system.



4 pin screw terminal pinouts

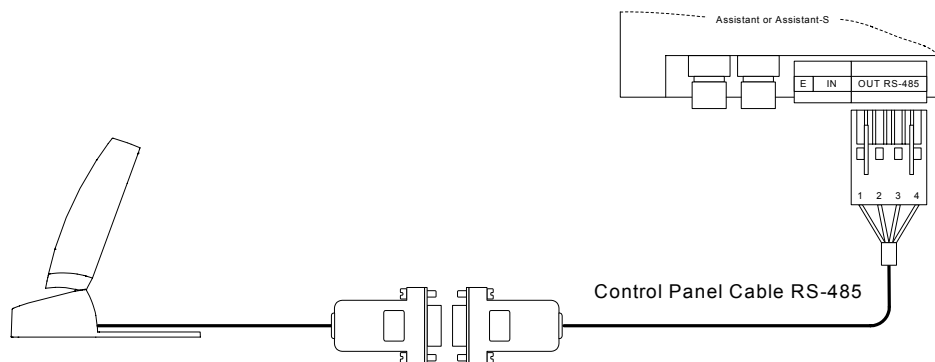
Pin 1: power supply + 24 VDC

Pin 2: A+ (RS-485 signal)

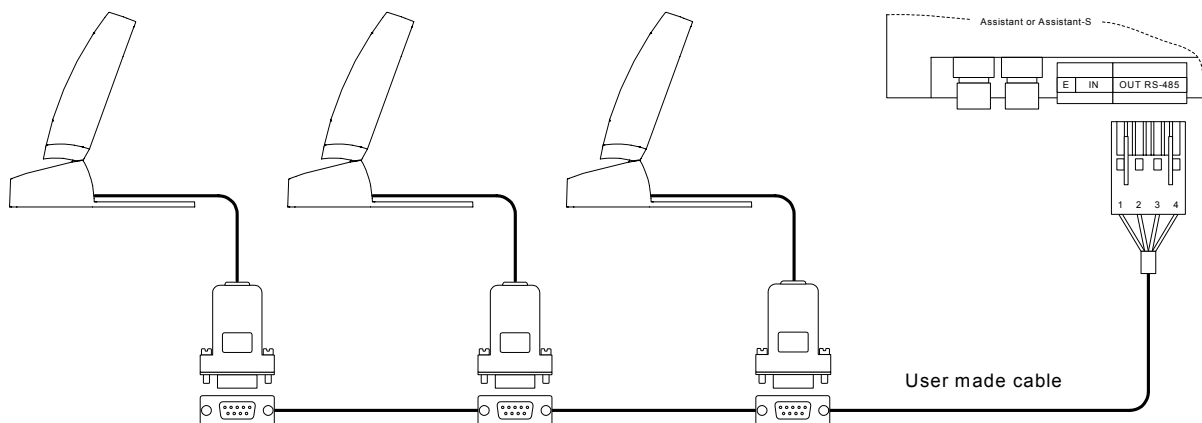
Pin 3: -B (RS-485 signal)

