

Wireless and batteryless pushbuttons

Harmony[®] XB5R

Catalogue

April 2011



Schneider
Electric



Save installation time with the wireless and batteryless pushbutton Harmony XB5R

This new offer provides savings in installation time and costs by totally eliminating cabling and associated accessories between the pushbutton and the electrical cabinet.

> Simplification of cabling

of the machine using the wireless pushbutton

> Permanent availability

of the machine using the batteryless pushbutton

> Tried and tested robustness

in industrial environments

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Harmony XB5R - the art of simplicity

Make the most of your energy

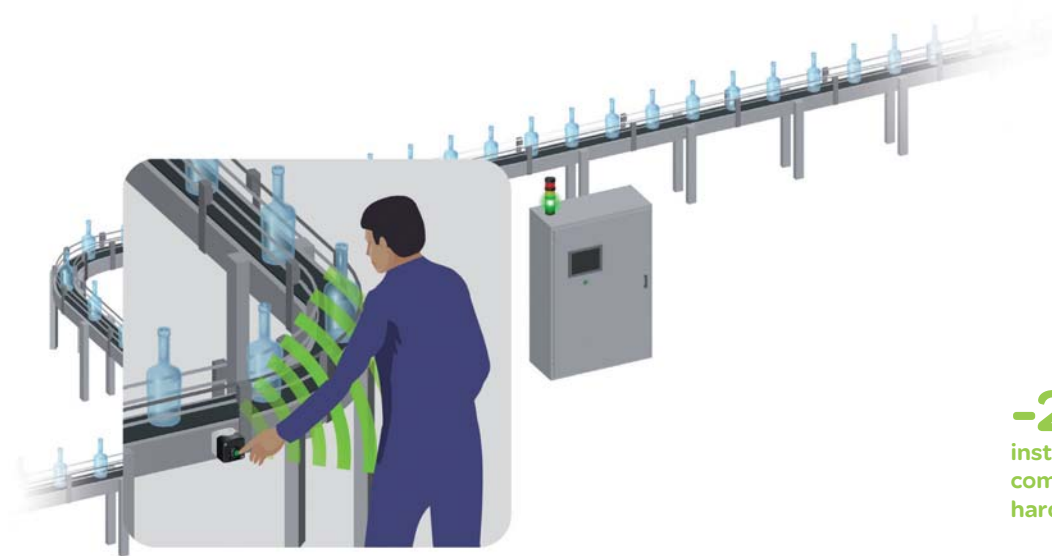


Simplification of cabling

To quickly install a new hard-wired control on a conveyor system can prove problematic, since one has to take into account:

The length of cabling required, the cabling in the cabinet, the time required for fitting the cables in covers or existing cable ducting plus the time required for cabling the pushbutton.

Using the new wireless and batteryless pushbutton **Harmony XB5R**, only the cabling of the receiver in the cabinet has to be taken into account.



-20%
installation costs
compared to a
hard-wired solution

- > Reduction in **costs and time** for installation
- > No configuring required using the **ready to use** packs
- > **Freedom** of movement around the machine.
- > Ideal solution when you need to **add** or **move** a control function

Permanent availability

Harmony XB5R virtually eliminates maintenance and assures optimal availability of the function.

- > No battery to **replace, recharge** or **recycle**
- > **Non current consuming** transmitter pushbutton



Tried and tested robustness

- > Robustness tried and tested in industrial environments
- > No risk of cable damage or screw terminals shaking loose on the transmitter
- > Less dust penetration (no cable entry)
- > Quality comparable to that of all the pushbuttons within the Harmony range.

Industrial applications



Packaging



Cement works



Food and beverage



Automobile



Automatic doors, lighting

Ready to use packs

Select your solution from the 6 packs offered, which are designed to meet the requirements of the most common applications

- > **Simple to order:** Only 1 reference
- > **Easy to install:** Factory pre-programmed transmitter and receiver

Plastic head

XB5RFB01

Metal head

XB4RFB01

- Transmitter with plastic or metal pushbutton
- Non programmable receiver, 1 CO relay output

Plastic head

XB5RMB03

- Transmitter with plastic pushbutton ZB5R in ergonomic enclosure
- Non programmable receiver, 1 CO relay output

Plastic head

XB5RFA02

Metal head

XB4RFA02

- Transmitter with plastic or metal pushbutton
- Set of 10 pushbutton caps
- Programmable receiver, 2 CO relay outputs

Plastic head

XB5RMA04

- Transmitter with plastic pushbutton ZB5R in ergonomic enclosure
- Set of 10 pushbutton caps
- Programmable receiver, 2 CO relay outputs



