

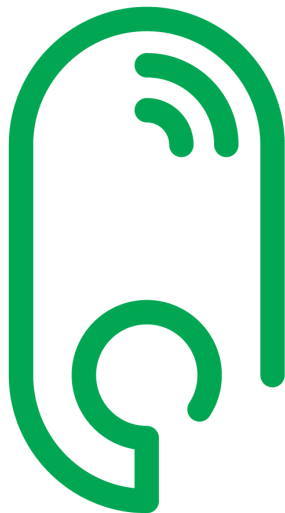
# Harmony eXLhoist Compact

## Wireless Remote Control System

### User Guide

(Original Document)

11/2017



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The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein. If you have any suggestions for improvements or amendments or have found errors in this publication, please notify us.

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All pertinent state, regional, and local safety regulations must be observed when installing and using this product. For reasons of safety and to help ensure compliance with documented system data, only the manufacturer should perform repairs to components.

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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## Important Information

### NOTICE

Read these instructions carefully, and look at the equipment to become familiar with the device before trying to install, operate, service, 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.

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# About the Book



## At a Glance

### Document Scope

This manual describes how to use the Wireless Remote Control System.

### Validity Note

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

Step	Action
1	Go to the Schneider Electric home page <a href="http://www.schneider-electric.com">www.schneider-electric.com</a> .
2	In the <b>Search</b> box type the reference of a product or the name of a product range. <ul style="list-style-type: none"><li>• Do not include blank spaces in the reference or product range.</li><li>• To get information on grouping similar modules, use asterisks (*).</li></ul>
3	If you entered a reference, go to the <b>Product Datasheets</b> search results and click on the reference that interests you. If you entered the name of a product range, go to the <b>Product Ranges</b> search results and click on the product range that interests you.
4	If more than one reference appears in the <b>Products</b> 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 <b>Download XXX product datasheet</b> .

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

Title of Documentation	Reference Number
Instruction Sheet of eXLhoist Compact	<a href="#">PHA17916</a>
Instruction Sheet of Multi charger ZARC701	<a href="#">PHA17917</a>
Instruction Sheet of Li-Ion Rechargeable battery and Battery Table Charger ZARC702	<a href="#">PHA17918</a>
Instruction Sheet of Battery Table Charger ZARC703	<a href="#">PHA17920</a>
Instruction Sheet of Battery pack ZARC704	<a href="#">PHA17921</a>
Instruction Sheet of Pushbuttons front cover ZARC705	<a href="#">PHA17922</a>
Instruction Sheet of Rubber protection cover ZARC706	<a href="#">PHA17926</a>
Instruction Sheet of Transmitter hanging belt ZARC707	<a href="#">PHA17928</a>

You can download these technical publications and other technical information from our website at <https://www.schneider-electric.com/en/download>

## Product Related Information

### DANGER

#### HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Disconnect all power from all equipment including connected devices prior to removing any covers or doors, or installing or removing any accessories, hardware, cables, connectors or wires except under the specific conditions specified in this user guide.
- Always use a properly rated voltage sensing device to confirm that the power is off.
- Unplug the power cable from both the equipment and the power supply.
- Replace and secure all covers, accessories, hardware, cables, and wires and confirm that a proper ground connection exists before applying power to the 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.**

### WARNING

#### UNINTENDED EQUIPMENT OPERATION

- Do not open the transmitter.
- Do not replace internal parts of the receiver.
- After a receiver power off, wait around 20 seconds before removing the cover of the receiver.
- Always comply with the local requirements regarding installation and use of the hoisting devices or other systems.

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

## Battery Warning Notes

Carefully read all instructions in this user guide, and look at the equipment to become familiar with the device before trying to install, operate, or maintain it.

For more information, contact us at [www.schneider-electric.com](http://www.schneider-electric.com) or contact your local reseller.

### WARNING

#### EXPLOSION, FIRE, OR CHEMICAL HAZARD

- Electric devices that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility in accordance with national law.
- In case of electrolyte leak from battery, use adapted safety equipment and put the device in a sealed package.
- If you come into contact with electrolyte, immediately thoroughly wash the involved parts with clear water and call medical assistance.
- Do not incinerate the device.
- Do not drop or hit the device.
- Do not use a damaged device.

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



---

# Chapter 1

## Description and Part Identification

---

### What Is in This Chapter?

This chapter contains the following topics:

Topic	Page
Wireless Remote Control System Overview	10
Receiver Parts Identification	11
Transmitter Parts Identification	13
Accessories	15

## Wireless Remote Control System Overview

### Overview

The Harmony™ eXLhoist Compact range of wireless remote control systems is an operator control station used in hoisting and material handling applications.

The Wireless Remote Control System is based on 2 types of devices:

- Transmitter, which is the operator command device to interface with the machine.
- Receiver, which is hardwired to the machine. It receives control commands from the Transmitter.

Receiver:

References	ZARB10WS	ZARB10WSP
Connectors	Cable gland for wires	Cable gland for wires Pre-wired with 1.5 m (59 in) of cable
Nb. of stop relays	2	
Nb. of relays	10	

Transmitter:

Features	ZART8LS
Number of buttons	8 x 2-step buttons
Operator interface	5 LEDs
Nb. of axes	Up to 3

The Wireless Remote Control System is a combination of these devices which communicate by radio transmission.

### Radio Communication

Each Transmitter have a unique Replace ID indicated on the label of the device.

### Main Applications

Main applications modes are available:

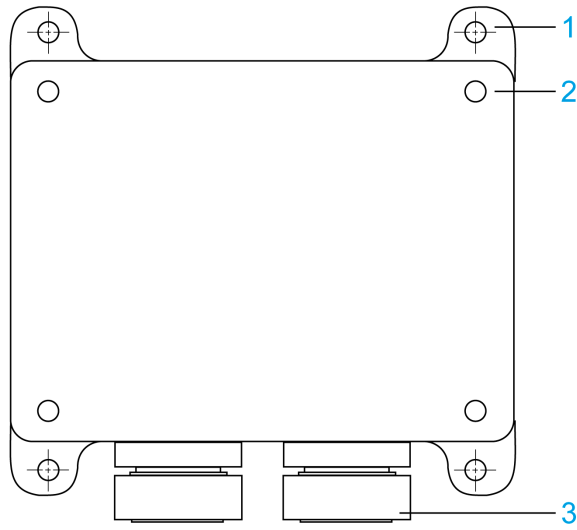
- Single mode = one Transmitter commands one Receiver.
- Multi-transmitter Control (MTC) = several Transmitter alternatively commands one Receiver.
- Multi-Receiver Control (MRC) = one Transmitter commands several Receivers simultaneously.

For more information, refer to Main application description ([see page 38](#)).

## Receiver Parts Identification

### Receiver External Parts Identification

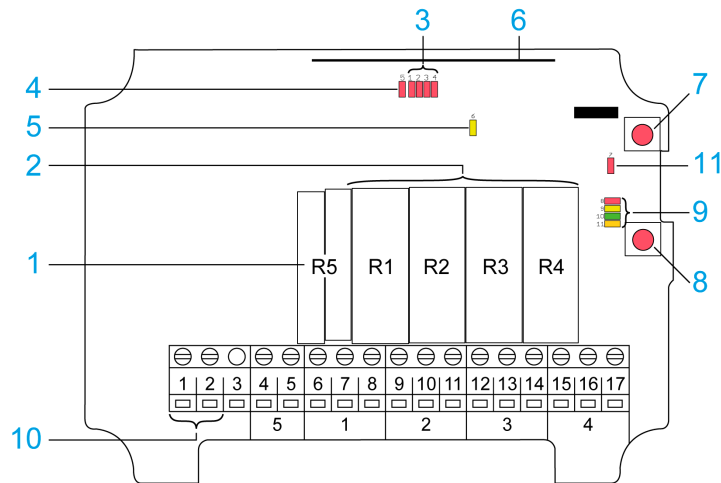
ZARB10WS/ZARB10WSP:



Part	Description
1	4 x $\varnothing 5$ (0.20 in) holes for standard mounting on support
2	4 x screws to maintain the cover of the Receiver
3	2 x cable glands for cables diameter 6...13 mm (0.25...0.50 in)

### Receiver Internal Board Parts Identification

The Receiver has an internal board:



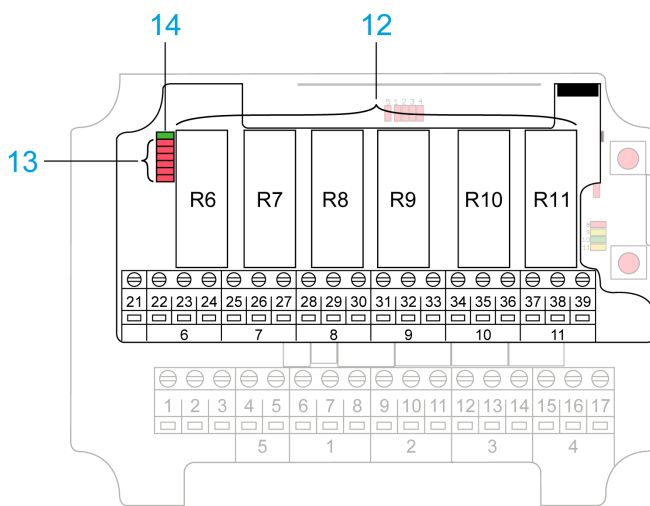
Part	Description
1	Stop relays
2	Relays R1...R4
3	Relay LEDs (red)
4	Stop relay LED (red)
5	Power LED (yellow)
6	Radio module

Part	Description
7	Function button (cancel)
8	Select button (OK)
9	Function LEDs (8 = red, 9 = yellow, 10 = green, 11 = orange) For more details, refer to Function LED description ( <i>see page 61</i> ).
10	Terminal block for input power
11	PLd (Performance Level d) status LED

For more information, refer to ZARB10WS• diagnostic (*see page 61*).

