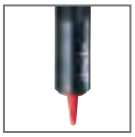
.steute

Wireless

Wireless Switchgear

// CABLE FREE SWITCH CONTROL

Catalogue




.steute

// SAFE SWITCHGEAR FOR DEMANDING AND CRITICAL APPLICATIONS

»Safe switchgear for demanding and critical applications«. True to this motto, steute has been providing its customers with innovative, practical and durable switchgear solutions – for over 50 years.

When our customers are successful, so are we. Because we always focus on our customers, our company has grown steadily and sustainably over the last decades. Steute is committed to continuing this growth – in close cooperation with our customers.

We are situated in East Westphalia, a key region for machine building and electrical goods manufacturing. It is home to qualified specialists committed to developing and manufacturing innovative products. It is also the location of renowned universities, research and educational institutions to which we maintain healthy contacts.

Markets are no longer restricted by national borders. This is why our products are developed and tested for extreme conditions all over the world. We take care to ensure that our products are always certified according to the latest international standards. In every industrial or emerging nation in the world, steute has access to qualified specialists who can guarantee competent support and a quick service.

As a medium-sized company we are able to react with speed to customer wishes and market trends. We are continually developing innovative products and using new technologies as we consistently open up new fields of application for our switchgear.

steute is currently active in four different business fields, producing switchgear, sensors and control units for use in industry and in medical equipment:

Wireless
Cable free switchgear and sensors for use in machinery and process plants. These industrial-strength wireless switches communicate with higher level control systems via reliable wireless transmission. »Energy harvesting« can play a major role in these products.

Automation
Standard and customised switchgear for machinery and process plants. Tried and tested electromechanical and non-contact technologies for classical applications in industrial automation and process control – always with a view to the latest global requirements.

Extreme
Switchgear and sensors for use in extreme environments or under extreme conditions. Certified products for use in hazardous areas worldwide (e. g. ATEX, IECEx, GOST).

Meditec
A comprehensive range of standard and customised foot and hand controls for medical devices, meeting the highest ergonomic and availability requirements. Produced in accordance with the certified EN ISO 13485 quality management system for medical products.

The following information provides an overview of our standard range of switchgear for complex and demanding applications. We will be happy to provide you with any additional information you require. If you cannot find the solution for your application: just get in touch. We have already helped numerous customers by developing »tailor-made« switchgear for their individual needs.

Marc Stanesby
Managing Director
steute Schaltgeräte GmbH & Co. KG

// STEUTE WIRELESS – RELIABLE, MANAGEABLE AND PRACTICE ORIENTATED WIRELESS TECHNOLOGY – WORLDWIDE APPLICABLE

A new business field is introduced

By restructuring its business fields, steute is taking into account the increasingly important share of its product range held by "wireless automation" – and the fact that the enterprise is now in a position to provide a large selection of different wireless technologies for industrial automation and the building services industry. The products included in this new "Wireless" business field are all presented in this brochure.

Industry makes high demands on wireless devices

Compared to consumer applications, industry and building automation make higher demands on wireless technologies. Wireless interference from other wireless systems affects the wireless links, as do emissions, e.g. from machine enclosures. steute began to tackle this problem early on – first in its business field Medical Technology, where particularly high demands are made on transmission safety. Soon afterwards wireless switchgear began to be developed for industrial automation.

A comprehensive range with different wireless standards

The rapidly growing demand has led to continual expansion of our range. At the beginning, we used available wireless standards. However, they limited the application of wireless technology in several fields. That is why, in a first step, the steute developers adapted these standards to suit the requirements of its customers. In a second step, steute then developed its own wireless standards, which were fully adapted to the industrial environments and feature profiles of wireless communication in the machinery and process plant industry.

A modular system for wireless switchgear

The result: today the business field "Wireless" is able to provide the machinery and process plant industry with numerous different designs of wireless switchgear – e.g. position switches, foot switches, pull-wire switches and different types of operating device. Each device can be combined with different wireless technologies. Furthermore, this technology offers a solid platform which meets customer-specific requirements of wireless systems with relatively little effort.

This is why the business field Wireless will continue to expand its range, as well as to open up new applications for wireless switchgear in collaboration with its customers.

steute Wireless

// SURFING THE RIGHT WAVE

steute Wireless

steute Wireless
Wireless communication opens up new possibilities, e.g. in the design of man-machine interfaces. We recognised this early on and are now already able to look back upon nearly ten years of experience in the development of wireless switchgear. We have developed technological platforms and wireless standards which are exactly adapted to specific application fields.

One focus of our development is »energy harvesting«: the switching devices generate the energy they require to transmit wireless signals by themselves – for example via a solar module or a robust electrodynamic energy generator.

Four different wireless technology platforms are available for complex industrial applications:

SW 2.4

SW 2.4
steute Wireless 2.4 GHz (SW2.4)
steute Wireless 2.4 GHz (SW 2.4) is a wireless technology developed especially for industrial applications. Modulation is achieved using the FhSS procedure, which guarantees high anti-interference and good coexistence with other 2.4 GHz systems. This technology was developed especially for communication between one or two foot controls (slave) with one receiver (master).

SW 868/915-e

SW 868 / 915-e
steute Wireless 868 / 915 MHz self-sufficient
steute Wireless 868/915 MHz (SW868/915) is a wireless technology especially for self-sufficient wireless systems. It enables data to be transmitted extremely robustly and reliably in an industrial environment. Switching devices are equipped with an electrodynamic energy generator which converts the mechanical energy expended on actuation into electrical energy. Then an individual wireless signal protected with a unique ID code is transmitted to one or more receivers. The energy produced by the generator is sufficient to send a wireless protocol, to process confirmation of receipt from the receiver and to re-send the protocol should receipt not be confirmed.

SW 868/915-b

SW 868 / 915-b
steute Wireless 868 / 915 MHz battery operation
steute Wireless 868/915 MHz battery operation is a bi-directional wireless technology which remains operational using conventional batteries for years, thanks to its extremely low power consumption. This battery-driven wireless technology delivers robust performance even in wireless environments prone to interference. The ranges are up to 60 m indoors and 700 m outdoors.

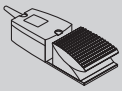
EnOcean 868

EnOcean 868
EnOcean 868 MHz
This non-battery wireless standard for use in industrial and building automation in acc. with ISO/IEC 14543-3-10 is characterised by a low energy consumption and a long range. An additional advantage is its interoperability with switches and sensors from other manufacturers. Different types of self-sufficient energy generation are available, including an electrodynamic energy generator and a solar module.

steute Wireless technologies in comparison

	SW 868-e	SW 868-b	SW 915-e	SW 915-b	SW 2.4-b	EN 868-e	EN 868-b
	Energy generator	Long life battery	Energy generator	Long life battery	Long life battery	Energy generator	Long life battery
Frequency	868.3 MHz	868.3 MHz	915 MHz	915 MHz	2.4 GHz	868.3 MHz	868.3 MHz
Self-sufficient	yes	no	yes	no	no	yes	no
Transmission channels	1	1	1	1	32	1	1
Redundancy	single-channel	single-channel	single-channel	single-channel	multi-channel	single-channel	single-channel
Mode of operation	confirmation	bi-directional	confirmation	bi-directional	bi-directional	uni-directional	uni-directional
Data rate	66 kBit/s	66 kBit/s	66 kBit/s	66 kBit/s	250 kBit/s	125 Kbit/s	125 Kbit/s
Telegram length	4 Byte	7 Byte	4 Byte	7 Byte	16 Byte	14 Byte	14 Byte
Modulation	FSK	FSK	FSK	FSK	FSK	ASK	ASK
Transmission method	1 x redundant	1 x redundant	1 x redundant	1 x redundant	4 x redundant	3 x redundant	3 x redundant
Range outdoors	max. 700 m	max. 700 m	max. 700 m	max. 700 m	30 m	max. 300 m	max. 300 m
Range indoors	60 m	60 m	60 m	60 m	30 m	30 m	30 m
Power consumption in active mode	low / irrelevant	low	low / irrelevant	low	low	low / irrelevant	low
Wake-up time	6 ms	4 ms	6 ms	4 ms	< 200 ms	30 ms	40 ms
Interference liability	very low	very low	very low	very low	low	very low	very low
Transmission path availability	medium	medium	medium	medium	high	medium	medium
No. of transmitters per receiver	max. 40	max. 40	max. 40	max. 40	2	max. 40	max. 40
				Approvals			
FCC / IC	●	●	●	●	●	-	-
Gost	-	-	-	-	●	●	●
Anatel	-	-	-	-	-	●	●
CSA	●	●	●	●	●	-	-

Selection chart wireless switchgear

	SW 868-e	SW 868-b	SW 915-e	SW 915-b	SW 2.4-b	EN 868-e	EN 868-b
	Energy generator	Long life battery	Energy generator	Long life battery	Long life battery	Energy generator	Long life battery
RF 95 	●	–	●	–	–	●	–
RF 96 	–	●	–	●	–	–	●
RF 98 	●	–	●	–	–	●	–
RF GF(S)I 	●	–	●	–	●	●	–
RF RC 10 	–	●	–	●	–	–	●
RF GS M25 	–	●	–	●	–	–	●
RF GS M30 	–	●	–	●	–	–	●
RF TG(M) 	–	●	–	●	●	–	●
RF BF 72 	●	●	●	●	–	●	●
RF BF 74 	●	●	●	●	–	●	●
RF IS 	–	●	–	●	–	●	●

● Configuration possible / – Configuration not possible

// STEUTE WIRELESS / THE WIRELESS TECHNOLOGIES IN DETAIL AND THEIR APPLICATIONS

The user has got the choice
Users interested in wireless switchgear can choose between four different wireless standards. steute thus covers a wide range of applications in pursuit of its goal to provide the appropriate wireless technology for each different requirement and use – without compromise.

Thanks to a modular design, there are different series of electromechanical switchgear, non-contact sensors and control units for the man-machine interface for all four wireless standards. Here are the features of the four technologies in detail:

SW 2.4 GHz
- energy-saving 2.4 GHz wireless technology
- bi-directional permanent wireless operation when switch is actuated
- battery life up to 1 year depending on application
- short connection times after »power on« (wake-up time max. 200 ms in sleep mode)
- very good coexistence with other 2.4 GHz systems; interference-free operation parallel to WLAN 802.11 and Bluetooth systems
- easy-to-set-up transmission paths
- certifiable worldwide
- no limits to period of use with regard to legal stipulations regulating the duty cycle
- point-to-point connection (two transmitters per receiver)
- interference-free parallel operation of several transmitter and receiver units with special »pairing« procedure
- good diagnosis
- comprehensive experience with complex applications in industry and medical equipment.

Using this wireless technology
Foot controls without cables are advantageous for machine and plant engineering – for more than one reason. Firstly, cables can be dangerous tripping hazards and, secondly, they can restrict ergonomic comfort because users cannot position their foot controls freely. This technology uses the license-free 2.4 GHz frequency band and is both extremely reliable and extremely robust. Further features include good interference and coexistence characteristics.

SW 868 / 915 MHz self-sufficient
- self-sufficient bi-directional transmission path
- optional long-range and ultra-long-range transmission path
- extensive range: up to 60 m indoors and 700 m outdoors
- no interference with DECT, WLAN, PMR systems, etc.
- system design verified in industrial environment
- short telegrams (small duty cycle) lead to low risk of collision
- good integration in automation systems
- battery operation possible.

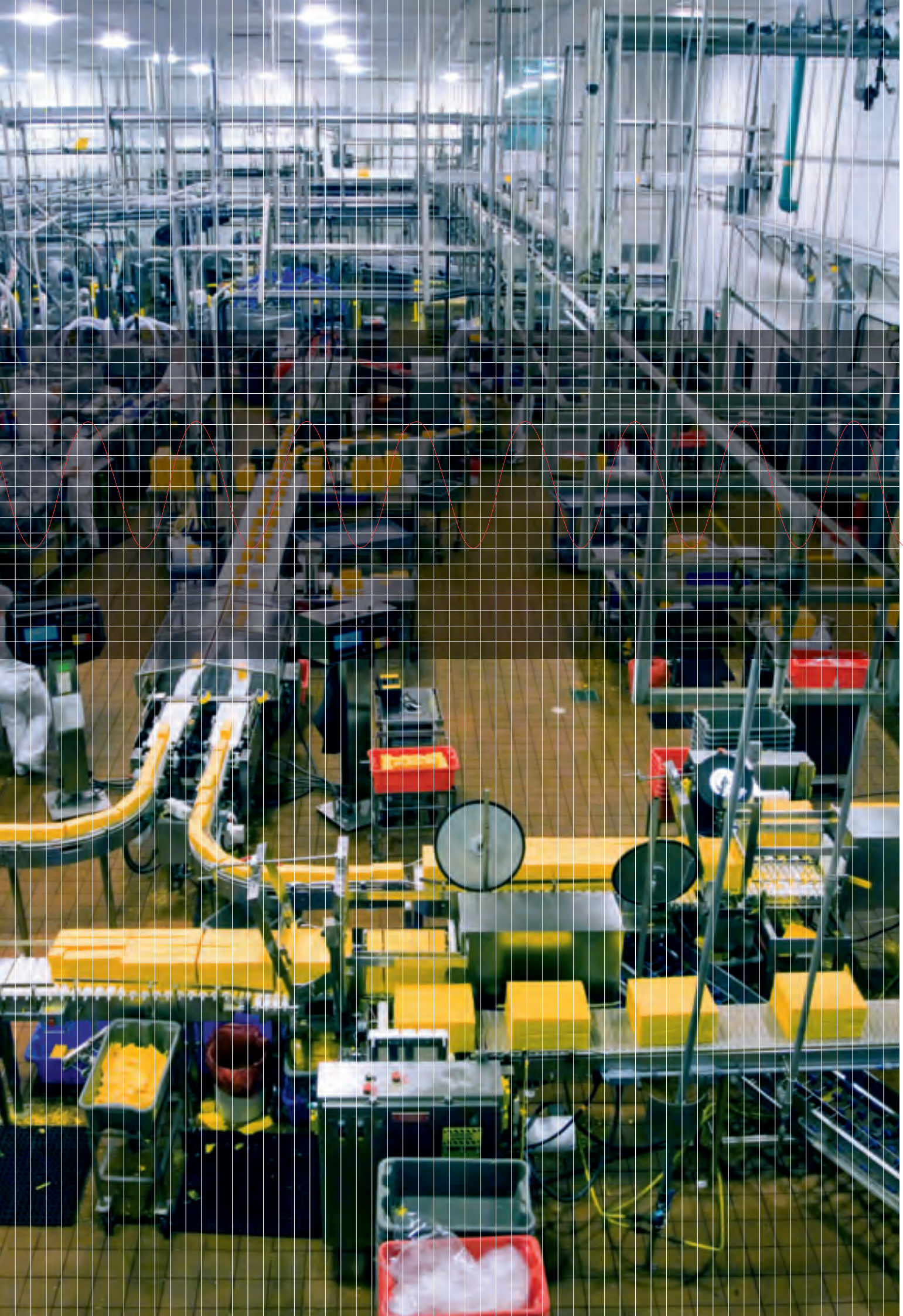
Using this wireless technology
Wherever moveable machine and plant parts have to be positioned, controlled and monitored, cables are often undesirable or defect, reducing efficiency. The solution: wireless, self-sufficient controls which are used to release solenoid interlocks on protective fencing and guard doors. Wireless position switches which position, control and monitor machine and plant parts. When selecting applications and wireless switches, always remember: no switch actuation, no energy available to send signals.

SW 868 / 915 MHz battery operation, bi-directional
- long range in industrial halls
- high transmission reliability
- long battery life (up to 10 years depending on the application)
- bi-directional transmission path
- monitoring of battery voltage
- optional non-contact wireless sensors
- no interference with DECT, WLAN, PMR systems, etc.
- system design verified in industrial environment
- short telegrams (approx. 1 ms) lead to low risk of collision
- extensive range: up to 60 m indoors and 700 m outdoors

Using this wireless technology
Industrial sensors, such as wireless inductive sensors, GMR sensors or optical wireless sensors require additional energy in order to function. This energy is taken from a high-performance long-life battery integrated within the sensor. (Examples: position switches, control units, non-contact wireless sensors.)

EnOcean 868 MHz
- wireless standard conforming to ISO/IEC 14543-3-10
- interoperability with switches and sensor from other manufacturers
- low energy requirement
- range: up to 30 m indoors and 300 m outdoors
- use of regulated frequency bands with the highest availability of the frequency channel (enabled only for pulse signals) – 868 MHz acc. to R & TTE specification EN 300220

Using this wireless technology
Application fields in industrial and building automation which make very high demands on switching frequency and which do not require bi-directional signals (i.e. signal confirmation), (e.g. control units at the man-machine interface, door-handle switches, pull-wire switches for industrial gates, etc.).

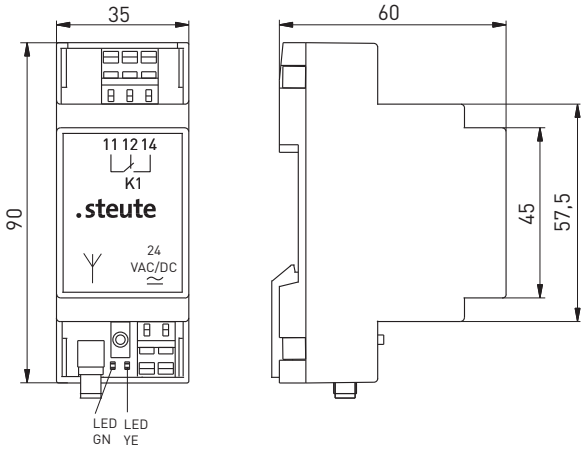



steute

Wireless technology 868 MHz

Features/options
- EnOcean standard
- 1-channel: potential-free relay outputs
- DC version: 1 change-over contact, NPN- or PNP output
  AC version: 1 change-over contact
- Transmitter/receiver assignment by teaching mode
- LEDs for indication of switching state
- SMA plug-in connector for external antenna

// RF RX EN868



Wireless receiver	Order Number
RF Rx EN868-1W 24 VDC	90590001
RF Rx EN868-PNP 24 VDC	90590003
RF Rx EN868-NPN 24 VDC	90590002
RF Rx EN868-1W 24 VAC/DC	90590007

Technical Data

Standards	EN 60947-5-1; EN 61000-6-2; EN 61000-6-3; EN 60068-2-6; EN 60068-2-27; EN 301 489-1; EN 301 489-3; EN 300 220-2, -3
Number of channels	1
Mounting	DIN rail mounting
Connection	terminals with CAGE CLAMP WAGO Series 236: 0.08 ... 2.5 mm² AWG 28–12, AWG 12: THHN, THWN, stripping length 5 ... 6 mm/ 0.22 in
Degree of protection	IP 20 per IEC/EN 60529
Inputs	1 wireless channel, max. 10 transmitters per channel
Outputs	1 change-over contact (Relay), NPN or PNP (transistor)
Rated operating current I_e	max. 0.22A AC, 0.08A DC
Rated operating voltage U_e	24 VAC/DC -15% ... +10%
I_e/U_e of output contacts	6A / 250 VAC; 2A / 24 VDC
Utilisation category	AC-15; DC-13
U_i	250 VAC
U_{imp}	2.5 kV
Frequency	868.3 MHz
Display	green LED for supply voltage, orange LED for switching conditions
Switching frequency	approx. 9000 telegrams at repetitions/h
Degree of pollution	2 per DIN VDE 0110
Ambient temperature	0 °C ... +55 °C
Vibration resistance	NO contact 20g, NC contact 5g
Shock resistance	max. 100g
Note	inductive loads (contactors, relays etc.) are to be suppressed by suitable circuitry.
Approvals	

Type code	RF Rx EN868-1W

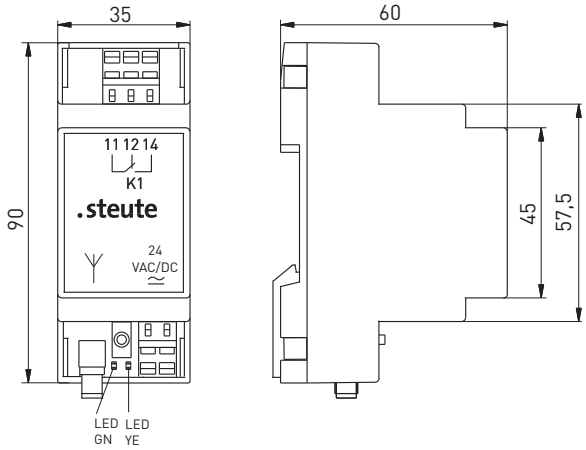
RF Rx EN868-1W
- Change-over contact (NPN, PNP transistor output)
- Wireless frequency 868 MHz
- EnOcean
- Wireless receiver
- Wireless technology

RF magnet antenna with SMA plug-in connector available as accessory, order No. 01.08.0386 required for optimum sensing range.

Mobile field strength indicator EPM 300 for wireless field planning is available, order No. 90598005.

