

## Wall-mounted sensors and room operator units for KNX PL-Link

QMX2.P33 / QMX2.P43

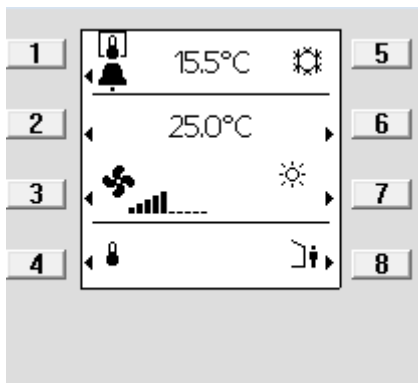


**Communicative sensors and room operator units with KNX PL-Link (for Desigo™ Total Room Automation).**

- Room temperature and humidity measurement (depending on types)
- LCD display of room temperature, operating modes, etc.
- Operation with 8 push buttons
- Interface KNX PL-Link (for TRA, with plug and play functionality)
- Powered over KNX PL-Link

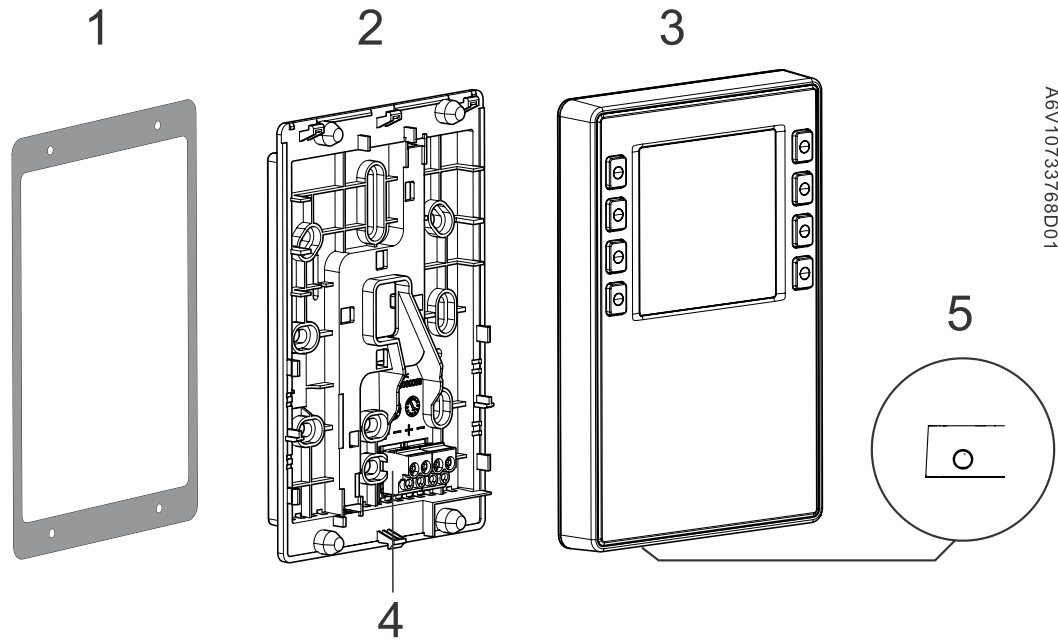
- Measure and display the room temperature and humidity (depending on types)
- Operate room functions such as fan control and room operating modes
- Indicate open windows, room air quality, outdoor temperature, and outdoor humidity

