



myTEM Radio Base module
MTBAS-100-WL

The Radio Base MTBAS-100-WL is a module from myTEM which enables you to expand your smart home system with wireless products from the Z-Wave range. Such products include, for example, myTEM Radio Socket, myTEM Switch, window/door contacts, RGBW lamps or smoke detectors.

The Radio Base is connected to the CAN bus from the myTEM Smart Server and with the help of the extremely powerful myTEM ProgTool it is easy to integrate the Z-Wave products.

Further information can be found on our website:
www.mytem-smarthome.com/web/en/downloads/



ATTENTION:

This device is not a toy. Please keep it away from children and animals!

Please read the manual before attempting to install the device!

These instructions are part of the product and must remain with the end user.

Warning and safety instructions

WARNING!

This word indicates a hazard with a risk that, if not avoided, can result in death or serious injury. Work on the device must only be carried out by persons with the necessary training or instruction.

CAUTION!

This word warns of possible damage to property.

SAFETY INSTRUCTIONS

- Operate this device only as described in the manual.
- Do not operate this device if it has obvious damage.
- This device shall not be altered, modified or opened.
- This device is intended for use in buildings in a dry, dust-free location.
- This device is intended for installation in a control cabinet. After installation, it should not be openly accessible.

DISCLAIMER

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What is Z-Wave®?

Z-Wave is the international wireless protocol for communication in the smart home. Z-Wave ensures a reliable communication by reconfirming every message (**two-way communication**) and every mains powered node can act as a repeater for other nodes (**meshed network**) in case the receiver is not in direct wireless range of the transmitter.

Z-Wave products from different manufacturers can be used together in a wireless network. Thus, this product with any Z-Wave product from other manufacturers can be used in a common Z-Wave wireless network.

The myTEM Radio Base module is a Z-Wave device with **secure communication (S2)** and uses the radio frequency of 868.4 MHz. If other devices also support the same secure communication, the data is exchanged in this secure mode. Otherwise it will switch automatically to a lower level of security to maintain backward compatibility.

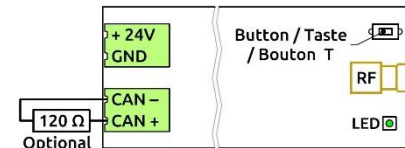
For more information about frequency regulations please refer to the homepage of Silicon Labs. For more information about Z-Wave technology, devices, tutorials, etc. please refer to www.z-wave.info.

Product description

The myTEM Radio Base module MTBAS-100-WL is a Z Wave device of type **Static Controller** (in combination with a **myTEM Smart Server**) for use in **Europe / Switzerland**. It is used to expand your smart home system with wireless products from the Z Wave range, such as the myTEM Radio Socket, myTEM Radio Switch, key-pads, window / door contacts, motion detectors, heating thermostats, RGBW lamps, smoke detectors, sirens or water leak sensors.

The myTEM Radio Base module must be powered by a 24 VDC power supply and connected to a myTEM Smart Server via the CAN bus. The device is installed in a control cabinet, mounted on a 35 mm DIN rail.

Several myTEM Radio Base modules can be used with the same myTEM Smart Server on the CAN bus. This can be useful, for example, if apartments are to have their own separate Z-Wave networks with a central server.



Optional
Abschlusswiderstand / terminating resistor /
résistance terminale

Installation

WARNING! Depending on national safety standards, only authorized and/or trained technicians may be allowed to make electrical installations on the power supply. Please inform yourself about the legal situation before installation.

CAUTION! When planning, consider the optimal placement of all devices in relation to the radio range to avoid weak signals and sources of interference. Weak signals can arise from furniture, plants and especially metal objects placed between devices. Possible sources of interference are electrical devices such as a microwave or computer. Keep your devices at least 50 cm away from sources of interference.

If necessary, use an external antenna for the radio base module if central placement is not possible.

Please install the device according to the following steps:

- WARNING!** Make sure that the devices are disconnected from the power supply.
- WARNING!** Connect the myTEM Radio Base module according to the diagram above or at the back. In order to use the device, a connection via CAN bus to a myTEM Smart Server is required.
- CAUTION!** The device shall only be operated with stabilized power supplies (24 VDC). Connecting higher voltages will damage the device.
- Turn on the power.
- With the myTEM ProgTool you can now add the myTEM Radio Base Modul to your myTEM Smart Server.

