WIZEPANEL

WizePanel

3. generation+ (3G+)

system specification

(version 217)

WIZEPANEL

Technology always develops from the primitive,
via the complicated,
to the simple.

(Antoine de Saint-Exupéry)

Publisher:
Wilke Technology GmbH
Heider-Hof-Weg 23D
52080 Aachen
Germany

Phone: +49-2405 / 408 55 - 0
Fax: +49-2405 / 408 55 – 444

E-Mail: info@wilke.de
Web: www.wilke.de | www.wizepanel.com

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Content

1 System. 7

2 Subsystems. 9

2.1 LAN subsystem. 9

2.2 RF subsystem. 10

3 Components. 11

3.1 WizePanel–Dispatcher G3. 11

3.1.1 Components. 11

3.1.2 Technical Data. 12

3.1.3 Startup procedure. 13

3.1.4 Factory Settings. 14

3.1.5 Function buttons & signal indicators. 15

3.1.6 Functions of the HW-Reset-Button. 16

3.1.7 Functions of the SW-Reset-Button. 17

3.1.8 Functions of the Setup-Button. 18

3.1.9 Drilling Template. 20

3.2 WizePanel 6.0“ display. 21

3.2.1 Components. 21

3.2.2 Technical Data. 22

3.2.3 Startup Procedure. 23

3.2.4 Function Keys 24

3.2.5 Status. 25

3.2.6 Drilling Template. 27

3.3 WizePanel 9.7“ Display 28

3.3.1 Components. 28

3.3.2 Technical Data. 29

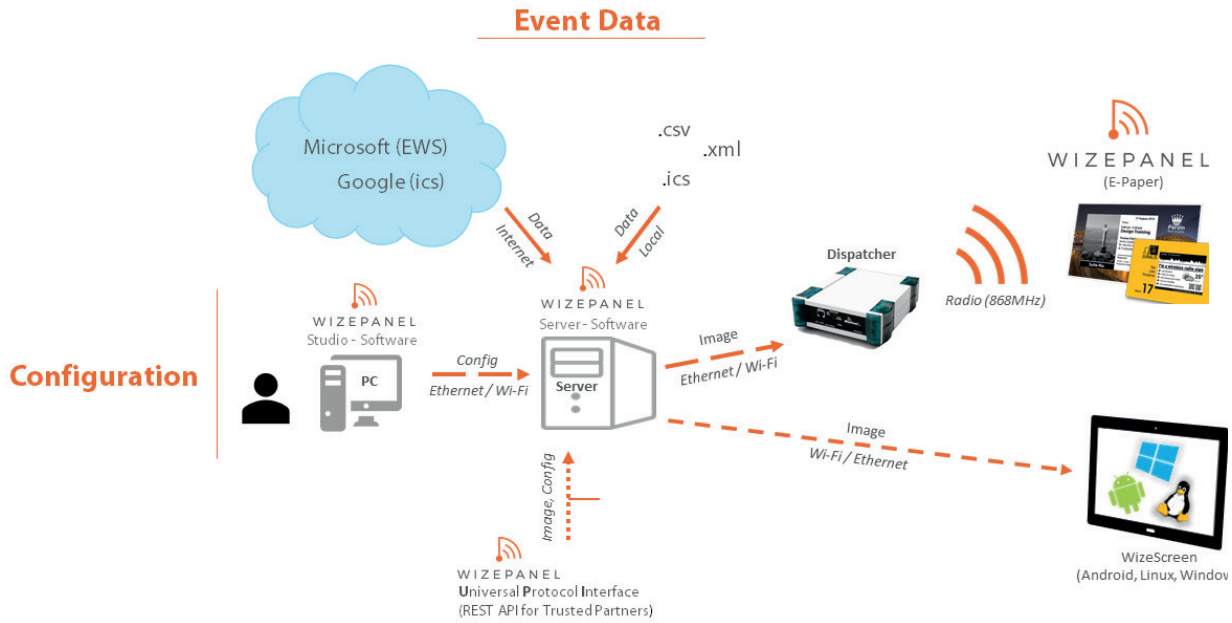
3.3.3 Startup Procedure. 30
3.3.4 Function button. 32
3.3.5 Status. 33
3.3.6 Anti-Theft Device. 35
3.3.7 Drilling Template. 35
3.4. WizePanel 200 Quadro 6“ 36
3.4.1 Manual operations. 37
3.4.2 Drilling Template. 38
3.5 WizePanel 280 Quadro 9,7“. 39
3.5.1 Manual operations. 40
3.5.2 Drilling Template. 41
4 Installation. 42
4.1 Network- and Firewall Configuration. 42
4.1.1 One subnetwork | Firewall-Exceptions. 42
4.1.2 One subnetwork | Firewall-Exceptions. 42
4.1.3 Multiple subnetworks | Port-Forwarding & Firewall-Exceptions. 43
4.1.4 Multiple subnetworks | Port-Forwarding & Firewall-Exceptions. 43
4.2 Java Runtime Environment 32-bit Version. 44
4.3 WizePanel-Server and Studio. 45
4.3.1 WizePanel-Server Service. 46
4.3.2 Starting WizePanel-Studio. 46
4.3.3 Managing Users. 47
4.3.4 Managing Dispatchers and WizePanels. 48
4.3.5 Send Image. 51
5 WizePanel-Adapters. 53
5.1 MS Exchange 365 (Graph). 54

5.1.1 Registering the App in Azure Active Directory. 54
5.1.2 Configuring the Adapter in WizePanel-Studio. 60
5.2 MS Exchange 2010 SP2+ (EWS) 61
5.3 Google Calendar (*.ics) 62
5.4 MS Excel (*.csv) 63
5.5 XML (*.xml). 65
5.6 iCalendar (*.ics). 66
5.7 Wilke HTTP. 67
5.8 WebUntis (HTTP/JSON). 67
5.8.1 Requirements. 67
5.8.2 Adapter Configuration. 67
5.8.3 Adpater-specific placeholders. 68
5.9 DEA Event Management System (EMS). 69
5.10 aSc TimeTables. 70
5.11 WizePanel Universal Protocol Interface (UPI). 70
5.12 Self-Signed Certificates. 71
5.12.1 Symptoms. 71
5.12.2 Export the certificate to a PEM-file. 71
5.12.3 Import the PEM-file to Java. 72
6 Configuration of a WizePanel. 73
7 Editor - Templates and Placeholders. 74
7.1 List of actual placeholders:. 76
8 History. 78

1 System

The following chapters will describe in detail the structure, function and configuration of a WizePanel-System.

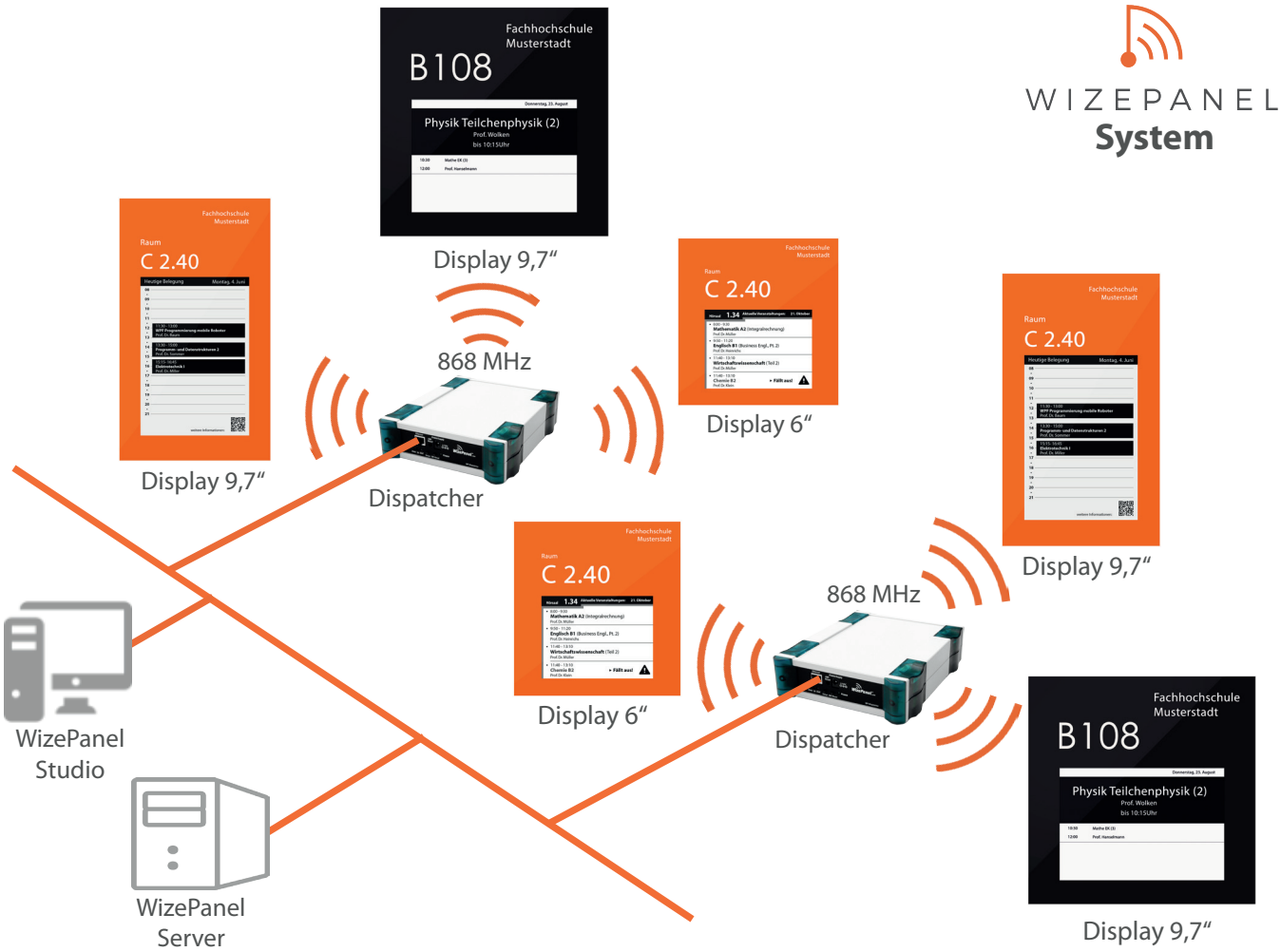
WizePanel & WizeScreen | System Overview



The whole system is fundamentally composed from two subsystems.

- The LAN subsystem connects all local area network components.
- The RF subsystem connects all wireless components.

The following graphic shows a simple WizePanel-System with all main components…



In total we recognize six display units (WizePanels) of different sizes as wireless radio controlled components. Additionally there are two socalled WizePanel-Dispatchers. Dispatchers have a radio and a LAN interface, so they can be seen as a gateway between the RF subsystem and the LAN subsystem. On the LAN-side the dispatchers communicate with the WizePanel-Server, which is the central management Software of the whole system.

The already mentioned configuration is done by an administration application called WizePanel-Studio. Of course this tool may be started at any workstation in the network. Here you can observe the status of the whole system or of single components, you are able to change the configuration and you are able to create images and send to your WizePanel-Displays.

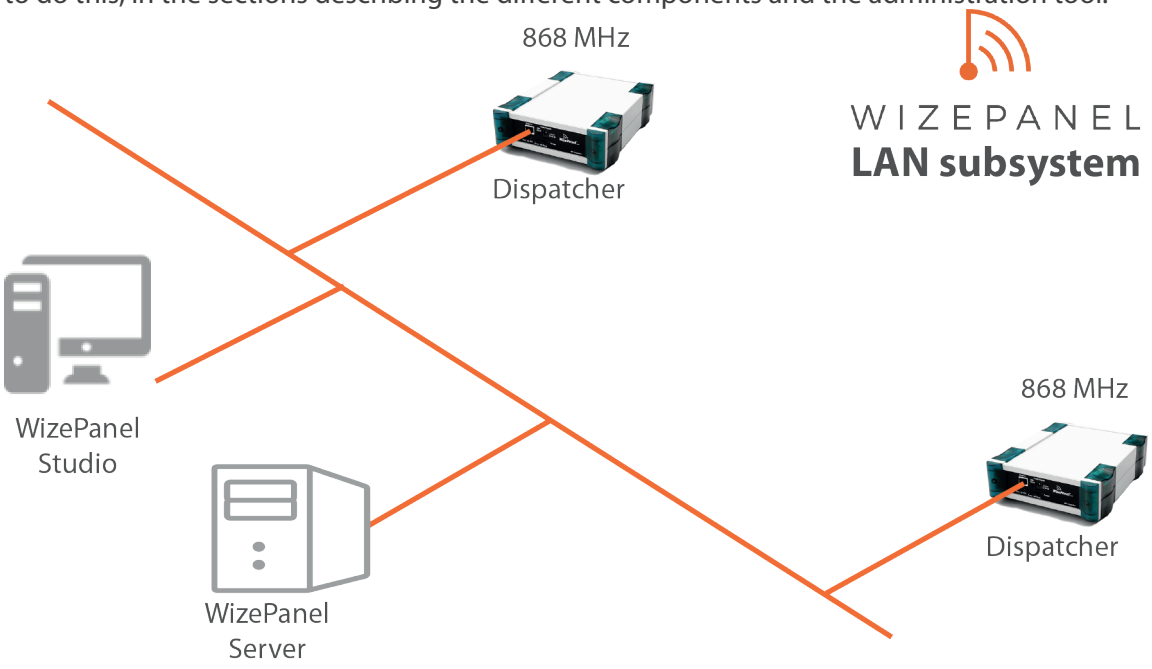
Number of displays may be used and configured. Each display can be moved around freely due to the battery concept. The only condition we have to mind is keeping the display in the receive/transmission range of at least one WizePanel-Dispatcher.

2 Subsystems

As described before the WizePanel-System is composed from a LAN and an RF subsystem. In the following we will have a look on their characteristics.

2.1 LAN subsystem

Connecting all WizePanel components offering an ethernet connector, results in a more or less simple LAN subsystem. During installation we recommend to first establish a running LAN subsystem. We will show how to do this, in the sections describing the different components and the administration tool.



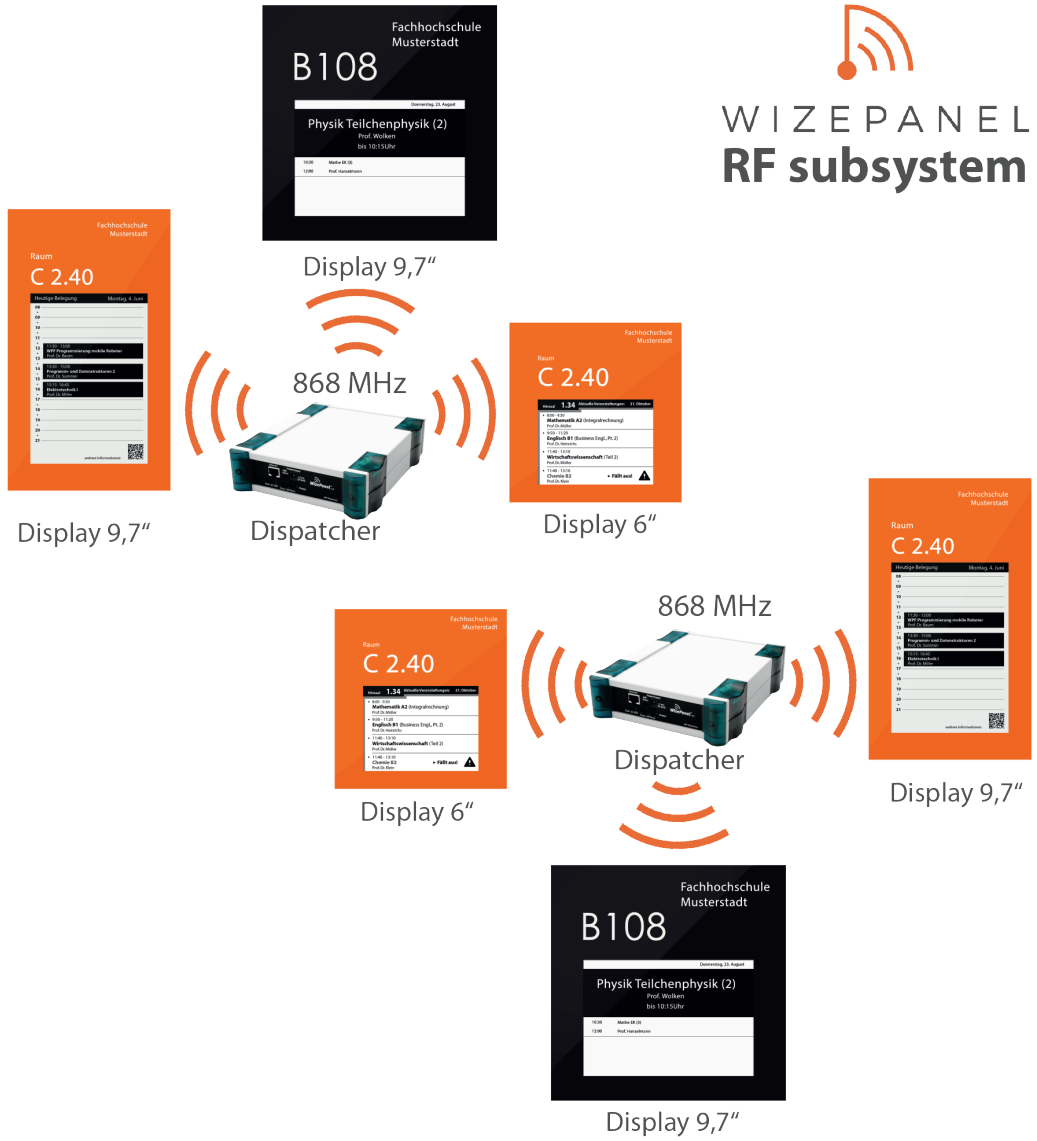
Configuration of LAN subsystem components is in general an assignment of LAN typical parameters, like IP addresses (either manual or by means of a DHCP server).

As seen in the graphics, the LAN is the essential connection between WizePanel-Dispatchers and the dedicated WizePanel-Server. Radio frames either transmitted or received at one of the Dispatchers have to cross the LAN cables in one or another direction coming from or going to the server.

The administration tool WizePanel-Studio is used for the configuration of the whole system (including the LAN components and the wireless components). The tool may be started on different workstations. During installation the ideal place is a notebook, which may be carried around from room to room to configure components in their natural environment and put them into the system.

2.2 RF subsystem

The following graphics show the different components of the WizePanel-RF subsystem.
We already know the WizePanel-Dispatcher as the gateway between LAN and RF subsystem. There we also already mentioned, that the dispatcher needs some configuration (e.g. IP-address, port number, etc.) for the correct LAN functionality.



3 Components

The WizePanel system is composed from several basic components, which are described in the following sections in detail.

3.1 WizePanel–Dispatcher G3

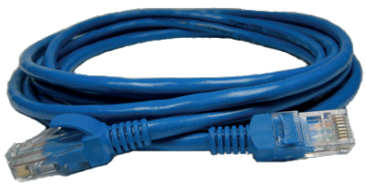
The WizePanel-Dispatcher G3 serves as an intelligent gateway between the LAN subsystem and the RF subsystem. Commands coming from the server are stored inside the Dispatcher, waiting for the correct WizePanel-Display to wake up and deliver the command. In the opposite direction status information (e.g. battery status) coming from the WizePanel-Displays is received and immediately transmitted to the server for further processing.

3.1.1 Components

1. WizePanel-Dispatcher G3

2. 12V AC/DC adapter including changeable AC-plugs (EU, UK, US)

3. Ethernet LAN cable, RJ-45, Cat-5



3.1.2 Technical Data

Features

- 100 BASE-TX Ethernet connection
- Ultra low power radio module with 868 MHz ISM band
- Integrated or external antenna
- Horizontal and vertikal usage
- Power supply 100 VAC - 240 VAC or POE (Power over Ethernet)
- Power adapter: 12 VDC at low voltage input
- Status LEDs: 1x Data Ethernet (green)
  1x Radio in (yellow)
  1x Radio out (Blue)
- 3 Buttons: 1x Configuration
  1x Software-Reset
  1x Hardware-Reset

Casting

- Casing protection class: IP40/DIN 6N 60529
- Fire protection classification: UL 94 HB 1,6
- Casing color: light grey (RAL 7035)
- Casing material: ABS

Technical Parameter

- Power consumption: 2 W
- IP-Address: DHCP,
  Standard IP: 192.168.1.209
- Ethernet - Specification: 100 BASE-TX

Absolute Maximum Ratings

- Power supply: max. 264 VAC
- Frequency of the power supply: 47 Hz ... 440 Hz

Radiomodul

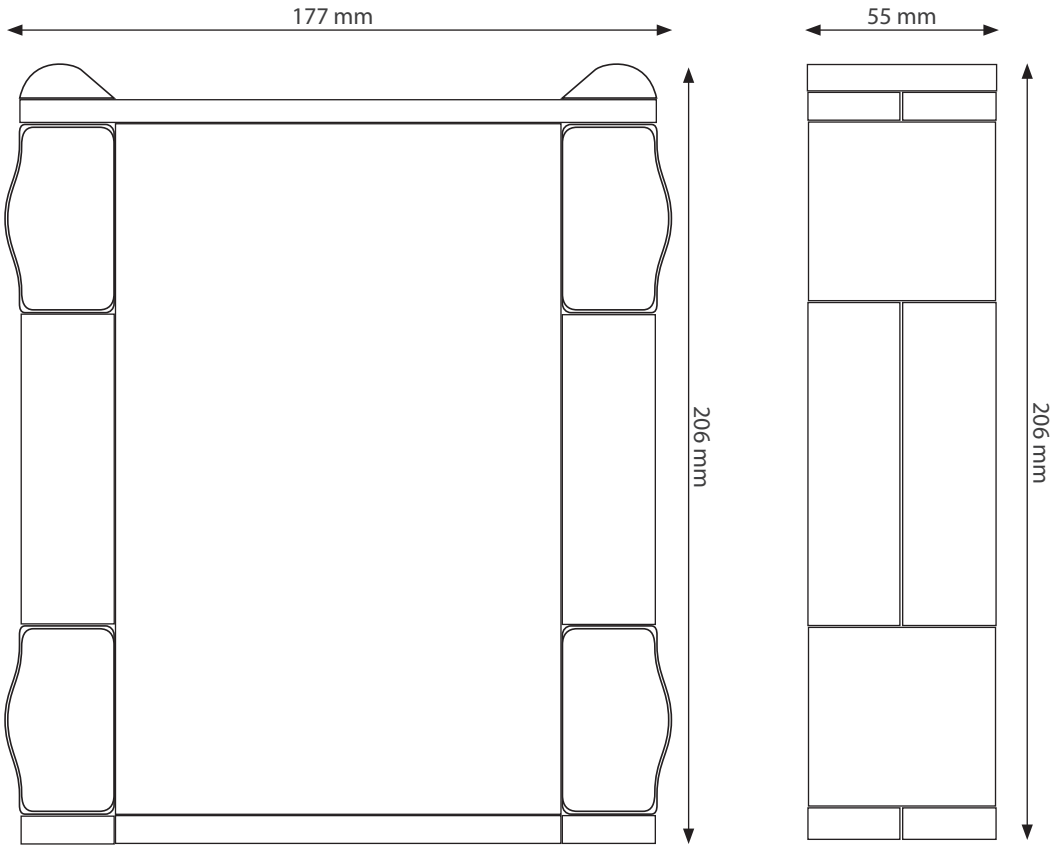
- Frequency: 868 MHz
- ISM band
- Reach: up to 400 m on free range. Within buildings according to circumstances correspon dinglyless

Dimensions

- Dimensions: ca. 206 x 177 x 55 mm
- Weight: ca. 540g

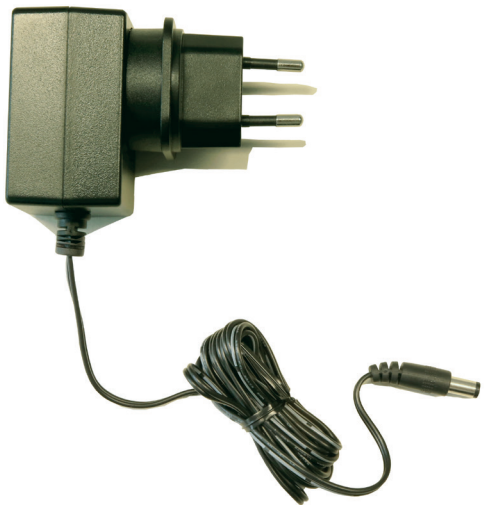
3.1.3 Startup procedure

The WizePanel-Dispatcher G3 may be placed standing or mounted on the wall. For the wall mount the WizePanel-Dispatcher G3 is supplied with 4 special assembly parts on the bottom side for easy installation:



At the end of this chapter you will find a drilling template for the wall mount of the WizePanel-Dispatcher G3. Please print the page unscaled from this PDF file to use it as a template. Attention: Already printed versions of this page could be scaled and therefore differ in size.