## Function of the display elements and push buttons



Elements	Functions
◀/▶	<ul style="list-style-type: none"> <li>• A visible arrow Indicates an operable element</li> </ul>
15.5 °C	<ul style="list-style-type: none"> <li>• Temperature display in °C or °F / humidity in % r.h. / air quality in text, symbol, or ppm of CO<sub>2</sub></li> </ul>
	<ul style="list-style-type: none"> <li>• Toggling (button 1) between indoor and outdoor measurement (temperature, humidity and CO<sub>2</sub>)</li> </ul>
	<ul style="list-style-type: none"> <li>• Indicates that a window is open (connected window contact is active)</li> </ul>
	<ul style="list-style-type: none"> <li>• Display of plant state (heating or cooling / inactive) Note: No manual switchover!</li> </ul>
25.0 °C	<ul style="list-style-type: none"> <li>• Display of relative or absolute setpoint for temperature</li> <li>• Adjust setpoint using buttons 2 and 6</li> </ul>
	<ul style="list-style-type: none"> <li>• Display of present fan speed (when automatic)</li> <li>• Adjust fan speed using button 3 (or buttons 3 and 7 if room operating mode operation is disabled)</li> </ul>
	<ul style="list-style-type: none"> <li>• Display of room operating modes (when automatic)</li> <li>• Adjust room operating mode using button 7</li> </ul>
	<ul style="list-style-type: none"> <li>• Navigation: Toggle display/setpoint setting between temperature/humidity/CO<sub>2</sub> using button 4</li> </ul>
	<ul style="list-style-type: none"> <li>• Operation of occupancy state (presence switch, Comfort extension)</li> <li>• Activate Comfort extension using button 8 (only available if enabled)</li> </ul>
	<ul style="list-style-type: none"> <li>• Engineering functions (press buttons 1 and 8 simultaneously for 5s) <ul style="list-style-type: none"> <li>- Programming mode (button 2), same function as programming pin (service pin) on the rear of device)</li> <li>- Connection test (button 3) (not supported by ETS and ACS)</li> <li>- Reset device to factory settings (button 4) Note: This operation is irreversible!</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>• Indicates that the room operator unit is locked by the system. <ul style="list-style-type: none"> <li>- Operation disabled</li> <li>- Display in line 1 shows the temperature from bus</li> </ul> </li> </ul>

## Mechanical design



1	Frame for panel mounting	4	KNX PL-Link bus connector
2	Base plate <ul style="list-style-type: none"> <li>With screw holes for all common conduit boxes in regions such as EU, UK, etc.</li> <li>With guide channels for wiring from center, up, or bottom</li> </ul>	5	Jack connector for tool connection
3	Room operator unit		

## Type summary

Product number	Stock number	Feature	
		Temperature sensor	Humidity sensor
QMX2.P33	S55624-H118	Yes	No
QMX2.P43	S55624-H117	Yes	Yes

## Equipment combinations

All controllers from Desigo TRA.

## Product documentation


Topic	Title	Document ID:
Installation, cable length, topology	Mounting instructions	A6V10733759
CE declaration		A5W90002237
Product environmental declaration		A5W90002450

All documents can be downloaded from <http://siemens.com/bt/download>.

## Notes

The subsections include important information for sale or that is essential for engineering.

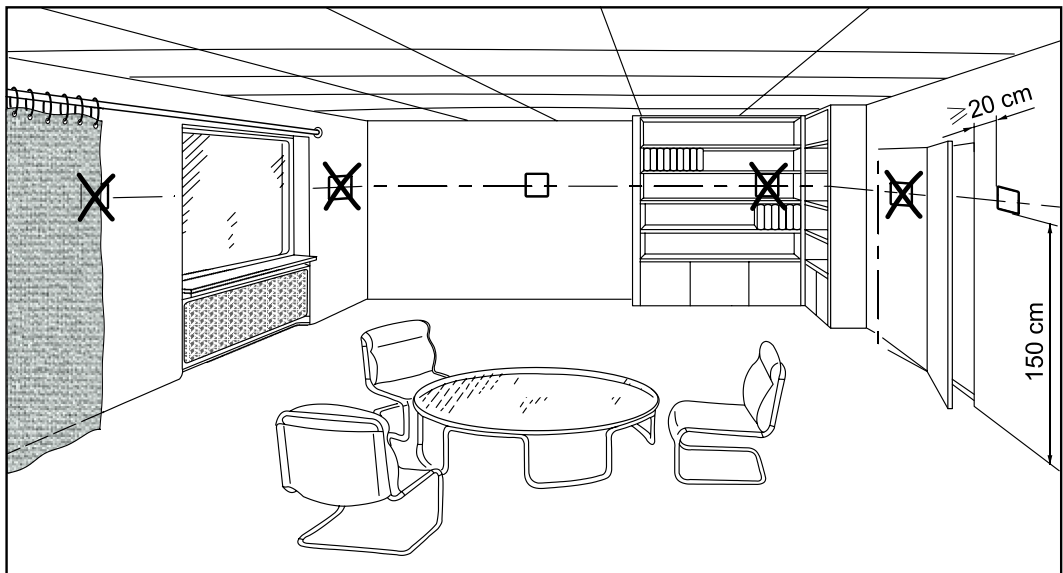
## Security

	<b>⚠ CAUTION</b>
	<b>National safety regulations</b> Failure to comply with national safety regulations may result in personal injury and property damage <ul style="list-style-type: none"><li>• Observe national provisions and comply with the appropriate safety regulations.</li></ul>