Pin 4: ground

4.4. Connection to the Assistant or Assistant-S

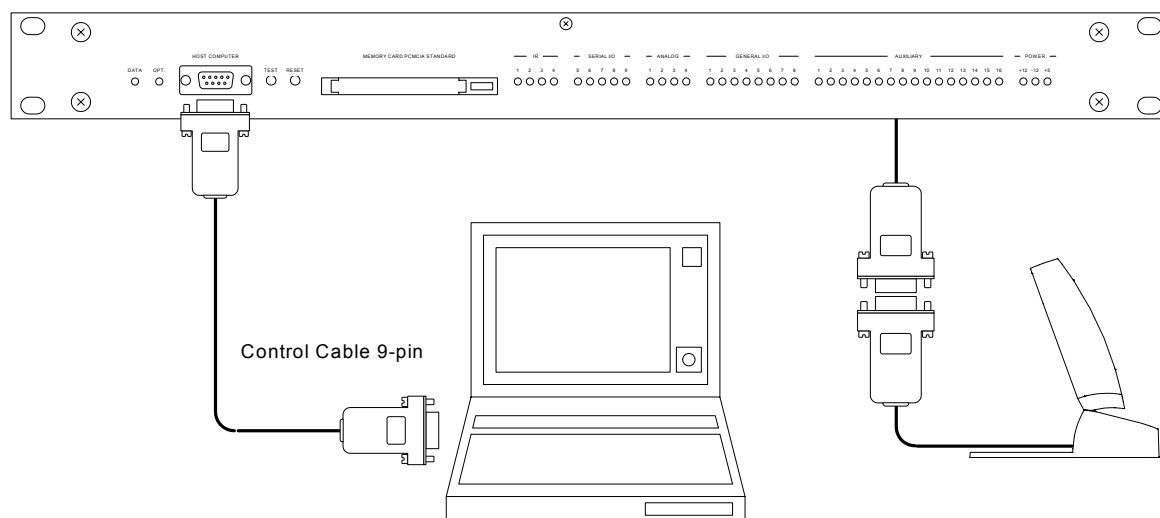


4.5. Multiple Mini Touch Panels in an Installation.....



4.6. Connection for Service Functions.....

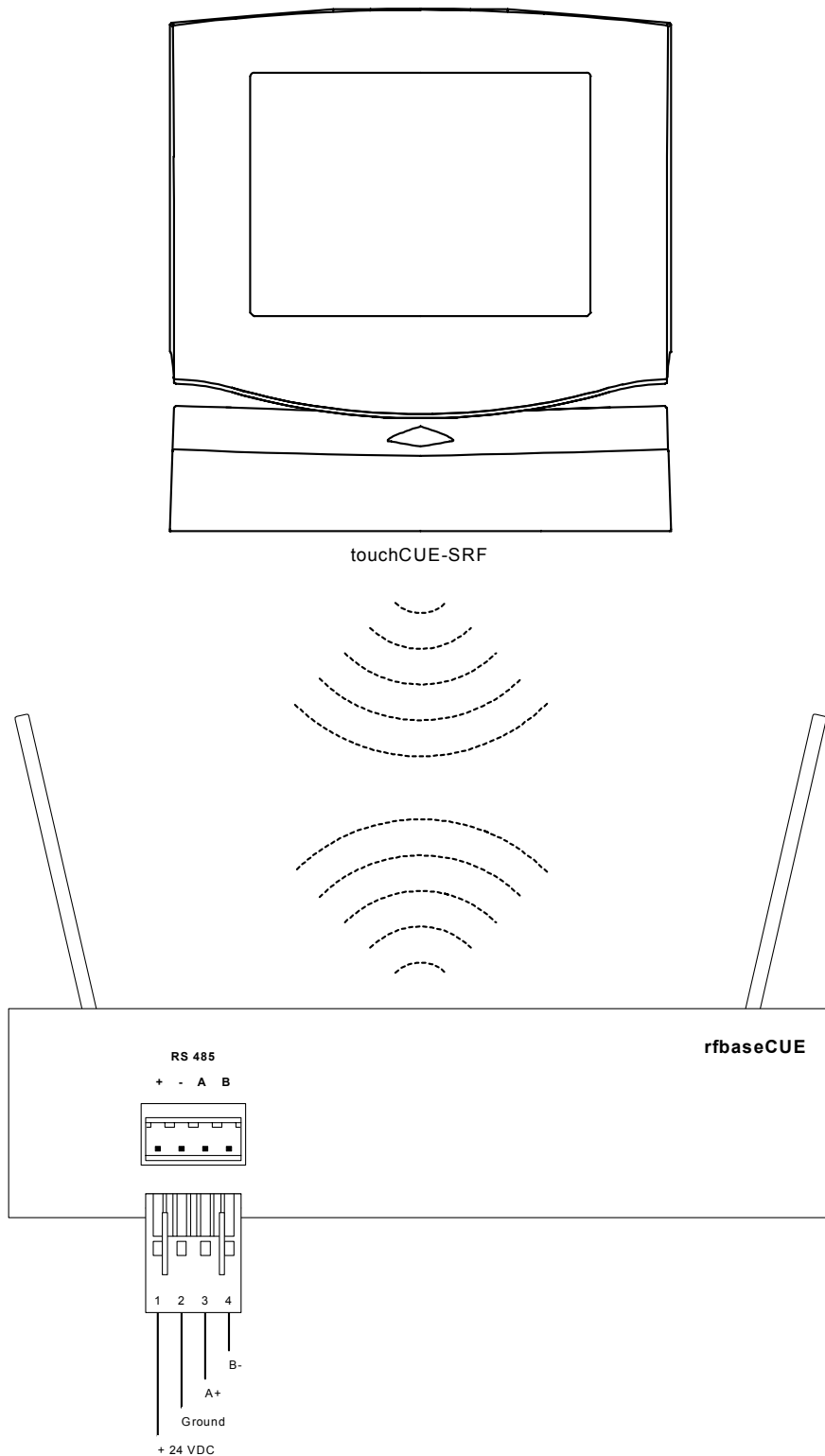
There must be connection between mini touch panel and Assistant or Assistant-S described above. Your PC serial port must be connected to the HOST COMPUTER connector on the Assistant or Assistant-S using the Control Cable 9-pin.



5. Using the Wireless RF Model

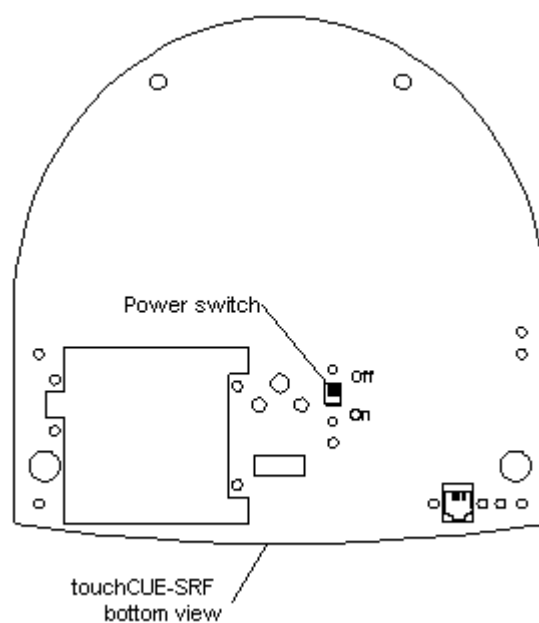
5.1. Overview

The wireless RF model touchCUE-SRF uses a radio frequency communication and must be used with a base unit rfbaseCUE. The base unit links the RF communication to the RS-485 bus. More details about using and connecting of the rfbaseCUE see in the **User Manual rfbaseCUE**.



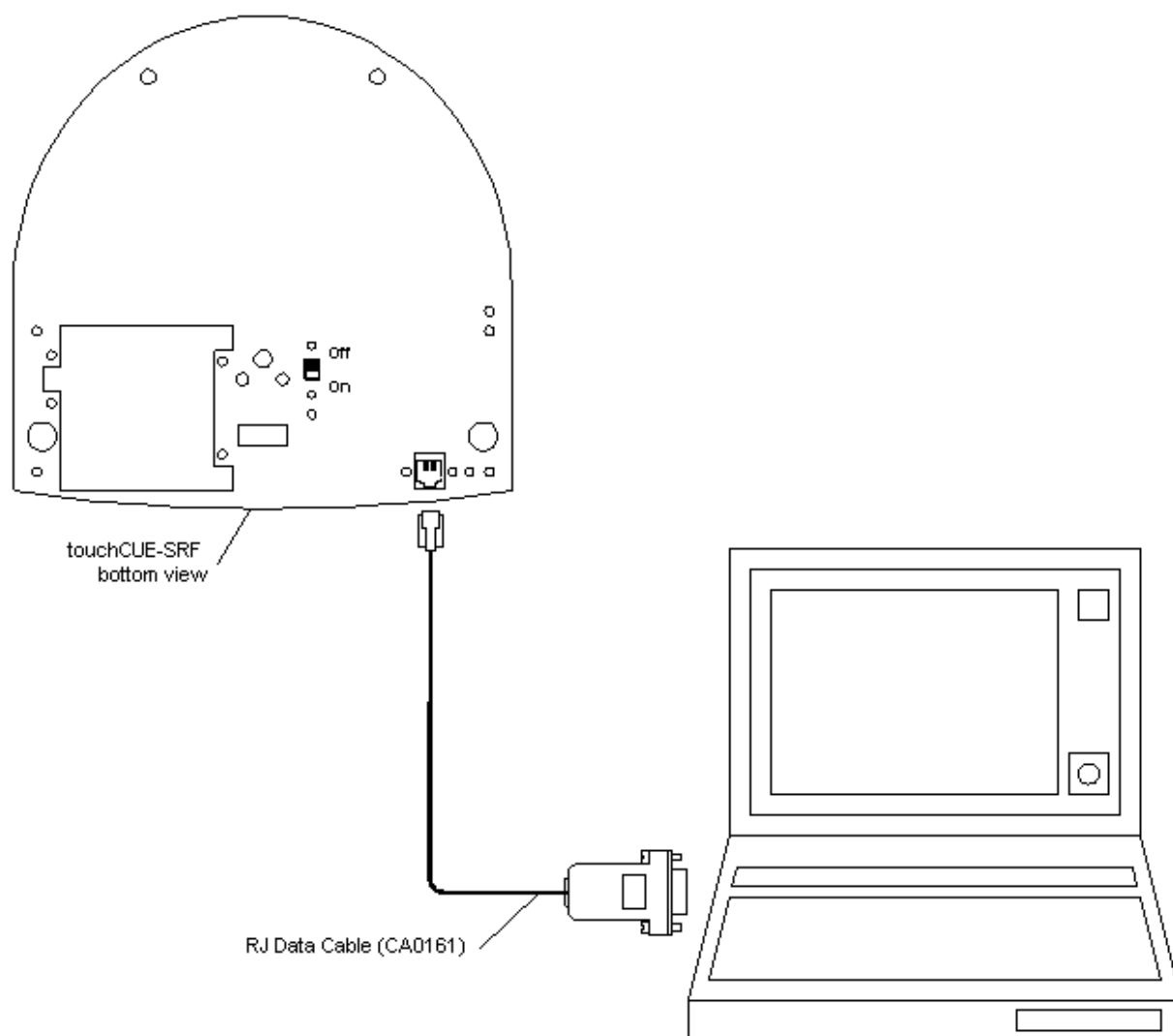
5.2. Power Switch.....