Features/options
- steute wireless technology
- 1-channel: potential-free relay outputs
- 1 change-over contact, max. 6 A
- Transmitter/receiver assignment by teaching mode
- LEDs for indication of switching state
- SMA plug-in connector for external antenna

// RF RX SW868/SW915



Technical Data

Standards	EN 60947-5-1; EN 61000-6-2; EN 61000-6-3; EN 60068-2-6; EN 60068-2-27; EN 301 489-1; EN 301 489-3; EN 300 220-2
Number of channels	1
Mounting	DIN rail mounting
Connection	terminals with CAGE CLAMP WAGO Series 236: 0.08 ... 2.5 mm² AWG 28–12, AWG 12: THHN, THWN, stripping length 5 ... 6 mm/ 0.22 in
Degree of protection	IP 20 per IEC/EN 60529
Inputs	1 wireless channel, max. 10 transmitters per channel
Outputs	1 change-over contact (Relay)
Rated operating current I_e	24 VDC: max. 0.1 A; 24 VAC: max. 0.25 A
Rated operating voltage U_e	24 VAC/DC -15% ... +10%
I_e/U_e outputs	6A / 250 VAC; 2A / 24 VDC
Utilisation category	AC-15; DC-13
U_i	250 VAC
U_{imp}	2.5 kV
Frequency	868.3 MHz or 915 MHz (USA, Canada)
Display	green LED for supply voltage, orange LED for switching conditions
Switching frequency	approx. 12000 telegrams at repetitions/h
Degree of pollution	2 per DIN VDE 0110
Ambient temperature	0 °C ... +55 °C
Vibration resistance	NO contact 20g, NC contact 5g
Shock resistance	max. 100g
Note	inductive loads (contactors, relays etc.) are to be suppressed by suitable circuitry.
Approvals	SW915 c SP us FC IC

Wireless receiver	Order Number
RF Rx SW868-1W 24 VAC/DC	90590023
RF Rx SW915-1W 24 VAC/DC	90590024

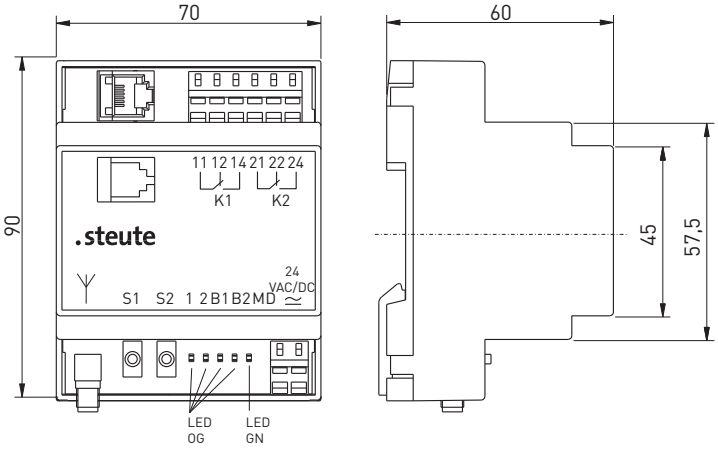
Type code	RF Rx SW868-1W

RF Rx SW868-1W
- Wireless technology
- Wireless receiver
- SW
- 868 MHz wireless frequency (SW915 915 MHz)
- 1 change-over contacts

RF magnet antenna with SMA plug-in connector available as accessory, for SW868 order No. 90598013 and for SW915 order No. 90598014 required for optimum sensing range.

Features/options
- EnOcean standard
- 2-channel: potential-free relay outputs
- 2 change-over contacts, max. 6 A
- Version with Power-down function available
- RS 232 interface
- Transmitter/receiver assignment by teaching mode
- LEDs for indication of switching state
- SMA plug-in connector for external antenna

// RF RX EN868-2W-RS232



Wireless receiver	Order Number
RF Rx EN868-2W-RS232 24 VAC/DC	90590008
RF Rx EN868-2W-s-RS232 24 VAC/DC	90590021
RF Rx EN868-2W 24 VAC/DC	90590012

Note for RF Rx EN868-2W-s-RS232
The current switching status of the device is stored when the power supply is turned off. When the supply voltage returns, the last switching status is restored. When the device is voltage-free, any switching operations are lost. A maximum of 100,000 memory operations are possible.

Technical Data

Standards	EN 60947-5-1; EN 61000-6-2, -3; EN 60068-2-6, -27; EN 301 489-1; EN 301 489-3; EN 300 220-2, -3; RS 232: ANSI/EIA/TIA-232-F-1997
Number of channels	2
Connection	terminals with CAGE CLAMP WAGO Series 236: 0.08 ... 2.5 mm² AWG 28–12, AWG 12: THHN, THWN, stripping length 5 ... 6 mm/ 0.22 in
Degree of protection	IP 20 per IEC/EN 60529
Inputs	2 channels, max. 10 transmitters/channel
Outputs	2 change-over contacts (Relays), RS 232 interface
Rated op. current I_e	max. 0,25A AC, 0,1A DC
Rated op. voltage U_e	24 VAC/DC -15% ... +10%
I_e/U_e output	6A / 250 VAC; 2A / 24 VDC
Utilisation category	AC-15; DC-13
U_i	250 VAC
U_{imp}	2.5 kV
Frequency	868.3 MHz
Display	green LED for supply voltage, orange LED for switching conditions and baud rate setting
Switching frequency	approx. 9000 telegrams at repetitions/h
Degree of pollution	2 per DIN VDE 0110
Ambient temperature	0 °C ... +55 °C
Vibration resistance	NO contact 20g, NC contact 5g
Shock resistance	max. 100g
Baudrate	9600 Bd to 57600 Bd
Data bits	8
Stop bit	1
Parity	none
Flow control	none
Note	inductive loads (contactors, relays etc.) are to be suppressed by suitable circuitry.
Approvals	

Type code	RF Rx EN868-2W-s-RS232

- RS 232 interface
- power-down function
- 2 change-over contacts
- 868 MHz wireless frequency
- EnOcean
- Wireless receiver
- Wireless technology

RS 232 cable provided with receiver.

RF magnet antenna with SMA plug-in connector available as accessory, order No. 01.08.0386, required for optimum sensing range.

Mobile field strength indicator EPM 300 for wireless field planning is available, order No. 90598005.

Features/options
- Thermoplastic enclosure
- EnOcean standard
- USB 2.0 transmitter and receiver unit
- Multi-network capable
- Power supply via USB interface
- Support of up to 128 actors and an indefinite number of transmitters

// RF RXT EN868 USB

Technical Data

Standards	EN 301 489-1, EN 301 489-3, EN 300 220-2, -3
Number of channels	max. 128 actors, indefinite number of transmitters
Connection	USB 2.0, cable length 0.6 m (without plug-in connector)
Degree of protection	IP 30 per IEC/EN 60529
Inputs	indefinite number of EnOcean transmitters
Outputs	max. 128 actors
Power supply	via USB interface
Frequency	868.3 MHz
Switching frequency	approx. 9000 telegrams at repetitions/h
Degree of pollution	2 per DIN VDE 0110
Ambient temperature	0 °C ... +55 °C
EMC rating	acc. to EMC directive
Weight	80 g
Dimensions	25 x 125 x 65 mm (H x W x D)
Note	no external antenna required.

Wireless receiver
RF RxT EN868 USB

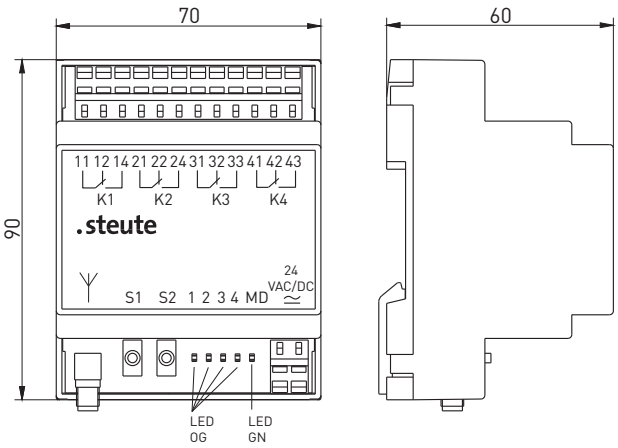
Order Number
90590017

Type code RF Rx EN868 USB

- USB connector
- 868 MHz wireless frequency
- EnOcean
- Wireless receiver
- Wireless technology

Features/options
- EnOcean standard
- 4-channel: potential-free relay outputs
- 4 change-over contacts, max. 6 A
- Transmitter/receiver assignment by teaching mode
- LEDs for indication of switching state
- SMA plug-in connector for external antenna

// RF RX EN868-4W



Technical Data

Standards	EN 60947-5-1; EN 61000-6-2,-6,3; EN 60068-2-6; EN 60068-2-27; EN 301 489-1; EN 301 489-3; EN 300 220-2, -3
Number of channels	4
Mounting	DIN rail mounting
Connection	terminals with CAGE CLAMP WAGO Series 236: 0.08 ... 2.5 mm² AWG 28–12, AWG 12: THHN, THWN, stripping length 5 ... 6 mm/ 0.22 in
Degree of protection	IP 20 per IEC/EN 60529
Inputs	4 wireless channels, max. 10 transmitters per channel
Outputs	4 change-over contacts (Relays)
Rated operating current I_e	max. 0.25A AC, 0.1A DC
Rated operating voltage U_e	24 VAC/DC -15% ... +10%
I_e/U_e of output contacts	6A / 250 VAC; 2A / 24 VDC
Utilisation category	AC-15; DC-13
U_i	250 VAC
U_{imp}	2.5 kV
Frequency	868.3 MHz
Display	green LED for supply voltage, orange LED for switching conditions
Switching frequency	approx. 9000 telegrams at repetitions/h
Degree of pollution	2 per DIN VDE 0110
Ambient temperature	0 °C ... +55 °C
Vibration resistance	NO contact 20g, NC contact 5g
Shock resistance	max. 100g
Note	inductive loads (contactors, relays etc.) are to be suppressed by suitable circuitry.
Approvals	

Wireless receiver
RF Rx EN868-4W 24 VAC/DC

Order Number
90590006

Type code	RF Rx EN868-4W

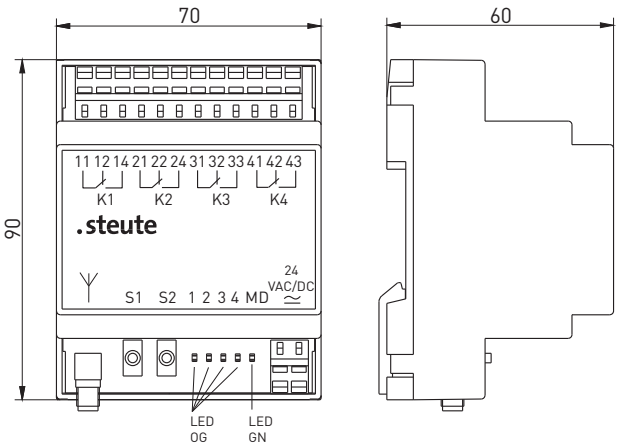
- 4 change-over contacts
- Wireless frequency 868 MHz
- EnOcean
- Wireless receiver
- Wireless technology

RF magnet antenna with SMA plug-in connector available as accessory, order No. 01.08.0386 required for optimum sensing range.

Mobile field strength indicator EPM 300 for wireless field planning is available, order No. 90598005.

Features/options
- steute wireless technology
- 4-channel: potential-free relay outputs
- 4 change-over contacts, max. 6 A
- Transmitter/receiver assignment by teaching mode
- LEDs for indication of switching state
- SMA plug-in connector for external antenna

// RF RX SW868/SW915-4W



Technical Data

Standards	EN 60947-5-1; EN 61000-6-2; EN 61000-6-3; EN 60068-2-6; EN 60068-2-27; EN 301 489-1; EN 301 489-3; EN 300 220-2
Number of channels	4
Mounting	DIN rail mounting
Connection	terminals with CAGE CLAMP WAGO Series 236: 0.08 … 2.5 mm² AWG 28–12, AWG 12: THHN, THWN, stripping length 5 … 6 mm/ 0.22 in
Degree of protection	IP 20 per IEC/EN 60529
Inputs	4 wireless channels, max. 10 transmitters per channel
Outputs	4 change-over contacts (Relays)
Rated operating current I_e	24 VDC: max. 0.1 A; 24 VAC: max. 0.25 A
Rated operating voltage U_e	24 VAC/DC -15% … +10%
I_e/U_e outputs	6A / 250 VAC; 2A / 24 VDC
Utilisation category	AC-15; DC-13
U_i	250 VAC
U_{imp}	2.5 kV
Frequency	868.3 MHz or 915 MHz (USA, Canada)
Display	green LED for supply voltage, orange LED for switching conditions
Switching frequency	approx. 12000 telegrams at repetitions/h
Degree of pollution	2 per DIN VDE 0110
Ambient temperature	0 °C … +55 °C
Vibration resistance	NO contact 20g, NC contact 5g
Shock resistance	max. 100g
Note	inductive loads (contactors, relays etc.) are to be suppressed by suitable circuitry.
Approvals	SW915 c SP us FC IC

Wireless receiver	Order Number
RF Rx SW868-4W 24 VAC/DC	90590019
RF Rx SW915-4W 24 VAC/DC	90590022

Type code	RF Rx SW868-4W

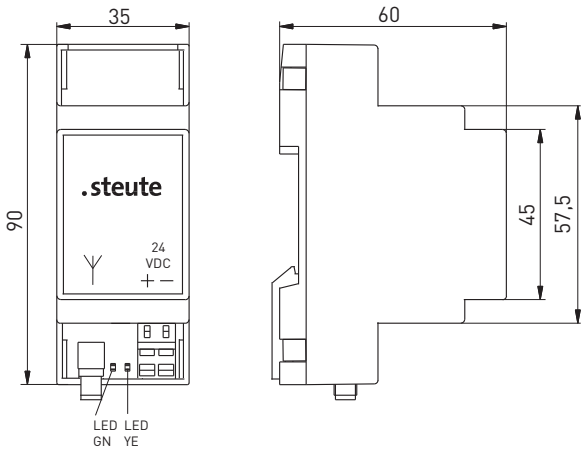
- RF Rx: Wireless technology
- SW: Wireless receiver
- 868 MHz wireless frequency (SW915 915 MHz)
- 4: 4 change-over contacts

RF magnet antenna with SMA plug-in connector available as accessory, for SW868 order No. 90598013 and for SW915 order No. 90598014 required for optimum sensing range.

Wireless repeater
// Series RF RxT EN868-1K

Features/options
- EnOcean standard
- LEDs for receipt telegram
- SMA plug-in connector for external antenna

// RF RXT EN868-1K



Technical Data

Standards	EN 60947-5-1; EN 61000-6-2; EN 61000-6-3; EN 60068-2-6; EN 60068-2-27; EN 301 489-1; EN 301 489-3, EN 300 220-2, -3
Mounting	DIN rail mounting
Connection	terminals with CAGE CLAMP WAGO Series 236: 0.08 … 2.5 mm² AWG 28–12, AWG 12: THHN, THWN, stripping length 5 … 6 mm/ 0.22 in
Degree of protection	IP 20 per IEC/EN 60529
Rated operating current I_e	max. 0.08 A DC
Rated operating voltage U_e	24 VDC -15 % … +10 %
Frequency	868.3 MHz
Transmission power	max. 10 mW
Display	green LED for supply voltage, orange LED: confirmation of telegram
Switching frequency	approx. 9000 telegrams at repetitions/h
Degree of pollution	2 per DIN VDE 0110
Ambient temperature	0 °C … +55 °C
Shock resistance	max. 100g
Approvals	

Wireless repeater
RF RxT EN868-1K

Order Number
90590004

Type code	RF RxT EN868-1K

RF – Wireless technology
Rx – Wireless repeater
T – EnOcean
EN868 – Wireless frequency 868 MHz
1K – 1-channel, simple cascading

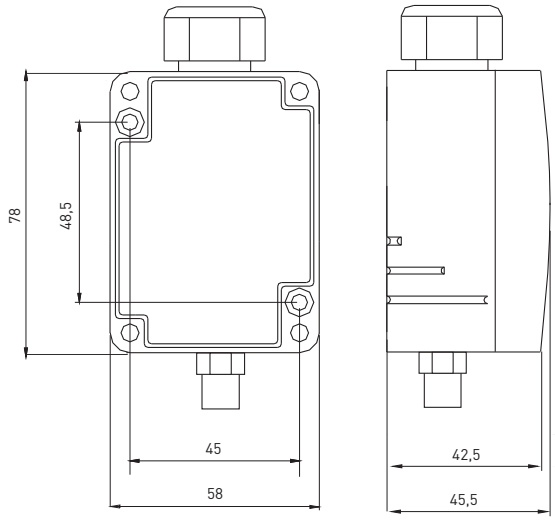
RF magnet antenna with SMA plug-in connector available as accessory, order No. 01.08.0386 required for optimum sensing range.

Mobile field strength indicator EPM 300 for wireless field planning is available, order No. 90598005.

Wireless repeater
// Series RF RxT EN868-230VAC

Features/options
- EnOcean standard
- On-wall mounting
- SMA plug-in connector for external antenna

// RF RXT EN868-230VAC



Technical Data

Standards	EN 61000-3-2, -3-3, -6-2, 6-3; EN 301 489-1; EN 301 489-3; EN 300 220-2,-3; EN 60590-1, EN 60730-1
Enclosure	PA6, colour: white
Mounting	on-wall mounting
Connection	screw clamps max. 1.5 mm² (incl. conductor ferrules)
Degree of protection	IP 42 per IEC/EN 60529
Power consumption	max. 2 VA
Rated operating voltage U_e	230 VAC
Mains frequency	50/60 Hz
Frequency	868.3 MHz
Ambient temperature	-20 °C ... +60 °C
Weight	130 g

Wireless repeater
RF RxT EN868-230VAC

Order Number
90590020

Type code	RF RxT EN868-230VAC

RF RxT EN868-230VAC
- Wireless technology
- Wireless repeater
- EnOcean
- Wireless frequency 868 MHz
- 230 VAC power supply

RF magnet antenna with SMA plug-in connector is provided, required for optimum sensing range.

Mobile field strength indicator EPM 300 for wireless field planning is available, order No.90598005.

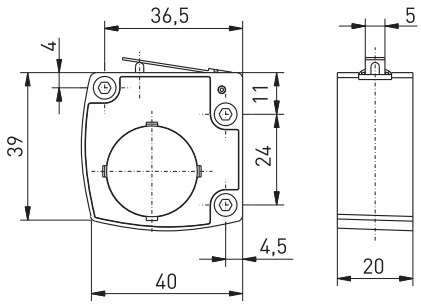
Wireless position switches
// Series RF 10 EN868

Features/options
- Thermoplastic enclosure
- EnOcean standard
- No wiring and pipe laying required
- Power supply by Lithium battery
- Easy programming of receiver
- Multi-network capable
- Output signal can be individually configurated at the receiver

// RF 10 EN868

Technical Data

Standards	EN 60947-5-1; EN 61000-6-2; EN 301 489-1; EN 301 489-3; EN 300 220-2, -3
Enclosure	thermoplastic, Polyamid PA 66
Degree of protection	IP 67 per IEC/EN 60529
Wireless protocol	EnOcean
Ambient temperature	– 20 °C ... + 65 °C
Switching frequency	approx. 9000 telegrams at repetitions/h
Voltage supply	Lithium-battery CR 2032 (replaceable)
Frequency	868.3 MHz
Transmission power	max. 10 mW
Data rate	120 kbps
Channel bandwidth	280 kHz
Sensing range	max. 150 m outside, max. 30 m inside
Mechanical life	> 1 million operations
Battery life	> 800,000 operations
Actuating time	min. 80 ms
Note	no status signal available
Approvals	ANATEL



Wireless position switch
RF 10 H EN868

Order Number
10120101

Type code	RF 10 H EN868

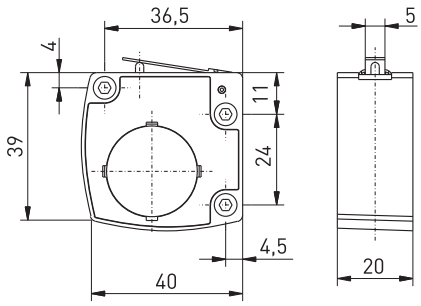
Wireless frequency 868 MHz
EnOcean
Actuator H
Series
Wireless technology

Features/options
- Thermoplastic enclosure
- steute wireless technology
- No wiring and pipe laying required
- Power supply by Lithium battery
- Easy programming of receiver
- Output signal can be individually configurated at the receiver

// RF 10 SW868/SW915

Technical Data

Standards	EN 60947-5-1; EN 61000-6-2; EN 301 489-1, EN 301 489-3; EN 300 220-1, EN 300 220-2
Enclosure	thermoplastic, Polyamid PA 66
Degree of protection	IP 67 per IEC/EN 60529
Wireless protocol	SW
Ambient temperature	– 20 °C ... + 65 °C
Switching frequency	approx. 12000 telegrams at repetitions/h
Voltage supply	Lithium-battery CR 2032 (replaceable)
Frequency	868.3 MHz or 915 MHz (USA, Canada)
Transmission power	SW868: <25 mW, SW915: <10 mW
Data rate	66 kbps
Channel bandwidth	266 kHz
Sensing range	max. 400 m outside, max. 50 m inside
Mechanical life	> 1 million operations
Battery life	> 800,000 operations
Actuating time	min. 80 ms
Approvals	SW915 FC IC



Wireless position switch	Order Number
RF 10 H SW868	10120601
RF 10 H SW915	10120701

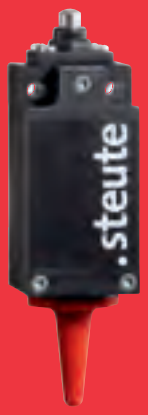
Type code RF 10 H SW868

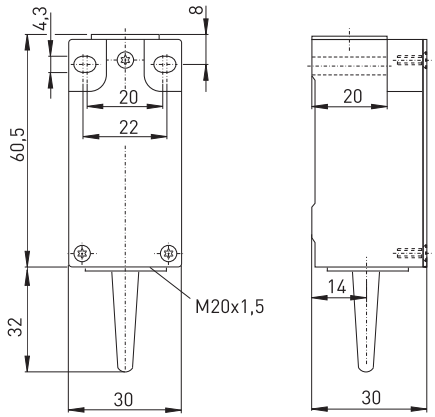
- RF 10 H SW868: 868 MHz wireless frequency
- RF 10 H SW915: (SW915 915 MHz)
- SW: Actuator H
- Series: Wireless technology

Wireless position switches
// Series RF 95 EN868

Features/options
- Thermoplastic enclosure
- Design according to EN 50 047
- EnOcean standard
- No power supply, no wiring and pipe laying required
- Easy programming of receiver
- Multi-network capable
- Output signal can be individually configurated at the receiver
- Ex version for zones 1 and 21 available

// RF 95 EN868





Technical Data

Standards	EN 60947-5-1; EN 61000-6-2; EN 301 489-1; EN 301 489-3; EN 300 220-2, -3
Enclosure	Glassfibre reinforced thermoplastic, self-extinguishing UL 94-V0
Cover	Glassfibre reinforced thermoplastic, self-extinguishing UL 94-V0
Degree of protection	IP 67 per IEC/EN 60529
Wireless protocol	EnOcean
Ambient temperature	–20 °C ... +65 °C
Switching frequency	approx. 9000 telegrams at repetitions/h
Voltage supply	Electrodynamic energy generator
Frequency	868.3 MHz
Transmission power	max. 10 mW
Data rate	120 kbps
Channel bandwidth	280 kHz
Sensing range	max. 300 m outside, max. 30 m inside
Mechanical life	> 1 million operations
Actuating time	min. 80 ms
Note	no status signal available
Approvals	ANATEL

Type code	**RF 95 WR EN868**

Wireless frequency 868 MHz
EnOcean
Actuator R (H, D, DS, etc. ...)
Watertight collar
Series
Wireless technology