## Engineering

- The device offers plug & play functionality.
- The device receives its power from the connected room automation station via the KNX PL-Link interface, or from the jack connector.
- Engineering and commissioning using the ABT (Automation Building Tool) tool and SSA (Setup & Service Assistant) tool.

## Mounting



- The devices are suitable for wall mounting and panel mounting.
- Recommended height: 1.50 m above the floor.
- Do not mount the devices in recesses, shelves, behind curtains or doors, or above or near heat sources.
- Avoid direct solar radiation and drafts.
- Seal the conduit box or the installation tube if any, as air currents can affect sensor readings.
- Adhere to allowed ambient conditions.

	<b>⚠ CAUTION</b>
	<b>The devices are not protected against accidental connection to AC 230 V.</b>

- Use the correct cables for the KNX PL-Link bus.
- Do not interchange the wires of the KNX PL-Link cable.
- Observe all local installation regulations.

**Commissioning**

**Prerequisites**

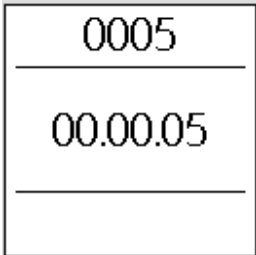
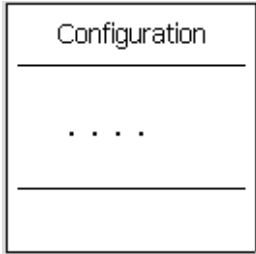
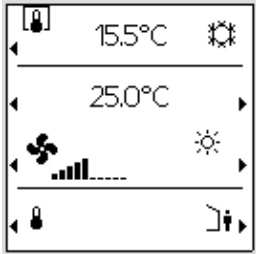
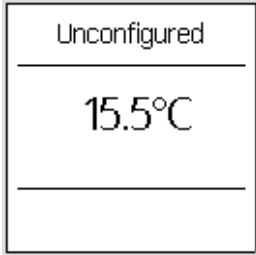
Before commissioning the device, make sure an application is downloaded into the connected controller, from where the functions are downloaded in the device.

Download the application using SSA-DNT (Pack & Go) or ABT.

For this purpose (or for service), connect ABT to the controller via USB or Ethernet.

**Automatic commissioning**

When connected to the KNX PL-Link bus, the device automatically communicates with the connected controller. The following routine is executed.

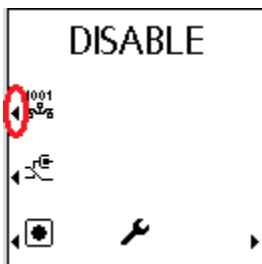
Step	With display	Description
1		Build number and version of the device are displayed.
2		The individual address (IA) is downloaded into the device via KNX PL-Link. This step is skipped if the device is already configured. <b>Note:</b> The configuration file can be downloaded any time; as a result, these characters are displayed every time the controller initializes download.
3		After startup, the device displays a normal operation page. (The operation page displayed on the left side is a sample view; the view depends on the application selected on the controller.)
3b		When the configuration is faulty, "Unconfigured" is displayed along with the temperature measured by the local temperature sensor. In this case, manual commissioning must be performed (see below).

### Manual commissioning

When automatic commissioning fails or when multiple devices are connected, manually commission the device as follows:

#### Addressing

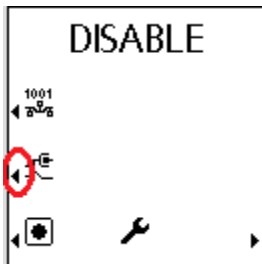
1. Connect SSA-DNT or ABT to the controller and activate the online commissioning function.
2. Load web page "KNX PL-Link identification".  
Activate the identification function.  
⇒ The controller now waits for a signal from the device.
3. On the device, simultaneously press buttons 1 and 8 for at least 5 seconds.  
⇒ The "Engineering" page is displayed.
4. Press button 2.