### Receiver Expansion Board Parts Identification

The Receiver has an expansion board:



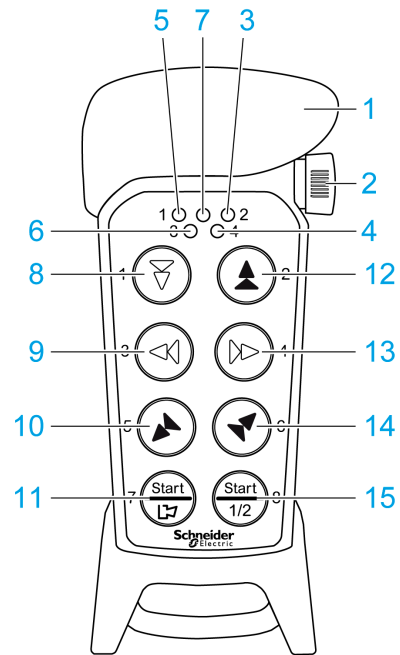
Part	Description
12	Relays R6...R11
13	Relay LEDs (red)
14	Communication LED (green)

For more information, refer to ZARB10WS• diagnostic (*see page 61*).

## Transmitter Parts Identification

### Transmitter Front View Parts Identification

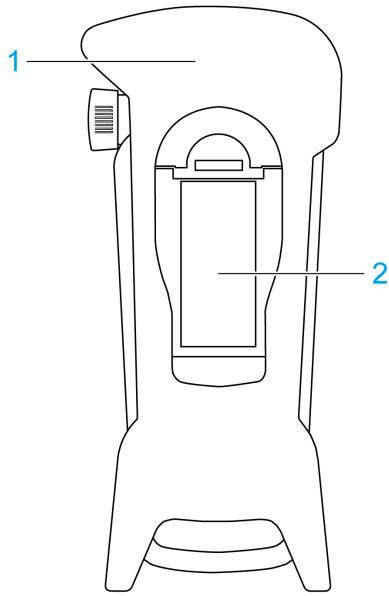
ZART8LS



Part	Description
1	Rubber cover
2	Stop button
3	LED 2 (red)
4	LED 4 (red)
5	LED 1 (red)
6	LED 3 (red)
7	Top LED (red, green)
8	Button 1
9	Button 3
10	Button 5
11	Button 7 – left start button
12	Button 2
13	Button 4
14	Button 6
15	Button 8 – right start button

### Transmitter Rear View Parts Identification

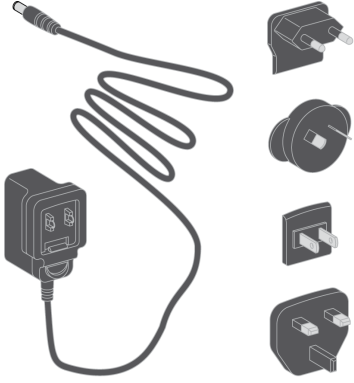
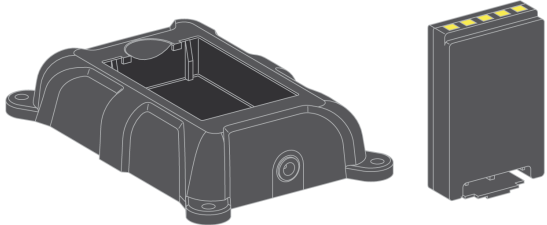
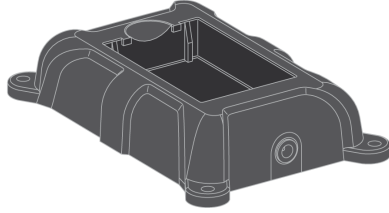


ZART8LS:

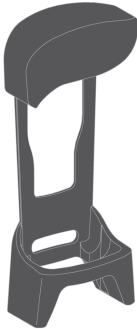
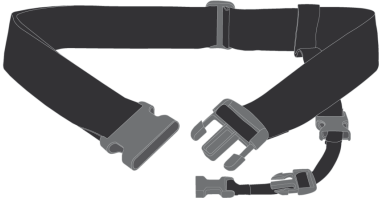


Part	Description
1	Rubber protection cover
2	Battery pack

## Accessories

### Transmitter Accessories

Device	Reference	Description
	ZARC701	Multi charger power supply (6 W) 5 Vdc / 1.2 A Only for ZARC702 Li-Ion rechargeable battery
	ZARC702	Li-Ion Rechargeable battery with battery table charger
	ZARC703	Battery Table Charger Only for ZARC702 Li-Ion rechargeable battery
	ZARC704	Battery pack for 3xAAA (batteries not included)
	ZARC705	Pushbuttons front cover

Device	Reference	Description
	ZARC706	Rubber protection cover
	ZARC707	Transmitter hanging belt



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# Chapter 2

## Specifications

---

### What Is in This Chapter?

This chapter contains the following sections:

Section	Topic	Page
2.1	Specifications	18
2.2	Dimensions	22

# Section 2.1

## Specifications

---

### What Is in This Section?

This section contains the following topics:

Topic	Page
Receiver Specifications	19
Transmitter Specifications	21

## Receiver Specifications

### Environment

The receiver specifications are described in the table:

Specifications	Value
Number of stop relays	2, potential free <sup>(1)</sup>
Stop relays maximum resistive load	6 A, 250 Vac
Stop relays maximum inductive load	2 A, 250 Vac
Number of relays	10, potential free <sup>(1)</sup> , 10 A resistive load, 250 Vac
Input power	48...230 Vac
Digital inputs	0
Radio communication	Simplex
Maximum number of registered transmitters	8
Dimensions	120 x 117 x 51 mm (4.7 x 4.6 x 2 in)
Weight	400 g (0.8 lbs)
Operating temperature	-20...55 °C (-4...130 °F)
Radio frequency band	2405...2480 MHz
Number of radio frequency channels	16 (channel 11...26) <sup>(2)</sup>
Antenna	Internal antenna
Degree of protection	IP66
<p>(1) Potential free means that a supply voltage is needed to get voltage out of a relay.            (2) To know what is the radio frequency channel on your system, refer to the Indicate Radio Frequency Channel procedure (<i>see page 51</i>).</p>	

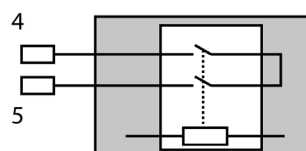
**NOTE:** When the equipment controlled by the standard relays of the receiver is connected via the stop relays, make sure that the maximum current through the stop relays is still within the specification.

### STOP Relays

The stop relays specifications are described in the table:

Specifications (Resistive load)	Value	
	AC	DC
Contact rating	6 A 250 Vac	6 A 30 Vdc
Maximum switching voltage	400 Vac	125 Vdc
Maximum switching current	6 A	6 A
Maximum switching power	1500 VA	180 W
Electrical endurance	1 A: 6 x 10 <sup>4</sup> cycles (at 85 °C / 185 °F)	
	1 C: (NO) 3 x 10 <sup>4</sup> cycles (at 85 °C / 185 °F)	

#### Safety relays internal wiring:



## Motion/Auxiliary Relays

The motion/auxiliary relays specifications are described in the table:

Specifications (Resistive load)	Value	
	AC	DC
Contact resistance	100 mΩ maximum (at 1 A and 6 Vdc)	
Contact rating	10 A 250 Vac	10 A 30 Vdc
Maximum switching voltage	400 Vac	125 Vdc
Maximum switching current	10 A	10 A
Maximum switching power	2500 VA	300 W
Mechanical endurance	1 x 10 <sup>7</sup> cycles	
Electrical endurance	1 x 10 <sup>5</sup> cycles	

## Current Consumption

Input power	Minimum <sup>(1)</sup>	Maximum <sup>(2)</sup>
48 Vac	10 mA	90 mA
115 Vac	5 mA	30 mA
230 Vac	3 mA	20 mA
(1) Minimum current consumption = Receiver powered, no active relays, no radio session established. (2) Maximum current consumption = Receiver powered, all relays on the receiver active, radio session established.		

