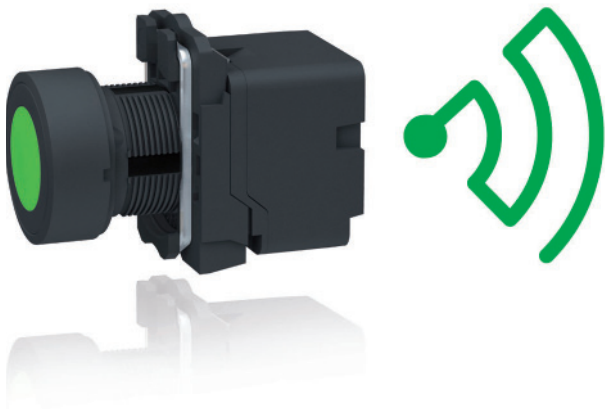


# Wireless and batteryless pushbuttons

Harmony<sup>®</sup> XB5R

Catalogue

April 2011











# 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

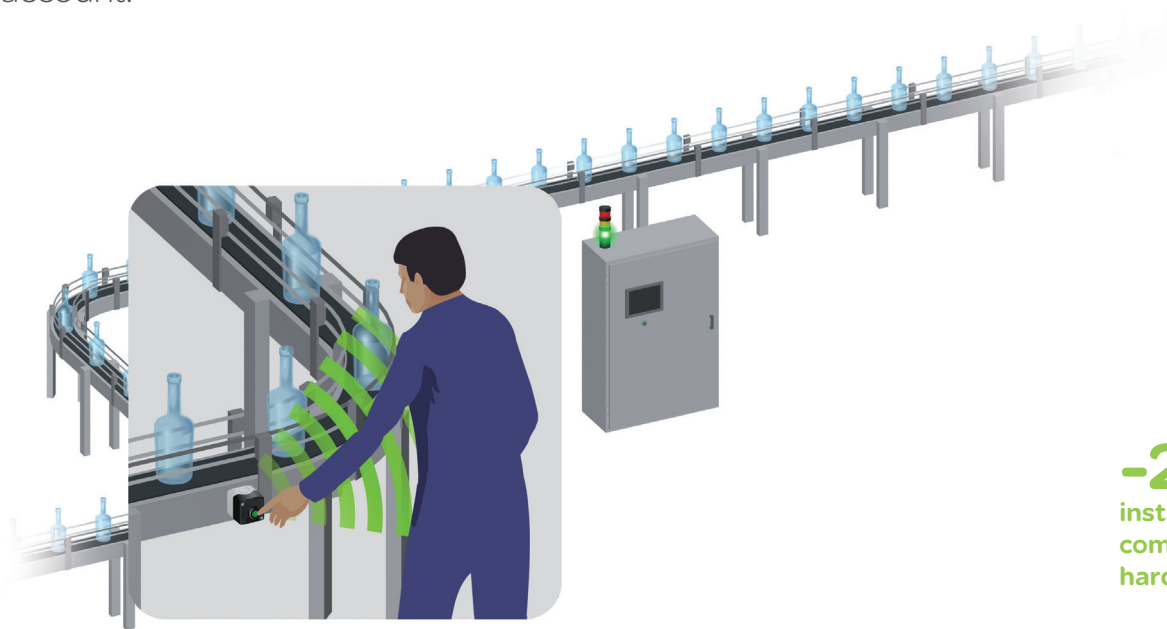
Make the most of your energy



# 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



# Control and signalling units Ø 22

## Harmony® XB5 plastic and XB4 metal

### Wireless and batteryless pushbutton

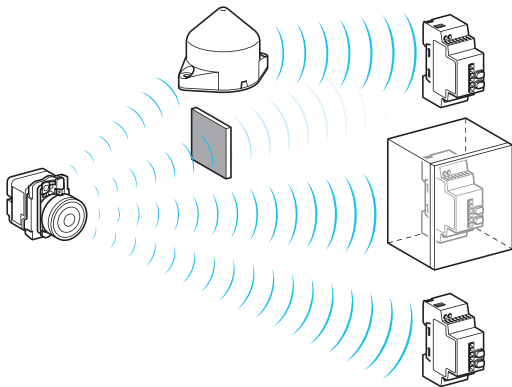


Figure A: radio transmission between 1 transmitter and 3 receivers

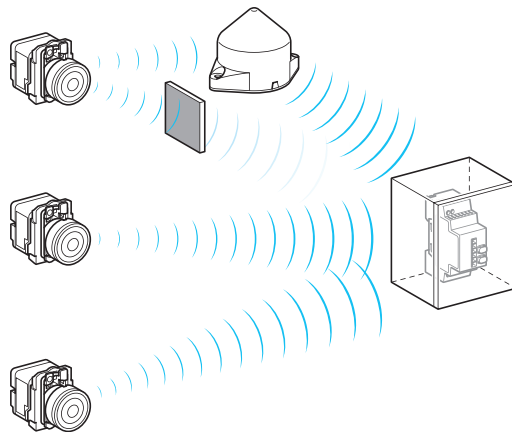


Figure B: radio transmission between 3 transmitters and 1 receiver

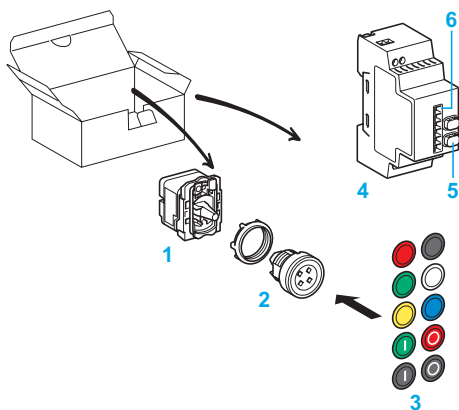


Figure C: pack with transmitter and programmable receiver

#### 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.

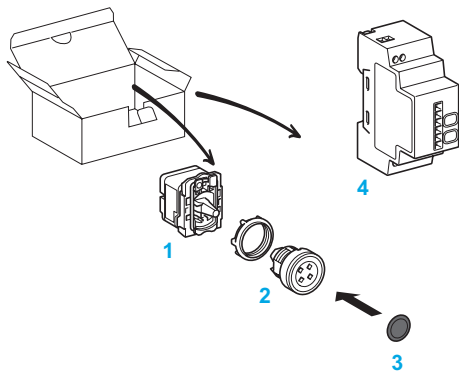


Figure D: pack with transmitter and non-programmable receiver

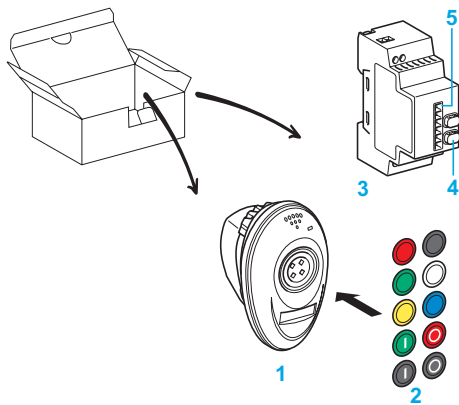


Figure E: pack with transmitter in handy box and programmable receiver

