



Operating Instructions

MD15-FTL-902 Wireless Small Actuator

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1 General Information

1.1 Information on the operating instructions

These operating instructions contain information on the MD15-FTL-902 and information on the safe installation, commissioning, handling and correct operation of the device.

The operating instructions is intended for all persons who operate the MD15-FTL-902 and should increase the reliability and the service life of the device; it should also help prevent hazards, downtime and possible exclusion of warranty claims.

Each person who carries out work on the MD15-FTL-902 must have read and understood these operating instructions.

- ▶ If you have any questions that are not resolved by these operating instructions, you can obtain further information from the supplier or manufacturer.

1.1.1 Validity and storage of the operating instructions

These operating instructions are an integral part of the MD15-FTL-902 and apply exclusively to this device.

- ▶ Keep the operating instructions in the immediate vicinity of the device throughout the entire service life of the MD15-FTL-902.
- ▶ The operating instructions must be passed on to any subsequent owners or users.

1.1.2 Copyright

The duplication (even extracts thereof), removal or transfer of content is not allowed without the manufacturer's written permission.

1.1.3 As an operator, what can you do?

You may only perform the following actions:

- Maintenance and Cleaning
- Changing the batteries on the MD15-FTL-902
- Contacting customer service in case of Operating and Malfunctioning Messages



NOTE

Mounting, installation, commissioning and troubleshooting may only be performed by a qualified service technician. Improper changes by the operator can lead to malfunctions and impairment of the service life.

1.1.4 Customer service

If problems occur, if you have questions or if you require technical information, please contact your service technician.

1.1.5 Notes on presentation in this manual

Notes contain supplementary information:



NOTE

Indicates additional information and important details that can simplify use of the device.

List symbols

Additional icons are presented in the text to help you follow the operating instructions:

- Indicates a list item.
- ▶ Indicates a step that must be performed.

1.2 Scope of Delivery

The standard scope of delivery includes:

- MD15-FTL-902 radio small actuator
- Alkaline AA batteries (LR6 1.5 V 3000 mAh)
- Special key for opening the device
- Installation note MD15-FTL-902

2 Safety


Always observe the following in order to operate the MD15-FTL-902 radio small actuator correctly and safely:

- ▶ Read all warnings in these operating instructions, in order to prevent injuries and damage to the device or any equipment connected to it.
- ▶ To avoid potential hazards, use the device only as described in the operating instructions.
- ▶ Observe the described actions and warnings in these operating instructions.
- ▶ Observe the instructions and warnings in the applicable documents.

2.1 Presentation and structure of warnings


Hazardous situations are displayed with warnings and safety instructions in these operating instructions. Hazard symbols and signal words convey the severity of the hazard.

The warnings are action-related and are structured as follows.

 CAUTION
Type/source of danger! Possible consequences. ▶ Preventative measures.

2.2 Classification of warnings

Warnings are classified according to the severity of the hazard. Hazard levels with their corresponding signal words and warning symbols are described in the following:

 CAUTION
The “CAUTION” signal word is used for situations that could result in moderate or minor injuries.

NOTICE
The “NOTICE” signal word is used for situations that could result in damage to the device.

2.3 Intended use

In combination with a radio partner, the MD15-FTL-902 constitutes a functional unit for easy room temperature control.

Observe the following to operate the device correctly:

- ▶ Only operate the device at an ambient temperature of 32..122 °F (0..+50 °C).
- ▶ Do not operate the device in wet or moist environments.
- ▶ Do not operate the device in a potentially explosive environment.
- ▶ Only use the device with radio partners that are compatible with the EnOcean radio-gram EEP A5-20-01 (Battery Powered Actuator).
- ▶ Only operate the device in its original condition and as described in these operating instructions.

Modifications to the device could result in unforeseeable dangers and are thus prohibited.