## Response Time

Input/Output	Maximum response time (ms)
STOP	500
Motion/Auxiliary	500

## Transmitter Specifications

### Environment

Specification	Value
Number of buttons	8 x 2-step buttons
Battery	3 x 1.5 Vdc AAA / LR03 in battery pack ZARC704
Radio communication	Simplex
Dimensions	85 x 193 x 43 mm / 3.4 x 7.7 x 1.7 in
Weight	300 g / 0.7 lbs
Radio Frequency band	2405...2480 MHz
Number of radio frequency channels	16 (channel 11...26) <sup>(1)</sup>
Operating time (continuous usage)	Approximately 100 h. with alkaline
Degree of protection	IP65
Operating temperature	-20...55 °C (-4...130 °F)
<b>(1)</b> To know what is the radio frequency channel on your system, refer to the Indicate Radio Frequency Channel procedure ( <i>see page 51</i> ).	

Radio Frequency band:

Channel	Frequency	Channel	Frequency
11	2405 MHz	19	2445 MHz
12	2410 MHz	20	2450 MHz
13	2415 MHz	21	2455 MHz
14	2420 MHz	22	2460 MHz
15	2425 MHz	23	2465 MHz
16	2430 MHz	24	2470 MHz
17	2435 MHz	25	2475 MHz
18	2440 MHz	26	2480 MHz

## Section 2.2

### Dimensions

---

#### What Is in This Section?

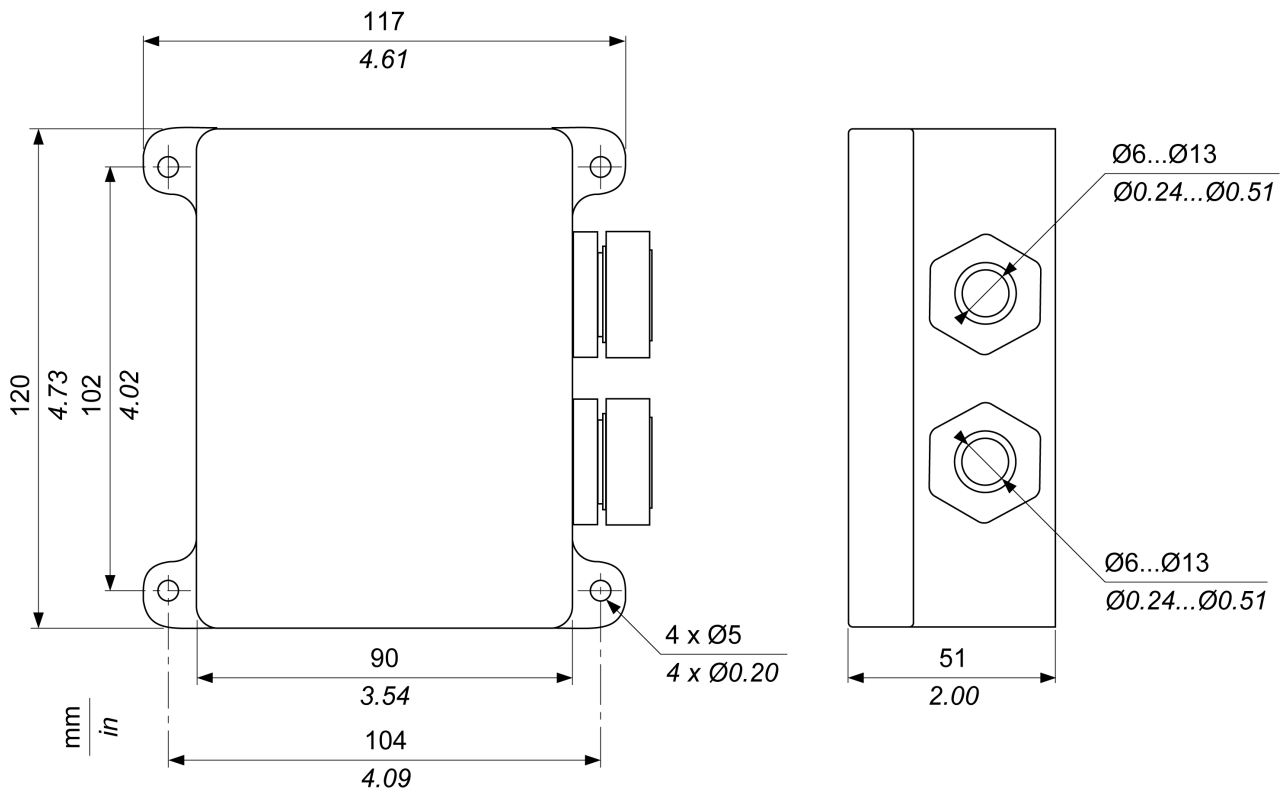
This section contains the following topics:

Topic	Page
Receiver Dimensions	23
Transmitter Dimensions	23

## Receiver Dimensions

### Dimensions

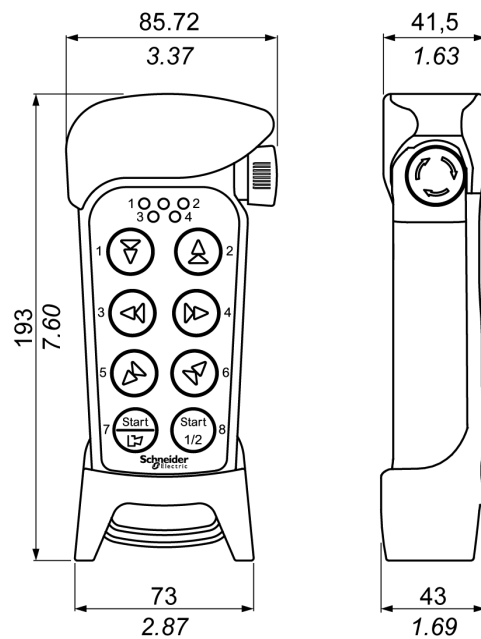
The following figure shows the receiver dimensions:



## Transmitter Dimensions

### Dimensions

The following figure shows the transmitter dimensions:







---

# Chapter 3

## Installation and Wiring

---

### What Is in This Chapter?

This chapter contains the following topics:

Topic	Page
Receiver Installation Precaution	26
Receiver Wiring	28
Wiring Best Practices	32

## Receiver Installation Precaution

### Installation Precaution

Receiver location:

The receiver must be installed vertically, on a flat and rigid surface, with the cable at the bottom.

Consider the wiring limitation and the radio communication limitation to choose the receiver location.

Do not create obstacle between the receiver and the transmitter to optimize the radio communication level.

The receiver must not be installed inside closed metal containers.

To prevent communication perturbation:

- Do not place cables or metallic parts in front of the receiver cover.
- Do not place obstacles between the receiver and the transmitter.
- It is recommended to identify the devices with radio communication in the environment and to use only certified products.

According to IEC 61010-1, it is recommended to install the power switch of the receiver close to the receiver.

To be compliant with IEC 61508, EN 62061 and EN ISO 13849, cable ends must be used for the output wiring of the ZARB10WS•.

### DANGER

#### HEAVY LOAD MOVING HAZARD

The working range must be free of people when the hoisting system is operating.

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

### WARNING

#### UNINTENDED EQUIPMENT OPERATION

Install and operate this equipment according to the environmental conditions described in the operating limits.

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

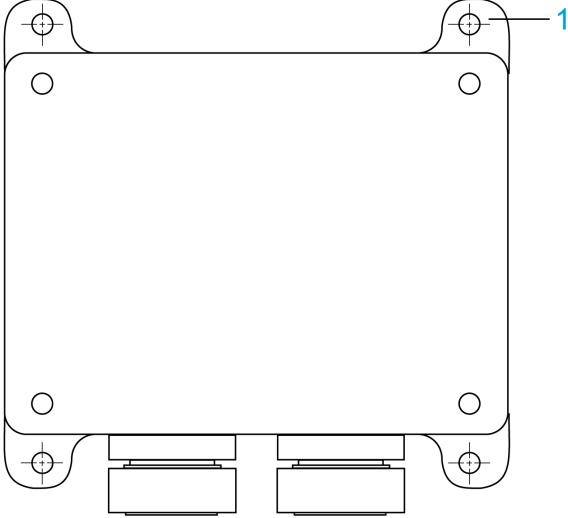
### WARNING

#### UNINTENDED EQUIPMENT OPERATION

- Use appropriate safety interlocks where personnel and/or equipment hazards exist.
- Use the actuator power supplies only for supplying power to the actuators connected to the device.
- Power line must be wired and protected with fuse or thermal magnetic switch (ex: Schneider-Electric GV2) in compliance with local and national regulatory requirements for the rated current and voltage of the particular equipment.
- Test the functions at each commissioning.
- Do not disassemble, repair, or modify this equipment.
- Do not drill hole in the receiver.