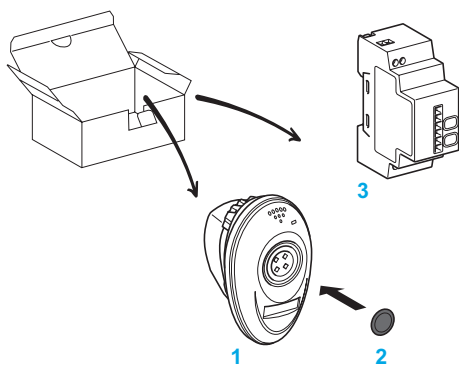


Figure F: pack with transmitter in handy box and non-programmable receiver

#### 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

##### 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.

#### 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

<b>Conforming to standards</b>	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
<b>Product certifications and radio agreements</b>			UL, FCC (USA), CSA, RSS (Canada), C-Tick (Australia), GOST (Russia), ANATEL (Brazil), SRRC (China), CE (Europe)
<b>Protective treatment standard version</b>			"TH"
<b>Ambient air temperature around the device</b>	Storage	°C	- 40...+ 70
	Operation	°C	- 25...+ 70
<b>Relative humidity permissible</b>	Transmitter block		+ 95% RH at 70° C (without condensation)
<b>Degree of protection</b>	Conforming to IEC 60529		IP 65 (front face) IP 30 (back face)
	Conforming to UL / CSA		Type 12
	Conforming to IEC 50102		IK 03
<b>Free fall resistance</b>	Conforming to IEC 60068-2-32	mm	1 000

