Operator control stations

Harmony® eXLhoist wireless remote control system

Catalog

March 2014

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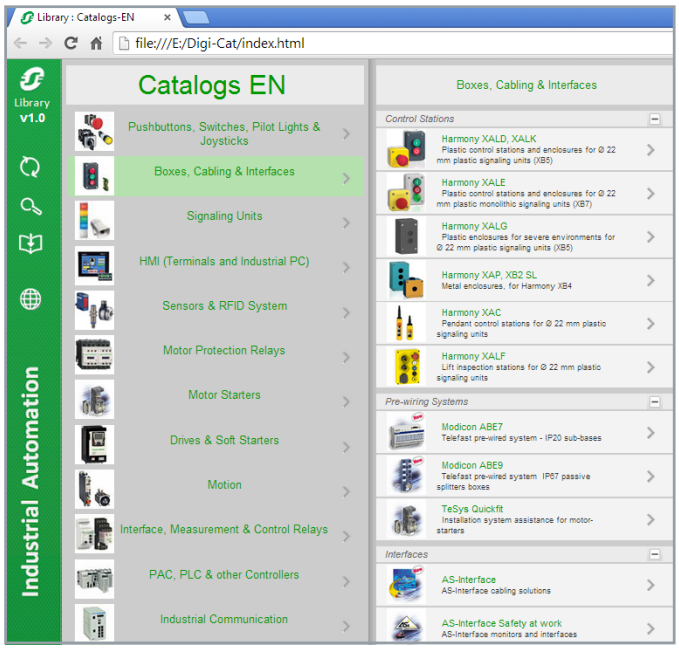

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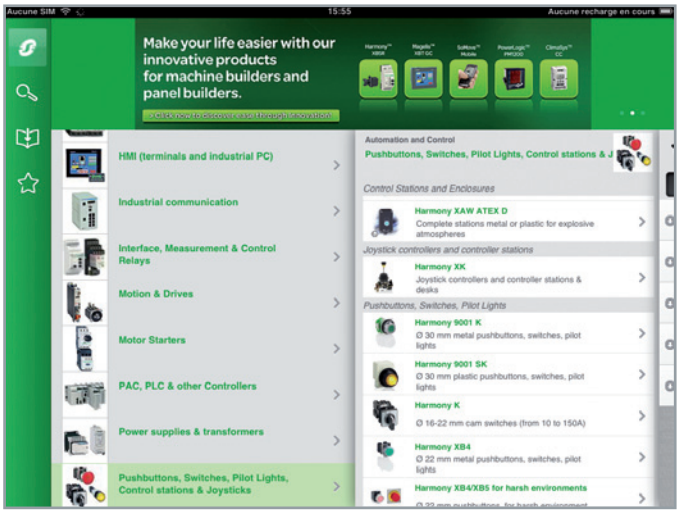

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Harmony® eXLhoist wireless remote control system

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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 2014.

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

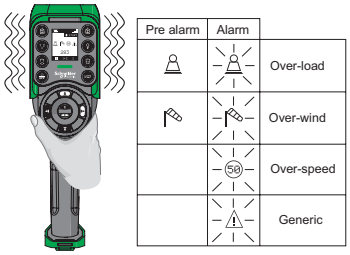
Unrestricted worldwide use with a global frequency

100 x 100 m area

Up to 50 systems running at same time

Easy maintenance

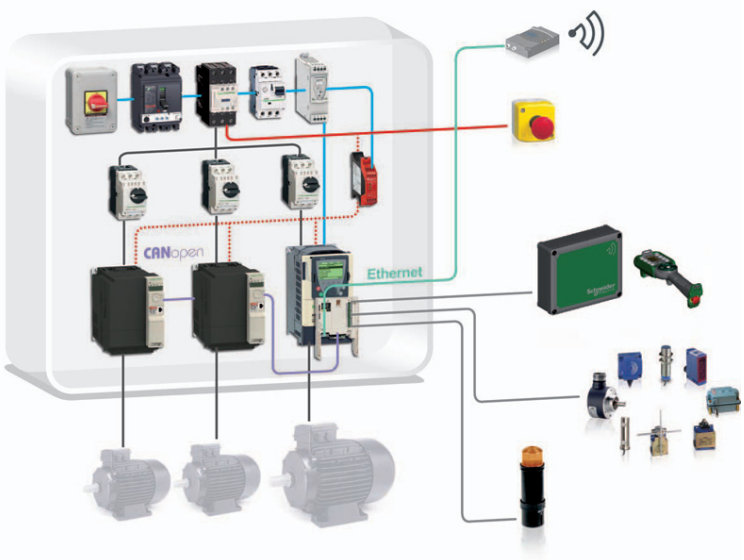
- Remote diagnostics capabilities to reduce machine downtime.
- Discovering function enables automatic remote device replacement without intervention at the base station.