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

## Installation

Step	Action
1	<p data-bbox="491 286 1107 315">Introduce 4 mounting screws in the <math>\varnothing 5</math> (0.20 in) holes (legend 1):</p>  <p>The diagram shows a rectangular mounting plate with rounded corners. It has four circular holes, one in each corner. Four screws are shown being inserted into these holes. A blue number '1' with a line pointing to the top-right hole indicates the location for the screws. Below the plate, two rectangular components are shown, which are likely the devices being mounted.</p>
2	<p data-bbox="491 900 1358 952">Screw the 4 mounting M4 screws. Engage at least 6 mm (0.23 in) of the thread in mounting plate.</p>

## Receiver Wiring

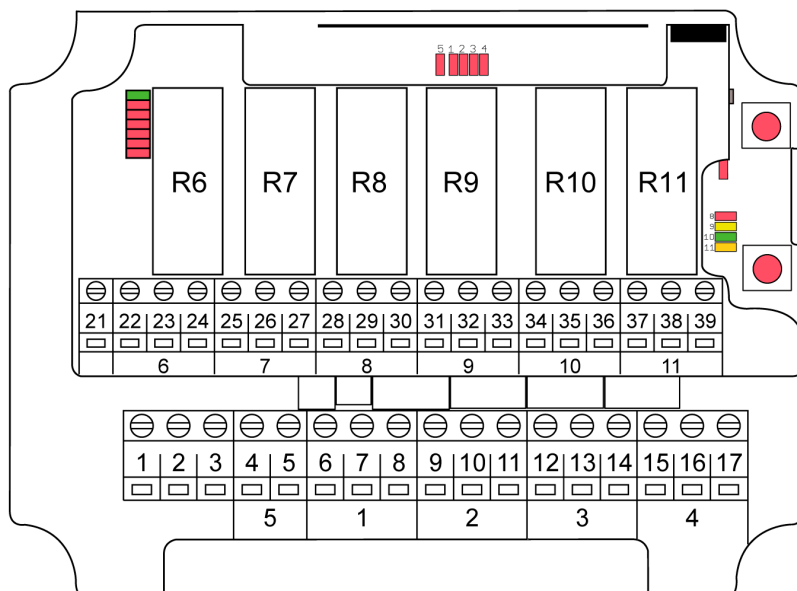
### ZARB10WS

ZARB10WS receiver is delivered without cable. You must wire to the terminals.

Wiring procedure:

Step	Action
1	Unscrew the 4 screws at the front of the receiver.
2	Remove the cover.
3	Introduce the cable through the dedicated cable gland.
4	Connect the wires in the dedicated terminals. Use, if necessary, cable ends.
5	Tight the cable gland.
6	Install the receiver cover.
7	Screw the 4 screws to fasten the receiver cover.

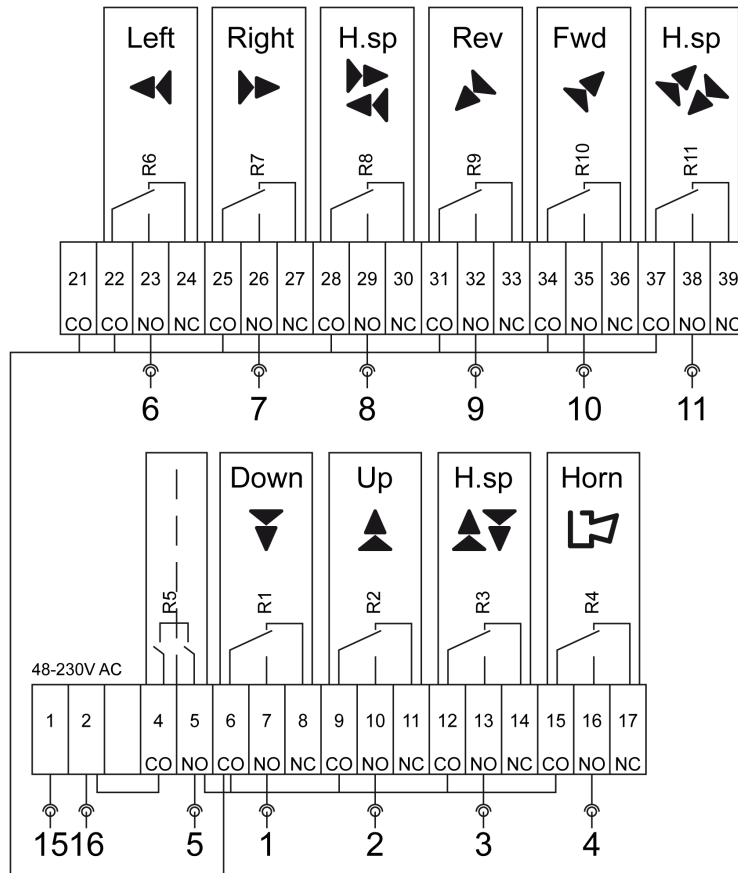
ZARB10WS• terminals:



For more details, refer to installation wiring table ([see page 30](#)).

ZARB10WSP Wiring

ZARB10WSP receiver is delivered pre-wired with 1.5 m (59 in) cable.



For more details, refer to installation wiring table ([see page 30](#)).

**Installation Wiring**

Base board			Expansion board				
Signal	ZARB10WS Pin nb.	ZARB10WSP Cable no.	Signal	ZARB10WS Pin nb.	ZARB10WSP Cable no.		
Power Supply	1	15	Common	21	-		
Power Supply	2	16	Relay R6	Common	22	-	
Not connected	3	-		Output (NO type)	23	6	
Stop relay R5	Common	4	-	Output (NC type)	24	-	
	Output (NO type)	5	5	Relay R7	Common	25	-
Relay R1	Common	6	-		Output (NO type)	26	7
	Output (NO type)	7	1		Output (NC type)	27	-
	Output (NC type)	8	-	Relay R8	Common	28	-
Relay R2	Common	9	-		Output (NO type)	29	8
	Output (NO type)	10	2		Output (NC type)	30	-
	Output (NC type)	11	-	Relay R9	Common	31	-
Relay R3	Common	12	-		Output (NO type)	32	9
	Output (NO type)	13	3		Output (NC type)	33	-
	Output (NC type)	14	-	Relay R10	Common	34	-
Relay R4	Common	15	-		Output (NO type)	35	10
	Output (NO type)	16	4		Output (NC type)	36	-
	Output (NC type)	17	-	Relay R11	Common	37	-
			Output (NO type)		38	11	
			Output (NC type)		39	-	

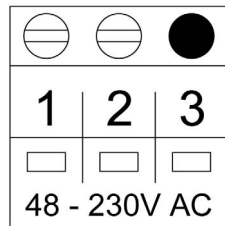
**NOTE:** The cables 12, 13, and 14 are not connected in the receiver.

**Motion/Auxiliary Relays**

⚠ WARNING
UNINTENDED EQUIPMENT OPERATION
Power line must be wired and protected with fuse or thermal magnetic switch (ex: Schneider Electric GV2) in compliance with local and national regulatory requirements for the rated current and voltage of the particular equipment.
<b>Failure to follow these instructions can result in death, serious injury, or equipment damage.</b>

## Power Supply

ZARB10WS power supply terminal:



### ***NOTICE***

#### **INOPERABLE EQUIPMENT**

The ZARB10WS• receiver must be powered with a voltage:

- The power source to the receiver must fulfill the definition of LPS (Limited Power Source) according to EN 60950-1. The maximum available output power should be either 240 VA (fuse protected) or 100 VA (without fuse).
- The ZARB10WS• receiver must be powered with a voltage from 48 Vac to 240 Vac with frequency of 50 Hz and 60 Hz.

**Failure to follow these instructions can result in equipment damage.**

## General Wiring Rules

The power supply cables should be cross-sectional conductor area = 1 mm<sup>2</sup> (AWG 16).

The output cables should be cross-sectional conductor area = 1 mm<sup>2</sup> (AWG 16).

The power supply cable lengths should not exceed 50 m (164 ft).


The recommended cable diameter in the cable gland is 6...13 mm (0.25...0.50 in).


For more details, refer to Wiring Best Practices (*see page 32*).

## Wiring Best Practices

### Overview

This section describes the wiring guidelines and associated best practices to be respected when using the system.

