



Operation Instructions MD15-CFL-902 Radio Small Actuator

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1 General information

1.1 Information on the operation instructions

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

The operation instructions are intended for persons who operate the MD15-CFL-902. The operation instructions should increase the reliability and the service life of the device; they should also help prevent hazards and down times and the potential exclusion of warranty claims.

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

- ▶ Information about mounting, commissioning and operating the MD15-CFL-902 can be obtained from the additional applicable documents (see chap. 1.3 "Applicable documents").
- ▶ If you have any questions that are not resolved by these operation instructions or the other applicable documents, you can obtain further information from the supplier or manufacturer.

1.1.1 Validity and storage of the operation instructions

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

- ▶ Keep the operation instructions in the immediate vicinity of the device throughout the entire service life of the MD15-CFL-902.
- ▶ The operation 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 only allowed with 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
- Contact customer service in the event of operating and malfunctioning messages



NOTE

Mounting, installation, commissioning and troubleshooting may only be performed by qualified technicians. Improper changes by the operator can lead to malfunctions and may impair 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 symbols are presented in the text to help you follow the operation instructions:

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

1.2 Scope of delivery

The standard scope of delivery includes:

- MD15-CFL-902 radio small actuator
- MD15-CFL-902 mounting instructions

1.3 Applicable documents

In addition to these operation instructions, the following documents should also be observed:

- MD15-CFL-902 installation manual
- MD15-CFL-902 mounting instructions

2 Safety

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

- ▶ Read all warnings in these operation 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 operation instructions.
- ▶ Observe the described actions and warnings in these operation instructions.
- ▶ Observe the instructions and warnings in the applicable documents.

2.1 Intended use

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

To operate the device correctly, observe the following:

- ▶ Only operate the device at an ambient temperature of 32 to 122° F (0 to 50° C).
- ▶ Only operate the device at an ambient humidity between 20% to 85% r.h. (non-condensing).
- ▶ Do not operate the device in a potentially explosive environment.
- ▶ Only use the device with radio partners that support the EnOcean radiogram EEP A5-20-01 (Battery Powered Actuator).
- ▶ Do not open the device.
- ▶ Do not replace the batteries.

The device has a lifetime battery charge.

If the battery level of the device is too low, replace the entire device.

- ▶ Only operate the device in its original condition and as described in these operation instructions.

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

2.2 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 technicians perform assembly, installation and commissioning.
- ▶ Ensure that these operation instructions are available to the user.
- ▶ Ensure that the user has read the operation 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, you must inform your service technician.
- ▶ Make sure that the valve was installed properly.

2.3 Presentation and structure of warnings

Action-related warnings of residual risks are indicated prior to performing dangerous actions.

The action-related warnings are structured as follows.

⚠ CAUTION	
Type and source of danger	
Possible consequences	
▶ Preventative measures	

2.4 Classification of warnings

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

⚠ 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.	

2.5 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.

3 Equipment description



The MD15-CFL-902 is a small, radio-controlled actuator with a lifetime battery charge for room temperature control.

The radio small actuator for thermostatic valves is mounted directly onto the standard radiator valves. The radio small actuator is used for room-specific temperature regulation in heating systems.

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

3.1 Components

01	Union nut	Used to fasten the MD15-CFL-902 to the radiator valve.
02	Alignment marking	The marking moves in the direction of the radio small actuator during adjustment.

4 Maintenance and cleaning

4.1 Maintenance

The MD15-CFL-902 does not require regular maintenance. If operating or malfunction messages arise, carry out the actions described in the section “System malfunctions” on page 10.

4.2 Cleaning

The MD15-CFL-902 radio small actuator should be cleaned as necessary. There is no prescribed cleaning interval.

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

5 System malfunctions

5.1 Battery monitoring

The battery level is continuously monitored. If the battery level is too low, a radio signal is transmitted to the radio partner and 2 acoustic signal tones are emitted in succession every 6 hours. If this message is active, the remaining battery level is < 5%.



NOTE

You must replace the device within the next 3 months.
See chapter 5.3.1 "Replacing the MD15-CFL-902", page 10.

As the battery level decreases, the interval between the acoustic signals becomes shorter. The number of signal tones increases to 4 x 1 signal tones every 3 hours.

If the remaining battery level is insufficient to maintain motorized operation, the actuator moves to the safety position of 50%.

Radio communication with the radio partner still functions in this operating state.

5.2 Malfunction messages

Malfunction messages are not automatically displayed. These messages are transmitted via radio 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 (and 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.

5.3 Rectifying malfunctions

5.3.1 Replacing the MD15-CFL-902

The MD15-CFL-902 has a lifetime battery charge.

