MD15-LP-FTL-HE Wireless Small Actuator

For valves of the series R10..20xx, RW15x, R10..20DQ and R10..20EQ and those from manufacturers Heimeier, Honeywell-MNG, Junkers, Honeywell-Baukmann, Oventrop and Cazzaniga.



Application

Radio-controlled actuator for continuous control systems in zone post-treatment devices for heating, ventilation and air conditioning systems.

Actuator for direct mounting on standard radiator valves for room-specific temperature control.

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

They will support the EnOcean MSC Telegram and the following EnOcean Equipment Profiles (EEP):

- A5-20-01*
- A5-10-10*
- D5-00-01*

For information about the protocol description, visit
http://tools.enocean-alliance.org/EEPViewer/

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Content Page

Important Information on Product Safety 3
MD15-LP-FTL-HE Wireless Small Actuator 4
Technical Data 4
Accessories (not included in delivery) 5
Dimensions 5
Connection 6
Operating modes of the wireless small actuator 6
EnOcean Equipment Profiles EEP A5-20-01 8
General installation instructions 9
R10..20xx and RW15x two-way/three-way valve for MD15-LP-FTL-HE 10
Types 10
Technical data – valves Rxx and RWxx 10
R10..20DQ and R10..20EQ two-way valve for MD15-LP-FTL-HE 12
Types 12
Technical Data 12
Accessories (not included in delivery) 12
Dimensions 13
Valve assembly 15
Mounting of the wireless small actuator 16
Mounting accessories Z800-HW to Z816-HW 17
Dismounting of the wireless small actuator 18
Commissioning 19
Adaption of the wireless small actuator to a radio partner (master room controller or room control module) 20
Adaption of the radio temperature sensor or radio window contacts 20
Deleting the Radio Partner 22
Communication status 22
Switching valve blocking protection on and off 23
Adjusting the actuating direction 23
Switching the window open recognition on and off 24
Setting the transmission and reception interval 24
Resetting to factory settings 25
Application examples 27

Important Information on Product Safety

Safety instructions

This document contains information on installing and commissioning the product “MD15-LP-FTL-HE”. Each person who carries out work on this product must have read and understood this document. If you have any questions that are not resolved by this document, you can obtain further information from the supplier or manufacturer.

If the product is not used in accordance with this document, the protection provided could be impaired.

The applicable regulations must be observed when installing and using the devices. Within the EU, these include regulations regarding occupational safety and accident prevention as well as those from the VDE (German Association for Electrical, Electronic & Information Technologies). If the device is used outside of the EU, it is the responsibility of the plant engineer or operator to comply with local regulations.

Mounting, installation and commissioning work on the devices may only be carried out by qualified technicians. Qualified technicians are persons who are familiar with the described product and who can assess given tasks and recognize possible dangers based on their technical training, knowledge and experience, as well as their knowledge of the applicable regulations.

Symbol meanings



WARNING

Indicates a hazard of medium risk which can result in death or serious bodily injury if not avoided.



CAUTION

Indicates a hazard of low risk which can result in minor or medium bodily injury if not avoided.



CAUTION

Indicates a hazard which can result in material damage or malfunctions if not avoided.



NOTE

Indicates additional information that can simplify working with the product.



NOTES ON DISPOSAL

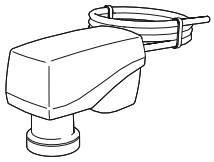
In accordance with the applicable laws and directives of the European Union countries, the product should not be disposed of with household waste. This ensures environmental protection and sustainable recycling or raw materials.

Private users should contact their local retailer or their local authority for information regarding environmentally safe recycling of old appliances. The local and currently valid legislation must be observed.

Commercial users should contact their supplier and observe the conditions of the purchase agreement. This device may not be disposed of together with other commercial waste.

MD15-LP-FTL-HE Wireless Small Actuator

MD15-LP-FTL-HE Wireless small actuator for valves with an M30x1.5 connection manufactured by Heimeier, Honeywell-MNG, Junkers, Honeywell-Baukmann, Oventrop (1998 and later), Cazzaniga, etc.



Technical Data

Nominal voltage	12VAC (-10%) ..24VAC(+10%); 50/60 Hz or 12VDC(-10%) ..24VDC(+10%)
Dimensioning	1.5 VA (12..24 V AC); 0.7 W (12..24 V DC)
Power consumption	Nominal: 0.9 VA (12..24 V AC); 0.4 W (12..24 V DC)
Switch-on current	Max. 7.5 A for a short time
Connection	Built-in cable 1.5 m; 2 x 0.5 mm^2
Measuring system	Integrated binary temperature sensor; 0..40 °C; ±0.5 °C at 25 °C
Interfaces	EnOcean® wireless interface: ■ Radiogram: EnOcean radiogram, bidirectional ■ EEP A5-20-01, A5-10-10 or D5-00-01 ■ Frequency: 868.3 MHz ■ Range: approx. 30 m in buildings (depending on building structure) ■ Duty cycle: < 1 % ■ Transmission and reception interval: every 1..10 min, can be set in 1 minute increments (default value = 2 min)
Sound power	< 23 dB (A)
Positioning stroke	Max. 6 mm, automatic valve recognition
Positioning time	10 s/mm
Positioning force	100 N nominal
Housing	Upper section: RAL 9019 - pure white Base: RAL 7035 – light gray
Permitted medium temperature in the valve	0..120 °C
Ambient temperature	During operation: 0..50 °C Out of operation: -20..60 °C
Ambient humidity	0..85 % r. h., non-condensing
Level of contamination	2
Degree of protection	IP54
Protection class	III
Installation position	360°
Maintenance	Maintenance-free
Weight	225 g

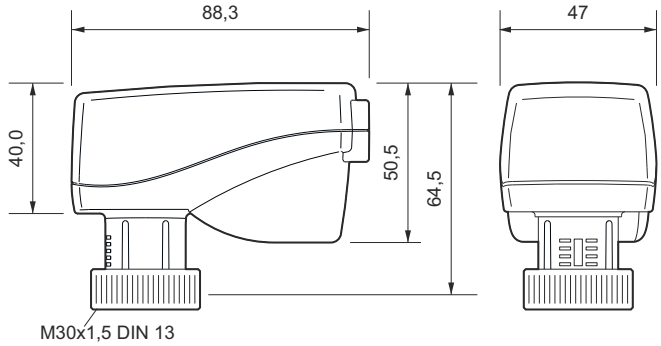
Accessories (not included in delivery)

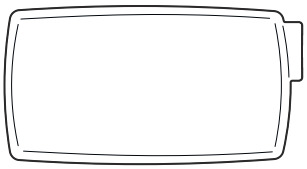
VS3 Anti-vandalism protector for MD15-xx-HE