The power switch is located on the bottom side of touchCUE-SRF.



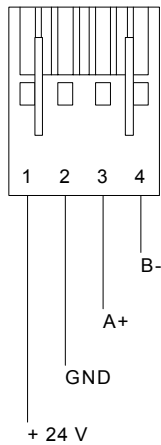
5.3. Connection for Service Functions.....

Your PC serial port must be connected to the 4-pin RJ connector using the **RJ Data Cable (CA0162)**. This cable allows to connect the touchCUE to the docking-station at the same time.



5.4. Charging

The docking station must be used for charging. Simply place the touchCUE-SRF to the docking station. Charging time is **max. 2 hours**. Fast charging is automatically terminated after reaching full capacity and red LED labeled CHARGE on the docking station will switch off.



WM, 4 pin, connector pinouts

Pin 1: power supply + 24 VDC

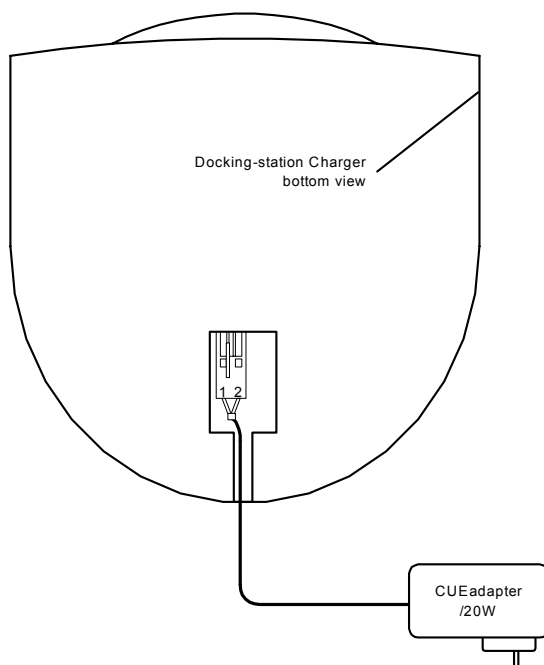
Pin 2: ground

Pin 3: A+ (RS-485 signal)

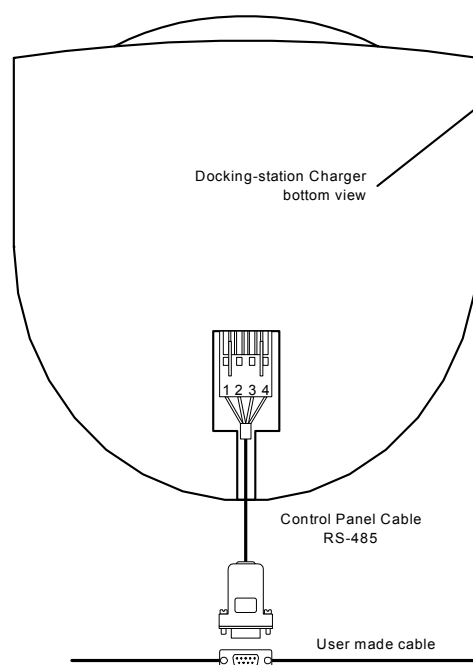
Pin 4: B- (RS-485 signal)

There are two possibilities how to connect the docking-station charger to 24 V power supply.

Connect the docking station to **CUEadapter /20W**



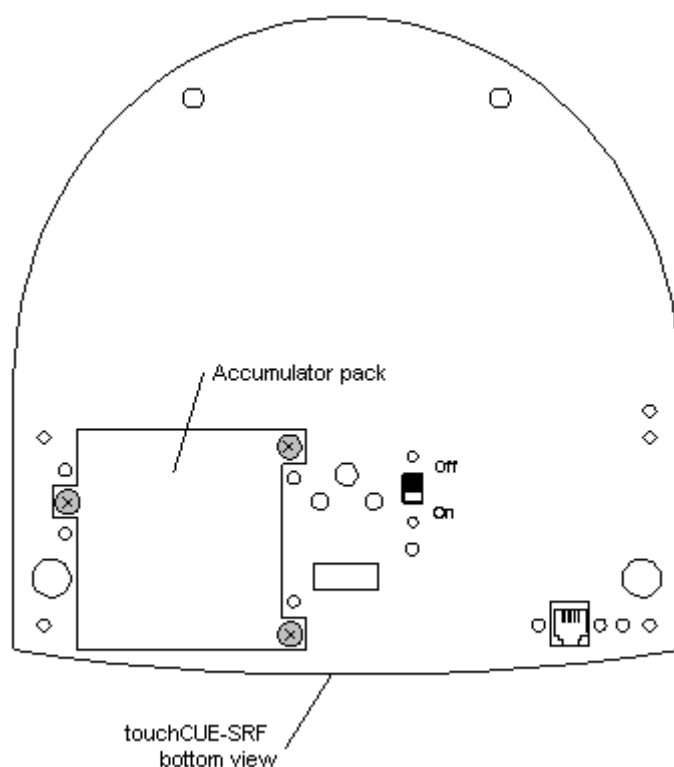
Connect the docking station to RS-485 bus using the **RS-485 Cable WM4-DB9M (CA0159)**. This connection will allow wired communication in the future touchCUE-SRF firmware versions.



5.5. Accumulator Pack

The accumulator pack is accessible from the bottom panel of touchCUE-SRF and its exchange is performed according to these steps

1. Screw off the three screws according to picture.
2. Take out the accumulator pack and disconnect the connector.
3. Connect the connector to the new accumulator pack and insert it back in.
4. Screw the three screws back in.

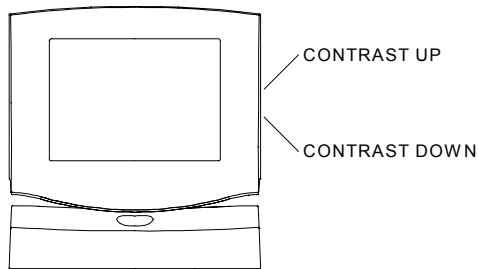


6. Setting the Display Contrast

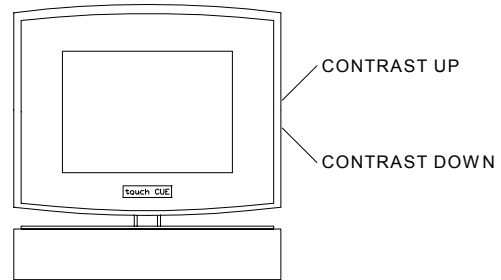
All mini touch panel models allow to set a LCD display contrast.

All desktop models have two contrast buttons on the right side of the movable display part. Table built-in model, wall mounted model and 19" rack mount model have two contrast buttons on the front panel. See picture.

By keeping the **CONTRAST UP** button, the display contrast is increasing. By keeping the **CONTRAST DOWN** button, the display contrast is decreasing.