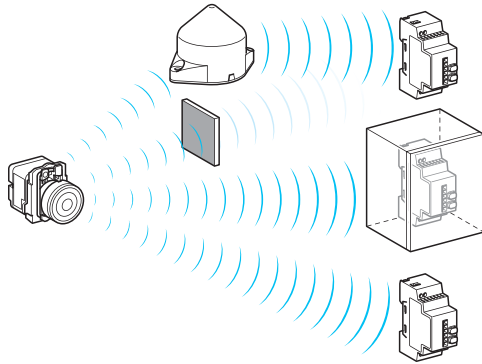


Figure A: radio transmission between 1 transmitter and 3 receivers

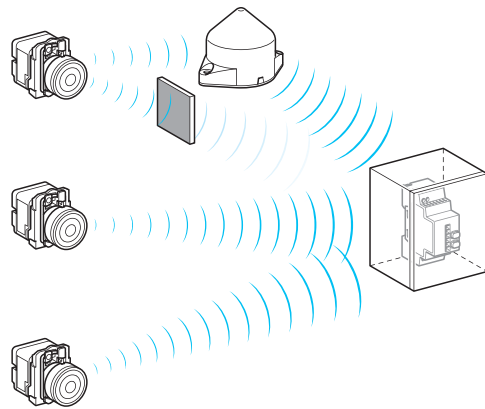


Figure B: radio transmission between 3 transmitters and 1 receiver

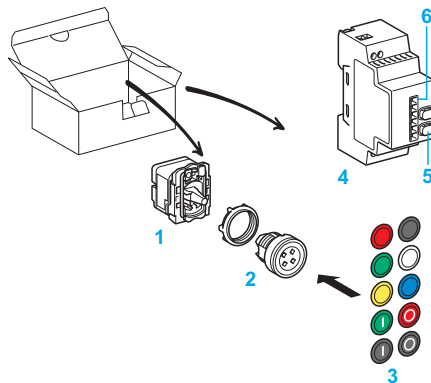


Figure C: pack with transmitter and programmable receiver

Presentation of the range

The Harmony wireless and batteryless pushbutton range enables remote control of a relay (receiver) by means of a pushbutton (transmitter). Control is by radio transmission: a transmitter is fitted with a "dynamo" type generator that converts the mechanical energy produced when the pushbutton is pressed, to electrical energy. A radio-encoded message with a unique ID code is sent, by a single pulse, to one or more receivers located several dozen metres away (see figure A). One receiver can also be actuated by several different transmitters (see figure B).

Depending on the application, a relay-antenna can be used to get round an obstacle that impedes transmission or to increase the range (see figures A and B).

The possible distance (1) between a transmitter and a receiver is approximately:

- 100 m where there are no obstacles,
- 25 m if the receiver is installed in a metal housing or in a closed metal enclosure,
- 40 m if a relay-antenna is located between the transmitter and the receiver (receiver installed in a metal housing or in a closed metal enclosure).

This new technology makes it possible to reduce installation times and costs by totally eliminating wiring and associated equipment between the pushbutton and the electrical enclosure.

This new technology also allows an operator to be mobile or to have a control mounted on-board a vehicle (trolley, truck, etc.). The pushbutton is always available and requires no maintenance (no battery needed).

There are numerous possible applications, both in industry (production line, conveyors, etc.) and in industrial buildings and infrastructures (lighting, door opening, start-up of fans, etc.).

This technology (radio-encoded message sent as a single pulse) cannot be used for hoisting applications ("up/down", "right-left" movements, etc.) or safety applications (Emergency Stop pushbuttons, etc.). For these applications, it is recommended that Harmony XB4 and XB5 wired pushbuttons or the XAC range of pendant control stations be used.

Description of the "Ready-to-use packs" ranges (2)

Pack with programmable receiver (see figure C)

The pack comprises:

- 1 A transmitter with a fixing collar for assembly with a pushbutton head and mounting in a Ø 22 mm hole.
- 2 A flush, spring return, plastic or metal pushbutton head.
- 3 A set of 10 different coloured caps, which can be clipped onto the pushbutton head.
- 4 A ~ 24...240 V programmable controller, 2 relay outputs, with 2 buttons (learn and parameter setting) 5 and 6 indicating LEDs 6.

(1) Typical values which can be affected by the application environment.

(2) Wireless and batteryless pushbutton and receiver ready-paired at the factory.

Control and signalling units Ø 22

Harmony® XB5 plastic and XB4 metal

Wireless and batteryless pushbutton

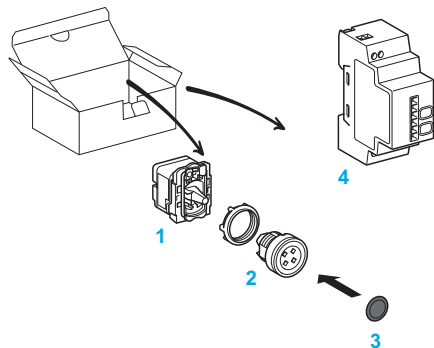


Figure D: pack with transmitter and non-programmable receiver

Description of the “Ready-to-use packs” (1) (continued)

Pack with non-programmable receiver (see figure D)

The pack comprises:

- 1 A transmitter with a fixing collar for assembly with a pushbutton head and mounting in a Ø 22 mm hole.
- 2 A flush, spring return, plastic or metal pushbutton head.
- 3 A black cap that can be clipped onto the pushbutton head.
- 4 A ~ 24 V non-programmable receiver, 1 relay output, without indicating LED or button.

Pack with handy box and programmable receiver (see figure E)

The pack comprises:

- 1 A handy box containing a wireless and batteryless pushbutton with plastic head.
- 2 A set of 10 different coloured caps, which can be clipped onto the pushbutton head.
- 3 A ~ 24...240 V programmable receiver, 2 relay outputs, with 2 buttons (learn and parameter setting) 4 and 6 indicating LEDs 5

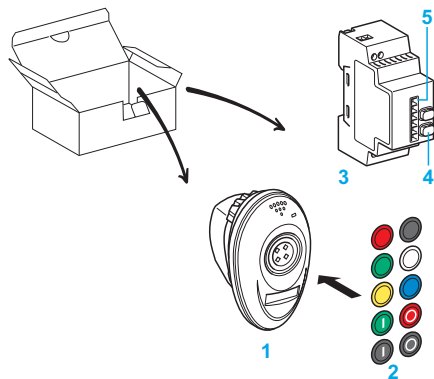


Figure E: pack with transmitter in handy box and programmable receiver

Pack with handy box and non-programmable receiver (see figure F)

The pack comprises:

- 1 A handy box containing a wireless and batteryless pushbutton with plastic head.
- 2 A black cap that can be clipped onto the pushbutton head.
- 3 A ~ 24 V non-programmable receiver, 1 relay output, without indicating LED or button.

