Harmony XB5R
Expert Instruction Sheet
12/2014

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When devices are used for applications with technical safety requirements, the relevant instructions must be followed.

Failure to use Schneider Electric software or approved software with our hardware products may result in injury, harm, or improper operating results.

Failure to observe this information can result in injury or equipment damage.

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5.3 Functions
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Safety Information

Important Information

NOTICE

Read these instructions carefully, and look at the equipment to become familiar with the device before trying to install, operate, or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

⚠️ The addition of this symbol to a "Danger" or "Warning" safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.

⚠️ This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠️ DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠️ WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠️ CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury.
PLEASE NOTE

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction and operation of electrical equipment and its installation, and has received safety training to recognize and avoid the hazards involved.
About the Book

At a Glance

Document Scope
This documentation is a reference for the Harmony XB5R wireless and batteryless pushbutton.

Validity Note
This documentation is valid for Harmony XB5R.

The technical characteristics of the devices described in this document also appear online. To access this information online:

<table>
<thead>
<tr>
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<tr>
<td>1</td>
<td>Go to the Schneider Electric home page <a href="http://www.schneider-electric.com">www.schneider-electric.com</a>.</td>
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</tbody>
</table>
| 2    | In the Search box type the reference of a product or the name of a product range.  
|      | - Do not include blank spaces in the model number/product range.  
|      | - To get information on grouping similar modules, use asterisks (*). |
| 3    | If you entered a reference, go to the Product Datasheets search results and click on the reference that interests you.  
|      | If you entered the name of a product range, go to the Product Ranges search results and click on the product range that interests you. |
| 4    | If more than one reference appears in the Products search results, click on the reference that interests you. |
| 5    | Depending on the size of your screen, you may need to scroll down to see the data sheet. |
| 6    | To save or print a data sheet as a .pdf file, click Download XXX product datasheet. |

The characteristics that are presented in this manual should be the same as those characteristics that appear online. In line with our policy of constant improvement, we may revise content over time to improve clarity and accuracy. If you see a difference between the manual and online information, use the online information as your reference.
Related Documents

<table>
<thead>
<tr>
<th>Title of Documentation</th>
<th>Reference Number</th>
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</thead>
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<tr>
<td>Wireless and Batteryless Pushbutton Catalogue Module</td>
<td>36174</td>
</tr>
<tr>
<td>Package Instruction Sheet</td>
<td>S1A57199</td>
</tr>
<tr>
<td>Receivers Instruction Sheet</td>
<td>S1A57202</td>
</tr>
<tr>
<td>Transmitter with Metal or Plastic Head and Cap Instruction Sheet</td>
<td>S1A57198</td>
</tr>
<tr>
<td>Relay Antenna Instruction Sheet</td>
<td>S1A57194</td>
</tr>
<tr>
<td>Mobile Box Instruction Sheet</td>
<td>S1A57210</td>
</tr>
<tr>
<td>ATEX Transmission Devices Instruction Sheet</td>
<td>HRB29193</td>
</tr>
<tr>
<td>ATEX Reception Devices Instruction Sheet</td>
<td>HRB41321</td>
</tr>
<tr>
<td>Rope Pull Switch Instruction Sheet</td>
<td>S1B90581</td>
</tr>
</tbody>
</table>

You can download these technical publications and other technical information from our website at www.schneider-electric.com.

Product Related Information

The application of this product requires expertise in the design and programming of control systems.

⚠️ WARNING

UNINTENDED EQUIPMENT OPERATION

Only persons with expertise in the design and programming of control systems are allowed to program, install, alter, and apply this product.

Follow all local and national safety codes and standards.

Failure to follow these instructions can result in death, serious injury, or equipment damage.
Chapter 1
Harmony XB5R Introduction

Purpose
This chapter provides an overview of the Harmony XB5R.

What Is in This Chapter?
This chapter contains the following topics:

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<td>12</td>
</tr>
<tr>
<td>Presentation of XB5R Components</td>
<td>14</td>
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</tbody>
</table>
General Presentation of Harmony XB5R

Offer Presentation

Harmony wireless and batteryless pushbuttons are used for remote control of a receiver relay using a transmitter pushbutton. Control is via radio transmission: the transmitter is equipped with a “dynamo” generator that converts the mechanical energy produced by pressing the pushbutton into electrical energy. A radio-coded message with a unique ID code is sent, in a single pulse, to one or more receiver(s) located several tens of metres away (see figure A). One receiver can also be activated by different transmitters (see figure B).

This technology cannot be used for hoisting applications (“raise/lower”, “left/right”, etc. movements) or safety applications (emergency stop buttons etc.). The Harmony XB4 and XB5 wired pushbutton range or the XAC pendant control station range have to be used for these applications.

<table>
<thead>
<tr>
<th>WARNING</th>
</tr>
</thead>
</table>

**UNINTENDED EQUIPMENT OPERATION**

- Do not use this equipment in safety critical and hoisting machine functions due to:
  - No permanent communication.
  - No acknowledge of the message from the receiver to the transmitters.
- Use appropriate safety interlocks where personnel and/or equipment hazards exist.
- Do not disassemble, repair, or modify this equipment.
- Install and operate this equipment in an appropriately rated enclosure for its intended environment.
- Install properly rated fuses.
- Check that the control is not activated if the product falls during transit.

**Failure to follow these instructions can result in death, serious injury, or equipment damage.**

**NOTE:** The rated fuses are indicated in the Receiver Wiring Diagram *(see page 42).*
Figure A: Transmission between 1 Transmitter and 3 Receivers

NOTE: One transmitter can be taught and can activate several receivers. The number of receivers is not limited.

Figure B: Transmission between 3 Transmitters and 1 Receiver

NOTE: One receiver can be activated by several transmitters. The number of transmitters is limited: 32 transmitters maximum.
Presentation of Harmony XB5R Ready to Use Packages

Illustration

**NOTE:** The following figures show for all packages, the transmitter and the receiver are already paired in Schneider factory.

**XB•RFB01**

**XB•RFA02**

**XB5RMB03**
1 Transmitter
2 Head
3 Cap
4 Non-programmable receiver
5 Set of 10 caps
6 Transmitter + Head + Mobile box
7 Programmable receiver
8 Magnet (could be glued on the box if needed)

⚠️ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Disconnect all power before servicing equipment.
- Use only the specified voltage when operating this equipment and any associated products.