Model touchCUE-S and touchCUE-SRF



Desktop model touchCUE-S 99

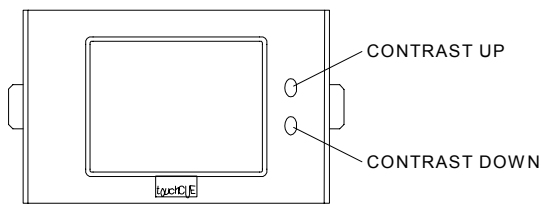
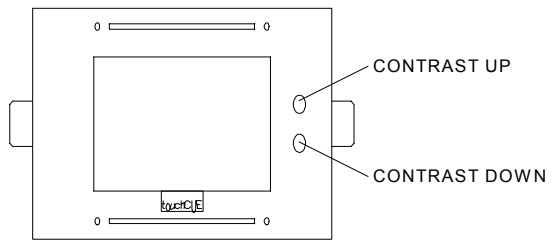
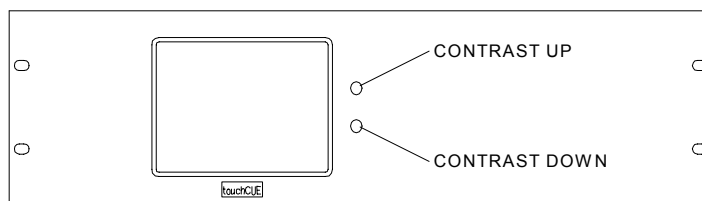


Table built-in model



Wall mounted model



19" rack-mount model

7. CUEshell Description

7.1. Overview

This description is valid for firmware versions as described in the following table.

Model	Design Director 2.x	Design Director 3.x
All wired models	Firmware version 1.11 or higher	Firmware version 3.01 or higher
Wireless model touchCUE-SRF	Not supported	Firmware version 3.01 or higher

The CUEshell is a system software that allows an user access to mini touch panel basic system functions. When the system functions are not requested the CUEshell loads and starts an user application.

The CUEshell can start the user layout description (*.wdf) created with Cue Design Director.

If an error occurs during the system starting the system opens its System Functions Screen and the error message is displayed.

7.2. Main Screen

When the mini touch panel is switched on the Main Screen of the CUEshell is displayed.

This screen displays the system version and loads an user application after about 5 seconds.

If the screen is touched anywhere during this period the user application isn't started and the System Functions Screen or Password Screen is displayed. The Password screen asks you to enter password to enter the System Functions Screen – details see below, OPERATOR – SETTINGS – Shell Protect.

Enter Password to display CUEshell

1

2

3

4

5

6

7

8

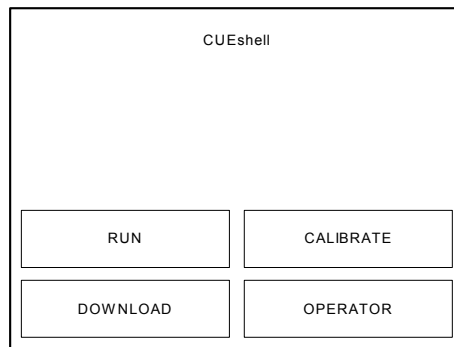
9

RUN

0

CUEshell

7.3. System Functions Screen



When the Main Screen is touched anywhere the user application is not started and the System Function Screen is displayed.

- Button RUN starts the user application.
- Button CALIBRATE activates calibration of the mini touch panel display.
- Button DOWNLOAD starts change of the user application.
- Button OPERATOR enters the system page Operator.

7.3.1. Starting User Application

The button RUN starts the user application. If an error occurs during loading of the application the error message is displayed and the screen remains active.

7.3.2. Calibrating

The button CALIBRATE is disabled at this time. Please use CALIBRATE button from the Loader as described above.

7.3.3. Downloading User Application

To download a new user layout application connect mini touch panel as described in the section Connection for Service Functions.

Steps are

1. Enter System Function Screen of CUEshell.
2. Press button DOWNLOAD. **Download of Layout** screen is displayed.

Important warning

Before pressing the button DOWNLOAD, make sure you have the layout file (*.wdf) on your PC. If you do not download any application, you will lose the current layout application.

1. Press button DOWNLOAD.
2. Select Tools - Download touchCUE in Cue Design Director or in Cue Programming Director software. The PC displays Open File dialog.
3. Browse user application and click Open button to start transfer. The PC displays Download File dialog with information about download process.
4. After end of download the System Functions Screen is displayed on the mini touch panel.
5. Press RUN button to start new user application.

Notes

- It is possible to download user application up to 2MB.
- It is possible to discard download by pressing the button CANCEL on PC or on mini touch panel.

7.3.4. Operator Functions

The button OPERATOR displays the screen Operator.

OPERATOR			
1	2	3	SETTINGS
4	5	6	CALIBRATE
7	8	9	SERVICE
0			EXIT

SETTINGS

The button SETTINGS displays a new screen with following functions. The password is "1234".

SETTINGS			
Shell Protect		On	Clock . . .
Unit Address			About . . .
-	1	+	Cancel
ScrSaver [min]			
-	0	+	OK

- **Shell protect**

This button allows you to lock all shell function by password to avoid unauthorized erasing of firmware, user application or touch panel calibration values. If you set Shell Protect "On", the message "WARNING – CUEshell will be protected" is displayed for a moment before exit SETTINGS screen (OK button). This message gives you the chance to return to SETTINGS screen without Shell Protect password.

The Shell Protect password is part of firmware so cannot be changed by user. It is set to "41433553".

- **Unit Address**

It is used for display and change of the unit address. When you use more panels connected to control unit you must set a different unit address for each panel.

You can set an address from 1 to 9.

- **ScrSaver [min]**

This function displays and changes the delay of the system screen and a back light saver.

You can enter delay from 1 to 90 minutes. When you set delay to 0 the screen saver is disabled.

- **Clock**
This button is disabled at this time. In the future version of mini touch panel it will be possible to correct the system clock and date.
- **About**
This button displays the system software version, the touchAPI version number and the control unit firmware version if present.
- **Cancel**
This button discards all changes and enables return to the Operator Screen.
- **OK**
This button saves all changes and enables return to the Operator Screen.

CALIBRATE

The button CALIBRATE allows to access to the calibration test of the touch screen. No password is required.

SERVICE

The button SERVICE enters the service mode. The password is "61214118". This mode is for qualified service people only.

8. Loader Description

8.1. Overview

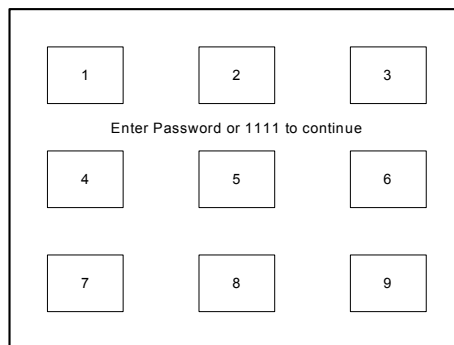
The Loader is a system software that allows an user access to mini touch panel basic system functions. After power on the mini touch panel loader version is displayed and after approx. 1 second, the system starts.