Wireless position switches
// Series RF 95 SW868/SW915

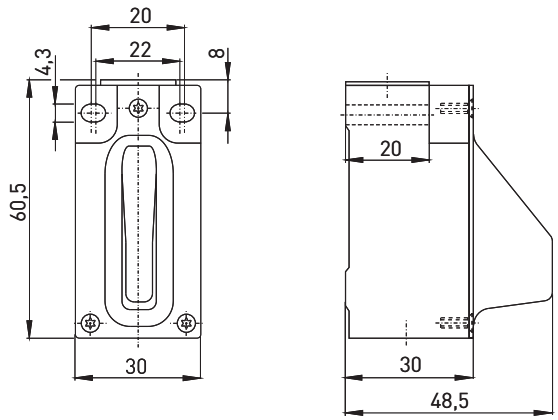
Features/options
- Thermoplastic enclosure
- Design according to EN 50 047
- steute wireless technology
- No power supply, no wiring and pipe laying required
- Easy programming of receiver
- Output signal can be individually configurated at the receiver

// RF 95 SW868/SW915

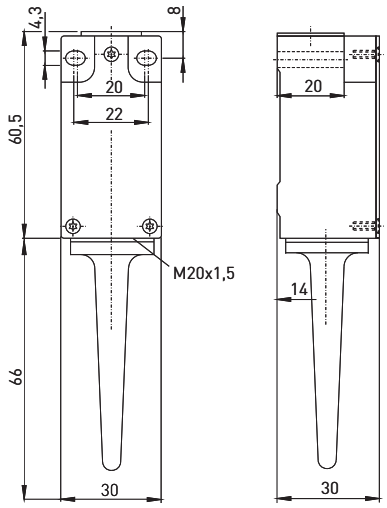
Technical Data

Standards	EN 60947-5-1; EN 61000-6-2; EN 301 489-1; EN 301 489-3 EN 300 220-1, -2
Enclosure	Glassfibre reinforced thermoplastic, self-extinguishing UL 94-V0
Cover	Glassfibre reinforced thermoplastic, self-extinguishing UL 94-V0
Degree of protection	IP 67 per IEC/EN 60529
Wireless protocol	SW
Ambient temperature	–20 °C ... +65 °C
Switching frequency	approx. 12000 telegrams at repetitions/h
Voltage supply	Electrodynamic energy generator
Frequency	868.3 MHz or 915 MHz (USA, Canada)
Transmission power	SW868: <25 mW, SW915: <10 mW
Data rate	66 kbps
Channel bandwidth	266 kHz
Sensing range	LR: max. 450 m outside, max. 40 m inside ULR: max. 700 m outside, max. 50 m inside
Mechanical life	> 1 million operations
Actuating time	min. 80 ms
Approvals	SW915 FC IC

RF 95 LR



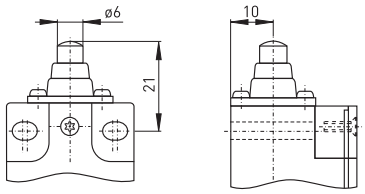
RF 95 ULR



Type code	RF 95 WR LR SW868

- 868 MHz wireless frequency (SW915 915 MHz)
- SW
- Long Range (ULR Ultra Long Range)
- Actuator R (H, D, DS, etc. ...)
- Watertight collar
- Series
- Wireless technology

// Plunger with collar W

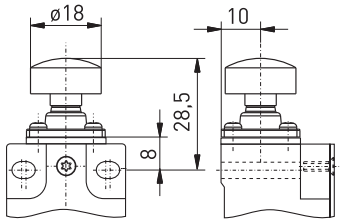


Features/options
- Actuator type B to EN 50 047
- Watertight collar for protection against penetration of dirt

EnOcean	Order number
RF 95 W EN 868	95902901

SW	Order number
RF 95 W LR SW 868	95902001
RF 95 W ULR SW 868	95902004
RF 95 W LR SW 915	95902005
RF 95 W ULR SW 915	95902007

// Cap with collar WK

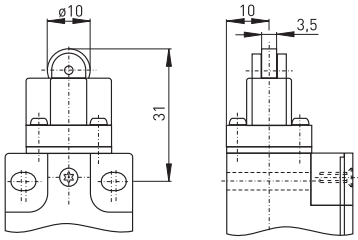


Features/options
- Large actuating surface
- Safe switching also with imprecise actuation
- Suitable for manual actuation
- Watertight collar for protection against penetration of dirt

EnOcean	Order number
RF 95 WK EN 868	95902902

SW	Order number
RF 95 WK LR SW 868	95902003
RF 95 WK ULR SW 868	95902002
RF 95 WK LR SW 915	95902006
RF 95 WK ULR SW 915	95902008

// Roller plunger R

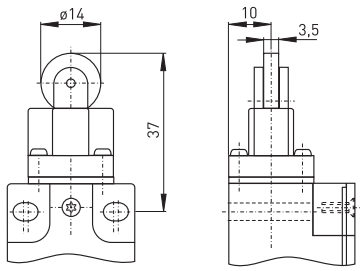


Features/options
- Actuator type C to EN 50 047
- Actuator can be repositioned by 4 x 90°
- Wear-resistant plastic roller
- Metal roller available on request

EnOcean	Order number
RF 95 R EN 868	95909901

SW	Order number
RF 95 R LR SW 868	95909001
RF 95 R ULR SW 868	95909002
RF 95 R LR SW 915	95909003
RF 95 R ULR SW 915	95909004

// Long roller plunger RL

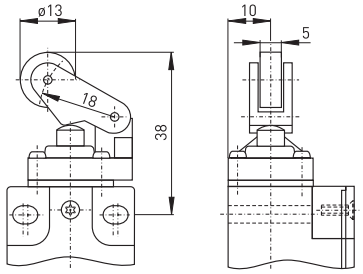


Features/options
- Wear-resistant plastic roller
- Metal roller available on request
- Actuator can be repositioned by 90°

EnOcean	Order Number
RF 95 RL EN 868	95911001

SW	Order Number
RF 95 RL LR SW 868	95911002
RF 95 RL ULR SW 868	95911003
RF 95 RL LR SW 915	95911004
RF 95 RL ULR SW 915	95911005

// Roller lever with collar WH

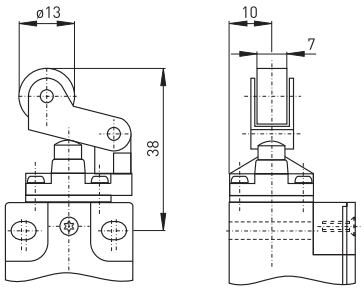


Features/options
- Actuator type E to EN 50 047
- Actuating speed max . 0.5 m/s with a vertical actuating angle of α = 40° and β = 25°
- Watertight collar for protection against penetration of dirt
- Actuator can be repositioned by 4 x 90°
- Metal roller available on request

EnOcean	Order Number
RF 95 WH EN 868	95914001

SW	Order Number
RF 95 WH LR SW 868	95914002
RF 95 WH ULR SW 868	95914004
RF 95 WH LR SW 915	95914006
RF 95 WH ULR SW 915	95914008

// Metal roller lever with collar WHM

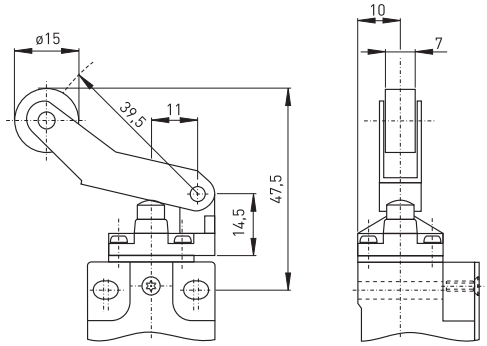


Features/options
- Actuating speed max . 0.5 m/s with a vertical actuating angle of α = 40° and β = 25°
- Watertight collar for protection against penetration of dirt
- Actuator can be repositioned by 4 x 90°
- Metal roller available on request

EnOcean	Order Number
RF 95 WHM EN 868	95914902

SW	Order Number
RF 95 WHM LR SW 868	95914003
RF 95 WHM ULR SW 868	95914005
RF 95 WHM LR SW 915	95914007
RF 95 WHM ULR SW 915	95914009

// Long metal roller lever with collar WHLM

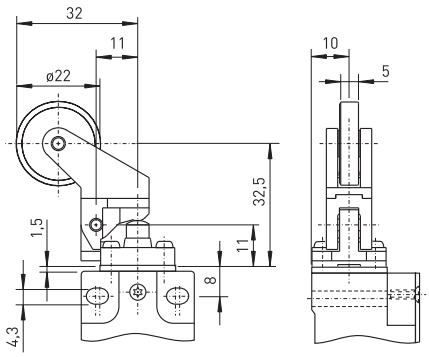


Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 40°
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°
- Metal roller available on request

EnOcean	Order Number
RF 95 WHLM EN 868	95916001

SW	Order Number
RF 95 WHLM LR SW 868	95916002
RF 95 WHLM ULR SW 868	95916003
RF 95 WHLM LR SW 915	95916004
RF 95 WHLM ULR SW 915	95916005

// Plastic roller lever with collar 4K

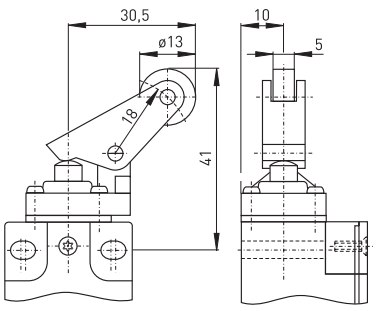


Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 40°
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°
- Metal roller available on request

EnOcean	Order Number
RF 95 4K EN 868	95964001

SW	Order Number
RF 95 4K LR SW 868	95964002
RF 95 4K ULR SW 868	95964003
RF 95 4K LR SW 915	95964004
RF 95 4K ULR SW 915	95964005

// Parallel roller lever with collar WPH

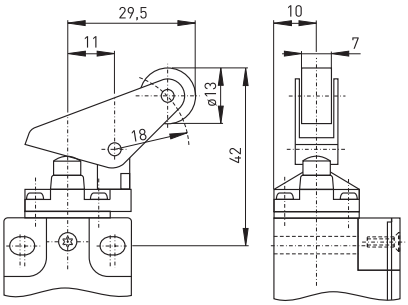


Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 30°
- Watertight collar for protection against penetration of dirt
- Actuator can be repositioned by 4 x 90°
- Actuation parallel to switch from below

EnOcean	Order Number
RF 95 WPH EN 868	95920002

SW	Order Number
RF 95 WPH LR SW 868	95920005
RF 95 WPH ULR SW 868	95920002
RF 95 WPH LR SW 915	95920007
RF 95 WPH ULR SW 915	95920008

// Parallel metal roller lever with collar WPHM

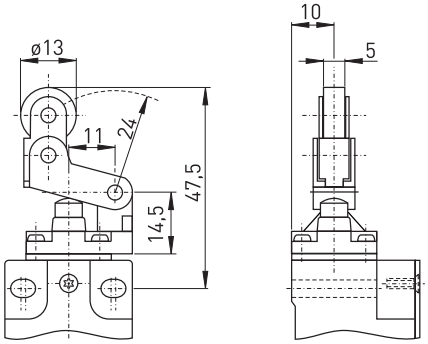


Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 30°
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°
- Actuation parallel to switch from below
- Metal roller available on request

EnOcean	Order Number
RF 95 WPHM EN 868	95920001

SW	Order Number
RF 95 WPHM LR SW 868	95920006
RF 95 WPHM ULR SW 868	95920003
RF 95 WPHM LR SW 915	95920008
RF 95 WPHM ULR SW 915	95920009

// Offset roller lever with collar WHKM

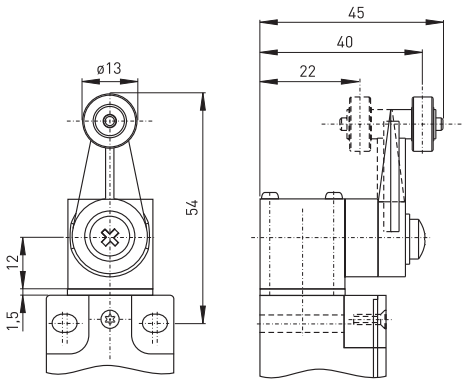


Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 40°
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°
- Actuation only possible from right-hand side
- Free movement of actuator from left-hand side
- Metal roller available on request

EnOcean	Order Number
RF 95 WHKM EN 868	95918001

SW	Order Number
RF 95 WHKM LR SW 868	95918002
RF 95 WHKM ULR SW 868	95918003
RF 95 WHKM LR SW 915	95918004
RF 95 WHKM ULR SW 915	95918005

// Rocking lever D

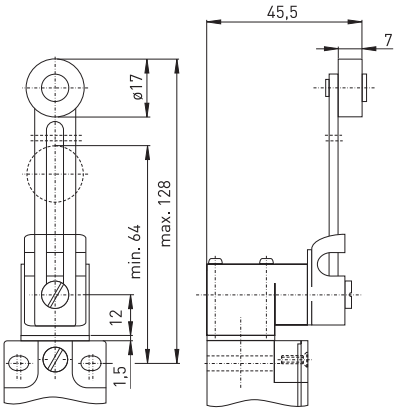


Features/options
- Lever angle adjustable in 10° steps clockwise or counter-clockwise
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°
- Metal roller available on request

EnOcean	Order Number
RF 95 D EN 868	95921901

SW	Order Number
RF 95 D LR SW 868	95921002
RF 95 D ULR SW 868	95921001
RF 95 D LR SW 915	95921003
RF 95 D ULR SW 915	95921004

// Adjustable rocking lever DS

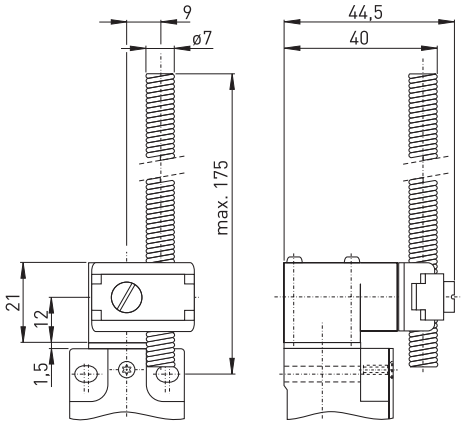


Features/options
- Lever angle adjustable in 10° steps clockwise or counter-clockwise
- Position of roller can be adjusted
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°
- Metal roller available on request

EnOcean	Order Number
RF 95 DS EN 868	95929001

SW	Order Number
RF 95 DS LR SW 868	95929003
RF 95 DS ULR SW 868	95929002
RF 95 DS LR SW 915	95929004
RF 95 DS ULR SW 915	95929005

// Spring-rod lever DF

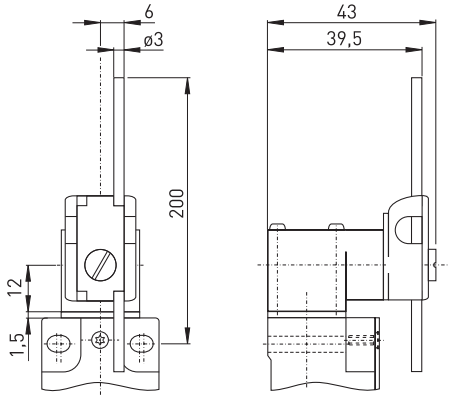


Features/options
- Lever angle adjustable in 10° steps clockwise or counter-clockwise
- Actuator can be repositioned by 4 x 90°

EnOcean	Order Number
RF 95 DF EN 868	95927901

SW	Order Number
RF 95 DF LR SW 868	95927001
RF 95 DF ULR SW 868	95927003
RF 95 DF LR SW 915	95927004
RF 95 DF ULR SW 915	95927005

// Rod lever DD



Features/options
- Lever angle adjustable in 10° steps clockwise or counter-clockwise
- Actuator can be repositioned by 4 x 90°

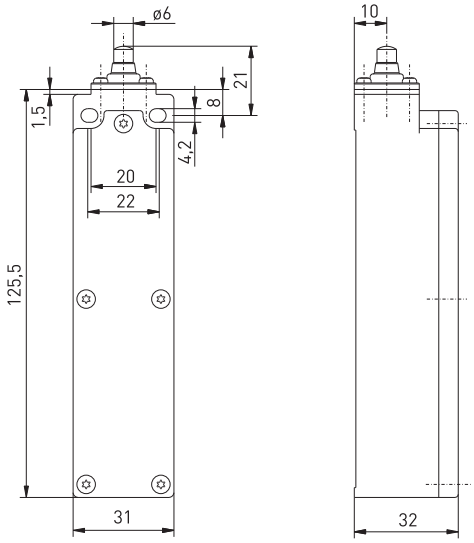
EnOcean	Order Number
RF 95 DD EN 868	95925001

SW	Order Number
RF 95 DD LR SW 868	95925002
RF 95 DD ULR SW 868	95925003
RF 95 DD LR SW 915	95925004
RF 95 DD ULR SW 915	95925005

PRODUCTION PROCESS
SMD ASSEMBLY OF CIRCUIT BOARDS

Features/options
- Thermoplastic enclosure
- Mounting details to EN 50 047
- EnOcean standard
- No wiring and pipe laying required
- Power supply by Lithium battery
- Easy programming of receiver
- Multi-network capable
- Output signal can be individually configurated at the receiver

// RF 96 EN868



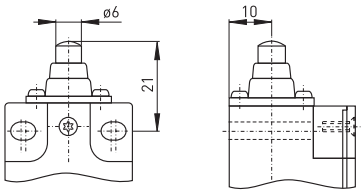
Technical Data

Standards	EN 60947-5-1; EN 61000-6-2; EN 301 489-1; EN 301 489-3; EN 300 220-2, -3
Enclosure	Glassfibre reinforced thermoplastic, self-extinguishing UL 94-V0
Cover	Glassfibre reinforced thermoplastic, self-extinguishing UL 94-V0
Degree of protection	IP 67 per IEC/EN 60529
Wireless protocol	EnOcean
Ambient temperature	– 20 °C ... + 65 °C
Switching frequency	max. 9000 telegrams at repetitions/h
Voltage supply	Lithium battery (replaceable)
Capacity	approx. 8.5 Ah
Frequency	868.3 MHz
Transmission power	max. 10 mW
Modulation principle	ASK
Telegram type	RPS type 2
Data rate	120 kbps
Channel bandwidth	280 kHz
Sensing range	max. 300 m outside, max. 30 m im inside
Mechanical life	> 1 million operations
Battery life	approx. 10 years unused, approx. 2000 days with 1 actuation per s, approx. 93800 days with 1 actuation per min.
Actuating time	min. 80 ms
Note	status signal configurable ex works, transmission of battery voltage
Approvals	ANATEL

Type code	RF 96 WH EN868

RF 96 WH EN868
- Wireless technology
- Series
- Watertight collar
- Actuator H (R, D, DS, etc. ...)
- EnOcean
- 868 MHz wireless frequency

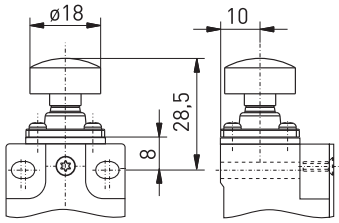
// Plunger with collar W



Features/options
- Actuator type B to EN 50 047
- Watertight collar for protection against penetration of dirt

EnOcean	Order number
RF 96 W EN868	66020201

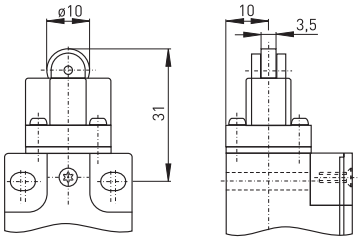
// Cap with collar WK



Features/options
- Large actuating surface
- Safe switching also with imprecise actuation
- Suitable for manual actuation
- Watertight collar for protection against penetration of dirt

EnOcean	Order number
RF 96 WK EN868	66080201

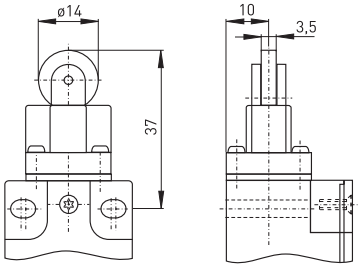
// Roller plunger R



Features/options
- Actuator type C to EN 50 047
- Wear-resistant plastic roller
- Metal roller available on request
- Actuator can be repositioned by 4 x 90°

EnOcean	Order number
RF 96 R EN868	66090201

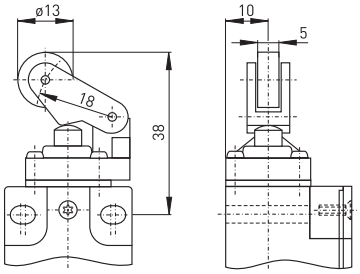
// Long roller plunger RL



Features/options
- Wear-resistant plastic roller
- Metal roller available on request
- Actuator can be repositioned by 4 x 90°

EnOcean	Order number
RF 96 RL EN868	66110201

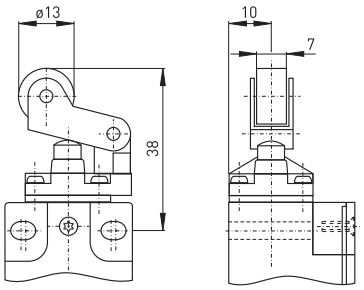
// Roller lever with collar WH



Features/options
- Actuator type E to EN 50 047
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 40° and β = 25°
- Watertight collar for protection against penetration of dirt
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°
- Metal roller available on request

EnOcean	Order number
RF 96 WH EN868	66140203

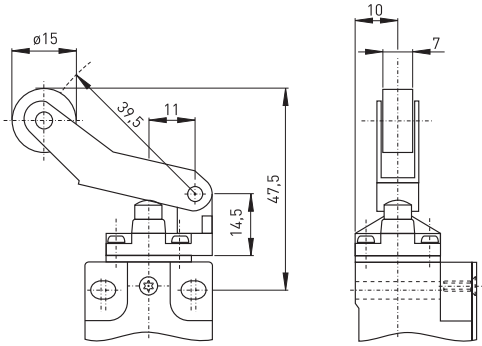
// Metal roller lever with collar WHM



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of α = 40° and β = 25°
- Watertight collar for protection against penetration of dirt
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°
- Metal roller available on request