Failure to follow these instructions will result in death or serious injury.
Presentation of XB5R Components

Transmitters

ZB5RZA0  ZB5RZC2  ZBRT1  ZBRT2

ZB5RTA4  ZB4RZA0  ZBRP1
The following table describes the transmitter characteristics.

<table>
<thead>
<tr>
<th>Designation</th>
<th>Pushbutton Type</th>
<th>Cap Color</th>
<th>Reference</th>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmitter Only (1 frame sent at the push of the button)</td>
<td>–</td>
<td>–</td>
<td>ZBRT1</td>
<td>0.025 kg (0.055 lb)</td>
</tr>
<tr>
<td>Transmitter Only (1 frame sent at the push of the button, 1 frame sent at the release of the button)</td>
<td>–</td>
<td>–</td>
<td>ZBRT2</td>
<td>0.025 kg (0.055 lb)</td>
</tr>
<tr>
<td>Spring return pushbutton heads for transmitter ZBRT1</td>
<td>Plastic</td>
<td>Without cap</td>
<td>ZB5RZA0</td>
<td>0.015 kg (0.033 lb)</td>
</tr>
<tr>
<td></td>
<td>Metallic</td>
<td>Without cap</td>
<td>ZB4RZA0</td>
<td>0.030 kg (0.066 lb)</td>
</tr>
<tr>
<td>Pushbuttons including:</td>
<td>Plastic</td>
<td>White</td>
<td>ZB5RTA1</td>
<td>0.045 kg (0.099 lb)</td>
</tr>
<tr>
<td>• a ZBRT1 transmitter fitted with fixing collar</td>
<td></td>
<td>Black</td>
<td>ZB5RTA2</td>
<td>0.045 kg (0.099 lb)</td>
</tr>
<tr>
<td>• a spring return pushbutton head with clipped-in cap</td>
<td></td>
<td>Green</td>
<td>ZB5RTA3</td>
<td>0.045 kg (0.099 lb)</td>
</tr>
<tr>
<td></td>
<td>Plastic</td>
<td>&quot;I&quot; white on green background</td>
<td>ZB5RTA331</td>
<td>0.045 kg (0.099 lb)</td>
</tr>
<tr>
<td></td>
<td>Metallic</td>
<td>White</td>
<td>ZB4RTA1</td>
<td>0.085 kg (0.187 lb)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Black</td>
<td>ZB4RTA2</td>
<td>0.085 kg (0.187 lb)</td>
</tr>
<tr>
<td></td>
<td>Plastic</td>
<td>&quot;I&quot; White on green background</td>
<td>ZB4RTA331</td>
<td>0.085 kg (0.187 lb)</td>
</tr>
<tr>
<td></td>
<td>Metallic</td>
<td>White</td>
<td>ZB4RTA4</td>
<td>0.085 kg (0.187 lb)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;O&quot; White on red background</td>
<td>ZB4RTA432</td>
<td>0.085 kg (0.187 lb)</td>
</tr>
<tr>
<td>Spring return mushroom head for ZBRT1/ZBRT2 transmitters</td>
<td>Plastic</td>
<td>Black</td>
<td>ZB5RZC2</td>
<td>0.025 kg (0.055 lb)</td>
</tr>
<tr>
<td>Pushbutton including:</td>
<td>Plastic</td>
<td>Black</td>
<td>ZB5RTC2</td>
<td>0.055 kg (0.121 lb)</td>
</tr>
<tr>
<td>• a ZBRT1 transmitter fitted with fixing collar</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• a spring return mushroom head</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rope Pull Switch</td>
<td>Plastic</td>
<td>Black</td>
<td>ZBRP1</td>
<td>0.150 kg (0.331 lb)</td>
</tr>
</tbody>
</table>
Programmable Receivers

The following figure shows the programmable receivers.

(1): Selection button
(2): Validation button

The following table describes the characteristics of programmable receivers.

<table>
<thead>
<tr>
<th>Designation</th>
<th>Outputs</th>
<th>Receiver Voltage</th>
<th>Reference</th>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programmable Receivers with indicator light LED and teach button</td>
<td>4 PNP 200 mA</td>
<td>24 Vdc</td>
<td>ZBRRC</td>
<td>0.130 kg (0.287 lb)</td>
</tr>
<tr>
<td></td>
<td>2 relays change over 3 A</td>
<td>24...240 Vac/Vdc</td>
<td>ZBRA</td>
<td>0.130 kg (0.287 lb)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ZBRD</td>
<td>0.130 kg (0.287 lb)</td>
</tr>
</tbody>
</table>
Harmony ZB5RZA0 and ZB4RZA0 Pushbutton Caps

The following table describes the characteristics of the caps for the ZB5RZA0 and ZB4RZA0 pushbuttons.