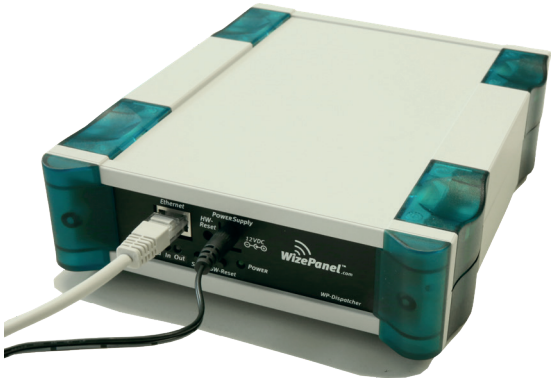
1. Please take the AC/DC adapter and choose the fitting AC plug for your country (in the image the EU plug was selected).



2. Connect the selected AC plug with the AC/DC adapter by pushing it on the pro-vided socket.

3. Please plug in the network cable to connect your WizePanel-Dispatcher G3 to your local network (either via switch or hub).

4. Now connect the AC plug of the AC/DC adapter with your 230V power supply and push the 12V plug into the connector „Power Supply“ of the WizePanel-Dispatcher G3. As soon as the power supply is established the startup procedure of the Dispatcher starts.



5. At first all 4 LEDs („Power“, „Data“, „In“ and „Out“) are turned ON and the Dispatcher starts its operating system. This procedure may take up to 45 seconds. After that the Dispatcher application is started. As a confirmation the „Data“, „In“ and „Out“ LEDs are turned OFF. After all tasks of the Dispatcher started successfully, you will get two short beeps together with two flash of the „Out“ – LED (blue) as a confirmation.

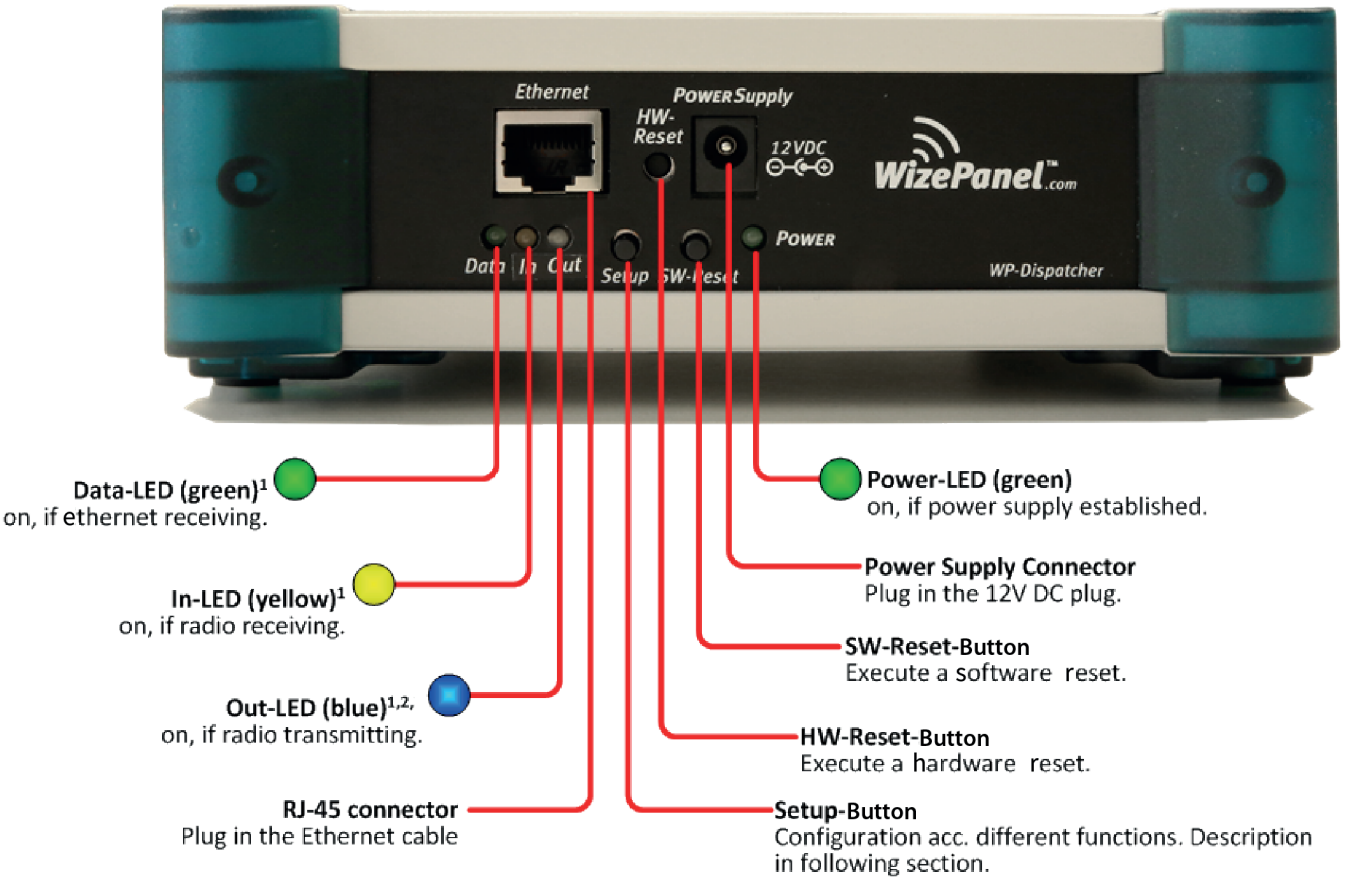
3.1.4 Factory Settings

The WizePanel-Dispatcher G3 will be delivered with following factory settings:

IP Address	192.168.1.209
Subnet Mask	255.255.255.0
Standard Gateway	192.168.1.254
TCP and UDP Ports	8000
DHCP Usage	on
UDP Broadcast	on

Changes of the factory settings can be made by using the WizePanel-Studio or by pressing the Setup-Button immediately on the Dispatcher for a specific time. Detailled description according this setting you will find in the chapter „WizePanel-Server and Studio“ and in the section „Functions of the Setup-Button“.

3.1.5 Function buttons & signal indicators

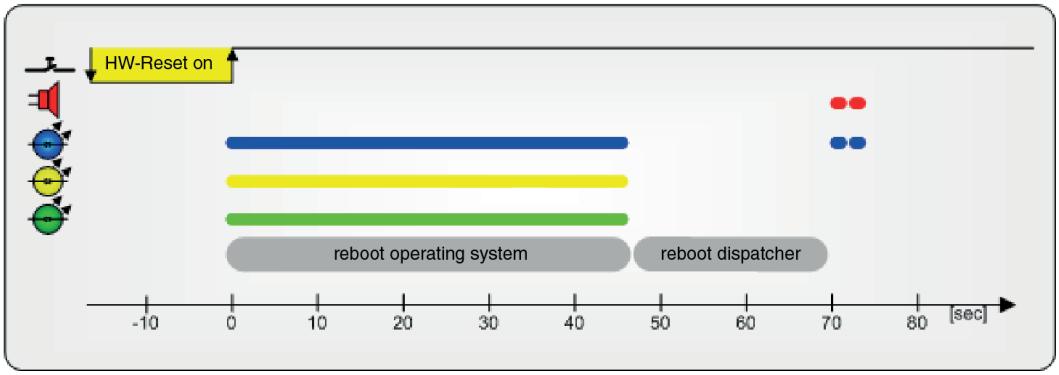


[1] Also on at start of operating system
[2] Blinks also at functions of SW-Reset- and Setup-Switch
Blinks 2-times shortly with 2 short beeps after successful startup of the dispatcher

3.1.6 Functions of the HW-Reset-Button

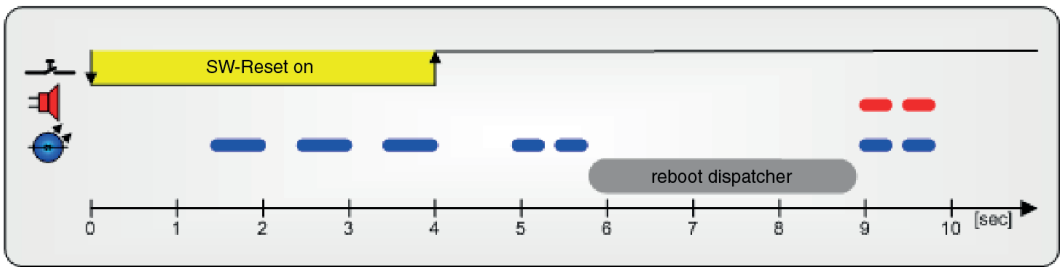
The HW-Reset-Button of the WizePanel–Dispatcher G3 may be pushed by e.g. a ballpen or any other spiky utensil.

By pressing this Button, similar to applying the power supply, a hardware system restart of the Dispatcher is initiated. The start of the operating system and all necessary components is done with all LEDs turned ON. This takes about 45 seconds. After that the „Data“, „In“ and „Out“ LEDs are turned OFF and the Dispatcher application starts with configured settings. The end of the restart procedure is indicated by **2 beeps** together with
2 fast blinks of the blue „Out“-LED.



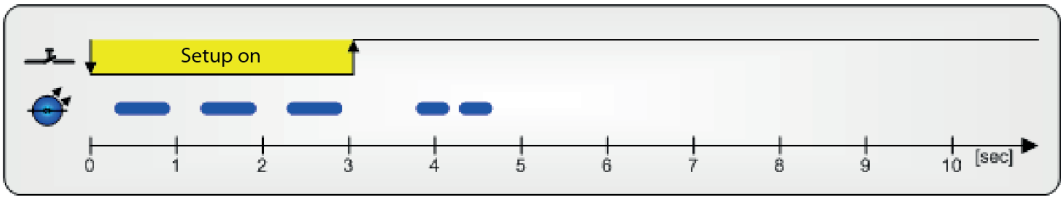
3.1.7 Functions of the SW-Reset-Button

By pressing the „SW-Reset“ button for **longer than 1** second the software reset procedure is initiated. Keeping the button pressed for a longer time the „Out“-LED starts blinking once a second. After releasing the button the „Out“-LED will **flashes 2 times** as a confirmation. The software reset procedure only restarts the dispatcher application and not the whole operating system. The end of the restart procedure is indicated by **2 times beep** together with **2 times fast flashes** of the blue „Out“-LED.



3.1.8 Functions of the Setup-Button

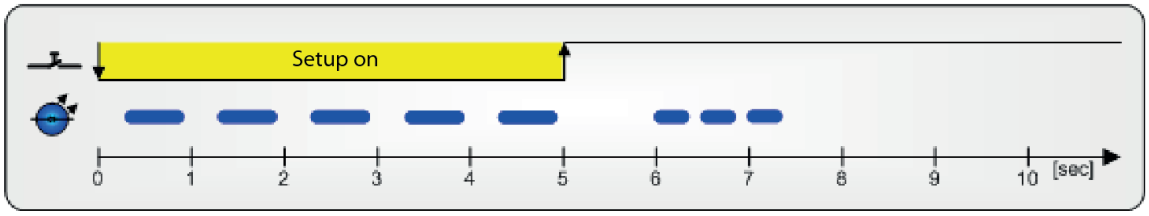
1. Activate static TCP/IP-Setting



The Setup-Button is pressed for **3 seconds**. The blue Transmit-LED **flashes 3 times**. After releasing the button the configured TCP/IP settings are enabled and the DHCP usage is turned off. As confirmation the blue Transmit-LED **flashes 2 times.**

IP Address	static value	(default: 192.168.1.209)
Subnet Mask	static value	(default: 255.255.255.0)
Standard Gateway	static value	(default: 192.168.1.254)
TCP and UDP Ports	static value	(default: 8000)
DHCP Usage	off	

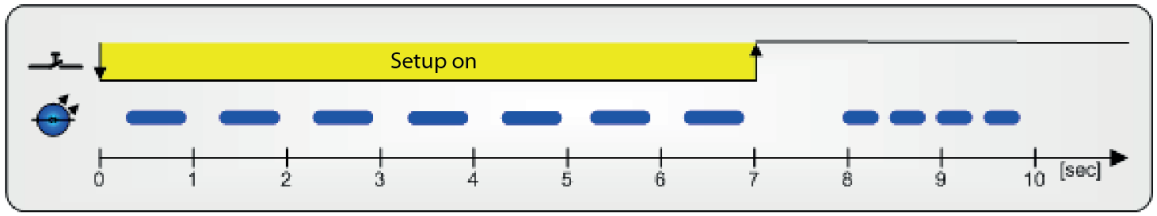
2. Activate DHCP-Usage



The Setup-Button is pressed for **5 seconds**. The blue Transmit-LED **flashes 5 times**. After releasing the button the DHCP–Usage is activated and a DHCP request is started. If the DHCP request is not successful, the static TCP/IP settings are used until the next restart of the Dispatcher. As confirmation the blue Transmit-LED **flashes 3 times**.

DHCP Usage	on

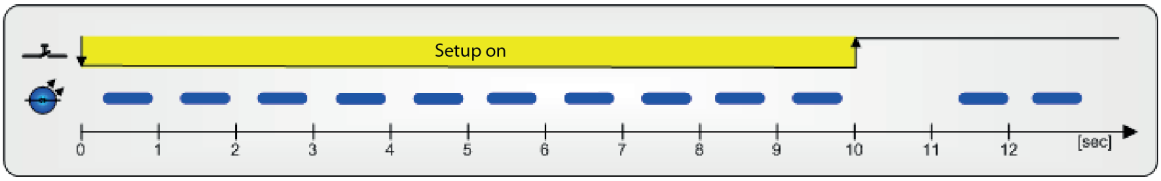
3. Deactivate UDP Broadcast



The Setup-Button is pressed for **7 seconds**. The blue Transmit-LED **flashes 7 times**. After releasing the button the transmission of UDP broadcast messages is deactivated. As confirmation the blue Transmit-LED **flashes 4 times.**

UDP Broadcast	off

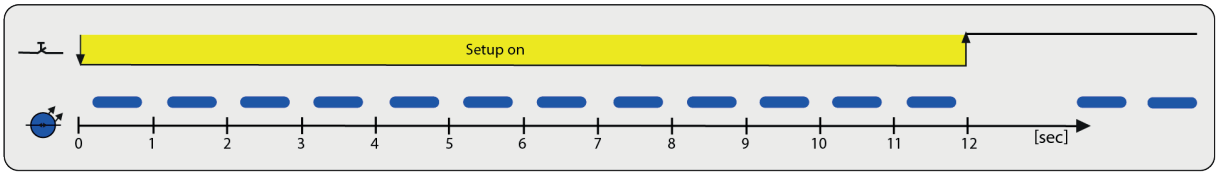
4. Activate Factory Setting



The Setup-Button is pressed for **10 seconds**. The blue Transmit-LED **flashes 10 times**. After releasing the button the WizePanel – Dispatcher G3will be reset to the factory settings (see this section above). As confirmation the blue Transmit-LED **flashes 2 times** After reaching the factory set-tings the device performs a complete Reset.

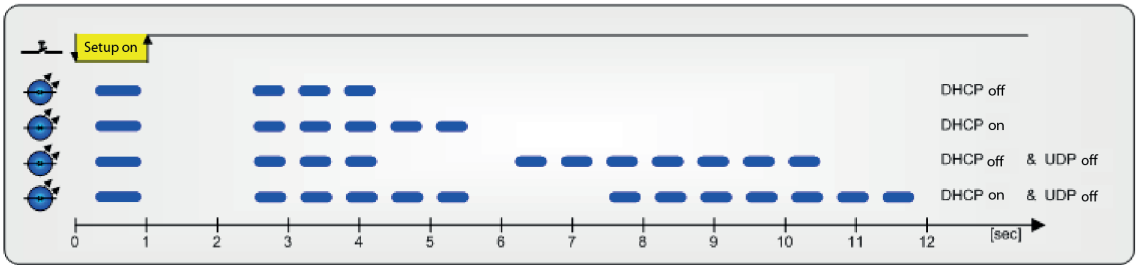
IP Address	192.168.1.209
Subnet Mask	255.255.255.0
Standard Gateway	192.168.1.254
TCP and UDP Ports	8000
DHCP Usage	on
UDP Broadcast	on

5. Activate UDP Unicast



The Setup-Switch is pressed for **12 seconds**. The blue Transmit-LED **flashes12 times**. After releasing the button UDP information will be sent to the IP-Address that corresponds to the DNS name „WizePanelServer“ which must be known to the used DNS Server.
As confirmation the blue Transmit-LED **flashes 2 times**.

6. Request DHCP Usage / UDP Broadcast Settings



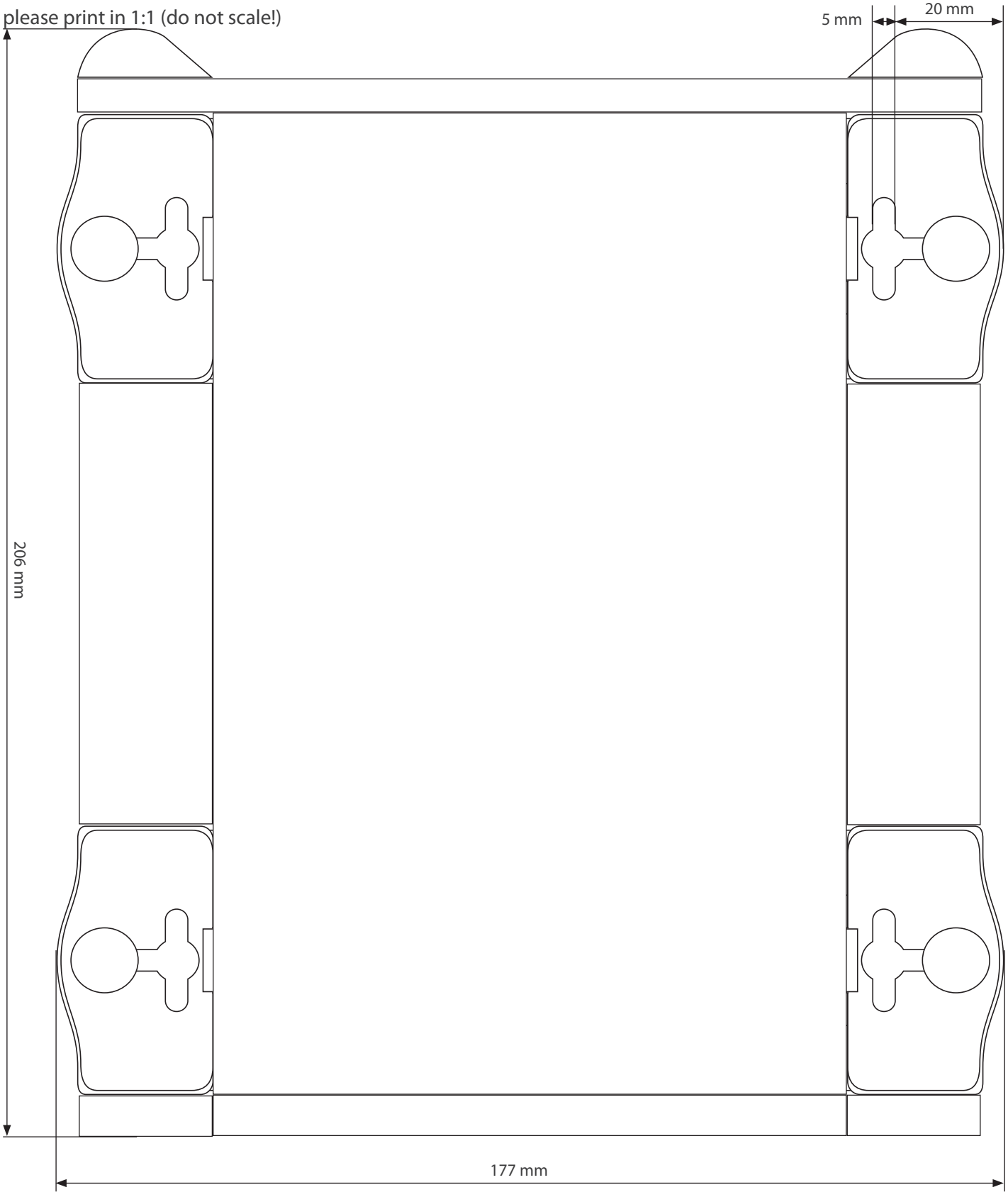
The Setup-Switch is pressed for **1 second**. The blue Transmit-LED **flashes 1 time.** After releasing the button the blue Transmit-LED shows the settings of DHCP Usage and UDP Broadcast by flash codes. Is more than one setting to report the flash codes are separated by a break of 2 seconds.

3 x flashes retime	DHCP Usage off
5 x flashes retime	DHCP Usage on
7 x flashes retime	UDP Broadcast off
12x flashes retime	UDP Unicast on

3.1.9 Drilling Template

Drilling template of the wall mount. Dimensions in mm:

please print in 1:1 (do not scale!)



3.2 WizePanel 6.0“ display

The WizePanel 6.0” display unit contains an electrophoretic display (ePaper). The pixels of such display can keep a programmable state (4bit greyscale) without consuming any power. The display content may be changed by radio transmission, so that the whole unit works wireless.

3.2.1 Components

1. WizePanel 6.0”

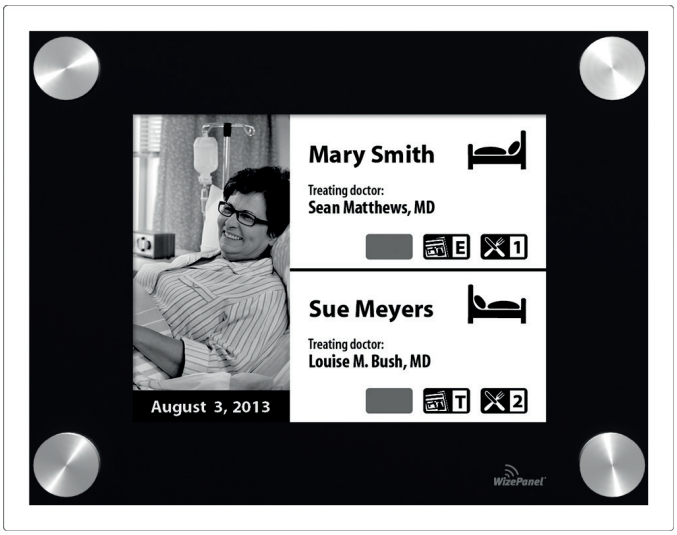
2. Wall mount for WizePanel 6.0” (classic)

3. 4 screws and 4 dowels to connect the wall mount

4. 4 x lithium batteries, size AA, 1.5 V
Please only use lithium batteries!

In the countries of the EU:
Used batteries are marked with a crossed-out-wheelie bin and are strictly forbidden to discar within the household waste. The enduser has to discard the used batteries at the sales point or the local collection scheme to make sure they are professionally recycled or disposed of. Batteries potentially contain hazardous substances, posing a risk for health and the environment.