Adapters for radiator valves with **MD15-LP-FTL-HE** small actuators

Item no.	ID	Type
Z800-HW	9703-24	Danfoss series 2 - 20 x 1
Z801-HW	9704-24	Danfoss series 3 - 23.5 x 1.5
Z802-HW	-	Danfoss RA2000
Z803-HW	9800-24	Danfoss RAV
Z804-HW	9700-24	Danfoss RAV-L
Z805-HW	9700-27	Vaillant Ø 30 mm
Z806-HW	9701-28	TA (M28 x 1.5)
Z807-HW	9700-30	Herz (M28 x 1.5)
Z808-HW	9700-55	Comap (M28 x 1.5)
Z809-HW	9700-10	Oventrop (M30 x 1)
Z810-HW	9700-33	Giacomini
Z811-HW	9700-36	ISTA (M32 x 1)
Z812-HW	9700-32	Rotex (M30 x 1)
Z814-HW	9700-34	Uponor (Velta) valves
Z815-HW	9701-34	Uponor (Velta) Provario
Z816-HW	9700-41	Markaryd

Dimensions

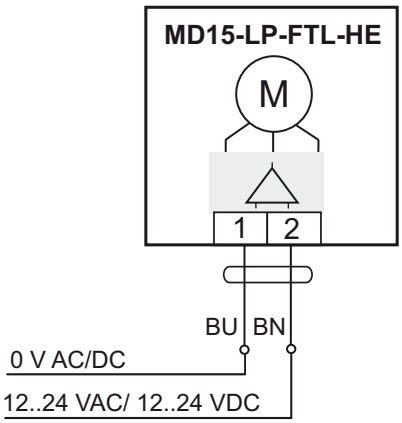




Other properties

Display	LED display for operating voltage and status
Position indicator	Stroke range scale

Connection



Operating modes of the wireless small actuator

CAUTION

All operating modes including self-controlled mode and frost protection function become available after startup, i.e. after successful teach-in on a radio partner.

Actuator mode

If a 0 to 100% EnOcean telegram is received from an external radio partner for controlling the radio small actuator, the internal loop controller is not active.

The transmitted actuating signal is translated into a positioning movement.

A suitable radio single room controller takes over the control functions.

Self-controlling operation

The integrated room temperature controller is activated if no external 0 to 100% EnOcean radio telegram is received.

- Without external operator panel (= emergency mode):

The temperature is maintained at a fixed setpoint of 20 °C by the integrated temperature sensor (actual value) and the integrated control function of the actuator.

- With external operator panel (EnOcean technology):

Using the operator panel, users can freely set the setpoint or enter their own schedule.

The actual value and setpoint of the external operator panel is transferred via the EnOcean radiogram.

The integrated control algorithm makes room control easy and convenient.

Valve recognition

During commissioning, the actuator detects the closing point and the total stroke of the valve.

After the unit is successfully taught in on a radio partner, this detection process is performed again via the Init.

Valve exercise

Valve exercise prevents the cone from jamming when the valve is inactive for a long time. When valve exercise is active, the actuator performs a complete valve movement once every 21 days. The valve is fully opened and closed before being returned to its target position.

This function can be switched on and off (see p. 23).

Automatic closing point control

The small actuator continuously monitors the closing point and corrects it if necessary.

Communication Status

The status (actuator mode or emergency mode, see page 6) of the current communication is displayed.

Energy block (automatic “Window open” recognition)

When a window is open, the flow of heat energy to the room is interrupted. An open window is signified by a large and rapid temperature drop at the small actuator. If such a drop is measured by the internal temperature sensor, the small actuator closes the valve for 30 min.

After 30 minutes, the small actuator returns to normal operation and the automatic “Window open” recognition function is active again.

This function can be switched on and off (see p. 24).

Frost protection function

If the temperature at the integrated temperature sensor drops below 6 °C, the small actuator opens the valve until 8 °C is reached.

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).

CAUTION

This product uses only EnOcean radiograms.

When selecting a radio partner, take care to ensure that the radio interface also works with the EnOcean radiogram EEP A5-20-01, A5-10-10, D5-00-01 or MSC.

EnOcean Equipment Profiles EEP A5-20-01

DATA BYTES	
Transmit mode:	Message from the actuator to the controller
DB_3	Current Value value 0...100 %, linear n=0...100
DB_2.BIT_7	Service on
DB_2.BIT_6	Energy input enabled
DB_2.BIT_5	Value = 1
DB_2.BIT_4	Value = 1
DB_2.BIT_3	Contact, cover open (not applicable)
DB_2.BIT_2	Failure temperature sensor, out of range
DB_2.BIT_1	Detection, window open
DB_2.BIT_0	Actuator obstructed
DB_1	Temperature 0 °C..40 °C, linear n=0..255
DB_0.BIT_7	Not used
DB_0.BIT_6	Not used
DB_0.BIT_5	Not used
DB_0.BIT_4	Not used
DB_0.BIT_3	LRN Bit 0b0 Teach-in telegram 0b1 Data telegram
DB_0.BIT_2	Self-controlled mode 0b0 off 0b1 on
DB_0.BIT_1	Not used
DB_0.BIT_0	Not used
Receive mode:	Commands from the controller to the actuator
rx time	Note: Data transmission from the radio partner to the radio small actuator must be completely finished within a maximum time window of 1 s.
DB_3	Valve setpoint 0...100%, linear n=0...100 Temperature setpoint 0...40° C, linear n= 0...255
DB_2	Temperature actual from RCU = 0b0, Room controller-unit …
DB_1.BIT_7	Run init sequence, only active in service mode
DB_1.BIT_6	Lift set, only active in service mode
DB_1.BIT_5	Valve open, only active in service mode
DB_1.BIT_4	Valve closed, only active in service mode
DB_1.BIT_3	Summer bit, reduction of energy consumption
DB_1.BIT_2	Setpoint selection DB_3 0b0 setpoint 0...100%, 0b1 temperature setpoint 0 °C...40 °C
DB_1.BIT_1	Setpoint inverse
DB_1.BIT_0	Select function 0b0 RCU 0b1 service on

General installation instructions

It is not always possible to freely select the installation location of devices which communicate wirelessly, as radio data transmission is influenced to a greater or lesser extent by structural or spatial factors.

Before installation and assembly, the building structure must be analyzed and a series of measurements must be made to determine the specific ranges within the building.

In order to establish operational and reliable communication paths, the following aspects must be considered before and during planning:

- Structural factors restrict the transmission ranges which can be reached. Building materials and screening elements (e.g. suspended ceiling elements, installation shafts, fire doors, etc.) must be taken into consideration during planning.

CAUTION

Elevated humidity increases natural signal damping.

NOTE

Recommendation: Plan radio paths **horizontally on a single level** with max. 30 m between the trasmitting and receiving modules.

- Designed only for use in rooms.
- Observe minimum distances to potential sources of interference.
  - Min. 0.5 m to high-frequency sources of interference (such as microwaves, transformers or computers)
  - Min. 0.5 m to transmitters of other radio systems (such as a cordless telephone or headphones)
  - Min. 0.1 m to metal and door frames
- Minimize the effect of wall thickness (for example partition walls or room dividers) by ensuring that the radio signal passes through the walls at as close to a right angle as possible.
- Do not select installation locations in the radio shadow of screening building parts/structures → No direct reception possible.
- Where the device is installed at the limits of reliability, change the position of the transmitter/receiver slightly if possible (reduce overlapping effects of radio waves).

