# Operator control stations

## Harmony® eXLhoist wireless remote control system

Catalog

March 2014

Schneider Electric

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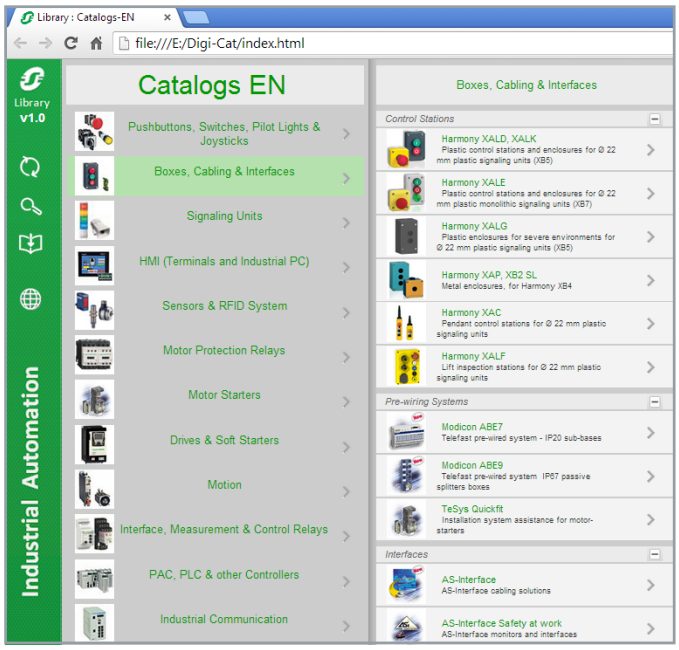


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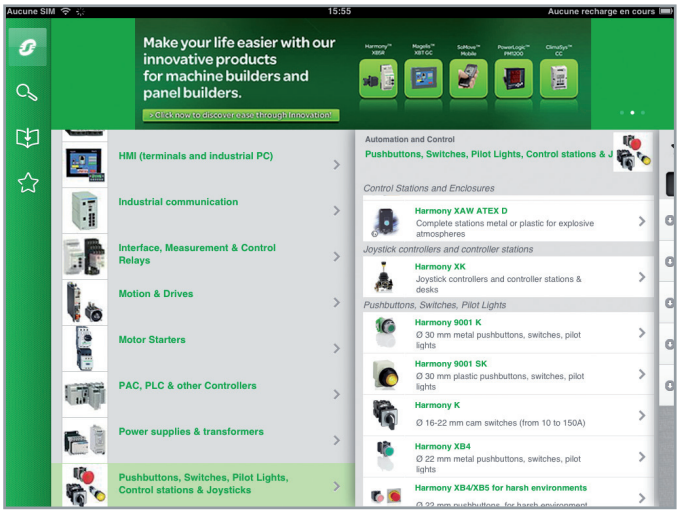


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# General contents

## Harmony® eXLhoist wireless remote control system

# Operator control stations
## Wireless remote control system
## Harmony eXLhoist

### Innovative operator control offer for hoisting applications

The Harmony® eXLhoist range of wireless remote control systems is an operator control station used in hoisting and material handling applications. It is based on 2 types of devices:

- Remote control device (or transmitter), which is the operator command device to interface with the machine.
- Base station (or receiver), which is hardwired to the machine. It receives control commands from the remote device and transmits information to the operator.

The remote control system is a combination of these devices which communicates via radio transmission.

### Dedicated ergonomics

- Innovative design and positioning of buttons on the remote device allows intuitive and easy one-hand operation.

**Remote device design allows the operator to control the machine without focusing on the buttons, but to concentrate on the load instead**

### Maximize the uptime of application

- Advanced battery technology provides short time to charge, long working life and high autonomy.

30 h runtime *(1)*
15 min to recharge
Up to 5 years of working life

**Improve energy saving function and optimize communication energy consumption on the remote control system**

### Operator protection

Harmony eXLhoist station helps to prevent unexpected operation and helps to protect the operator, equipment, and load.

- Wireless Emergency stop is certified up to Performance Level 'e' according to EN ISO 13849-1 and SIL 3 in accordance with IEC 61508 and IEC 62061 *(2)*.
- In-built protection against unintended operation is compliant with Performance Level 'c' according to EN ISO 13849-1, and SIL 1 in accordance with IEC 61508 and IEC 62061 *(2)*.