3.2.2 Technical Data



Front Classic
custom specific colors and designs
on request

Display
- 6.0-inch ePaper, monochrome
- 800 x 600 pixels, 16 greyscale, high contrast, true paper white
- pixel density 0,151 mm

RF
- Frequency 868,3 MHz, ultra low power
- Range up to 300m free field, inside of buildings less depending on the conditions

Case
- Material ABS, UV-resistant
- Protection IP20
- Color Iron Grey (RAL 7011)

Front
- Standard front panel
- Replaceable front with/without visible screws
- Custom specific design of front panel on request possible

Power Supply
- 2 or 4 x AA-batteries, 1.5 V, lithium-system
- Article-Nr.: WZP-BAT4-EL

Weight
- about 660 g (without batteries)

Dimensions
- Overall incl. Front panel 213 mm x 170 mm x 41,6 mm (WxHxD)
- Electronic Display Area 122 mm x 89 mm (WxH)

Article-Nr.:
- WZP-PL-E-060A-GSGABK-01

3.2.3 Startup Procedure

At the end of this chapter you will find a ready-made drilling template for the wall mount of the WizePanel 6.0“ display units. Please be sure to print the template page unscaled immediately from the pdf file for correct scaling of the template. **ATTENTION:** Already printed versions of the template page could have been scaled and therefore differ in size.

1. Please put the WizePanel 6.0 with the frontside down on a clean, slip-free desk.

2. Release the fixing bolt from the wall mount.

3. Pull the wall mount out of the WizePanel 6.0.

4. Now drill four holes by help of the drilling template from this chapter, punch in the dowels and fix the wall mount with the screws.

5. Put 4 batteries into the battery compartment. The WizePanel 6.0 will start immediately. On the display you still see the image left there from the manufacturer.

6. Now push the WizePanel 6.0 back on the already fixed wall mount and secure it with the fixing bolt.

3.2.4 Function Keys

Status Information

The display shows actual status information on sceen for 60 seconds.

Activation

The WizePanel awakes from sleep mode and sends a request to the Dispatcher.

Service Plug

Not in use.

Reset

Resets the WizePanel shows lest starred Image on Display and sends a request teste Dispatcher.

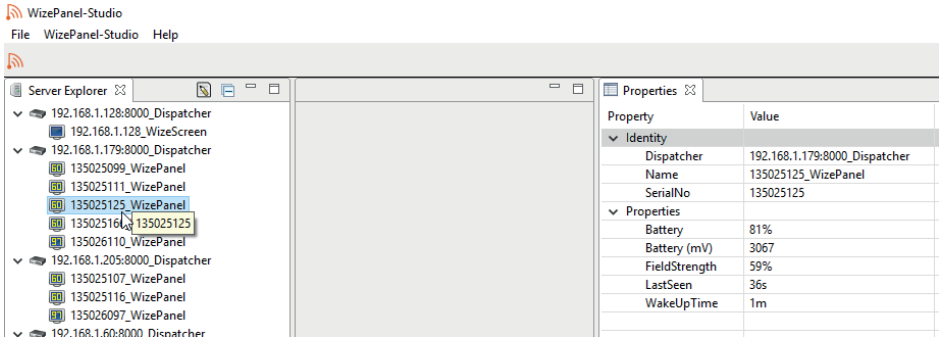
3.2.5 Status

After pressing the status button a status information screen is shown on the display for 60 seconds:

WizePanel ID#:	0135025407
Wakeup Interval:	0001min
Battery now:	2.816V
Firmware Version:	000.020.000.012
Radio Signal:	3=high (0-4)(- 52dBm)
Screen Size:	6"
Screen writemode:	Very high quality
VCOM:	-2.15V
Screen content cnt:	0000000012
Wake-Up count:	0000054891
RRST count:	0000000008
RWDT count:	0000000000
RBOR count:	0000000005
XSCR count:	0000000006
XFLA count:	0000000000
XEEP count:	0000000000
XCOR count:	0000000002

WizePanel ID#

The ID-number of the WizePanel 6.0. The ID number is assigned by the manufacturer and identifies the WizePanel-Display (also used in WizePanel-Studio).



Wakeup Interval

The interval in minutes in which the WizePanel-Display is turned on, to check by radio if a new image is available. After the request the WizePanel 6.0 goes back to sleep mode. The predefined interval time is 5 minutes (default).

Battery now

Shows the current charge of the battery in [Volts].

Firmware Revision

The revision number of the implemented firmware.

Radio Signal
Shows the quality of the wireless communication. First a quality benchmark in the range from 0...4 followed by the Received Signal Strength Indicator (RSSI) in decibel-milliwatts.

Screen Size
The screen size in inch.

Screen writemode
The configured methad the WizePanel uses to refresh the Display.

VCOM
The Display specific VCOM voltage as defined in the firmware (must be identical to the VCOM voltage of the used display).

Screen content cnt
The screen content Counter counts the number of image changes.

Wake-Up count
The wakeup Counter counts the number of wakeup interval cycles.

RRST count
System Restart Counter (Reset Key).

RWDT count
System Watchdog Reset Counter.

RBOR count
System Brownout Restart Counter.

XSCR count
Screen Update Error Counter.

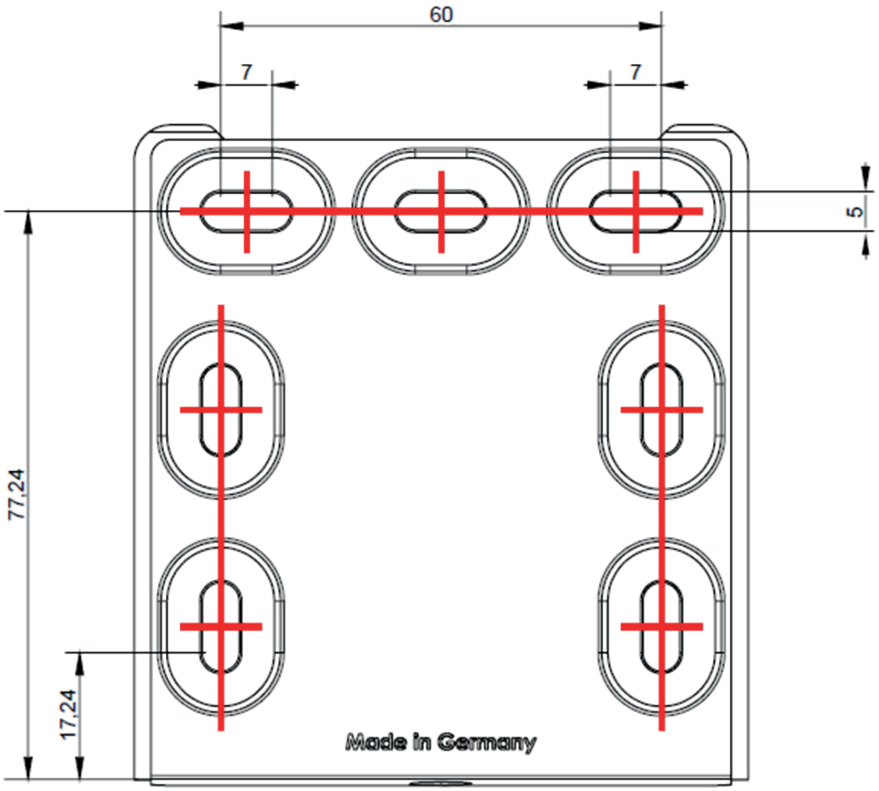
XFLA count
Flash Access Error Counter.

XEEP count
Eeprom Access Error Counter.

XCOR count
Core Communication Error Counter.

3.2.6 Drilling Template

unit: mm



3.3 WizePanel 9.7“ Display

The WizePanel 9.7-inch display unit contains an electrophoretic display (ePaper). The pixels of such Display can keep a programmable state (4bit greyscale) without consuming any power. The Display content may be changed by radio transmission, so that the whole unit works wireless.

3.3.1 Components

1. WizePanel 9.7“

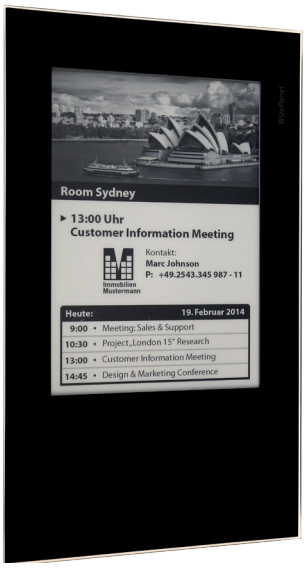
2. Wall mount for WizePanel 9.7“

3. 4 screws and 4 dowels to connect the wall mount

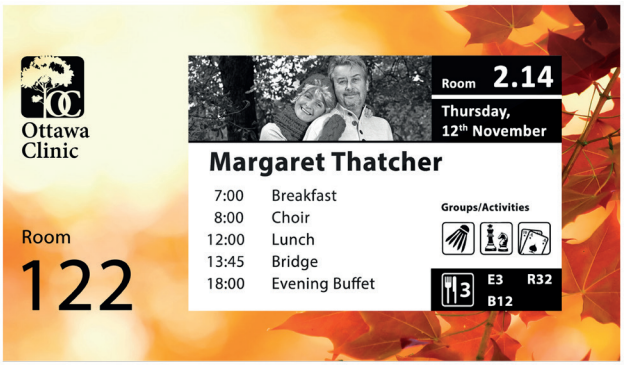
4. 10 x lithium-batteries, size AA, 1.5 V
Please only use lithium batteries!

In the countries of the EU:
Used batteries are marked with a crossed-out-wheelie bin and are strictly forbidden to discar within the household waste. The end-user has to discard the used batteries at the sales point or the local collection scheme to make sure they are professionally recycled or disposed of. Batteries potentially contain hazardous substances, posing a risk for health and the environment.

3.3.2 Technical Data



Standard front panel



Customer specific front panel
many variations available

Display
- 9.7-inch ePaper, monochrome
- 1200 x 825 pixels, 16 greyscale, high contrast, true paper white
- pixel density 0,169 mm

RF
- Frequency 868,3 MHz, ultra low power
- Range up to 300m free field, inside of buildings less depending on the conditions

Case
- Material ABS, UV-resistant
- Protection IP20
- Color Iron Grey (RAL 7011)

Front
- Standard front panel
- Replaceable front panel
- Custom specific design of front panel on request possible

Power Supply
- 10 x AA-batteries, 1.5 V, lithium-system
- Article-Nr.: WZP-BAT10-EL

Weight
- about 1500 g (without batteries)

Dimensions
- Overall incl. Front panel
  340 mm x 198 mm x 40,3 mm (WxHxD)
- Electronic Display Area
  202,3 mm x 138,9 mm (WxH)
- Customisable Area
  100 mm x 184 mm (WxH)

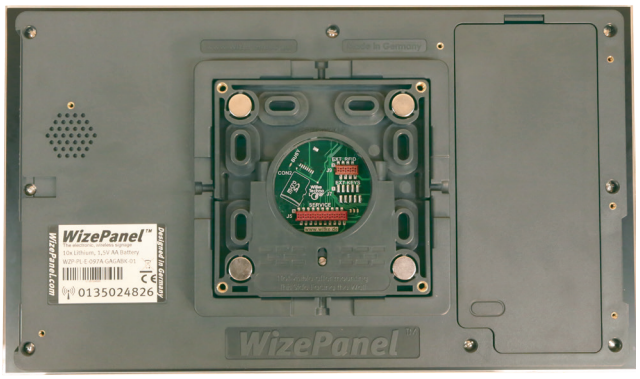
Article-Nr.
- WZP-PL-E-097A-GAGABK-01

Product-Variant
- WZP-PL-E-097A-GAGABK-01
- WZP-PL-E-097A-O-01
- WZP-PL-E-097A-X-01

3.3.3 Startup Procedure

At the end of this chapter you will find a ready-made drilling template for the wall mount of the WizePanel 9.7-inch display unit. Please be sure to print the template page unscaled immediately from the pdf file for correct scaling of the template. **ATTENTION:** Already printed versions of the template page could have been scaled and therefore differ in size.

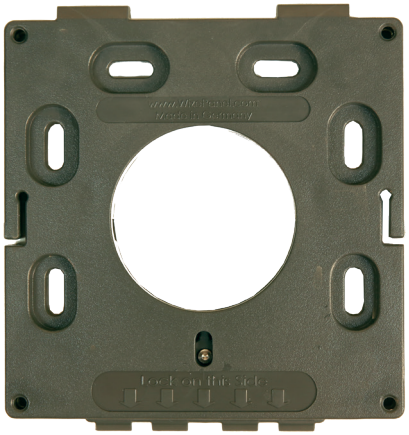
1. Please put the WizePanel 9.7 with the frontside down on a clean, slip-free desk.



2. Press inward the spring mechanism of the wall mount with any applicable item.

3. Now lift the wall mount of the WizePanel case while still pressing the spring mechanism.

4. Adjust the wall mount, so that the two extensions point up. In this position it should be fixed to the wall.

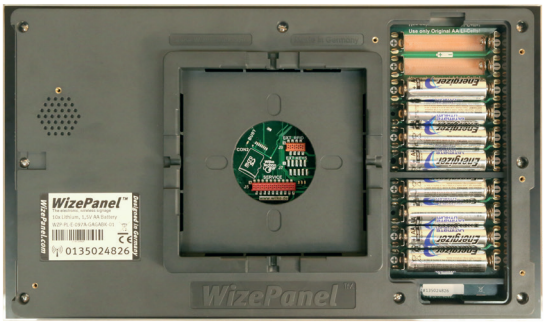


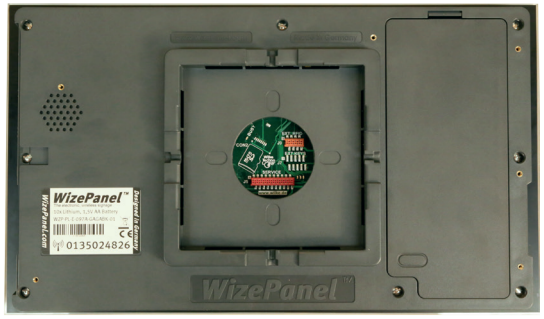
5. Now drill four holes by help of the drilling template from this chapter, punch in the dowels and fix the wall mount with the screws.

Attention:
After inserting the first two batteries of the WizePanel 9.7-inch the power supply is stable. This means, that also the anti-theft protection is activated.

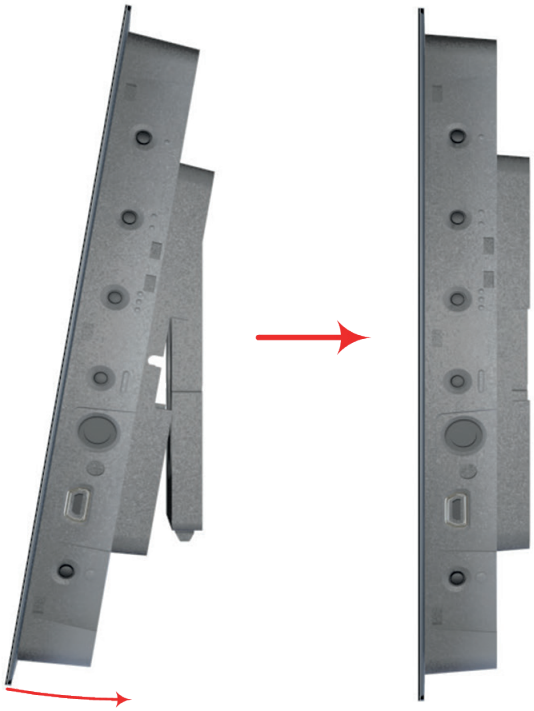
6. Open the battery compartment of the WizePanel 9.7-case.

7. Put the batteries in the battery compartment. Please mind the correct polarity.

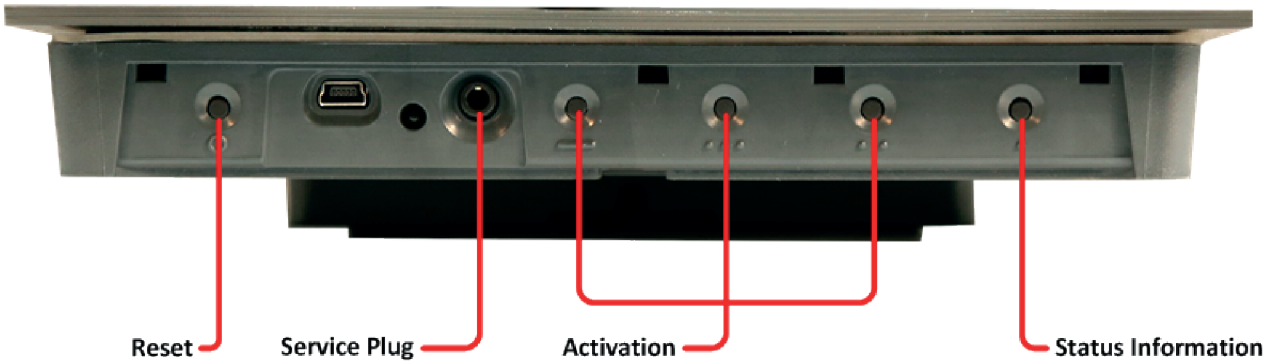




9. Now slightly tilt the WizePanel 9.7“. Lift it onto the wall mount, so that the extensions of the wall mount fit into the notches of the WizePanel 9.7“-case. Push the case into the vertical position again. While doing that the wall mount will click into the WizePanel 9.7“ case.



3.3.4 Function button



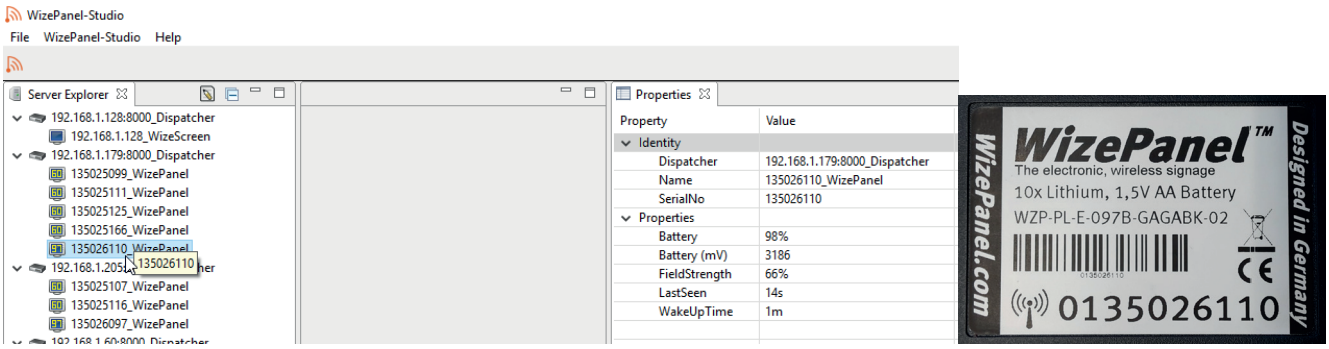
3.3.5 Status

After pressing the status button a status information screen is shown on the display for 60 seconds:

WizePanel ID#:	0135024832
Wakeup Interval:	0001min
Battery now:	2.998V
Firmware Version:	000.020.000.012
Radio Signal:	3=high (0-4)(- 59dBm)
Screen Size:	9.7"
Screen writemode:	Very high quality
VCOM:	-1.37V
Screen content cnt:	0000000003
Wake-Up count:	0000024918
RRST count:	0000000001
RWDT count:	0000000000
RBOR count:	0000000000
XSCR count:	0000000000
XFLA count:	0000000000
XEEP count:	0000000000
XCOR count:	0000000000

WizePanel ID#

The ID-number of the WizePanel 9.7. The ID number is assigned by the manufacturer and identifies the WizePanel display (also used in WizePanel-Studio).



Wakeup Interval

The interval in minutes in which the WizePanel-Display is turned on, to check by radio if a new image is available or not. After the request the WizePanel 9.7 goes back to sleep mode. The predefined interval time is 5 minutes (default).

Battery now

Shows the current change of the battery in Volts.

Firmware Revision

The revision number of the implemented firmware.

Radio Signal

Shows the quality of the wireless communication. First a quality benchmark in the range from 0...4 followed by the Received Signal Strength Indicator (RSSI) in decibel-milliwatts.

Screen Size
The screen size in [inch].

Screen writemode
The configured method the WizePanel uses to refresh the Display.

VCOM
The display specific VCOM voltage as defined in the firmware (must be identical to the VCOM voltage of the used display).

Screen content cnt
The screen content counter Counts the number of image changes.

Wake-Up count
The wakeup Counter counts the number of wakeup interval cycles.

RRST count
System Restart Counter (Reset Key).

RWDT count
System Watchdog Reset Counter.

RBOR count
System Brownout Restart Counter.

XSCR count
Screen Update Error Counter.

XFLA count
Flash Access Error Counter.

XEEP count
Eeprom Access Error Counter.

XCOR count
Core Communication Error Counter.

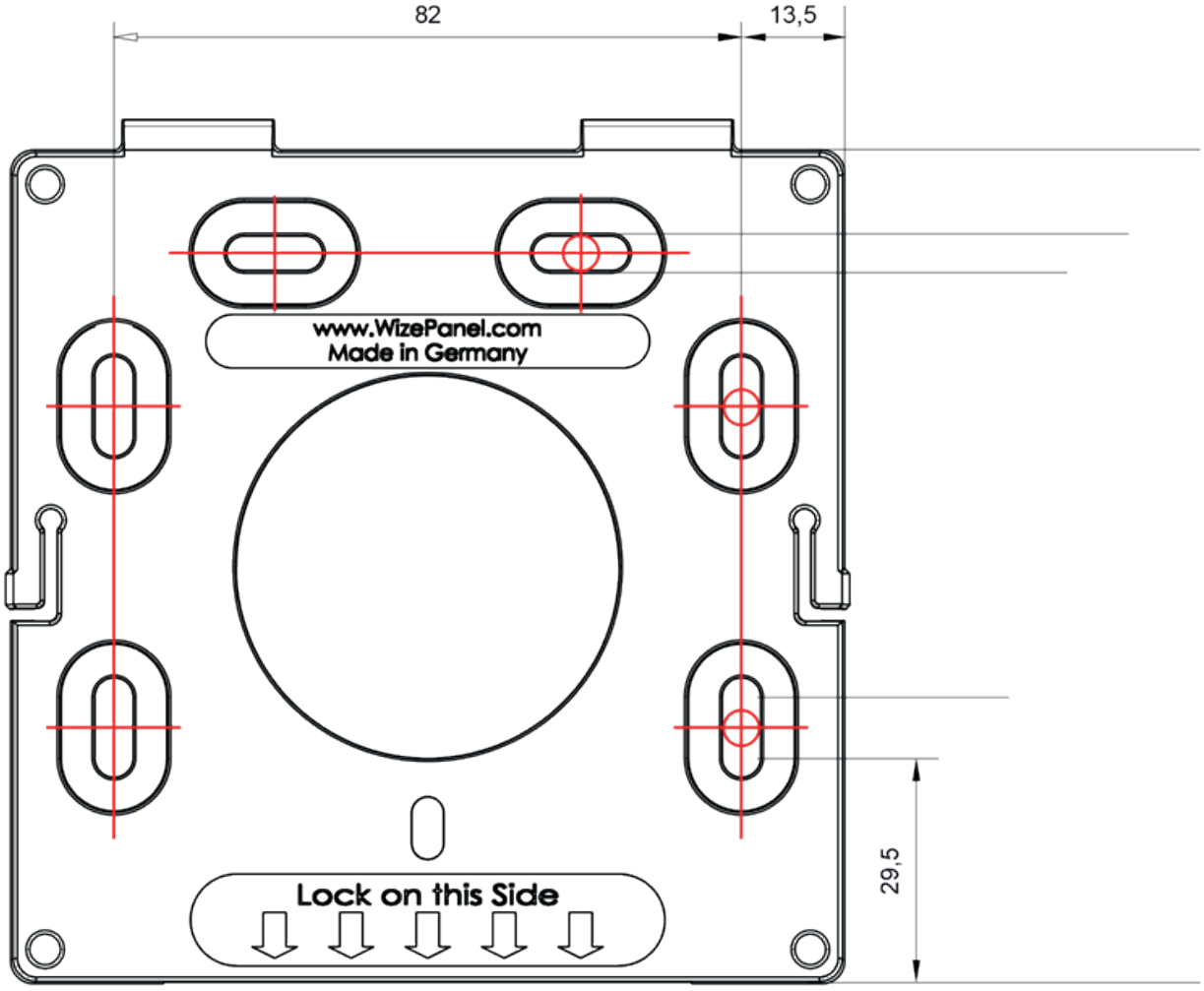
3.3.6 Anti-Theft Device

The anti-theft device is activated already after inserting the first two batteries into the battery compartment of the WizePanel 9.7" display units.