##### Mechanical characteristics

<b>Operating travel</b> (when sending information)	Pushbutton	mm	Total travel: 4.3 Instruction sent when wireless and batteryless pushbutton clicks
<b>Operating force</b>	Spring return pushbutton with its transmitter	N	< 25
<b>Mechanical durability</b> (in millions of operating cycles)	Spring return pushbutton with its transmitter		1
<b>Vibration resistance</b> conforming to IEC 60068-2-6	Frequency: 2 to 11Hz	mm	± 10
	Frequency: 11 to 500Hz	gn	5
<b>Shock resistance</b> conforming to IEC 60068-2-27	Half sine wave acceleration 11 ms	gn	50
	Half sine wave acceleration 18 ms	gn	30
<b>Repetitive shocks resistance</b>	Conforming to IEC 60068-2-27	gn	25 (duration: 6 ms - 6 000 shocks)
<b>Head tightening torque</b>	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

<b>Frequency</b>		GHz	2.4
<b>Protocol</b>			ZigBee Green Power compatible (transmitter and receiver can work with other ZigBee Green Power products)
<b>Range</b>		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)
	<b>Transmission power</b>	mW	3
	<b>Activation time</b>	ms	2
<b>Transmission time</b>		ms	< 2
<b>Type</b>	Conforming to EN 301-489-3 § 4.1 - Equipment		Type III
<b>Class</b>	Conforming to EN 301-489-3 § 6.1 - Equipment		Class 2
<b>Category</b>	Conforming to EN 300-440-1 § 5.4.1.2 - Temperature	°C	Category 1: - 20 to + 55

##### Electromagnetic immunity and emissions

<b>Resistance to electrostatic discharges</b>	Conforming to IEC 61000-4-2	kV	8: on insulating parts (in free air) 6: on metal parts (contact)
<b>Resistance to electromagnetic fields</b>	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
<b>Radiated emissions</b>	Conforming to EN 300-440-1 and EN 300-440-2		Compliant

Presentation:  
page 4

References:  
page 10

Dimensions, schemes:  
page 12

#### 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, 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/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
<b>Product certifications and radio agreements</b>			
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
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 $\perp$ 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 M $\Omega$ , --- 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 $\mu$ s) AC/DC receiver: Uimp = 4 (1.2 / 50 $\mu$ s)
Cabling Maximum c.s.a. conforming to EN/IEC 60947-1	Solid cable without cable end	mm <sup>2</sup>	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	mm <sup>2</sup>	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	ZBR RA
Supply voltage Ue	V	--- 24 (+ 20/- 15 %)	~/--- 24...240 (+/- 10 %)
Frequency	Of the power supply circuit	Hz	50/60 $\pm$ 10 %
Galvanic isolation	Power supply/output		Yes
Maximum power drawn	W	0.5	0.8
Short-circuit protection		Fast-blow fuse 400 mA	Fast-blow fuse 125 mA
Immunity to microbreaks	ms	7 (total output current 800 mA)	Conforming to IEC 61000-4-11
		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)
			2 (power supply wires and relay wires)
Hybrid surge withstand conforming to IEC 61000-4-5	Differential mode	kV	0.5
	Common mode	kV	1
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 <sub>e</sub> 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 <sub>th</sub>	Conforming to EN/IEC 60947-5-1	mA	10 / ∞ 5 V	
Maximum current		A	–	5
Electrical durability			–	1 x 10 <sup>5</sup> operating cycles
Mechanical durability			–	10 x 10 <sup>5</sup> 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 mm²)
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



# Control and signalling units Ø 22

## Harmony® XB5 plastic and XB4 metal Wireless and batteryless pushbutton

(Available: 2nd quarter 2011)