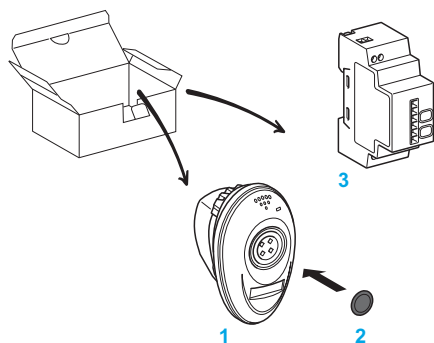


Figure F: pack with transmitter in handy box and non-programmable receiver

Description of the “Components” range

Components are sold separately to allow completion of existing applications or creation of specific applications:

- transmitter for assembly with pushbutton head and mounting in a Ø 22 mm hole,
- flush, spring return, pushbutton head, metal or plastic version,
- plastic or metal fixing collar,
- empty handy box,
- empty plastic boxes (1 or 2 cut-outs) for wall mounting or on-board applications,
- set of 10 different coloured caps or set of 10 same colour caps, that can be clipped onto the pushbutton head,
- ~ 24...240 V programmable receiver , 2 relay outputs, with 2 buttons (learn and parameter setting) and 6 indicating LEDs,
- ~ 24 V programmable receiver, 4 PNP outputs, with 2 buttons (learn and parameter setting) and 6 indicating LEDs,
- relay-antenna.

(1) Wireless and batteryless pushbutton and receiver ready-paired at the factory.

Characteristics of wireless and batteryless pushbutton

Environment characteristics

| | | | |
|--|-------------------------------------|----|--|
| Conforming to standards | Wireless and batteryless pushbutton | | EN/IEC 60947-1, EN/IEC 60947-5-1, UL 508, CSA C22-2 n°14 |
| | Transmitter/receiver system | | CE : R&TTE 1999/5/EC, BT 2006/95/EC, EMC 2004/108/EC |
| | Radiofrequency | | EN300-440-1, EN300-440-2, FCC part. 15, RSS210, ANATEL (resolution 506), SRRC, EMC: EN301-489-1, EN301-489-3 SAR (Specific Absorption Rate) compliant. Power transmitted by the button < 3 mw |
| Product certifications and radio agreements | | | UL, FCC (USA), CSA, RSS (Canada), C-Tick (Australia), GOST (Russia), ANATEL (Brazil), SRRC (China), CE (Europe) |
| Protective treatment standard version | | | "TH" |
| Ambient air temperature around the device | Storage | °C | - 40...+ 70 |
| | Operation | °C | - 25...+ 70 |
| Relative humidity permissible | Transmitter block | | + 95% RH at 70° C (without condensation) |
| Degree of protection | Conforming to IEC 60529 | | IP 65 (front face) IP 30 (back face) |
| | Conforming to UL / CSA | | Type 12 |
| Mechanical shock protection | Conforming to IEC 50102 | | IK 03 |
| Free fall resistance | Conforming to IEC 60068-2-32 | mm | 1 000 |

Mechanical characteristics

| | | | |
|--|---|----|---|
| Operating travel (when sending information) | Pushbutton | mm | Total travel: 4.3 Instruction sent when wireless and batteryless pushbutton clicks |
| Operating force | Spring return pushbutton with its transmitter | N | < 25 |
| Mechanical durability (in millions of operating cycles) | Spring return pushbutton with its transmitter | | 1 |
| Vibration resistance conforming to IEC 60068-2-6 | Frequency: 2 to 11Hz | mm | ± 10 |
| | Frequency: 11 to 500Hz | gn | 5 |
| Shock resistance conforming to IEC 60068-2-27 | Half sine wave acceleration 11 ms | gn | 50 |
| | Half sine wave acceleration 18 ms | gn | 30 |
| Repetitive shocks resistance | Conforming to IEC 60068-2-27 | gn | 25 (duration: 6 ms - 6 000 shocks) |
| Head tightening torque | Plastic head (nut) | | 2.2 N.m (± 0.2) / 9.5 lb.in (± 1.8) |
| | Metal head (base screw) | | 0.8 N.m (max 1.2) / 7.5 lb.in (max 10.6) |

Radio transmission characteristics

| | | | |
|---------------------------|--|-----|--|
| Frequency | | GHz | 2.4 |
| Protocol | | | ZigBee Green Power compatible (transmitter and receiver can work with other ZigBee Green Power products) |
| Range | | m | Approx. 100 (transmitter and receiver in free space) Approx. 25 (transmitter in a plastic box type XAL D and receiver in a metal enclosure) |
| | | | Approx. 40 (transmitter in plastic box type XAL D, receiver in a metal enclosure and use of a relay-antenna) |
| Transmission power | | mW | 3 |
| Activation time | | ms | 2 |
| Transmission time | | ms | < 2 |
| Type | Conforming to EN 301-489-3 § 4.1 - Equipment | | Type III |
| Class | Conforming to EN 301-489-3 § 6.1 - Equipment | | Class 2 |
| Category | Conforming to EN 300-440-1 § 5.4.1.2 - Temperature | °C | Category 1: - 20 to + 55 |

Electromagnetic immunity and emissions

| | | | |
|---|--|-----|---|
| Resistance to electrostatic discharges | Conforming to IEC 61000-4-2 | kV | 8: on insulating parts (in free air) 6: on metal parts (contact) |
| | Conforming to EN/IEC 60947-5-1 and IEC 61000-4-3 | V/m | 10: for 80 MHz to 2 000 MHz |
| Resistance to electromagnetic fields | Conforming to IEC 61000-4-3, EN 301-489-3 and EN 301-489-1 | V/m | 3: for 80 MHz to 2 700 MHz and distance = 20 m |
| | Conforming to EN 300-440-1 and EN 300-440-2 | | Compliant |