**Robust performance and safety compliance**

*(1) Typical at temperature of 25 °C/77 °F*
*(2) Certification to be done in 2nd quarter 2015.*

First worldwide automation supplier to offer a complete range of hoisting solutions

# Operator control stations
## Wireless remote control system
## Harmony eXLhoist

### Universal and reliable use

- Harmony eXLhoist uses the globally compatible 2.4GHz frequency which has unrestricted worldwide use.
- It prevents interference between several remote control stations allowing up to 50 systems running simultaneously in 100 x 100 m*/328 x 328 ft* area.

2.4GHz frequency

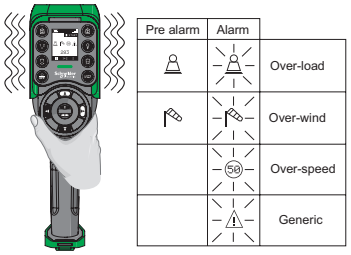
**Unrestricted worldwide use with a global frequency**

100 x 100 m area

**Up to 50 systems running at same time**

### Easy maintenance

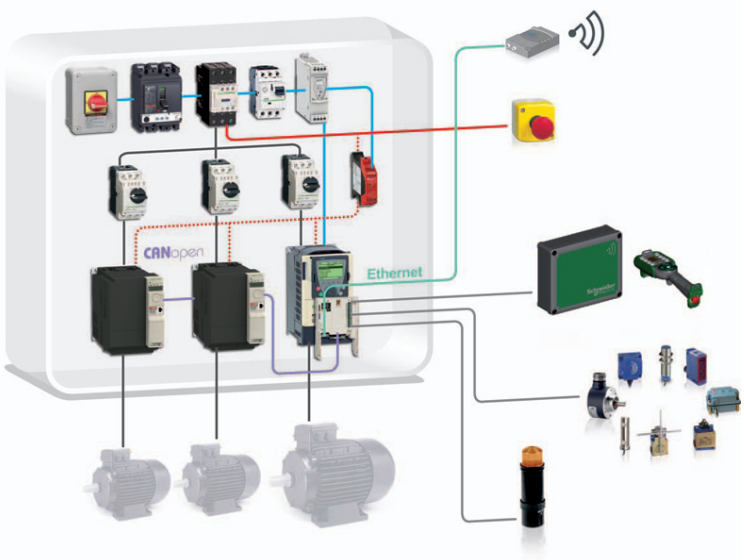
- Remote diagnostics capabilities to reduce machine downtime.
- Discovering function enables automatic remote device replacement without intervention at the base station.




**All the key diagnostics data at fingertips. Alarm notification by vibrate function**

### Complete offer

- Tested, validated, and documented architectures for optimized results providing the right solution at every stage of the installation life cycle.




Unrestricted worldwide use with a global 2.4 GHz frequency

# Operator control stations
## Complete stations “ready for use”

| Applications | | Wireless remote control stations | Pendant control stations | | | | |
|---|---|---|---|---|---|---|---|
| | | Control circuits | | | | | |
| | | Handling-hoisting: 3 movements | Simple hoisting: 1 movement | | | Handling-hoisting: 2 movements | |
| Motor control | | | | | | | |
| *Single-speed* | | | | | | | |
| *2-speed* | | | | | | | |
| *Emergency stop* | | | | | | | |
| **Number of operators** | | 6 | 2 | 1 (2-directional) | 2 | 2 | 4 |
| **Enclosure material** | | Polycarbonate (PBT) | Polypropylene | | | Polyester | Polypropylene |
| **Shock resistance** | Conforming to standard IEC 60068-2-27 | 100 gn | | 70 gn | 100 gn | | |
| **Conformity to standards** | | EN/IEC 60947-5-1, EN/IEC 60204-32, UL 508, CSA 22-2 No. 14 and EN/ISO 13849-1, EN/IEC 62061, EN/IEC 61508, EN/ISO 13850 EN 13557, EN 15011 | EN/IEC 60947-5-1, EN/IEC 60204-32, UL 508, CSA 22-2 N° 14 and EN/IEC 60947-5-5, EN/ISO 13850 *(1)* | | | EN/IEC 60947-5-1 CSA 22-2 N° 14 | EN/IEC 60947-5-1, EN/IEC 60204-32, UL 508, CSA 22-2 N° 14 and EN/IEC 60947-5-5, EN/ISO 13850 *(1)* |
| **Protective treatment** | | Standard version, “TC” | Standard version, “TH” | | | | |
| **Degree of protection** | Conforming to standard IEC 60529 | IP 65 | | | | | |
| | Conforming to standard EN 50102 | IK 08 | | | | | |
| **Cable entries** | | - | Rubber sleeve with stepped entry diameter for cable Ø 7 to 15 mm */0.28 to 0.59 in.* | Rubber sleeve with stepped entry diameter for cable Ø 7 to 18 mm */0.28 to 0.71 in.* | Rubber sleeve with stepped entry diameter for cable Ø 8 to 26 mm */0.31 to 1.02 in.* | Rubber sleeve with stepped entry diameter for cable Ø 7 to 13 mm*/0.28 to 0.51 in.*, Ø 10 to 22 mm*/0.39 to 0.87 in.* , Ø 22 to 35 mm */0.87 to 1.38 in.* | Rubber sleeve with stepped entry diameter for cable Ø 8 to 26 mm */0.31 to 1.02 in.* |
| **Operator control station type reference** | | **XAR** | **XACA** | **XACD** | **XACA** | **XACB** | **XACA** |