R10..20xx and RW15x two-way/three-way valve for MD15-LP-FTL-HE

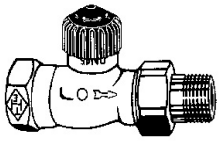
Types

PN10 gunmetal two-way valve for water up to 120 °C

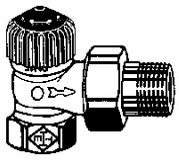
	Type	DN	PN	Kvs	R
Straight flow	R10D	10	10	1.25	3/8"
	R15D	15	10	1.35	1/2"
	R20D	20	10	2.5	3/4"
Right-angled flow	R10E	10	10	1.25	3/8"
	R15E	15	10	1.35	1/2"
	R20E	20	10	2.5	3/4"
Straight flow with Kvs setting	R10DV	10	10	0.86	3/8"
	R15DV	15	10	0.86	1/2"
	R20DV	20	10	0.86	3/4"
Right-angled flow with Kvs setting	R10EV	10	10	0.86	3/8"
	R15EV	15	10	0.86	1/2"
	R20EV	20	10	0.86	3/4"

Technical data – valves Rxx and RWxx

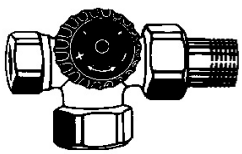
Nominal diameter	DN10 - 20
Pressure rating	PN10
Connection	Pipe screw connections in accordance with DIN EN 2115
Actuating stroke	2 mm
Temperature of medium	Water up to 120 °C
Housing	Gunmetal; nickel-plated
Cone	EPDM
Valve spindle	Stainless steel
Spindle seal	EPDM
Maintenance	Maintenance-free



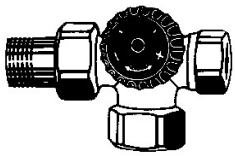
R10..20D, R10..20DV



R10..20E, R10..20EV

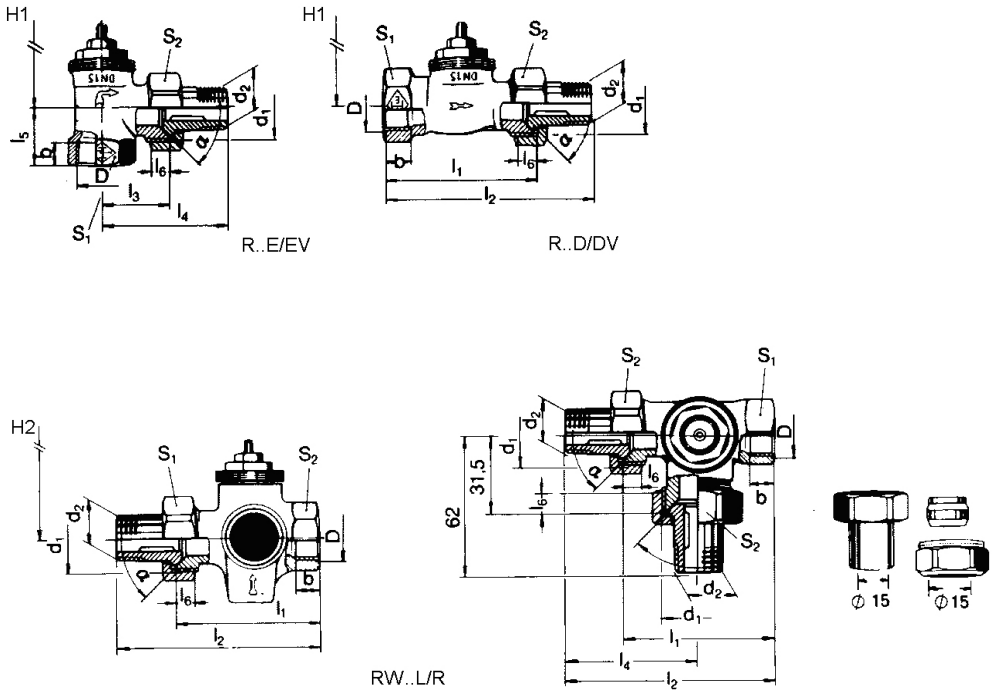


RW15L



RW15R

Dimensions



DN	D	b min	d1	d2	l1 ±1	l2 ±2	l3 ±1	l4 ±1,5	l5 ±1,5	l6 min	S1	S2	H1 ±2	H2 ±2
10	Rp 3/8	10,1	G 5/8	R 3/8	59	85	26	52	22	6	22	27	69	74
15	Rp 1/2	13,2	G 1/2	R 1/2	66	95	29	58	26	7	27	30	69	74
20	Rp 3/4	14,5	G 1	R 3/4	74	106	34	66	29	8	32	39	69	74

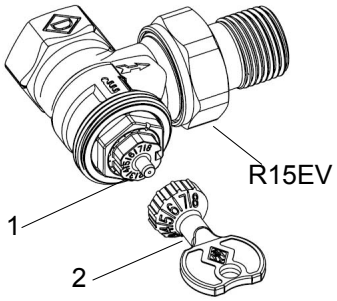
Kvs default setting for R10 - 20DV/EV valves

To adjust to the heat requirement, the R10 - 20DV/EV valves have 8 flow settings for the radiator mass flow rate.

The maximum flow rate, Kvs value (m³/h) can be selected by using the settings 1, 2, 3, 4, 5, 6, 7 or 8 (delivery setting = 8, corresponds to a Kvs value = 0.86).

The setting can be made using a Z29 socket key (accessory). The setting between 1 and 8 can be read from the valve, and will be implemented by the installed small actuator.

Position	1	2	3	4	5	6	7	8
Kvs value	0,049	0,102	0,185	0,313	0,420	0,565	0,740	0,860



(1) Setting mark
(2) Z29 socket key (accessory)

R10..20DQ and R10..20EQ two-way valve for MD15-LP-FTL-HE

Types

Gunmetal two-way valve PN10 for water of between -10°C and +100°C

	Type	**DN**	**PN**	**Flow rate range** [l/h]
Straight flow	R10DQ	10	10	10..150
	R15DQ	15	10	10..150
	R20DQ	20	10	10..150
Right-angled flow	R10EQ	10	10	10..150
	R15EQ	15	10	10..150
	R20EQ	20	10	10..150

Technical Data

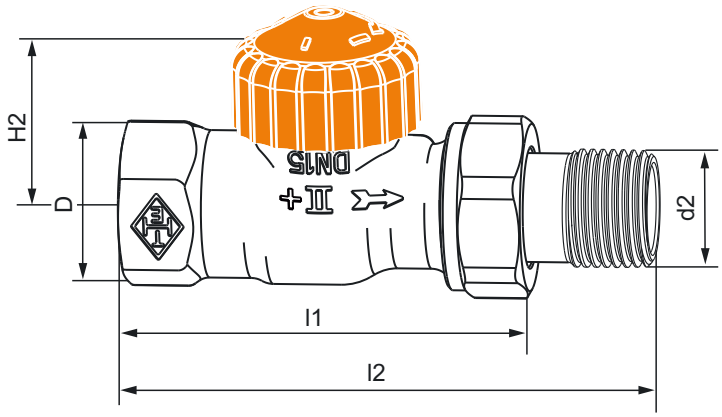
Nominal diameter	DN10–20
Pressure rating	PN10
Flow rate range	The flow rate can be infinitely adjusted within the specified range: 10..150 l/h **Default setting:** 150 l/h
Connection	for actuators and thermostat heads M30x1.5
Differential pressure	Max. 60 kPa min. 10..100 l/h = 10 kPa; 100..150 l/h = 15 kPa
Stroke	1.5 +0.20/-0.25 mm
Temperature	max. operating temperature: 100 °C min. operating temperature: -10 °C
Housing	Corrosion-resistant gunmetal; nickel-plated
Thermostat upper part	Brass, PPS
Compression spring	Stainless steel
Spindle	Stainless steel spindle with double O-ring seal
Valve disc	EPDM