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| Characteristics of receiver for wireless and batteryless pushbutton | | | |
|---|--|--------|---|
| Environment characteristics | | | |
| Conforming to standards | Receiver | | EN/IEC 60947-1, EN/IEC 60947-5-1, UL 508, CSAC22-2 n° 14, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-11 |
| | Transmitter/receiver system | | CE: R&TTE 1999/5/EC, BT 2006/95/EC, EMC 2004/108/EC |
| | Radiofrequency | | EN300-440-1, EN300-440-2, FCC part. 15, RSS210, ANATEL (resolution 506), SRRRC, EMC: EN301-489-1, EN301-489-3 |
| Product certifications and radio agreements | | | |
| Ambient air temperature around the device | Storage | °C | - 40... + 70 |
| | Operation | °C | - 25... + 55 |
| Permissible relative humidity | | | + 90 % RH at + 55 °C (without condensation) |
| Vibration resistance conforming to IEC 60068-2-6 | Frequency: 5...8.14 Hz | mm | ± 7.5 |
| | Frequency: 8.14... 150 Hz | gn | 2 |
| Shock resistance conforming to IEC 60068-2-27 | Half sine wave acceleration: 11 ms | gn | 30 |
| Repetitive shocks resistance | Conforming to IEC 60068-2-27 | gn | 10 (duration: 16 ms - 6 000 shocks) |
| Degree of protection | Conforming to IEC 60529 | | IP 20 |
| Degree of pollution | Conforming to IEC 60664-1 | | 2 |
| Housing material | | | |
| Self-extinguishing plastic | | | |
| Mounting position without derating (temperature) | | | |
| Any position | | | |
| Mounting | | | |
| On rail conforming to EN/IEC 60715 | | | |
| On mounting plate | | | |
| Electrical characteristics | | | |
| Overvoltage category | Conforming to IEC 60664-1 | | II (AC/DC receiver), III (DC receiver) |
| Insulation resistance | Conforming to NFC 20030 | | > 500 MΩ, ∞ 500 V |
| Rated insulation voltage | Conforming to IEC 60664-1 | V | 250 (receivers with relay outputs), < 60 (relay with PNP outputs) |
| Insulation test voltage conforming to EN/IEC 60947-5-1 | Dielectric test | Hz/KV | AC/DC receiver: 50 / 1.5 (1 minute) |
| | | | DC receiver: 50 / 1 (1 minute) |
| | Surge | kV | DC receiver: Uimp = 0.8 (1.2 / 50 μs) AC/DC receiver: Uimp = 4 (1.2 / 50 μs) |
| Cabling Maximum c.s.a. conforming to EN/IEC 60947-1 | Solid cable without cable end | mm² | 1 conductor: 0.14...2.5 (AWG 26...AWG 14) 2 conductors: 0.14...1.5 (AWG 26...AWG 16) |
| | Flexible cable with cable end | mm² | 1 conductor: 0.14...4 (AWG 26...AWG 12) 2 conductors: 0.14...1.5 (AWG 26...AWG 16) |
| Tightening torque | Conforming to EN/IEC 60947-1 | | 0.5 N.m/4.43 Lbf.In |
| Power ON indicator | | | Green LED |
| Output indicators | | | Green LED (relay outputs and PNP outputs) |
| Received signal strength | | | Green LED: optimum reception Yellow LED: acceptable reception |
| Supply characteristics | | | |
| Receiver type | | ZBR RC | Receiver included in packs XB4 RFB01, XB5 RFB01 and XB5 RMB03 |
| Supply voltage Ue | | V | ∞ 24 (+ 20/- 15 %) |
| Frequency | Of the power supply circuit | Hz | 50/60 ± 10 % |
| Galvanic isolation | Power supply/output | | Yes |
| Maximum power drawn | | W | 0.5 0.8 3 |
| Short-circuit protection | | | Fast-blow fuse 400 mA Fast-blow fuse 125 mA Fast-blow fuse 400 mA |
| Immunity to microbreaks | | ms | 7 (total output current 800 mA) |
| | | | 10 (total output current 500 mA) |
| Electromagnetic immunity and emissions | | | |
| Resistance to electrostatic discharges | Conforming to IEC 61000-4-2 | kV | 8: on insulating parts (in free air) 6: on metal parts (contact) |
| Resistance to electromagnetic fields | Conforming to EN/IEC 60947-5-1 and IEC 61000-4-3 | V/m | 10: for 80 MHz to 2 000 MHz |
| | Conforming to IEC 61000-4-3, EN 301-489-3 and EN 301-489-1 | V/m | 3: for 80 MHz to 2 700 MHz and distance = 20 m |
| Resistance to fast transients | Conforming to IEC 61000-4-4 | kV | 1 (PNP output wires) |
| | | | 2 (power supply wires) |
| Hybrid surge withstand conforming to IEC 61000-4-5 | Differential mode | kV | 0.5 1 |
| | Common mode | kV | 1 2 |
| Resistance to conducted disturbance | Conforming to IEC 61000-4-6 | V | 10 |
| Emissions | Conducted emissions conforming to EN 300-489-3, EN 300-489-1 | | As per class B method CISPR22 |
| | Radiated emissions conforming to EN 300-440-1, EN 300-440-2 | | Compliant |

Characteristics of wireless and batteryless pushbutton (continued)