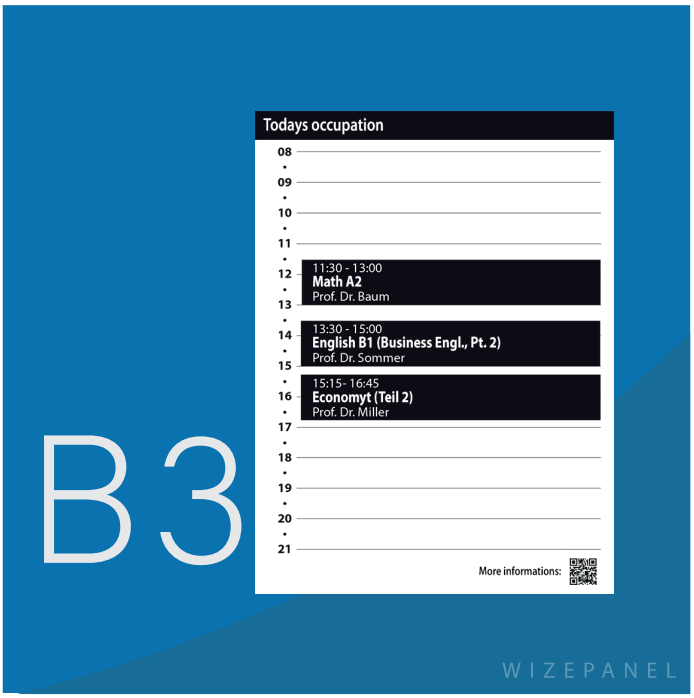
If you separate the wall mount from the WizePanel 9.7-inch display unit an alarm tone will sound until both parts are joined together again.

3.3.7 Drilling Template

unit: mm



3.4. WizePanel 200 Quadro 6“



Display

- High resolution 6,0“ monochrome ePaper Display
- Ultra low power consumption
- 800 x 600 pixel / 16 greyscales
- Brilliant display of text, graphics and photos
- New Pearl technology with high contrast, 180°reading angle and best visibility even in bright environments
- Pixel density: ca. 166 dpi

Casing

- Casing protection class: IP20
- Environment: 0 - 40 °C dry room
- Fire protection classification: UL 94 V0
- Casing color: Iron grey (RAL 7011)
- Casing material: ABS
- Interchangeable front plate, default front plate, customer specific front plate

Radio

- 868 MHz ultra low power radio
- Reach up to 400 m on free range. Within buildings according to circumstances correspondingly less.

Power supply

- 6 x AA-Lithium prime cells, 1.5 V
- Recommendation: Energizer Ultimate Lithium, long battery lifetime (depending on usage profile up to 20 years)

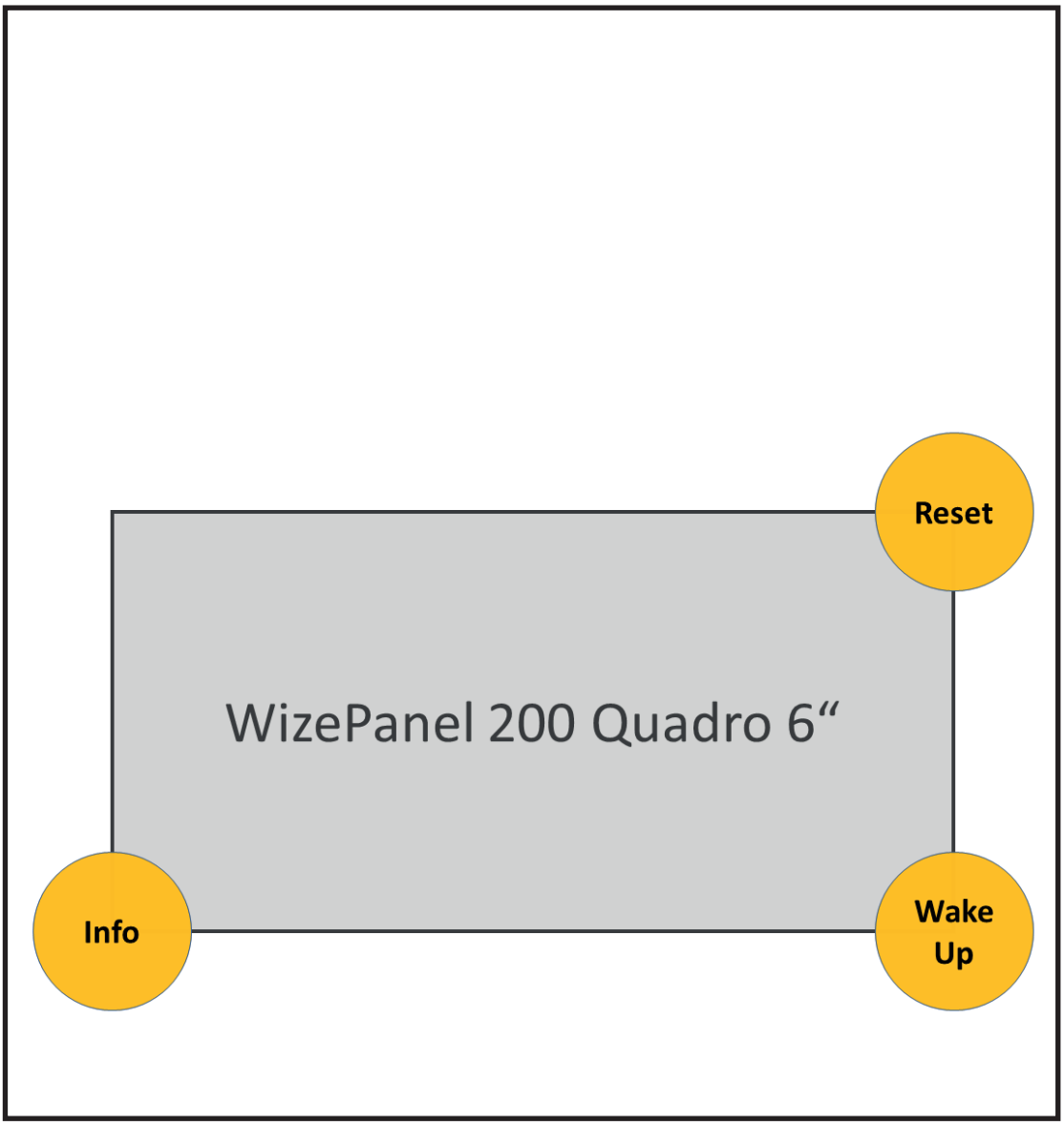
Dimensions

- External dimensions without front: ca. 183 x 176 x 18 mm (w x h x d)
- Display: ca. 122 x 91 mm (w x h)

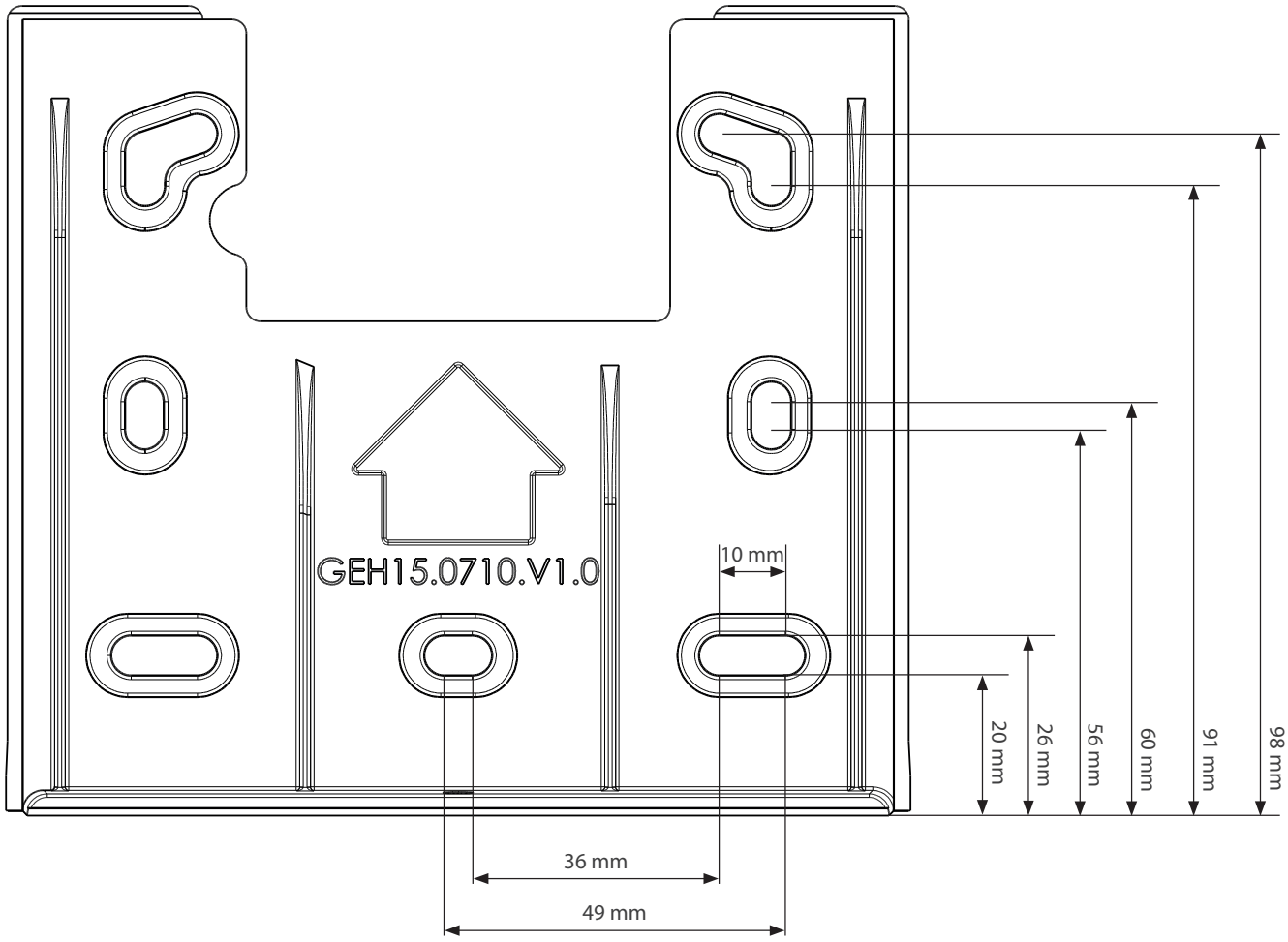
Weight

- ca. 710 g
- without batteries, incl. front plate & wall mount.
- The weight can change depending on the front plate.

3.4.1 Manual operations



3.4.2 Drilling Template



3.5 WizePanel 280 Quadro 9,7“

Display

- High resolution 9,7“ monochrome ePaper Display
- Ultra low power consumption
- 1200 x 825 pixel / 16 greyscales
- Brilliant display of text, graphics and photos
- New Pearl technology with high contrast, 180°reading angle and best visibility even in bright environments
- Pixel density: ca. 150 dpi

Gehäuse

- Casing protection class: IP20
- Environment: 0 - 40 °C dry room
- Fire protection classification: UL 94 V0
- Casing color: metallic / black (RAL 9005)
- Casing material: Alu
- Interchangeable front plate, default front plate,
  customer specific front plate

Radio

- 868 MHz ultra low power radio
- Reach up to 400 m on free range. Within buildings
  according to circumstances correspondingly less.

Power supply

- 6 x AA-Lithium prime cells, 1.5 V
- Recommendation: Energizer Ultimate Lithium, long battery lifetime (depending on usage profile up to 20 years)
-

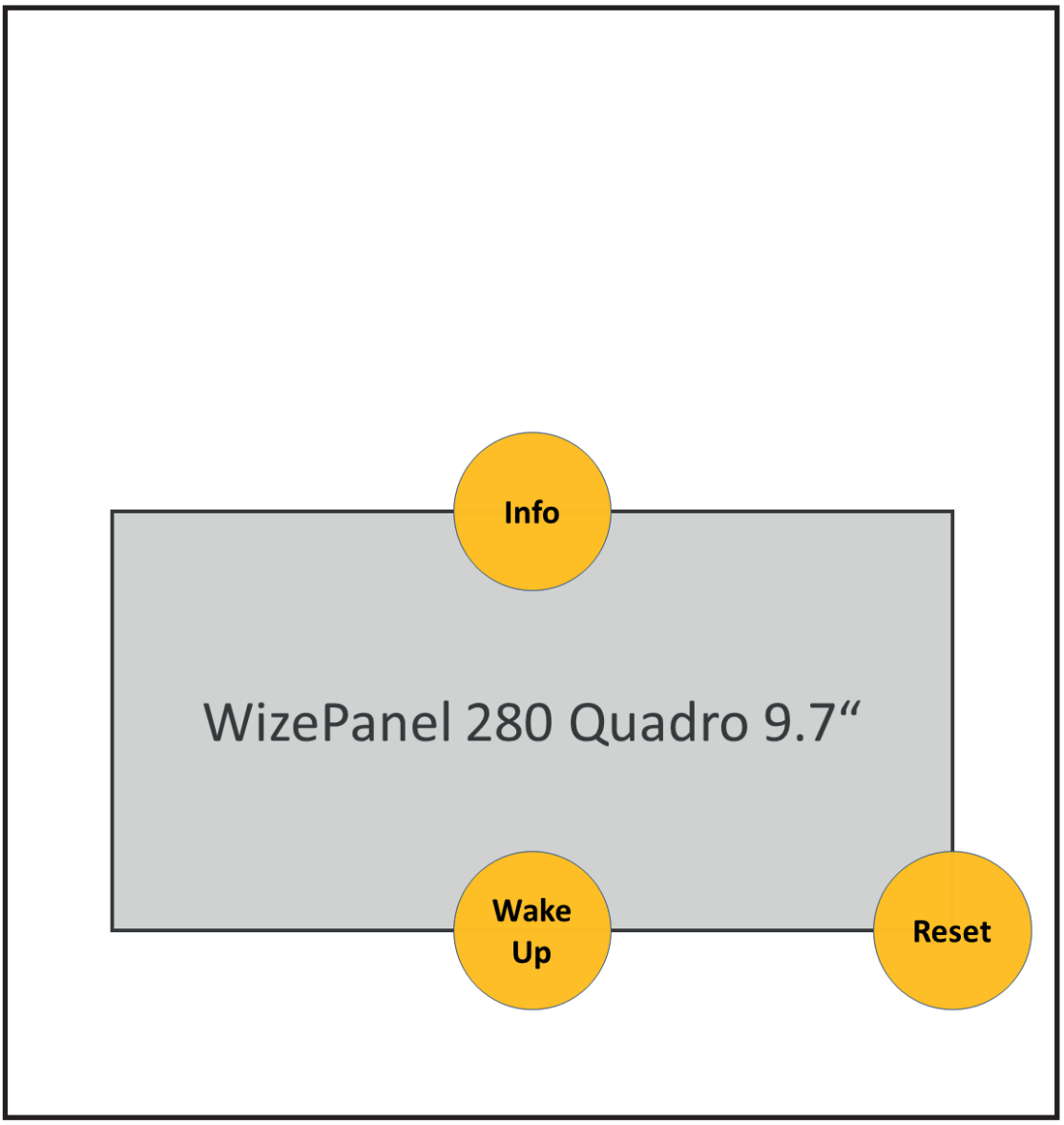
Dimensions

- External dimensions without front:
  ca. 280 x 280 x 20 mm (w x h x d)
- Display:
  ca. 202,3 x 138,9 mm (w x h)

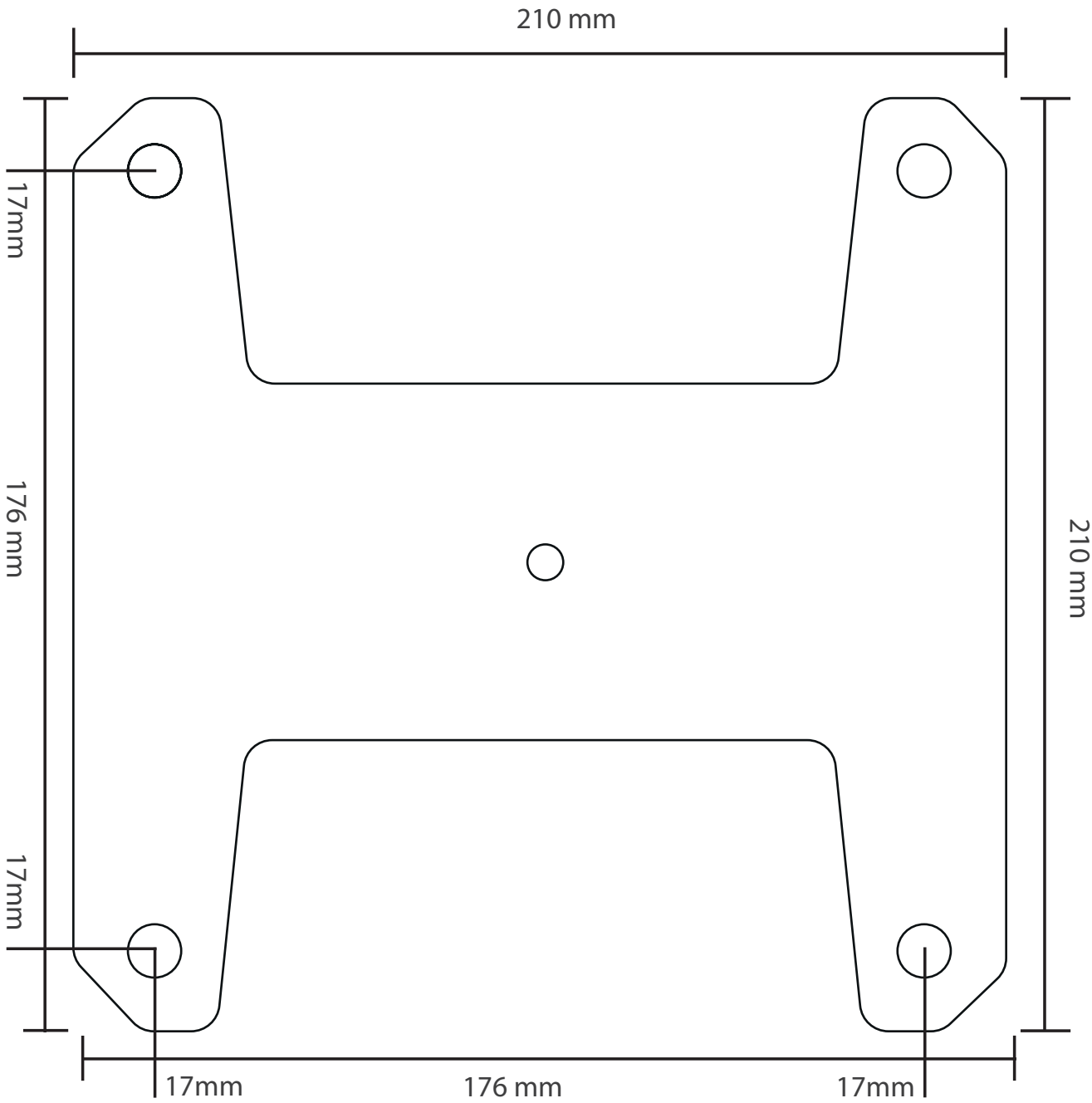
Weight

- ca. 2200 g
- without batteries, incl. front plate & wall mount.
- The weight can change depending on the front plate.

3.5.1 Manual operations



3.5.2 Drilling Template



4 Installation

4.1 Network- and Firewall Configuration

The WizePanel-System exchanges data over the network and by default needs access to following ports:

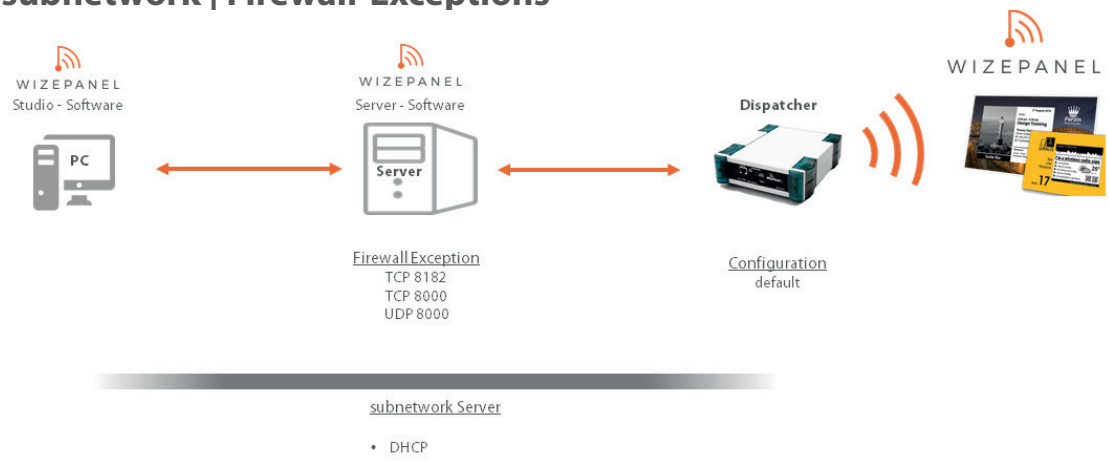
- Communication between WizePanel-Server and WizePanel-Dispatcher:
  port 8000 | protocol TCP
  port 8000 | protocol UDP

- Communication between WizePanel-Studio and WizePanel-Server:
  port 8182 | protocol TCP

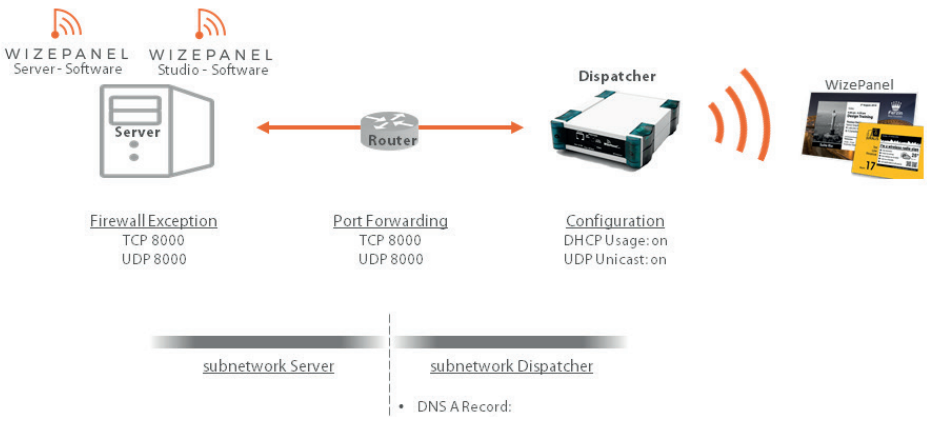
It is therefore necessary to configure a firewall present on the computer that runs the WizePanel-Server. When using the WizePanel-System over multiple subnetworks, the routers inbetween have to be set up to forward the listed ports. In this case a DNS entry is also needed which resolves the hostname "WizePanelServer" to the IP-address of the computer that runs WizePanel-Server software.