Accessories (not included in delivery)

Z34 Socket key for the two-way valves RxxDQ and RxxEQ

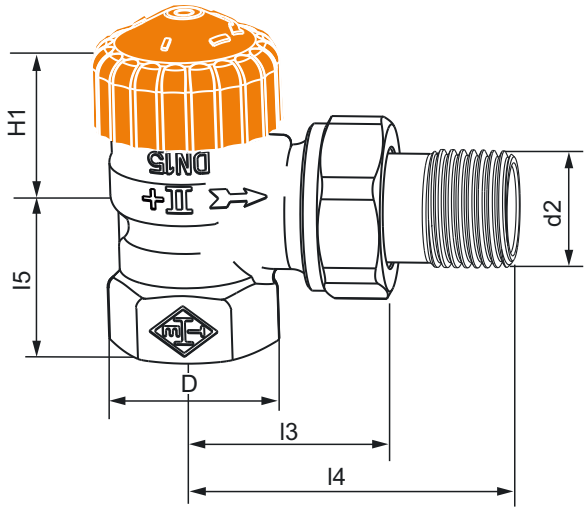
Dimensions

- R10..20DQ



DN	D [inch]	d2 [inch]	l1 [mm]	l2 [mm]	H2 [mm]
10	Rp3/8	R3/8	59	85	21.5
15	Rp1/2	R1/2	66	95	21.5
20	Rp3/4	R3/4	74	106	23.5

- R10..20EQ



DN	D [inch]	d2 [inch]	l3 [mm]	l4 [mm]	l5 [mm]	H1 [mm]
10	Rp3/8	R3/8	26	52	23.5	23.5
15	Rp1/2	R1/2	29	58	27	23.5
20	Rp3/4	R3/4	34	66	29	23.5

Default setting for the flow rate range

The valves have a default setting for adjusting the flow rate.

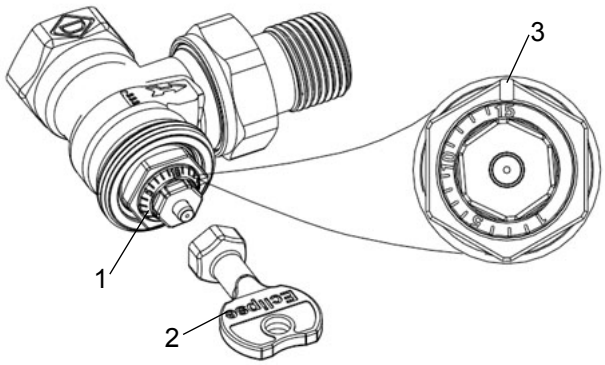
The max. flow rate can be selected with the positions 1 to 15 (delivery setting = 15 corresponds to max. flow rate = 150 l/h).

The setting can be made using a Z34 socket key (accessory). The setting between 1 and 15 can be read from the valve, and will be implemented by the installed small actuator.

Setting	1	I	I	I	5	I	I	I	I	10	I	I	I	I	15
l/h	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150

Control deviation [xp] max. 2 K

Control deviation [xp] max. 1 K to 90 l/h



(1) Settings scale
(2) Z34 socket key (accessory)
(3) Setting mark

Setting at different radiator performance and system spread

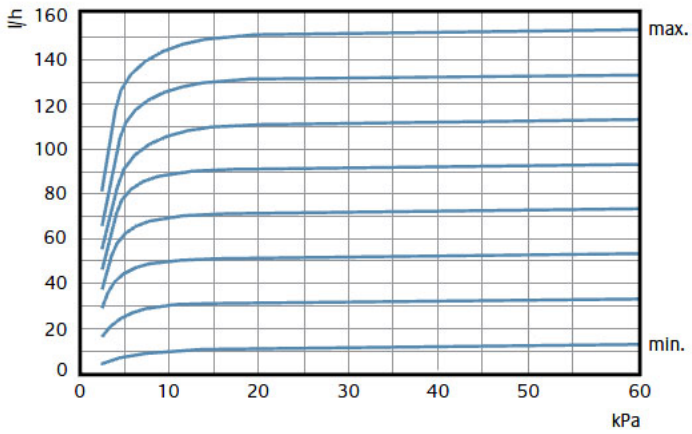
Q [W]	200	250	300	400	500	600	700	800	900	1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000	4800	5300	6500	6800
Δt [K]																													
10	2	2	3	3	4	5	6	7	8	9	10	12	14	15															
15	1	1	2	2	3	3	4	5	5	6	7	8	9	10	12	13	14	15											
20	1	1	1	2	2	3	3	3	4	4	5	6	7	8	9	10	10	11	12	13	14	15							
40		1	1	1	1	1	2	2	2	2	3	3	3	4	4	5	5	6	6	7	7	7	8	8	9	10	11	14	15

Δp min. 10 - 100 l/h = 10 kPa
Δp min. 100 - 150 l/h = 15 kPa

Q = radiator output
Δt = system spread
Δp = differential pressure

example:
Q = 1000 W, Δt = 15 K
setting: 6 (»60 l/h)