<table>
<thead>
<tr>
<th>Cap Color</th>
<th>Labeling</th>
<th>Reference</th>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>-</td>
<td>ZBA71</td>
<td>0.010 kg (0.022 lb)</td>
</tr>
<tr>
<td></td>
<td>&quot;↑&quot; black</td>
<td>ZBA7137</td>
<td>0.010 kg (0.022 lb)</td>
</tr>
<tr>
<td></td>
<td>&quot;↑ &quot; black</td>
<td>ZBA7134</td>
<td>0.010 kg (0.022 lb)</td>
</tr>
<tr>
<td></td>
<td>&quot;↑ &quot; black</td>
<td>ZBA7135</td>
<td>0.010 kg (0.022 lb)</td>
</tr>
<tr>
<td></td>
<td>&quot;↑&quot; black</td>
<td>ZBA7137</td>
<td>0.010 kg (0.022 lb)</td>
</tr>
<tr>
<td>Black</td>
<td>-</td>
<td>ZBA72</td>
<td>0.010 kg (0.022 lb)</td>
</tr>
<tr>
<td></td>
<td>&quot;O&quot; white</td>
<td>ZBA7232</td>
<td>0.010 kg (0.022 lb)</td>
</tr>
<tr>
<td></td>
<td>&quot;+&quot; white</td>
<td>ZBA7233</td>
<td>0.010 kg (0.022 lb)</td>
</tr>
<tr>
<td></td>
<td>&quot;↓&quot; white</td>
<td>ZBA7235</td>
<td>0.010 kg (0.022 lb)</td>
</tr>
<tr>
<td></td>
<td>&quot;↑&quot; white</td>
<td>ZBA7237</td>
<td>0.010 kg (0.022 lb)</td>
</tr>
<tr>
<td>Cap Color</td>
<td>Labeling</td>
<td>Reference</td>
<td>Mass</td>
</tr>
<tr>
<td>-----------</td>
<td>----------</td>
<td>-----------</td>
<td>------------</td>
</tr>
<tr>
<td>Green</td>
<td>-</td>
<td>ZBA73</td>
<td>0.010 kg (0.022 lb)</td>
</tr>
<tr>
<td></td>
<td>&quot;I&quot; white</td>
<td>ZBA7331</td>
<td>0.010 kg (0.022 lb)</td>
</tr>
<tr>
<td></td>
<td>&quot;+&quot; white</td>
<td>ZBA7333</td>
<td>0.010 kg (0.022 lb)</td>
</tr>
<tr>
<td></td>
<td>&quot;↑&quot; white</td>
<td>ZBA7335</td>
<td>0.010 kg (0.022 lb)</td>
</tr>
<tr>
<td></td>
<td>&quot;II&quot; white</td>
<td>ZBA7336</td>
<td>0.010 kg (0.022 lb)</td>
</tr>
<tr>
<td>Red</td>
<td>-</td>
<td>ZBA74</td>
<td>0.010 kg (0.022 lb)</td>
</tr>
<tr>
<td></td>
<td>&quot;O&quot; white</td>
<td>ZBA7432</td>
<td>0.010 kg (0.022 lb)</td>
</tr>
<tr>
<td>Yellow</td>
<td>-</td>
<td>ZBA75</td>
<td>0.010 kg (0.022 lb)</td>
</tr>
<tr>
<td>Blue</td>
<td>-</td>
<td>ZBA76</td>
<td>0.010 kg (0.022 lb)</td>
</tr>
</tbody>
</table>
Accessories

ZBRM01  ZBRM21  ZBRM22  ZBRACS

XALD02  ZBRA1  ZBSAZ009
The following table describes the characteristics of housing and accessories for XB5R.

<table>
<thead>
<tr>
<th>Designation</th>
<th>Description</th>
<th>Reference</th>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empty plastic handy box for mobile applications with wireless and batteryless pushbutton</td>
<td>1 hole</td>
<td>ZBRM01</td>
<td>0.09 kg (1.984 lb)</td>
</tr>
<tr>
<td>Empty plastic mobile box for mobile and fixed applications with wireless and batteryless pushbutton</td>
<td>1 hole</td>
<td>ZBRM21</td>
<td>0.10 kg (0.220 lb)</td>
</tr>
<tr>
<td></td>
<td>2 holes</td>
<td>ZBRM22</td>
<td>0.11 kg (0.242 lb)</td>
</tr>
<tr>
<td>Support for ZBRM21/ZBRM22 Plastic</td>
<td>-</td>
<td>ZBRACS</td>
<td>0.064 kg</td>
</tr>
<tr>
<td>Empty plastic box for embedded or fixed transmitter</td>
<td>1 hole</td>
<td>XALD01</td>
<td>0.136 kg (0.299 lb)</td>
</tr>
<tr>
<td></td>
<td>2 holes</td>
<td>XALD02</td>
<td>0.193 kg (0.425 lb)</td>
</tr>
<tr>
<td>Relay-Antenna for increased distances</td>
<td>24...240 Vac/Vdc - Cable (5 m/16.4 ft) - 1 Voltage LED - 2 Reception/Emission LED</td>
<td>ZBRA1</td>
<td>0.200 kg (0.440 lb)</td>
</tr>
<tr>
<td>Mounting Base</td>
<td>Plastic</td>
<td>ZB5AZ009</td>
<td>0.006 kg (0.013 lb)</td>
</tr>
<tr>
<td></td>
<td>Metallic</td>
<td>ZB4BZ009</td>
<td>0.038 kg (0.083 lb)</td>
</tr>
</tbody>
</table>
Chapter 2
Installation

Purpose
This chapter provides an overview of the Harmony XB5R installation.

What Is in This Chapter?
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<td>Mounting Instructions for ZBRM01 Handy Box</td>
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</tr>
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<tr>
<td>Relay Antenna Installation</td>
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</tr>
</tbody>
</table>
General Installation Instruction for Harmony XB5R

Maximum Distances

(*) Typical values that may be modified by the application environment.
(**) Free field (unobstructed).

NOTE:
- The range may be increased by adding antenna ZBRA1.
- The range is reduced if the transmitter is placed in a metal box (reduction factor: approx 10%).
- Once wiring is complete, test the product in all possible active areas (while remaining within range).

The level of signal attenuation depends on the materials through which the signal will pass:

<table>
<thead>
<tr>
<th>Material</th>
<th>Attenuation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glass window</td>
<td>10...20 % (*)</td>
</tr>
<tr>
<td>Plaster wall</td>
<td>30...45 % (*)</td>
</tr>
<tr>
<td>Brick wall</td>
<td>60 % (*)</td>
</tr>
<tr>
<td>Concrete wall</td>
<td>70...80 % (*)</td>
</tr>
<tr>
<td>Metal structure</td>
<td>50...100 % (*)</td>
</tr>
</tbody>
</table>

(*) Values for indication purposes only. Actual values depend on the thickness and nature of the material.
Installation Conditions

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmitter operating temperature</td>
<td>-25...+70°C (-13...+158°F)</td>
</tr>
<tr>
<td>Receiver operating temperature</td>
<td>-25...+55°C (-13...+131°F)</td>
</tr>
<tr>
<td>Transmitter protection level</td>
<td>IP65/NEMA3</td>
</tr>
<tr>
<td>Receiver protection level</td>
<td>IP20</td>
</tr>
<tr>
<td>Transmitter shock resistance</td>
<td>IK03</td>
</tr>
</tbody>
</table>

Mounting Tips

1 Metal structure
2 Wall

**NOTE:** To ease the radio transmission, the best is to avoid obstacles. Find the best place to install the transmitter and the receiver to have the minimum of obstacles.
Mounting Tips for Antenna

The antenna and the receiver are installed following their vertical axis.

OK

NOT OK
Obstacle
The antenna is used to bypass the obstacle.

**NOTE:** The antenna should be placed before the obstacle. The signal will be amplified before the obstacle to enable to go through it.