EnOcean	Order number
RF 96 WHM EN 868 EN868	66140202

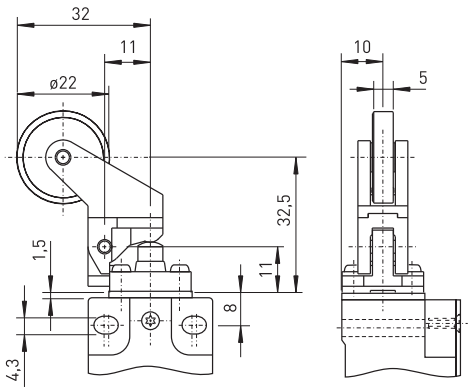
// Long metal roller lever with collar WHLM



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 40°
- Watertight collar for protection against penetration of dirt
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°
- Metal roller available on request

EnOcean	Order number
RF 96 WHLM EN868	66160201

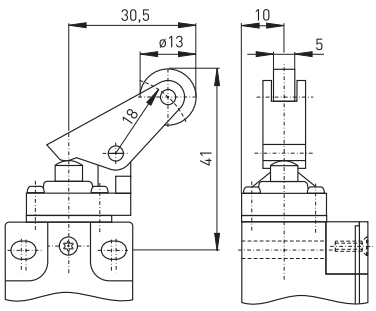
// Plastic roller lever with collar 4K



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 40°
- Watertight collar for protection against penetration of dirt
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°
- Metal roller available on request

EnOcean	Order number
RF 96 4K EN868	66640201

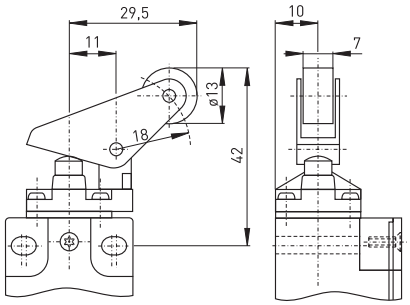
// Parallel roller lever with collar WPH



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 30°
- Watertight collar for protection against penetration of dirt
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°
- Actuation parallel to switch from below
- Metal roller available on request

EnOcean	Order number
RF 96 WPH EN868	66200201

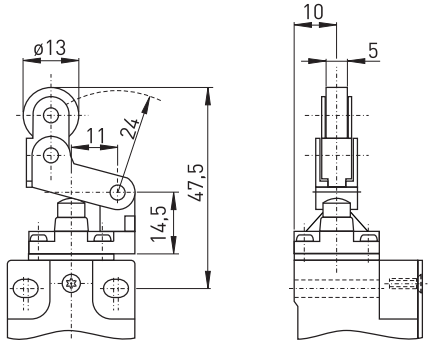
// Parallel metal roller lever with collar WPHM



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 30°
- Watertight collar for protection against penetration of dirt
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°
- Actuation parallel to switch from below
- Metal roller available on request

EnOcean	Order number
RF 96 WPHM EN868	66200202

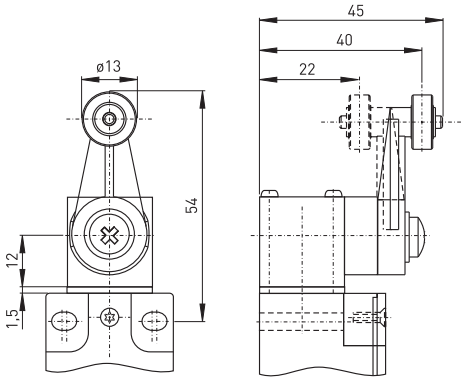
// Offset roller lever with collar WHKM



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 40°
- Watertight collar for protection against penetration of dirt
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°
- Actuation only possible from right-hand side
- Free movement of actuator from left-hand side
- Metal roller available on request

EnOcean	Order number
RF 96 WHKM EN868	66180201

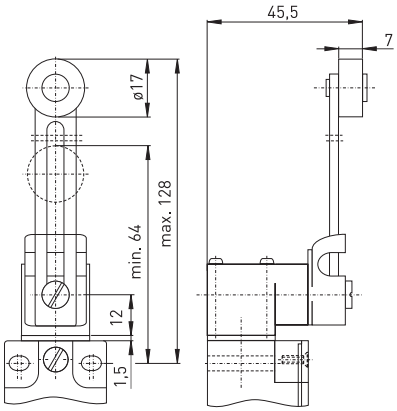
// Rocking lever D



Features/options
- Lever angle adjustable in 10° steps clockwise or counter-clockwise
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°
- Metal roller available on request

EnOcean	Order number
RF 96 D EN868	66210201

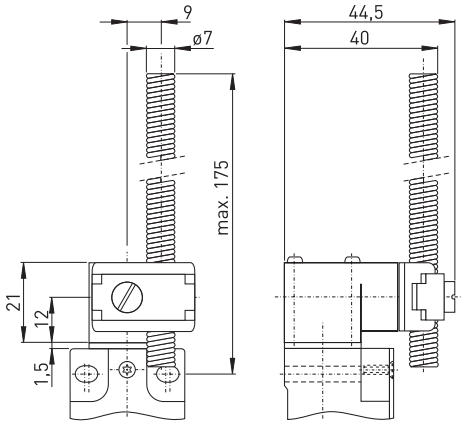
// Adjustable rocking lever DS



Features/options
- Lever angle adjustable in 10° steps clockwise or counter-clockwise
- Position of roller can be adjustated
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°
- Metal roller available on request

EnOcean	Order number
RF 96 DS EN868	66290201

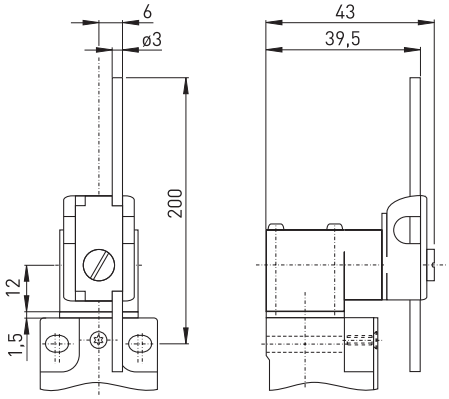
// Spring-rod lever DF



Features/options
- Lever angle adjustable in 10° steps clockwise or counter-clockwise
- Actuator can be repositioned by 4 x 90°

EnOcean	Order number
RF 96 DF EN868	66270201

// Rod lever DD

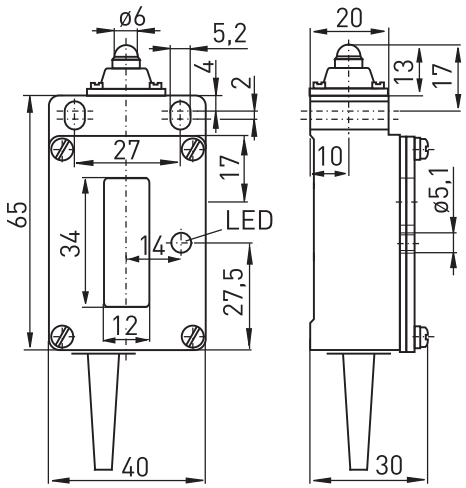


Features/options
- Lever angle adjustable in 10° steps clockwise or counter-clockwise
- Actuator can be repositioned by 4 x 90°

EnOcean	Order number
RF 96 DD EN868	66250201

Features/options
- Metal enclosure with plastic cover
- EnOcean standard
- No wiring and pipe laying required
- Integrated solar cell, no battery/rechargeable battery required
- Easy programming of receiver
- Multi-network capable
- Output signal can be individually configurated at the receiver

// RF 41 EN868



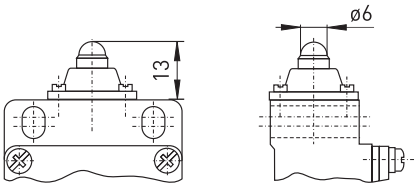
Technical Data

Standards	EN 60947-5-1; EN 61000-6-2; EN 301 489-1; EN 301 489-3; EN 300 220-2, -3
Enclosure	Aluminium die-cast, enamelled
Cover	Glassfibre reinforced thermoplastic
Degree of protection	IP 65 per IEC/EN 60529
Wireless protocol	EnOcean
Ambient temperature	–20 °C ... +65 °C
Switching frequency	approx. 9000 telegrams at repetitions/h
Voltage supply	Solar cell
Frequency	868.3 MHz
Transmission power	max. 10 mW
Data rate	120 kbps
Channel bandwidth	280 kHz
Sensing range	max. 300 m outside, max. 30 m inside
Mechanical life	> 1 million operations
Power consumption in sleep mode	approx. 25 nA
Switching on with empty energy supply	< 10 min at 400 lx
Charging time with empty energy supply	approx. 6 h at 400 lx, approx. 1.5 h at 1000 lx
Charging time at operation limit	1 h at 400 lx, approx. 15 min at 1000 lx
Operation time in darkness	approx. 48 h, with status signal every 3h, when the goldcap is totally charged at 1000 lx
Actuating time	min. 80 ms
Note	status signal configurable ex works
Approvals	ANATEL

Type code	RF 41 WH EN868

RF 41 WH EN868
- 868 MHz wireless frequency
- EnOcean
- Actuator H (R, TK, D, etc. ...)
- Watertight collar
- Series 41
- Wireless technology

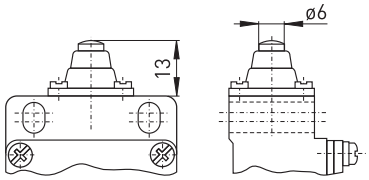
// Plunger



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 20°
- Vertical actuation or actuation from side possible
- Actuator with captive stainless steel ball
- Exact repeatability of switching point

EnOcean	Order number
RF 41 EN868	41901908

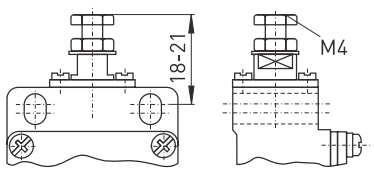
// Plunger with collar W



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 0°
- Watertight collar for protection against penetration of dirt
- Exact repeatability of switching point

EnOcean	Order number
RF 41 W EN868	41902902

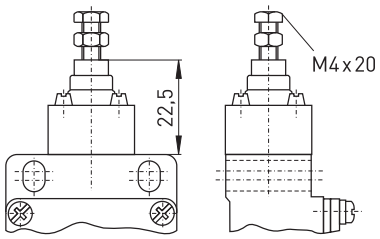
// Adjustable plunger ST



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 0°
- Length of metal plunger adjustable by means of M4 screw for fine adjustment of switching travel

EnOcean	Order number
RF 41 ST EN868	41905901

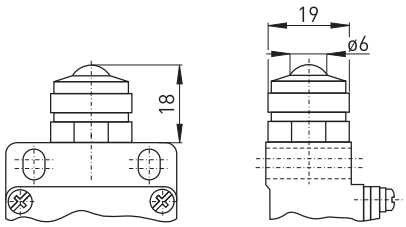
// Adjustable plunger with collar WST



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 0°
- Length of metal plunger adjustable by means of M4 screw for fine adjustment of switching travel
- Watertight collar for protection against penetration of dirt

EnOcean	Order number
RF 41 WST EN868	41906901

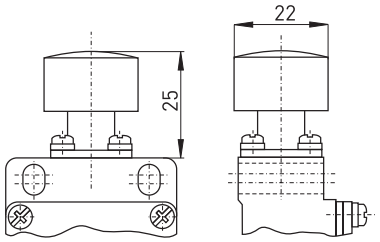
// Ball plunger KU



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 20°
- Vertical actuation or actuation from side possible
- Actuator with captive stainless steel ball
- Exact repeatability of switching point

EnOcean	Order number
RF 41 KU EN868	41903901

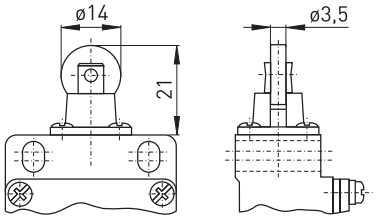
// Cap with collar WK



Features/options
- Large actuating surface
- Safe switching also with imprecise actuation
- Suitable for manual actuation
- Watertight collar for protection against penetration of dirt

EnOcean	Order number
RF 41 WK EN868	41908901

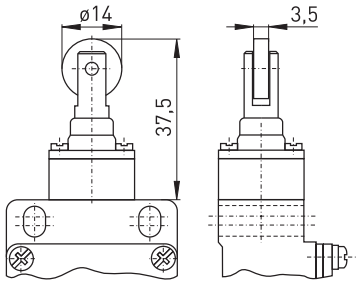
// Roller plunger R



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 30°
- Metal roller
- Actuator can be repositioned by 90°

EnOcean	Order number
RF 41 R EN868	41909903

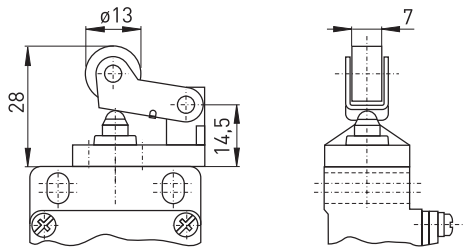
// Roller plunger with collar WR



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 25°
- Wear-resistant plastic roller
- Actuator can be repositioned by 90°
- Watertight collar for protection against penetration of dirt
- Metal roller available on request

EnOcean	Order number
RF 41 WR EN868	41910902

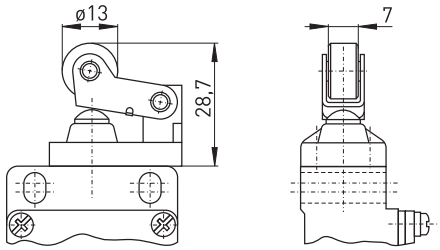
// Roller lever H



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of $\alpha = 40°$ and $\beta = 25°$
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°
- Metal roller available on request
- Actuation of switch from right
- Actuation from the left should be avoided, since this reduces the mechanical life of the position switch.

EnOcean	Order number
RF 41 H EN868	41913907

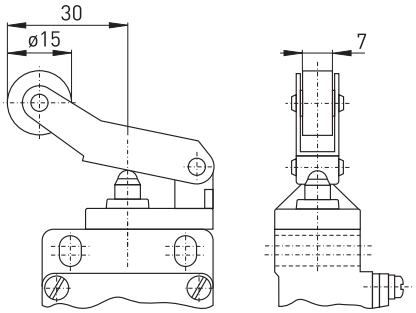
// Roller lever with collar WH



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of α = 40° and β = 25°
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°
- Watertight collar for protection against penetration of dirt
- Metal roller available on request
- Actuation of switch from right
- Actuation from the left should be avoided, since this reduces the mechanical life of the position switch.

EnOcean	Order number
RF 41 WH EN868	41914908

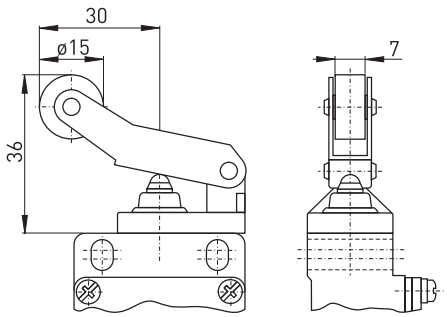
// Long roller lever HL



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of α = 40° and β = 30°
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°
- Metal roller available on request
- Actuation from the left should be avoided, since this reduces the mechanical life of the position switch.

EnOcean	Order number
RF 41 HL EN868	41915901

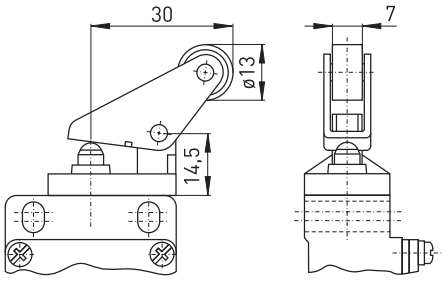
// Long roller lever with collar WHL



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of α = 40° and β = 30°
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°
- Watertight collar for protection against penetration of dirt
- Metal roller available on request
- Actuation from the left should be avoided, since this reduces the mechanical life of the position switch.

EnOcean	Order number
RF 41 WHL EN868	41916901

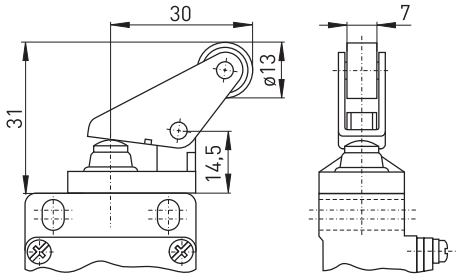
// Parallel roller lever PH



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of α = 30°
- Actuation parallel to switch from below
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°
- Metal roller available on request

EnOcean	Order number
RF 41 PH EN868	41919901

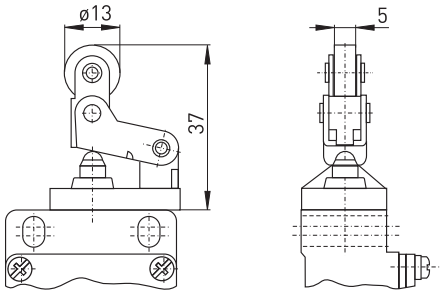
// Parallel roller lever with collar WPH



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of α = 30°
- Actuation parallel to switch from below
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°
- Watertight collar for protection against penetration of dirt
- Metal roller available on request

EnOcean	Order number
RF 41 WPH EN868	41920901

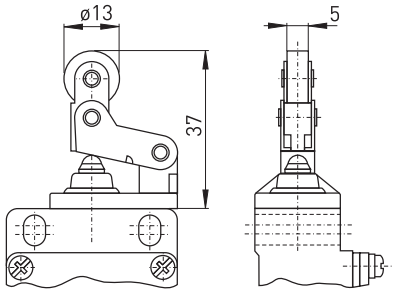
// Offset roller lever HK



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 40°
- Wear-resistant plastic roller
- Actuation only possible from right-hand side
- Free movement of actuator from left-hand side
- Actuator can be repositioned by 4 x 90°
- Metal roller available on request

EnOcean	Order number
RF 41 HK EN868	41917901

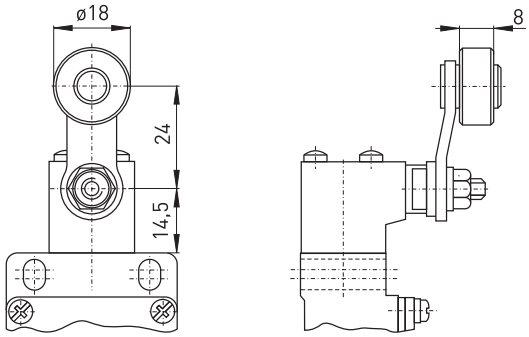
// Offset roller lever with collar WHK



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 40°
- Actuation only possible from right-hand side
- Free movement of actuator from left-hand side
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°
- Watertight collar for protection against penetration of dirt
- Metal roller available on request

EnOcean	Order number
RF 41 WHK EN868	41918901

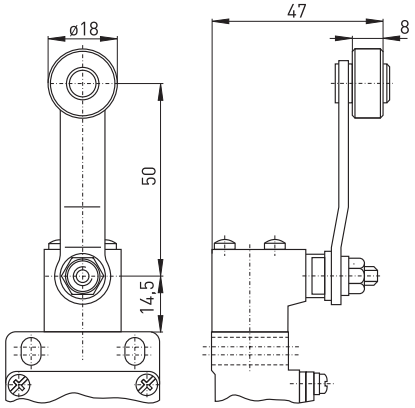
// Rocking lever D



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 45°
- Wear-resistant plastic roller
- Lever angle adjustable in 10° steps clockwise or counter-clockwise
- Actuator can be repositioned by 180°
- Metal roller available on request

EnOcean	Order number
RF 41 D EN868	41921901

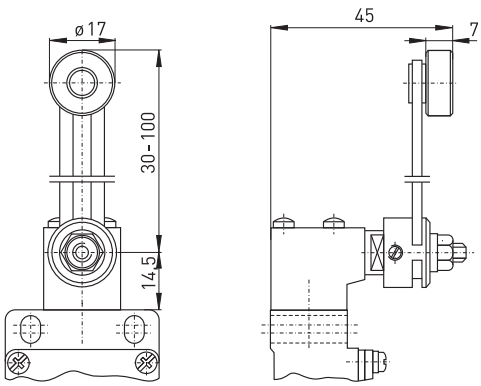
// Long rocking lever DL



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 45°
- Wear-resistant plastic roller
- Lever angle adjustable in 10° steps clockwise or counter-clockwise
- Actuator can be repositioned by 180°
- Metal roller available on request

EnOcean	Order number
RF 41 DL EN868	41923901

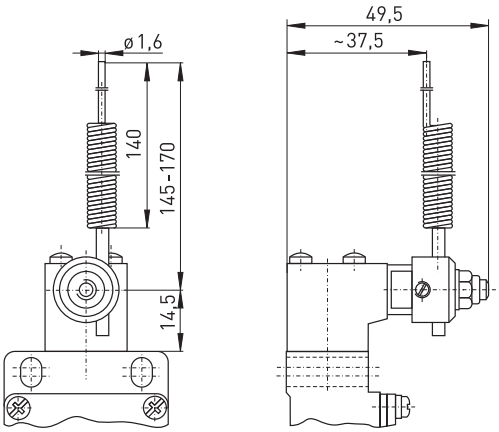
// Adjustable rocking lever DS



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 45°
- Wear-resistant plastic roller
- Lever angle adjustable in 10° steps clockwise or counter-clockwise
- Actuator can be repositioned by 180°
- Metal roller available on request

EnOcean	Order number
RF 41 DS EN868	41929901

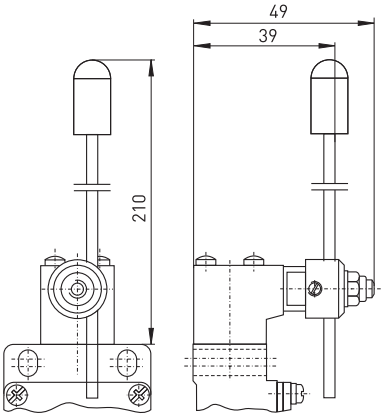
// Spring-rod lever DF



Features/options
- Actuating speed max. 0.5 m/s
- Lever angle adjustable in 10° steps clockwise or counter-clockwise
- Actuator can be repositioned by 180°

EnOcean	Order number
RF 41 DF EN868	41927901

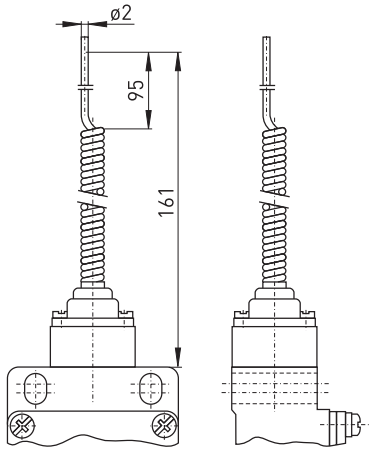
// Rod lever DD



Features/options
- Actuating speed max. 0.5 m/s
- Wear-resistant plastic tip
- Lever angle adjustable in 10° steps clockwise or counter-clockwise
- Actuator can be repositioned by 180°