8.2. Loader Functions

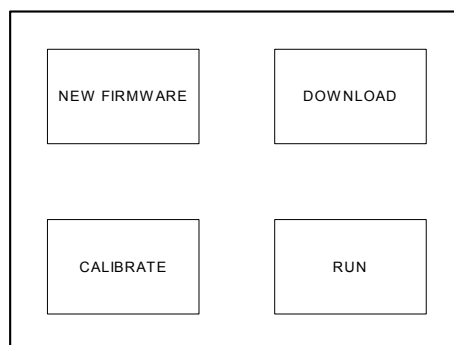
To access the loader functions

1. Switch panel off.
2. Press and hold the touch sensor in the center.
3. Switch panel on.
4. Release the finger after loader functions screen or Password screen is displayed.

The Password screen asks you for the password if Shell Protect is set "On" - details see above,
OPERATOR – SETTINGS – Shell Protect



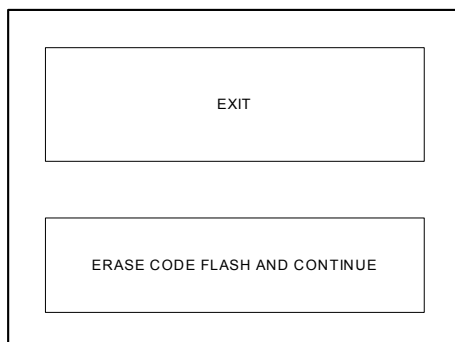
If you enter the proper password, following screen will be displayed.



- Button NEW FIRMWARE starts change of the system firmware.
- Button DOWNLOAD starts change of the user application.
- Button CALIBRATE activates calibration of the mini touch panel.
- Button RUN starts the system.

8.2.1. Downloading New Firmware

To download a new firmware connect mini touch panel as described in the section Connection for Service Functions. After that activate the loader functions screen as described above and press the button NEW FIRMWARE. New screen is displayed.



Press the button EXIT to return to the loader functions screen.

Important warning

Before pressing the button ERASE CODE FLASH AND CONTINUE, make sure you have firmware file (*.bin) on your PC.

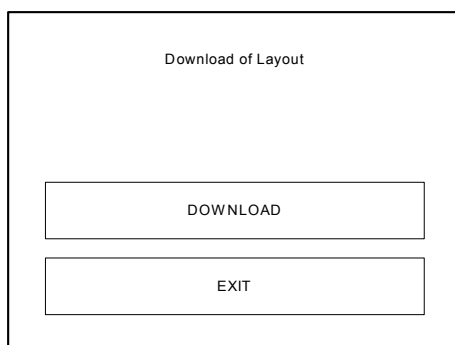
If you do not download any firmware, you will lose the functionality of the panel.

If you have firmware file (*.bin) on your PC, press button ERASE CODE FLASH AND CONTINUE to download new firmware.

Actual firmware version is a part of Cue Director software (version 2.01a or higher) and it is available on Cue's web site (www.cue.cz). After erasing Code Flash Memory, the panel asks for data. Please start Cue Design Director or Cue Programming Director, select menu Tools-Download touchCUE and browse appropriate *.bin file. After downloading new firmware the panel returns to the loader functions screen.

8.2.2. Downloading User Application

To download a new user layout application connect mini touch panel as described in the section Connection for Service Functions. After that activate the loader functions screen as described above and press the button DOWNLOAD. New screen is displayed.



Press button EXIT to return to the loader functions screen.

Important warning

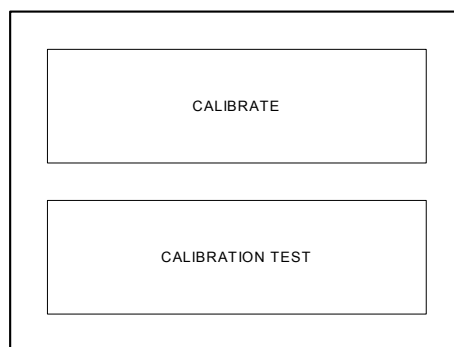
Before pressing the button DOWNLOAD, make sure you have the layout file (*.wdf) on your PC.
If you do not download any application, you will lose the current layout application.

If you have layout file (*.wdf) on your PC, press button DOWNLOAD to download a new user application created in Cue Design Director.

After erasing the Flash Disk Memory, the panel asks for data. Please start Cue Design Director or Cue Programming Director, select menu Tools-Download touchCUE and browse appropriate *.wdf file. After downloading new data the panel starts the application automatically.

8.2.3. Calibrating

Press button CALIBRATE on the loader functions screen. New screen is displayed.



Press button CALIBRATION TEST to test if the touch screen works correctly. The panel draws white points under your finger.

Press button CALIBRATE to recalibrate the touch screen. The unit asks you to point upper left corner and lower right corner to set calibration constants. For high calibration accuracy, please use peaked tool to point corners.

Important warning - however, do not use a sharp tool.

After that the calibration test starts automatically.

8.2.4. Starting the System

The button RUN starts the CUEshell described in the special section.

9. Troubleshooting

1. A message “**touchCUE-S loader Vx.x**” after power on and no other function.
There is no firmware in your touchCUE-S. Please enter the loader functions screen and download the new firmware. See section **Loader Functions Screen**.
2. If you can not enter **DOWNLOAD** function from the system screen.
There can be two reasons
 - In older loader versions DOWNLOAD button must be held for about 1 second.
 - There is no firmware in your touchCUE-S. Please download it.

10. Specifications

10.1. General

Display type Color CSTN LCD
Screen dimensions 5.8" diagonal
Screen resolution 320 x 240 pixels
Colors 16
Operating temperature range 0° to 40° C
Storage temperature range -10° to 45° C
Relative humidity range 0 - 90 %, non-condensed

10.2. Desktop Model touchCUE-S

Screen angle 0° to 70°
System connection CUEwire (RS-485)
Power supply 24 VDC (+/- 20%), 10 W
Connector Sub-D, 9-pin, male or 4-pin
Enclosure Plastic
Dimensions 175 x 180 x 165 mm
Weight 1.2 kg
Supplied accessories Control panel cable RS-485

10.3. Desktop Model touchCUE-S 99

Screen angle 0° to 70°
System connection CUEwire (RS-485)
Power supply 24 VDC (+/- 20%), 10 W
Connector Sub-D, 9-pin, male or 4-pin
Enclosure Wood, stainless steel
Dimensions 186 x 193 x 178 mm
Weight 1.9 kg
Supplied accessories Control panel cable RS-485

10.4. Table Built-In Model

System connection CUEwire (RS-485)
Power supply 24 VDC (+/- 20%), 10 W
Connector Sub-D, 9-pin, male or 4-pin
Enclosure Metal
Dimensions 210 x 132 x 45 mm
Weight 1.7 kg
Supplied accessories Control panel cable RS-485

10.5. Wall Mounted Model

System connection CUEwire (RS-485)
Power supply 24 VDC (+/- 20%), 10 W
Connector Screw terminal, 4 pin
Enclosure..... Metal, stainless steel panel
Dimensions 200 x 155 x 82 mm
Weight..... 1.7 kg
Supplied accessories..... Control panel cable RS-485