Exemplary illustration of different network configurations:

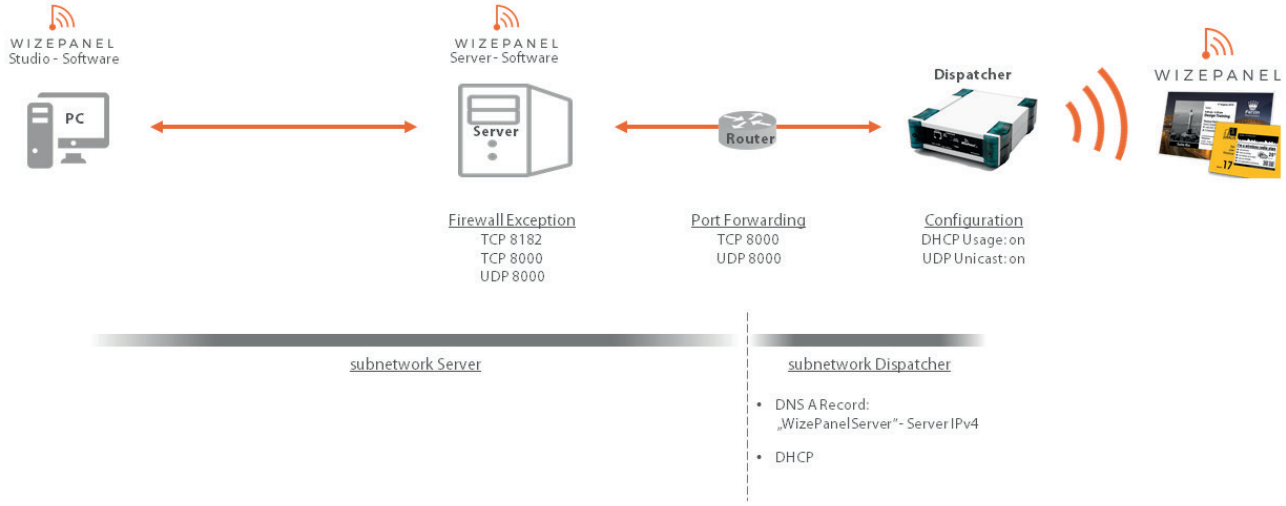
4.1.1 One subnetwork | Firewall-Exceptions



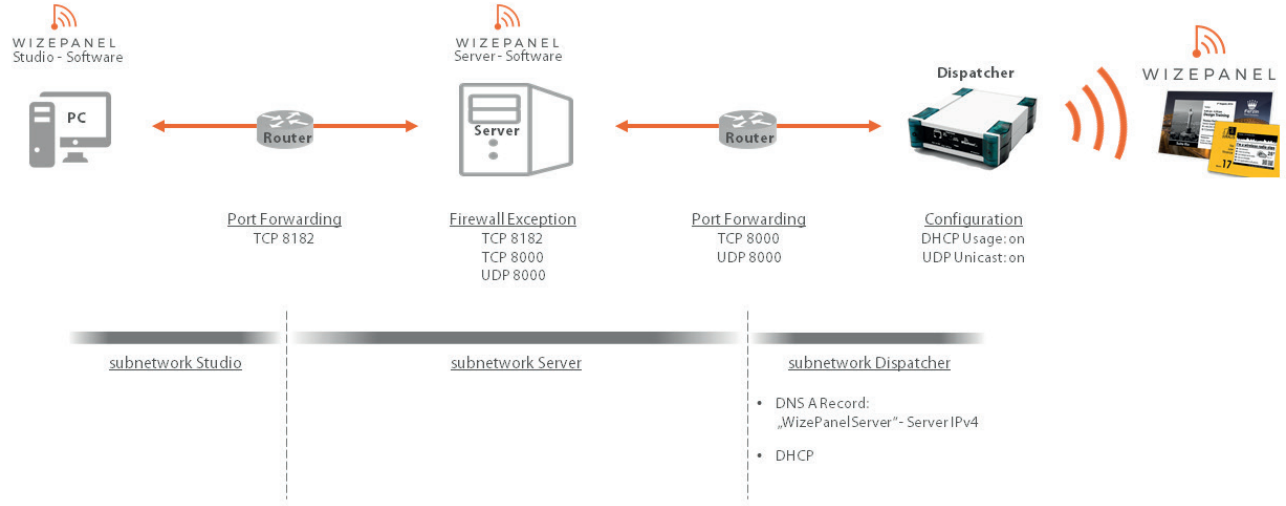
4.1.2 One subnetwork | Firewall-Exceptions



4.1.3 Multiple subnetworks | Port-Forwarding & Firewall-Exceptions



4.1.4 Multiple subnetworks | Port-Forwarding & Firewall-Exceptions



4.2 Java Runtime Environment 32-bit Version

Both, the WizePanel-Server and the WizePanel-Studio are Java applications, so they need a Java Runtime Environment for execution. You can download the Java Runtime Environment for free from the website https://java.com. The latest version usually includes important improvements, to increase performance, stability and security of the the WizePanel-System and applications.

If you are not sure, which Java Runtime Environment you are using, you can verify your version online at https://java.com/en/download/installed.jsp („Do I have Java?“, „Java Verification“).

It is strictly recommended to uninstall old releases of the Java Runtime Environment. If you keep old Java versions on your machine, this may result in a serious security risk. Uninstall of old releases ensures, that only Java applications according the security and performance standards are running on your system.

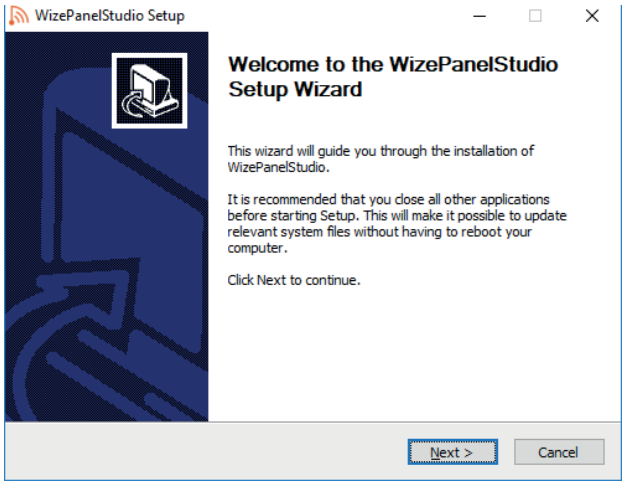
You can remove older releases of Java without any risk from your system as explained in detail on the web page https://java.com/en/download/help/uninstall_java.xml („How do I uninstall Java on my Windows computer?“).

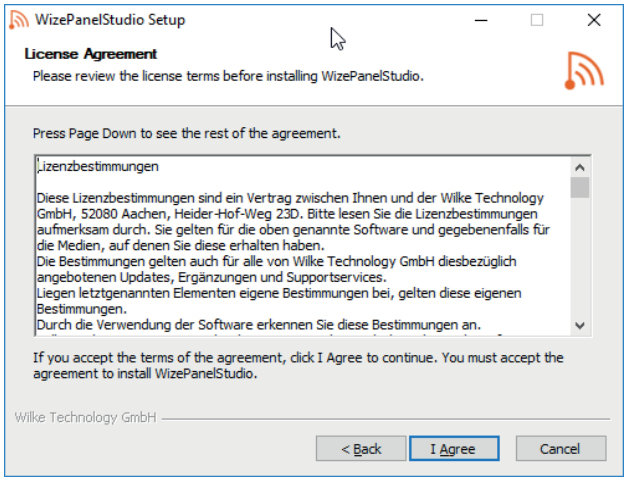
The Java installation starts by calling the downloaded setup application. Now follow carefully the given instructions. After accepting the licence agreements, you maybe will be asked to install additional browser add-ons. We recommend to deselect possible addons, since they are not used to execute the WizePanel-Software.

After pressing [continue] the installation starts, which may take several minutes. As soon as the message „You have successfully installed Java“ appears, all requirements are fulfilled to install WizePanel-Server and WizePanel-Studio.

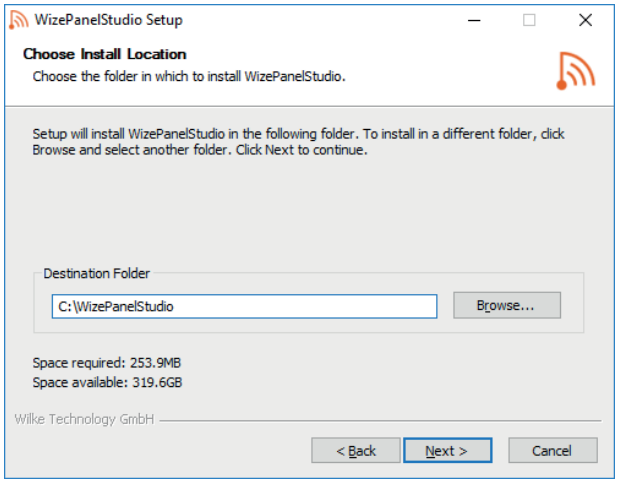
4.3 WizePanel-Server and Studio

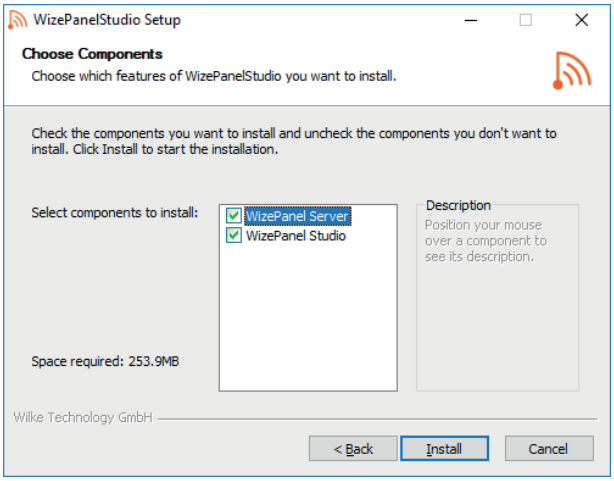
WizePanel-Server is central for the WizePanel-System while WizePanel-Studio acts as a user frontend for its configuration. The WizePanel-Software is downloadable from the internet. (http://www.wizepanel.com)
After starting the WizePanel installer, please follow the instructions on the screen. Installation starts with the welcome screen. When pressing [Next], you will find the license agreements. Please read the license agreements carefully and confirm by pressing [I agree].



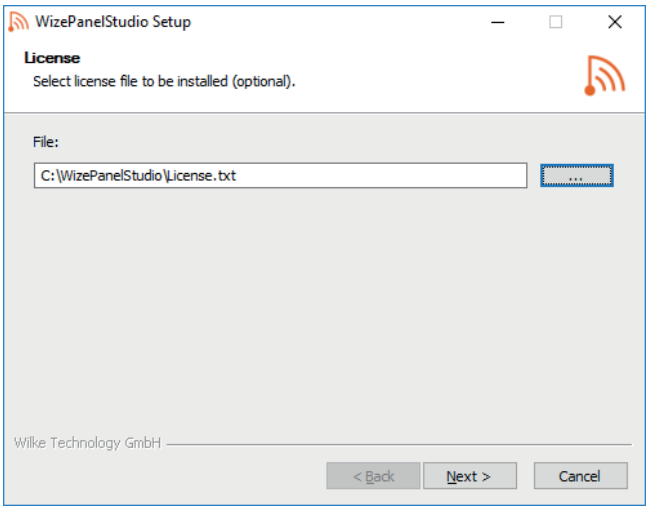


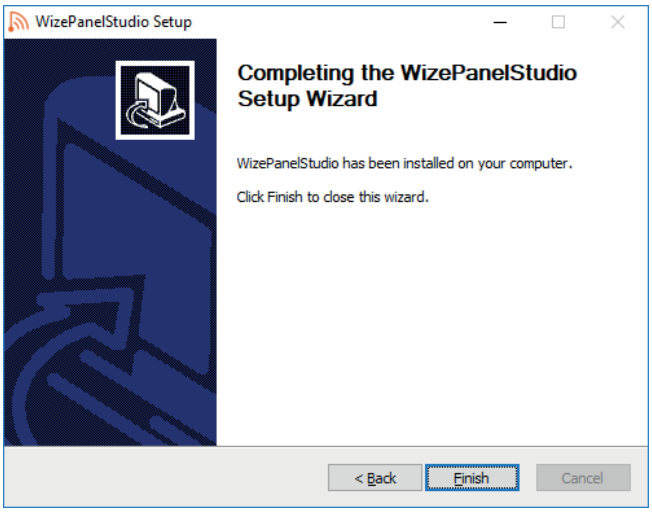
In the following step you have to define the destination path of the installation. Confirm your choice again by pressing [Next]. Now select WizePanel-Server and/or -Studio as the components to be installed and confirm again by pressing [continue].





On the following page you are asked to define a folder for the start menu. Confirm by pressing [Next]. Now you have to specify your license file. The license file was delivered during the purchase procedure and verifies the activation of fee based options. If you don't have a licence file the WizePanel-Server works in a limited mode.





You will see the farewell screen. Pressing [finish] will now end the installation assistance of WizePanel-Server and/or -Studio.

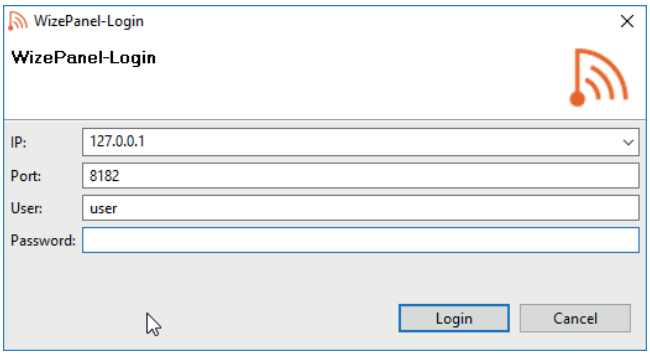
4.3.1 WizePanel-Server Service

The WizePanel-Server software runs as application after the installation. However, it can also be installed as a service by executing the following files in the WizePanel-Server installation folder.

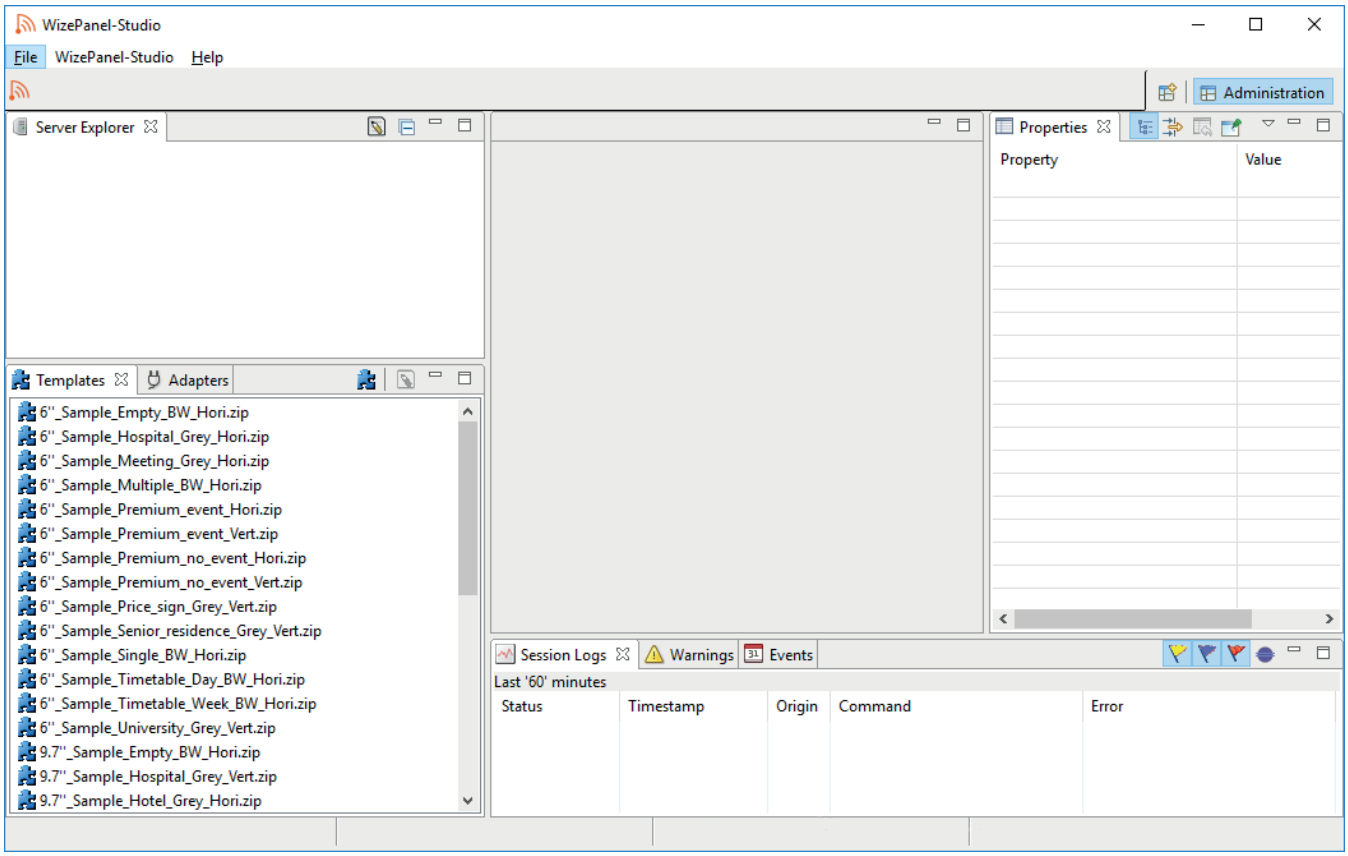
- Install the WizePanel-Server service: install_service.bat
- Autostart the WizePanel-Server service: start_service.bat (with administrator rights)

4.3.2 Starting WizePanel-Studio

The WizePanel-Studio application starts with the following pop-up window, where the configuration and connection parameters to a dedicated WizePanel-Server are requested. So please enter the appropriate IP address and port number. If you are not yet a registered user, leave the fields for User [default: user] and Password [default: empty] untouched and confirm by clicking on [Login].

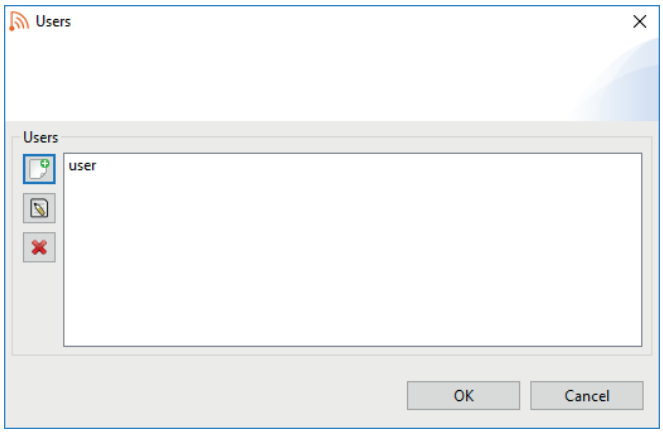


Now the main window of the WizePanel-Studio application will open:

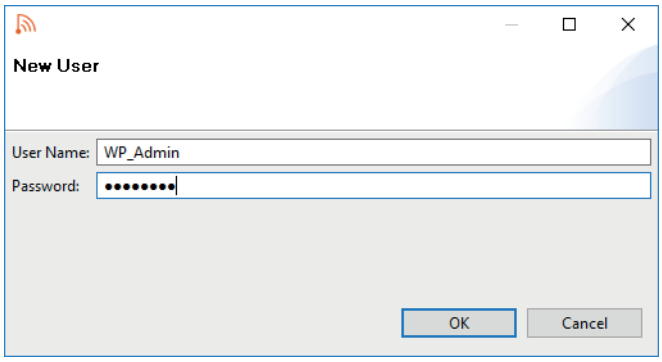


4.3.3 Managing Users

To establish access for multiple users please first select from the menu [WizePanel-Studio] and then [Users]. A configuration window for managing access rights will open. As a default we see the predefined user „user“, who needs no password.



To create a new user, click the [New] button. The „New User“ page appears asking for a new user name and password to enter. Confirm the new entry by clicking [OK].

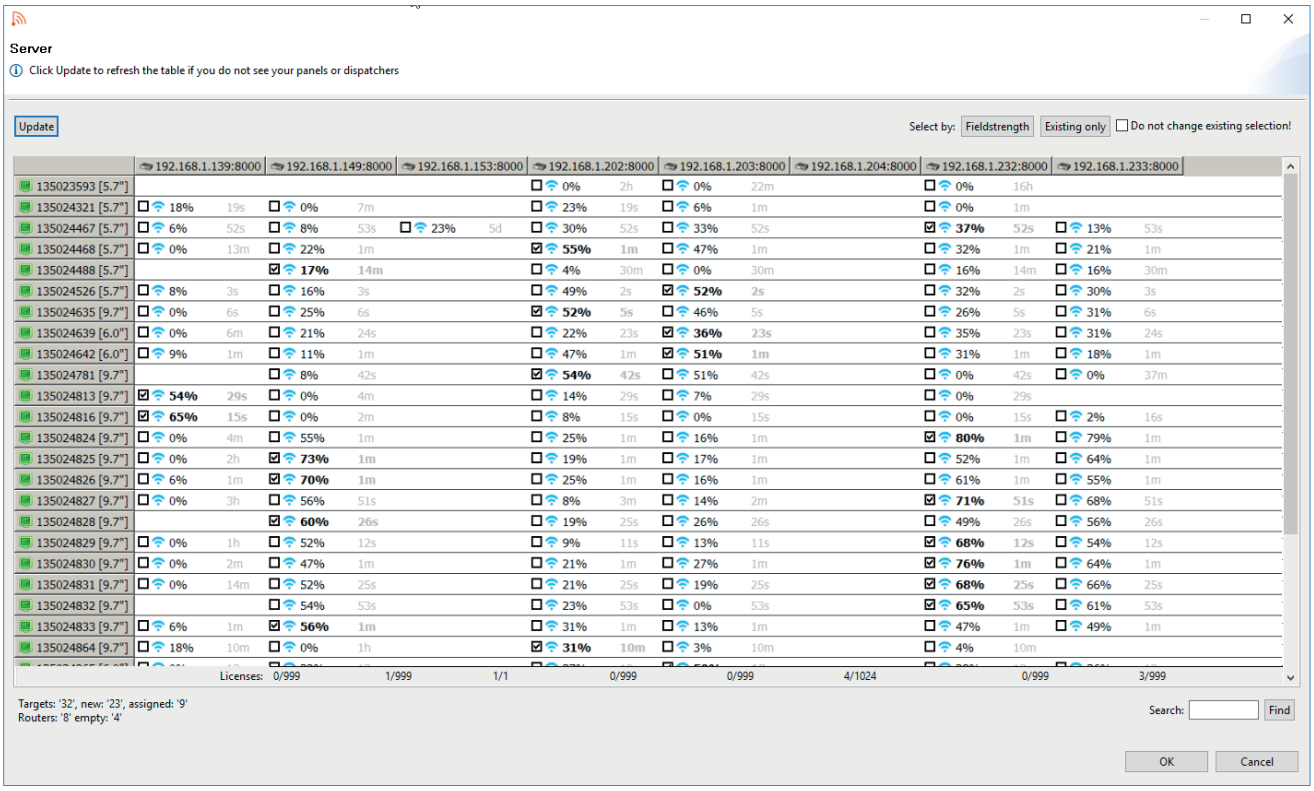


The new user will be registered now in the system and shown in the managing window. To increase security you should additionally remove the default user „user".

4.3.4 Managing Dispatchers and WizePanels

To gain control over the Displays, we have to control the section between Server and Dispatchers (which is the LAN subsystem) and then the section between Dispatchers and Displays (which is the RF-subsystem). So we first define, which Dispatchers generally belong to our WizePanel-System, in a second step we allocate Displays to the Dispatchers.

Move the mouse pointer in the section „Server Explorer" over the button [Edit] and confirm with the left mouse button. A matrix view opens, showing all dispatchers (horizontal) and displays (vertical) seen by your WizePanel-Server.