*(1) For versions with trigger action Emergency stop.*

More technical information on www.schneider-electric.com



| Pendant control stations | | | | | Power circuits | | | |
|---|---|---|---|---|---|---|---|---|
| Control circuits | | | | | Simple hoisting: 1 movement | Handling-hoisting: | | |
| | Handling-hoisting: 3 movements | | | | | 2 movements | | 3 movements |
| **Number of operators** | 4 | 6 | 6 | 8 | 8 | 1 (2-directional) | 2 | 4 | 6 |
| **Enclosure material** | Polyester | Polypropylene | Polyester | Polypropylene | Polyester | Polypropylene | Polyester | | |
| **Shock resistance** | 100 gn | | | | | 100 gn | | | |
| **Conformity to standards** | EN/IEC 60947-5-1 CSA 22-2 N° 14 | EN/IEC 60947-5-1, EN/IEC 60204-32, UL 508, CSA 22-2 N° 14 and EN/IEC 60947-5-5, EN/ISO 13850 *(1)* | EN/IEC 60947-5-1 CSA 22-2 N° 14 | EN/IEC 60947-5-1, EN/IEC 60204-32, UL 508, CSA 22-2 N° 14 and EN/IEC 60947-5-5, EN/ISO 13850 *(1)* | EN/IEC 60947-5-1 CSA 22-2 N° 14 | EN/IEC 60947-5-1, EN/IEC 60204-32, UL 508, CSA 22-2 N° 14, EN/IEC 60947-3 and EN/IEC 60947-5-5, EN/ISO 13850 *(1)* | | | |
| **Protective treatment** | Standard version, “TH” | | | | | Standard version, “TH” | | | |
| **Degree of protection** | IP 65 | | | | | IP 65 | | | |
| | IK 08 | | | | | IK 08 | | | |
| **Cable entries** | Rubber sleeve with stepped entry diameter for cable Ø 7 to 13 mm */0.28 to 0.51 in.*, Ø 10 to 22 mm */0.39 to 0.87 in.*, Ø 22 to 35 mm */0.87 to 1.38 in.* | Rubber sleeve with stepped entry diameter for cable Ø 8 to 26 mm */0.31 to 1.02 in.* | Rubber sleeve with stepped entry diameter for cable Ø 7 to 13 mm */0.28 to 0.51 in.*, Ø 10 to 22 mm */0.39 to 0.87 in.*, Ø 22 to 35 mm */0.87 to 1.38 in.* | Rubber sleeve with stepped entry diameter for cable Ø 8 to 26 mm */0.31 to 1.02 in.* | Rubber sleeve with stepped entry diameter for cable Ø 7 to 13 mm */0.28 to 0.51 in.*, Ø 10 to 22 mm */0.39 to 0.87 in.*, Ø 22 to 35 mm */0.87 to 1.38 in.* | Rubber sleeve with stepped entry diameter for cable Ø 7 to 18 mm */0.28 to 0.71 in.* | Rubber sleeve with stepped entry diameter for cable Ø 10 to 22 mm*/0.39 to 0.87 in.* | | |
| **Operator control station type reference** | **XACB** | **XACA** | **XACB** | **XACA** | **XACB** | **XACD** | **XACB** | **XACB** | **XACB** |