EnOcean	Order number
RF 41 DD EN868	41925901

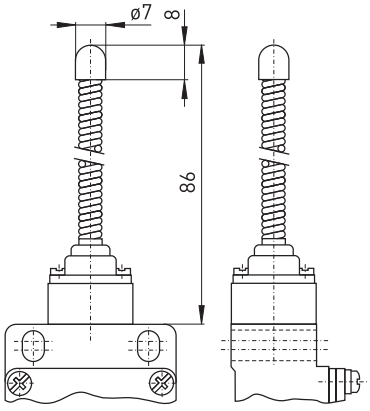
// Long spring rod TL



Features/options
- Spring rod can be actuated from any direction
- Spring rod can be shortened 30 mm in actuating area
- Exact linear actuation not necessary
- Elasticity of the spring allows for deflection above the max. switching angle

EnOcean	Order number
RF 41 TL EN868	41932901

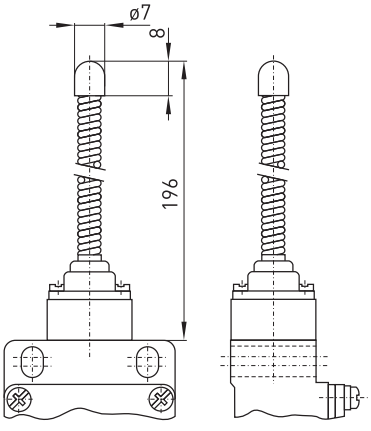
// Spring rod with steel tip TF



Features/options
- With rounded steel tip
- Spring rod can be actuated from any direction
- Elasticity of the spring allows for deflection above the max. switching angle

EnOcean	Order number
RF 41 TF EN868	41934902

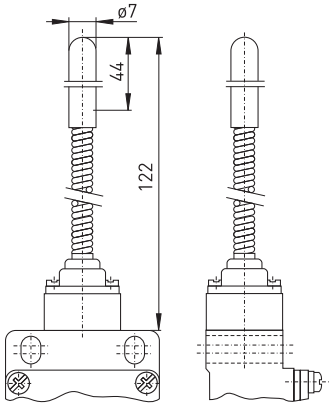
// Long spring rod with steel tip TFL



Features/options
- With rounded steel tip
- Spring rod can be actuated from any direction
- Elasticity of the spring allows for deflection above the max. switching angle

EnOcean	Order number
RF 41 TFL EN868	41938901

// Spring rod with plastic tip TK

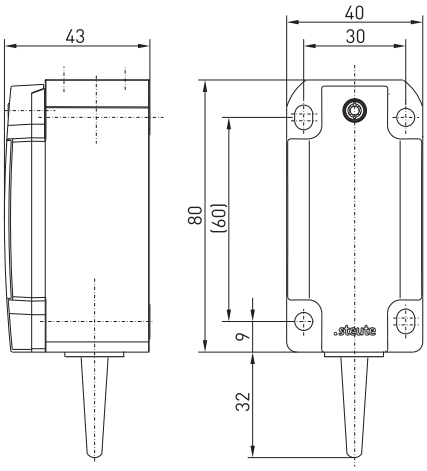


Features/options
- Wear-resistant plastic tip
- Spring rod can be actuated from any direction
- Elasticity of the spring allows for deflection above the max. switching angle

EnOcean	Order number
RF 41 TK EN868	41936901

Features/options
- Metal enclosure
- EnOcean standard
- No power supply, no wiring and pipe laying required
- Easy programming of receiver
- Multi-network capable
- Output signal can be individually configurated at the receiver
- Available on request with steute wireless technology

// RF 98 EN868



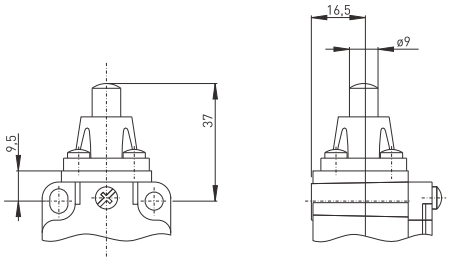
Technical Data

Standards	EN 60947-5-1; EN 61000-6-2; EN 301 489-1; EN 301 489-3; EN 300 220-2, -3
Enclosure	Zinc die-cast, enamelled
Cover	Zinc die-cast, enamelled
Degree of protection	IP 67 per IEC/EN 60529
Wireless protocol	EnOcean
Ambient temperature	–20 °C ... +65 °C
Switching frequency	approx. 9000 telegrams at repetitions/h
Voltage supply	Electrodynamic energy generator
Frequency	868.3 MHz
Transmission power	max. 10 mW
Data rate	120 kbps
Channel bandwidth	280 kHz
Sensing range	max. 300 m outside, max. 30 m inside
Mechanical life	> 1 million operations
Actuating time	min. 80 ms
Note	no status signal available
Approvals	ANATEL

Type code	**RF 98 R EN868**

Wireless frequency 868 MHz
EnOcean
Actuator R (W, R, D ...)
Series
Wireless technology

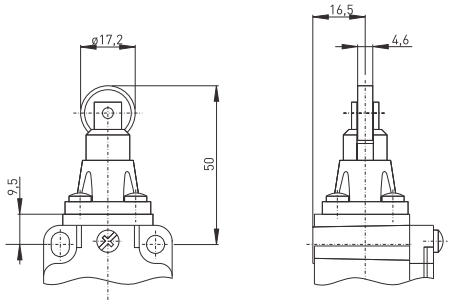
// Plunger



Features/options
- Actuator type B to EN 50 041
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 0°

EnOcean	Order number
RF 98 W EN868	9109011101

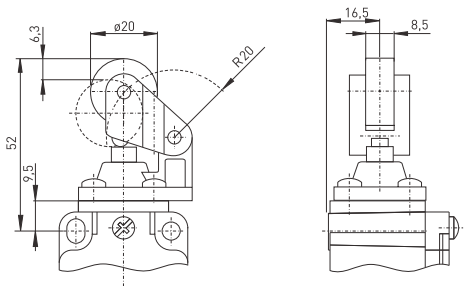
// Roller plunger R



Features/options
- Actuator type C to EN 50 041
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 30°
- Actuator can be repositioned by 90°

EnOcean	Order number
RF 98 R EN868	9109091101

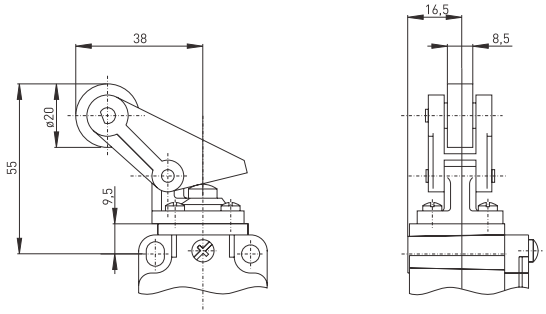
// Roller lever H



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 30°
- Actuation parallel to switch from below
- Actuation from the left should be avoided, since this reduces the mechanical life of the position switch.
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°

EnOcean	Order number
RF 98 H EN868	9109131101

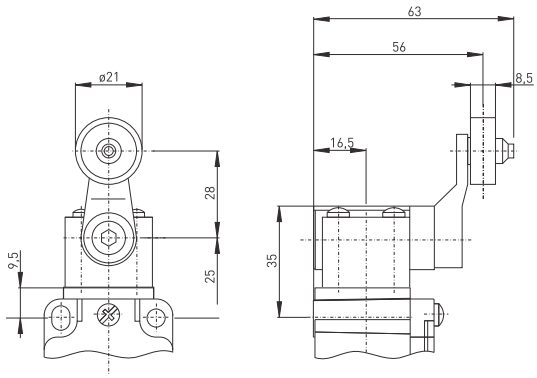
// Parallel roller lever PH



Features/options
- Actuating speed max. 0.5 m/s with a vertical actuating angle of 30°
- Actuation parallel to switch from below
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°

EnOcean	Order number
RF 98 PH EN868	9109191101

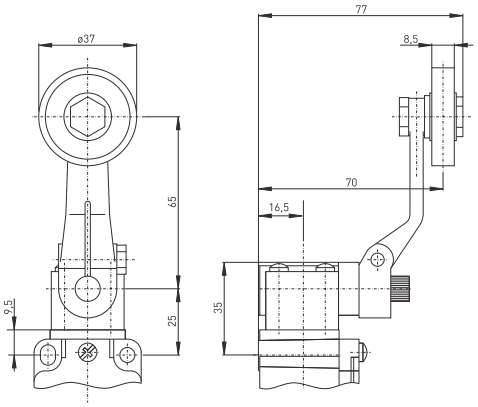
// Rocking lever D



Features/options
- Actuator type A to EN 50 041
- Actuating speed max. 2.5 m/s with a vertical actuating angle of 30°
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°

EnOcean	Order number
RF 98 D EN868	9109211101

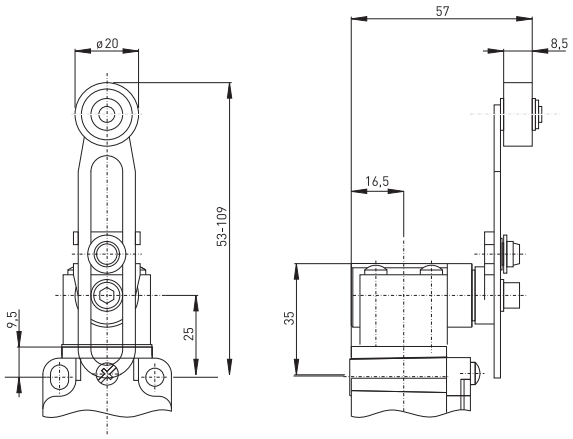
// Long rocking lever DL



Features/options
- Actuating speed max. 2.5 m/s with a vertical actuating angle of 30°
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°

EnOcean	Order number
RF 98 DL EN868	9109231101

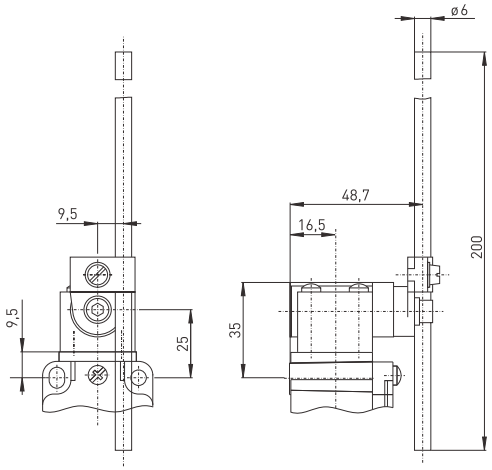
// Adjustable rocking lever DS



Features/options
- Actuating speed max. 2.5 m/s with a vertical actuating angle of 30°
- Wear-resistant plastic roller
- Actuator can be repositioned by 4 x 90°

EnOcean	Order number
RF 98 DS EN868	9109291101

// Rod lever DD

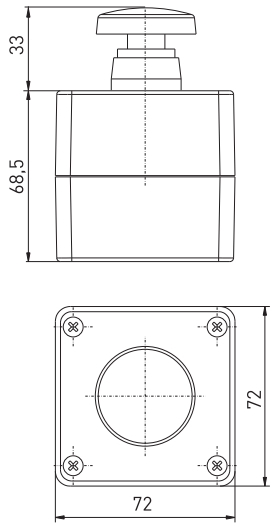


Features/options
- Actuator type D to EN 50041
- Actuating speed max. 2.5 m/s with a vertical actuating angle of 30°

EnOcean	Order number
RF 98 DD EN868	9109251101

Features/options
- Thermoplastic enclosure
- EnOcean standard
- No power supply, no wiring and pipe laying required
- Easy programming of receiver
- Multi-network capable
- Output signal can be individually configurated at the receiver

// RF BF 72 EN868



Technical Data

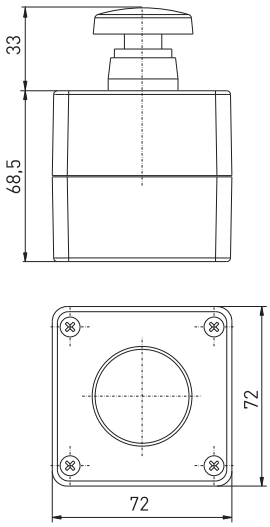
Standards	EN 60947-5-1; EN 61000-6-2; EN 301 489-1; EN 301 489-3; EN 300 220-2, -3
Enclosure	Thermoplastic, Polyamid PA 66
Degree of protection	IP 65 per IEC/EN 60529
Wireless protocol	EnOcean
Ambient temperature	– 20 °C ... + 65 °C
Switching frequency	approx. 9000 telegrams at repetitions/h
Voltage supply	Electrodynamic energy generator
Frequency	868.3 MHz
Transmission power	max. 10 mW
Data rate	120 kbps
Channel bandwidth	280 kHz
Sensing range	max. 300 m outside, max. 30 m inside
Mech. life	> 1 million operations
Actuating time	min. 80 ms
Note	No status signal
Alternative voltage supply	Lithium battery approx. 2.2 Ah
Note	status signal configurable ex works
Approvals	

Type code	**RF BF 72 RS SW EN868**

RF – Wireless technology
BF – Command device
72 – Series
RS – Actuator RS SW (different push-buttons available)
SW – EnOcean
EN868 – Wireless frequency 868 MHz

Features/options
- Thermoplastic enclosure
- steute wireless technology
- No power supply, no wiring and pipe laying required
- Easy programming of receiver
- Output signal can be individually configurated at the receiver

// RF BF 72 SW868/SW915



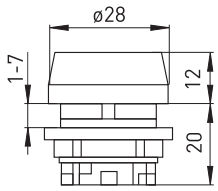
Technical Data

Standards	EN 60947-5-1; EN 61000-6-2; EN 301 489-1; EN 301 489-3; EN 300 220-1, -2
Enclosure	Thermoplastic, Polyamid PA 66
Degree of protection	IP 65 per IEC/EN 60529
Wireless protocol	SW
Ambient temperature	– 20 °C ... + 65 °C
Switching frequency	approx. 12000 telegrams at repetitions/h
Voltage supply	Electrodynamic energy generator
Frequency	868.3 MHz or 915 MHz (USA, Canada)
Transmission power	SW868: <25 mW, SW915: <10 mW
Data rate	66 kbps
Channel bandwidth	266 kHz
Sensing range	max. 450 m outside, max. 40 m inside
Mech. life	> 1 million operations
Actuating time	min. 80 ms
Approvals	SW915 FC IC

Type code RF BF 72 RS SW SW868

- Wireless technology
- Command device
- Series
- Actuator RS SW (different push-buttons available)
- SW
- Wireless frequency 868 MHz (SW915 915 MHz)

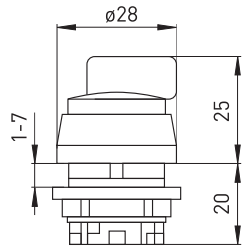
// Push-button RT



Features/options
- IP 65 for actuator RT
- IP 67 for actuator with diaphragm M
- Actuator made of plastic
- Available on request with actuator made of stainless steel

EnOcean/black push-button	**Order number**
RF BF 72 RT SW EN868	69955101
EnOcean/yellow push-button	**Order number**
RF BF 72 RT GE EN868	69955103
SW/black push-button	**Order number**
RF BF 72 RT SW SW868	69955601
RF BF 72 RT SW SW915	69955701

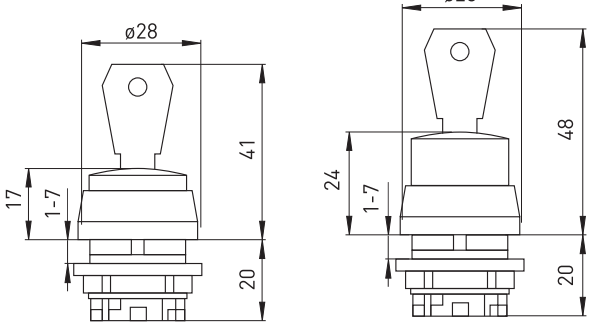
// Control switch RST



Features/options
- IP 65
- RST with spring return
- Actuator made of plastic
- Available on request with actuator made of stainless steel

EnOcean	**Order number**
RF BF 72 RSTA 0 <- I EN868	69957102
SW	**Order number**
RF BF 72 RSTA 0 <- I SW868	69957601
RF BF 72 RSTA 0 <- I SW915	69957701

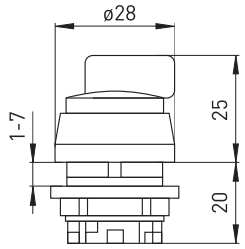
// Key switch RSSA



Features/options
- IP 65
- RSSA key switch with safety cylinder lock (locks against turning)
- Standard version always has same key number
- Available on request in different versions
- Available on request with actuator made of stainless steel

EnOcean	**Order number**
RF BF 72 RSSA 14 EN868	69958101
SW	**Order number**
RF BF 72 RSSA 14 SW868	69958601
RF BF 72 RSSA 14 SW915	69958701

// Selector switch RW

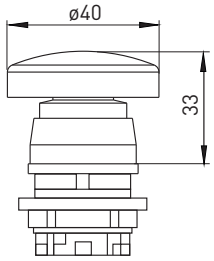


Features/options
- IP 65
- Selector with rest positions
- Actuator made of plastic
- Available on request with actuator made of stainless steel

EnOcean	Order number
RF BF 72 RWA 0<–I EN868	69957101

SW	Order number
RF BF 72 RWA 0<–I SW868	69957602
RF BF 72 RWA 0<–I SW915	69957702

// Push-button RS



Features/options
- IP 65
- Actuator made of plastic
- Available on request with actuator made of stainless steel

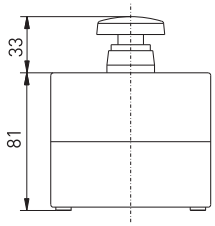
EnOcean/black push-button	Order number
RF BF 72 RS SW EN868	69969101

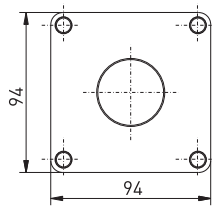
EnOcean/battery/black push-button	Order number
RF BF 72 RS SW EN868-Li	69969201

SW	Order number
RF BF 72 RS SW SW868	69969602
RF BF 72 RS SW SW915	69969701

Features/options
- Thermoplastic enclosure
- EnOcean standard
- No power supply, no wiring and pipe laying required
- Easy programming of receiver
- Multi-network capable
- Output signal can be individually configurated at the receiver

// RF BF 94 EN868





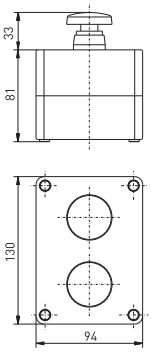
Technical data

Standards	EN 60947-5-1; EN 61000-6-2; EN 301 489-1; EN 301 489-3; EN 300 220-3
Enclosure	Thermoplastic, Polyamid PA 66
Degree of protection	IP 65 per IEC/EN 60529
Wireless protocol	EnOcean
Ambient temperature	– 20 °C ... + 65 °C
Switching frequency	approx. 9000 telegrams at repetitions/h
Voltage supply	Electrodynamic energy generator
Frequency	868.3 MHz
Transmission power	max. 10 mW
Data rate	120 kbps
Channel bandwidth	280 kHz
Sensing range	max. 300 m outside, max. 30 m inside
Mech. life	> 1 million operations
Actuating time	min. 80 ms
Note	no status signal available
Approvals	ANATEL

Type code RF BF 94 RS SW EN868

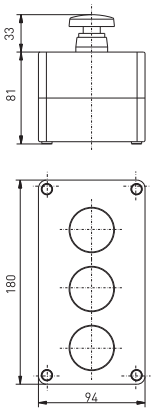
- RF: Wireless technology
- BF: Command device
- 94: Series
- RS: Actuator RS SW (different push-buttons available)
- SW: EnOcean
- EN868: 868 MHz wireless frequency

// 2 Push-buttons



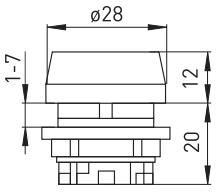
Features/options
- Available with two actuators
- Available in different versions

// 3 Push-buttons



Features/options
- Available with three actuators
- Available in different versions

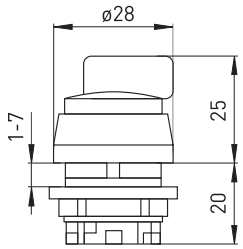
// Push-button RT



Features/options
- IP 65 for actuator RT
- IP 67 for actuator with diaphragm M
- Actuator made of plastic
- Available with actuator made of stainless steel

EnOcean	Order number
RF BF 94 RT EN868	69155101

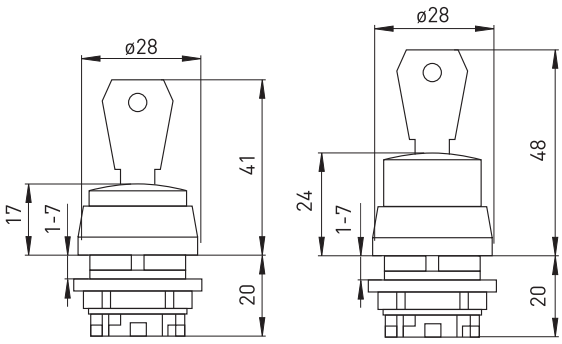
// Control switch RST



Features/options
- IP 65
- RST with spring return
- Actuator made of plastic
- Available on request with actuator made of stainless steel

EnOcean	Order number
RF BF 94 RSTA 0<–I EN868	69157101

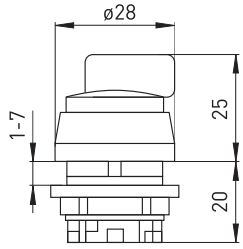
// Key switch RSSA



Features/options
- IP 65
- RSSA key switch with safety cylinder lock (locks against turning)
- Standard version always with the same key number
- Available on request in different versions
- Available on request with actuator made of stainless steel

EnOcean	Order number
RF BF 94 RSSA 14 EN868	69158101

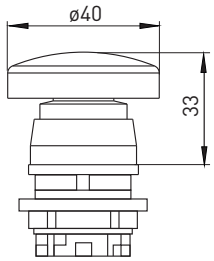
// Selector switch RW



Features/options
- IP 65
- Selector with rest positions
- Actuator made of plastic
- Available on request with actuator made of stainless steel