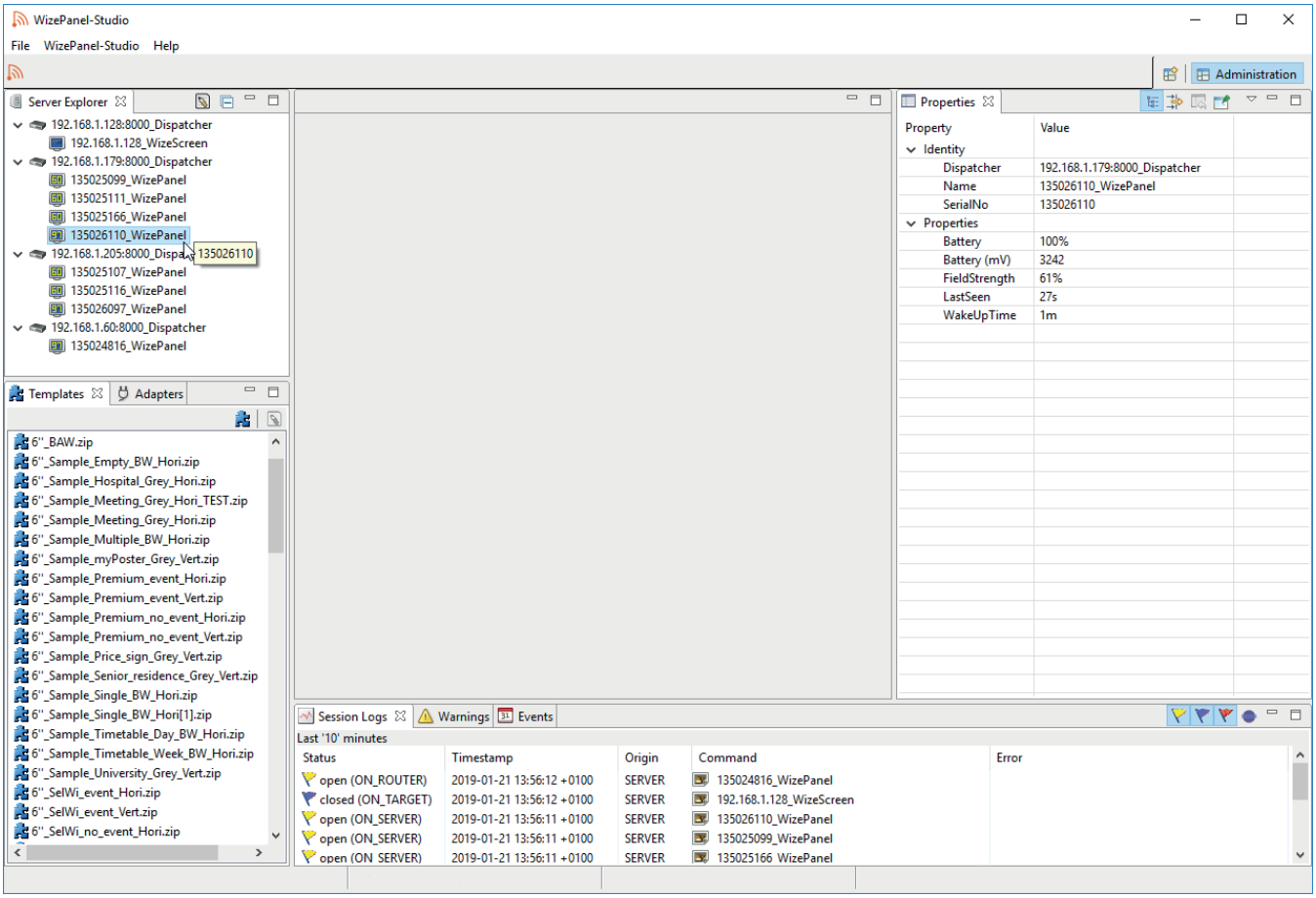


At the crosspoints you find checkboxes with a percentage value of the Receiver Signal Strength Indicator (RSSI).

Now you have to set crosspoints, showing a good (high) RSSI value, which means, that the combination of Dispatcher and Display at your location has a good wireless signal strength and therefore a good communication quality.

Helpful might be the button [Fieldstrength], which does a calculation by an internal algorithm. The best RSSI values are shown in bold letters.

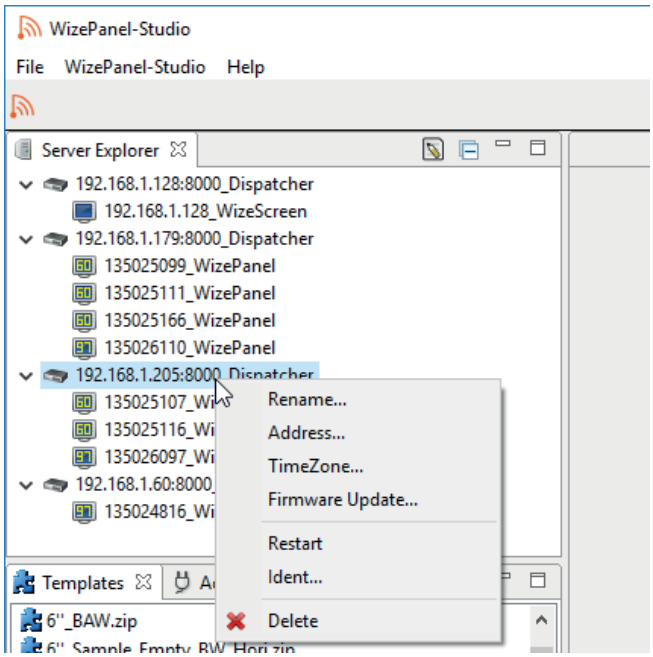
Finally check your settings and confirm with [OK]. After successful assignment of Displays to Dispatchers the server explorer shows a tree view representing the resulting assignments.



In the given example we see some active WizePanel-Dispatchers.

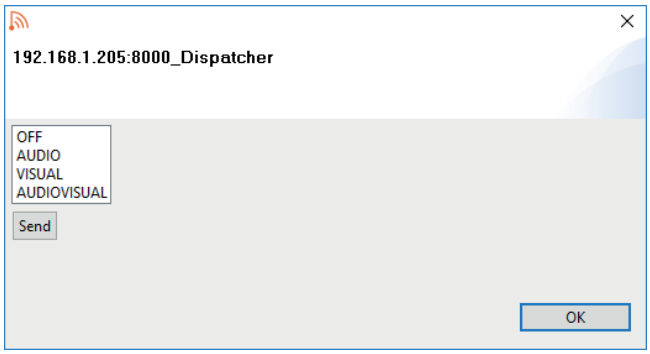
Clicking the left mouse button over one of the Dispatcher or Display icons opens a related properties window on the right side of the studio window, showing the actual settings of the device.

Clicking the right mouse button instead opens a popup window, allowing to change some parameters or to trigger specific functions.



- **(Rename)** adjust the dispatcher name
- **(Address)** set the network parameters (IP, Port, Gateway, Subnet)
- **(Timezone)** set the timezone (worldwide)
- **(Firmware Update)** trigger a Firmware Update
- **(Restart)** trigger a Restart
- **(Ident)** identify the dispatcher
- **(Delete)** remove the dispatcher

Here we like to mention in particular the ident function. The ident function is able to detect Dispatchers. After clicking the menu [Ident...] an additional popup window opens, where you can select additional functions.



You can choose between [OFF], [AUDIO], [VISUAL] and [AUDIOVISUAL]. After clicking [Send] a command is send to the selected Dispatcher. Depending on the selected function the Dispatcher will respond with an acoustic repeated beep and/or with an optical blink of the blue LED. Sending [OFF] will end the activated function(s).
Clicking [OK] closes the Ident window.

Clicking the right mouse button on one of the shown WizePanel Displays opens a context menu, where you can change display specific parameters or trigger functions.

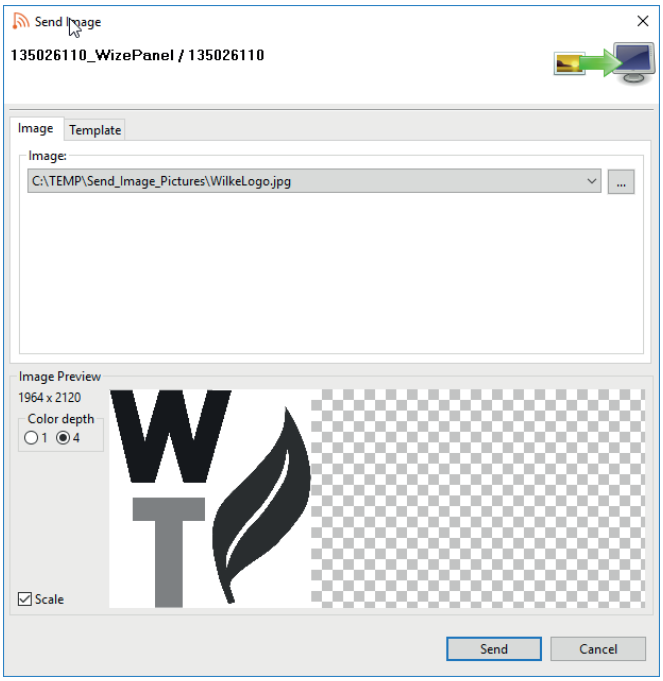
- **(Open)** shows actual display data including display content
- **(Rename)** adjust the display name
- **(Wakeup Time)** set the cyclic wakeup time
- **(Rotation)** set the orientation (portrait, landscape)
- **(Screen Update Method)** set the screen update method
- **(Send Image)** send an image
- **(Delete)** remove the image

4.3.5 Send Image

As an example and as verification of proper operation we now would like to transmit an image to a WizePanel. So we need an appropriate image of correct size and quality:

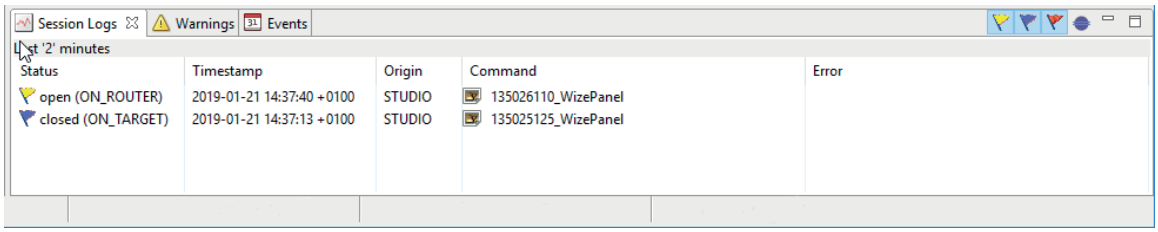
- 6.0-inch: bmp, png, gif, jpg 800 * 600 pixels
- 9.7-inch: bmp, png, gif, jpg 1200 * 825 pixels

If you created such images or you found suitable files, please move the mouse pointer over the menu topic [Send Image...] and click with the left mouse button. A context menu opens asking you for the path to your image file.



So now choose the desired image file, below appears in the section „Image Preview“ a small preview of the image.You can chuse thecolor depth between 1 (black and white) and 4 (16 grayscale) Now press [Send] to start the transmission.

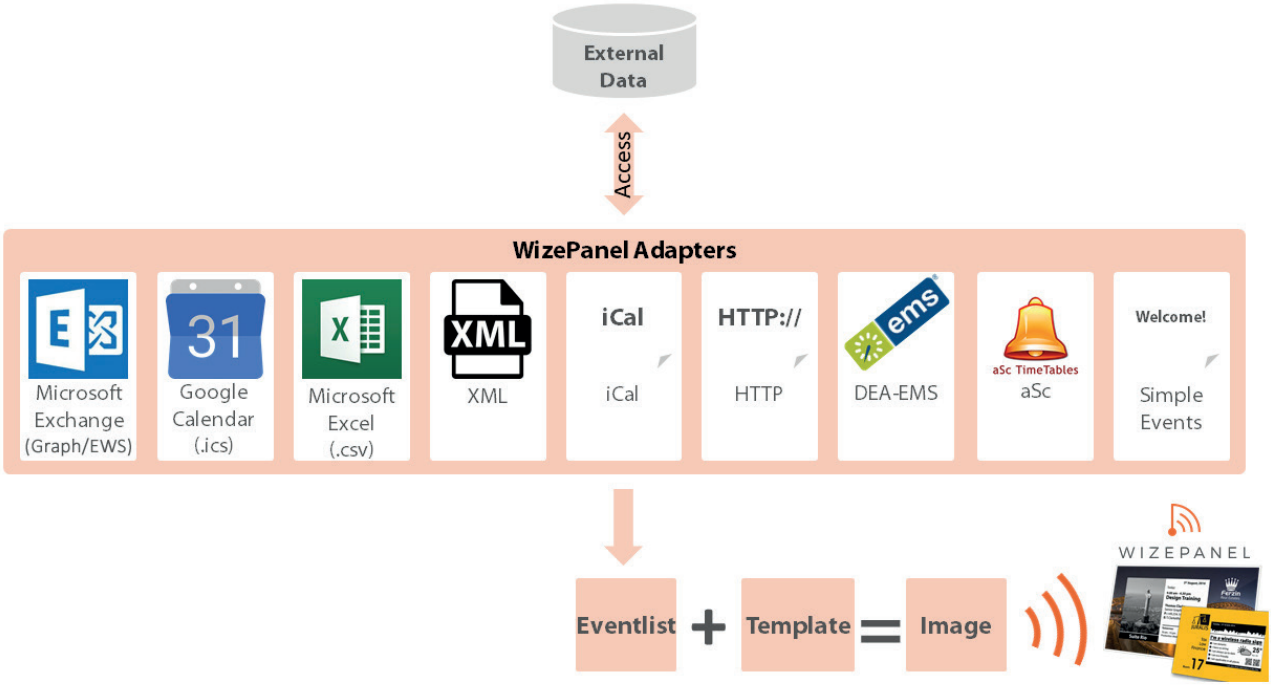
In the section „Session Logs“ a new entry appears „open (ON_ROUTER)“, telling you, that the image was transmitted to the Dispatcher. We now have to wait for the next wakeup cycle of the selected Display.



As soon as the Display wakes up, it will receive the image from the Dispatcher.
A successful transmission ends in changing the „Session Log“ entry to „closed (ON_TARGET)“.

5 WizePanel-Adapters

To read external data sources and present their informational content in a suitable image format on a WizePanel-Display, many different WizePanel-Adapters are available. The following graphic shows the abstract data flow from different data sources to the WizePanel-Display.



Different adapters for many important data sources are already available. Of course any other adapter can be implemented according your to needs.

Each activated adapter monitors his external data sources. Data sources herein are all objects like files, folders or e.g. an HTTP server.

The requested data will be transformed into a calendar event. This event contains some mandatory information fields, like start and end of the event. Other information fields may be added to the event. This can be typical information fields like e.g. a title, a description or a summary. Depending on the adapter many other additional information fields may exist.

If a new event was created, it will be registered according its start time into a selected template. The template can be considered as a layout, containing the rules on how the information of the specific event is presented on the Display.

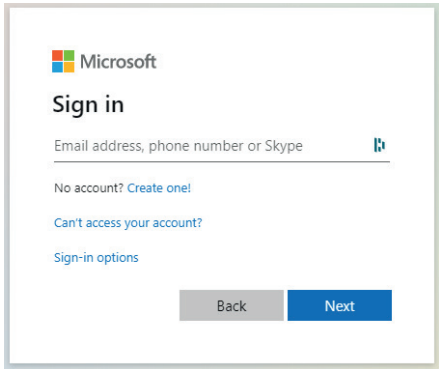
5.1 MS Exchange 365 (Graph)

Because of changes made to Exchange Servers hosted by Microsoft in the Microsoft 365 environment we introduced a new Adapter that uses the Microsoft Graph-API to get Events out of Exchange calendars.
This Adapter is only needed for Microsoft 365 hosted Exchange Servers, not on-premise installations. For these you should use the "MS Exchange 2010 SP2+ (EWS)" adapter.
The setup of this Adapter is spilt in 2 parts:

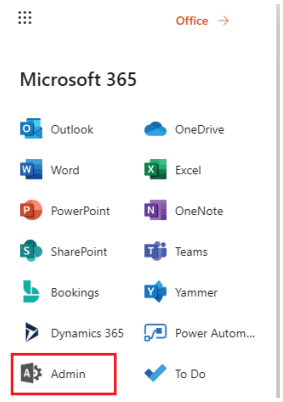
1. Registering the App in Azure Active Directory
2. Configuring the Adapter in WizePanel-Studio

5.1.1 Registering the App in Azure Active Directory

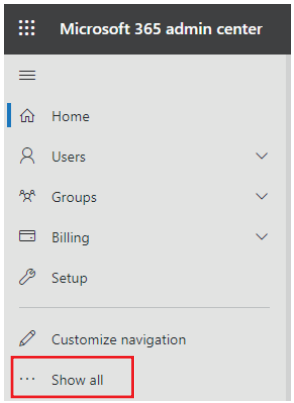
1. Log into an account with administrator privileges inside your Office 365 Tenant.
   This can be done via https://login.microsoftonline.com/



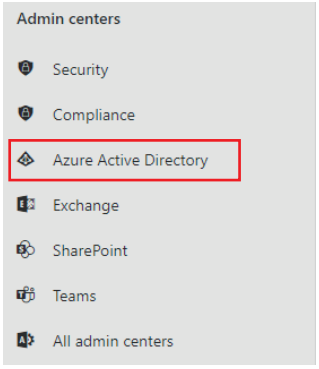
2. Open the Microsoft 365 Admin Center



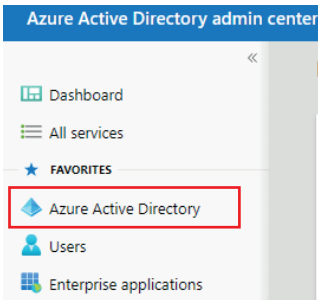
3. Expand the left sidebar with "Show all"



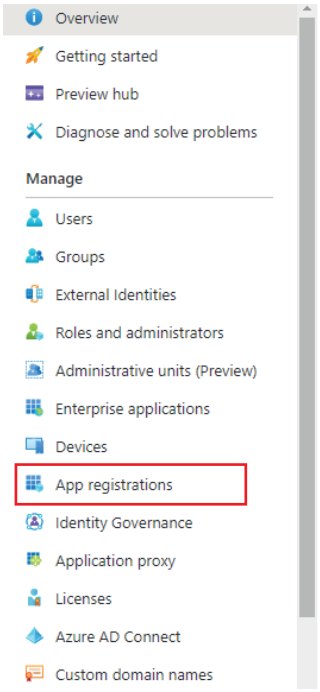
4. Click on “Azure Active Directory”



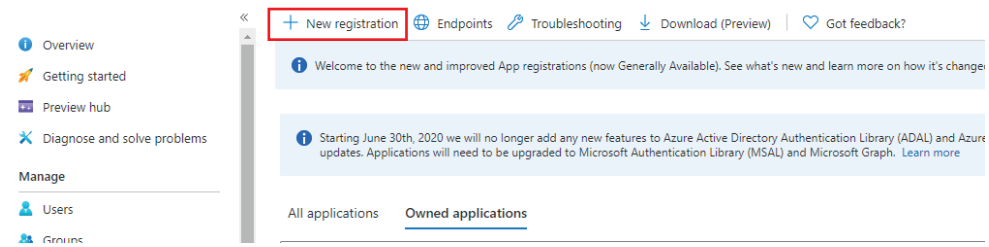
5. Inside the Azure Active Directory admin center, again click on “Azure Active Directory”



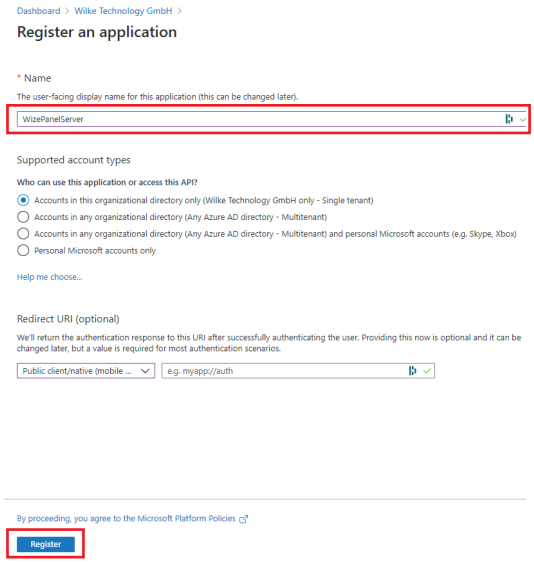
6. Click on “App registrations”



7. On the Top click on “New registration”

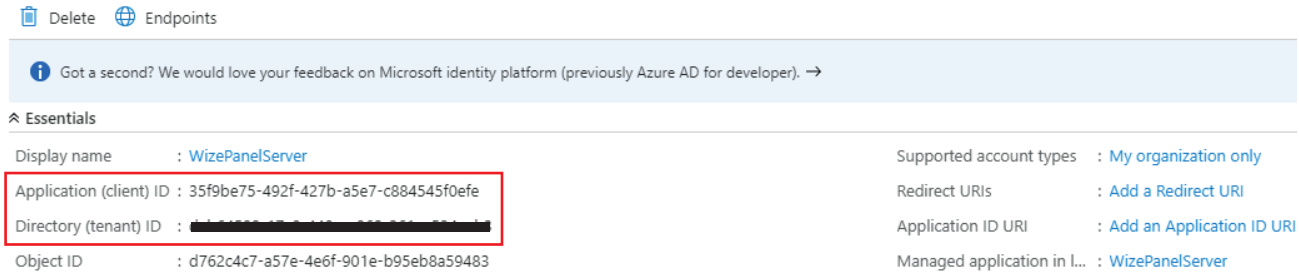


8. Enter a name that is easy to identify, e.g. “WizePanelServer”
   Everything else can be left as is.

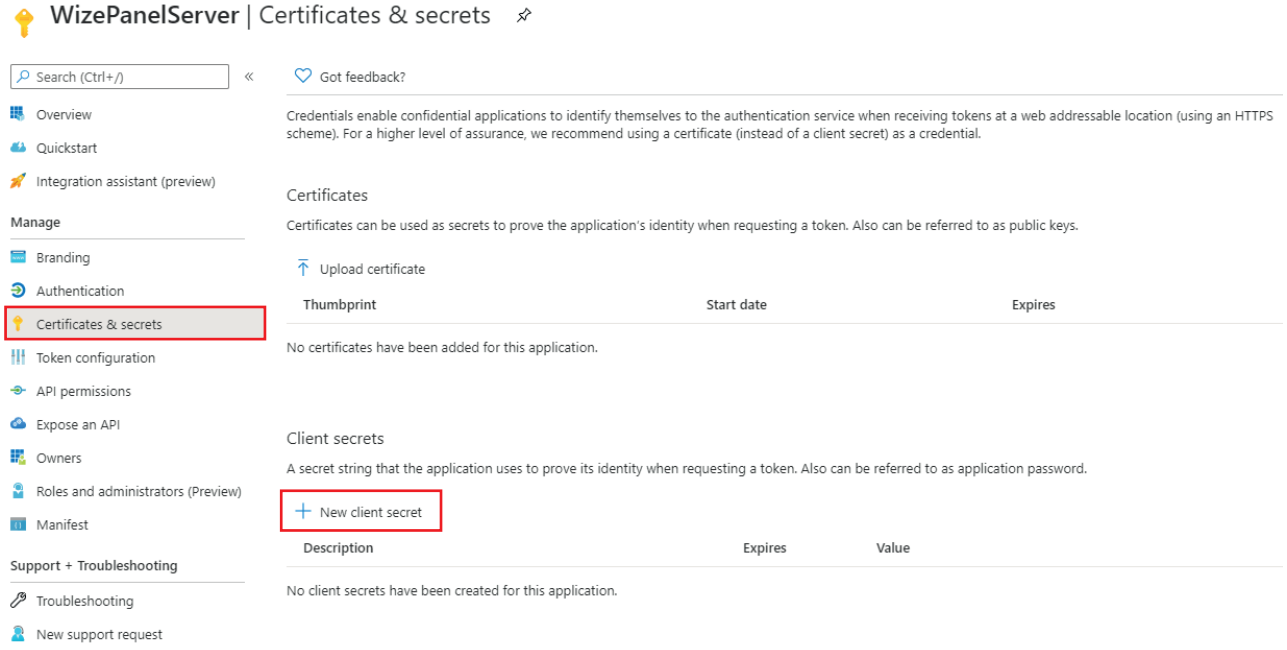


9. Click on Register.

10. Note down the “Application(client) ID” and “Directory (tenant) ID”
    You will need these when setting up the Adapter in the WizePanel-Studio.