Diagramm



Valve assembly

CAUTION

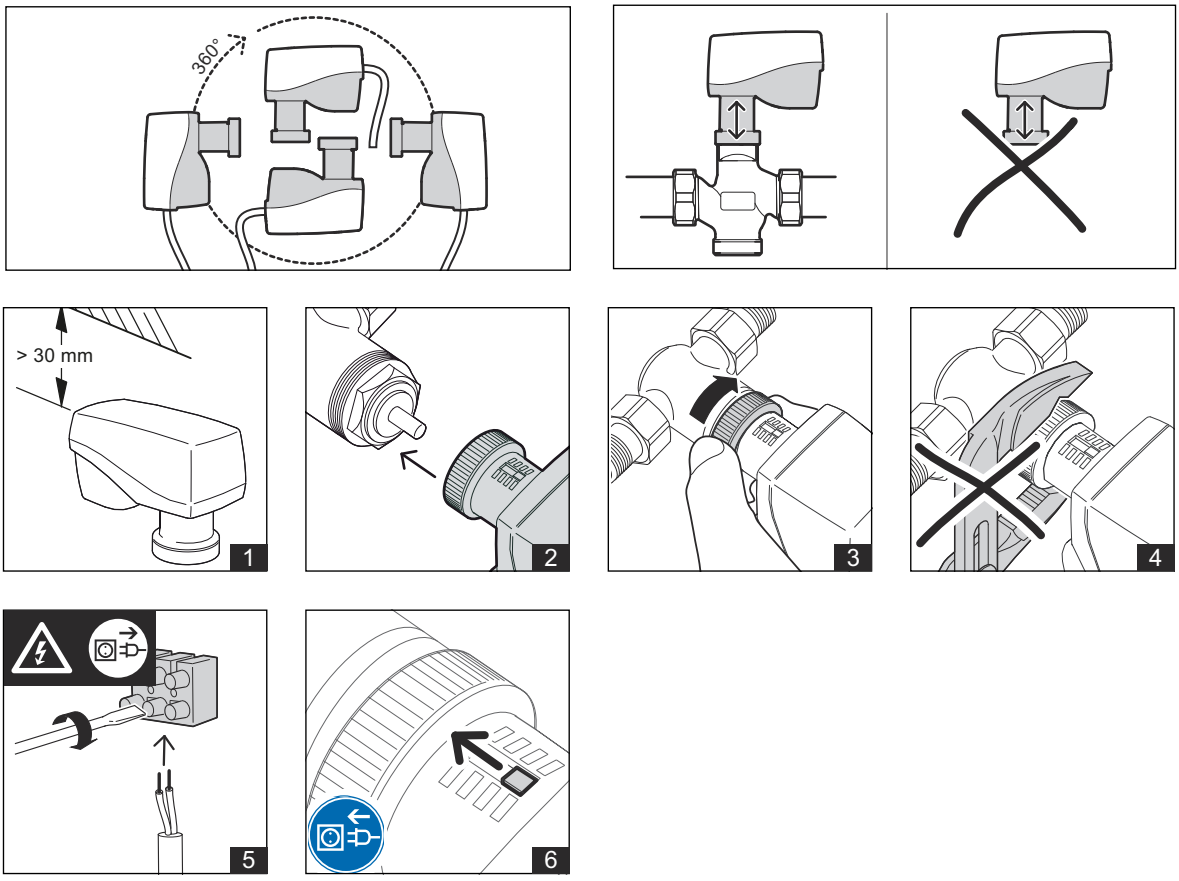
The valve may only be installed by qualified technicians. In addition to the generally valid installation guidelines, the following points are to be observed:

- The pipeline system and the interior of the fixture must be free of foreign objects. To protect the valve from contaminated media, dirt collectors with fine sieves, mesh width of 0.25 mm, must be inserted upstream of the valves.
- There must be no tension between the fixture and the pipeline connection.
- To avoid eddy formations in the valve body, the valve should be installed in a straight section of the pipe. A distance of 10 times the nominal diameter is recommended between the valve flange and the manifold or other similar parts.
- The installation location must be selected so that the ambient temperature at the actuator is kept between 0..+50 °C.
- During the installation, the maximum permissible pressure difference Δp and the specified direction of flow must be observed (see table in “Types” section).
- Once the valve is installed, make sure the cone in the valve seating can be moved easily by pushing in the valve stem.
- Approximately 30 mm of free space above the actuator is required for installing the actuator.
- Observe the direction of the flow arrow on the valve body! Inverting the flow direction impairs control behavior!

Mounting of the wireless small actuator

CAUTION

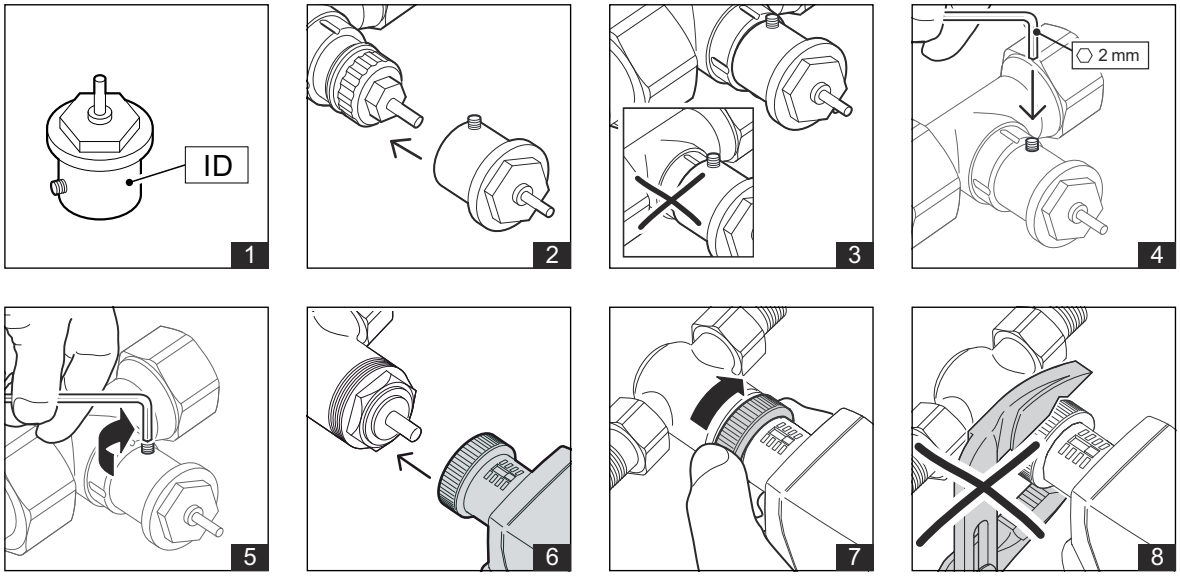
Operate the actuator only in a silicone-free environment!



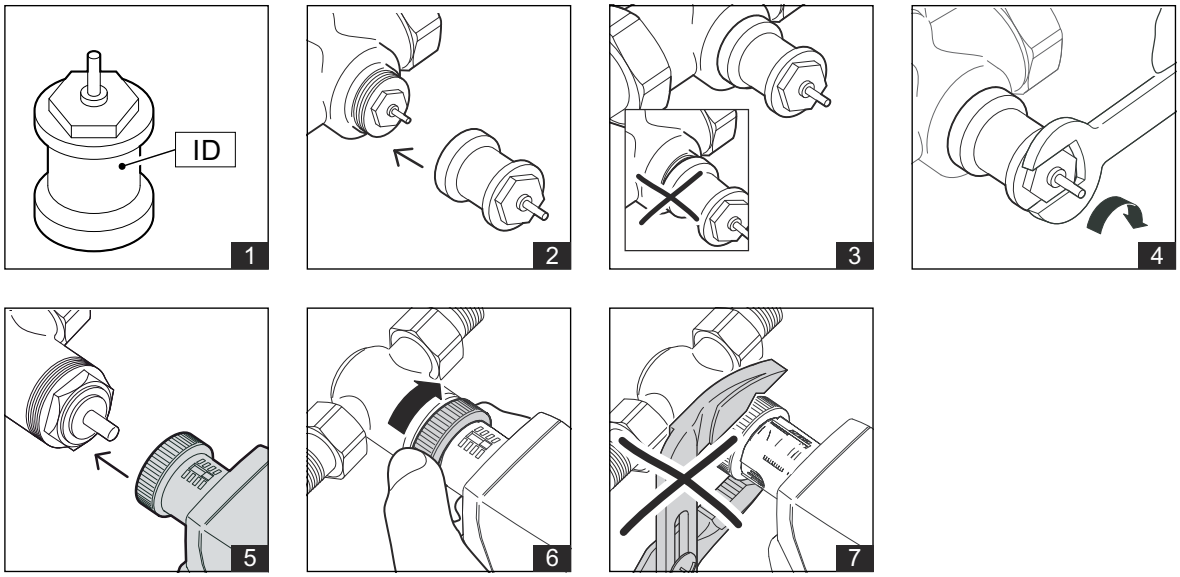
- Place the radio actuator on the threaded connection of the valve and tighten until hand-tight using the union nut.
- Establish the electrical connection.