More technical information on www.schneider-electric.com

# Pendant control stations
## Variable composition stations

| Applications | | Pendant control stations | | |
|---|---|---|---|---|
| | | Control circuits | | |
| Number of cut-outs | | 1 or 2 | 2, 3, 4, 5, 6, 8 or 12 | 2, 3, 4, 6, 8 or 12 in 1 row or 2 rows of 6 |
| | |  |  |  |
| **Enclosure material** | | Polypropylene | | Polyester |
| **Shock resistance** | Conforming to standard IEC 60068-2-27 | 100 gn | | |
| **Conformity to standards** | | EN/IEC 60947-5-1, EN/IEC 60204-32, UL 508, CSA 22-2 N° 14, EN/IEC 60947-3 and EN/IEC 60947-5-5, EN/ISO 13850 *(1)* | | |
| **Protective treatment** | | Standard version, “TH” | | |
| **Degree of protection** | Conforming to standard IEC 60529 | IP 65 | | |
| | Conforming to standard EN 50102 | IK 08 | | |
| **Equipment** | | ■ Emergency stop (front mounted)<br>■ Contact blocks for 1 or 2 speeds | ■ Pushbuttons<br>■ Selector/key switches<br>■ Pilot lights<br>■ Emergency stop (front or base mounted)<br>■ Wobblesticks<br>■ Contact blocks for 1 or 2 speeds | ■ Pushbuttons<br>■ Selector/key switches<br>■ Pilot lights<br>■ Emergency stop (front or base mounted)<br>■ Wobblesticks<br>■ Contact blocks for 1 or 2 speeds |
| **Cable entries** | | Rubber sleeve with stepped entry diameter for cable Ø 7 to 18 mm/*0.28 to 0.71 in.* | Rubber sleeve with stepped entry diameter for cable Ø 8 to 26 mm/*0.31 to 1.02 in.* | Rubber sleeve with stepped entry diameter for cable Ø 10 to 22 mm/*0.39 to 0.87 in.* |
| **Operator control station type reference** | | **XACD** | **XACA** | **XACB** |

*(1) For versions with trigger action Emergency stop.*

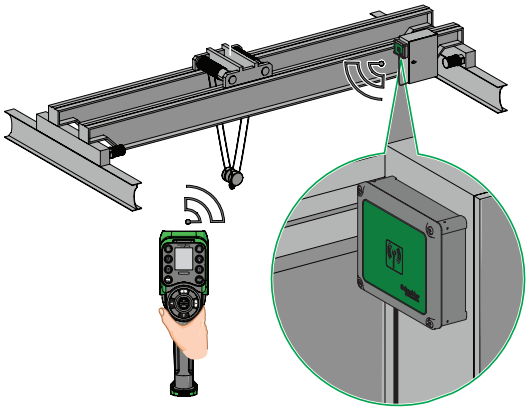
More technical information on www.schneider-electric.com