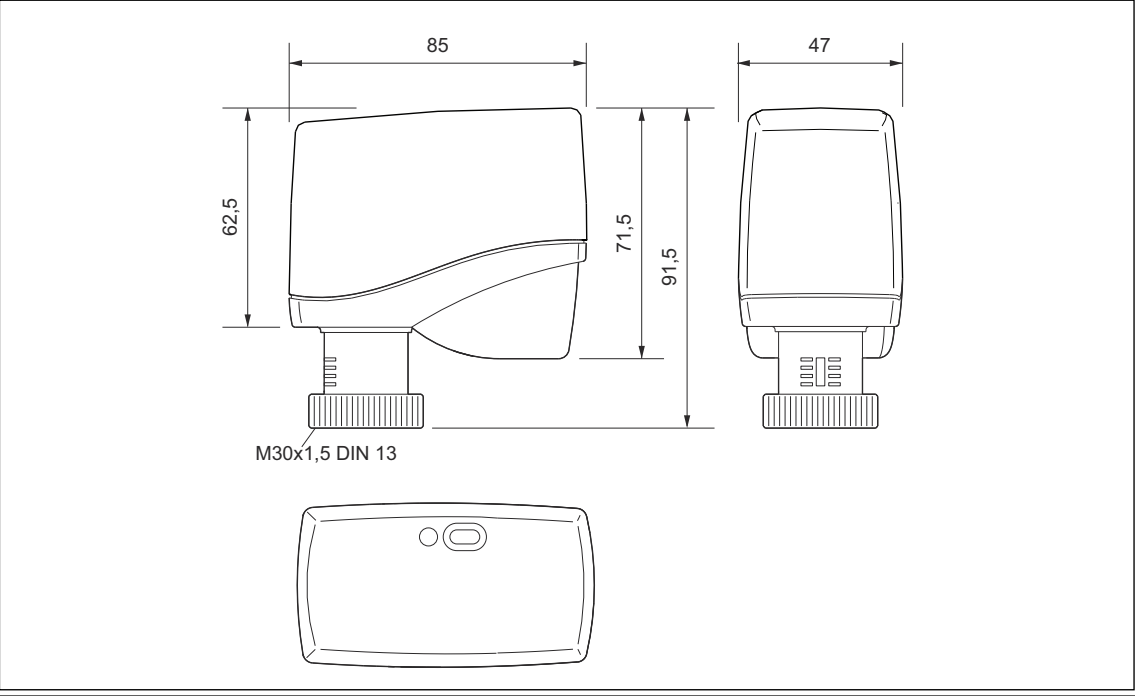
If the battery level of the device is too low, observe the following:

- ▶ Replace the entire device.

6 Technical data

Nominal voltage	Battery-operated, 1 lithium battery, Type C (3.6 V)
Battery life	Depends on the frequency and method of operation - Typically 7 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: ■ Radiogram: EnOcean radiogram, bidirectional ■ EEP A5-20-01 (Battery Powered Actuator) ■ Frequency: 868.3 MHz ■ Range: approx. 30 m in buildings (depending on building structure) ■ Duty cycle: < 1% ■ Transmission and 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	Status LED (multicolored)
Actuating noise	< 28 dB (A)
Positioning stroke	Up to 3 mm
Positioning time	10 s/mm
Positioning force	100 N (nominal)
Position indication	Stroke range scale
Housing	RAL 9010 (pure white)
Ambient temperature	32..122° F (0..50° C)
Ambient humidity	During operation: 20..85% r.h., non-condensing Not in operation: 5%..90% r.h.; non-condensing
Degree of protection	IP40
Installation position	Anywhere from vertical to horizontal
Maintenance	Maintenance-free
Weight	201 g

Dimensions

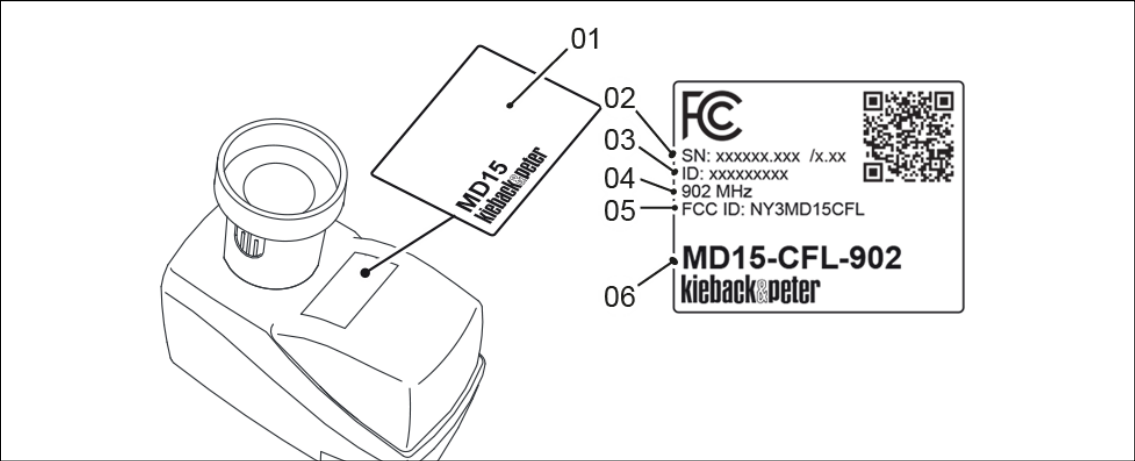


NOTE

The figure shows the dimensions of the device in mm.

Type plate

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



01	Type plate of the MD15-CFL-902
02	Serial number
03	Identification number
04	Frequency
05	Device approval number (USA)
06	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-CFL-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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