Mounting accessories Z800-HW to Z816-HW

Z802-HW..Z805-HW



Z800-HW..Z801-HW and Z806-HW..816-HW

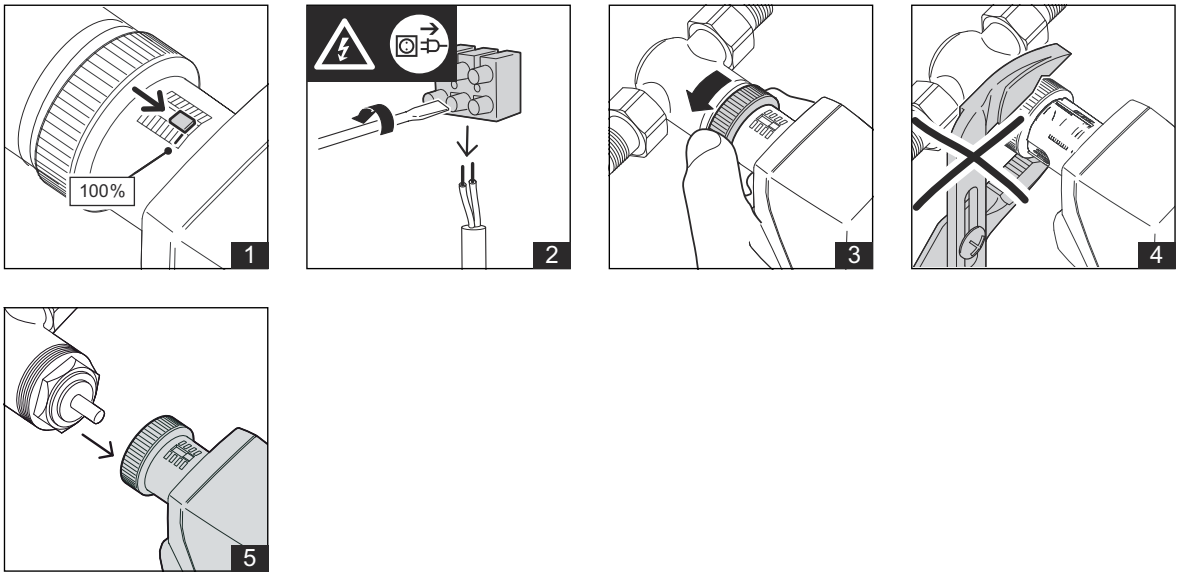


Dismounting of the wireless small actuator

CAUTION

Before beginning to remove the unit, make sure that no differential pressure builds up in the valve body before beginning work. If necessary, close the gate valve and turn off pumps.

After the pipeline has cooled off, you can begin removing the actuator.



- ► Move the small actuator into the upper position with a radio actuating signal (actuator mode) or restore the actuator's default settings.
- ► Disconnect the small actuator from the line power. Then disconnect all electrical connections.
- ► Loosen the union nut.
- ► Remove the actuator from the valve.

Commissioning

CAUTION

This product description describes specific settings and functions of the MD15-LP-FTL-HE. In addition to these instructions, the product descriptions of other system components, such as radio partners, are to be observed.

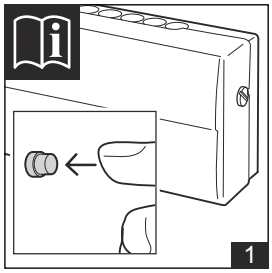
NOTE

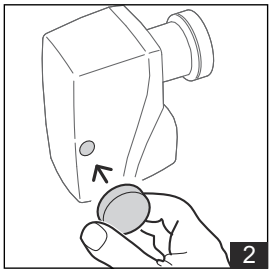
A magnet with a holding force of at least 1 kg is required for the commissioning.

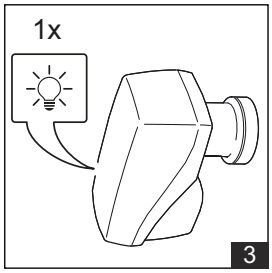
Not included in delivery!

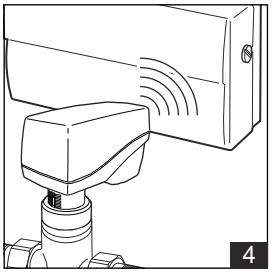
- You can find the reed switch (right-hand side) and the status LED (left-hand side) for the magnets behind the housing. See Figure 2 and 3.

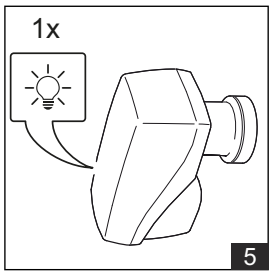
  The status LED shines through the housing.











Adaption of the wireless small actuator to a radio partner (master room controller or room control module)

e.g. RBW322-FTL Room Control Module

- ► Triggering a teach-in radiogram with a radio partner (see Fig. 1, page 19). Details are described in the documentation of the radio partner.
- ► Trigger a teach-in radiogram on MD15-LP-FTL-HE by holding the magnets to the upper right-hand side of the actuator (see Fig. 2, page 19) for a short period of time until the status LED flashes green 1 time.
- ► Remove the magnets.

  The teach-in process is started.

  The radio partner confirms that the teach-in function was successful. Details are described in the documentation of the radio partner.

  The radio small actuator visually confirms that the teach-in process was successful (status LED flashes green 1 time for 1 s).

  An initialization run is then automatically carried out and the status LED flashes until this has been completed (approx. 60 s).

NOTE

If the status LED has not flashed for approx. 1 s and no initialization run is completed, then the teach-in was not successful.

The signal path must be checked and the teach-in process repeated.

NOTE

After the teach-in function has worked successfully, the device ID of the wireless partner is permanently stored in the wireless small actuator.

Adaption of the radio temperature sensor or radio window contacts

Teach-in of radio temperature sensors

- ► Trigger a teach-in radiogram on MD15-LP-FTL-HE by holding the magnets to the upper right-hand side of the actuator (see Fig. 2, page 19) for a short period of time until the status LED flashes green 2 times.
- ► Remove the magnets.

  The radio small actuator is put in teach-in standby mode for a maximum duration of 15 s. During this time, the status LED will flash briefly a maximum of 10 times.
- ► Triggering a teach-in radiogram with a radio partner (see Fig. 1, page 19). Details are described in the documentation of the radio partner.

  The radio small actuator visually confirms that the teach-in process was successful (status LED flashes green 1 time for 1 s).

  An initialization run is then automatically carried out and the status LED flashes until this has been completed (approx. 60 s).

NOTE

If the status LED has not flashed for approx. 1 s and no initialization run is completed, then the teach-in was not successful.

The signal path must be checked and the teach-in process repeated.

NOTE

After the teach-in function has worked successfully, the device ID of the wireless partner is permanently stored in the wireless small actuator.

NOTE

If the radio small actuator has already been taught in on a radio partner (Master) or a radio temperature sensor, an initialization run takes place after the power has been switched on.