 <b>DANGER</b>
<b>HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH</b>
<ul style="list-style-type: none"><li>• Disconnect all power from all equipment including connected devices prior to removing any covers or doors, or installing or removing any accessories, hardware, cables, or wires except under the specific conditions specified in the appropriate hardware guide for this equipment.</li><li>• Always use a properly rated voltage sensing device to confirm that the power is off where and when indicated.</li><li>• Replace and secure all covers, accessories, hardware, cables, and wires and confirm that a proper ground connection exists before applying power to the unit.</li><li>• Use only the specified voltage when operating this equipment and any associated products.</li></ul>
<b>Failure to follow these instructions will result in death or serious injury.</b>


 <b>WARNING</b>
<b>LOSS OF CONTROL</b>
<ul style="list-style-type: none"><li>• The designer of any control wiring diagram must consider the potential failure modes of control paths and, for certain critical control functions, provide a means to achieve a safe state during and after a path failure. Examples of critical control functions are emergency stop and overtravel stop, power outage and restart.</li><li>• Separate or redundant control paths must be provided for critical control functions.</li><li>• System control paths may include communication links. Consideration must be given to the implications of unanticipated transmission delays or failures of the link.</li><li>• Observe all accident prevention regulations and local safety guidelines.<sup>1</sup></li><li>• Each implementation of this equipment must be individually and thoroughly tested for proper operation before being placed into service.</li></ul>
<b>Failure to follow these instructions can result in death, serious injury, or equipment damage.</b>

<sup>1</sup> For additional information, refer to NEMA ICS 1.1 (latest edition), "Safety Guidelines for the Application, Installation, and Maintenance of Solid State Control" and to NEMA ICS 7.1 (latest edition), "Safety Standards for Construction and Guide for Selection, Installation, and Operation of Adjustable-Speed Drive Systems" or their equivalent governing your particular location.

### Wiring Guidelines

The following rules must be applied when wiring the system:

- I/O wiring must be kept separate from the power wiring. Route these 2 types of wiring in separate cable ducting.
- Verify that the operating conditions and environment are within the specification values.
- Use proper wire sizes to meet voltage and current requirements.
- Use copper conductors (highly recommended).
- Use twisted pair, shielded cables.

 <b>WARNING</b>
<b>UNINTENDED EQUIPMENT OPERATION</b>
<ul style="list-style-type: none"><li>• Use shielded cables wherever specified for inputs and outputs connections.</li><li>• Properly ground the cable shields as indicated in the related documentation.</li><li>• Route I/O cables separately from power cables.</li></ul>
<b>Failure to follow these instructions can result in death, serious injury, or equipment damage.</b>



## ⚠ WARNING

### UNINTENDED EQUIPMENT OPERATION

Power line must be wired and protected with fuse or thermal magnetic switch (ex: Schneider Electric GV2) in compliance with local and national regulatory requirements for the rated current and voltage of the particular equipment.

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

### Rules for Screw Terminal Block

The following tables show the cable types and wire sizes for a 5.08 mm (0.19 in) pitch screw terminal block:

mm in.								
7 0.28								
mm <sup>2</sup>	0.2...2.5	0.2...2.5	0.25...2.5	0.25...2.5	2 x 0.2...1	2 x 0.2...1.5	2 x 0.25...1	2 x 0.5...1.5
AWG	24...14	24...14	23...14	23...14	2 x 24...17	2 x 24...16	2 x 23...17	2 x 20...16
 Ø 3,5 mm (0.14 in.)		 C		N•m    0.5...0.6 lb-in    4.42...5.31				

The use of copper conductors is required.

The use of cable ends is required.

## ⚠ DANGER

### FIRE HAZARD

Use only the recommended wire sizes for I/O channels and power supplies.

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

## *NOTICE*

### INOPERABLE EQUIPMENT

Do not tighten screw terminals beyond the specified maximum torque (Nm / lb-in.).

**Failure to follow these instructions can result in equipment damage.**



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# Chapter 4

## Using The Wireless Remote Control System

---

### What Is in This Chapter?

This chapter contains the following sections:

Section	Topic	Page
4.1	Overview	36
4.2	Functional Description	42
4.3	Configuration	48
4.4	Transmitter Charge	55

# Section 4.1

## Overview

---

### What Is in This Section?

This section contains the following topics:

Topic	Page
Register and Pairing/Unpairing	37
Main Application	38
Operating Mode	41

## Register and Pairing/Unpairing

### Overview

This part describes how to make the system (transmitter + receiver) operational:

- The transmitter must be registered in the receiver.
- The transmitter must be paired with the receiver.

### Register

Registering means storing the replace ID of the transmitter in the receiver.

Up to 8 transmitters can be registered in the receiver, but only one transmitter can be paired at a time. This functionality ables you to command 1 receiver with several transmitters alternatively.

### Pairing/Unpairing

Pairing means establishing communication between the transmitter and the receiver.

To be paired, the transmitter must be registered to the receiver first.

Only one transmitter can be paired to a receiver at a time.

If a transmitter is paired with the receiver, you must unpair it before pairing a new one.

If no transmitter is paired with the receiver, a registered transmitter automatically pairs when you start it.

The transmitter stays paired until you unpair it.

To unpair a transmitter, you can:

- Quick unpairs the transmitter (*see page 45*)
- Unpair the transmitter via the menu (*see page 54*)
- Unpair the transmitter in the receiver (*see page 45*)
- Erase all the transmitters in the receiver (*see page 45*)

**NOTE:** When a transmitter is powered-off, it stays paired with the receiver.

## Main Application

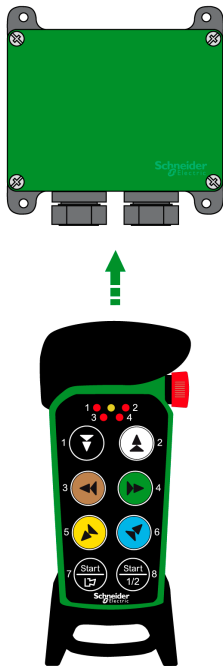
### Overview

This part describes main applications modes:

- Single mode = one transmitter commands one receiver.
- Multi Transmitter Control = several transmitters alternatively commands one receiver.
- Multi Receiver Control = one transmitter commands several receivers simultaneously.

### Single Mode

Single mode = one transmitter commands one receiver.

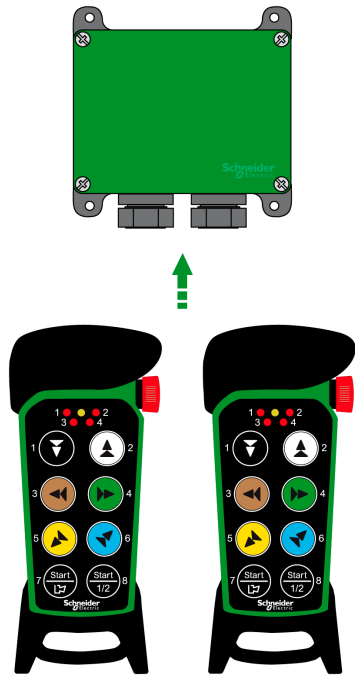


For commissioning, you have to:

- Register the transmitter in the receiver (*see page 43*).
- Start the transmitter (*see page 43*).

## Multi Transmitter Control

Multi Transmitter Control = several transmitters alternatively commands one receiver:



For commissioning, you have to:

- Register the first transmitter in the receiver (*see page 43*).
- Register the second transmitter in the receiver (*see page 43*)

The receiver can be controlled by only one transmitter at a time.

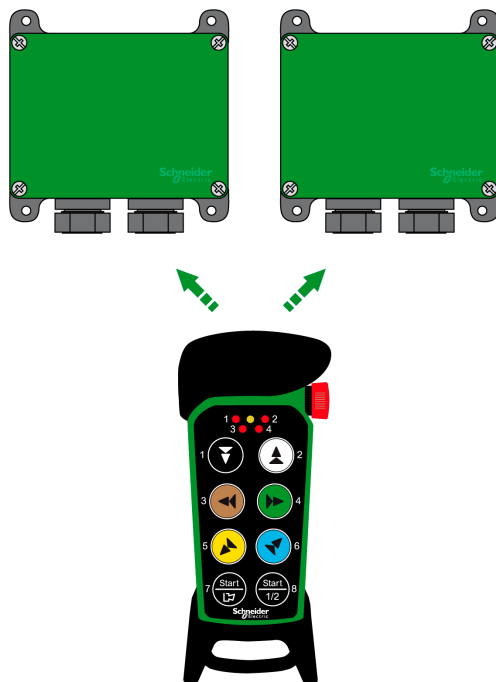
To control the receiver with the first transmitter, start the first transmitter to pair it with the receiver.

To control the receiver with the second transmitter:

- Quick unpair the first transmitter (*see page 45*).
- Start the second transmitter. (*see page 43*)

### Multi Receiver Control

Multi Receiver Control = one transmitter commands several receivers simultaneously:



For more details, contact your local reseller.

## **⚠ WARNING**

### **UNINTENDED EQUIPMENT OPERATION**

Following all applicable directives and standards such as EN15011, the configuration Multi receiver control must not be used for hoisting application.

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



## Operating Mode

### Overview

The transmitter buttons command associated receiver relays.

### Steps of the Buttons

Each button has two steps:



### Operating Mode

Buttons/relays association:

Button		Relay	Transmitter	Button		Relay
No.	Step			No.	Step	
1	1	1		2	1	2
	2	1+3			2	2+3
3	1	6		4	1	7
	2	6+8			2	7+8
5	1	9		6	1	10
	2	9+11			2	10+11
7	1	4		8	1	-
	2	4			2	-

On relays	Relay 5 is active when the radio link is up
Programmable relay functions	Relay 4 can be set to latching ( <i>see page 49</i> )
Interlocking	Between button pairs: 1-2, 3-4, 5-6
Radio mode	Continuous
Zero position check	Active for all functions

For more details about relays, refer to the installation wiring description table (*see page 30*).