XB5 RFA02

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



ZBR T1



ZB4 RZA0



ZB5 RTA4

Transmitter components for wireless and batteryless pushbutton				
Description	Type of push	Cap colour	Reference	Weight kg
Transmitter for wireless and batteryless pushbutton (5) (6)	-	-	<b>ZBR T1</b>	0.025
Spring return pushbutton heads for transmitter ZBR T1	Plastic	Without cap (7)	<b>ZB5 RZA0</b>	0.015
	Metal	Without cap (7)	<b>ZB4 RZA0</b>	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	<b>ZB5 RTA1</b>	0.045
		Black	<b>ZB5 RTA2</b>	0.045
		Green	<b>ZB5 RTA3</b>	0.045
		White I on green background	<b>ZB5 RTA331</b>	0.045
		Red	<b>ZB5 RTA4</b>	0.045
		White O on red background	<b>ZB5 RTA432</b>	0.045
	Metal	Yellow	<b>ZB5 RTA5</b>	0.045
		Blue	<b>ZB5 RTA6</b>	0.045
		White	<b>ZB4 RTA1</b>	0.085
		Black	<b>ZB4 RTA2</b>	0.085
		Green	<b>ZB4 RTA3</b>	0.085
		White I on green background	<b>ZB4 RTA331</b>	0.085
Red	<b>ZB4 RTA4</b>	0.085		
White O on red background	<b>ZB4 RTA432</b>	0.085		
Yellow	<b>ZB4 RTA5</b>	0.085		
Blue	<b>ZB4 RTA6</b>	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



ZBR M01



XAL D02



ZBR A1

### Programmable receivers

Description	Output type	Receiver voltage V	Reference	Weight kg
<b>Programmable receivers equipped with:</b> - 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
	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
	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	
"II" (white)		10	ZBA 7336	0.010	
Red	Without	10	ZBA 74	0.010	
	"O" (white)	10	ZBA 7432	0.010	
Yellow	Without	10	ZBA 75	0.010	
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.

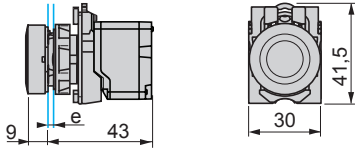
(5) Box equipped with cable gland outlets, compatible with Harmony ZB5 pushbutton heads.

(6) Not wired to the receiver.

#### Dimensions

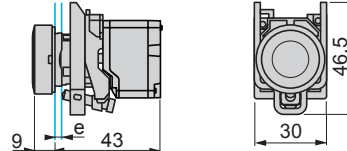
##### Wireless and batteryless pushbutton - Transmitter

**ZB5 RTA●●●, with plastic pushbutton and cap**



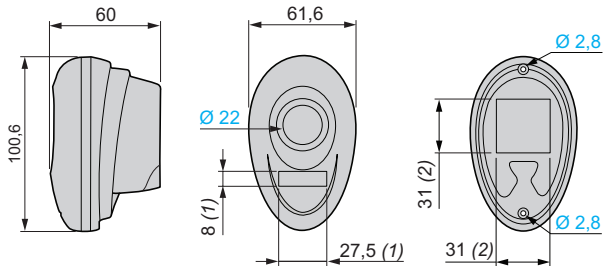
e: panel thickness 1 to 6 mm

**ZB4 RTA●●●, with metal pushbutton and cap**

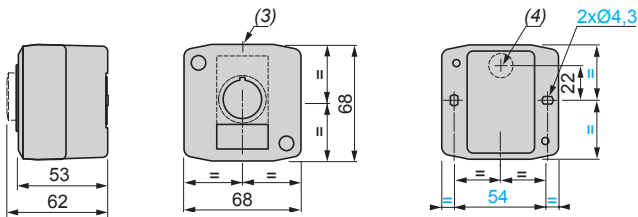


e: panel thickness 1 to 6 mm

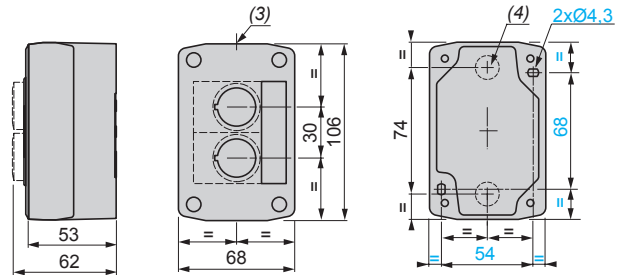
##### ZBR M01, Plastic handy box for mobile use



##### 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.

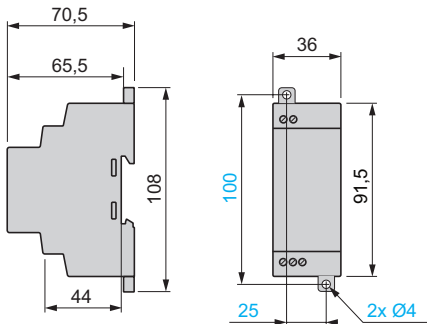
(2) Location for magnet to be stuck on by the customer.

