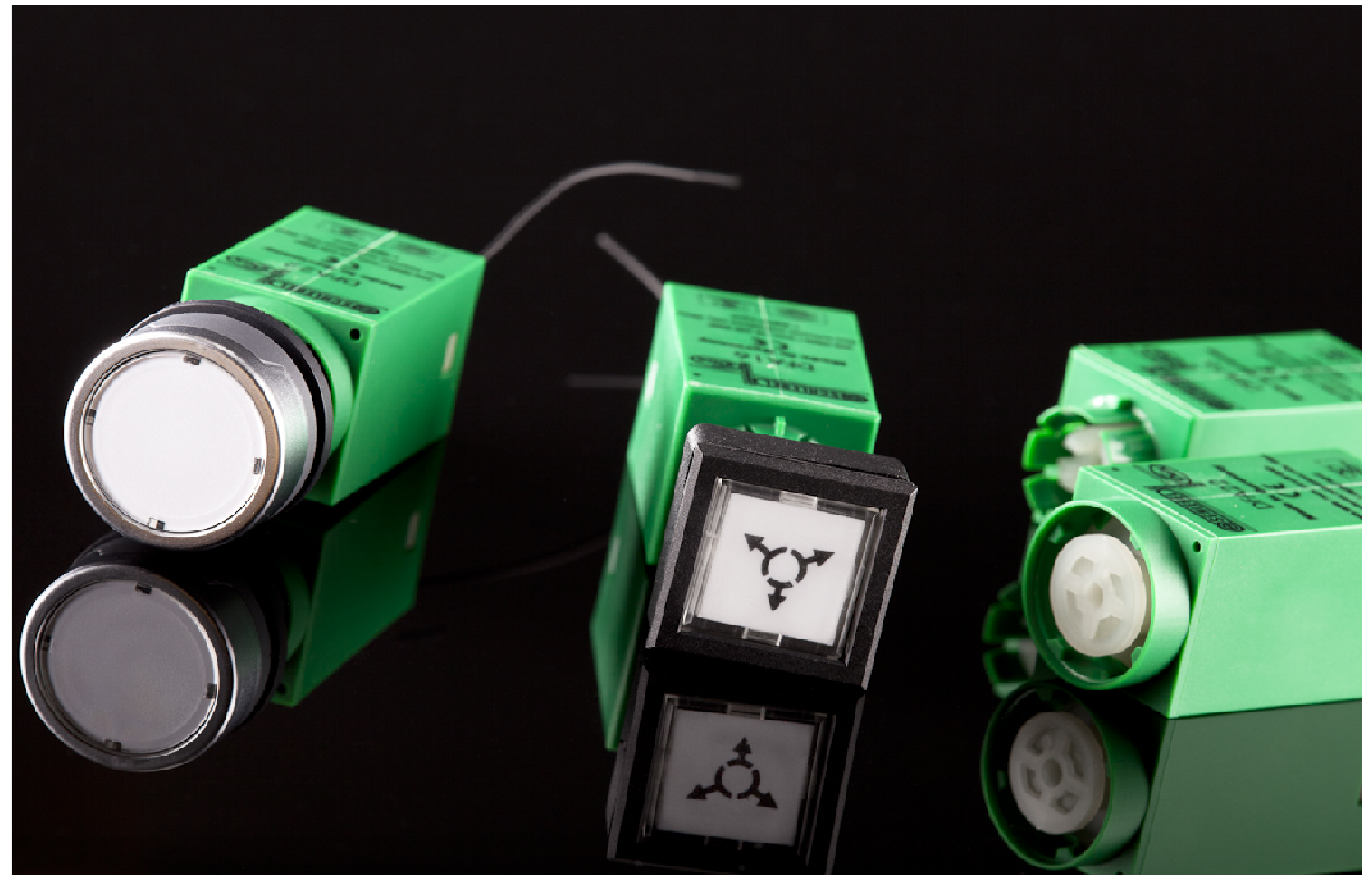




# Battery-free Wireless Modules



# Battery-free Wireless Modules

## Overview – Radio Switches

- Function of the energy generator
- Protocol
- Modularity
- Receiver
- Advantages of the wireless system

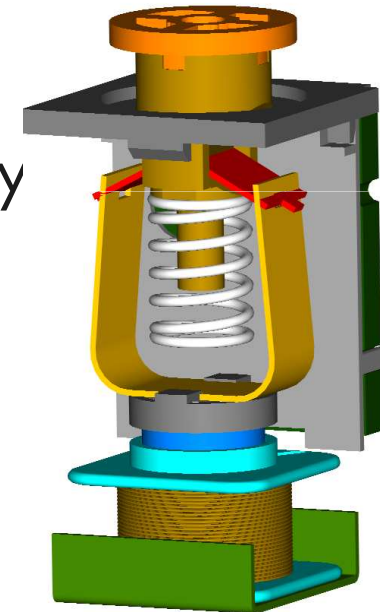




# Battery-free Wireless Modules

## Function of the energy generator

- Pushbutton signals are transmitted wirelessly – without batteries
- The required energy is provided by an electrodynamic power generator using the energy of the key travel of min. 6 mm .