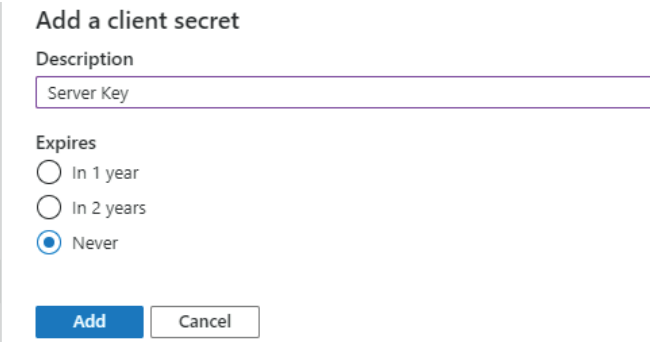


11. Go to “Certificates & secrets“



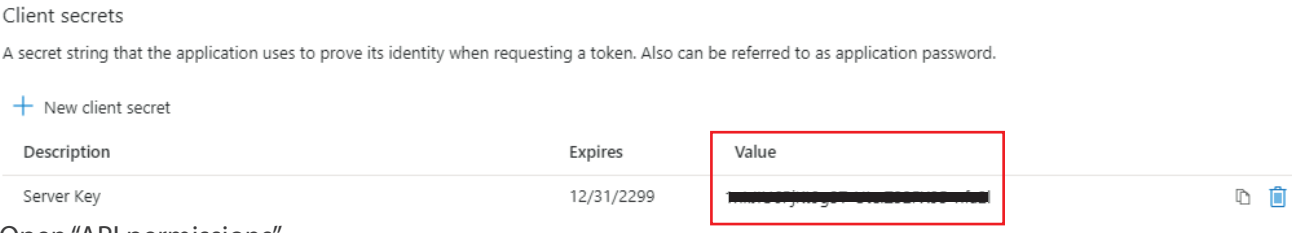
12. Click on “New client secret”

13. Give the new secret a name you will understand a year from now.
    e.g. “Secret to receive calendars in WizePanel-Server”

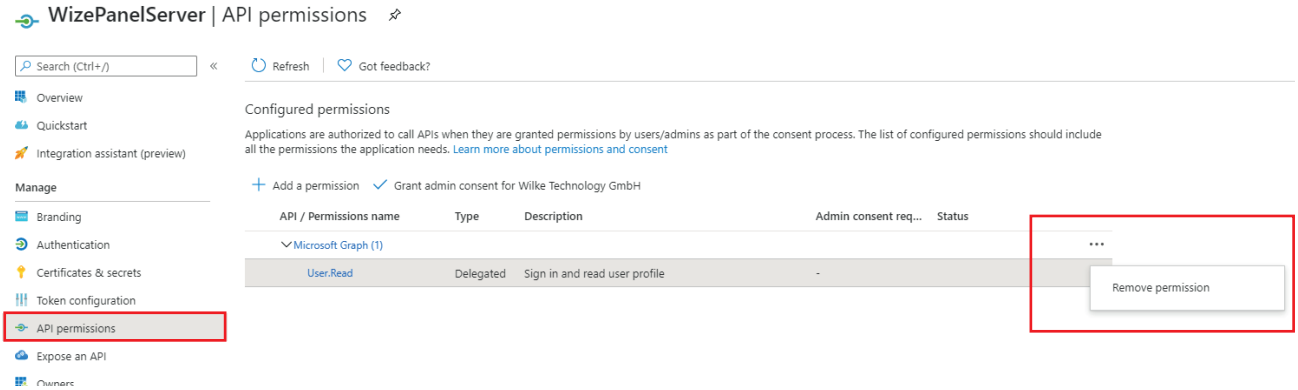


14. Set the expiration time to any value you prefer.
    We suggest “Never” for easier maintenance in the future.

15. Note/Copy the value. You will not be able to read this after you change the page!
    Again, this is needed to set up the Adapter in the WizePanel-Studio.



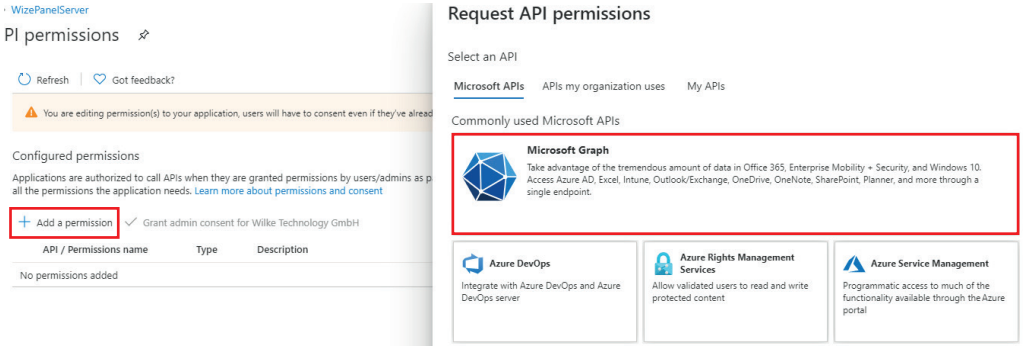
16. Open “API permissions”



17. There should already be the default permission “User.Read” present.
    Click on the 3 dots right of it and select “Remove persmission”

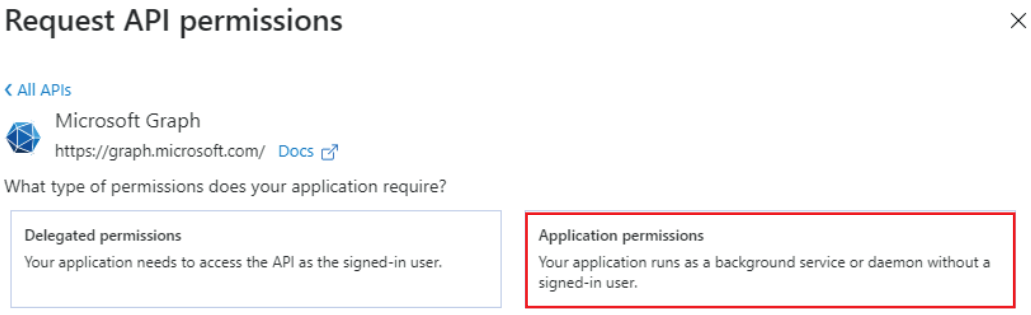
18. Confirm with “Yes, remove”

19. Click on “Add a permission”

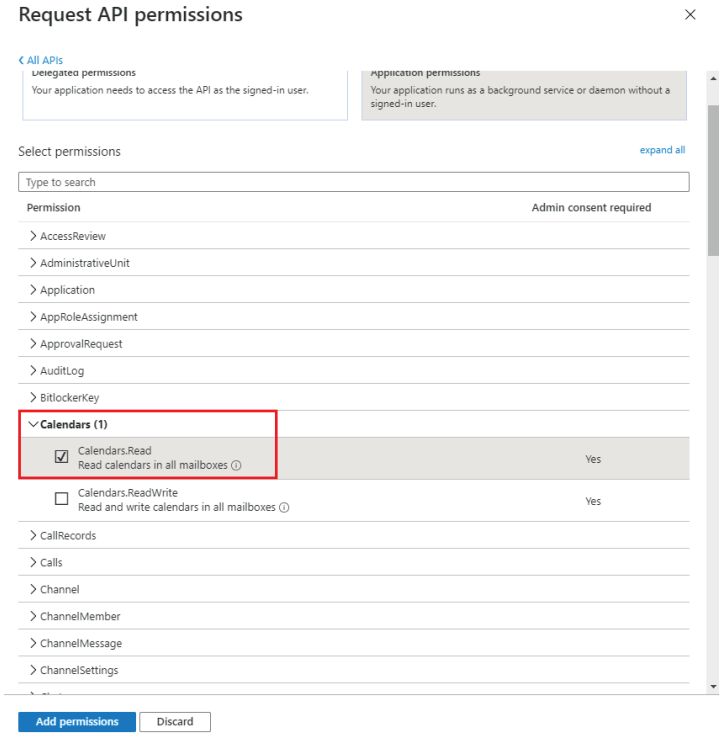


20. Click on “Microsoft Graph”

21. Click on “Application permissions”

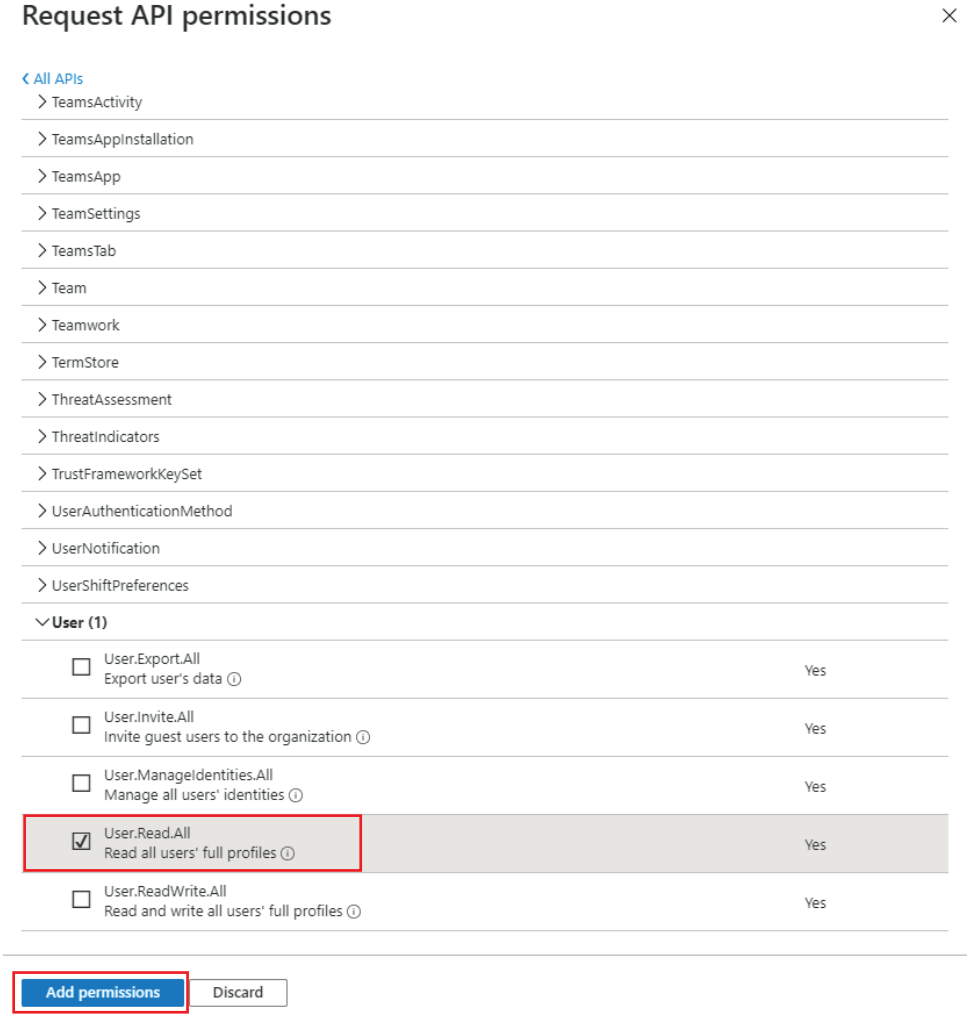


22. Search for “Calendars”

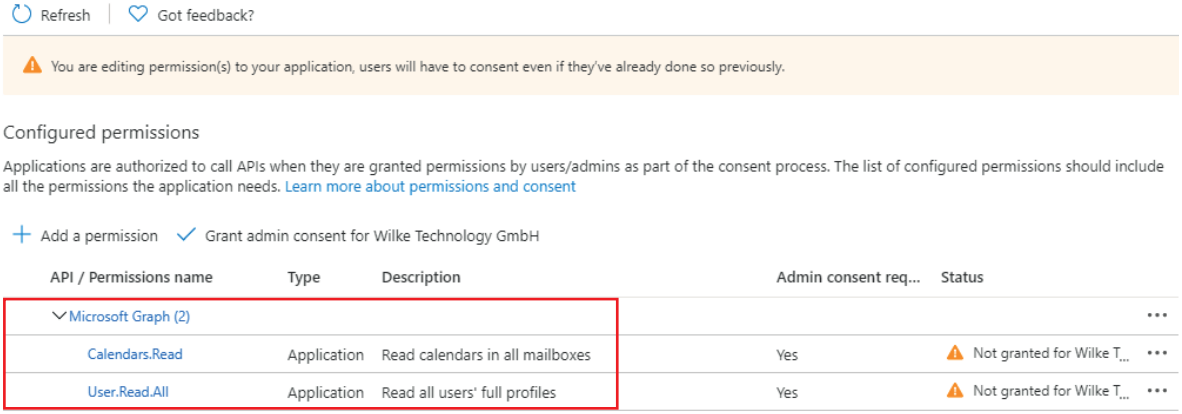


23. Enable “Calendars.Read”

24. Do the same for "User.Read.All"



25. Click on "Add permissions"



26. Now the list should contain 2 Permissions, "Calendar.Read" and "User.Read.All"

27. Right of the "Add a Permission" field, click on "Grant admin Consent for …"

28. Confirm with "Yes". You are done in Azure Active Directory. You can now close the Browser.

5.1.2 Configuring the Adapter in WizePanel-Studio

Open WizePanel-Studio and log into your WizePanel-Server.
Create a new Adapter of the Type **MS Exchange 365 (Graph)**.
Fill in the **Client-Id**, **Client-Secret** and **Tenant-Id** you noted down when registering the App in Azure Active Directory.
As Source you can add the login name of the user who's **standard calendar** you want to display.
E.g. user.name@company.onmicrosoft.com or user@contoso.com

If you want to access a **shared calendar**, any user who has the right to access the calendar will do.
You just need to add the calendar name at the end, separated by a /.
E.g. user@contoso.com/GroupCalendar

The same can be done to access a **non-standard calendar** used
user@contoso.com/nonStandardCalendarName

And finally, any **resource calendar** is accessed by the email-address associated with it.
E.g. Meetingsroom_1234@contoso.com

You can and should test your setup by selecting a source and clicking on the **Test button**.
The option **Range (days)** describes how many days to look in advance.
E.g. if you want to display events on the current day only, then set this option to 1.
The days always end at midnight.

The Checkbox **Ignore Alarm** will make the adapter ignore any set alarm time in the read events.
When this is not checked, the events will be displayed earlier than their real start time, depending on the Alarm.
Example: You have an event that starts at 13:00 o'clock. The Alarm is set to 10 Minutes by the user who created this event in the calendar.
If **Ignore Alarm** is SET, this event will become "current" at exactly 13:00 o'clock.
If **Ignore Alarm** is NOT SET, the server will see this event as "current" at 12:50 o'clock.
The displayed time on the WizePanel will be 13:00 in both cases, but in the second case it will show up 10 minutes in advance.

The Option **Private event summary** can be used to hide the summary / subject of an event that is marked as private.
If you for example write "Secret private Meeting" in this option, any event that is private will still show up on the WizePanel, but it's subject will be shown as "Secret private Meeting".

On the last page of the Adapter configuration choose and interval in which the server will check all calendars. The larger you make this, the less hard drive space will be consumed by the WizePanel-Server over time. The default is 60 seconds.

5.2 MS Exchange 2010 SP2+ (EWS)

Starting with Microsoft Exchange Server 2007 SP2 the Exchange Web Services interface (EWS) was introduced. The EWS Interface uses SOAP messages and supports direct access (reading) of calendars and is compatible with the latest Microsoft Exchange versions.

The base addresses for the services can look like this:

https://outlook.office.com/EWS/Exchange.asmx

https://***CUSTOM EXCHANGE SERVER ADDRESS/EWS/Exchange***.asmx

Access through the HTTPS is possible but requires that the Java run-time environment trusts the used certificate. Import of self-signed certificates is described in the chapter „Self-Signed Certificates".
This adapter supports all default placeholders and private events.

Configuration

The configuration requires the server URL, a username and a password.
The adapter allows you to monitor several calendars, where the calendar must be defined by a full folder name like "meetingroom@myhost.com".
A special option „Range in days" describes how many days to look in advance. E.g. if you want to display events on the current day only, then set this option to 1. The days always end at midnight.
Use the „Test" button to check the connection.

Important! The user accessing the calendar must have „Full Control" rights for it.

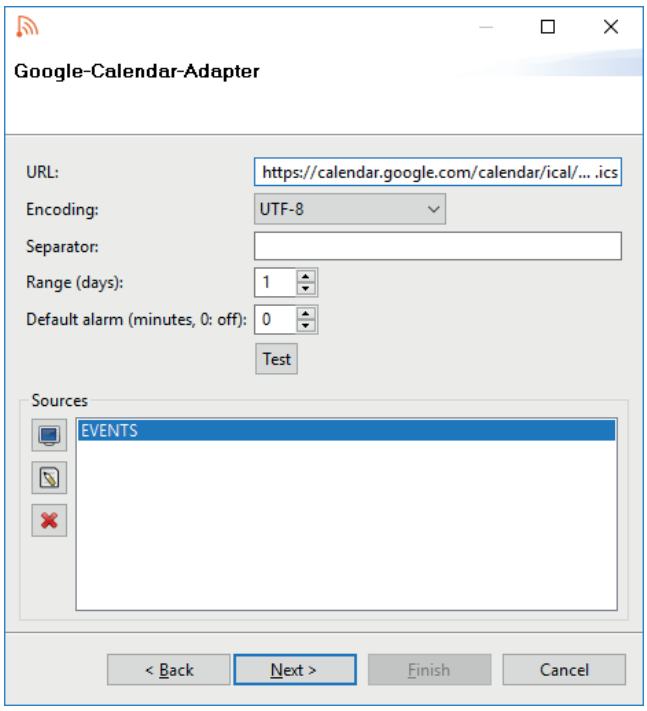
5.3 Google Calendar (*.ics)

This adapter can read ics files that are hosted online, e.g. Google Calendars or other.

The address to a online calender looks like this:

https://CALENDAR ADDRESS.ics

Configuration
The private address to a specific online calendar has to be looked up and then entered into the URL input box while leaving "EVENTS" as the only source. Use the Test button to see if the settings are correct.



Be advised that all events from a calendar will be retrieved at once, including the upcoming and the already expired ones. Therefore, for performance reasons, it is recommended to remove past events from time to time.

5.4 MS Excel (*.csv)

The Comma-Separated-Value(CSV)-format is a simple text based format, which is often used for spread sheet programs, like e.g. Microsoft Excel to read and write data records. Each line in a CSV file represents one line of the data sheet and each comma separated value in a line represents one column in the data sheet. CSV Files can be accessed locally or via HTTP-URL.

C:\PATH TO LOCAL FOLDER\FILENAME.csv

http://your-URL-here/file.csv

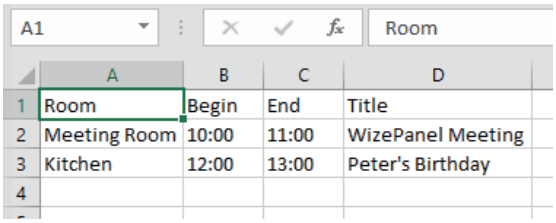
Transferred to our adapter each line now represents one single event, while each comma separated value in a line represents one placeholder of the event.

Even if the format is still called CSV, the separator character is not mandatory a comma. Other special characters (like semicolon, tabulator, etc.) may be used as a column separator. Here is a simple example for a CSV file:

```
Room;Begin;End;Title
Meeting Room;10:00;11:00;WizePanel Meeting
Kitchen;12:00;13:00;Peter's Birthday
```

The first line simply describes the type of the columns and should be skipped with the SkipLines setting. Following are two events in two different locations. The first event takes place in a location called the „Meeting Room", starting at 10:00 and ending at 11:00. Its title is „WizePanel Meeting". The second event is called „Peter's Birthday" and takes place in the "Kitchen" from 12:00 to 13:00.

We now open the same file with MS Excel:



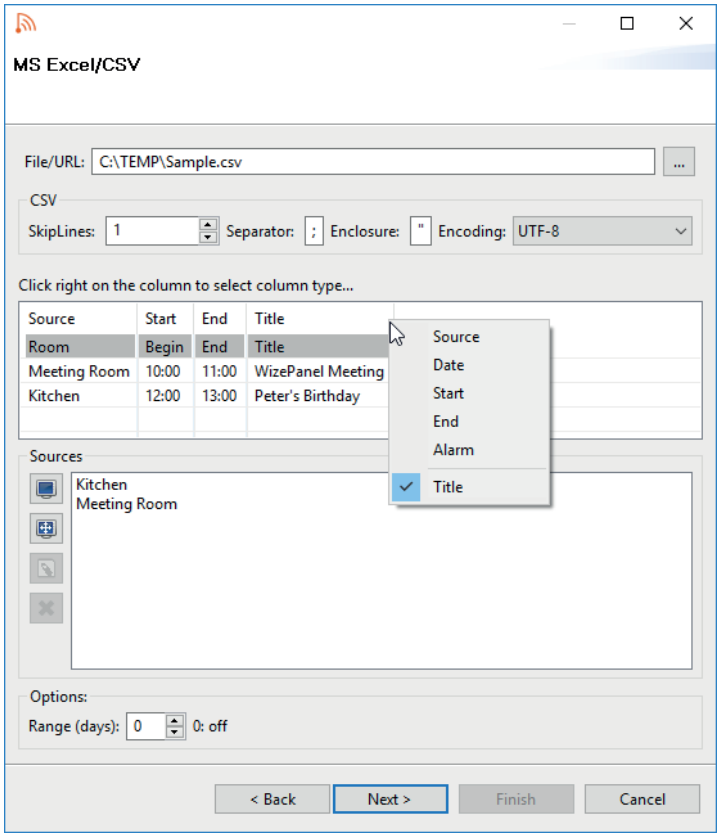
The adapter is invoked only when the file is changed. Since only times without any date were used here, means that you would need to change the file everyday if you want to see your events for that day. Alternatively you could use a date format like e.g. dd.MM.yyyy HH:mm.

Configuration

Select the CSV file you like to monitor.
Now you have to define the format of the CSV file. Play with the parameters until you see you data in an ordinary table.

- SkipLines: top lines are often used to describe the table and contain no events. These should be skipped.
- Separator: This char separates columns. In most cases this is either the comma (,) or the semicolon (;).
- Enclosure: Sometimes the column data is encoded in some sort of quotes („). It won't hurt if this is not the case.
- Encoding: Encoding of the CSV file. Try this option if you do not see special characters of your languge.

Now, you should see you data represented as a spread sheet. In the next step you must give columns meaning. Right-click on each column head and select the type. The following screenshot displays the minimum configuration for the example CSV file. You can give it any name by selecting „…". The same place-holder must be available in the used template.



- Source: this is the column containing your source names (see Chapter „Configaration of a WizePanel")
- Start: time when the event starts (formats as described before).
- End: time when the event ends (formats as described before).
- Alarm: lead time in [min]. Displays the event earlier than it actually starts(optional)
- Date: you can set the date in an extra column (optional).

5.5 XML (*.xml)

The XML adapter monitors a specified directory for new files in XML format. These files are converted into WizePanel events and the original files are renamed (extension .ddd files).