10.6. Rack-mount Model

System connection CUEwire (RS-485)
Power supply 24 VDC (+/- 20%), 10 W
Connector Sub-D, 9-pin, male or 4-pin
Enclosure..... Metal
Dimensions Rack 19", 3 U, 50 mm depth
Weight..... 2.5 kg
Supplied accessories..... Control panel cable RS-485

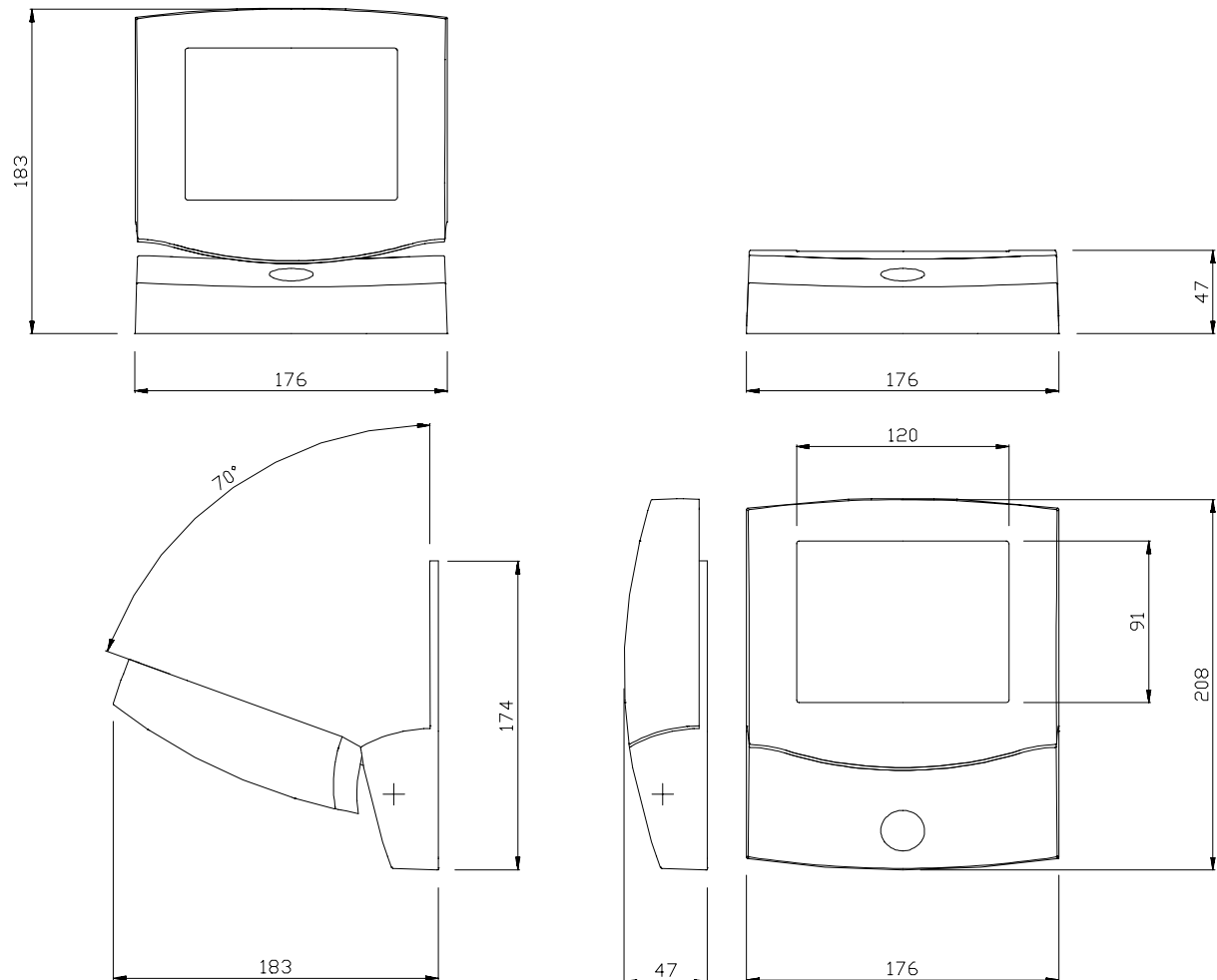
10.7. Wireless RF Model

Screen angle 0° to 70°
Communication..... Radio frequency (RF) 433 / 869 / 914 MHz
Power supply Rechargeable accumulator
Antenna Built-in internal
Connection Charger and RS-232 for programming (RJ-12)
Enclosure..... Plastic, black or silver color
Dimensions 175 x 180 x 165 mm
Weight..... 1.4 kg
Supplied accessories..... CUEadapter /20W
Docking-station charger
PC data cable for programming

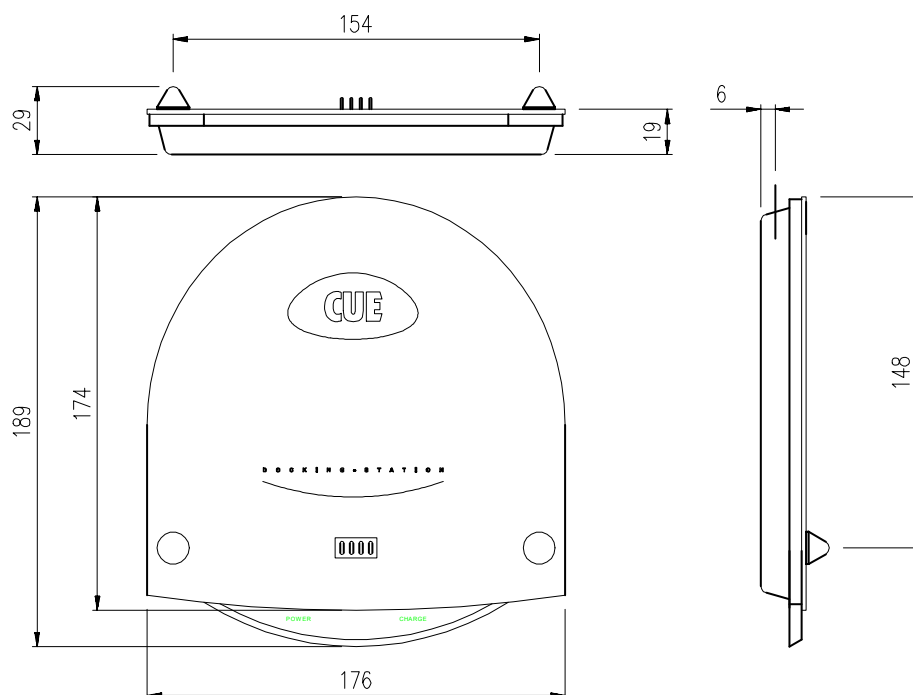
11. Mechanical Drawings

All dimensions are in mm.