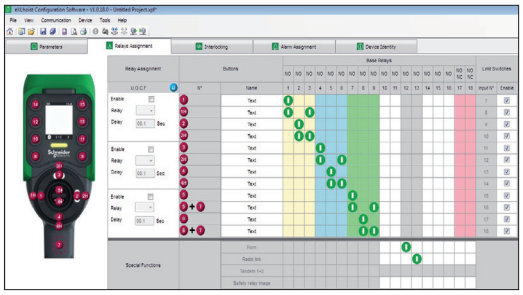
| Pendant control stations | | | |
|---|---|---|---|
| Control circuits | | Power circuits | |
| Up to 30 | | 1 or 2 | 2, 3, 4, 6, 8 or 12 in 2 rows of 6 |
|  | |  |  |
| Polyester | | Polypropylene | Polyester |
| 100 gn | | 100 gn | |
| EN/IEC 60947-5-1, EN/IEC 60204-32, UL 508, CSA 22-2 N° 14, EN/IEC 60947-3 and EN/IEC 60947-5-5, EN/ISO 13850 *(1)* | | EN/IEC 60947-5-1, EN/IEC 60204-32, UL 508, CSA 22-2 N° 14, EN/IEC 60947-3 and EN/IEC 60947-5-5, EN/ISO 13850 *(1)* | |
| Standard version, “TH” | | Standard version, “TH” | |
| IP 65 | | IP 65 | |
| IK 08 | | IK 08 | |
| ■ Pushbuttons<br>■ Selector/key switches<br>■ Pilot lights<br>■ Emergency stop (front or base mounted)<br>■ Wobblesticks<br>■ Contact blocks for 1 or 2 speeds | | ■ Emergency stop (front mounted)<br>■ Contact blocks for 1 or 2 speeds | ■ Pushbuttons<br>■ Selector/key switches<br>■ Pilot lights<br>■ Emergency stop (front or base mounted)<br>■ Wobblesticks<br>■ Contact blocks for 1 or 2 speeds |
| Rubber sleeve with stepped entry diameter for cable Ø 10 to 22 mm/*0.39 to 0.87 in.* and Ø 22 to 35 mm/*0.87 to 1.38 in.* | | Rubber sleeve with stepped entry diameter for cable Ø 7 to 18 mm/*0.28 to 0.71 in.* | Rubber sleeve with stepped entry diameter for cable Ø 10 to 22 mm/*0.39 to 0.87 in.* |
| **XACF** | | **XACD** | **XACB** |

More technical information on www.schneider-electric.com

# Operator control stations
## Wireless remote control system
## Harmony eXLhoist



*Example of overhead travelling cranes*



*Configuration software window*

## Presentation

The Harmony eXLhoist range of wireless remote control systems provide complete and innovative crane operator control solutions to: improve the machine and crane operator efficiency, enhance safety for people and equipment, and to reduce installation and maintenance downtime.

The remote control system XARS is a combination of remote control device (or transmitter: XART) and base station (or receiver: XARB), which transmits commands and information from the operator to the machine and vice versa by a wireless transmission means.

The XARS system offers movement in 3 directions (for example: hoist, bridge, and trolley) at 2 speed levels (low and high) for each movement.

The 2 modes available in the system are:
- Single mode: the remote control device controls one base station
- Tandem mode *(1)*: the remote control device controls 2 base stations simultaneously.

### Radio communication

Each base station have a unique identification code *(2)* managed by Schneider Electric. The frequency of radio communication is 2.4 GHz and the automatic frequency hopping permits up to 50 systems working at same time in an 100 x 100 m*/328 x 328 ft* area.

### eXLhoist Configuration software

A free of charge software with graphic user interface can be downloaded by the customer to configure the remote control station. This software has a standard Windows® interface. The configuration file is password protected and allows to configure the following parameters:
- Base station pairing to remote control device
- Relays-pushbuttons assignment and interlock
- Access and re-start sequence
- Time-out duration to standby
- Machine number assignment

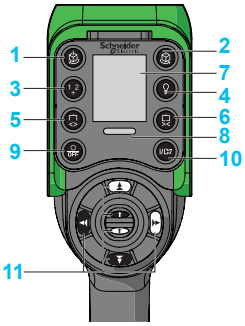
### Environment

The degree of protection for Harmony eXLhoist are:
- IP 65 for base station
- IP 65 and NEMA 4 for wireless control device
- Product certifications for base station: UL/CSA, CE, EAC
- Product certifications for wireless control device: UL/CSA, CE, EAC.

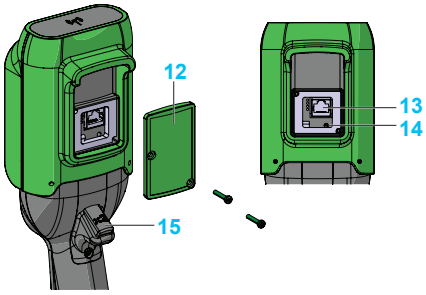
*(1) Tandem mode will be available in 2nd quarter 2015*
*(2) Third-party device cannot communicate with remote control system.*

References:
page 10

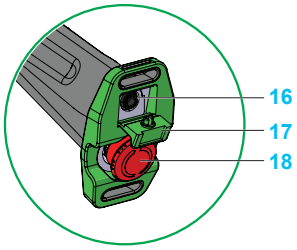
# Operator control stations
## Wireless remote control system
## Harmony eXLhoist