EnOcean	Order number
RF BF 94 RWA 0<–I EN868	69157102

// Push-button RS

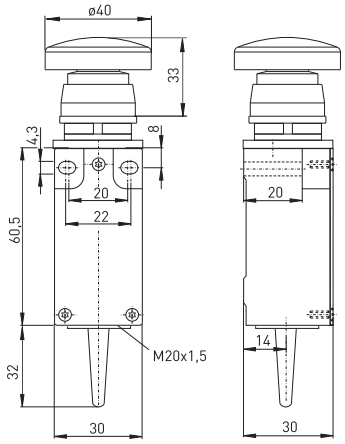


Features/options
- IP 65
- Actuator made of plastic
- Available on request with actuator made of stainless steel

EnOcean	Order number
RF BF 94 RS SW EN868	69169101

Features/options
- Thermoplastic enclosure
- Mounting details to EN 50 047
- EnOcean standard
- No power supply, no wiring and pipe laying required
- Easy programming of receiver
- Multi-network capable
- Output signal can be individually configurated at the receiver

// RF 95 RS SW EN868



Technical Data

Standards	EN 60947-5-1; EN 61000-6-2; EN 301 489-1; EN 301 489-3; EN 300 220-2, -3
Enclosure	Glassfibre reinforced thermoplastic, self-extinguishing UL 94-V0
Cover	Glassfibre reinforced thermoplastic, self-extinguishing UL 94-V0
Degree of protection	IP 67 per IEC/EN 60529
Wireless protocol	EnOcean
Ambient temperature	–20 °C ... +65 °C
Switching frequency	approx. 9000 telegrams at repetitions/h
Voltage supply	Electrodynamic energy generator
Frequency	868.3 MHz
Transmission power	max. 10 mW
Data rate	120 kbps
Channel bandwidth	280 kHz
Sensing range	max. 300 m outside, max. 30 m inside
Mechanical life	> 1 million operations
Actuating time	min. 80 ms
Note	no status signal available
Approvals	ANATEL

Type code	**RF 95 RS SW EN868**

- RF: Wireless technology
- 95: Series
- RS SW: Actuator RS SW (different push-buttons available)
- EN: EnOcean
- 868: 868 MHz wireless frequency

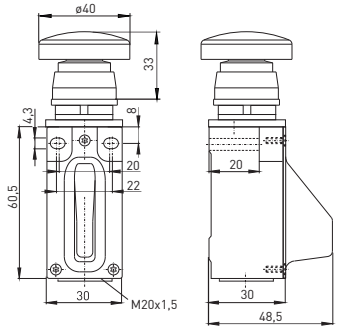
Features/options
- Thermoplastic enclosure
- Mounting details to EN 50 047
- steute wireless technology
- No power supply, no wiring and pipe laying required
- Easy programming of receiver
- Output signal can be individually configurated at the receiver

// RF 95 RS SW SW868/SW915

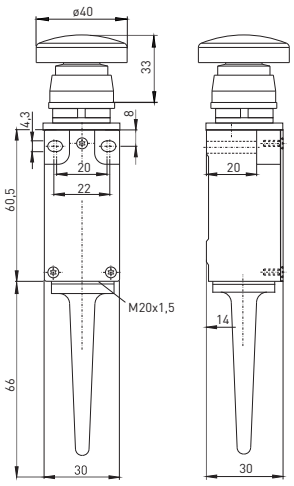
Technical Data

Standards	EN 60947-5-1; EN 61000-6-2; EN 301 489-1; EN 301 489-3; EN 300 220-1, -2
Enclosure	Glassfibre reinforced thermoplastic, self-extinguishing UL 94-V0
Cover	Glassfibre reinforced thermoplastic, self-extinguishing UL 94-V0
Degree of protection	IP 67 per IEC/EN 60529
Wireless protocol	SW
Ambient temperature	–20 °C ... +65 °C
Switching frequency	approx. 12000 telegrams at repetitions/h
Voltage supply	Electrodynamic energy generator
Frequency	868.3 MHz or 915 MHz (USA, Canada)
Transmission power	SW868: <25 mW, SW915: <10 mW
Data rate	66 kbps
Channel bandwidth	266 kHz
Sensing range	LR: max. 450 m outside, max. 40 m inside ULR: max. 700 m outside, max. 50 m inside
Mechanical life	> 1 million operations
Actuating time	min. 80 ms
Approvals	SW915 FC IC

RF 95 LR



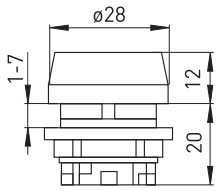
RF 95 ULR



Type code	RF 95 RS SW LR SW868

RF 95 Series
RS Actuator RS SW (different push buttons available)
SW Wireless technology
LR Long Range (ULR Ultra Long Range)
SW
868 868 MHz wireless frequency (SW915 915 MHz)

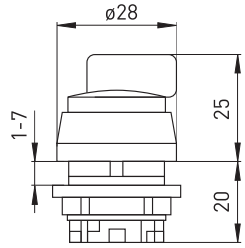
// Push-button RT



Features/options
- IP 65 for actuator RT, IP 67 for actuator with diaphragm M
- Available on request with actuator made of stainless steel

EnOcean	Order number
RF 95 RT EN868	95955002
RF 95 RTM EN868	95955003
SW	**Order number**
RF 95 RT LR SW868	95955005
RF 95 RTM LR SW868	95955006
RF 95 RT ULR SW868	95955008
RF 95 RTM ULR SW868	95955009
RF 95 RT LR SW915	95955011
RF 95 RTM LR SW915	95955012
RF 95 RT ULR SW915	95955014
RF 95 RTM ULR SW915	95955015

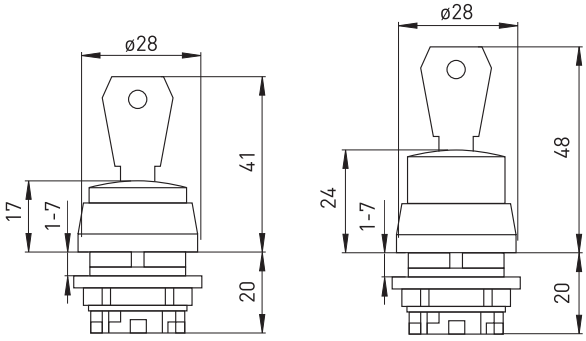
// Control switch RST



Features/options
- IP 65
- Control switch RST with spring return
- Actuator made of plastic
- Available on request with actuator made of stainless steel

EnOcean	Order number
RF 95 RSTA 0 <- I EN868	95957901
SW	**Order number**
RF 95 RSTA 0 <- I LR SW868	95957002
RF 95 RSTA 0 <- I ULR SW868	95957004
RF 95 RSTA 0 <- I LR SW915	95957006
RF 95 RSTA 0 <- I ULR SW915	95957008

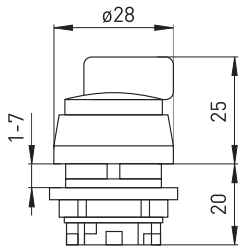
// Key switch RSSA



Features/options
- IP 65
- RSSA key switch with safety cylinder lock (locks against tur ning)
- Standard version always has same key number
- Available on request with actuator made of stainless steel

EnOcean	Order number
RF 95 RSSA 14 EN868	95958901
SW	**Order number**
RF 95 RSSA 14 LR SW868	95958002
RF 95 RSSA 14 ULR SW868	95958003
RF 95 RSSA 14 LR SW915	95958004
RF 95 RSSA 14 ULR SW915	95958005

// Selector switch RW

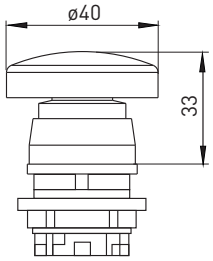


Features/options
- IP 65
- Selector with rest positions
- Actuator made of plastic
- Available on request with actuator made of stainless steel

EnOcean	Order number
RF 95 RWA 0<-I EN868	95957001

SW	Order number
RF 95 RWA 0<-I LR SW868	95957003
RF 95 RWA 0<-I ULR SW868	95957005
RF 95 RWA 0<-I LR SW915	95957007
RF 95 RWA 0<-I ULR SW915	95957009

// Push-button RS

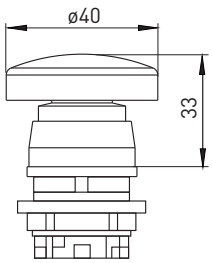


Features/options
- IP 65
- Actuator made of plastic

Black push button	Order Number
RF 95 RS SW EN868	95955001

SW	Order number
RF 95 RS SW LR SW868	95955007
RF 95 RS SW ULR SW868	95955010
RF 95 RS SW LR SW915	95955013
RF 95 RS SW ULR SW915	95955016

// Push-button with latching RV



Features/options
- IP 65
- Actuator made of plastic

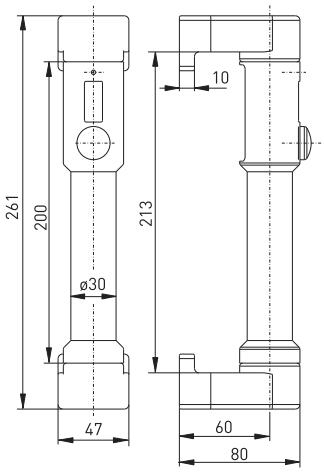
EnOcean/black push button	Order Number
RF 95 RV SW EN868	95956001
EnOcean/yellow push button	**Order Number**
RF 95 RV GE EN868	95956002

SW/black push button	Order number
RF 95 RV SW LR SW868	95956002
RF 95 RV SW ULR SW868	95956003
RF 95 RV SW LR SW915	95956004
RF 95 RV SW ULR SW915	95956005

Wireless multifunction handles
// Series RF TG

Features/options
- Thermoplastic enclosure
- EnOcean standard
- No wiring and pipe laying required
- Integrated solar cell, no battery/rechargeable battery required
- Easy programming of receiver
- Multi-network capable
- Output signal can be individually configurated at the receiver

// RF TG



Technical Data

Standards	EN 60947-5-1; EN 61000-6-2; EN 301 489-1; EN 301 489-3; EN 300 220-2, -3
Enclosure	glass-fibre reinforced shock-proof thermoplastic POM
Degree of protection	IP 67 per IEC/EN 60529
Switching system	push button
Wireless protocol	EnOcean
Ambient temperature	–20 °C ... +65 °C
Switching frequency	approx. 9000 telegrams at repetitions/h
Voltage supply	Solar cell
Frequency	868.3 MHz
Transmission power	max. 10 mW
Data rate	120 kbps
Channel bandwidth	280 kHz
Sensing range	max. 300 m outside, max. 30 m inside
Mechanical life	> 1 million operations
Switching on with empty energy supply	< 10 min at 400 lx
Charging time with empty energy supply	approx. 6 h at 400 lx, approx. 1.5 h at 1000 lx
Charging time at operation limit	1 h at 400 lx, approx. 15 min at 1000 lx
Operation time in darkness	approx. 48 h, with status signal every 3h, when the goldcap is totally charged at 1000 lx
Approvals	PG ANATEL

Wireless multifunction handle
RF TG-S EN868

Order Number
97955914

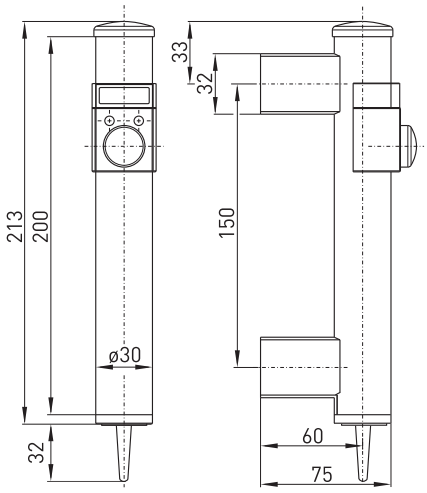
Type code	RF TG EN868

RF TG EN868
- Wireless technology
- Multifunction handle
- EnOcean
- Wireless frequency 868 MHz

Wireless multifunction handles
// Series RF TGM

Features/options
- Metal enclosure
- EnOcean standard
- No wiring and pipe laying required
- Integrated solar cell, no battery/rechargeable battery required
- Easy programming of receiver
- Multi-network capable
- Output signal can be individually configurated at the receiver

// RF TGM



Technical Data

Standards	EN 60947-5-1; EN 61000-6-2; EN 301 489-1; EN 301 489-3; EN 300 220-2, -3
Enclosure	stainless steel V2A (1.4301) or Aluminium aodised, aluminium black anodised
Degree of protection	IP 67 per IEC/EN 60529
Switching system	push button
Wireless protocol	EnOcean
Ambient temperature	–20 °C ... +65 °C
Switching frequency	approx. 9000 telegrams at repetitions/h
Voltage supply	Solar cell
Frequency	868.3 MHz
Transmission power	max. 10 mW
Data rate	120 kbps
Channel bandwidth	280 kHz
Sensing range	max. 300 m outside, max. 30 m inside
Mechanical life	> 1 million operations
Switching on with empty energy supply	< 10 min at 400 lx
Charging time with empty energy supply	approx. 6 h at 400 lx, approx. 1.5 h at 1000 lx
Charging time at operation limit	1 h at 400 lx, approx. 15 min at 1000 lx
Operation time in darkness	approx. 48 h, with status signal every 3h, when the goldcap is totally charged at 1000 lx
Approvals	ANATEL

Wireless multifunction handle
RF TGM-S EN868

Order Number
97955001

Type code	RF TGM EN868

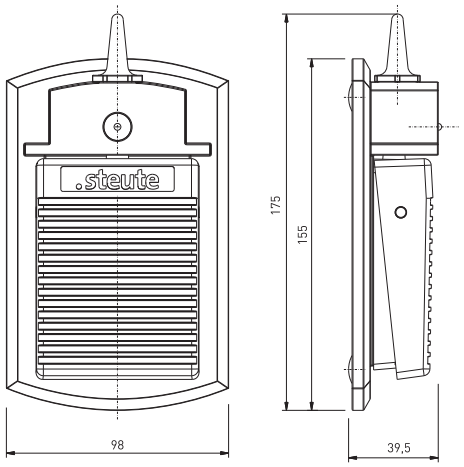
RF TGM EN868
- RF: Wireless technology
- TGM: Multifunction handle
- EN: EnOcean
- 868: Wireless frequency 868 MHz

Other handle lengths and several push buttons available on request.

Wireless foot switches
// Series RF KF EN868

Features/options
- Metal console, thermoplastic pedal
- EnOcean standard
- No wiring and pipe laying required
- Power supply by Lithium battery
- Easy programming of receiver
- Output signal can be individually configurated at the receiver

// RF KF EN868



Technical Data

Standards	EN 60947-5-1; EN 61000-6-2; EN 301 489-1; EN 301 489-3; EN 300 220-2, -3
Enclosure	zinc die cast console, RAL 9005
Pedal	glass-fibre reinforced thermoplastic (PA 66)
Degree of protection	IP 67 per IEC/EN 60529
Wireless protocol	EnOcean
Ambient temperature	-20 °C ... +65 °C
Switching frequency	approx. 9000 telegrams at repetitions/h
Voltage supply	lithium battery
Frequency	868.3 MHz
Transmission power	max. 10 mW
Data rate	120 kbps
Channel bandwidth	280 kHz
Sensing range	max. 300 m outside, max. 30 m inside
Mechanical life	> 1 million operations
Battery life	> 800,000 operations
Actuating time	min. 80 ms
Note	status signal configurable ex works
Approvals	ANATEL

Wireless foot switch
RF KF EN868

Order Number
88191901

Type code	RF KF EN868

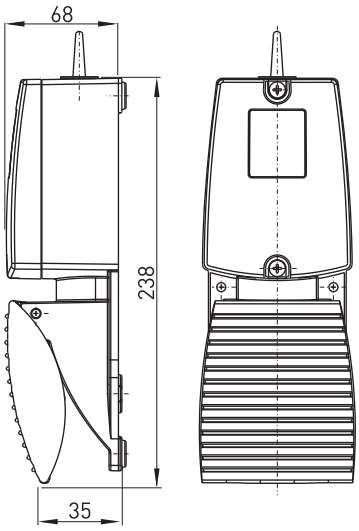
RF KF EN868
- 868 MHz wireless frequency
- EnOcean
- Series
- Wireless technology

PRODUCTION PROCESS
COLOUR COATING OF PROTECTIVE SHIELDS

Wireless foot switches
// Series RF GFI EN868

Features/options
- Metal enclosure
- Available on request with special finish in RAL colour tones
- EnOcean standard
- No power supply, no wiring and pipe laying required
- Easy programming of receiver
- Output signal can be individually configurated at the receiver

// RF GFI EN868



Technical data

Standards	EN 60947-5-1; EN 61000-6-2; EN 301 489-1; EN 301 489-3; EN 300 220-3
Enclosure	aluminium die-cast, enamel finish, RAL 5011
Cover	aluminium die-cast, enamel finish, RAL 2004
Pedal	aluminium die-cast, enamel finish, RAL 5011
Degree of protection	IP 67 per IEC/EN 60529
Wireless protocol	EnOcean
Ambient temperature	-20 °C ... +65 °C
Switching frequency	approx. 9000 telegrams at repetitions/h
Voltage supply	Electrodynamic energy generator
Frequency	868.3 MHz
Transmission power	max. 10 mW
Data rate	120 kbps
Channel bandwidth	280 kHz
Sensing range	max. 300 m outside, max. 30 m inside
Mechanical life	> 1 million operations
Actuating time	min. 80 ms
Note	no status signal available
Approvals	ANATEL

Wireless foot switch
RF GFI EN868

Order Number
53191001

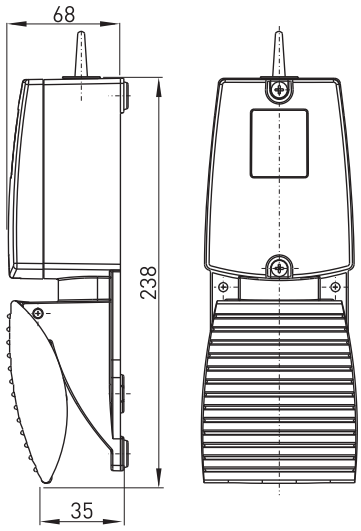
Type code	RF GFI EN868

868 MHz wireless frequency
EnOcean
Series
Wireless technology

Wireless foot switches
// Series RF GFI SW868/SW915

Features/options
- Metal enclosure
- Available on request with special finish in RAL colour tones
- steute wireless technology
- No power supply, no wiring and pipe laying required
- Easy programming of receiver
- Output signal can be individually configurated at the receiver

// RF GFI SW868/SW915



Technical Data

Standards	EN 60947-5-1; EN 61000-6-2; EN 301 489-1; EN 301 489-3; EN 300 220-1, -2
Enclosure	aluminium die-cast, enamel finish, RAL 5011
Cover	aluminium die-cast, enamel finish, RAL 2004
Pedal	aluminium die-cast, enamel finish, RAL 5011
Degree of protection	IP 67 per IEC/EN 60529
Wireless protocol	SW
Ambient temperature	–20 °C ... +65 °C
Switching frequency	approx. 12000 telegrams at repetitions/h
Voltage supply	Electrodynamic energy generator
Frequency	868.3 MHz or 915 MHz (USA, Canada)
Transmission power	SW868: <25 mW, SW915: <10 mW
Data rate	66 kbps
Channel bandwidth	266 kHz
Sensing range	max. 700 m outside, max. 50 m inside
Mechanical life	> 1 million operations
Actuating time	min. 80 ms
Approvals	SW915 FC IC

Wireless foot switch	Order Number
RF GFI SW868	53191003
RF GFI SW915	53191004

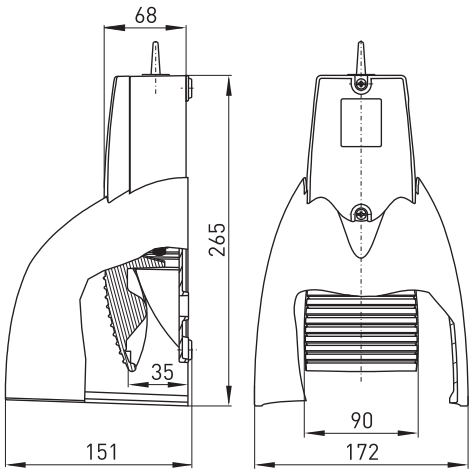
Type code	RF GFI SW868

RF GFI SW868
- RF: Wireless technology
- GFI: Series
- SW: SW
- 868: 868 MHz wireless frequency (SW915 915 MHz)

Wireless foot switches
// Series RF GFSI EN868

Features/options
- Metal enclosure
- Available on request with special finish in RAL colour tones
- EnOcean standard
- No power supply, no wiring and pipe laying required
- Easy programming of receiver
- Output signal can be individually configurated at the receiver

// RF GFSI EN868



Technical data

Standards	EN 60947-5-1; EN 61000-6-2; EN 301 489-1; EN 301 489-3; EN 300 220-3
Enclosure	aluminium die-cast, enamel finish, RAL 5011
Pedal	aluminium die-cast, enamel finish, RAL 5011
Protective shield	aluminium die-cast, enamel finish, RAL 2004
Degree of protection	IP 67 per IEC/EN 60529
Wireless protocol	EnOcean
Ambient temperature	-20 °C ... +65 °C
Switching frequency	approx. 9000 telegrams at repetitions/h
Voltage supply	Electrodynamic energy generator
Frequency	868.3 MHz
Transmission power	max. 10 mW
Data rate	120 kbps
Channel bandwidth	280 kHz
Sensing range	max. 300 m outside, max. 30 m inside
Mechanical life	> 1 million operations
Actuating time	min. 80 ms
Note	no status signal available
Approvals	ANATEL

Wireless foot switch
RF GFSI EN868

Order Number
53291001

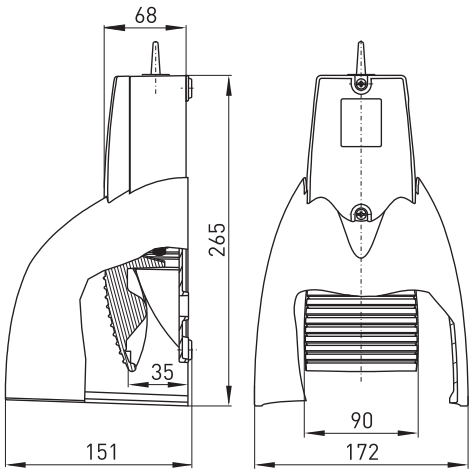
Type code	RF GFSI EN868

RF GFSI EN868
- 868 MHz wireless frequency
- EnOcean
- Series
- Wireless technology