| Radio transmission characteristics | | ZBR RC | ZBR RA | Receiver included in packs XB4 RFB01, XB5 RFB01 and XB5 RMB03 |
|---|--|--|--|---|
| Receiver type | | | | |
| Frequency | GHz | 2.4 | | |
| Protocol | | ZigBee Green Power compatible (transmitter and receiver can work with other ZigBee Green Power products) | | |
| Range | m | Approx. 100 (transmitter and receiver in free space) | | |
| | | Approx. 25 (transmitter in a plastic box type XAL D and receiver in a metal enclosure) | | |
| | | Approx. 40 (transmitter in a plastic box type XAL D, receiver in a metal enclosure and use of a relay-antenna) | | |
| Relay-antenna | | To increase the range or to get round an obstacle | | |
| Response time | ms | < 30 after the transmitter "clicks" | | |
| Number of transmitter ID codes that can be stored | | 32 max. per receiver or 32 max. per output (example on 2-output receiver: 32/0, 16/16..) | | |
| Type | Conforming to EN 301-489-3 § 4.1 - Equipment | Type III | | |
| Class | Conforming to EN 301-489-3 § 6.1 - Equipment | Class 2 | | |
| Reliability | Conforming to EN 300 440-1 § 4.1.1 - Reliability | Category 2 | | |
| Temperature | Conforming to EN 300 440-1 § 5.4.1.2 - Temperature | °C Category I : - 20...+ 55 | | |
| Output characteristics | | | | |
| Output type | | 4 PNP outputs 200 mA/24 V | 2 relay outputs type RT 3A | 1 relay output type RT 3A |
| Output function | | Monostable (500 ms ± 15 %) | Monostable (500 ms ± 15%). Programmable to bistable or Start/Stop | Monostable (500 ms ± 15%) |
| Nominal current I _e conforming to EN/IEC 60947-5-1 and UL 508 / CSA C22-2 n°14 | DC supply conforming to EN/IEC 60947-5-1 | A | 2 | 0.3 / 48 V DC |
| | DC supply conforming to UL 508 / CSA C22-2 n°14 | A | – | 3 / 24 V DC |
| | AC supply conforming to EN/IEC 60947-5-1 | A | – | 1.5 / 240 V AC 3 / 120 V AC |
| | AC supply conforming to UL 508 / CSA C22-2 n°14 | A | – | 3 / 240 V AC |
| Voltage drop | | V | < 2 | – |
| Maximum switching voltage | | V | – | ~/∞: 250 |
| Nominal breaking capacity | | | 4.8 W (0.2 A x 24 V DC) per output | 750 VA (3 A x 250 V AC) 15 W (0.3 A x 48 V DC) |
| | | | | |
| Minimum current I _{th} | Conforming to EN/IEC 60947-5-1 | mA | 10 / ∞: 5 V | |
| Maximum current | | A | – | 5 |
| Electrical durability | | | – | 1 x 10 ⁵ operating cycles |
| Mechanical durability | | | – | 10 x 10 ⁵ operating cycles |
| Maximum operating rate | | Hz | 2 | |
| Utilisation categories | Conforming to EN/IEC 60947-5-1 | | DC13 | AC15: B300 |
| | | | | DC12 |

Characteristics of relay-antenna for wireless and batteryless pushbutton - Works with transmitter(s) and receiver(s)

| Environment characteristics | | | |
|--|--|-------|--|
| Conforming to standards | Antenna | | EN/IEC 60947-1, EN/IEC 60947-5-1, UL 508, CSA C22-2 n° 14, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-11 |
| | Transmitter /antenna / receiver system | | CE: R&TTE 1999/5/EC, BT 2006/95/EC, EMC 2004/108/EC |
| | Radiofrequency | | EN300-440-1, EN300-440-2, FCC part. 15, RSS210, ANATEL (resolution 506), SRRC, EMC: EN301-489-1, EN301-489-3 |
| Product certifications and radio agreements | | | UL, FCC (USA), CSA, RSS (Canada), C-Tick (Australia), GOST (Russia), ANATEL (Brazil), SRRC (China), CE (Europe) |
| Ambient air temperature around the device | Storage | °C | - 40...+ 70 |
| | Operation | °C | - 25...+ 55 |
| Electric shock protection | Conforming to IEC 61140 | | Class II |
| Permissible relative humidity | | | + 90 % RH at + 55 °C (without condensation) |
| Vibration resistance conforming to IEC 60068-2-6 | Frequency: 10...55 Hz | mm | ± 0.5 |
| | Frequency: 55...150 Hz | gn | 6 |
| Shock resistance | Conforming to IEC 60068-2-27 | | Half sine wave acceleration: 11 ms / 15 gn |
| Repetitive shocks resistance | Conforming to IEC 60068-2-27 | gn | 25 (duration: 6 ms - 6 000 shocks) |
| Degree of protection | Conforming to IEC 60529, UL/CSA | | IP 65 - type 12 |
| Degree of pollution | Conforming to IEC 60664-1 | | 3 |
| Overvoltage category | Conforming to IEC 60664-1 | | III |
| Insulation resistance | Conforming to NFC 20030 | | > 500 MΩ, --- 500 V |
| Rated insulation voltage | Conforming to IEC 60664-1 | V | 250 |
| Insulation test voltage conforming to EN/IEC 60947-5-1 | Dielectric test | HZ/KV | 50 / 4 (1 minute) |
| | Surge | kV | Uimp = 4 (1.2 / 50 µs) |
| Cabling (flexible cable) | Conforming to EN/IEC 60947-1 | m | 5 (2 x 0.34 mm ²) |
| Screw tightening torque | Conforming to EN/IEC 60947-1 | | 0.6 ± 0.1 Nm / 5.3 ± 0.9 Lb.-In |
| Housing material | | | Self-extinguishing plastic |
| Indication | Power ON | | 1 green LED |
| | Transmission/reception | | 2 green LEDs at 180° |
| Mounting position | | | See instructions for assembly |
| Supply characteristics | | | |
| Supply voltage Ue | | V | ~--- 24...240 (± 10 %) |
| Frequency | Of the power supply circuit | Hz | 50/60 ± 10 % |
| Maximum power drawn | | W | 2.6 |
| Short-circuit protection | | mA | 400 with fast-blow fuse 400 mA |
| Resistance to microbreaks | | | Conforming to IEC 61000-4-11 |
| Electromagnetic immunity and emissions | | | |
| Resistance to electrostatic discharges | Conforming to IEC 61000-4-2 | kV | 8: on insulating parts (in free air) |
| | | | 6: on metal parts (contact) |
| Resistance to electromagnetic fields | Conforming to EN/IEC 60947-5-1 and IEC 61000-4-3 | V/m | 10: for 80 MHz to 2 000 MHz |
| | Conforming to IEC 61000-4-3, EN 301-489-3 and EN 301-489-1 | V/m | 3: for 80 MHz to 2 700 MHz and distance = 20 m |
| Resistance to fast transients | Conforming to IEC 61000-4-4 | kV | 2 |
| Hybrid surge withstand conforming to IEC 61000-4-5 | Differential mode | kV | 1 |
| | Common mode | kV | 2 |
| Resistance to conducted disturbance | Conforming to IEC 61000-4-6 | V | 10 |
| Emissions | Conducted emissions conforming to EN 300-489-3, EN 300-489-1 | | As per class B method CISPR22 |
| | Radiated emissions conforming to EN 300-440-1, EN 300-440-2 | | Compliant |
| Radio transmission characteristics | | | |
| Frequency | | GHz | 2.4 |
| Protocol | | | ZigBee Green Power compatible (transmitter and receiver can work with other ZigBee Green Power products) |
| Range | | m | Approx. 40 m (transmitter in a plastic box type XAL D, receiver in a metal enclosure and use of a relay-antenna) |
| Transmission power | | mW | < 3 |
| Type | Conforming to EN 301-489-3 § 4.1 - Equipment | | Type III |
| Class | Conforming to EN 301-489-3 § 6.1 - Equipment | | Class 2 |
| Reliability | Conforming to EN 300-440-1 § 4.1.1 - Reliability | | Category 2 |
| Temperature | Conforming to EN 300-440-1 § 5.4.1.2 - Temperature | °C | Category I: - 20...+ 55 |