## Section 4.2

### Functional Description

---

#### What Is in This Section?

This section contains the following topics:

Topic	Page
Register the Transmitter in the Receiver	43
Start the Transmitter	43
Switch the Transmitter Off	44
Unpairing	45
Replace a Transmitter	46
Erase All Transmitters from the Receiver	47

## Register the Transmitter in the Receiver

### Register the Transmitter in the Receiver

#### WARNING

##### UNINTENDED EQUIPMENT OPERATION

Only keep the transmitters that you intend to use registered in the receivers.

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

For more details, refer to section Register (*see page 37*).

Steps to register the transmitter in the receiver:

Step	Action	Comment
1	Check that the stop button is pressed.	-
2	Twist and pull out the stop button.	The top LED lights: <ul style="list-style-type: none"> <li>● Green when the battery capacity is good</li> <li>● Red when the battery capacity is poor</li> </ul> LEDs 3 and 4 flash (red).
3	Press transmitter buttons 7 and 8 simultaneously for at least 1 second.	LEDs 3 and 4 light (red).
4	Release buttons 7 and 8.	LEDs 3 and 4 go out. The top LED flashes (green).
5	Press the receiver Function button.	The function LED lights (red).
6	Press the receiver Select button.	All relay LEDs light (red).
7	Press and keep pressed transmitter buttons 1 and 2.	All relay LEDs light (red). All relay LEDs flash 2 times (red).
8	Release buttons 1 and 2.	All relay LEDs flash 1 time (red). The transmitter is registered.

If no transmitter is found within approximately 10 seconds, the receiver exits to normal operation.

## Start the Transmitter

### Start the Transmitter

When starting the transmitter, it automatically pairs with receivers if:

- The transmitter is paired to receiver
- No other transmitter is already paired to receiver

If the transmitter was not unpaired after the last session, it remains paired when starting a new session.

Steps to start the transmitter:

Step	Action	Comment
1	Make sure that the stop button is pressed.	-
2	Twist and pull out the stop button.	The top LED lights: <ul style="list-style-type: none"> <li>● Green when the battery capacity is good,</li> <li>● Red when the battery capacity is poor</li> </ul> LEDs 3 and 4 flash (red). The transmitter is powered-on.
3	Press buttons 7 and 8 at the same time for at least 1 second.	LEDs 3 and 4 light (red).
4	Release buttons 7 and 8.	LEDs 3 and 4 go out. The top LED flashes (green). The transmitter is paired.

## Switch the Transmitter Off

### Switch the Transmitter Off

Steps to switch the transmitter Off:

Step	Action	Comment
1	Press the stop button	All relays of the paired receivers go off

**NOTE:** When the transmitter is switched off, it remains paired to receivers. For more details on how to unpair, refer to the section Unpairing ([see page 54](#)).

## Unpairing

### Overview

Unpairing means stopping the communication between the transmitter and the receiver. For more details, refer to the section Pairing/Unpairing (*see page 37*).

### Quick Unpairing

**NOTE:** Quick Unpairing can only be performed when the transmitter is on and the radio link is up. The Quick Unpairing procedure unpairs the transmitter from all receivers that are part of the radio session.

Steps to proceed a Quick Unpairing:

Step	Action	Comment
1	Press and keep pressed button 7.	-
2	Press the stop button.	The top LED lights (red). The transmitter takes approximately 3 seconds to unpair. The transmitter switches off.

### Unpairing from Receiver

Steps to unpair from receiver:

Step	Action	Comment
1	Press the receiver Select button.	LED 10 lights (green).
2	Keep pressed for more than 4 seconds.	LED 10 goes off. The transmitter is unpaired.

This Unpairing function is used when a lost or damaged transmitter must be unpaired from the receiver.

## Replace a Transmitter

### Replace a Transmitter

A registered transmitter can be replaced by another transmitter without need to have access to the receiver.

Use the new transmitter that replaces the old one to perform the following instruction.

The replacement transmitter controls all receivers it has been registered in if no other transmitter is paired with.

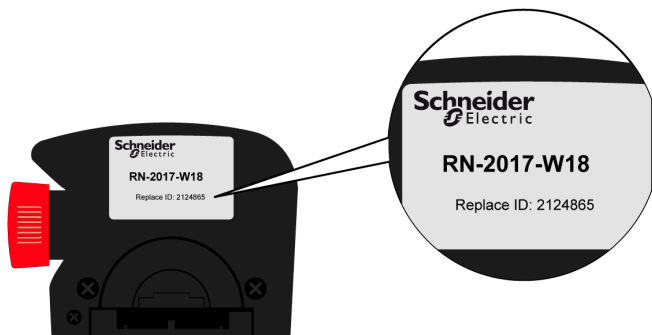
<b>⚠ WARNING</b>
<b>UNINTENDED EQUIPMENT OPERATION</b>
Before replacing a damaged or missing transmitter with a new one, you must verify that the transmitter used as replacement is not registered in any other receiver. If necessary, erase the transmitter from other receivers before performing the replacement procedure.
<b>Failure to follow these instructions can result in death, serious injury, or equipment damage.</b>

Steps to replace a transmitter:

Step	Action	Comment
1	Make sure that the stop button is pressed.	-
2	Press and keep pressed button 8.	-
3	Twist and pull out the stop button.	-
4	Release button 8.	The top LED flashes (green).
5	Within 1 minute of pulling out the stop button: Enter the code: 1-2-3-4 (press buttons 1, 2, 3, 4).	LEDs 1...4 light up (red). If the code is invalid, the transmitter switches off. When the code is accepted, the top LED flashes (green). LEDs 1...4 flash (red).
6	Within 1 minute of entering the code: Press button 3.	The top LED lights (green). LED 2 flashes (red).
7	Enter the Replace ID of the transmitter being replaced: Press the transmitter buttons corresponding to the digits of the Replace ID. <b>NOTE:</b> When entering the last digit of the Replace ID, keep that button pressed.	LED 3 lights (red) when one or more digits have been entered.
8	Press the stop button. Release the last digit of the Replace ID button.	After approximately 10 seconds, the transmitter switches off.

If the replace procedure does not finish successfully, press the stop button and start again.

Remove the rubber cover: the Replace ID label is placed on the back of the transmitter:



## Erase All Transmitters from the Receiver

### Erase All Transmitters from the Receiver

An erased transmitter cannot be paired to the receiver until it has been registered in the receiver again.

Steps to erase all transmitters from the receiver:

Step	Action	Comment
1	Press the receiver Function button.	The function LED lights (red).
2	Press the receiver Select button. Keep pressed at least 4 seconds.	All relay LEDs light (red). All relay LEDs go out.
3	Release the receiver Select button.	All transmitters are erased from the receiver.

If the function LED flashes (red), one or more transmitters are still registered in the receiver.

## Section 4.3 Configuration

---

### What Is in This Section?

This section contains the following topics:

Topic	Page
Momentary or Latching Relay Functions	49
Enter Menu Mode	50
Indicate Radio Frequency Channel	51
Switch Radio Frequency Channel	52
Automatic Shutdown	53
Unpairing	54



## Momentary or Latching Relay Functions

### Overview


Relays of the receiver can be set in to functionality types:

- **Momentary relay functionality:** The relay remains active while a button on the transmitter is pressed. When the button is released the relay deactivates.
- **Latching relay functionality:** The relay becomes active when a button on the transmitter is pressed. The relay remains active until the button is pressed again.

The receiver is set to momentary relay functionality by default.

### Momentary or Latching Relay Functions

**NOTE:** All the relays are momentary relay by default. Only the relay R4 can be set to momentary or latching relay.

 <b>WARNING</b>
<b>UNINTENDED EQUIPMENT OPERATION</b>
Before changing these settings, make sure that the stop relays are deactivated.
<b>Failure to follow these instructions can result in death, serious injury, or equipment damage.</b>

Steps to set latching or momentary functionality:

Step	Action	Comment
1	Press the Function button twice.	LED 9 lights (yellow). The relay LEDs light (red).
2	Press the Select button to enter the settings menu for switching relay functionality.	The relay LEDs flash (red) to indicate that a latching or momentary functionality can be set to the corresponding relays.
3	Press the Function button to set latching or momentary functionality.	LED 9 (yellow) off = momentary relay functionality LED 9 (yellow) on = latching relay functionality
4	Press the Select button to move to the next available relay.	After moving through all available relays, the receiver exits the settings menu and restarts.

## Enter Menu Mode

### Overview

The Menu mode allows you to configure some transmitter functionalities.

