Control*mini*

User manual

Product	Item number
Controlmini	PNX12-10001

This user manual contains the most important information for operating the Controlmini in a safe manner. Please study this manual carefully before working with the device. This applies to all persons who come into contact with the device.

Warning symbols and signal words used in this manual

⚠️ **Warning**	Obey warning to avoid death or serious injury
⚠️ **Caution**	Obey instructions to avoid personal injury or damage to property
❶ *Note*	Instructions and facts to be followed
ⓘ *Tip*	Additional, useful hints

Important safety instructions, please read before installation!

⚠️ **Warning**
The device can carry dangerous voltages if improperly installed!
▪ Installation and commissioning may only be carried out by specially trained personnel (qualified electricians).

⚠️ **Caution**
Avoid damage to the panel!
▪ Only use the panel in perfect condition, as well as in accordance with its intended use, in a way that is safe and aware of the hazards and in compliance with this manual!
▪ Do not make any changes, attachments or conversions to the device without the manufacturer's permission!
▪ In particular, have faults that could impair safety immediately eliminated!

Table of Contents

1 Target audience

These instructions are intended to explain basic aspects of the installation, commissioning, operation and maintenance of the Controlmini. Depending on the use phase, this manual is aimed at other target groups:

Commissioning
▪ Installation and commissioning may only be carried out by qualified electricians and system integrators. Basic knowledge of electrical and KNX installation is assumed.

Operation
▪ The operation of the commissioned panel is explained for unskilled users.

Repair
▪ Under no circumstances carry out repairs to the unit yourself! If damage should occur to the device, please contact our technical support immediately, see *9.3 Technical support*.

2 Intended use

Depending on the software used, the Controlmini serves as control unit for the entire KNX installation across rooms. It thus also serves as a status display. The device must be operated within the scope of the technical data and instructions given in this manual. Keep the device away from moisture, dirt and dust to prevent damage to the device.

The following applications belong to the intended use:
▪ Use as an operating panel (input via touch) for KNX-controlled devices
▪ Intercom station for compatible door stations
    – A list of all compatible door stations can be found in our FAQ:
      www.peaknx.com/en/FAQ under the topic "compatibility".
▪ Indoor operation, note the ambient conditions, see *10 Technical data*

The following applications are **not** part of the intended use:
▪ Operation in systems requiring special monitoring, in safety-relevant areas or in hazardous areas
▪ Operation under ambient conditions that do not comply with the specifications regarding temperature and air humidity. These include
    – Outdoor operation
    – Operation under direct sunlight
    – Operation in environments with high dust and dirt exposure
    – Operation in environments with high vibration exposure
▪ Operation in a moving environment (e.g., mobile homes)
▪ Operation in vessels

▪ Operation of the device by small children
▪ Unauthorized repairs or changes to the device

3 Product description

The Controlmini (short: panel) is a high-quality panel computer for wall mounting. It serves as a display and control unit for the KNX controlled components and installations of a building.

3.1 Software
The panel can be operated both with the supplied YOUVI software and with other Windows-compatible software.

❶ *Note: PEAKnx provides no service and no warranty for software products from other companies as well as in case of OS driver updates.*

3.1.1 Operating system
The operating system used is Microsoft Windows 10 IoT Enterprise LTSC. All components required for the unit to function have been pre-installed. To activate functions such as write protection, the preinstalled Tectool can be used. Further instructions and drivers can be downloaded from *www.peaknx.com* in the download area. Other programs for the visualization of building information and for building control can be installed later.

3.1.2 Operation with the PEAKnx software YOUVI
The YOUVI Basic visualization software included in the scope of delivery is used to control KNX devices such as sockets, switches, lights, dimmers, RGB lights, heaters, blinds, and shutters. Thanks to the IP router included in the software package, the panel can run YOUVI's visualization without an external server or additional bus coupler. Only the connection to the IP network and the KNX bus (via the integrated KNX connection on the panel) is necessary. In addition to visualization and IP router, a bus monitor is also included in the scope of delivery, which can record and filter the KNX traffic.
In addition to the basic functions for controlling KNX devices, YOUVI can be extended via modules for IP camera connection, creation of logics, control via app on the road or voice control. All current modules are available in the shop at *www.peaknx.com > Shop > Software > YOUVI.*

❶ *Note: For the YOUVI installation, please pay special attention to the YOUVI quick reference guide and the information on KNX project preparation to enable the automatic reading of the project. This quick reference guide is included in the delivery.*

3 Product description

For more information about YOUVI, see the YOUVI Help which you can access in YOUVI under the "?"-icon. Here, you will also find the current **range of functions** of the software under: *Visualization > Scope of functions*.