| Ready-to-use packs (1) | | | | | |
|--|---|--------------------|---|------------------|-----------|
| Description | Transmitter type | Voltage receiver V | Receiver type | Reference | Weight kg |
| Packs comprising: - 1 wireless and batteryless pushbutton assembled on fixing collar, - 1 receiver The pushbutton and receiver are factory-paired | Wireless and batteryless pushbutton + Ø 22 mm plastic head + 1 set of 10 different coloured caps (1 cap to be selected and fitted) | ~/--- 24...240 | Programmable receiver equipped with: - 2 relay outputs type RT 3A (2), - 2 buttons (learn, parameter setting) | XB5 RFA02 | 0.230 |
| | Wireless and batteryless pushbutton + Ø 22 mm metallic head + 1 set of 10 different coloured caps (1 cap to be selected and fitted) | | - 6 indicating LEDs (power ON, outputs, signal strength) | XB4 RFA02 | 0.245 |
| | Wireless and batteryless pushbutton + Ø 22 mm plastic head + 1 black cap not fitted | --- 24 | Non-programmable receiver: - with 1 relay output type RT 3A (3) | XB5 RFB01 | 0.230 |
| | Wireless and batteryless pushbutton + Ø 22 mm metallic head + 1 black cap not fitted | | - without pushbutton - without indicating LED | XB4 RFB01 | 0.245 |
| Packs comprising: - 1 wireless and batteryless pushbutton assembled on fixing collar, in handy box (4), - 1 receiver The pushbutton and receiver are factory-paired | Wireless and batteryless pushbutton + Ø 22 mm plastic head mounted in a handy box + 1 set of 10 different coloured caps (1 cap to be selected and fitted) | ~/--- 24...240 | Programmable receiver equipped with: - 2 relay outputs type RT 3A (2), - 2 buttons (learn, parameter setting) - 6 indicating LEDs (power ON, outputs, signal strength) | XB5 RMA04 | 0.250 |
| | Wireless and batteryless pushbutton + Ø 22 mm metallic head mounted in a handy box + 1 black cap not fitted | --- 24 | Non-programmable receiver: - with 1 relay output type RT 3A (3) - without pushbutton - without indicating LED | XB5 RMB03 | 0.250 |



| Transmitter components for wireless and batteryless pushbutton | | | | | |
|--|--------------|-----------------------------|-------------------|-----------|--|
| Description | Type of push | Cap colour | Reference | Weight kg | |
| Transmitter for wireless and batteryless pushbutton (5) (6) | – | – | ZBR T1 | 0.025 | |
| Spring return pushbutton heads for transmitter ZBR T1 | Plastic | Without cap (7) | ZB5 RZA0 | 0.015 | |
| | Metal | Without cap (7) | ZB4 RZA0 | 0.030 | |
| Wireless and batteryless pushbuttons including: - a transmitter fitted with fixing collar - a spring return pushbutton head with clipped-in cap (8) | Plastic | White | ZB5 RTA1 | 0.045 | |
| | | Black | ZB5 RTA2 | 0.045 | |
| | | Green | ZB5 RTA3 | 0.045 | |
| | | White I on green background | ZB5 RTA331 | 0.045 | |
| | | Red | ZB5 RTA4 | 0.045 | |
| | | White O on red background | ZB5 RTA432 | 0.045 | |
| | | Yellow | ZB5 RTA5 | 0.045 | |
| | | Blue | ZB5 RTA6 | 0.045 | |
| | Metal | White | ZB4 RTA1 | 0.085 | |
| | | Black | ZB4 RTA2 | 0.085 | |
| | | Green | ZB4 RTA3 | 0.085 | |
| | | White I on green background | ZB4 RTA331 | 0.085 | |
| | | Red | ZB4 RTA4 | 0.085 | |
| | | White O on red background | ZB4 RTA432 | 0.085 | |
| | Yellow | ZB4 RTA5 | 0.085 | | |
| | Blue | ZB4 RTA6 | 0.085 | | |

(1) Wireless and batteryless pushbutton and receiver, factory-paired.

(2) Supplied with output function set to monostable. Outputs programmable to bistable and Start-Stop.

(3) Non-programmable monostable output function.

(4) Supplied with a magnet to be stuck on by the customer.