This is how an XML file should look like:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<WpEvent>
        <ID>067e6162-3b6f-4ae2-a171-2470b63dff00</ID>
        <Start>2013-07-16 14:00:00</Start>
        <End>2013-07-16 15:00:00</End>
  <Command></Command>
  <Alarm>5</Alarm>
        <Source Name>Room 51</Source Name>
        <Placeholders>
                <Placeholder>
                        <Name>SUMMARY</Name>
                        <Value>WizePanel Training</Value>
                </Placeholder>
                <Placeholder>
                        <Name>DESCRIPTION</Name>
                        <Value>WizePanelStudio 1.0</Value>
                </Placeholder>
        </Placeholders>
</WpEvent>
```

Short Tag Comment:

- <ID>: unique event ID.
- <Start>: time to start.
- <End>: time to end.
- <Command>: DELETE to remove a previously added event with the same ID [optional].
- <Alarm>: lead time in [min], to show the event earlier than the specified start time [optional].
- Source Name: must equal the chosen source name.
- Placeholders: list of placeholders. All placeholders will be available in the template. DTSTART and DTEND cannot be used as they will be created from „Start" and „End" fields already.

Configuration

Specify the directory to monitor.

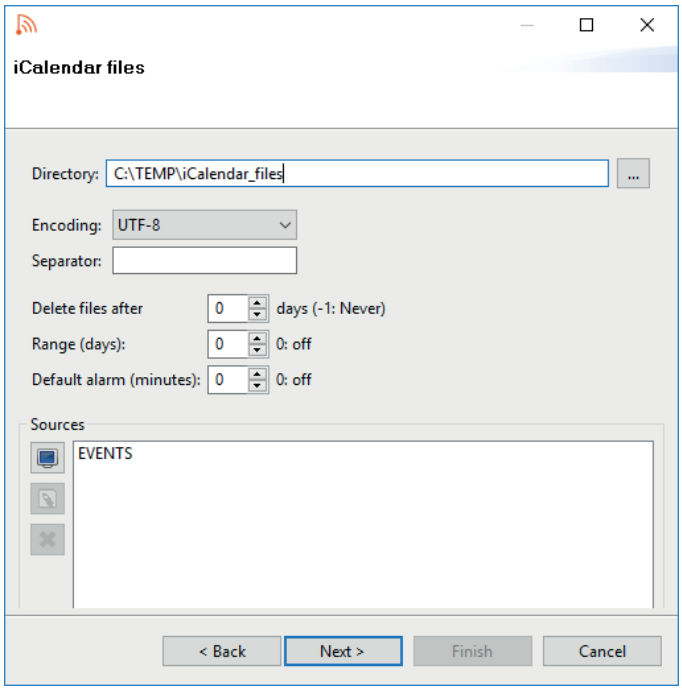
5.6 iCalendar (*.ics)

iCalendar files can be created in various ways, e.g. by exporting calendars using Microsoft Outlook or via the Google Calendar settings. The WizePanel iCalendar files adapter is designed to look into .ics files stored in a specified local folder or a network folder and read events from there. Those events are interpreted depending on the existing information in their location field.

C:\PATH TO LOCAL FOLDER\

\\HOSTNAME\PATH TO LOCAL FOLDER\

Configuration
Enter the path to the folder that contains your iCalendar files and define sources for filtering.



Using a source named exactly as the location of at least one of your events included in the ics files, will result in those events to be processed.

Using “EVENTS” as source will result in grabbing all events that have no location information.

All events with other location information will not be shown.

5.7 Wilke HTTP

This is a very general adapter which reads data from a HTTP server using GET. After reading data it should be removed from the database (or marked as read) and not returned on the next read attempt.

The response is a list of JSON objects. „target_name“ is the name of the WizePanel. Placeholders is a key-value list, actually JSON object.

```
[
        {
                „target_name“:„name of the target“,
                „placeholders“: {
                        „SUMMARY“:„Title“,
                        „DESCRIPTION“:„This and that…“
                }
        },
        {
                „target_name“:„...“,
                ...
        }
]
```

Configuration

Full address from which to get events.

5.8 WebUntis (HTTP/JSON)

5.8.1 Requirements

You need a WebUntis user with the right “**timetable view for the requested element**”.
Please note down the following information to config the Adapter:

- Server URL (e.g. http(s)://www.webuntis.com/WebUntis/jsonrpc.do)
- Username, password & school (as used to login via webbrowser)
- Room names you want to read from

5.8.2 Adapter Configuration

Open WizePanel-Studio and log into your WizePanel-Server.
Create a new Adapter of the Type **WebUntis(HTTP/JSON)**.
Fill in the **URL**, **School**, **User** and **Password** for your WebUntis instance.
The **Timezone** needs to be set to the timezone your WebUntis-Server is working in.
It is recommended to use the Africa/*, America/*, Asia/*, Europe/* (etc.) over Etc/* timezones.
Use the **Add button** to add the rooms you want to read events from.
You can and should test your setup by selecting a source and clicking on the **Test button**.

The option **Range (days)** describes how many days to look in advance.
E.g. if you want to display events on the current day only, then set this option to 1.
The days always end at midnight.

The option **Alarm (minutes)** will allow you to force the system to recognize an event as current before the start time has been reached.
Example: If your event has a starting time of 12:00 o'clock the picture showing this event as currently running will be generated at exactly 12:00 o'clock. Depending on the time the server needs to build the picture, send it to the Dispatcher and the WakeUp Time of the WizePanel this picture will be shown a few minutes after 12:00 o'clock.

By setting the Alarm to 5 minutes, the server will do all this as 11:55 o'clock and the picture will be shown earlier.

The displayed time on the WizePanel will be 12:00 o'clock in both cases, but in the second case it will show up 5 minutes in advance.

On the last page of the Adapter configuration choose and interval in which the server will check all calendars. The larger you make this; the less hard drive space will be consumed by the WizePanel-Server over time. The default is 60 seconds.

5.8.3 Adpater-specific placeholders

Because of the unique data fields provided by WebUntis we added the following placeholders:

LYTYPE	„ls" (lesson) | „oh" (office hour) | „sb" (standby) | „bs" (break supervision) | „ex"(examination)
CODE	„" | „cancelled" | „irregular"
INFO	period information, **can be empty**
SUBTEXT	Untis substitution text, **can be empty**
LSTEXT	text of the period's lesson, **can be empty**
ACTIVITY_TYPE	type of event
SUBJECT_SHORT	short name for event subject, **can be empty**
SUBJECT_LONG	long name for event subject, **can be empty**
TEACHER_SHORT	short name for teacher, **can be empty**
TEACHER_LONG	long name for teacher, **can be empty**
CLASS_SHORT	short name for class, **can be empty**
CLASS_LONG	long name for class, **can be empty**
ROOM_SHORT	short name for room
ROOM_LONG	long name for room

In Addition to these new placeholders the default placeholders **SUMMARY** and **DESCRIPTION** are configured like this:

SUMMARY contains **CLASS_SHORT**, **TEACHER_LONG** and **SUBJECT_LONG** separated by whitespaces.

DESCRIPTION contains either **SUBJECT_LONG** or **INFO** or **LSTEXT**, depending on what data is available in the event.

5.9 DEA Event Management System (EMS)

The event management system (DEA-EMS) (also look at http://www.dea.com/) build by the company Dean Evans & Associates is accessed using their SOAP interface as WizePanel-Adapter (testet with API Version 1.1.15).

Default placeholders, except DESCRIPTION, are supported.

Configuration

The configuration requires the server address, a username and a password. The connection to the server is established and the list of available rooms is retrieved. Rooms with WizePanels must be selected.

```
http://SERVER/service.asmx
```

If you are not sure, try the address in a web browser. It should display some weird treelike output.

Maximum number of rooms is limited by the number of licenses.

This adapter allows you to specify an alternative event title for private events.

5.10 aSc TimeTables

The schedule management system for schools aSc timetables created by the company Applied Software Consultants (also look at http://www.asctimetables.com/) can be connected very easily as a WizePanel adapter.

Configuration

Specify the address of the dailyplan. It should look like this:

https://SERVER/connect_dailyplan.php?cmd=getdailyplan&date=2012-07-1

Default placeholders, except DESCRIPTION, are supported.

5.11 WizePanel Universal Protocol Interface (UPI)

Additional to the manual capabilities of the WizePanel-Studio application and the automatic capabilities of the different WizePanel-Adapter the WizePanel-Displays may be addressed by a third, lowlevel interface – the WizePanel Universal Protocol Interface (UPI).
The WizePanel Universal Protocol Interface (UPI) is a REST based service and therefore based on a stateless client-server-protocol. It allows e.g. to:

- list all available WizePanel-Dispatchers
- list all available WizePanel-Displays
- create routing tables (Dispatcher → Display)
- send images to dedicated WizePanel-Displays

Since the WizePanel Universal Protocol Interface (UPI) does not communicate with the WizePanel-Studio application, your application must bring its own graphical user interface (GUI) to control the hardware.

To get a detailled description of the WizePanel Universal Protocol Interface (UPI), you first have to sign the WizePanel Trusted Software Partner Agreement. Please contact us to get your copy.

5.12 Self-Signed Certificates

Self-signed certificates must be imported into the Java key store.

Important: You will have to repeat this step after each Java update.

5.12.1 Symptoms

If Java is not able to verify a certificate it will display the following warning:

javax.net.ssl.SSLHandshakeException: sun.security.validator.ValidatorException: PKIX path building failed: sun.security.provider.certpath.SunCertPathBuilderException: unable to find valid certification path to requested target

at com.sun.mail.imap.IMAPStore.protocolConnect(IMAPStore.java:441)

at javax.mail.Service.connect(Service.java:233)

at javax.mail.Service.connect(Service.java:134)

....

5.12.2 Export the certificate to a PEM-file

You need to export the certificate into a file using a web browser (Firefox e.g. can do this without any problems). Navigate to the server inside of your browser and let it display the certificate. Now export the certificate in the format X.509 (PEM) e.g. temporary to „c:\my.pem“. You can open the certificate file with a text editor. It should look like this:

-----BEGIN CERTIFICATE-----
MIICiTCCAfKgAwIBAgIBADANBgkqhkiG9w0BAQQFADB/MQswCQYDVQQGEwJBVTEM
MAoGA1UECBMDTlNXMQ8wDQYDVQQHEwZTeWRuZXkxEjAQBgNVBAoTCUF0bGFzc2lh
bjEaMBgGA1UEAxMRY3ZzLmF0bGFzc2lhbi5jb20xITAfBgkqhkiG9w0BCQEWEmlu
Zm9AYXRsYXNzaWFuLmNvbTAeFw0wNTA5MjMwNjUyNTNaFw0wNjA5MjMwNjUyNTNa
MH8xCzAJBgNVBAYTAkFVMQwwCgYDVQQIEwNOU1cxDzANBgNVBAcTBlN5ZG5leTES
MBAGA1UEChMJQXRsYXNzaWFuMRowGAYDVQQDExFjdnMuYXRsYXNzaWFuLmNvbTEh
MB8GCSqGSIb3DQEJARYSaW5mb0BhdGxhc3NpYW4uY29tMIGfMA0GCSqGSIb3DQEB
AQUAA4GNADCBiQKBgQDhwAgx/gDgKe9tBjUCj7JtVkwQSzj2Dq0PHiJu1AWUYWFW
ivbBWaWSYbt/w9vIRSL8OlGVOLnlFOH5o7QlpIBZvd3xBMv6DxMijM86/hu8QTPt
KcMuqBTGpu1T846SzNncj883wSE1hXxezCgEFCsqyC7dVX4l0Ay6zgzkt2wc3QID
AQABoxUwEzARBglghkgBhvhCAQEEBAMCBkAwDQYJKoZIhvcNAQEEBQADgYEAJOgg
O4brCcQa3IgONo8UmLcHo6Rq+Py6ZA3ueUegy/uyQ358JUeL4kktXuYL9gAPCuMc
hsC1iyaOrWY/S9S67w2ZWqc+uYX9ophFHkxK1r3YiaiMpEzMyB12VWSrOITcR0LV
7NTWfxfPLUpkDbj+Mw/66QJkl0lqBvcKn3KXI74=
-----END CERTIFICATE-----

5.12.3 Import the PEM-file to Java

Start the windows console tool cmd.exe as administrator. To achieve this click the windows buttons in following order, first [Windows Start], then [all programs], then [utilities]. Now select the command shell and click with the right mouse button [Run as Administrator...].

Go to your Java installation directory. Your directories may be different.

```
cd c:\
cd Program Files
cd Java
cd jre7
cd lib
cd security
```

Once you arrived you need to run the Java keytool command with the exported certificate file as parameter.

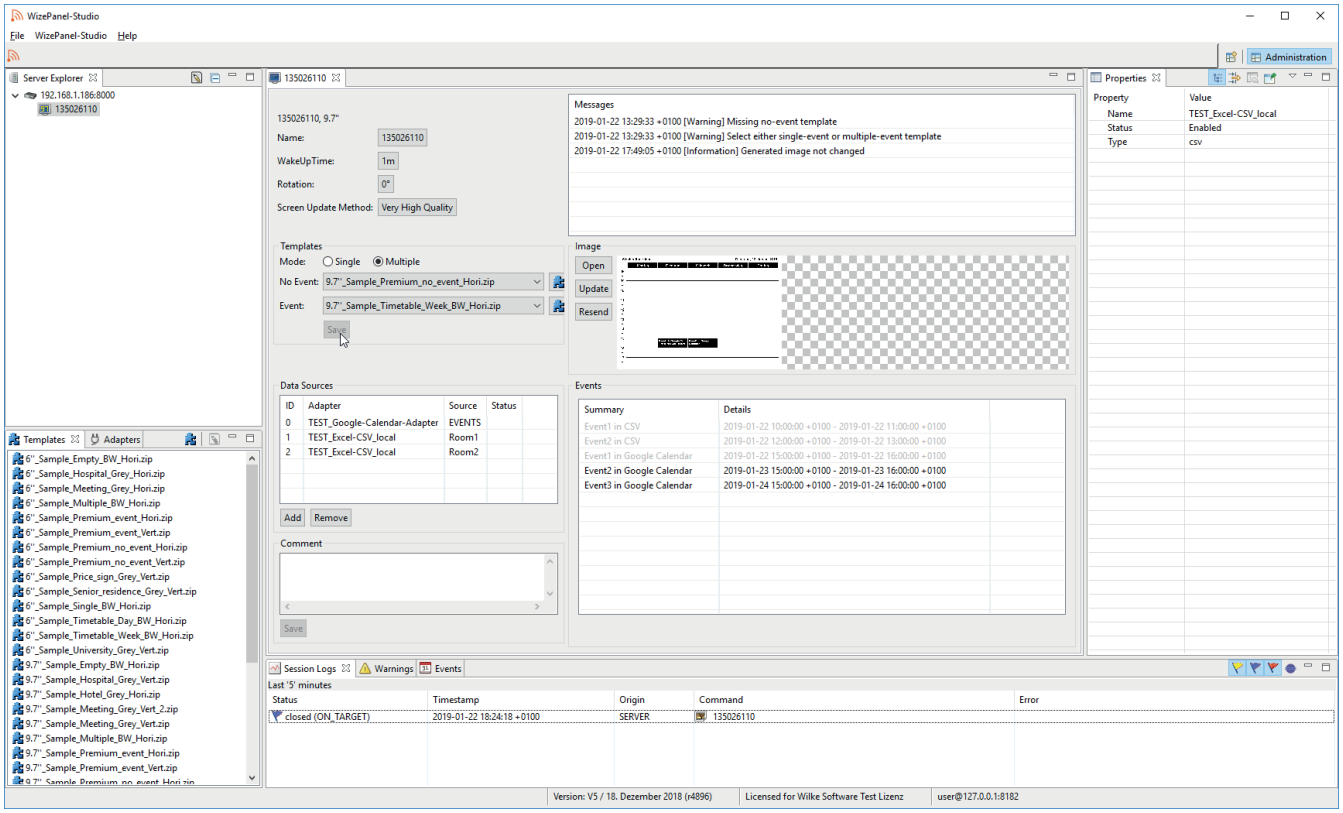
Important: The „keytool“ command will ask you for a password. This password is „changeit“ by default.

```
..\..\bin\keytool -import -keystore cacerts -file c:\my.pem -alias my-domain
```

This command assumes that your certificate is saved in „c:\my.pem“. Alias is a memorable shortcut for the certificate. It can be used to remove certificates from the key store. After import the applications have to be restarted.

6 Configuration of a WizePanel

After adding WizePanel-Hardware using the WizePanel-Software the next step is to assign templates and adapters to the WizePanels.



First select the WizePanel in the Server Explorer by doubleclick, then select templates for it to show depending on the status of the actual and upcoming events. Confirm with the Save button.

The chosen Event Template will always be shown if there is an event taking place at the moment or – given that Multiple Mode is enabled – when the system has an upcoming event in its Range.

Single Mode on the other hand would also display the Event Template when an event is ongoing but it will always display the No Event Template when there is no event at the moment. Upcoming events will be disregarded for the switch between Event Template and No Event Template.

Single Mode vs Multiple Mode:

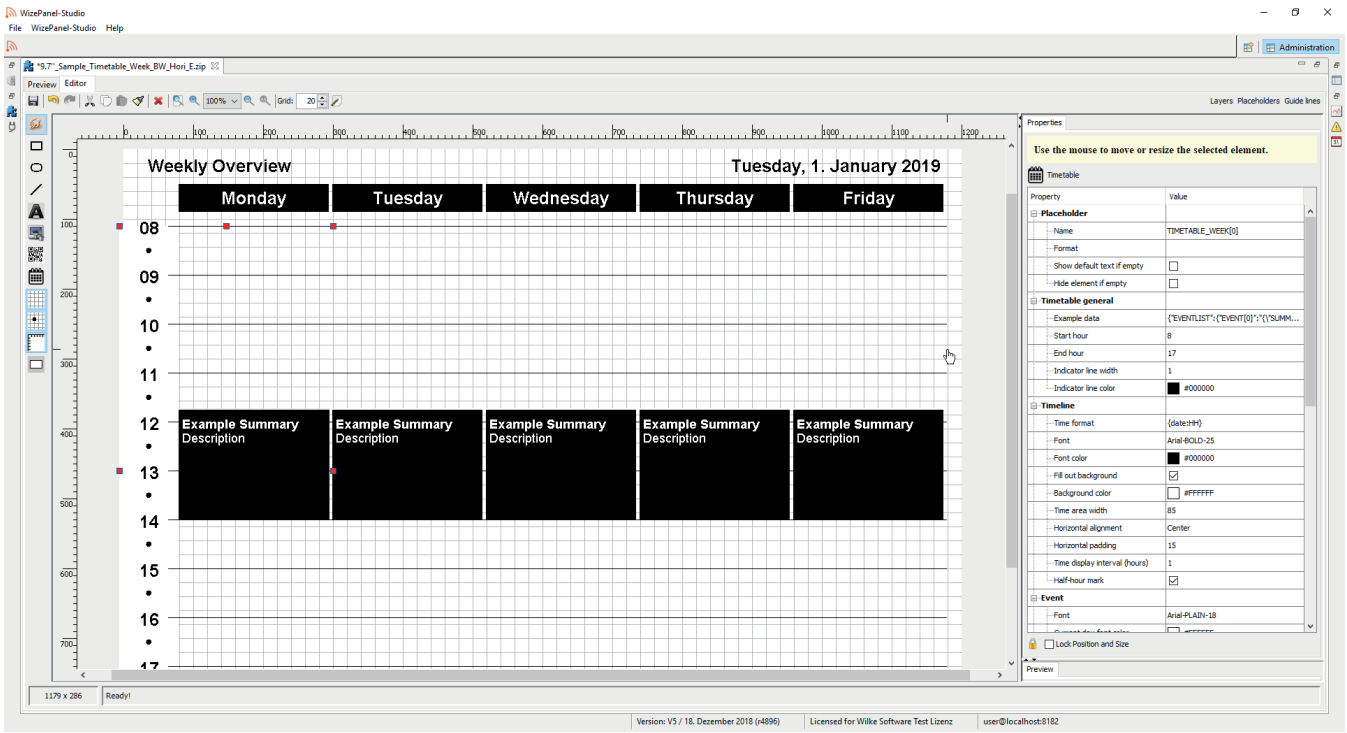
	no current event no future event	no current event future event	current event
Mode: Single	No Event Template	No Event Template	Event Template
Mode: Multiple	No Event Template	Event Template	Event Template

The next step is to add Data Sources which are provided through the WizePanel-Adapters.

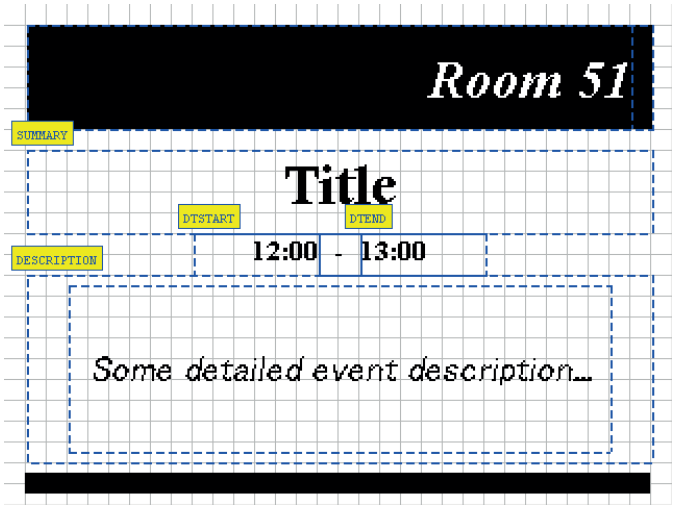
Note how the ID of the source depends on the order in which they were added.
If configured correctly the Events widget will show current events inred, tuture in black and grayed out ones from the past.

7 Editor - Templates and Placeholders

WizePanel-Studio includes an editor for creating new templates. It comes with some samples which are ready to use, like the day- and week -timetable templates. Using the editor, those can be modified:



Let us look at the basic template below. We recognize information fields by a blue pointed frame. Some of the information fields additionally have names, marked by a yellow box. In the given example the named information fields are SUMMARY, DTSTART, DTEND and DESCRIPTION. The names are also called placeholders and are filled in with the appropriate content whenever a image for a WizePanel-Display is created. The fields „Room 51“ and „-“ don’t have a name and therefore will not be changed.



We now assume, that any external data source created an event by an active adapter. The event contains a mandatory start time of 4 p.m. and a end time of 5 p.m. The event summary is called „WizePanel Meeting“ and we get the additional description to bring our own chair. The generated image may look like this:

Of course it is also possible to combine multiple events in one template. To achieve this, placeholders can be extended by a prefix and a suffix. The prefix determines the source of events while the suffix selects events by order of succession. Source and placeholder are separated by “ # ” and the order is specified in “ [ ] “.

0..n#DTSTART**[0..n]**

Source 0 is the first that has been added to a WizePanel, Source 1 would be the second etc. .

Order 0 referrs to the event taking place at the moment, order 1 is the upcoming event from the same source.

7.1 List of actual placeholders:

DTSTART[0..n]	Start time of an event
DTEND[0..n]	End time of an event
SUMMARY[0..n]	Summary or title of an event
DESCRIPTION[0..n]	Detailled description of an event
LOCATION[0..n]	Location of the event
CREATOR[0..n]	Hint to the creator of the event
DATETIME[0..n]	Contains start and stop time. Therefor this placeholder must contain two date formatters. Default: {date:HH:mm} – {date:HH:mm}
TARGET_NAME	Name of the WizePanel Display
FREE_UNTIL	If there is no crrent event, this value is set to the next expected event.
TARGET_COMMENT	comment dive in WizePanel Configuraton
TARGET_COMMENT1 TARGET_COMMENT2 TARGET_COMMENT...	comment (line 1) comment (line 2) comment (line...)

Customer specific placeholders may be created in the same style.
Some placeholders may be formatted with templates. Right now only date and time formatting is supported.
The formatting string always looks like this: “text {format pattern} text”.
Here a list of typical usages:

Formatting pattern	Output
date:HH:mm	12:50
date:dd.MM.yyyy	29.06.2013
date:dd.MM.	29.06.
date:dd.MM.yyyy HH:mm	29.06.2013 12:50
date:d. MMMMM	29. May
date:d. MMMMM yyyy	29. May 2013
date:EEE.	Sun.

Further time formatting (the time zone of the server is used, if no other is specifiedin the used Dispatcher):

Formatting pattern	Output	Comment
yyyy-MM-dd HH:mm:ss Z	2013-06-29 12:50:00 CEST	Zulu Time
dd.MM.yyyy HH:mm	29.06.2013 12:50	
yyyy-MM-dd HH:mm:ss	2013-06-29 12:50:00	
yyyy-MM-dd HH:mm	2013-06-29 12:50	
yyyyMMdd‘T‘HHmmss‘Z‘	20130629T125000Z	Zulu Time
yyyyMMdd‘T‘HHmmss	20130629T125000	
yyyy-MM-dd‘T‘HH:mm:ss	2013-06-29T12:50:00	

Also look at https://docs.oracle.com/javase/7/docs/api/java/text/SimpleDateFormat.html for a complete list of formatting templates.

8 History

Revision	Datum	Author	Beschreibung
183	25.03.14	ulrra	unreleased->preliminary
197	04.04.14	ulrra/udoko	1. revision
199	08.04.14	ulrra/udoko	2. revision
202	14.11.17	ThoWi	1. release
205	04.09.18	TobEs	UDP Unicast
207	xx.0x.19	AlwBo	Overhaul
211	xx.03.19	DiaBl	Overhaul
216	02.11.20	ZorKa	New chapter added: “MS Exchange 365 (Graph)“. Chapter 4.1.5 removed. Minor corrections (Chapter 3.4/3.5/5)
217	14.01.21	ZorKa	New Chapter added: “5.8 WebUntis (HTTP/JSON)“