Impact of the radio performances in the environment:
- For any environment, the radio performances are subjected to be instable due to perturbations made by any kind of industrial machines, processes, or electronic devices.
- As a result at any time, it is possible that radio frames sent by a transmitter will not be caught by the receiver during the perturbation.
- With XB5R offer, only one radio frame is sent to the receiver and there is no permanent radio communication. This reason makes to avoid the use of XB5R offer for applications where permanent reliability and/or permanent precisions are needed.
Transmitter and Pushbutton Assembly

Introduction

Follow these steps to install the transmitter and pushbutton.

Step 1: Mounting on a panel

This figure shows the diameter of the holes for ZB5R or ZB4R pushbuttons.
For all ZB5R*** heads except ZB5RZC2:

For ZB5RZC2 head:
Step 2: Attach the mounting base to the transmitter

Packages: ID Registration

NOTE: Please note and retain your transmitter ID. You will need it for an ID reset. The ID reset is described in the Total Reset and ID Reset Procedure (see page 69).
Transmitter: ID Registration

Rope Pull Switch: ID Registration
Steps 3, 4 and 5: Assembling Plastic Pushbuttons
Plastic pushbuttons are assembled as follows:

2.2 Nm ±0,2 / 19.5 lb-in ±1.8

Steps 3, 4 and 5: Assembling Metallic Pushbuttons
Metallic pushbuttons are assembled as follows:
Step 6: Pushbutton Cap Assembly
Transmitter and Pushbutton Disassembly

Plastic Pushbutton Disassembling

Follow the four steps shown to disassemble the transmitter and the plastic pushbutton:

Metallic Pushbutton Disassembling

Follow the three steps shown to disassemble the transmitter and the metallic pushbutton:
Models: ZBRT1, ZBRT2, ZBRTP enclosed in ZBRP1

FCC USA and IC Canada Compliance Statement

This device complies with part 15 of the FCC rules and Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

1) This device may not cause harmful interference.
2) This device must accept any interference received, including interference that may cause undesired operation of the device.

NOTE: Schneider Electric is not responsible for any radio or tv interference caused by unauthorized modifications to this equipment. Changes or modifications not expressly approved by Schneider Electric responsible for compliance could void the user’s authority to operate the equipment.

Le présent appareil est conforme aux CNR d’Industrie Canada applicables aux appareils radio exempts de licence. L’exploitation est autorisée aux deux conditions suivantes:

1) L’appareil ne doit pas produire de brouillage.
2) L’utilisateur de l’appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d’en compromettre le fonctionnement.
Mounting Data for Rope Pull Switch

Rope Pull Switch Assembly

- Maximum weight of the rope: 500 g / 17.64 oz
- Maximum actuation force: 100 daN / 224.8 lbf
- Maximum diameter of the rope: Ø10 mm / Ø0.39 in

Or

Installation on flat surface

- 3xØ5.1
- 3xØ0.20

- 2 Nm
- 17.7 lb-in

- Ø5
- Ø0.197
Mounting Instructions for ZBRM01 Handy Box

Assembly

(a) Except for ZB5RZC2.
(b) Before performing step 9, remove plastic protection from each side of the magnet.
Disassembly

Location for Accessories

Free space for your identification
ZBY0101T 8 x 27 mm (0.31 x 1.06 in.)
Place for neck lanyard
Mounting Instructions for ZBRM21/ZBRM22 Mobile Boxes

Assembly
Disassembly

Location for Accessories

Free space for your identification
ZBY0101T 8 x 27 mm (0.31 x 1.06 in.)
Mounting instructions For ZBRACS Support

Assembly

1.

2.

3.

4.
Receiver Assembly and Disassembly

Instructions

Follow the steps in black for assembly.
Follow the steps in white for disassembly.

Models: ZBRAA, ZBRRC, ZBRRD, and XB•RFB01

FCC USA and IC Canada Compliance Statement

This device complies with part 15 of the FCC rules and Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

1) This device may not cause harmful interference.
2) This device must accept any interference received, including interference that may cause undesired operation of the device.

NOTE: Schneider Electric is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Changes or modifications not expressly approved by Schneider Electric responsible for compliance could void the user’s authority to operate the equipment.

Le présent appareil est conforme aux CNR d’Industrie Canada applicables aux appareils radio exempts de licence. L’exploitation est autorisée aux deux conditions suivantes:

1) L’appareil ne doit pas produire de brouillage.
2) L’utilisateur de l’appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d’en compromettre le fonctionnement.
In USA, our address and contact:
Schneider Electric
8001 Knightdale Blvd,
Knightdale, NC 27545
919-266-3671 (phone)

Receiver Dimensions
### Receiver Mounting Positions

1. To enhance the signal reception, respect the above positioning.
2. In a metal cabinet, the optimum place for the receiver is on the top and/or near the holes. This position avoids obstacles and enhances reception.

**NOTE:** For XB-RFA02, XB5RMA04, ZBRR, ZBRR, ZBRRD: before disassembly for storage, perform a total reset of the receiver memory. The total reset is described in the Total Reset and ID Reset procedure (see page 69).
Receiver Wiring Diagram

Wiring Diagram

The following figures show the wiring diagrams for the Harmony XB5R Receiver.

(1): 125 mA fast-blow fuse.
(2): 500 mA fuse from supplier Bussman® reference GMA-500 mA, 250 V 0.5 A fast-blow.
(3): Output contact ratings B300 Pilot Duty 3 A - 240 Vac Resistive.
(4): Output contact ratings B300 - R300 Pilot Duty 3 A - 240 Vac Resistive.

UL: Control of overvoltage to be provided after main service disconnect overcurrent device, with a UL1449 TVSS device (Transient Voltage Surge Suppressor) tested as type 2 (6kV/3kA min), with a MCOV (Maximum Continuous Operating Voltage) min rated to Phase to Phase voltage and a VPR (Voltage Protection Rating) of 1.5 kV.
DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Disconnect all power before servicing equipment.
- Use only the specified voltage when operating this equipment and any associated products.

Failure to follow these instructions will result in death or serious injury.
Relay Antenna Installation

Introduction
Observe the maximum distances between transmitter, antenna and receiver (see page 22) and the Mounting tips for antenna (see page 24).

Temporary Mounting
This temporary mounting is used to search the best place for the antenna in order to enhance the radio signal.