3.1.3 Operation with third-party software
The Windows 10 LTSC operating system pre-installed on the panel allows the use of other Windows-based software for e.g., visualizations and door intercoms. Depending on the software used, the functional scope of the panel can be expanded considerably. A list of compatible software can be found in the FAQs:
www.peaknx.com/en/FAQ, topic "compatibility".

Further instructions such as for setting up the panel as a door station can be found in the download area: *https://www.peaknx.com/de/downloads*.

3.2 Product features
▪ LED Backlit full color TFT display, 1920 x 1080 pixels
▪ Touchscreen, projected capacitive (PCAP)
▪ Integrated speakers and microphone
▪ Integrated camera
▪ Fieldbus connection for KNX
▪ 100 Mbit-Ethernet connection, suitable standard for cabling: Cat-5 or better
▪ Operating system: Windows 10 IoT Enterprise LTSC
▪ No fan, thus silent
▪ 24 V DC supply; 2,5 A
▪ Maximum power consumption under full load: 15 W
▪ Power consumption, no load: 10 W, Server operation without LCD: 5W
▪ Ambient temperature 0 to 35 °C
▪ flush-mounted or surface-mounted wall installation, in landscape orientation, parallel to the wall
▪ Protection class IP20

3.3 Device components I: Flush-mounted version
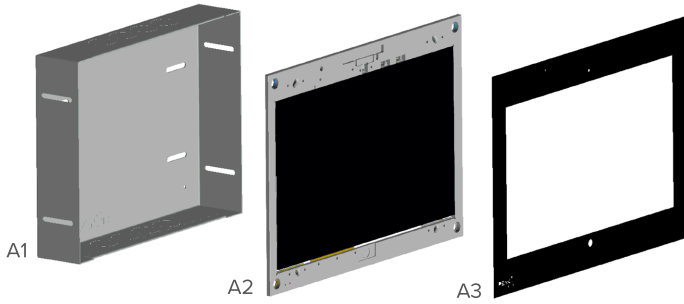
Position	Description
A1	Flush-mounted box
A2	Panel with touchscreen
A3	Glass cover

3.4 Device components II: Wall-mounted version
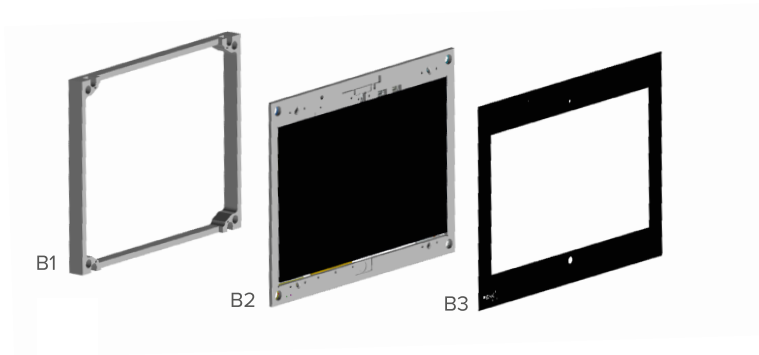
Position	Description
B1	Wall-mounted frame
B2	Panel with touchscreen
B3	Glass cover