2.4 Responsibilities of the operator

You may only operate the device if it is technically sound and in safe working order. The operator must observe the following items:

- ▶ Make sure that only qualified service technicians perform assembly, installation and commissioning.
- ▶ Ensure that these operating instructions are available to the user.
- ▶ Ensure that the user has read the operating instructions (particularly the chapters on safety and safety instructions) before starting work with the room control module.
- ▶ If the device becomes damaged or if a malfunction message is issued (other than a battery change), you must inform your service technician.
- ▶ Make sure that the valve was installed properly.

2.5 Basic safety instructions

The basic safety instructions summarize safety measures according to topic and are applicable at all times.

2.5.1 Behavior in hazardous situations

Observe the following in hazardous situations:

- ▶ Before starting work, familiarize yourself with the location of the safety, accident alert and first aid equipment and how to use it.

This ensures that you can quickly provide assistance and/also help to prevent hazards in advance.

2.5.2 Handling batteries

CAUTION

Risk of burns and chemical burns!

Improper handling of batteries can result in batteries leaking, exploding or igniting. This can result in burns and chemical burns.

- ▶ Do not recharge the batteries.
- ▶ Do not short-circuit the batteries.
- ▶ Do not destroy, crush, dismantle or incinerate the batteries.
- ▶ Do not heat the batteries above 185° F (85 °C).
- ▶ Do not dissolve the battery contents in water.

Alkaline AA batteries are used in the MD15-FTL-902 radio small actuator device.

NOTICE

Potential damage to the device by lithium batteries!

The use of lithium batteries can damage the device.

- ▶ Do not use lithium batteries in the device.
- ▶ Use only alkaline AA batteries (see section “Technical data”).

Correct use of the MD15-FTL-902 and an undamaged battery cell will prevent the release of electrode and electrolyte material into the environment.

3 Equipment Description

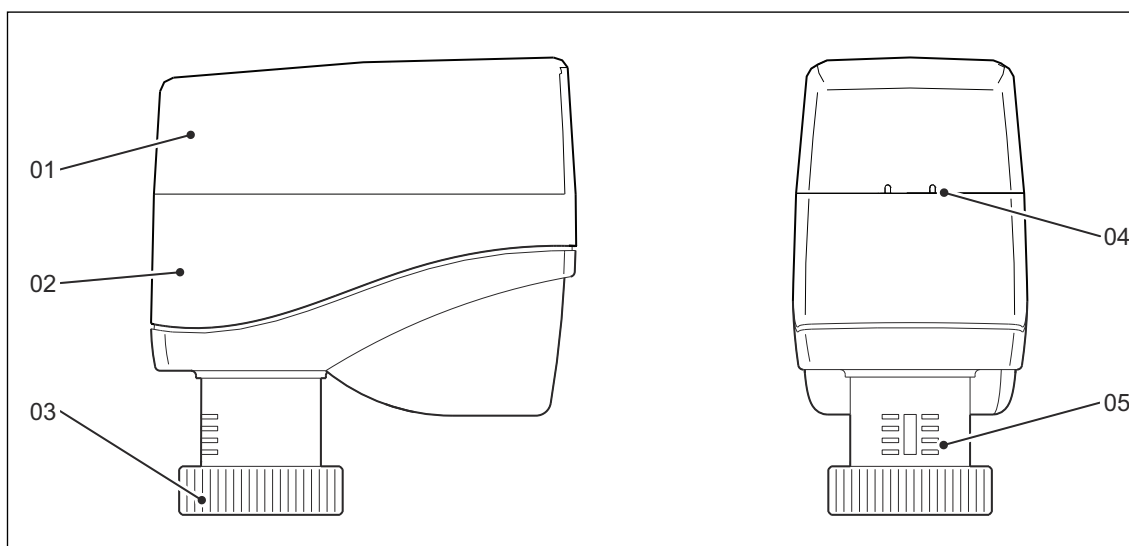


Small radio-controlled, battery-powered actuator for room temperature control.

Radio small actuator for direct mounting on standard radiator valves for room-specific temperature control in heating systems.

The actuator is radio controlled based on the non-proprietary EnOcean radio protocol.