(5) Fixing collar ZB5AZ009 (plastic) or ZB4BZ009 (metal) to be ordered separately.

(6) Only heads ZB4 RZA0 and ZB5 RZA0 are mechanically compatible.

(7) Cap to be ordered separately: see following page.

(8) This cap is fitted by Schneider Electric and cannot be removed (risk of damage).



ZBR RA



ZBA 7235



ZBA 7331



ZBA 7432



ZBA 79



ZBA 79



ZBR M01



XAL D02



ZBR A1

Programmable receivers

| Description | Output type | Receiver voltage V | Reference | Weight kg |
|--|--------------------------------|--------------------|-----------|-----------|
| Programmable receivers equipped with: - 2 buttons (learn, parameter setting) - 6 indicating LEDs (power ON, outputs, signal strength) | 4 PNP outputs, 200 mA / 24 V | --- 24 | ZBR RC | 0.130 |
| | 2 relay outputs type RT 3A (1) | ~/--- 24...240 | ZBR RA | 0.130 |

Accessories

Caps for Harmony pushbutton heads ZB5 RZA0 and ZB4 RZA0

| Description | Background colour | Marking | Sold in lots of | Reference | Weight kg |
|---|--|-------------|-----------------|-----------|-----------|
| Sets of 10 different coloured caps with identical marking (2) | White | Without | 10 | ZBA 71 | 0.010 |
| | | "I" (black) | 10 | ZBA 7131 | 0.010 |
| | | "↑" (black) | 10 | ZBA 7134 | 0.010 |
| | | "+" (black) | 10 | ZBA 7138 | 0.010 |
| Without | Black | Without | 10 | ZBA 72 | 0.010 |
| | | "O" (white) | 10 | ZBA 7232 | 0.010 |
| | | "+" (white) | 10 | ZBA 7233 | 0.010 |
| | | "↓" (white) | 10 | ZBA 7235 | 0.010 |
| | | "I" (white) | 10 | ZBA 7237 | 0.010 |
| Without | Green | Without | 10 | ZBA 73 | 0.010 |
| | | "I" (white) | 10 | ZBA 7331 | 0.010 |
| | | "+" (white) | 10 | ZBA 7333 | 0.010 |
| | | "↑" white | 10 | ZBA 7335 | 0.010 |
| | | "I" (white) | 10 | ZBA 7336 | 0.010 |
| Without | Red | Without | 10 | ZBA 74 | 0.010 |
| | | "O" (white) | 10 | ZBA 7432 | 0.010 |
| Without | Yellow | Without | 10 | ZBA 75 | 0.010 |
| Without | Blue | Without | 10 | ZBA 76 | 0.010 |
| Set of 10 different coloured caps with different markings (2) | White, black, green, red, yellow, blue, white I on green background, black I on white background, white O on red background, white O on black background | | 10 | ZBA 79 | 0.010 |

Boxes for wireless and batteryless pushbutton

| Product | Application | Description | Sold in lots of | Reference | Weight kg |
|--|---|-------------|-----------------|-----------|-----------|
| Handy box, plastic, empty (3) (4) | For mobile wireless and batteryless pushbutton | 1 cut-out | 1 | ZBR M01 | 0.040 |
| Empty plastic boxes for wireless and batteryless pushbuttons (5) | For fixed or on-board wireless and batteryless pushbutton | 1 cut-out | 1 | XAL D01 | 0.136 |
| | | 2 cut-outs | 1 | XAL D02 | 0.193 |

Accessories

| | | | | | |
|--|---|---|----|-----------|-------|
| Relay-antenna (6) | Between transmitter and receiver Used to increase the range and/or get round obstacles | ~/--- 24...240 V - 5m cable - 1 power-ON LED - 2 LEDs reception/transmission | 1 | ZBR A1 | 0.200 |
| Fixing collar | - | Plastic | 10 | ZB5 AZ009 | 0.038 |
| | | Metal | 10 | ZB4 BZ009 | 0.038 |
| Legend plate, 27 x 8 mm, for engraving | For sticking onto handy box ZBR M01 | Self-adhesive, blank, black background | 10 | ZBY 0101T | 0.005 |

(1) Supplied with output function set to monostable. Outputs programmable to bistable and Start-Stop.

(2) Cap can be clipped-in at 90° steps, through 360°.

(3) Cannot be used for wired contacts (no cable gland outlet).

(4) Supplied with a magnet to be stuck on by the customer.

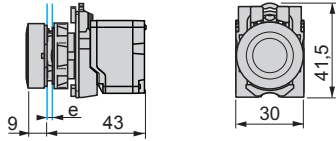
(5) Box equipped with cable gland outlets, compatible with Harmony ZB5 pushbutton heads.

(6) Not wired to the receiver.

Dimensions

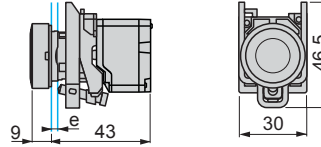
Wireless and batteryless pushbutton - Transmitter

ZB5 RTA●●●, with plastic pushbutton and cap



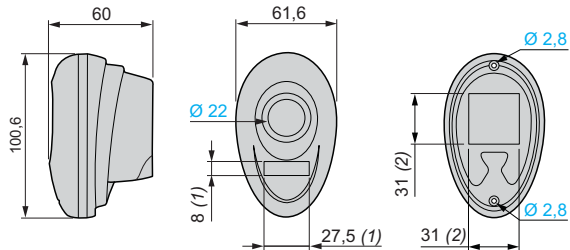
e: panel thickness 1 to 6 mm

ZB4 RTA●●●, with metal pushbutton and cap

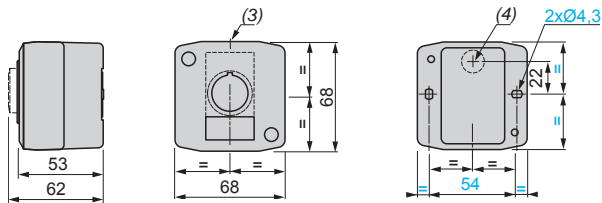


e: panel thickness 1 to 6 mm

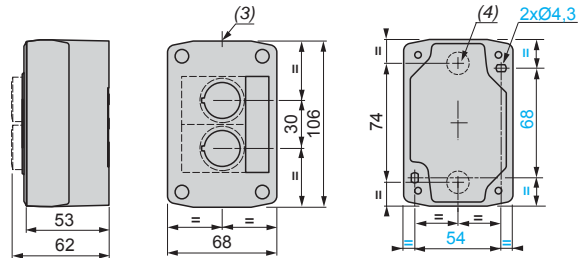
ZBR M01, Plastic handy box for mobile use