3.5 Touch panel, front view
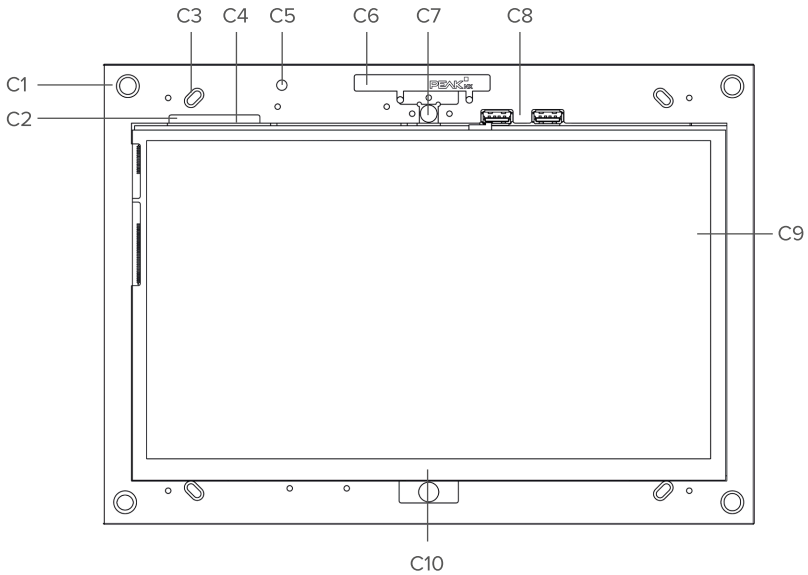
Position	Description
C1	4 x Intake for glass cover
C2	On/Off button
C3	4 x screw holes for fixing the panel
C4	Volume up/down button
C5	Microphone
C6	WLAN antenna
C7	Camera
C8	2 x USB 2.0
C9	Touchscreen
C10	Windows Homebutton

3.6 Touch panel, rear view
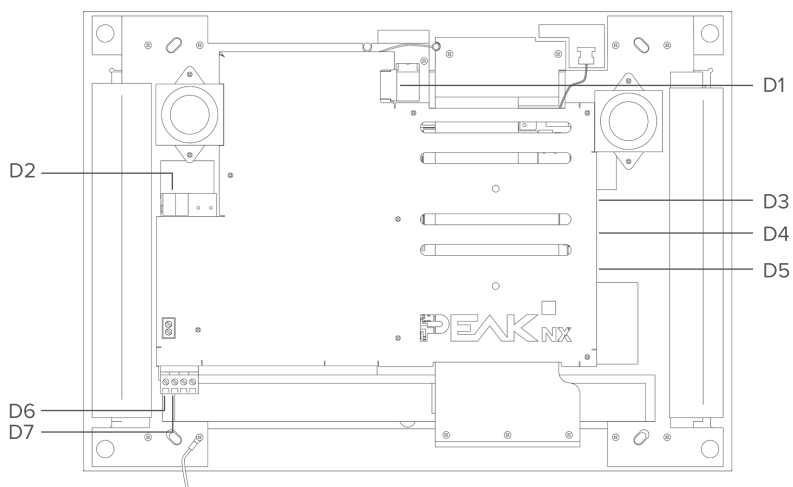
Position	Description
D1	100 Mbit Ethernet port
D2	KNX-Wago 243-211 installation terminal
D3	Mini HDMI
D4	Micro SD slot
D5	USB 3.2 Gen1
D6	Panel power supply: 24 V DC
D7	Panel power supply: GND

3.7 Notes on the panel's ports

3.7.1 KNX terminal
A terminal of the following specification is used for the KNX connection:
KNX WAGO 243 211, conductor diameter: 0.6 - 0.8 mm.

❶ *Note: The KNX fieldbus can only be used with PEAKnx software.*

3.7.2 Power supply
The plug-in terminal for the voltage supply is designed for a conductor cross-section (rigid) from 0.14 mm^2 to 1.5 mm^2. The conductor cross-section (flexible) with wire end ferrule without plastic sleeve must be in the range of 0.25 mm^2 to 1.5 mm^2.

3.7.3 Ethernet port

❶ *Note: A cable of category CAT5e is recommended for using the 100 Mbit LAN connection.*

3.7.4 Connections for external mouse and keyboard
To connect additional controls to the panel, such as an external mouse or keyboard, a USB port is available at the back of the panel. There are two additional USB ports on the panel front under the glass cover, for example to use a USB adapter for a wireless keyboard and mouse, or to transfer data onto the panel.