3.1 Components



01	Battery compartment cover	The battery compartment cover must be opened before the batteries can be changed.
02	Battery compartment	The batteries are inserted into the battery compartment.
03	Union nut	Is used to fasten the MD15-FTL-902 to the radiator valve.
04	Openings for special key	For opening the battery compartment cover
05	Alignment marking	The marking moves in the direction of the radio small actuator during adjustment.

4 Maintenance and Cleaning

4.1 Maintenance

Except for a change of batteries, the MD15-FTL-902 does not require regular maintenance. If operating or malfunction messages arise, carry out the actions described in the section “System Malfunctions” on page 9.

4.2 Cleaning

The MD15-FTL-902 should be cleaned as necessary. There is no prescribed cleaning interval.

- ▶ Clean the MD15-FTL-902 with a lint-free, lightly moistened cloth.
- ▶ Do not use any aggressive cleaning products.

5 System Malfunctions

5.1 Operating and Malfunctioning Messages

Operating and malfunction messages are not automatically displayed. These messages are wirelessly transmitted to the room control module or a read-out device.



NOTE

If the communication with the radio partner is disrupted, the “emergency mode” status bit (self-controlled mode) is set (can be evaluated for service diagnostics).

After the malfunction has been rectified (see the documentation of the radio partner), the radio partner is automatically resynchronized.

5.2 Rectifying malfunctions

5.2.1 Changing the batteries on the MD15-FTL-902

CAUTION

Risk of burns and chemical burns!

Improper handling of batteries can result in batteries leaking, exploding or igniting. This can result in burns and chemical burns.

- ▶ Do not recharge the batteries.
- ▶ Do not short-circuit the batteries.
- ▶ Do not destroy, crush, dismantle or incinerate the batteries.
- ▶ Do not heat the batteries above 185°F (85 °C).
- ▶ Do not dissolve the battery contents in water.

NOTICE**Damage to property by using an incorrect tool!**

If an incorrect tool is used, the device or its parts could become scratched and plastic parts could break off.

- ▶ Never use a pipe wrench to tighten or loosen the union nut.
- ▶ Only use the provided special key to open the housing.

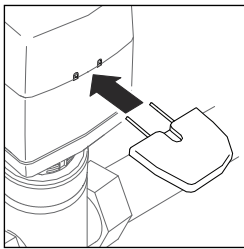
**NOTE**

If the battery is changed on the disassembled radio small actuator, the radio small actuator remains operational.

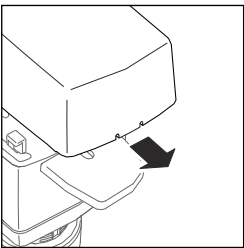
You can only change the batteries on the valve when the radio small actuator is not carrying out any positioning movements.

**NOTE**

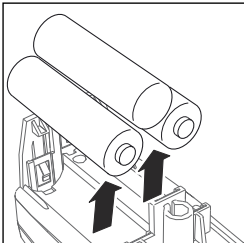
This device contains replaceable alkaline batteries. Dispose of old batteries according to local regulations.



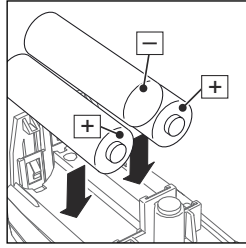
- ▶ Open the battery compartment cover by inserting the special key into the provided openings.



- ▶ Remove the battery compartment cover.

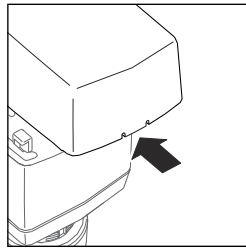


- ▶ Remove the batteries.



- ▶ Insert the batteries, observing the correct polarity.
- ▶ Use only alkaline AA, LR6 1.5 V batteries.

Once all batteries have been inserted into the battery compartment, the actuator moves to its initial state. If the actuator does not receive a checkback signal after attempting to establish radio communication, it begins an initialization run. The teach-in button cannot be used to execute an action during movement.



- ▶ Close the battery compartment of the MD15-FTL-902, ensuring that you hear an audible click.

**NOTE**

A new teach-in procedure is triggered internally and started automatically every time the batteries are changed. Teaching in can take up to 1.5 hours. It is not necessary to teach in the device again.