Teach-in of radio window contacts

- Trigger a teach-in radiogram on MD15-LP-FTL-HE by holding the magnets to the upper right-hand side of the actuator (see Fig. 2, page 19) for a short period of time until the status LED flashes green 2 times.
- Remove the magnets.

  The radio small actuator is put in teach-in standby mode for a maximum duration of 15 s. During this time, the status LED will flash briefly a maximum of 10 times.
- A teach-in radiogram is triggered with the radio partner (see Fig. 1, page 18). Details are described in the documentation of the radio partner.

  The radio small actuator visually confirms that the teach-in process was successful (status LED flashes green 1 time for 1 s).

  The radio small actuator is then put in teach-in standby mode again for a maximum duration of 15 s. During this time, the status LED will briefly flash a maximum of 9 times.

Other radio window contacts are taught in the same way as described above.

Up to 4 radio window contacts can be taught in on the radio small actuator.

The time between each teach-in may not exceed 15 s.

All radio window contacts must be taught in within a single teach-in sequence.

It is not possible to add an additional radio window contact later after the procedure is complete.

If you want to do this, you must teach in all radio window contacts again.

NOTE

If the status LED does not light up for approx. 1 s, the teach-in was not successful.

The signal path must be checked and the teach-in process repeated.

NOTE

Once the teach-in process is completed successfully, the device ID of the radio window contact is permanently stored in the radio actuator.

Deleting the Radio Partner

The device ID of the radio partner that is internally saved on the MD15-LP-FTL-HE can only be deleted by restoring the MD15-LP-FTL-HE default settings.

Otherwise, the respective saved device IDs are overwritten during each new teach-in process.

Communication status

A prerequisite is that the radio small actuator must already have been taught in on a radio partner (Master).

The status (actuator mode or emergency mode, see page 6) of the current communication is displayed.

- ► Hold the magnets on the upper right-hand side of the actuator (see Fig. 2, page 19) until the status LED flashes 3 times.
- ► Remove the magnets.

  If the communication is OK, the status LED will flash green 1 time for approx. 1 s, optically confirming this, and then flash green again 1 time.

If the communication is not OK and the radio small actuator is in emergency mode, the status LED will only briefly flash green 1 time.

NOTE

If the status LED has not flashed for approx. 1 s, the communication between the actuator and the radio partner has been interrupted. The radio partner and signal path must be checked.

NOTE

If the radio communication with the radio partner (master) is interrupted for more than 0.5 h, the radio actuator switches to emergency mode (see page 6) and the “emergency mode” status bit (self-controlled mode) is set.

When a correct telegram is received, the radio actuator automatically returns to normal operation.

Switching valve blocking protection on and off

- ▶ Hold the magnets against the upper right-hand side of the actuator (see Fig. 2, page 19) until the status LED flashes green 4 times.
- ▶ Remove the magnets.

The current status, on or off, is visually indicated.

- Valve exercise off:
  Status LED flashes green 1 time for 1 second
- Valve exercise on:
  Status LED briefly flashes green 4 times

- ▶ To change the status, the magnet must be placed and removed again within the next 4 s.
  The newly set function “Valve exercise ON” or “Valve exercise OFF” is visually indicated, as already described, and then the status LED briefly flashes again 1 time.

Factory setting: On

If the magnet is not placed within 4 s, the status LED flashes briefly again 1 time and the setting function is ended.

Adjusting the actuating direction

- ▶ Hold the magnets on the upper right-hand side of the actuator (see Fig. 2, page19) until the status LED flashes green 5 times.
- ▶ Remove the magnets.

The current status 0..100% or 100..0% is visually indicated.

- 0..100% 
  Status LED flashes green 1 time for 1 s
- 100..0% 
  Status LED flashes green 4 times

- ▶ To change the status, the magnet must be placed and removed again within the next 4 s.
  The newly set function “100..0%” or “0..100%” is visually indicated, as already described, and then the status LED briefly flashes again 1 time.

Default setting: 0..100% 

If the magnet is not placed within 4 s, the status LED flashes briefly again 1 time and the setting function is ended.

Switching the window open recognition on and off

- ▶ Hold the magnets on the upper right-hand side of the actuator (see Fig. 2, page 19) until the status LED flashes 6 times.
- ▶ Remove the magnets.

The current status of the “window open” recognition on or off is indicated.

- “Window open” recognition off:
  Status LED flashes green 1 time for 1 s
- “Window open” recognition on:
  Status LED flashes green 4 times

- ▶ To change the status, the magnet must be placed and removed again within the next 4 s.
  The newly set function “Window open recognition off” or “Window open recognition on” is visually indicated, as already described, and then the status LED briefly flashes again 1 time.

Default setting: “Window open” recognition off

If the magnet is not placed within 4 s, the status LED flashes briefly again 1 time and the setting function is ended.

Setting the transmission and reception interval

The transmission and reception intervals can be set in increments of one minute.

- ▶ Hold the magnets on the upper right-hand side of the actuator (see Fig. 2, page 19) until the status LED flashes 7 times.
- ▶ Remove the magnets.

The currently set radio intervals are visually indicated, see Table 1 “Transmission and Reception Intervals”.

- ▶ To change the transmission and reception intervals, you must hold up the magnet again and then remove it when the desired transmission and reception intervals are reached within the next 4 s.
  This is visually indicated, see Table 1 “Transmission and Reception Intervals”.
- ▶ Remove the magnets.
  The newly set transmission and reception interval are again visually indicated, see Table 1. “Transmission and Reception Intervals”, and afterwards the status LED briefly flashes again 1 time.

Default setting: Transmission and reception interval: 2 min

Transmission and reception interval	Message
1 min	Status LED flashes 1 time
2 min	Status LED flashes 2 time
:	:
5 min	Status LED flashes 5 time
:	:
10 min	Status LED flashes 10 time

Tab. 1: Transmission and reception interval

Resetting to factory settings

- Hold the magnets on the upper right-hand side of the actuator (see Fig. 2, page 19) until the status LED flashes 8 times.
- Remove the magnets.

  The status LED flashes green 4 times.
- To restore the default settings, the magnet must be placed and removed again within the next 4 s.

  The restore to the default settings will then be performed.