⚠ **Caution**

Avoid overheating of important panel components!
- ▪ Avoid prolonged use of power-intensive devices on the USB port

3.8 Controls

⚠ **Caution**

Avoid danger of injury from falling parts!
- ▪ Ensure that small children do not have access to the magnetically adhering front glass and can't accidentally loosen it.

3.8.1 Graphical user interface
Touch the panel to operate. A brief touch of the panel is interpreted as a mouse click. A right

mouse click is obtained by a prolonged touch (approx. 3 seconds).

Text entries can be made using the Windows on-screen keyboard. This can be found in the task bar at the bottom right. If you swipe from the right side of the screen, you can also switch to tablet mode in the menu that appears so that the keyboard appears automatically when you type in a text box.

⚠️ **Caution**

Avoid damage to front glass and display!

- Do not use the touch screen with sharp or pointed objects.

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4 Delivery

- Controlmini panel
- USB flash drive: YOUVI Basic software package, Controlmini user manual
- Brief instructions for commissioning the panel and software
- Network connector
- Network patch cable

Optionally included in scope of delivery:
- Glass cover
- Flush-mounted box or surface-mounted frame
- Recovery USB Flash Drive
- Controlmini power supply unit for the switch cabinet (recommended) or flush-mounted box

5 Important safety and handling information

⚠ Warning
The panel may only be installed and commissioned by qualified electricians!

⚠ Warning

Observe the national regulations applicable in your country regarding installation, functional testing, repair, and maintenance of electrical products!
 	
▪ Observe the "Five Safety Rules" (DIN VDE 0105, EN 50110) and apply them correctly:
  – Disconnect mains
  – Prevent reconnection
  – Test for absence of harmful voltages
  – Ground and short circuit
  – Cover or close off nearby live parts
▪ Before installation, make sure that all connecting cables of the device are undamaged.

⚠ Caution
Avoid overheating of important panel components! ▪ The panel may only be installed in landscape format and parallel to the wall to ensure ventilation of the computer in the panel by convection.

6 Installation and start-up

The Controlmini can be mounted to the wall both flush (flush-mounted box PNX12-10004) and surface-mounted (surface-mounted frame PNX12-10005). Furthermore, it is possible to mount the Controlmini with a suitable adapter frame on various flush-mounted boxes of other manufacturers.

Further instructions for mounting the surface-mounted version or fixing with the help of adapters are supplied with the respective surface-mounted frame or adapter.

6.1 Preparation

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❶ Note: *We recommend hedging the panel, since in rare cases the panel must be taken completely from the power supply, see section 9.1.2 Disconnecting the panel from the power supply*

Necessary accessories for the installation of the panel:
- Flush-mounted box (PNX12-10004) or surface-mounted frame (PNX12-10005)
- Glass cover
- Power supply unit 24 V DC for DIN rail (PNX12-10010) (recommended)

or
- Power supply unit 24 V DC for the flush-mounted box (PNX12-10011)

6.2 Flush-mounted installation

ⓘ Tip: *Choose the installation height of the panel according to the height of the primary user so that the top edge of the panel is at his/her eye level. A slightly lower screen prevents fatigue of the arms during operation.*

6.2.1 Installation in brickwork
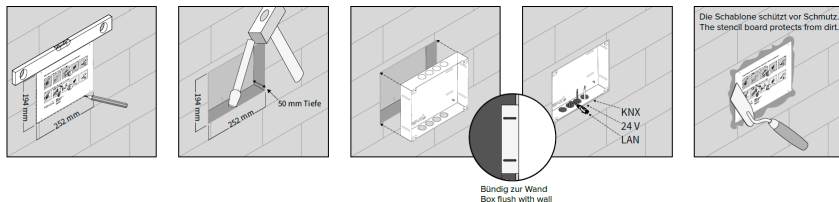
1. Make a recess of H x W x D: 194 x 252 x 50 mm in the wall. Therefore, use the template provided. The flush-mounted box must later be flush with the wall.
2. Depending on the cable position, press the circular plates at the top or bottom out of the box and insert the supplied self-sealing grommets to prevent damage to the cable.
3. When inserting the flush-mounted box, route the supply and communication cables (Ethernet, KNX) through different holes in the flush-mounted box to avoid possible interference.
4. Use the template as a splash guard during the filling of the edges.