### Enter Menu Mode

Steps to enter menu mode:

Step	Action	Comment
1	Check that the stop button is pressed.	-
2	Press and keep pressed button 8.	-
3	Twist and pull out the stop button.	-
4	Release button 8.	The top LED flashes (green).
5	Within 1 minute of pulling out the stop button: Enter the code: 1-2-3-4 (press buttons 1, 2, 3, 4).	LEDs 1...4 light up (red). If the code is invalid, the transmitter switches off. When the code is accepted, the top LED flashes (green). LEDs 1...4 flash (red).
6	Within 1 minute of entering the submenu codes: Enter a submenu by pressing a button according to the following table.	<b>NOTE:</b> If no buttons are pressed within 1 minute, the transmitter switches off.

Correspondence table between Submenu codes and buttons combination:

Device front view	Buttons combination	Description
	Button 3	Replace ( <i>see page 46</i> )
	Button 4	Indicate radio frequency channel ( <i>see page 51</i> )
	Button 5	Automatic shutdown ( <i>see page 53</i> )
	Button 8	Unpairing ( <i>see page 54</i> )
	Button 8 (shift) + button 3	Switch radio frequency channel ( <i>see page 52</i> )

## Indicate Radio Frequency Channel

### Indicate Radio Frequency Channel

Steps to indicate the radio frequency channel:

Step	Action	Comment
1	Check that the stop button is pressed.	-
2	Press and keep pressed button 8.	-
3	Twist and pull out the stop button.	-
4	Release button 8.	The top LED flashes (green).
5	Within 1 minute of pulling out the stop button: Enter the code: 1-2-3-4 (press buttons 1, 2, 3, 4).	LEDs 1...4 light up (red). If the code is invalid, the transmitter switches off. When the code is accepted, the top LED flashes (green). LEDs 1...4 flash (red).
6	Within 1 minute of entering the channel code: Press button 4.	The top LED lights (green). The selected Radio Frequency channel is indicated as follows: <ul style="list-style-type: none"> <li>• LED 1 flashes (red) the number of times corresponding to the decade digit.</li> <li>• LED 2 flashes (red) the number of times corresponding to the unit digit.</li> </ul> For example, channel 23: <ul style="list-style-type: none"> <li>• LED 1 flashes 2 times</li> <li>• LED 2 flashes 3 times.</li> </ul>

For more details about radio frequency channels, refer to Transmitter Specifications ([see page 21](#)).

## Switch Radio Frequency Channel

### Switch Radio Frequency Channel

Steps to switch the radio frequency channel:

Step	Action	Comment
1	Check that the stop button is pressed.	-
2	Press and keep pressed button 8.	-
3	Twist and pull out the stop button.	-
4	Release button 8.	The top LED flashes (green).
5	Within 1 minute of pulling out the stop button: Enter the code: 1-2-3-4 (press buttons 1, 2, 3, 4).	LEDs 1...4 light up (red). If the code is invalid, the transmitter switches off. When the code is accepted, the top LED flashes (green). LEDs 1...4 flash (red).
6	Within 1 minute of entering the code: Press and keep pressed button 8.	-
7	Press button 4. Release.	-
8	Release button 8.	The top LED lights (green). LED 2 (red) flashes.
9	Select channel 11...26 (according to the following table): <ul style="list-style-type: none"> <li>● Press the buttons combination corresponding to the decade digit.</li> <li>● Press the buttons combination corresponding to the unit digit.</li> </ul>	LED 3 lights (red) when a valid digit has been entered. LEDs 3 and 4 light (red) when two valid digits have been entered. The top LED flashes (green) 3 times. The transmitter switches off.

Correspondence table between digit value and buttons combination:

Digit Value	Buttons combination
1	Button 1
2	Button 2
3	Button 3
4	Button 4
5	Button 5
6	Button 6
7	Button 8 (shift) + button 1
8	Button 8 (shift) + button 2
9	Button 8 (shift) + button 3
0	Button 8 (shift) + button 4

### Example

Steps to select the radio frequency channel 20:

Step	Action
1	Press button 2 (decade digit).
2	For zero (unit digit), Press and keep pressed button 8.
3	Press button 4.
4	Release button 4.
5	Release button 8.

## Automatic Shutdown

### Automatic Shutdown

You can set the automatic shutdown time that automatically switches off the transmitter following a period of inactivity.

This functionality can save battery capacity.

### Setting the Automatic Shutdown Time

Steps to set the automatic shutdown time:

Step	Action	Comment
1	Make sure that the stop button is pressed.	
2	Press and keep pressed button 8.	
3	Twist and pull out the stop button.	
4	Release button 8.	The top LED flashes (green).
5	Within 1 minute of pulling out the stop button: Enter the code: 1–2–3–4 (press buttons 1, 2, 3, 4).	LEDs 1...4 light up (red). If the code is invalid, the transmitter switches off. When the code is accepted, the top LED flashes (green). LEDs 1...4 flash (red).
6	Within 1 minute of entering the code Press button 5.	The top LED lights (green). LED 2 flashes (red).
7	Select the automatic shutdown time by pressing a button according to the following table.	The top LED flashes 3 times (green). The transmitter switches off.

Correspondence table between automatic shutdown time value and buttons:

Button	Automatic shutdown time
1	3 minutes <sup>(1)</sup>
2	6 minutes
3	12 minutes
7	No automatic shutdown
<b>(1)</b> Default value	

## Unpairing

### Unpairing from Menu Mode

Steps to unpair:

Step	Action	Comment
1	Check that the stop button is pressed.	-
2	Press and keep pressed button 8.	-
3	Twist and pull out the stop button.	-
4	Release button 8.	The top LED flashes (green).
5	Within 1 minute of pulling out the stop button: Enter the code: 1-2-3-4 (press buttons 1, 2, 3, 4).	LEDs 1...4 light up (red). If the code is invalid, the transmitter switches off. When the code is accepted, the top LED flashes (green). LEDs 1...4 flash (red).
6	Within 1 minute of entering the code: Press button 7.	The top LED flashes (red). The transmitter takes approximately 10 seconds to unpair. The transmitter switches off.

**NOTE:** This unpairing procedure can be used when the button 8 (used for quick unpairing) is used by another function.

## Section 4.4

### Transmitter Charge

#### Transmitter Battery Charge

##### Overview

**NOTE:** Two different battery types are available for use in the transmitter. The transmitter is supplied with ZARC704 battery type.

	ZARC702	ZARC704
Type of battery	Lithium-ion battery: replaceable, rechargeable	Replaceable battery pack for 3 x 1.5 V AAA / LR03 batteries
Operating time	Approximately 150 h.	Approximately 100 h. with alkaline
Charge	Charge in the charger device ZARC703	Do not charge in a charger device. Replace the batteries inside the battery pack.
Charging temperature	0...45 °C (32...113 °F)	Not applicable

**NOTE:** When approximately 10 % of battery capacity remains, the top LED lights red.

#### Replace Batteries in Battery Pack ZARC704

### WARNING

#### BATTERY LIFESPAN, RISK OF EXPLOSION AND FIRE

Do not charge battery pack ZARC704 in the charger device ZARC703 or in any other charger.

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

Step	Action
1	Power OFF the transmitter.
2	Remove the battery pack from the back of the transmitter.
3	Open the battery pack.
4	Replace the 3 x 1.5 V AAA / LR03 batteries. Use alkaline batteries for optimal performance.
5	Close the battery pack.
6	Put the battery pack back in the transmitter.





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# Chapter 5

## Functional Safety

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### Functional Safety

#### Safety Function

The safety-related stop function in the radio system complies with EN 13849-1 Category 3 PLd.

The stop relays on the receiver are controlled by the stop button on the transmitter. When the stop button is pressed, the stop relays interrupt the power to the safety-related application. The complete end-user system, including the radio system, enters a safe state. The maximum response time for the safety-related stop function is 500 ms.

Safety function	MTTFd	DCavg	Category	Achieved PL
Stop function	100 years	95 %	3	d

#### Applicable Products

The following transmitter and receivers are designed to comply with the appointed safety requirements:

Receiver: ZARB10WS and ZARB10WSP

Transmitter: ZART8LS

**NOTE:** Both the receiver and the transmitter used in the specific end-user system must be compliant.

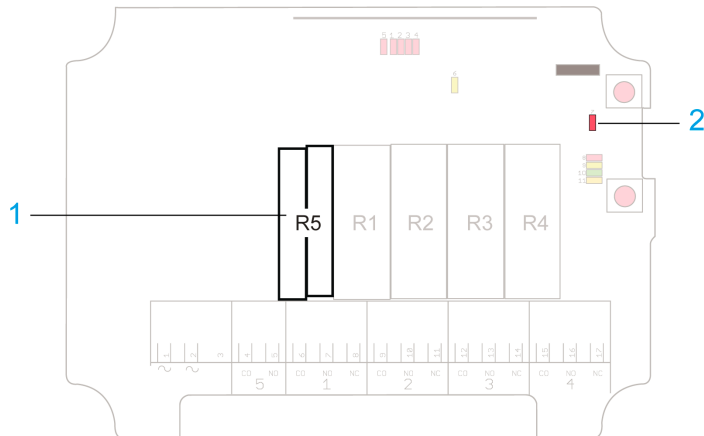
#### Installation

The stop relays on the receiver must be correctly installed on the end-user system to ensure that opened/deactivated stop relays interrupt the power to the safety-related application. The safety level of the stop function can only be credited when used in a complete end-user system that complies with EN ISO 13849-1:2008 Category 3 PLd.