- ⇒ The display changes from "DISABLE" to "ENABLE".  
⇒ The tool identifies the currently active-device and assigns it.
5. After the device is commissioned, change from programming mode to "DISABLE" by pressing button 2.

#### Connection test

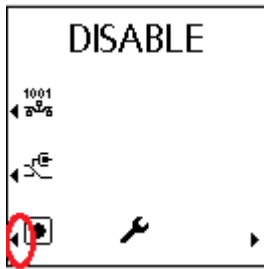
1. Press button 3 to test the KNX PL-Link connection.



- ⇒ The display shows the result of the connection test ("DONE" or "FAIL").
2. Press button 8 to return to the engineering page.

#### Reset to factory settings

<b>!</b>	<b>NOTICE</b>
	<b>This operation resets all user-defined data and configuration settings to factory default</b> This operation is irreversible.

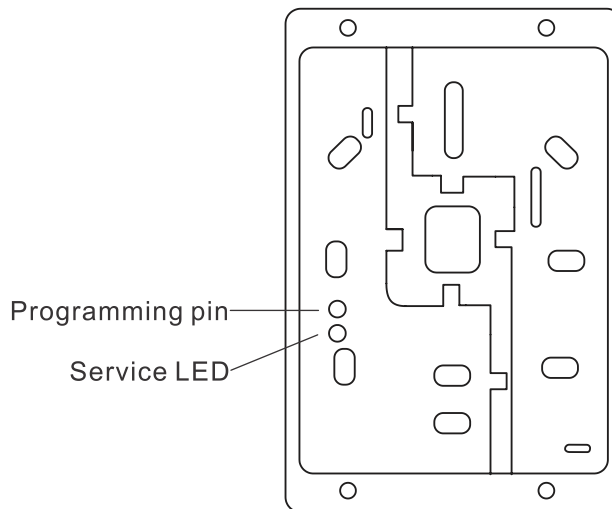


Press button 4. The device is locked and reboots within 10 seconds. The controller removes the device from its device list. During this time, the device can safely be removed from the network.

If the bus plug remains connected, the device acts like a newly inserted device requiring automated or manual configuration.

### Programming pin and service LED

The devices come with a programming pin and a red service LED on the rear.



### Addressing

1. Briefly press the programming pin (<0.5 s).
  - ⇒ The device enters the programming mode; the service LED is continuously on. The tool identifies the currently active device and assigns it.
2. After the device is commissioned, deactivate programming mode by shortly pressing the programming pin (0.5 s). The service LED goes off.

**Note: Programming mode returns to “disabled” each time the device restarts.**

### Connection test


1. Press the programming pin (>2s and <20s) to test the KNX PL-Link connection. After releasing the programming pin, testing of the KNX PL-Link connection starts; the service LED flashes (1/4s on, 7/4s off).  
After approximately 10s, the test result is displayed:
  - If the test is positive, the LED is lit continuously.
  - If the test fails, the LED flashes (1s on, 1s off).
2. Briefly press the programming pin (<0.5s) to stop displaying the result of the connection test. The service LED goes off.

### Reset to factory setting

Press the programming pin (> 20s). The device is locked and reboots within 10 seconds. The room automation station removes it from its device list. During this time, the device can safely be removed from the network.

**NOTICE! The LED is off during this procedure.**

If the bus plug remains connected, the device acts like a newly inserted device requiring automated or manual configuration.

	<b>NOTICE</b>
	<b>This operation resets all user-defined data and configuration settings to factory default.</b> This operation is irreversible.

### Operation

The button response is defined as follows:

- Pressing a button:  $0.05\text{ s} \leq t \leq 1\text{ s}$
- Extended pressure:  $3\text{ s} \leq t \leq 5\text{ s}$
- Constant pressure:  $7\text{ s} \leq t$
- Button combination: Press multiple buttons simultaneously

### Maintenance

The device can be cleaned with commercial, solvent-free cleaning agents.