XAL D01, Plastic box, single-hole for fixed or on-board installation



XAL D02, Plastic box, 2-hole for fixed or on-board installation



(1) Location for ZBY 0101T legend.

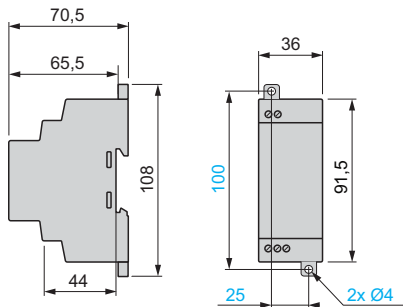
(2) Location for magnet to be stuck on by the customer.

(3) 2 knock-outs for Pg 13.5 cable gland, maximum capacity 12 mm.

(4) Knock-out for wire routing, maximum capacity 14 mm.

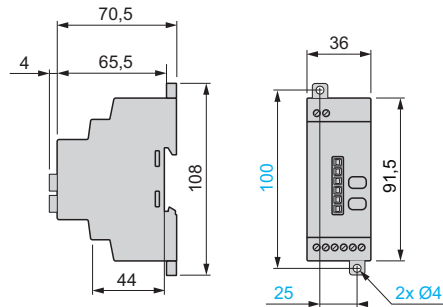
Non-programmable receiver

Receiver contained in packs XB4 RFB01, XB5 RFB01 and XB5 RMB03



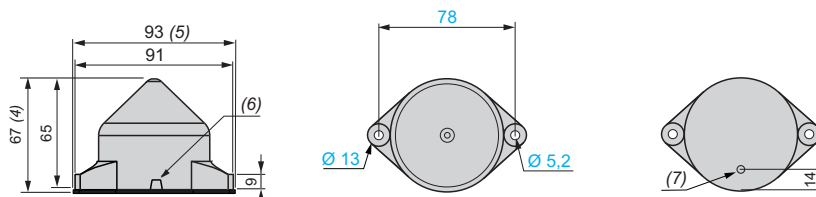
Programmable receivers

Receivers ZBR R● (contained in packs XB4 RFA02, XB5 RFA02 and XB5 RMA04)



Relay-antenna

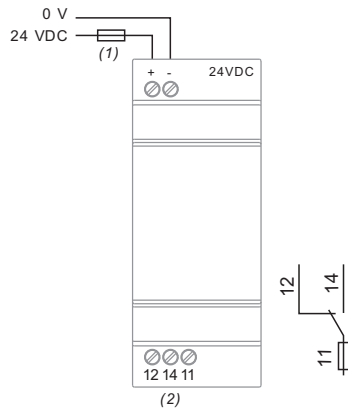
ZBR A1



Schemes

Non-programmable receiver

Receiver contained in packs XB5 RFB01 and XB5 RMB03

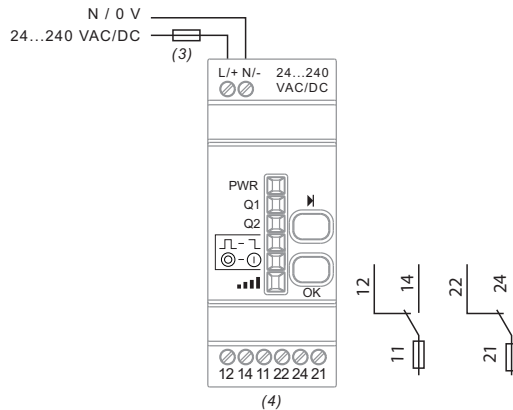


(1) 125 mA fast-blow fuse.

(2) $I_{max} = 3 A$.

Programmable receivers

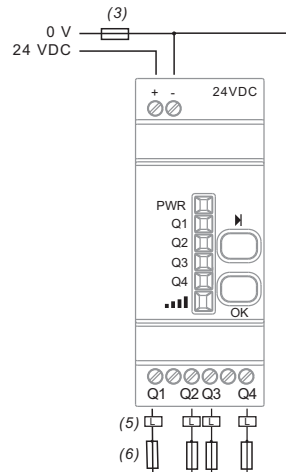
Receiver ZBR RA (contained in packs XB4 RFA02, XB5 RFA02 and XB5 RMA04)



(3) 400 mA fast-blow fuse.

(4) $I_{max} = 3 A$.

Receiver ZBR RC



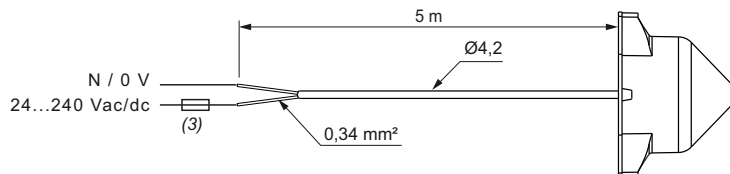
(3) 400 mA fast-blow fuse.

(5) $I_{max} = 200 mA$

(6) $I_{max} = 300 mA$.

Relay-antenna

ZBR A1



(3) 400 mA fast-blow fuse.

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