NOTE: For temporary assembly the breakable part of the antenna must not be cut off.
Axial Cable Route

(*): Dimensions including gasket
(**): Screws not supplied

Radial Cable Route
Wiring Diagram

The following figure shows the relay antenna wiring diagram for Harmony XB5R.

![Wiring Diagram](image)

(1): 500 mA from supplier Bussman® reference GMA-500mA, 250 V 0.5 A fast-blow.

UL: Control of Overvoltage to be provided after main service disconnect overcurrent device, with a UL1449 TVSS device (Transient Voltage Surge Suppressor) Tested as type 2 (6 kV/3 kA min), with a MCOV (Maximum Continuous Operating Voltage) min. rated to Phase to Phase voltage and a VPR (Voltage Protection Rating) of 1.5 kV.

---

**WARNING**

**UNINTENDED EQUIPMENT OPERATION**

- Do not use this equipment in safety critical and hoisting machine functions due to:
  - No permanent communication.
  - No acknowledge of the message from the receiver to the transmitters.
- Use appropriate safety interlocks where personnel and/or equipment hazards exist.
- Install and operate this equipment in an enclosure appropriately rated for its intended environment.

Failure to follow these instructions can result in death, serious injury, or equipment damage.
Model: ZBRA1

FCC USA and I C Canada Compliance Statement

This device complies with part 15 of the FCC rules and Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

1) This device may not cause harmful interference.
2) This device must accept any interference received, including interference that may cause undesired operation of the device.

NOTE: Schneider Electric is not responsible for any radio or tv interference caused by unauthorized modifications to this equipment. Changes or modifications not expressly approved by Schneider Electric responsible for compliance could void the user’s authority to operate the equipment.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1) L’appareil ne doit pas produire de brouillage.
2) L’utilisateur de l’appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d’en compromettre le fonctionnement.
Chapter 3
Preparing For Use

Purpose
This chapter explains how to prepare the Harmony XB5R for use.

What Is in This Chapter?
This chapter contains the following topics:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compatibility Rules</td>
<td>50</td>
</tr>
<tr>
<td>Transmitter Types</td>
<td>51</td>
</tr>
<tr>
<td>LED Status</td>
<td>53</td>
</tr>
<tr>
<td>Output mode: Monostable - Bistable - Stop/Start - Set/Reset</td>
<td>55</td>
</tr>
<tr>
<td>Changing outputs from Monostable to Bistable for XB•RFA02,</td>
<td>58</td>
</tr>
<tr>
<td>XB5RMA04, ZBRRB, and ZBRRD</td>
<td></td>
</tr>
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<td>Changing Outputs From Monostable to Stop/Start for XB•RFA02,</td>
<td>60</td>
</tr>
<tr>
<td>XB5RMA04, ZBRRB</td>
<td></td>
</tr>
<tr>
<td>How to Teach/Unteach Monostable, Bistable or Set/Reset Outputs for XB•RFA02, XB5RMA04, ZBRRB, ZBRRC, and ZBRRD</td>
<td>62</td>
</tr>
<tr>
<td>How to Teach Stop/Start Outputs for XB•RFA02, XB5RMA04, ZBRRB</td>
<td>64</td>
</tr>
<tr>
<td>Lock/Unlock for XB•RFA02, XB5RMA04, ZBRRB, ZBRRC, and ZBRRD</td>
<td>67</td>
</tr>
</tbody>
</table>
Compatibility Rules

Transmitter Compatibility

ZBRT2 transmitter is compatible with the following only:

- ZBRR• receivers with firmware version 2.0 and higher
- ZBRA1 relay antenna with firmware version 2.0 and higher
- ZBRN• access points with firmware version higher than 1.2
Transmitter Types

ZBRT1 and ZBRTP Transmitters

The radio message is sent when the button is pressed, signalled by a click. If the button is held down, the message is not transmitted continuously. The message is not sent when the button is released.

To avoid any conflict of multiple transmission from different transmitters, a minimum of 10 ms is required between each radio transmission.

ZBRT1 is used for applications where single pulse is required (for example, remote start of machine and reset after machine fault).
ZBRT2 Transmitter

The radio message is sent when the button is pressed, signaled by a click. If the button is held down, the message is not transmitted continuously.

A second radio message is sent when the button is released. This message is not transmitted continuously. It is transmitted once, at the release of the push-button.

This transmitter is used only for the set/reset output mode.
LED Status

**XB-RFA02 / XB5RMA04 and ZBRRRA**

**ZBRRRC**

**ZBRRRD**

**NOTE:** The signal strength LED indicates the value of the last signal received. The time out for the LED is 1min 30s. This LED could also be switched off by pressing once the selection button of the receiver.
Preparing For Use

Synthesis

Monostable: 2 flashes
Bistable: 4 flashes
Start for Stop/Start: 4 flashes
Stop for Stop/Start: 2 flashes
Output mode: Monostable - Bistable - Stop/Start - Set/Reset

Monostable Output: Factory setting for packages and for ZBRAA, ZBRRC, and ZBRRD

Bistable Output: Only for XB-RFA02, XB5RMA04, ZBRAA and ZBRRD

NOTE: If the radio message is lost, the operator has to repeat the command.
Stop/Start Output Standard Operation: Only for ZBRA

Description for situations where Stop button does not have priority over Start button:

NOTE: This function requires two transmitters.

Set/Reset Output: Only for ZBRA, ZBRC, and ZBRD

This output mode is active only when the ZBRT2 transmitter is used.
NOTE:
1. Release and push again to resynchronise
2. Push and release again to resynchronise

Power outage and restore management
If the duration of a power outage is less than the power supply filtering time (approx. 7 ms), there will be no impact on the receiver, which continues normal operation. Power outages longer than the filtering time cause the product to restart when power is back. At restart the outputs will be in their initial states with LEDs off.
Changing outputs from Monostable to Bistable for XB•RFA02, XB5RMA04, ZBRRRA, and ZBRRD

Procedure

This procedure shows how to change Q1 and Q2 outputs from monostable to bistable. The icons shown have the following meanings:

<table>
<thead>
<tr>
<th>LEDs</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>On</td>
</tr>
<tr>
<td></td>
<td>Flashing</td>
</tr>
<tr>
<td></td>
<td>Monostable</td>
</tr>
<tr>
<td></td>
<td>Bistable</td>
</tr>
</tbody>
</table>
Changing Outputs From Monostable to Stop/Start for XB•RFA02, XB5RMA04, ZBRRRA

Procedure

This procedure shows how to change from monostable to Stop/Start for Q1 and Q2.