LED display

The LED next to the antenna may show the following states:

- LED green:** Device started and connection to myTEM Smart Server working
- LED red:** Device started but no connection with the myTEM Smart Server
- LED off:** Device not powered, not started or broken

Z-Wave installation

The myTEM Radio Base, together with the myTEM Smart Server, form a Z-Wave Controller.

In order to include (Add) a Z-Wave device to a network it **must be in factory default state**. Please make sure to reset the device into factory default. Therefore, make sure before the integration that the selected device is in this state. You will find the procedure in the manual of the selected device.

Inclusion/Exclusion ("Add/Remove") of the device

On factory default the device does not belong to any Z-Wave network. In order to communicate with other Z-Wave devices, it must be included into an existing network or a new network has to be established. In Z-Wave this process is called "Add".

Devices can also be removed from networks. In Z-Wave this process is called "Remove". Removing a device from the network will reset it to the delivery state.

Both processes are initiated via the myTEM ProgTool. The myTEM Radio Base module is set in an "Add" or "Remove" mode and Z-Wave devices can be added to or removed from the wireless network. Further information can be found in the description of the myTEM ProgTool.

Reset to factory default myTEM Radio Base module

CAUTION! The factory reset deletes all custom settings like connected devices, network configuration, scenes, favorites, etc.

If possible, connected devices should be removed from the Z-Wave network before a factory reset, so that they can be added to a new wireless network later

The reset to factory default is carried out via the myTEM ProgTool with a network reset. Further information can be found in the description of the myTEM ProgTool.

Quick trouble shooting

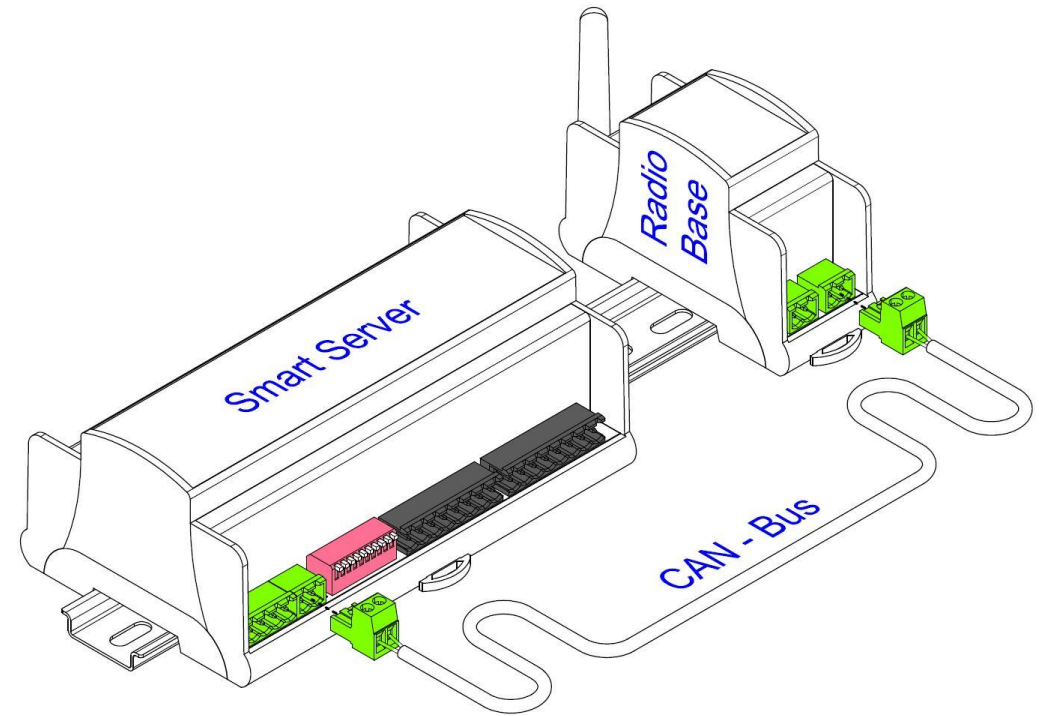
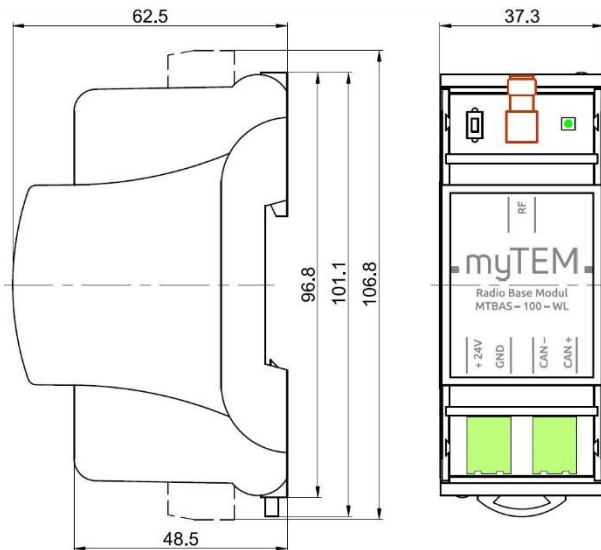
The following hints may help solving trouble:

- Make sure that the power supply is connected with the correct polarity. With wrong polarity the device does not start.
- If a device cannot establish communication to the myTEM Smart Server, check if the CAN bus (+/-) is correctly wired and the ground (GND) is connected. A missing ground connection (usually available via power supply) can affect the communication.
- If a device cannot establish communication to the myTEM Smart Server, check whether the terminating resistor of 120 Ω at the last device is connected to the CAN bus. If missing, please add it via terminals (CAN +/-).
- Make sure that new Z-Wave devices are in factory reset state.
- If a connection cannot be established, check that the Z-Wave devices are working on the same radio frequency.
- If a connection cannot be established, the control cabinet or the installation situation may reduce the radio signal. **Please use in this case an external antenna**, such as, for example, the myTEM MTANT-100-WL.
- Remove devices that are no longer available in the Z-Wave network from all association groups. Otherwise significant delays in the execution of commands are possible.
- Make sure you have enough mains powered Z-Wave devices to benefit from the meshing network.
- Never use "sleeping" battery powered Z-Wave devices without a central controller.
- Do not poll battery powered Z-Wave devices.



Technical specifications

| | | |
|--|---|---|
| Dimensions (W x H x D) | 37.3 x 101.1 x 62.5 mm (height with connectors 106.8 mm) | |
| Installation / mounting | On 35 mm DIN rail | |
| Operating voltage | 24 VDC ± 10% | |
| Power consumption in standby | Continuous operation for wireless network, therefore no standby operation | |
| Power consumption in operation | 0.8 W | |
| Ambient temperature for operation | 0 °C – 50 °C | |
| Ambient temperature for storage | -20 °C – 60 °C | |
| Ambient humidity | 5 %RH – 85 %RH (non condensing) | |
| Wire cross-section connectors | 0.25 mm ² – 2.5 mm ² | |
| Stripping length for connectors | ca. 7 mm | |
| Tightening torque for connectors | 0.5 Nm | |
| Degree of protection provided by enclosure | IP 20 (after installation) | (according to EN 60529) |
| Protection class | III | (according to EN 60730-1) |
| Overvoltage category | I | (according to EN 60730-1, resp. EN 60664-1) |
| Pollution degree | 2 | (according to EN 60730-1) |
| Safety main unit | EN 60730-1:2016 + A1:2019 | |
| EMC main unit | EN 60730-1:2016 + A1:2019 EN IEC 61000-6-2:2019 | EN 61000-6-3:2007 + A1:2011 / AC:2012 |
| Safety radio part | EN 62368-1:2014 / AC:2017 | EN 62479:2010 |
| EMC radio part | EN 301 489-1 V2.1.1 | EN 301 489-3 V2.1.1 |
| Radio spectrum | EN 300 220-2 V3.2.1 | |
| RoHS | EN IEC 63000:2018 | |
| CE conformity | 2014/30/EU (EMC) 2011/65/EU (RoHS) | 2014/53/EU (RED) |
| Z-Wave hardware platform | ZM5101 | |
| Device Type | Gateway | in combination with a myTEM Smart Server |
| Role Type | Central Static Controller | in combination with a myTEM Smart Server |



Explanation of some Z-Wave specific terms

Controller ... is a Z-Wave device with the capability to manage a network. They are typically gateways, remote controls or wall controllers.

Primary controller ... is the central administrator of the Z-Wave network. In a Z-Wave network, only one primary controller is allowed.

Slave ... is a Z-Wave device without the ability to manage a network. Slaves can be sensors, actuators and even remote controls.

Add (Inclusion) ... is the process of adding new Z-Wave devices into a network.

Remove (Exclusion) ... is the process of removing Z-Wave devices from the network.

Wakeup Notification ... is a special wireless message issued by battery powered Z-Wave devices to announce that they are awake and able to communicate.

Node Information Frame (NIF) ... is a special wireless message issued by a Z-Wave device to announce its capabilities and functions.