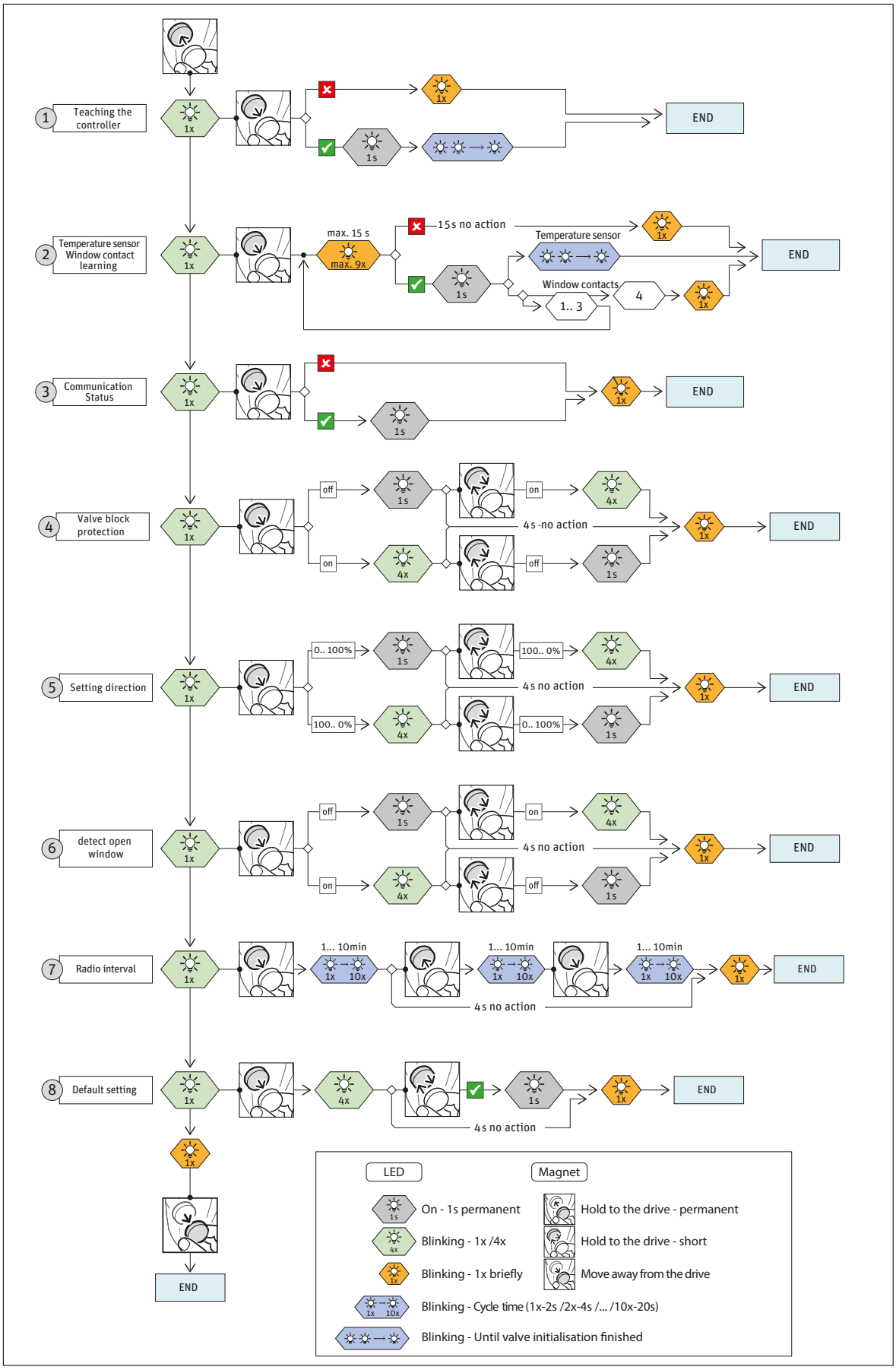
  This is visually confirmed by the status LED flashing green 1 time for approx. 1 s and then briefly flashing green again 1 time.

If the magnet is not placed within 4 s, the status LED briefly flashes 1 time and the default settings are not restored.

NOTE

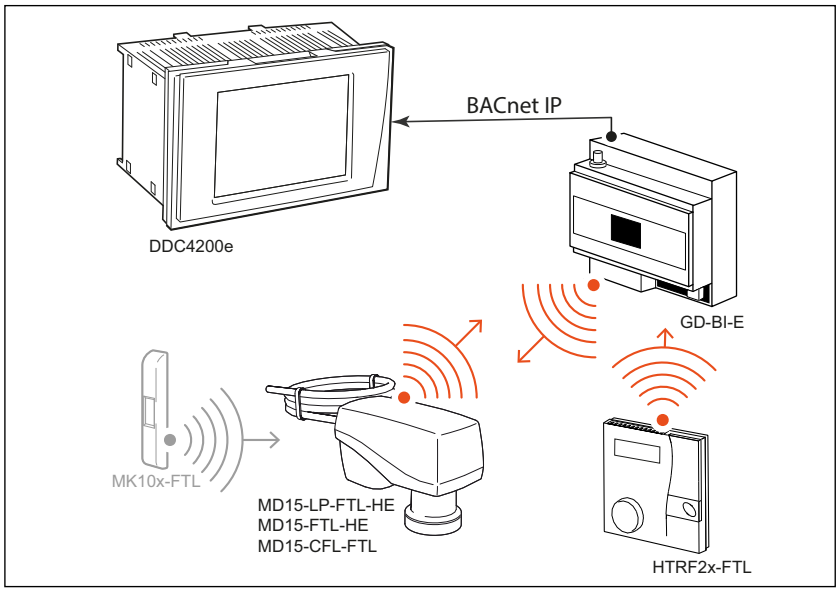
If the magnet is held in place until the status LED flashes 8 times for 1 s and then briefly flashes 1 time afterwards, the commissioning settings are completed.

- Overview of functions

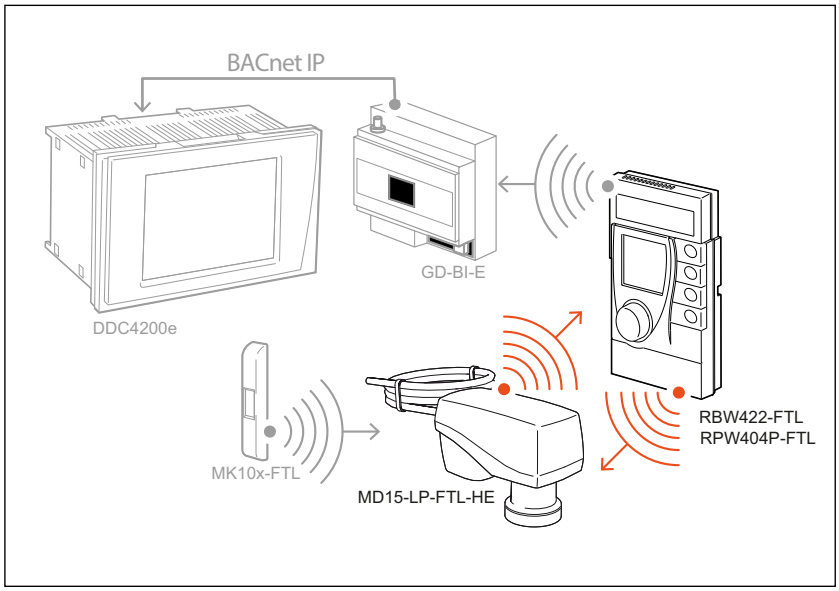


Application examples

- Radio room control with an automation station (e.g. DDC4200e)
  Connection of the radio module through an EnOcean system gateway GD-BI-E
  Connection to a window contact, e.g. MK10W-FTL (viar EnOcean Sytemgatway GD-BI-E or MD15-LP-FTL-HE), is possible



- Radio room control (self-controlled mode, see page 6) with RBW422-FTL or RPW404P-FTL room control module;
  Connection to an automation system (e.g. with DDC4200e) through the GD-BI-E EnOcean system gateway is possible
  Connection to a window contact, e.g. MK10W-FTL, is possible



- Radio room control (self-controlled mode, see page 6) with a radio temperature sensor, such as the HTRF21-FTL;
  Connection to a window contact, e.g. MK10W-FTL, is possible