The icons shown have the following meanings:

<table>
<thead>
<tr>
<th>LEDs</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>On</td>
</tr>
<tr>
<td>✗</td>
<td>Flashing</td>
</tr>
<tr>
<td>⊖</td>
<td>Monostable</td>
</tr>
<tr>
<td>⋆₋〇</td>
<td>Stop/Start</td>
</tr>
</tbody>
</table>

**NOTE:** When changing the output from Monostable to Stop/Start, all the registered ID for this output will be automatically canceled from the receiver memory. For information this also happens for the three following cases:

- From bistable to Stop/Start.
- From Stop/Start to monostable.
- From Stop/Start to bistable.
When changing the output from Monostable to Bistable, or Bistable to Monostable, the registered ID are not cancelled from the receiver memory.
How to Teach/Unteach Monostable, Bistable or Set/Reset Outputs for XB•RFA02, XB5RMA04, ZBRRA, ZBRRC, and ZBRRD

Procedure

This procedure shows how to Teach/Unteach Q1 and Q2 outputs (ZBRRA) and Q1, Q2, Q3 and Q4 outputs (ZBRRC) when using monostable or bistable outputs.

The icons shown have the following meanings:

<table>
<thead>
<tr>
<th>LEDs</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Green</td>
</tr>
<tr>
<td></td>
<td>Yellow</td>
</tr>
<tr>
<td></td>
<td>Flasing</td>
</tr>
<tr>
<td></td>
<td>Monostable</td>
</tr>
<tr>
<td></td>
<td>Bistable</td>
</tr>
<tr>
<td>⊗-⊘</td>
<td>Stop/Start</td>
</tr>
</tbody>
</table>

NOTE: It is possible to store a maximum of 32 ID. For example, 32 ID on Q1 output and 0 ID on Q2 output, or 22 ID on Q1 output and 10 ID on Q2 output, can be stored on ZBRRA and ZBRRC. When trying to teach a 33rd ID, all LEDs (except the power LED) flash quickly. This 33rd ID is not taught.
1) The Q1, Q2, Q3 or Q4 outputs will be active only 4 s after the teaching procedure.
2) The teaching procedure must be performed within 1 min 30 s.
3) The teach procedure on Q3 and Q4 outputs is the same. The Q3 or the Q4 output must be selected and when the Q3 or Q4 LED is flashing at 2 Hz, the button can be taught.
Preparing For Use

How to Teach Stop/Start Outputs for XB•RFA02, XB5RMA04, ZBRR

Preliminary Information

By default, the relay option is monostable. Before proceeding, change the relay option to Stop/Start. Changing Outputs From Monostable to Stop/Start (see page 60) for more information.

Procedure

This procedure shows how to teach Q1 and Q2 outputs when using Stop/Start outputs.

The icons shown have the following meanings:

<table>
<thead>
<tr>
<th>LEDs</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Green</td>
</tr>
<tr>
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<td>Yellow</td>
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<tr>
<td></td>
<td>Flashing</td>
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<tr>
<td></td>
<td>Monostable</td>
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<tr>
<td></td>
<td>Bistable</td>
</tr>
<tr>
<td></td>
<td>Stop/Start</td>
</tr>
</tbody>
</table>

NOTE: It is possible to store a maximum of 32 ID. For example, 32 ID on Q1 output and 0 ID on Q2 output or 22 ID on Q1 output and 10 ID on Q2 output, can be stored on ZBRR. When trying to teach a 33rd, all LEDs (except the power LED) flash quickly. This 33rd ID is not taught.

WARNING

UNINTENTED EQUIPMENT OPERATION
Do not leave the receiver without taught Stop button.
Failure to follow these instructions can result in death, serious injury, or equipment damage.

NOTE: For the teach procedure the Stop buttons must be taught before the Start ones. If you start by teaching a Start button (without any Stop button taught) all the LEDs flash. For the unteach procedure all the Start buttons must be untaught before the Stop ones.
How to Teach Q1 for Stop/Start

1) The Q1 output will be active only 4s after the teaching procedure.
2) The teaching procedure must be performed within 1min 30s.
How to Teach Q2 for Stop/Start

1) The Q2 output will be active only 4s after the teaching procedure.
2) The teaching procedure must be performed within 1min 30s.
Lock/Unlock for XB•RFA02, XB5RMA04, ZBRA, ZBRC, and ZBRRD

Introduction
Lock enables to block the menus access by non authorized persons. The functioning of the receiver is not affected.

Mechanical Lock/Unlock
The following diagram shows how to perform buttons mechanical lock.
Electronic Lock/Unlock

This procedure shows how to electronically lock/unlock the receiver.
Chapter 4
Other Functions for Harmony XB5R

Other Functions Description

Total Reset and ID Reset procedure for XB•RFA02, XB5RMA04, ZBRRRA, ZBRRC, and ZBRRD

**Total Reset:** After a Total Reset the receiver is on factory setting. All outputs are set to monostable function and all the registered ID are canceled.

**ID Reset:** This function enables to cancel an ID without having the push button (e.g: lost push button). Only the transmitter ID is needed. The ID cancelation does not effect the output function.

**NOTE:** To reset an ID, the last 3 digits are needed. The first, second and third digits must be entered as binary coded numbers in the receiver during the ID Reset procedure.
For ZBRAA and ZBRRD:

Example:
- Q1= R
- Q2= A
- ID= 03050412A
- G1
- ID= 0300000802

1. Reset total
2. Reset ID

Result:
- Q1= R
- Q2= A
- ID= 03050412A
- G1
- ID= 0300000802
For ZBRRC:

Example:
ID=0383412A
Q1

ID=03000532
Q2

Reset total

Result:

Exit?

Reset ID

Example:
ID=0383412A
T2A

Digit 1 (*)

= Digit 1 (*)

x1

Digit 2 (*)

x1

x3

Result:

Exit?

ID=03000532
Q1

ID=03000532
Q2

EIO000000812 12/2014 71
### ID Binary Coding

<table>
<thead>
<tr>
<th>LED</th>
<th>ZBRRC</th>
<th>ZBRAA</th>
<th>ZBRDA</th>
<th>(*): Digit ID</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q1</td>
<td>Q2</td>
<td>Q3</td>
<td>Q4</td>
</tr>
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<td></td>
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<td>☐</td>
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<tr>
<td>0</td>
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</tr>
</tbody>
</table>
Chapter 5
Harmony XB5R ATEX Products

Purpose
This chapter provides an overview of the Harmony XB5R ATEX products.