6.2.2 Installation in a cavity wall

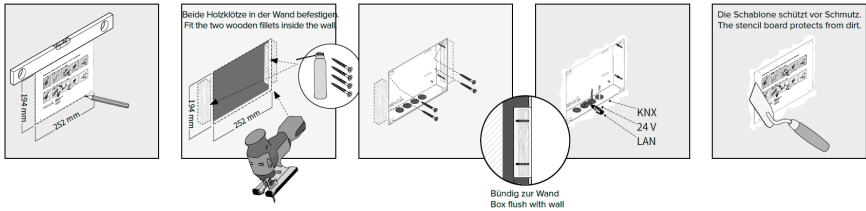1. Make a recess of H x W: 194 x 252 mm in the wall. Therefore, use the template supplied. The flush-mounted box must later be flush with the wall.
2. Glue or screw the two wooden blocks supplied into the cavity wall.
3. Depending on the cable position, press the circular plates at the top or bottom out of the box and insert the supplied self-sealing grommets to prevent damage to the cable.
4. When inserting the flush-mounted box, route the supply and communication cables (Ethernet, KNX) through different holes in the flush-mounted box to avoid possible interference.
5. Screw the flush-mounted box on the sides to the wooden blocks using the four screws.
6. Use the template as a splash guard during the filling of the edges.

6.3 Connecting the power supply

⚠ **Warning**

Avoid electric shock when touching live parts!
- Disconnect all associated circuit breakers before working on the device.
- Cover live parts in the surroundings.

6.3.1 Prepare the voltage source for the DIN rail (recommended)
- Use a power source of the following specification:
    - 24 V DC, 2,5 A for the control cabinet, Item number: PNX12-10010
- Connect the cable wires of the power supply unit with the pluggable screw terminal included in the scope of delivery. Please pay attention to the polarity.

6.3.2 Using a power supply unit in the flush-mounted box
Particularly, when replacing a foreign device with the Controlmini, a power supply is often already present in the flush-mounted box. This means that mains voltage and low voltage are in the same housing and if connected incorrectly, even parts that normally only carry low voltage unintentionally carry mains voltage.

⚠️ **Warning**

Avoid touching dangerous voltages in the event of a fault!

- Installation may only be carried out by qualified electricians!
- Check that there is no voltage before starting work!
- Route cables so that low voltage wires are dependably protected against mains voltage.

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1. Place the power supply unit (PNX12-10011) in the flush-mounted box.
2. Connect the 24 V side of the power supply unit with the plug-in screw terminal included in the scope of delivery. Please pay attention to the polarity.
3. Connect the mains cable to the 230 V side of the power supply unit.

4. **Grounding**
   - When using a power supply unit in the **flush-mounted box of the Controlmini:**
   - Connect the grounding in the flush-mounted box. Use the supplied grounding set:
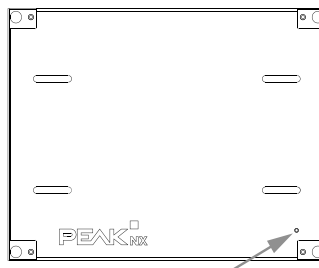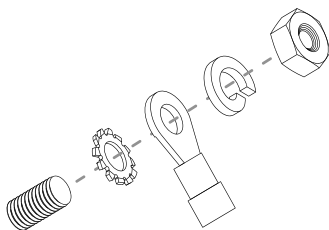
– When using a power supply unit in a **third-party flush-mounted box:**
– Connect the earthing to the panel. Use the earthing set provided for this purpose:
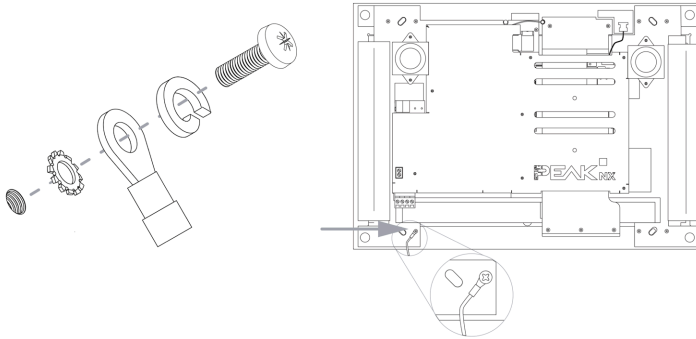
6.4 Connecting and mounting the panel