# Battery-free Wireless Modules

## Data Transmission

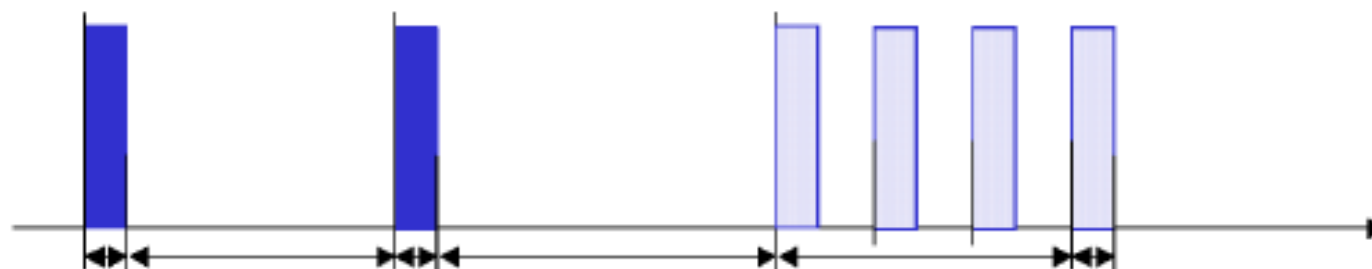
- Power generation of more than 50  $\mu$ Ws for transmission over a distance of 200 m (free field, undamped)
- Factory programmed 32 bit ID, i.e. each key has its own individual identification



# Battery-free Wireless Modules

## Data Transmission

- 3 short telegrams (< 1 ms) within a 25ms, third telegram is time variable



# Battery-free Wireless Modules

## Data Transmission

- 868.3-MHz band (in compliance with ETSI European Standard)  
USA and Asia -> 315 MHz
- Data transmission rates of 120 kbit/s
- Transmission power: max. 10 mW
- Complying with the R & TTE-EU Directive for radio equipment



# Battery-free Wireless Modules



## Battery-Free Wireless Pushbutton

Useful Tips for Reliable Range Planning



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# Battery-free Wireless Modules

## Radio Level Meter

to check the necessary transmitter signal intensity

- EPM 100  
EnOcean, 868.3 MHz
- EPM 300  
Thermokon, 315 MHz



# Battery-free Wireless Modules

## Modularity

The modules DFA16(\_315) and DFA22(\_315) can be combined with all actuators and 2-position selector and key heads with a travel of 6mm



# Battery-free Wireless Modules

Available for the following actuator series



➤ Quartron      Ø16.2mm



➤ Quartron-Juwel      24x24mm



# Battery-free Wireless Modules



➤ RX

Ø16.2mm



➤ RX-Juwel

Ø22.3mm



# Battery-free Wireless Modules



➤ Rondex

Ø22.3mm



➤ Rondex-M

Ø22.3mm





# Battery-free Wireless Modules



➤ Dux-Basic      Ø22.3mm



➤ RVA      Ø22.3mm



# Battery-free Wireless Modules



- Quartex-R      Ø22.3mm



- Kombitast-R-Juwel Ø30.5mm



- Quartex-R-Juwel 26x26mm



# Battery-free Wireless Modules

## Receiver

- 4-channel receiver for 868.3 MHz
- Up to 10 pushbuttons can be teached per channel
- Receiver for 315 MHz on request



# Battery-free Wireless Modules

## Receiver

- 1 or 2-channel receiver for 868.3 MHz
- Up to 30 pushbuttons can be teached per receiver
- Repeater available (1 or 2 level)



# Battery-free Wireless Modules

## Advantages of the radio system

- suitable for a wide temperature range of  $-25^{\circ}\text{C}$  bis  $+65^{\circ}\text{C}$
- improved haptics
- battery-free, no power supply necessary
- no wiring of the control unit (transmitter)
- easy programming of receiver