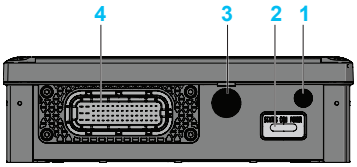

*Front view ZART12D remote device*



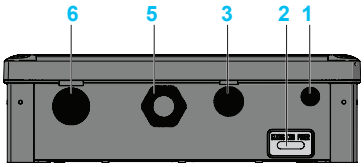

*Rear view of remote device*



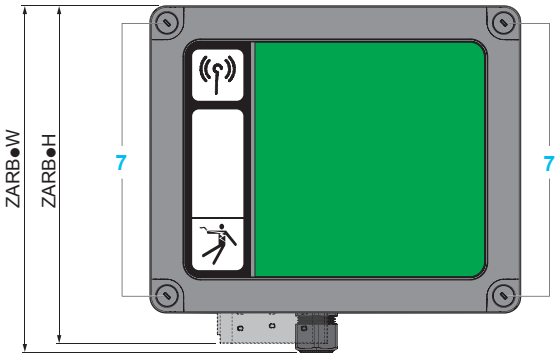

*Bottom view of remote device handle*




*Bottom view of ZARB●H base station*




*Bottom view of ZARB●W base station*




*Front view of base station with the cover*

## Description

### Remote control device

The base station has following controls:

**1-6** Auxiliary buttons (For **ZART8D** and **ZART8L** only 5 and 6 buttons are available)
**7** Display (for **ZART8L** only LED display)
**8** E-stop LED
**9** OFF/ Stop button
**10** ON/ Start/ Horn button
**11** Motion buttons
**12** Cover
**13** RJ45 connector
**14** Reset button
**15** Trigger button
**16** Connector for charging remote device
**17** Cover of the connector
**18** E-stop button

### Base station

The base station has following controls:

**1** M12 for external antenna *(1)*
**2** Status LEDs
**3** M20 for the Safeguarding function input wires *(1)*
**4** 62 pins connector *(1)*
**5** M25 for output wires *(2)*
**6** M25 for detected applicative alarms input wires *(1)*
**7** 4 holes for standard mounting on support *(1)*

*(1) Covered by cap*
*(2) Covered by cable gland*

# Operator control stations
## Wireless remote control system
## Harmony eXLhoist


ZART8L


ZART8D

### Remote control device

| Description | Characteristics | | Reference | Weight kg/*lb* |
|---|---|---|---|---|
| | Motion pushbuttons | Auxiliary pushbuttons | | |
| **With LEDs** | 6 | 2 | **ZART8L** | 0.65/*1.433* |
| **With display** | 6 | 2 | **ZART8D** | 0.65/*1.433* |
| **With display** | 6 | 6 | **ZART12D** | 0.65/*1.433* |


ZARB12H


ZARB18W

### Base station

| Description | Characteristics | | | Reference | Weight kg/*lb* |
|---|---|---|---|---|---|
| | Outputs | Inputs | Power supply V | | |
| **Wired connection- cable gland** | 12 relays + 2 safety relays | - | ≂ 24...240 | **ZARB12W** | 1.45/*3.197* |
| **Industrial plug connection** | 12 relays + 2 safety relays | - | ≂ 24...48 | **ZARB12H** | 1.45/*3.197* |
| **Wired connection- cable gland** | 18 relays + 2 safety relays | 18 digital (12 limiters + 6 alarms) | ≂ 24...240 | **ZARB18W** | 1.45/*3.197* |
| **Industrial plug connection** | 18 relays + 2 safety relays | 18 digital (12 limiters + 6 alarms) | ≂ 24...48 | **ZARB18H** | 1.45/*3.197* |