**NOTE**

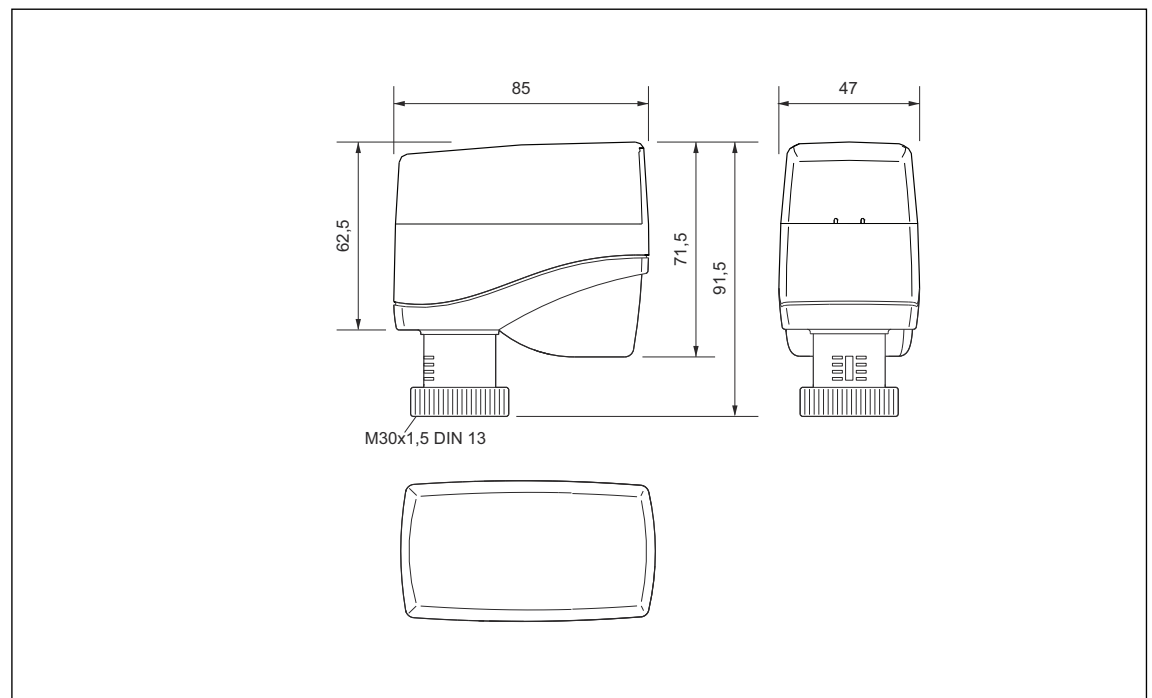
After the batteries are changed, the radio small actuator reverts to its initial state (actuator spindle is retracted).

When the radio small actuator receives a radio signal, it switches over to normal operation.

6 Technical Data

Nominal voltage	Battery-operated, 3 alkaline AA batteries (LR6AD Panasonic Powerline 1.5 V)
Battery life	Depends on the frequency and method of operation - approx. 3 years with default settings
Measuring system	Integrated digital temperature sensor; 32..104 °F; ±0,5 °F at 77 °F (0..40°C; ±0,5°C at 25°C)
Interfaces	EnOcean® radio interface: <ul style="list-style-type: none"> ■ Radiogram: EnOcean radiogram, bidirectional ■ EEP A5-20-01 (Battery Powered Actuator) ■ Frequency: 902.875 MHz ■ Range: approx. 30 m in buildings (depending on building substance) ■ Duty cycle: < 1% ■ Transmission or reception interval: every 2..20 min, can be set in 2 minute increments
Motor switch-off	Actuator spindle: when extending = load-dependent, when retracting = path-dependent
Display	Multicolored status LED
Actuating noise	<28 dB (A)
Nominal stroke	Up to 3 mm
Travel time	10 s/mm
Positioning force	100 N (nominal)
Position indication	Stroke range scale
Housing	RAL 9010 pure white, battery compartment cover with mechanical locking mechanism
Ambient temperature	32..122 °F (0..50 °C)
Degree of protection	IP40
Installation position	Anywhere from vertical to horizontal
Maintenance	Maintenance-free
Weight	157 g (without batteries); 225 g (with batteries)