Wireless foot switches
// Series RF GFSI SW868/SW915

Features/options
- Metal enclosure
- Available on request with special finish in RAL colour tones
- steute wireless technology
- No power supply, no wiring and pipe laying required
- Easy programming of receiver
- Output signal can be individually configurated at the receiver

// RF GFSI SW868/SW915



Technical Data

Standards	EN 60947-5-1; EN 61000-6-2; EN 301 489-1; EN 301 489-3; EN 300 220-1, -2
Enclosure	aluminium die-cast, enamel finish, RAL 5011
Pedal	aluminium die-cast, enamel finish, RAL 5011
Protective shield	aluminium die-cast, enamel finish, RAL 2004
Degree of protection	IP 67 per IEC/EN 60529
Wireless protocol	SW
Ambient temperature	–20 °C ... +65 °C
Switching frequency	approx. 12000 telegrams at repetitions/h
Voltage supply	Electrodynamic energy generator
Frequency	868.3 MHz or 915 MHz (USA, Canada)
Transmission power	SW868: <25 mW, SW915: <10 mW
Data rate	66 kbps
Channel bandwidth	266 kHz
Sensing range	max. 700 m outside, max. 50 m inside
Mechanical life	> 1 million operations
Actuating time	min. 80 ms
Approvals	SW915 FC IC

Wireless foot switch	Order Number
RF GFSI SW868	53291003
RF GFSI SW915	53291004

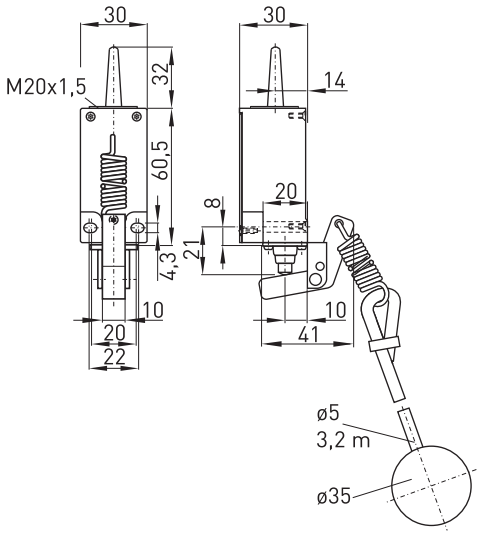
Type code	RF GFSI SW868

RF GFSI SW868
- RF: Wireless technology
- GFSI: Series
- SW: SW
- 868: 868 MHz wireless frequency (SW915 915 MHz)

Wireless pull-wire switches
// Series RF 95 WH/90° EN868

Features/options
- Thermoplastic enclosure
- Mounting details to EN 50 047
- Including 3.2 m long pull-wire and ball
- EnOcean standard
- No power supply, no wiring and pipe laying required
- Easy programming of receiver
- Multi-network capable
- Output signal can be individually configurated at the receiver

// RF 95 WH/90° EN868



Wireless pull-wire switch
RF 95 WH/90° EN868

Order Number
95914901

Technical Data

Standards	EN 60947-5-1; EN 61000-6-2; EN 301 489-1; EN 301 489-3; EN 300 220-2, -3
Enclosure	Glassfibre reinforced thermoplastic, self-extinguishing UL 94-V0
Cover	Glassfibre reinforced thermoplastic, self-extinguishing UL 94-V0
Degree of protection	IP 67 per IEC/EN 60529
Wireless protocol	EnOcean
Ambient temperature	–20 °C ... +65 °C
Switching frequency	approx. 9000 telegrams at repetitions/h
Voltage supply	Electrodynamic energy generator
Frequency	868.3 MHz
Transmission power	max. 10 mW
Data rate	120 kbps
Channel bandwidth	280 kHz
Sensing range	max. 300 m outside, max. 30 m inside
Mechanical life	> 1 million operations
Actuating time	min. 80 ms
Note	no status signal available
Approvals	ANATEL

Type code	**RF 95 WH/90° EN868**

- 868 MHz wireless frequency
- EnOcean
- Actuator H/90°
- Watertight collar
- Series
- Wireless technology

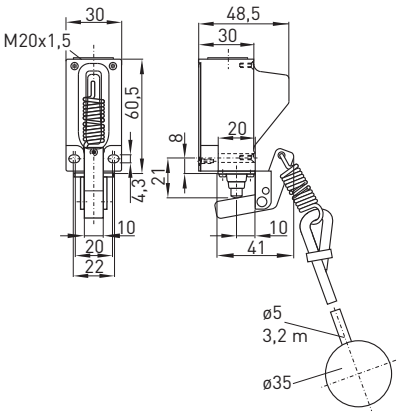
Features/options
- Thermoplastic enclosure
- Mounting details to EN 50 047
- Including 3.2 m long pull-wire and ball
- steute wireless technology
- No power supply, no wiring and pipe laying required
- Easy programming of receiver
- Output signal can be individually configurated at the receiver

// RF 95 WH/90° SW868/SW915

Technical Data

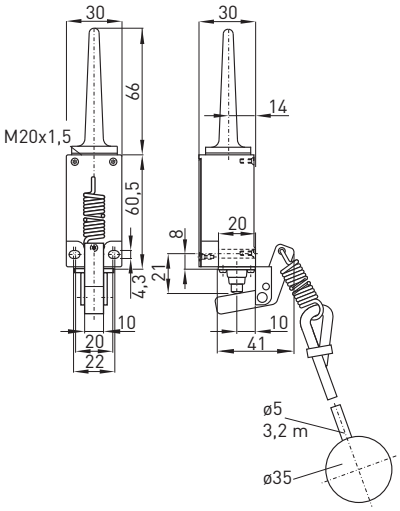
Standards	EN 60947-5-1; EN 61000-6-2; EN 301 489-1; EN 301 489-3; EN 300 220-1, -2
Enclosure	Glassfibre reinforced thermoplastic, self-extinguishing UL 94-V0
Cover	Glassfibre reinforced thermoplastic, self-extinguishing UL 94-V0
Degree of protection	IP 67 per IEC/EN 60529
Wireless protocol	SW
Ambient temperature	–20 °C ... +65 °C
Switching frequency	approx. 12000 telegrams at repetitions/h
Voltage supply	Electrodynamic energy generator
Frequency	868.3 MHz or 915 MHz (USA, Canada)
Transmission power	SW868: <25 mW, SW915: <10 mW
Data rate	66 kbps
Channel bandwidth	266 kHz
Sensing range	LR: max. 450 m outside, max. 40 m inside ULR: max. 700 m outside, max. 50 m inside
Mechanical life	> 1 million operations
Actuating time	min. 80 ms
Approvals	SW915 FC IC

RF 95 LR



Wireless pull-wire switch	Order Number
RF 95 WH/90° LR SW868	95914010
RF 95 WH/90° LR SW915	95914011
RF 95 WH/90° ULR SW868	95914012
RF 95 WH/90° ULR SW915	95914013

RF 95 ULR



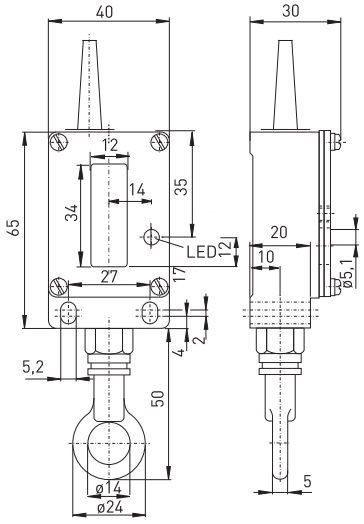
Type code RF 95 WH/90° LR SW868

- 868 MHz wireless frequency (SW 915 915 MHz)
- SW
- Long Range (ULR Ultra Long Range)
- Actuator H/90°
- Watertight collar
- Series
- Wireless technology

Wireless pull-wire switches
// Series RF 41 Z EN868

Features/options
- Metal enclosure
- EnOcean standard
- No wiring and pipe laying required
- Integrated solar cell, no battery/rechargeable battery required
- Easy programming of receiver
- Multi-network capable
- Output signal can be individually configurated at the receiver

// RF 41 Z EN868



Technical Data

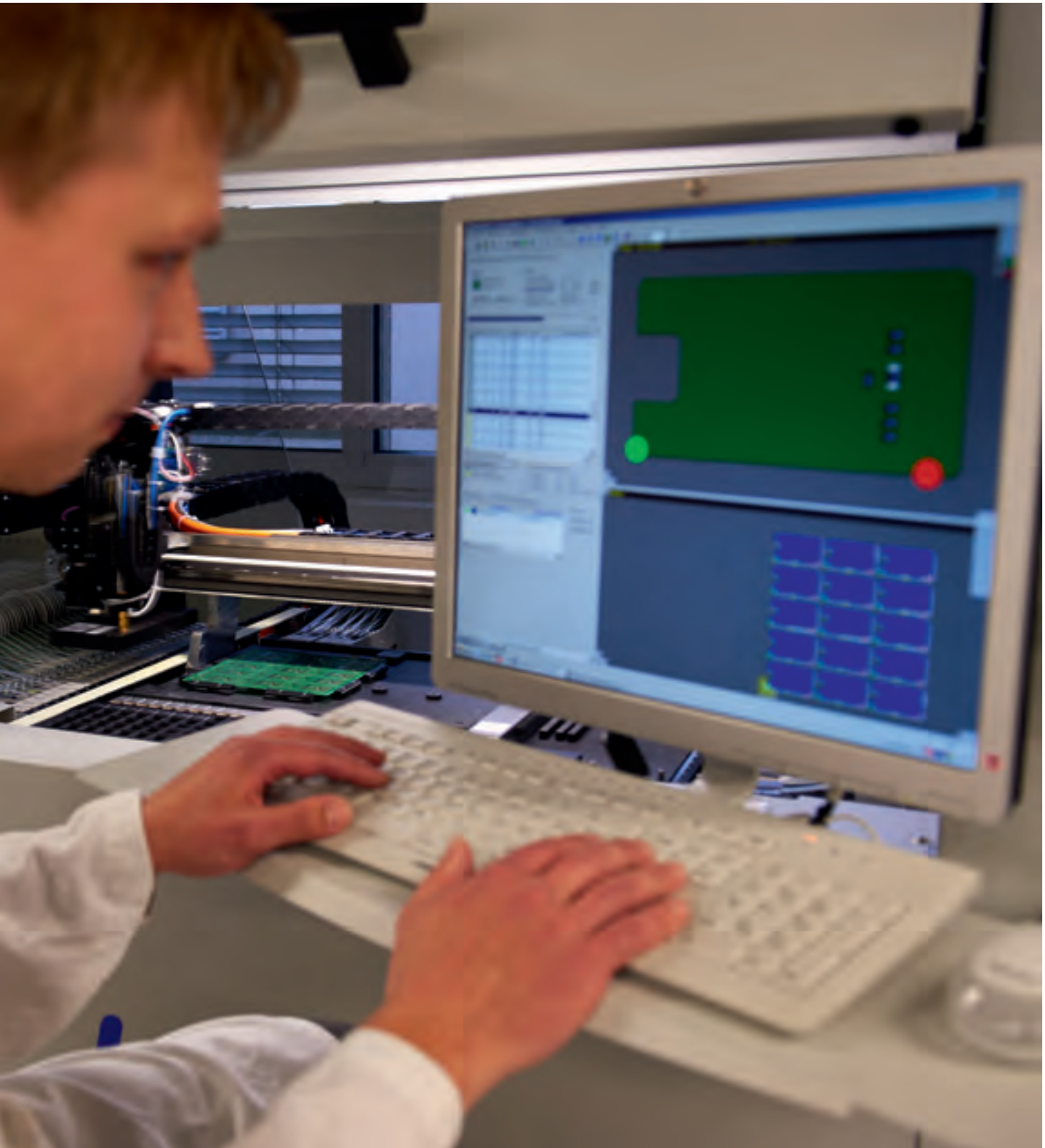
Standards	EN 60947-5-1, EN 61000-6-2; EN 301 489-1, EN 301 489-3, EN 300 220-2, -3
Enclosure	Aluminium die-cast, enamelled
Cover	Glassfibre reinforced thermoplastic
Degree of protection	IP 65 per IEC/EN 60529
Wireless protocol	EnOcean
Ambient temperature	–20 °C ... +65 °C
Switching frequency	approx. 9000 telegrams at repetitions/h
Voltage supply	Solar cell
Frequency	868.3 MHz
Transmission power	max. 10 mW
Data rate	120 kbps
Channel bandwidth	280 kHz
Sensing range	max. 300 m outside, max. 30 m inside
Mechanical life	> 1 million operations
Switching on with empty energy supply	< 10 min at 400 lx
Charging time with empty energy supply	approx. 6 h at 400 lx, approx. 1.5 h at 1000 lx
Charging time at operation limit	1 h at 400 lx, approx. 15 min at 1000 lx
Operation time in darkness	approx. 48 h, with status signal every 3h, when the goldcap is totally charged at 1000 lx
Approvals	PG ANATEL

Wireless pull-wire switch	Order Number
RF 41 Z EN868	41941901
RF 41 WZ EN868	41942901

Type code RF 41 WZ EN868

- 868 MHz wireless frequency
- EnOcean
- Actuator Z
- Watertight collar
- Series 41
- Wireless technology

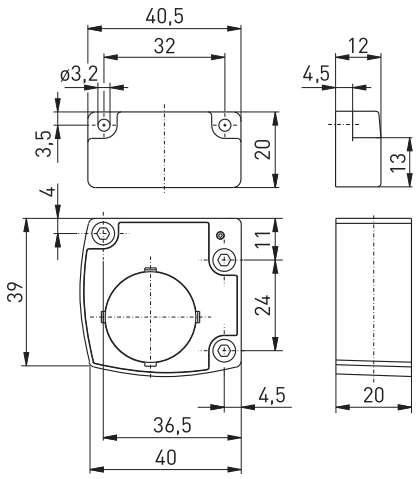
ASSEMBLY OF COMPONENTS



Wireless magnetic sensors
// Series RF RC 10 EN868

Features/options
- Thermoplastic enclosure
- EnOcean standard
- No wiring and pipe laying required
- Power supply by Lithium battery
- Easy programming of receiver
- Multi-network capable
- Output signal can be individually configurated at the receiver

// RF RC 10 EN868



Technical Data

Standards	EN 60947-5-1; EN 61000-6-2; EN 301 489-1; EN 301 489-3; EN 300 220-2, -3
Enclosure	thermoplastic, Polyamid PA 66
Degree of protection	IP 67 per IEC/EN 60529
Wireless protocol	EnOcean
Ambient temperature	– 20 °C ... + 65 °C
Switching element	Reed contact
Switching distance	> 10 mm
Hysteresis	< 1 mm
Switching frequency	approx. 9000 telegrams at repetitions/h
Voltage supply	Lithium-battery CR 2032 (replaceable)
Capacity	210 mAh
Frequency	868.3 MHz
Transmission power	max. 10 mW
Data rate	120 kbps
Channel bandwidth	280 kHz
Sensing range	max. 150 m outside, max. 30 m inside
Mechanical life	> 1 million operations
Battery life	> 800,000 operations
Actuating time	min. 80 ms
Mounting actuator	min. 8 mm distance to ferromagnetic material
Note	no status signal available; actuator required as accessory
Approvals	ANATEL

Wireless magnetive sensor	**Order Number**
RF RC 10 EN868	10720101
Actuator M 4	05.00.8225

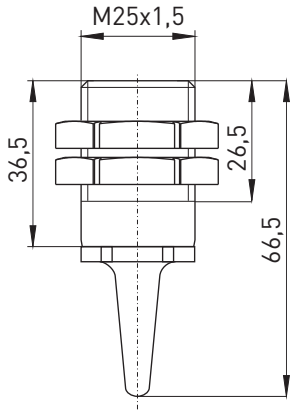
Type code RF RC 10 EN868

- Wireless technology
- Magnetic sensor
- Series
- EnOcean
- Wireless frequency 868 MHz

Wireless magnetic sensors
// Series RF GS M25 EN868

Features/options
- Magnetic sensor based on GMR effect
- Thermoplastic enclosure
- EnOcean standard
- No wiring and pipe laying required
- Power supply by Lithium battery
- Easy programming of receiver
- Multi-network capable
- Output signal can be individually configurated at the receiver

// RF GS M25 EN868



Technical Data

Standards	EN 60947-5-1, EN 61000-6-2, EN 301 489-1, EN 301 489-3, EN 300 220-2, -3
Enclosure	Thermoplastic
Degree of protection	IP 67 per IEC/EN 60529
Wireless protocol	EnOcean
Ambient temperature	– 20 °C ... + 65 °C
Switching distance	> 20 mm
Hysteresis	< 1 mm
Switching frequency	approx. 9000 telegrams at repetitions/h
Standby current	1.5 µA
Voltage supply	Battery CR 1632 (not replaceable)
Capacity	140 mAh
Frequency	868.3 MHz
Transmission power	max. 10 mW
Data rate	120 kbps
Channel bandwidth	280 kHz
Sensing range	max. 300 m outside, max. 30 m inside
Mechanical life	> 1 million operations
Battery life	> 1million operations
Actuating time	min. 80 ms
Note	no status signal available; actuator required as accessory
Approvals	ANATEL

Wireless magnetive sensor	**Order Number**
RF GS M25 EN868	22580101
Actuator M 100 N	05.00.8201

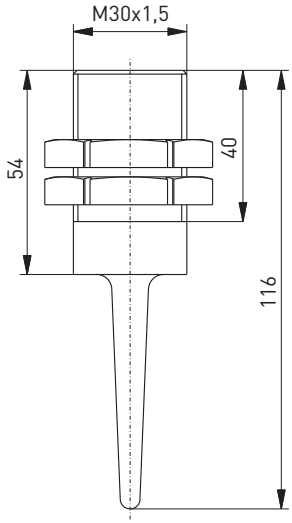
Type code	**RF GS M25 EN868**

RF Wireless technology
GS Magntic sensor with GMR effect
M25 M25 thread
EN EnOcean
868 868 MHz wireless frequency

Two mounting nuts are provided.

Features/options
- Magnetic sensor based on GMR effect
- Metal enclosure
- EnOcean standard
- No wiring and pipe laying required
- Power supply by Lithium battery
- Easy programming of receiver
- Multi-network capable
- Output signal can be individually configurated at the receiver

// RF GS M30 EN868



Technical Data

Standards	EN 60947-5-1, EN 61000-6-2, EN 301 489-1, EN 301 489-3, EN 300 220-3
Enclosure	Stainless steel 1.4571
Degree of protection	IP 67 per IEC/EN 60529
Wireless protocol	EnOcean
Ambient temperature	– 20 °C ... + 65 °C
Switching distance	> 20 mm
Hysteresis	< 1 mm
Switching frequency	approx. 9000 telegrams at repetitions/h
Standby current	1.5 µA
Voltage supply	Battery CR 1632 (not replaceable)
Capacity	140 mAh
Frequency	868.3 MHz
Transmission power	max. 10 mW
Data rate	120 kbps
Channel bandwidth	280 kHz
Sensing range	max. 300 m outside, max. 30 m inside
Mechanical life	> 1 million operations
Battery life	> 1 million operations
Actuating time	min. 80 ms
Note	no status signal available; actuator required as accessory
Approvals	ANATEL

Wireless magnetive sensor	**Order Number**
RF GS M30 EN868	23080101
Actuator M 30 Niro	05.00.8226

Type code	**RF GS M30 EN868**

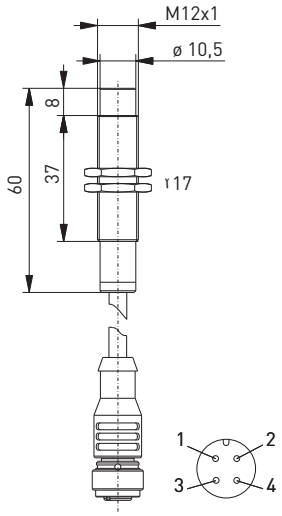
RF GS M30 EN868
- RF: Wireless technology
- GS: Magntic sensor with GMR effect
- M30: M30 thread
- EN: EnOcean
- 868: 868 MHz wireless frequency

Two mounting nuts are provided.

PRODUCTION PROCESS
SMD PARTS READY FOR ASSEMBLY

Features/options
- Metal enclosure
- Non-flush mounting
- To be connected to RF 96 ST EN868 universal transmitter
- With M12 coupling, 4-pole

// RF IS M12 NB-ST

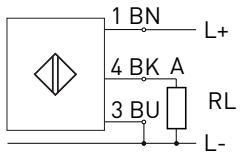


Technical Data

Standards	EN 60947-5-1
Enclosure	Brass nickeled
Cap	PVC black
Connection	Coupling M12x1, 4-pole
Cable length	0.5, 1 or 2 m
Degree of protection	IP 67 per IEC/EN 60529
Ambient temperature	–25 °C ... +70 °C
Rated isolation voltage U_i	75 VDC
Rated operating current I_e	0,2 mA
Rated operating voltage U_e	3 ... 5 VDC
Switching distance	**RF IS M12:** s_n 4 mm, s_a 0 ... 3.24 mm, s_r 3.6 mm ... 4.4 mm **RF IS M18:** s_n 8 mm, s_a 0 ... 6.48 mm, s_r 7.2 mm ... 8.8 mm **RF IS M30:** s_n 15 mm, s_a 0 ... 12.15 mm, s_r 13.5 mm ... 16.5 mm
Hysteresis	approx. 10 %
Repeat accuracy	< 5 %
Mounting	non-flush
Switching frequency	see RF 96 ST
Correction factors	Steel (St37) = 1; V2A approx. 0.7; Brass approx. 0.5; Al approx. 0,5; Cu approx. 0.4
Target	M12: 12 x 12 mm x 1 mm; M18: 24 x 24 mm x 1 mm; M30: 45 x 45 mm x 1 mm material: Steel (FE 360)
Note	The sensors can only be used in conjunction with RF 96 ST

Contact variants: switch travel/contacts

	PNP
NO contact	**RF IS M... NB-ST**

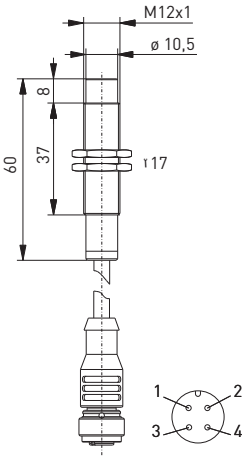


Type code **RF IS M30 nb-ST**

- RF IS: Wireless technology
- M: Inductive sensor
- 30: M30 thread (M12 or M18)
- nb: non-flush mounting
- ST: M12 coupling

Two mounting nuts are provided.