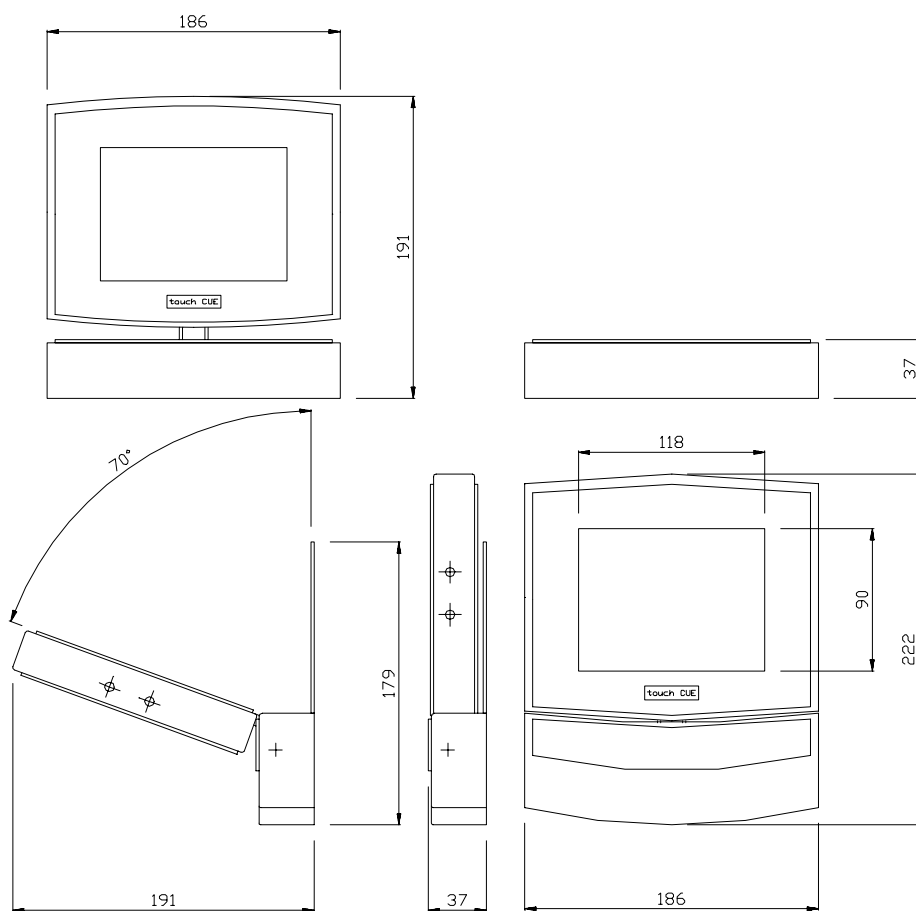
11.1. Model touchCUE-S and touchCUE-SRF.....