Dimensions

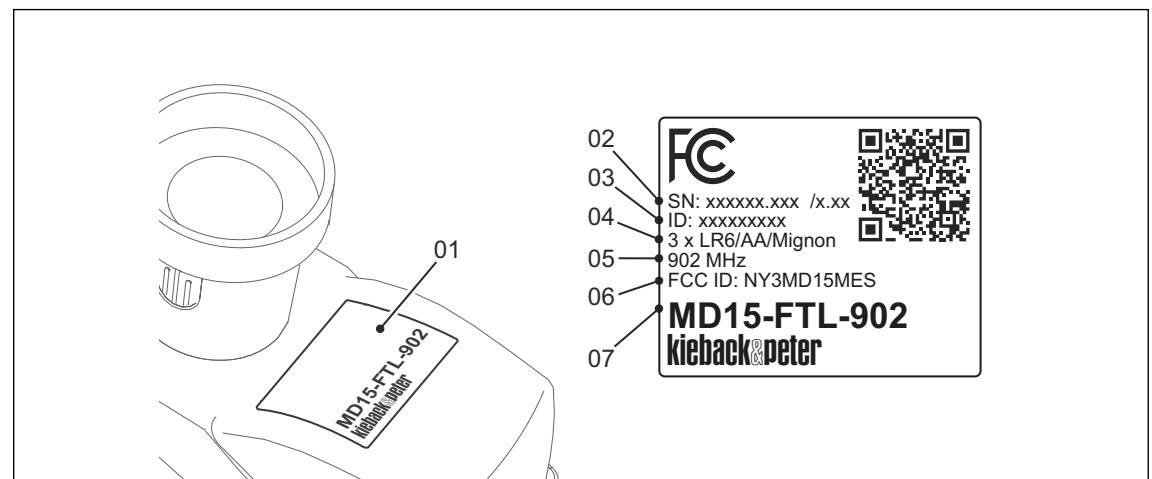


NOTE

The figure shows the dimensions of the device in mm.

Type plate

The MD15-FTL-902 type plate is located on the back of the device.



01	MD15-FTL-902 type plate
02	Serial number
03	Identification number
04	Energy
05	Frequency
06	Device approval number (USA)
07	Device name

6.1 Compliance statement

Compliance statement

This device complies with section 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 that may cause undesired operation.

Modifications not expressly approved by this company could void the user's authority to operate the equipment.

Radio Frequency (RF) Signal

The radio device is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limit for exposure to radio frequency (RF) energy set by the OET Bulletin 56 Supplement C in the USA and by the Ministry of Health (Canada), Safety Code 6 in Canada. These limits are part of comprehensive guidelines and established permitted levels of RF energy population. These guidelines are based on the safety standards previously set by international standard bodies. These standards include a substantial safety margin designed to assure the safety of all persons, regardless of their ages and health.

This device and its antenna may not be located too close to or operated in conjunction with any other antenna or transmitter.

This device is capable of compliance with localized specific absorption rate (SAR) for uncontrolled environment/general public exposure limits specific in ANSI/IEEE C95.1-1992 and has been tested in accordance with the measurement procedures specified in IEEE Std. 1528-2003 December 2003.

Class A digital device or peripheral

The MD15-FTL-902 is a digital device that is marketed for use in a commercial, industrial or business environment, exclusive of a device which is marketed for use by the general public or intended to be used in the home.

The equipment has been tested and found to comply with the limits for a **class A digital device**, pursuant to section 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the function manual, may cause harmful interference with radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his or her own expense.

Declaration concerning antenna specifications

The device conforms to the FCC recommendations for the internal antenna type described below:

Model no. of antenna: N/A

Type of antenna:	integrated/onboard PCB antenna, permanently attached
Gain of the antenna:	≤ -10 dBi
Frequency range:	902 MHz

7 Contact data

USA

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