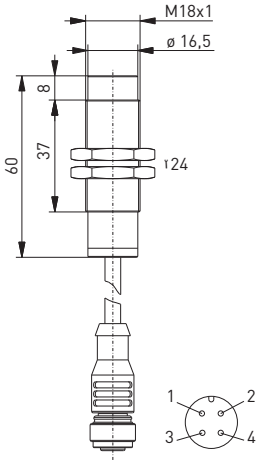
// RF IS M12 nb-ST



Features/options
- non-flush mounting
- M12 thread

EnOcean	Order number
RF IS M12 nb-ST 0,5m	90211005
RF IS M12 nb-ST 1m	90211008
RF IS M12 nb-ST 2m	90211002

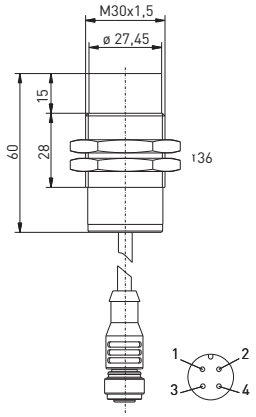
// RF IS M18 nb-ST



Features/options
- non-flush mounting
- M18 thread

EnOcean	Order number
RF IS M18 nb-ST 0,5m	90211006
RF IS M18 nb-ST 1m	90211009
RF IS M18 nb-ST 2m	90211003

// RF IS M30 nb-ST

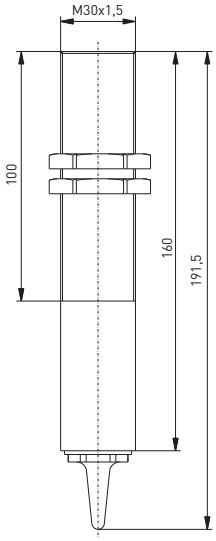


Features/options
- non-flush mounting
- M30 thread

EnOcean	Order number
RF IS M30 nb-ST 0,5m	90211007
RF IS M30 nb-ST 1m	90211010
RF IS M30 nb-ST 2m	90211004

Features/options
- Thermoplastic enclosure
- EnOcean standard
- No wiring and pipe laying required
- Power supply by Lithium battery
- Easy programming of receiver
- Multi-network capable
- Output signal can be individually configurated at the receiver

// RF IS M30 EN868



Technical Data

Standards	EN 60947-5-1, EN 61000-6-2, EN 301 489-1, EN 301 489-3, EN 300 220-2, -3
Enclosure	Thermoplastic
Degree of protection	IP 67 per IEC/EN 60529
Wireless protocol	EnOcean
Ambient temperature	– 20 °C ... + 65 °C
Switching distance	10 mm
Hysteresis	ca. 1 mm
Switching frequency	5 Hz
Standby current	1.5 µA
Voltage supply	Lithium battery SL-760/S type AA (replaceable)
Capacity	2.2 Ah
Frequency	868.3 MHz
Transmission power	max. 10 mW
Data rate	120 kbps
Channel bandwidth	280 kHz
Sensing range	max. 300 m outside, max. 30 m inside
Mechanical life	> 1 million operations
Battery life	approx. 10 years unused, approx. 200 days with 1 actuation per s, approx. 360 days with 1 actuation per min.
Actuating time	min. 80 ms
Correction factors	Steel (St37) = 1; V2A approx. 0.7; Brass approx. 0.5; Al approx. 0,5; Cu approx. 0.4
Target	M30: 30 x 30 mm x 1 mm
Note	no status signal available
Approvals	ANATEL

Wireless inductive sensor
RF IS M30 EN868

Order Number
90211001

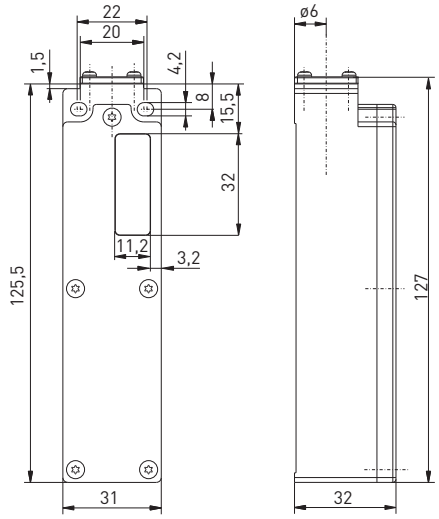
Type code	RF IS M30 EN868

RF: Wireless technology
IS: Inductive sensor
M30: M30 thread
EN: EnOcean
868: 868 MHz wireless frequency

Two mounting nuts are provided.

Features/options
- Light sensor: actuated by light reflection
- Thermoplastic enclosure
- Mounting details to EN 50 047
- EnOcean standard
- No wiring and pipe laying required
- Power supply by Lithium battery
- Easy programming of receiver
- Multi-network capable
- Output signal can be individually configurated at the receiver

// RF 96 LT EN868



Wireless optical sensor
RF 96 LT EN868

Order Number
66760201

Technical data

Standards	EN 60947-5-1, EN 61000-6-2, EN 301 489-1, EN 301 489-3, EN 300 220-2, -3
Enclosure	Glassfibre reinforced thermoplastic, self-extinguishing UL 94-V0
Degree of protection	IP 50 per IEC/EN 60529
Wireless protocol	EnOcean
Ambient temperature	0 °C ... + 65 °C
Sensing range	40 ... 300 mm
Switching frequency	max. 20 telegrams/h
Voltage supply	Lithium battery (replaceable)
Capacity	8.5 Ah
Frequency	868.3 MHz
Transmission power	max. 10 mW
Data rate	120 kbps
Channel bandwidth	280 kHz
Sensing range	max. 300 m outside, max. 30 m inside
Actuating time	min. 80 ms
Note	status signal configurable ex works, transmission of battery voltage
Approvals	ANATEL

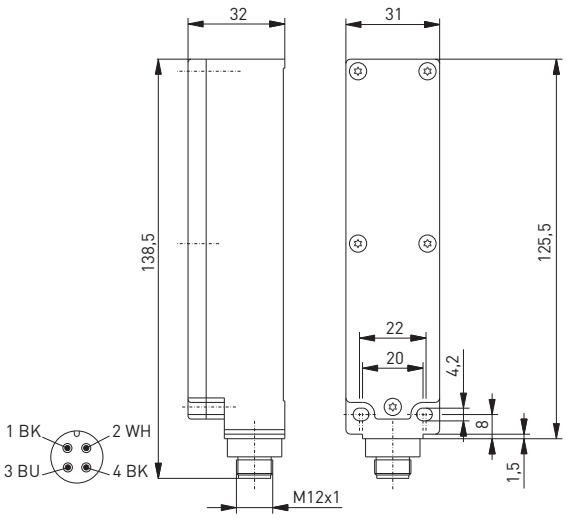
Type code	**RF 96 LT EN868**

RF 96 LT EN868
- 868 MHz wireless frequency
- EnOcean
- Optical sensor
- Series
- Wireless technology

Wireless universal transmitters
// Series RF 96 ST EN868

Features/options
- Thermoplastic enclosure
- Mounting details to EN 50 047
- M12 coupling
- EnOcean standard
- No wiring and pipe laying required
- Power supply by Lithium battery
- Easy programming of receiver
- Multi-network capable
- Output signal can be individually configurated at the receiver

// RF 96 ST EN868



Wireless universal transmitter
RF 96 ST EN868

Order Number
66800201

Technical Data

Standards	EN 60947-5-1; EN 61000-6-2; EN 301 489-1; EN 301 489-3; EN 300 220-2, -3
Enclosure	Glassfibre reinforced thermoplastic, self-extinguishing UL 94-V0
Connection	Plug-in connector M12x1, 4 poles
Degree of protection	IP 67 per IEC/EN 60529
Wireless protocol	EnOcean
Ambient temperature	–20 °C ... +65 °C
Switching frequency	5 Hz
Standby current	1.5 µA
Voltage supply	Lithium battery (replaceable)
Capacity	8.5 Ah
Frequency	868.3 MHz
Transmission power	max. 10 mW
Modulation process	ASK
Telegram type	RPS type 2
Data rate	120 kbps
Channel bandwidth	280 kHz
Sensing range	max. 300 m outside, max. 30 m inside
Battery life	according to switch frequency, 1 s approx. 780 days, 10 s approx. 1300 days, 100 s approx. 1400 days
Actuating time	min. 80 ms
Switching frequency input	max. 5 Hz
Note	status signal configurable ex works, transmission of battery voltage
Approvals	ANATEL

Type code	**RF 96 ST EN868**

868 MHz wireless frequency
EnOcean
Plug-in connector M12 x 1
Series
Wireless technology

PRODUCTION PROCESS

WIRELESS SENSORS READY FOR BATTERY ASSEMBLY

// Remote transmitter R 101 EN868

Features/options
- Thermoplastic enclosure
- EnOcean standard
- Energy supply: electrodynamic energy generator (induction principle), battery-free and maintenance-free
- Easy programming of receiver
- 4 push-buttons with 4 different functions

Remote transmitters	Order Number
R 101 EN868	01.08.0282

// Field strength indicator EPM 300

Features/options
- Only suitable for EnOcean standard
- Mobile field strength indicator EPM 300 for link range testing
- To measure and indicate the electrical field strength
- Battery not included, requires AA/LR91 Lithium battery
- Repeater mode can be selected

Field strength indicators	Order Number
EPM 300	90598005

// 24 VDC power supply

Features/options
- 24 VDC power supply for wireless receivers RF Rx ...

Power supplies	Order Number
Power supply 24 VDC	90598012

// RF Magnet antenna 868 MHz

Features/options
- RF magnet antenna with straight SMA plug-in connector without ferrite core
- Cable length 2.5 m

Antennas	Order Number
RF Magnet antenna EN868	01.08.0386

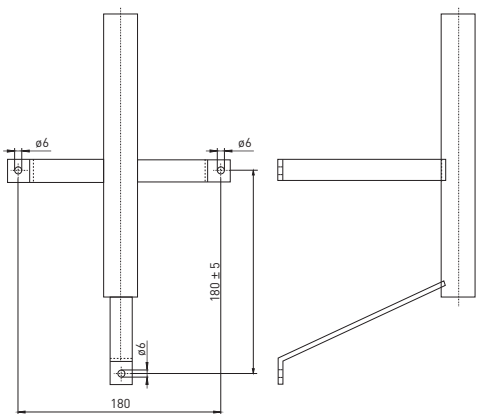
Note
The antenna must be mounted on a metal plate of min. 250 x 250 mm size.

// RF High gain antenna EN868

Features/options
- Only suitable for EnOcean standard
- RF high gain antenna suitable for mast mounting up to max. 41 mm diametre
- 260 mm length
- N-connector socket
- 5 dbi gain
- internally grunded as lightning protection

Antennas	Order Number
RF high gain antenna	90598003
RF SMA N antenna connecting cable 5 m	90598004
RF SMA N antenna connecting cable 10 m	90598008

// RF Mounting bracket for high gain antenna



Features/options
- Mounting bracket for wall mounting

Mounting bracket for wall mounting	Order Number
Mounting bracket for high gain antenna	90598006

// RF Magnet antenna 868 MHz

Features/options
- RF magnet antenna with straight SMA plug-in connector without ferrite core
- Cable length 1.5 m

Antennas	Order Number
RF Magnet antenna SW868 5 dB	90598013

Note
The antenna must be mounted on a metal plate of min. 250 x 250 mm size.

// RF Magnet antenna 915 MHz

Features/options
- RF magnet antenna with straight RSMA plug-in connector without ferrite core
- Cable length 3.6 m

Antennas	Order Number
RF Magnet antenna SW915 5 dB	90598014

Note
The antenna must be mounted on a metal plate of min. 250 x 250 mm size.

// RF SMA antenna socket

Features/options
- Suitable for the antennas order number 01.08.386 and order number 90598013
- Cable length 0.5 m

Antenna sockets	Order Number
RF Magnet antenna socket	90598001

// RF SMA antenna extension

Features/options
- RF SMA cable suitable for EnOcean as well as steute wireless technology
- Antenna extension cable with straight SMA plug-in connector

Antenna extensions	Order Number
RF SMA antenna extension cable 3 m	90598002

// RF SMA N antenna extension for high gain antenna

Features/options
- RF SMA N cable only suitable for EnOcean standard with high gain antenna
- Antenna extension cable with straight SMA plug-in connector

Antenna extensions	Order Number
RF SMA N antenna extension cable 5 m	90598004
RF SMA N antenna extension cable 10 m	90598008

// RS 232 cable

Features/options
- RS 232 cable for receiver RF Rx EN868-2W-RS232
- Provided with receiver

Cable	Order Number
RS 232 cable	

// Antenna arrangement

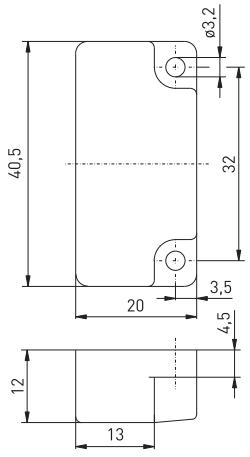
Arrangement of receiver and switch antenna

Optimum mounting

Possible mounting

Unsuitable mounting

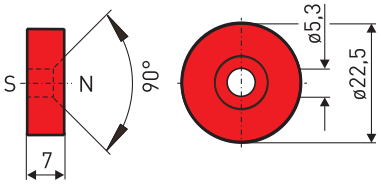
// M 4 actuating magnet



Features/options
- M 4 actuator for wireless magnetic sensor RF RC 10
- Order unit: 1 piece

Actuators	Order Number
M 4	05.00.8225

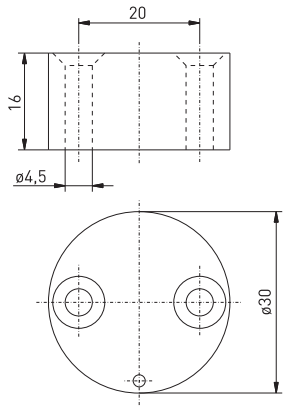
// M100 N actuating magnet



Features/options
- M 100 N actuator for wireless magnetic sensor RF GS M25
- Order unit: 1 piece

Actuators	Order Number
M 100 N	05.00.8201

// M 30 Niro actuating magnet



Features/options
- M 30 Niro actuator for wireless magnetic sensor RF GS M30
- Order unit: 1 piece

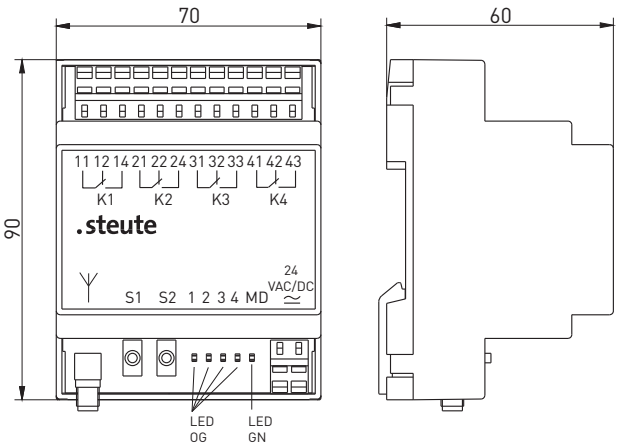
Actuators	Order Number
M 30 Niro	05.00.8226


.steute

Wireless technology 2.4 GHz

Features/options
- steute wireless technology
- 4 channel: potential free relay outputs
- 4 change-over contacts, max. 6 A
- LEDs for indication of switching state
- SMA-plug-in connector for external antenna

// RF RXT SW2.4



Technical data

Standards	EN 300 440 -1 V1.3.1; EN 300 440 -2 V1.1.2; EN 301 489 -1 V1.6.1; EN 301 489 -3 V1.4.1; EN 60950; EN 50371
Mounting	DIN rail mounting
Connection	terminals with CAGE CLAMP WAGO Series 236: 0.08 ... 2.5 mm² AWG 28–12, AWG 12: THHN, THWN, stripping length 5 ... 6 mm/ 0.22 in
Degree of protection	IP 20 per IEC/EN 60529
Rated operating current I_e	max. 0.21 A
Rated operating voltage U_e	24 VDC -15 % ... +10 %
Inputs	2 transmitters per receiver
Outputs	4 change-over contacts (Relays)
I_e/U_e of output contacts	6A / 250 VAC; 2A / 24 VDC
Utilisation category	AC-15; DC 13
Frequency	2.4 ... 2.4835 GHz
Display	green LED for supply voltage, yellow LED for switching conditions
EMC rating	acc. to EMC directive
Degree of pollution	2 per DIN VDE 0110
Ambient temperature	0 °C ... +55 °C
Storage and transport-temperature	-25 °C ... +85 °C
Vibration resistance	NO contact 20g, NC contact 5g
Shock resistance	max. 100g
Note	inductive loads (contactors, relays etc.) are to be suppressed by suitable circuitry.
Approvals	

Wireless receiver
RF RxT SW 2.4-4W 24 VAC/DC

Order Number
90590011

Type code	RF RxT SW2.4-4W

RF = Wireless technology
RxT = Wireless receiver
SW = SW
2.4 = Wireless frequency 2.4 GHz
4 = 4 Relais outputs

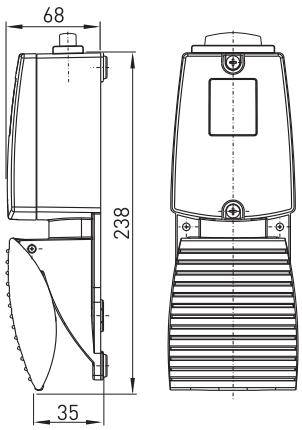
RF magnet antenna with SMA plug-in connector
available as accessory oder-No. 01.08.0409

PRODUCTION PROCESS

MECHANICAL MACHINING OF FOOT SWITCH ENCLOURES

Features/options
- Metal enclosure
- Available on request with special finish in RAL colour tones
- steute wireless technology
- Point-to-Point connection
- Pairing via internal push-button
- Frequency hopping: 32 frequencies (200 hops/s)
- Easy programming of receiver
- Transmission of battery power

// RF GFI SW2.4



Technical data

Standards	EN 300 440 -1 V1.3.1; EN 300 440 -2 V1.1.2; EN 301 489 -1 V1.6.1; EN 301 489 -3 V1.4.1; EN 60950; EN 50371
Enclosure	Aluminium diecast, enamel finish, RAL 5011
Cover	Aluminium diecast, enamel finish, RAL 2004
Pedal	Aluminium diecast, enamel finish, RAL 5011
Protective shield	–
Degree of protection	IP 67 per IEC/EN 60529
Transmission incl. frequency change	max. 20 ms
Synchronisation after sleep mode	max. 200 ms
Power consumption	21 ... 25 mA
Power consumption sleep mode	approx. 56 µA
Voltage supply	Lithium battery type SL 2770
Capacity	8.5 Ah / 3.6 V
Battery life	approx. 10 years unused, 240 days at 10 min actuations per h (8 h/d)
Sensing range	max. 20 m
Frequency	2.4 ... 2.4835 GHz
Transmission power	1 mW
Ambient temperature	– 20 °C ... + 65 °C
Mech. life	> 1 million operations
Approvals	

Wireless foot switch
RF GFI SW 2.4

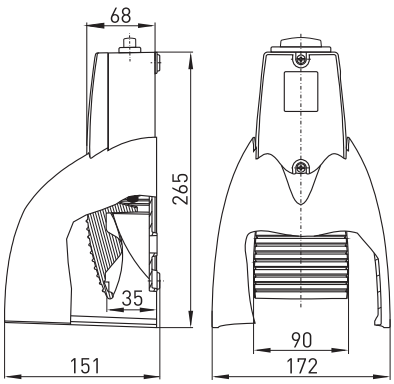
Order Number
53191002

Type code	RF GFI SW2.4

RF GFI SW2.4
- Wireless technology
- Series
- SW
- Wireless frequency 2.4 GHz

Features/options
- Metal enclosure
- Available on request with special finish in RAL colour tones
- steute wireless technology
- Point-to-Point connection
- Pairing via internal push-button
- Frequency hopping: 32 frequencies (200 hops/s)
- Easy programming of receiver
- Transmission of battery power

// RF GFSI SW2.4



Technical data

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Sensing range	max. 20 m
Frequency	2.4 ... 2.4835 GHz
Transmission power	1 mW
Ambient temperature	– 20 °C ... + 65 °C
Mech. life	> 1 million operations
Approvals	

Wireless foot switch
RF GFSI SW 2.4

Order Number
53291002

Type code	RF GFSI SW2.4

RF GFSI SW2.4
- Wireless frequency 2.4 GHz
- SW
- Series
- Wireless technology

// RF magnet antenna 2.4 GHz

Features/options
- RF magnet antenna with straight SMA plug-in connector without ferrite core
- Cable length 1 m
- Order unit: 1 piece

Antennas	Order Number
RF Magnet antenna 2.4 GHz	01.08.0409

Note
The antenna must be mounted on a metal plate of min. 250 x 250 mm size.

// RF SMA antenna socket

Features/options
- RF SMA antenna socket with straight SMA plug-in connector
- Cable length 0.5 m
- Order unit: 1 piece

Antenna sockets	Order Number
RF Magnet antenna	90598001

// RF SMA antenna extension

Features/options
- RF SMA antenna extension cable with straight SMA plug-in connector
- Cable length 3 m
- Order unit: 1 piece

Antenna extensions	Order Number
RF SMA antenna extension cable 3 m	90598002

// Antenna arrangement

Arrangement of receiver and switch antenna

Optimum mounting

Possible mounting

Unsuitable mounting

// 24 VDC power supply

Features/options
- 24 VDC power supply for wireless receivers RF Rx ...

Power supplies	Order Number
Power supply 24 VDC	90598012

.steute

Notes

steute develops and manufactures safe switchgear for demanding and critical application. Besides a comprehensive standard range of products for »Wireless, Automation, Extreme and Meditec« applications, we also and increasingly develop customised switchgear for extreme conditions in all four business fields. Some examples: emergency pullwire switches for the mining industry, position switches for industrial automation and control panels for laser surgery. Our head office is in Löhne, Westphalia, Germany; worldwide sales are conducted through steute's subsidiaries and trading partners.

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