### Configuration

The default configuration of the receiver complies with the appointed safety requirements. Any reconfiguration that breaches the safety requirements are indicated by a LED on the main board of the receiver. Before commissioning the radio system, the installer must check the LED indication.

Function LED	Status	Indicates
PLd status LED (red)	ON	Not compliant with PLd
	OFF	Compliant with PLd



Item	Description
1	Stop relays
2	PLd status LED

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# Chapter 6

## Certifications and Standards

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### Certifications and Standards

#### Local Standards and Certifications

Schneider Electric submitted this product for independent testing and qualification by third party listing agencies.

Criteria	Description
CE marking	Machinery directive 2006/42/EC Low voltage directive 2006/95/EC EMC directive 2004/108/EC R&TTE directive 1999/05/EC
Low voltage equipment	EN 50178

#### RADIO Specification

Specification	Details	Value
Frequency of radio communication	International frequency range	2405...2480 MHz
Radio range	In free field	> 300 m (984 ft)
	In industrial environment	Up to 50 m (164 ft) typical
Antenna	-	Internal
Working channel selection	-	Automatic

#### FCC USA 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, and
- 2) This device must accept any interference received, including interference that may cause undesired operation.

*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, et*
- 2) *l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.*

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The receiver complies with FCC's radiation exposure limits set forth for an uncontrolled environment under the following conditions:

- 1) This equipment should be installed and operated such that a minimum separation distance of 20 cm is maintained between the radiator (antenna) and user's/nearby person's body at all times.
- 2) This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The transmitter with its antenna complies with FCC's radiation exposure limits set forth for an uncontrolled environment. To maintain compliance, follow the instructions below:

- 1) This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
- 2) Avoid direct contact to the antenna, or keep contact to a minimum while using this equipment.

**IC Canada Compliance Statement**

This product complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

- 1) This device may not cause interference; and
- 2) This device must accept any interference, including interference that may cause undesired operation of device.

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

- 1) l'appareil ne doit pas produire d'interférence nuisible, et
- 2) (2) l'appareil doit accepter toute interférence reçue, y compris celle susceptible d'affecter son fonctionnement.

Any changes or modifications not expressly approved by Schneider Electric could void the user's authority to operate the equipment.

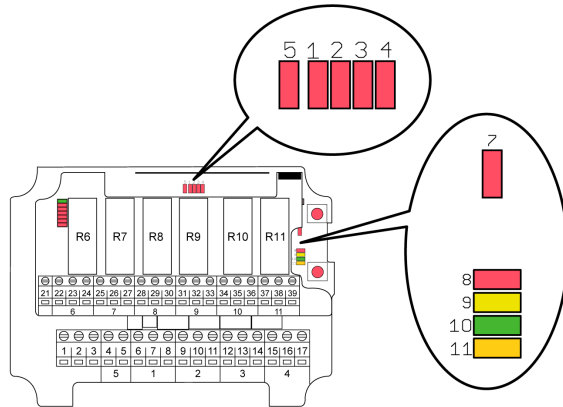
# Chapter 7

## Diagnostic

### Diagnostic

#### Receiver LEDs

LEDs of the ZARB10WS• receivers:



1...5 Relay LEDs

7...11 Function LEDs

The receivers have Function LEDs:

LED	Color	OFF	ON	Indicates
7	Red		✓	Not compliant with PLd.
		✓		Compliant with PLd.
8	Red	✓		No transmitter is registered.
			✓	Flashes once: One or more transmitters are registered. No radio transmission established.
			✓	Double flash: One or more transmitters are registered and paired. No radio transmission established.
			✓	Radio transmission established.
9	Yellow		✓	Receiving a radio packet from a transmitter other than an eXLhoist.
9	Yellow		✓	Receiving a radio packet from a transmitter set to the radio mode different from that of a receiver.
10	Green		✓	Receiving a radio packet from a transmitter that is not registered.
11	Orange		✓	Receiving a radio packet, low signal (RSSI).
10	Green		✓	Receiving a radio packet, configuration ID not accepted.
10	Green		✓	Receiving a radio packet, custom ID not accepted.
11	Orange		✓	1. Receiving a radio packet from a registered transmitter. The receiver is already controlled by another registered transmitter. NOTE: "Radio link" must be activated in the receiver.
9	Yellow		✓	2. Load select mode is activated. Incorrect Load is selected on the transmitter.
10	Green		✓	
11	Orange		✓	

#### Error Codes

If an error occurs, all Function LEDs flash. At the same time, one or more Relay LEDs lights up. Note the Relay LEDs that light up and contact your Schneider Electric representative for assistance.



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# Chapter 8

## Maintenance / Device Replacement

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### Maintenance

#### Cleaning Precautions

<i><b>NOTICE</b></i>
<b>EQUIPMENT DAMAGE</b> <ul style="list-style-type: none"><li>• Do not use paint thinner, organic solvents, or a strong acid compound to clean the equipment.</li><li>• Repairs and maintenance must be carried out by qualified personnel</li><li>• Only use spare parts from Schneider Electric</li><li>• Contact your representative for service or any other assistance</li><li>• Keep the product in a clean, dry place</li><li>• Keep contacts clean</li><li>• Wipe off dust using a slightly damp, clean cloth</li></ul> <b>Failure to follow these instructions can result in equipment damage.</b>



#### Periodic Check Points

Periodically check point for the ZARB10WS receiver: check the good terminal block tightening.







## A

### AWG

*(American wire gauge)* The standard that specifies wire section sizes in North America

## C

### Configuration ID

Numerical code stored in both the transmitter and receiver. The receiver can only be controlled by a transmitter with the correct configuration ID.

### Continuous radio mode

In continuous radio mode, the transmitter continuously transmits when it is powered-on.

### Custom ID

Numerical code stored in the transmitter, used to replace the unique ID code. One or several transmitter can be configured with the same custom ID and the receiver will recognise them all as the same transmitter.

## E

### EMC

ElectroMagnetic Compatibility

### EN

EN identifies 1 of many European standards maintained by CEN (*European Committee for Standardization*), CENELEC (*European Committee for Electrotechnical Standardization*), or ETSI (*European Telecommunications Standards Institute*).

## F

### Function relay

Standard relay, controlled by the buttons on the transmitter.

## I

### ID

IDentification.

### IEC

*(International Electrotechnical Commission)* A non-profit and non-governmental international standards organization that prepares and publishes international standards for electrical, electronic, and related technologies.

### Interlocking

Prevents a component from functioning when another component is functioning or operating in a particular way.

### IP

*(Ingress Protection)* The protection classification according to IEC 60529.

## L

### Latching relay functionality

The relay becomes active every time you press a button and remains active until the button is pressed again.

### LED

*(Light Emitting Diode)* An indicator that illuminates under a low-level electrical charge.

**M****Momentary relay functionality**

The relay is active while a button is pressed on the transmitter. When the button is released, the relay will no longer be active.

**MTTF**

*(Mean Time To Failure)*

**N****NC**

*(Normally Closed)* A contact pair that closes when the actuator is de-energized (no power is applied) and opens when the actuator is energized (power is applied).

**NEMA**

*(National Electrical Manufacturers Association)* The standard for the performance of various classes of electrical enclosures. The NEMA standards cover corrosion resistance, ability to help protect from rain, submersion, and so on. For IEC member countries, the IEC 60529 standard classifies the ingress protection rating for enclosures.

**NO**

*(Normally Open)* A contact pair that opens when the actuator is de-energized (no power is applied) and closes when the actuator is energized (power is applied).

**O****On relay**

Relay active when the receiver is operating and a radio link is established, regardless of whether any other relays are active.

**P****PFD**

*(Probability of Failure on Demand)*

**PFH**

*(Probability of Failure per Hour)*

**PL**

*(Performance Level)*

**R****Replace ID**

Numerical code used to identify the transmitter during the Replace procedure.

**S****SIL**

*(Safety Integrity Level)* (according to IEC 61508)

**Stop relay**

Safety related relay controlled by the stop button on the receiver. Intended to interrupt the power supply to a safety application controlled by the receiver.

**U****UL**

*(Underwriters Laboratories)* A US organization for product testing and safety certification.

**W****Work relay**

Relay active when any other specified relay(s) on the receiver is/are active.

**Z****Zero position check**

Security function ensuring that potentially active buttons/joysticks upon start up or lost/found radio links must be in the zero position before the system can be used to avoid unplanned movements of the controlled object