Preparation
▪ Place the screws (M3x12) included in the scope of delivery within reach for fixing the panel within the flush-mounted box.
▪ For further notes on the panel's ports, please read section *3.4 Device components II: Wall-mounted version*

Connection of the panel
5. Connect the Ethernet cable to the panel (D1).
6. Plug the KNX cable with the colors red (+) and black (-) into the KNX-terminal (D2), as indicated on the panel.
7. Push the prepared 24 V connector terminals into the appropriate connectors in the panel (D6 and D7). Pay attention to the polarity.
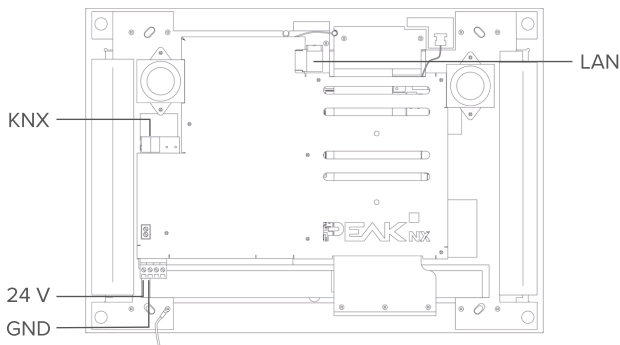
Fastening the panel

8. Install the panel in the flush-mounted box. Therefore, use the four countersunk screws (M3x12) for fixing it in the corresponding holes (C3).

9. Place the glass cover with the magnetic holders into the four intakes (C1) provided and continue until the glass rests against all four corners of the touch screen.

10. Ensure that the opening for the camera is positioned on the upper screen.
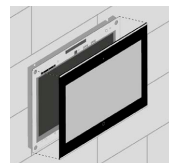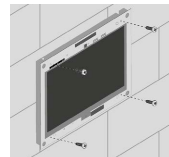
7 Initial commissioning and operation

⚠️ **Caution**
Avoid damage to the panel due to early commissioning!
▪ Note the climatic conditions at the installation site!
▪ Before switching on the mounted device, the device must have adapted to the climatic conditions at the installation site.
▪ Temperature and humidity differences can cause damage to the unit.

ⓘ *Tip: After commissioning and setting up the panel, we recommend that you create a backup using the optionally available recovery USB flash drive from PEAKnx. Further instructions can be found in the corresponding Quick Start Guide.*

⚠️ **Caution**
Avoid damage to the glass cover and display! ▪ The touch-sensitive surface can easily be damaged! Use only your fingers or a touchpen to operate the panel. Do not use sharp or pointed objects.

7.1 Switching the Controlmini on and off

❶ *Note: In the delivery state, the panel automatically logs on with the user name Controlmini without a password. After the Login, additional users can be added at any time or further settings may be changed in the Windows Settings.*

Switching On
▪ Remove the glass cover: To do so, use both hands to take the glass cover on both sides and carefully pull the glass cover away from the panel towards yourself (magnetic mount).
▪ The On/Off-Button is now accessible (C2).
▪ Press the On/Off-Button to switch on. The operating system will boot.

Switching Off
▪ Tap the Windows logo on the Windows Start screen, select the On/Off icon and select the option "Shut down".

❶ *Note: In normal operating conditions, it is not necessary to switch off the Controlmini.*

7.2 Activate keyboard input

To automatically display the keyboard when tapping on a text input field, do the following:
▪ Swipe into the screen from the right and select "All settings".
▪ Select "Devices" > "Typing".
▪ Under "Touch keyboard", check the last item: "Show the touch keyboard when not in tablet mode and there's no keyboard attached."

To display the keyboard icon in the taskbar:
▪ Right-click on the taskbar and select "Show touch keyboard button".

7.3 Setting up the visualization

After commissioning, set up the visualization as described in the enclosed quick reference guide. It is assumed that all KNX actuators have already been parameterized via the ETS. The corresponding KNX project is then uploaded to *YOUVI Configuration > Projects*. At the end of the process make a backup of your configured visualization.