What Is in This Chapter?
This chapter contains the following sections:

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<th>Topic</th>
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<td>5.2</td>
<td>Reception Products</td>
<td>81</td>
</tr>
<tr>
<td>5.3</td>
<td>Functions</td>
<td>88</td>
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Section 5.1
Transmission Products

Overview
This section describes the ATEX transmitter products.

What Is in This Section?
This section contains the following topics:

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<tr>
<th>Topic</th>
<th>Page</th>
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</thead>
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<tr>
<td>ID Registration</td>
<td>77</td>
</tr>
<tr>
<td>Assembly, Disassembly, and Mounting Instructions</td>
<td>79</td>
</tr>
<tr>
<td>XAWGR•••EX Mounting Instructions</td>
<td>80</td>
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</tbody>
</table>
Presentation of ATEX Transmission Components

ATEX Transmission Components

**DANGER**

HAZARD OF EXPLOSION
These devices must be installed, used, and maintained in accordance with:
- Standard EN60079-14 (Explosive atmospheres), part 14 (Electrical installations design, selection, and erection).
- Standard EN60079-17 (Explosive atmospheres), part 17 (Electrical installations design, selection, and erection).
- Standard NF C15 100 (Low voltage electrical installations) - European equivalent: IEC 6034.
- Regulations governing setup of the zone or zones for which the devices were designed.

Failure to follow these instructions will result in death or serious injury.

**WARNING**

UNINTENDED EQUIPMENT OPERATION
- Do not use this equipment in safety critical and hoisting machine functions due to:
  - No permanent communication.
  - No acknowledge of the message from the receiver to the transmitters.
- Use appropriate safety interlocks where personnel and/or equipment hazards exist.
- Do not disassemble, repair, or modify this equipment.
- Install and operate this equipment in an appropriately rated enclosure for its intended environment.
- Install properly rated fuses.
- Check that the control is inactive if the product falls during transit.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

ZB4RTA0EX  ZB5RTA0EX  ZBRM01EX  ZBRM01BEX
The following table describes the ATEX transmitter characteristics:

<table>
<thead>
<tr>
<th>Designation</th>
<th>Type</th>
<th>Zone</th>
<th>Cap Color</th>
<th>Reference</th>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastic handy box</td>
<td>–</td>
<td>Mining</td>
<td>Ex ib I Mb Gas Ex ib I I B T6 Gb Dust Exib I I I CT85°C Db IP65</td>
<td>–</td>
<td>ZBRM01BEX</td>
</tr>
<tr>
<td>Transmitter</td>
<td>Metallic pushbutton</td>
<td>Mining</td>
<td>Ex ib I Mb Gas Ex ib I I C T6 Gb Dust Exib I I I CT85°C Db IP65</td>
<td>Without cap</td>
<td>ZB4RTA0EX</td>
</tr>
<tr>
<td>Plasic pushbutton</td>
<td>Plastic pushbutton</td>
<td>Mining</td>
<td>Ex ib I I C T6 Gb Dust Exib I I I CT85°C Db IP65</td>
<td>Without cap</td>
<td>ZB5RTA0EX</td>
</tr>
<tr>
<td>Plastic handy box</td>
<td>–</td>
<td>–</td>
<td>Exib I I I CT85°C Db IP65</td>
<td>–</td>
<td>ZBRM01EX</td>
</tr>
<tr>
<td>Rope pull switch</td>
<td>–</td>
<td>–</td>
<td></td>
<td>–</td>
<td>ZBRP1EX</td>
</tr>
<tr>
<td>Button box</td>
<td>XAW G 1-button box</td>
<td>–</td>
<td>XAWGR100EX</td>
<td></td>
<td>0.500 kg (1.102 lb)</td>
</tr>
<tr>
<td></td>
<td>XAW G 2-button box</td>
<td>–</td>
<td>XAWGR200EX</td>
<td></td>
<td>0.550 kg (1.213 lb)</td>
</tr>
<tr>
<td></td>
<td>XAW G 3-button box</td>
<td>–</td>
<td>XAWGR300EX</td>
<td></td>
<td>0.700 kg (1.543 lb)</td>
</tr>
</tbody>
</table>

**NOTE:** The operating characteristics are same as non-ATEX products.
ID Registration

Transmitter: ID Registration

ZB•RTA0EX

Transmitter: Handybox ID Registration

ZBRM01BEX

Transmitter: Pushbutton ID Registration

XAWGR•••EX
ZB•RTA0EX
Transmitter: Handybox ID Registration

ZBRM01EX

Rope Pull Switch: ID Registration

ZBRP1EX
Assembly, Disassembly, and Mounting Instructions

**ZB•RTA0EX and ZBRM01•EX Assembly**
To install transmitter and pushbutton, refer to Transmitter and Pushbutton Assembly *(see page 26)*.

**ZB•RTA0EX and ZBRM01•EX Disassembly**
To disassemble, refer to Transmitter and Pushbutton Disassembly *(see page 31)*.

**ZBRP1EX Mounting Instructions**
To mount a rope pull switch, refer to Mounting Data for Rope Pull Switch *(see page 33)*.
XAWGR•••EX Mounting Instructions

Button Box Assembly

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>F</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>mm</td>
<td>in</td>
<td>mm</td>
<td>in</td>
<td>mm</td>
<td>in</td>
</tr>
<tr>
<td>XAWGR100EX</td>
<td>146</td>
<td>5.75</td>
<td>85</td>
<td>3.35</td>
<td>70</td>
</tr>
<tr>
<td>XAWGR200EX</td>
<td>146</td>
<td>5.75</td>
<td>85</td>
<td>3.35</td>
<td>70</td>
</tr>
<tr>
<td>XAWGR300EX</td>
<td>226</td>
<td>8.90</td>
<td>85</td>
<td>3.35</td>
<td>70</td>
</tr>
</tbody>
</table>

Models: ZBRT1, ZBRTP enclosed in ZBRP1

FCC USA and I C Canada Compliance Statement

This device complies with part 15 of the FCC rules and Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

1) This device may not cause harmful interference.
2) This device must accept any interference received, including interference that may cause undesired operation of the device.