Do not use mechanical aids (rough sponge or similar materials) – only a soft, damp cloth.

### Disposal



The device is considered an electronics device for disposal in terms of European Directive 2012/19/EU and may not be disposed of as domestic garbage.

- Dispose of the device through channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

### Warranty

Technical data on specific applications is valid only together with Siemens products listed in "Equipment combinations". Siemens rejects any and all warranties in the event that third-party products are used.



<b>Power supply</b>	
Operating voltage	KNX / PL-Link DC 21...30 V
Max power consumption	7...10 mA

<b>Interfaces</b>	
Type of port between room automation station and room operator unit	KNX / PL-Link
Baud rate	9.6 kbps
Protocol	KNX PL-LINK
Standard KNX connector	Wire diameter 0.8 mm, max. 1.0 mm (solid conductor only)
Cable type	2-core twisted pair, stranded, solid
Single cable length (from room automation station to room operator unit)	<1000 m
Section	0.5...1.5 mm <sup>2</sup>
Bus line polarity	PL+, PL-
Bus terminating resistor	Not required

<b>Sensor data</b>		
Temperature sensor	Measuring element	NTC resistance sensor
	Measuring range	0..50 °C
	Measuring accuracy (5...30 °C)	±0.8 °C
	Measuring accuracy (25 °C)	±0.5 °C
Humidity sensor	Measuring range	10%...95% r.h.
	Accuracy (r.h. 20%...80%)	±4% at 25 °C
	Accuracy (r.h. 0%...20%, 80%...95%)	±6% at 25 °C

<b>Ambient conditions and protection classification</b>	
Housing protection	<ul style="list-style-type: none"> <li>IP30</li> </ul>
Protection standard as per EN 60529	<ul style="list-style-type: none"> <li>IP33 for surface parts</li> </ul>
Insulation protection class	Class III
Climatic ambient conditions <ul style="list-style-type: none"> <li>Normal operation</li> <li>Transport</li> </ul>	<ul style="list-style-type: none"> <li>Environmental conditions: Class 3K5 Temperature 0...50 °C (0... 122 °F) Air humidity &lt;85% rh.</li> <li>Environmental conditions: Class 2K3 Temperature -25...70 °C (-4... 158 °F) Air humidity &lt;95% rh.</li> </ul>
Mechanical ambient conditions Normal operation Transport	Class 3M2 Class 2M2

<b>Standards, directives and approvals</b>	
EU conformity (CE)	A5W90002237 *)
RCM conformity to EMC emission standard	A5W90002243 *)
IC compliance	CAN ICE-3(B)/NMB-3(B)

Standards, directives and approvals	
UL compliance	UL916
FCC compliance	Part 15 of the FCC rules. Operation is subject to the following two conditions: 1) this device may not cause harmful interference, and 2) this device must accept any interference received, including interference that may cause undesired operation.
Environmental compatibility	The product environmental declaration (A5W90002450*) contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).

\*) Documents can be downloaded at the following address:

<http://siemens.com/bt/download>

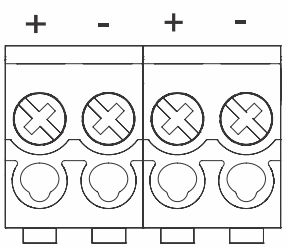
<b>!</b>	<p><b>NOTICE</b></p> <p>This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the device off and on, the user is encouraged to try to correct the interference by one or more of the following measures:</p> <ul style="list-style-type: none"> <li>• Reorient or relocate the receiving antenna.</li> <li>• Increase the separation between the equipment and receiver.</li> <li>• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.</li> <li>• Consult the dealer or an experienced radio/TV technician for help.</li> </ul>
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General data	
Color	Signal white (RAL9003)
Weight	146g

## Diagrams

### Connection terminals

#### KNX PL-Link plug

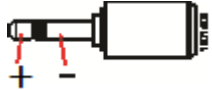
Connector	Pin	Description
	+	KNX PL-Link (positive)
	-	KNX PL-Link (negative)

To locate the KNX PL-Link plug, see Mechanical design [→ 3]

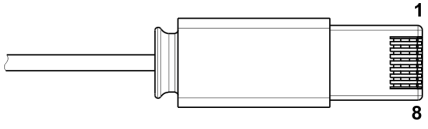
**Note:** Users can select either pair of pins for connection.