❶ *Note: For YOUVI installation, please pay special attention to the YOUVI quick reference guide and the information about KNX project preparation to enable the automatic import of the project. The quick reference guide is part of the delivery.*

8 Maintenance

8.1 Cleaning the touchscreen
By cleaning the touch surface, you prevent fingerprints or dust from impairing the touch function.

⚠️ **Caution**
Avoid damage to the glass cover and display! ▪ Do not use harsh detergents, scouring agent, acids or organic solvents. Do not use any sharp objects for cleaning. ▪ Do not let any moisture get into the unit. Do not spray cleaning agents directly onto the surface of the touchscreen.

Removing the glass cover
▪ Use both hands to take the glass cover on both sides.
▪ Carefully pull the glass cover away from the panel towards yourself.

Switching on the cleaning mode
If you are using the supplied YOUVI visualization, switch on the cleaning mode for cleaning. Therefore, proceed as follows:
▪ In the YOUVI visualization, switch to the settings.
▪ Tap on "Activate cleaning mode" in the upper left corner.
  Now, active elements are deactivated for 20 seconds to prevent you from accidentally changing device values during cleaning.

Cleaning the touchscreen and the glass cover
▪ Clean the touchscreen with glass cleaner or one of the supplied cleaning cloths.
  More cleaning cloths are available in the PEAKnx Shop.

 Attaching the glass cover
▪ Place the glass cover with the magnetic mounts over the four intakes provided and lower the glass until it lies flat on all four corners of the touchscreen.
▪ Ensure that the hole for the camera is positioned on the upper screen.

9 Troubleshooting

If you have problems with the Controlmini, please do not carry out repairs yourself, but contact your distributor. Opening the unit invalidates the warranty.

9.1 Touch panel stops responding
If the Controlmini no longer reacts to input on the touchscreen (which may occur in rare cases following Windows updates), try to reboot the panel, see chapter *9.1.1 Turning the panel off and back on*. If the problem persists, disconnect the panel from the power supply, as shown in *9.1.2 Disconnecting the panel from the power supply*, and restart it. IIf this does not solve the problem, please contact our technical support, see *9.3 Technical support*.

9.1.1 Turning the panel off and back on
If the operating system cannot be shut down, the panel must be turned off manually and a reboot must be forced.

❶ *Note: Any data that has not been saved might be lost when forcing a restart.*

Forced restart
▪ Press and hold the On/Off button (C2) for more than 5 seconds.
 The panel switches off.
 After shutting down, leave the panel switched off for 10 seconds.
▪ Switch on the panel by pressing the On/Off button (C2) again.

9.1.2 Disconnecting the panel from the power supply
If the problem cannot be solved by restarting the panel, you must disconnect the panel from the power supply.
▪ Disconnect the circuit breaker of the panel in the building's control cabinet for at least one minute.

9.2 Windows has unrecoverable problems
If the Windows user interface shows unrecoverable problems, the operating system can be reset to factory settings.

❶ *Note: The restore process may take up to 30 minutes. During this time, the panel cannot be used for building control.*

Each Controlmini is provided with an image for restoring the software to the state of delivery. To restore the panel to this state, proceed as follows:

❶ *Note: It is recommended to create a backup of the YOUVI server in YOUVI Configuration > General > General and a backup in the YOUVI Visualization > YOUVI Settings before restoring*

the factory state. Save the backup to a separate storage medium.

- Type "Recovery" in the Windows search box and select the "Recovery Options".
- Select the button "Restart Now" under "Advanced Startup".
- You will be redirected to the Advanced Startup menu.
- Select "Troubleshoot".
- Select "PEAKnx Factory Reset".
- The factory state will be restored.