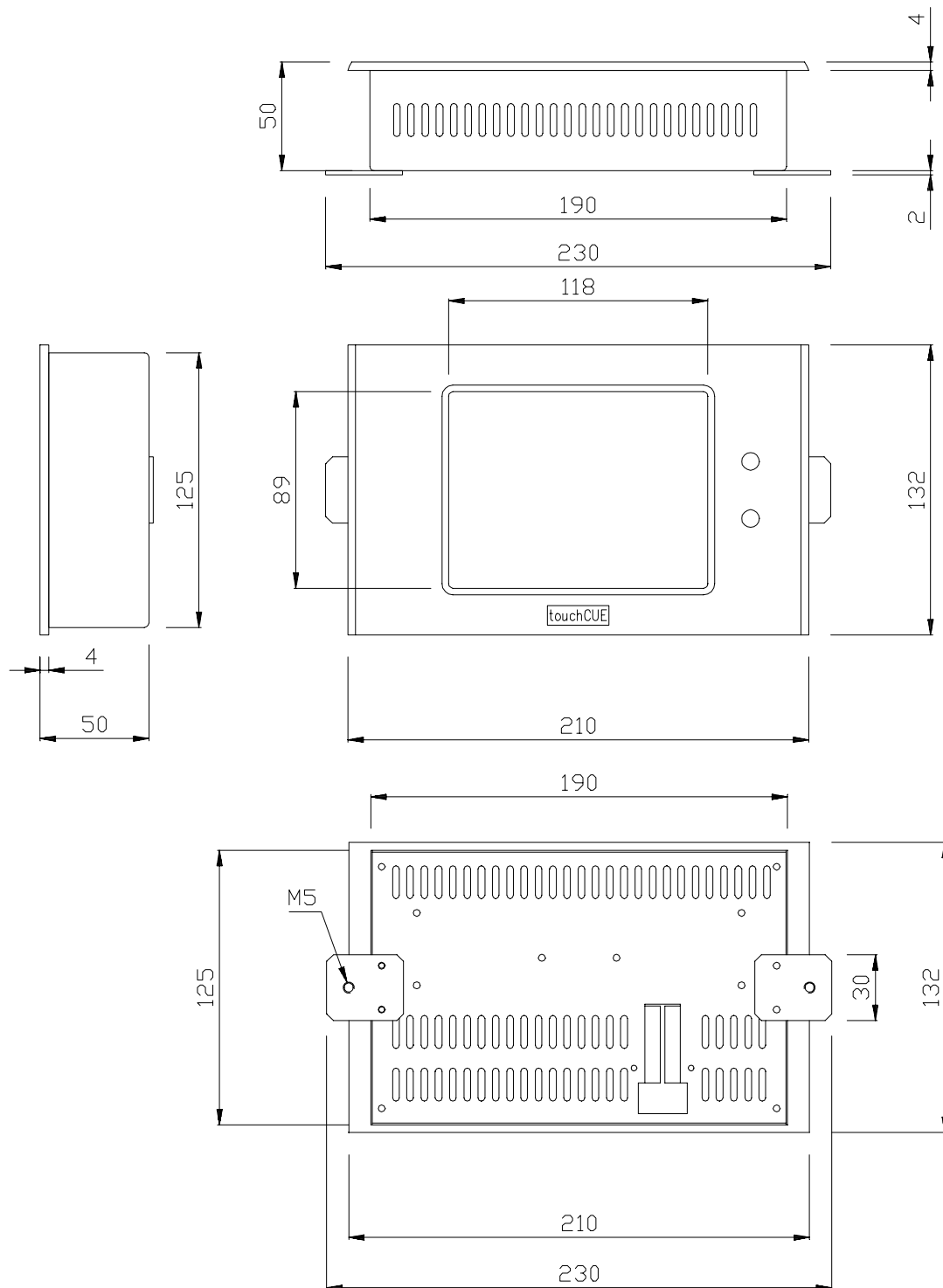
11.2. Docking-station Charger



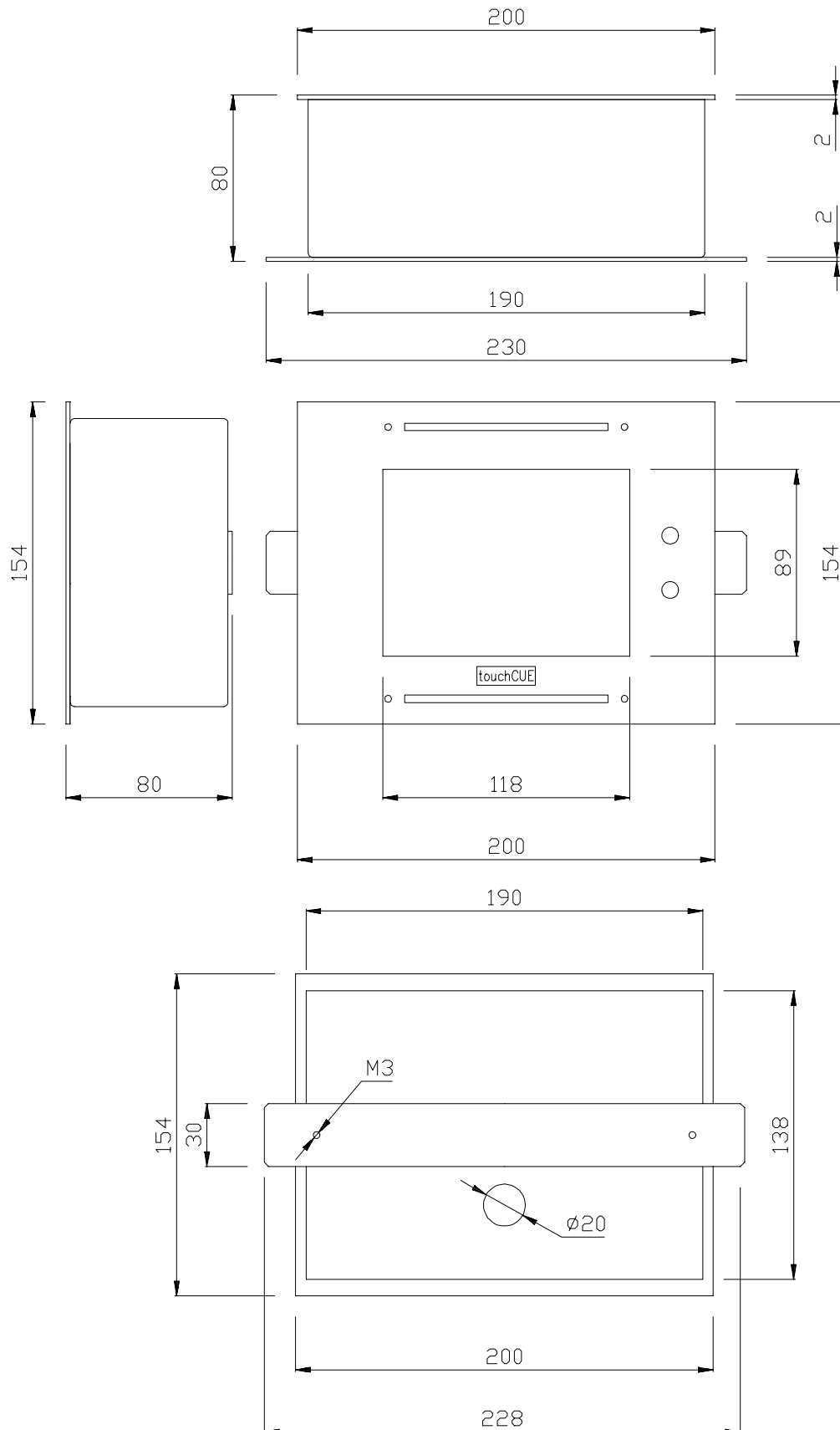
11.3. Desktop Model touchCUE-S 99



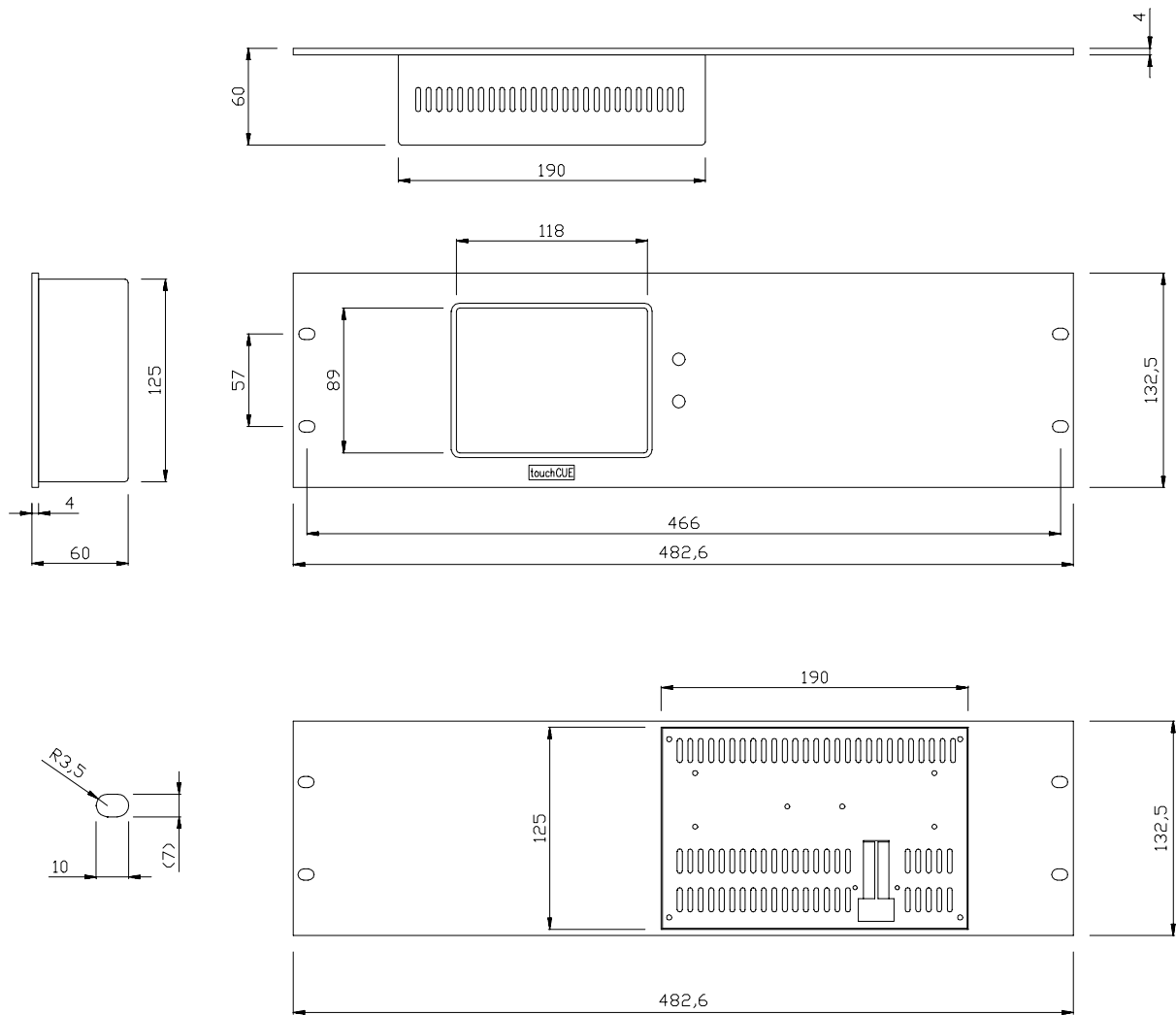
11.4. Table Built-in Model.....



11.5. Wall Mounted Model



11.6. Rack-mount Model.....



Notes

[illegible]