<b>!</b>	<b>NOTICE</b>
	<p><b>Wires are not interchangeable!</b></p> <p>The device is protected against faulty wiring, but communications does not work on interchanged wires. Do not connect the KNX / KNX PL-Link bus to the tool plug, only the tool.</p>

### Tool plug

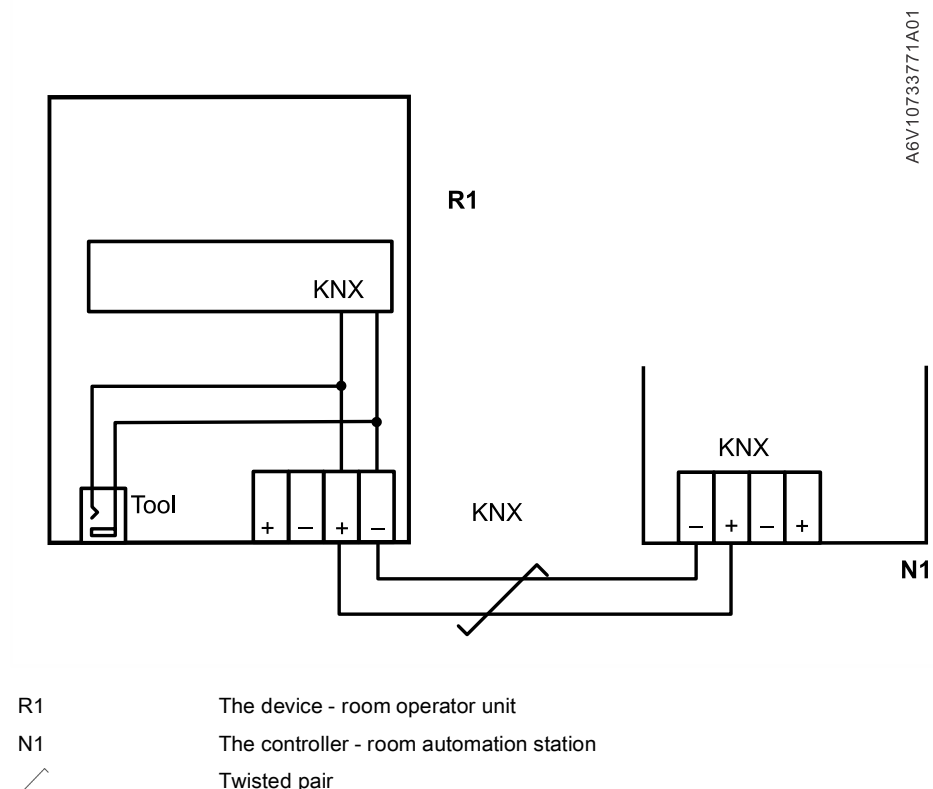
Connector	Pin	Description
	+	KNX PL-Link (positive)
	-	KNX PL-Link (negative)

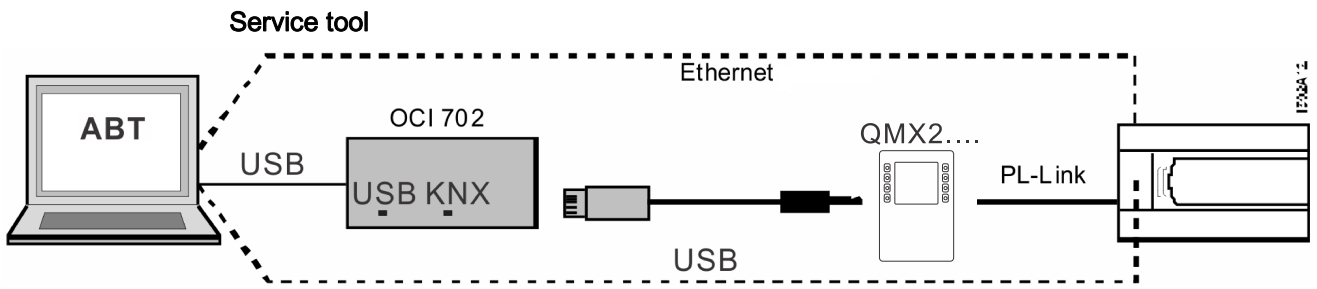
### RJ45 plug of the tool cable

Connector	Pin	Description	Pin	Description
	1	CE+, KNX	5	Voltage 16 V
	2	CE-, KNX	6	Unused
	3	Unused	7	Identification pin
	4	Unused	8	Ground