9.3 Technical support
If you experience problems with your Controlmini, please contact our PEAKnx Support Team:
  – Mail: support@peaknx.com
  – Create a Support Ticket: support.peaknx.com
  – Phone: +49-6151-279 1825

10 Technical data

Supply	
Power supply specification	24 V DC; 2.5 A
Connection terminal, conductor cross section	rigid: 0.14 mm^2 - 1.5 mm^2 flexible with wire end ferrule without plastic sleeve: 0.25 mm^2 - 1.5 mm^2
Power consumption	Operation (Idle): 10 W Operation (Full load): 15 W Server operation without LCD: 5 W

Computer system	
Processor	Intel Quad-Core, fanless cooling by convection
Memory (RAM)	4 GB
Hard drive	64 GB eMMC, expandable by microSD
Operating system	Microsoft Windows 10 IoT Enterprise LTSC

Ports	
USB	2 x USB 2.0 (Front) 1 x USB 3.2 Gen1

Ports	
Ethernet	100 Mbit Ethernet port, suitable standard for cabling: CAT5e
External screen	1 x Mini HDMI
Fieldbus	KNX
Supply	24 V DC GND

Display	
Type	LED Backlit full color TFT display
Size (diagonal)	11.6 inch
Resolution	1920 x 1080 pixels
Touch technology	Projected-capacitive touch (PCAP)

Periphery	
Speakers	Broadband, stereo
Microphone	Room characteristics
Webcam	HD quality
WLAN	WiFi 2,4GHz IEEE 802.11b/g/n
Bluetooth	4.0

Dimensions and weight	
Computer with panel	297 x 210 x 22.5 mm
Glass cover	297 x 210 x 0.7 mm
Computer with panel	1720 g
Glass cover	116 g

Environment	
Ambient temperature	0 bis +35 °C

Environment	
Temperature for storage and transport	-20 bis +60 °C
Protection class (DIN EN 60529)	IP20
Applied standards and directives	
- DIN EN 55024; DIN EN 61000-4-3, DIN EN 55011; DIN EN 300 328 V2.1.1 - EU directives 2011/65/EU + 2015/863/EU (RoHS 2)	

Subject to change without notice

Content changes in this documentation, which serve the technical progress, are made without prior notice. This documentation has been prepared with great care and will be revised at regular intervals. Nevertheless, we cannot guarantee complete accuracy. All known errors are eliminated in new editions. For any indication of errors in this documentation, we are always grateful.

Conformity

Conformity is confirmed by the attached CE label. The considered standards can be found in chapter *10 Technical data.*
The complete declaration of conformity can be found on the following page.

Disposal notes

Do not dispose the old device in the household waste!
Observe the EU Directive 2012/19/EU on environmentally friendly disposal of used electrical/ electronic equipment.

Waste of electrical and electronic equipment can
▪ contain hazardous substances that are harmful to health and the environment.
▪ contain valuable substances that are to be reused.

Therefore, do not dispose of with household waste.

Waste of electrical and electronic equipment can be returned to public collection points.
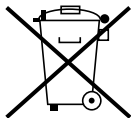
EU Declaration of Conformity

This declaration applies to the following product:

Product name: **Controlmini**

Item number(s): **PNX-002-A18-00017**

Manufacturer: DOGAWIST Investment GmbH
Otto-Roehm-Strasse 69
64293 Darmstadt
Germany

CE We declare under our sole responsibility that the mentioned product is in conformity with the following directives and the affiliated harmonized standards:

EU Directive 2011/65/EU (RoHS 2) + 2015/863/EU (amended list of restricted substances)
Electromagnetic Compatibility
• DIN EN 55024; VDE0878-24:2016-05
• DIN EN 61000-4-3:2011-04; VDE 0847-4-3:2011-04
• DIN EN 55011; VDE 0875-11:2018-05

RED
• DIN EN 300 328 V2.1.1

Darmstadt, 25 August 2020

Uwe Wilhelm, Managing Director

About PEAKnx

As a manufacturer of innovative hardware and software components, PEAKnx develops products for future-proof building automation. For example, individual front-end panels including visualization, which make all information of an intelligent building available at a central point. Great importance is attached to the longevity of the products and the qualitative interaction of design and functionality.

As the newest division of the PEAK group headquartered in Darmstadt, Germany, PEAKnx can draw from more than 25 years of experience in hardware and software development. Through a broad network of certified partners, PEAKnx also offers the associated services – from consulting to the installation and implementation of automation projects. The goal is to make home and building automation comfortable, cost-saving and future-proof through innovative solutions.