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

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

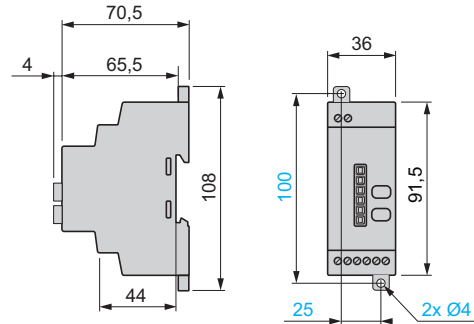
##### Non-programmable receiver

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



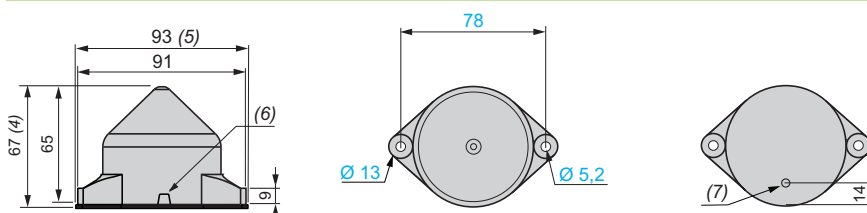
##### Programmable receivers

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



##### Relay-antenna

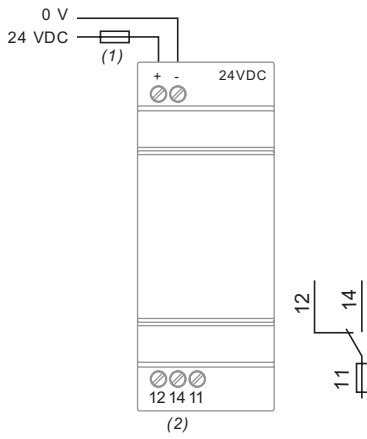
ZBRA1



## Schemes

### Non-programmable receiver

Receiver contained in packs XB5 RFB01 and XB5 RMB03

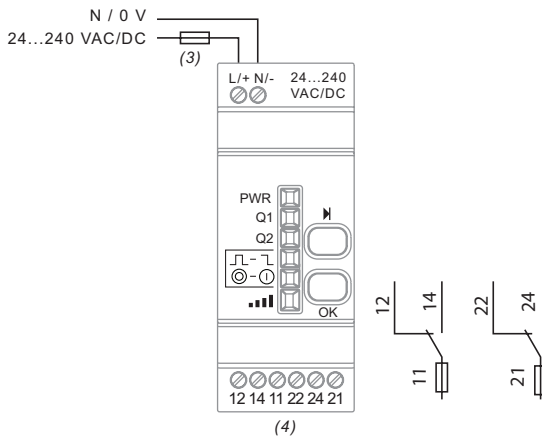


(1) 125 mA fast-blow fuse.

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

### Programmable receivers

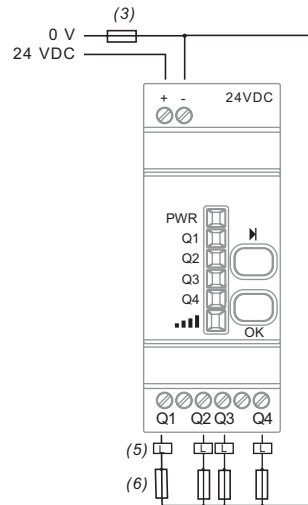
Receiver ZBR RA (contained in packs XB4 RFA02, XB5 RFA02 and XB5 RMA04)



(3) 400 mA fast-blow fuse.

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

Receiver ZBR RC



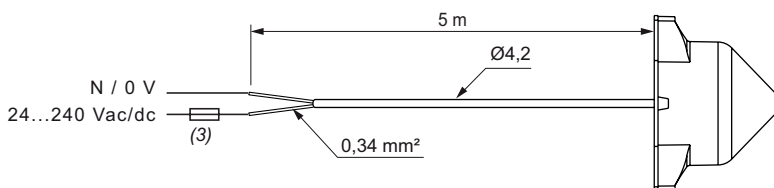
(3) 400 mA fast-blow fuse.

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

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

### Relay-antenna

ZBR A1



(3) 400 mA fast-blow fuse.



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