XARS12D18H

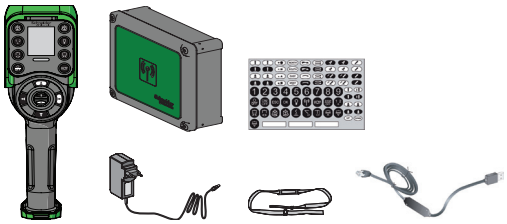
### Wireless remote control

| Description | Characteristics | | Reference | Weight kg/*lb* |
|---|---|---|---|---|
| | Special functions | Connection | | |
| **Complete unit (without charger device)** | - | Wiring | **XARS8L12W** (ZART8L + ZARB12W) | 2.1/*4.640* |
| | - | Industrial plug | **XARS8L12H** (ZART8L + ZARB12H) | 2.1/*4.640* |
| | Limiter protection *(1)* Movement monitoring | Wiring | **XARS8D18W** (ZART8D + ZARB18W) | 2.1/*4.640* |
| | | Industrial plug | **XARS8D18H** (ZART8D + ZARB18H) | 2.1/*4.640* |
| | | Wiring | **XARS12D18W** (ZART12D + ZARB18W) | 2.1/*4.640* |
| | | Industrial plug | **XARS12D18H** (ZART12D + ZARB18H) | 2.1/*4.640* |

*(1) Limiter protection function for Tandem mode will be available in 2nd quarter 2015.*

Presentation:
page 8

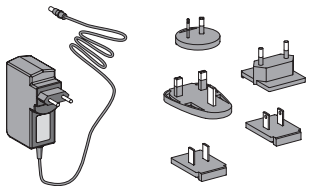
# Operator control stations
## Wireless remote control system
## Harmony eXLhoist



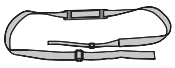
*XARSK8L12W*

## Kits

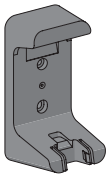
| Description | Characteristics<br>Components | Reference | Weight kg/*lb* |
|---|---|---|---|
| **Starting kit comprising of Remote control system + accessories + USB/RJ45 cable** | ZART8L + ZARB12W + ZARC01 + ZARC02 + TCSMCNAM3M002P | **XARSK8L12W** | 2.8/*6.173* |
| | ZART8L + ZARB12H + ZARC01 + ZARC02 + TCSMCNAM3M002P | **XARSK8L12H** | 2.8/*6.173* |
| | ZART8D + ZARB18W + ZARC01 + ZARC02 + TCSMCNAM3M002P | **XARSK8D18W** | 2.8/*6.173* |
| | ZART8D + ZARB18H + ZARC01 + ZARC02 + TCSMCNAM3M002P | **XARSK8D18H** | 2.8/*6.173* |
| | ZART12D + ZARB18H + ZARC01 + ZARC02 + TCSMCNAM3M002P | **XARSK12D18W** | 2.8/*6.173* |
| | ZART12D + ZARB18H + ZARC01 + ZARC02 + TCSMCNAM3M002P | **XARSK12D18H** | 2.8/*6.173* |



*ZARC01*



*ZARC02*



*ZARC04*


*ZARC07*

*TCSMCNAM3M002P*

## Accessories

| Description | Characteristics | Reference | Weight kg/*lb* |
|---|---|---|---|
| **Charger for remote device** | ∿100...240 V power supply | **ZARC01** | 0.350/*0.772* |
| **Shoulder belt for remote device** | 2m/*6.56 ft* length | **ZARC02** | 0.100/*0.220* |
| **External antenna for Base station** *(1)* | with 2m/*6.56 ft* cable and bracket included | **ZARC03** | 0.200/*0.441* |
| **Holder for remote device** | 104 x 239 mm/*4.09 x 9.41 in.* | **ZARC04** | 0.250/*0.551* |
| **Connector plug female** | with cable 1.5 m/*4.92 ft* | **ZARC05** | *2/4.409* |
| **Cable gland kit with wire grommets** | 1 x M25 + 1 x M20 | **ZARC06** | 0.05/*0.110* |
| **Kit for adhesive labels for remote device** | in Black and White | **ZARC07** | 0.150/*0.331* |
| **Kit for adhesive labels for remote device and crane equipment** | multi color | **ZARC08** | 0.250/*0.551* |
| **Fixation kit** | silent block + magnet and metal support | **ZARC09** | 0.1/*0.220* |
| **Connector plug female** | with cable 3 m/*9.84 ft* | **ZARC12** | *4/8.818* |
| **Connector plug female** | with cable 5 m/*16.40 ft* | **ZARC18** | *7/15.432* |
| **Connector cable** | USB to RJ45 | **TCSMCNAM3M002P** | 0.100/*0.220* |

*(1) Use of this accessory allows to increase radio range in severe environment conditions.*

# Product reference index

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