NOTE: Schneider Electric is not responsible for any radio or tv interference caused by unauthorized modifications to this equipment. Changes or modifications not expressly approved by Schneider Electric responsible for compliance could void the user’s authority to operate the equipment.

Le présent appareil est conforme aux CNR d’Industrie Canada applicables aux appareils radio exempts de licence. L’exploitation est autorisée aux deux conditions suivantes:

1) L’appareil ne doit pas produire de brouillage.
2) L’utilisateur de l’appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d’en compromettre le fonctionnement.
Section 5.2
Reception Products

Overview
This section describes the ATEX reception products.

What Is in This Section?
This section contains the following topics:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentation of ATEX Reception Components</td>
<td>82</td>
</tr>
<tr>
<td>ZBRA1DEX Mounting and Wiring Instructions</td>
<td>84</td>
</tr>
<tr>
<td>ZBRA1EX Mounting and Wiring Instructions</td>
<td>86</td>
</tr>
</tbody>
</table>
Presentation of ATEX Reception Components

ATEX Reception Components

⚠️ DANGER

HAZARD OF EXPLOSION
These devices must be installed, used, and maintained in accordance with:
- Standard EN60079-14 (Explosive atmospheres), part 14 (Electrical installations design, selection, and erection).
- Standard EN60079-17 (Explosive atmospheres), part 17 (Electrical installations design, selection, and erection).
- Standard EN60079-31 (Explosive atmospheres), part 31 (Equipment dust ignition protection by enclosure ‘t’).
- Standard NF C15 100 (Low voltage electrical installations) - European equivalent: IEC 60364.
- Regulations governing setup of the zone or zones for which the devices were designed.

Failure to follow these instructions will result in death or serious injury.

⚠️ WARNING

UNINTENDED EQUIPMENT OPERATION
- Do not use this equipment in safety critical and hoisting machine functions due to:
  - No permanent communication.
  - No acknowledge of the message from the receiver to the transmitters.
- Use appropriate safety interlocks where personnel and/or equipment hazards exist.
- Install and operate this equipment in an appropriately rated enclosure for its intended environment.

Failure to follow these instructions can result in death, serious injury, or equipment damage.
The following table describes the ATEX receiver component characteristics:

<table>
<thead>
<tr>
<th>Designation</th>
<th>Zone</th>
<th>Reference</th>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relay antenna in plastic protection</td>
<td>Dust Ex tb I I I C T85 ° C  Db IP65</td>
<td>ZBRA1DEX</td>
<td>1.000 kg (2.205 lb)</td>
</tr>
<tr>
<td>Relay antenna in glass protection</td>
<td>Gas Ex d I I C T6 Gb Dust Ex tb I I I C T85 ° C Db IP65</td>
<td>ZBRA1EX</td>
<td>3.100 kg (6.834 lb)</td>
</tr>
</tbody>
</table>

**NOTE:** The operating characteristics are same as non-ATEX products.
ZBRA1DEX Mounting and Wiring Instructions

Mounting and Wiring Instructions

**ZBRA1DEX**

1. [Image of a screwdriver and a mounting bracket]
2. [Image of a box with wiring connections]
3. [Image of a fan with wiring connections]
4. [Image of a connector with labels: N/0 V, 24...240 Vac/dc]
5. [Image of a bracket with dimensions]

---

Dimensions:
- milimeters: 106, 91, 90, 122, 82, 3.58, 3.54, 4.17, 4.80
- inches: 4.17, 3.58, 4.80

The text and images are not transcribed into natural text as requested.
**NOTE:** The cable gland must be tightened (Step 2 and 3).

**NOTE:** Schneider Electric recommends to use adapters instead of the cable gland to change the shape of conduit entries if needed.

(1): 500 mA fuse from supplier Bussman® reference GMA-500 mA, 250 V 0.5 A fast-blow.

**NOTE:** The fuse must be installed outside the ATEX area or protected by Ex protection mode.
ZBRA1EX Mounting and Wiring Instructions

Mounting and Wiring Instructions

1. The cable gland must be tightened (Step 2 and 3).

2. Schneider Electric recommends to use sealing fittings (with resin component) instead of the cable gland to restrict the passage of gases, vapors, or flames from one portion of the electrical installation to another at atmospheric pressure and normal ambient temperatures.
NOTE: Schneider Electric recommends to use adapters instead of the cable gland to change the shape of conduit entries if needed.

(1): 500 mA fuse from supplier Bussman® reference GMA-500 mA, 250 V 0.5 A fast-blow.

NOTE: The fuse must be installed outside the ATEX area or protected by Ex protection mode.

Models: ZBRT1, ZBRT1P enclosed in ZBRP1

FCC USA and I C Canada Compliance Statement

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2) L’utilisateur de l’appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d’en compromettre le fonctionnement.
### Functions of ATEX Components

#### List of Components

The following table shows the ATEX components and the functionally equivalent non-ATEX components.

<table>
<thead>
<tr>
<th>ATEX Reference</th>
<th>Non-ATEX Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZB5RTA0EX</td>
<td>ZBRT1</td>
</tr>
<tr>
<td>ZB4RTA0EX</td>
<td>ZBRT1</td>
</tr>
<tr>
<td>XAWGR100EX</td>
<td>ZBRT1</td>
</tr>
<tr>
<td>ATEX Reference</td>
<td>Non-ATEX Components</td>
</tr>
<tr>
<td>----------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>XAWGR200EX</td>
<td>ZBRT1</td>
</tr>
<tr>
<td>XAWGR300EX</td>
<td>ZBRT1</td>
</tr>
<tr>
<td>ZBRA1EX</td>
<td>ZBRA1</td>
</tr>
<tr>
<td>ATEX Reference</td>
<td>Non-ATEX Components</td>
</tr>
<tr>
<td>----------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>ZBRA1DEX</td>
<td>ZBRA1</td>
</tr>
<tr>
<td>ZBRM01EX</td>
<td>ZBRT1</td>
</tr>
<tr>
<td>ZBRM01BEX</td>
<td>ZBRT1</td>
</tr>
<tr>
<td>ATEX Reference</td>
<td>Non-ATEX Components</td>
</tr>
<tr>
<td>----------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>ZBRP1EX</td>
<td>ZBRT1</td>
</tr>
</tbody>
</table>