## Connection diagrams

### Operation

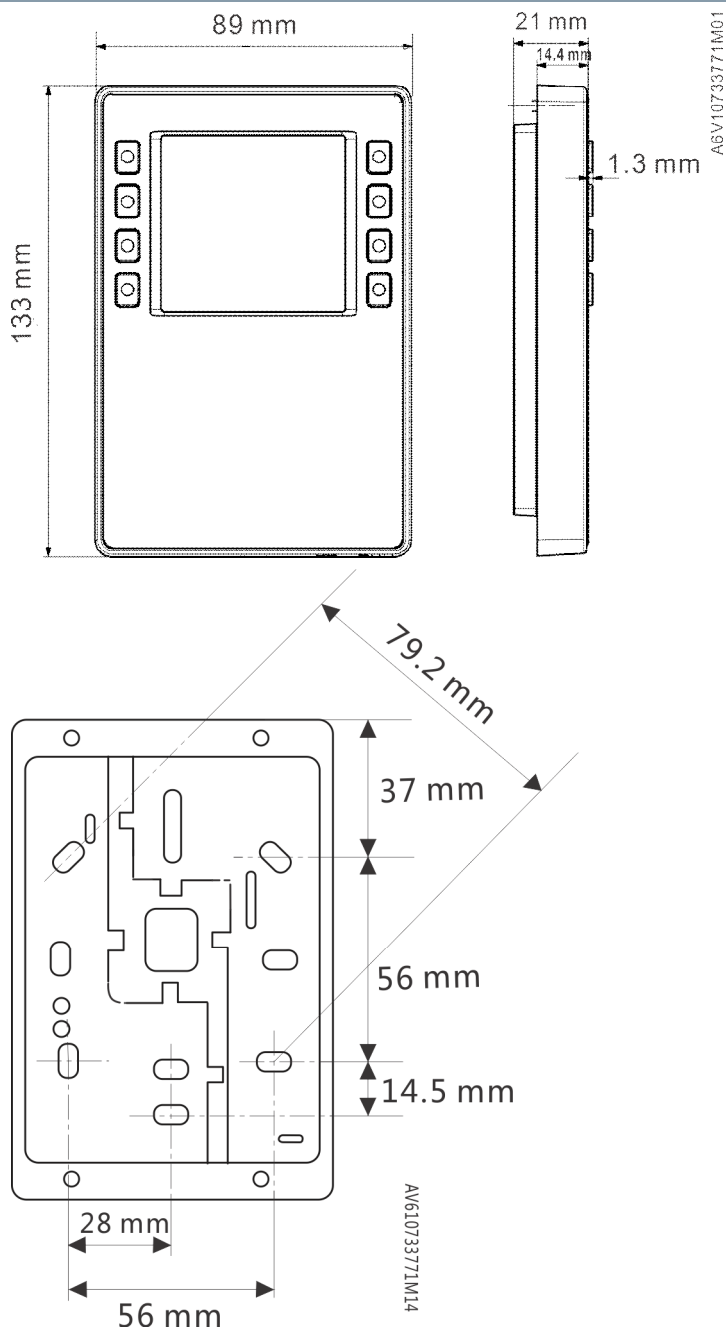




Connect ABT to load the application in the controller, or for service purposes:

- Directly to the controller
- To the device using the tool cable and the OCI702 service interface (see data sheet A6V10438951)

## Dimensions



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Siemens Switzerland Ltd  
Building Technologies Division  
International Headquarters  
Gubelstrasse 22  
CH-6301 Zug  
Tel. +41 41-724 24 24  
[www.siemens.com/buildingtechnologies](http://www.siemens.com/buildingtechnologies)

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