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
4	6	6	8	8	1 (2-directional)	2	4	6
Polyester	Polypropylene	Polyester	Polypropylene	Polyester	Polypropylene	Polyester		
100 gn					100 gn			
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)*			
Standard version, “TH”					Standard version, “TH”			
IP 65					IP 65			
IK 08					IK 08			
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.*		
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) ■ Contact blocks for 1 or 2 speeds	■ Pushbuttons ■ Selector/key switches ■ Pilot lights ■ Emergency stop (front or base mounted) ■ Wobblesticks ■ Contact blocks for 1 or 2 speeds	■ Pushbuttons ■ Selector/key switches ■ Pilot lights ■ Emergency stop (front or base mounted) ■ Wobblesticks ■ 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.

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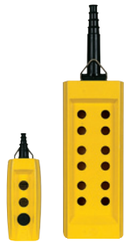
Pendant control stations		
Control circuits		
Up to 30	1 or 2	2, 3, 4, 6, 8 or 12 in 2 rows of 6
		
Polyester	Polypropylene	Polyester
100 gn	100 gn	
EN/IEC 60947-5-1, EN/IEC 60204-32, UL 508, CSA 22-2 N° 14, EN/IEC 60947-3 and EN/IEC 60947-5-5, EN/ISO 13850 *(1)*		
Standard version, “TH”		
IP 65		
IK 08		
■ Pushbuttons ■ Selector/key switches ■ Pilot lights ■ Emergency stop (front or base mounted) ■ Wobblesticks ■ Contact blocks for 1 or 2 speeds	■ Emergency stop (front mounted) ■ Contact blocks for 1 or 2 speeds	■ Pushbuttons ■ Selector/key switches ■ Pilot lights ■ Emergency stop (front or base mounted) ■ Wobblesticks ■ 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**

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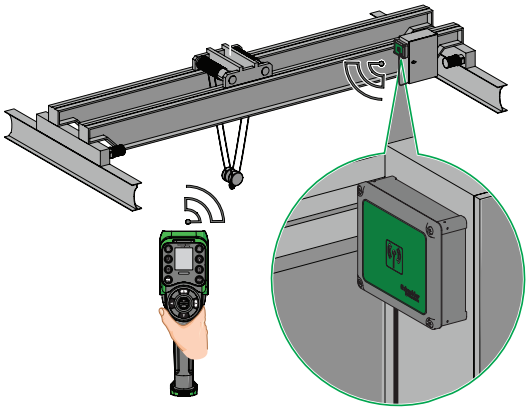
Operator control stations
Wireless remote control system Harmony® eXLhoist



Example of overhead travelling cranes

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.

Configuration software window

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, CCC.

(1) Tandem mode will be available in 4th quarter 2014
(2) Third-party device cannot communicate with remote control system.

References:
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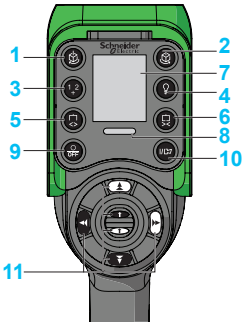
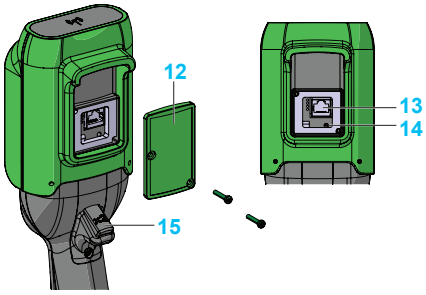
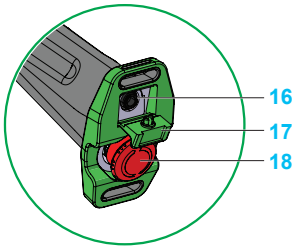
Operator control stations
Wireless remote control system Harmony® eXLhoist



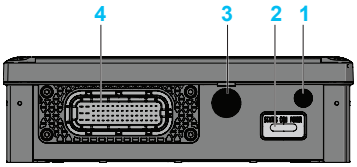
Front view ZART12D remote device



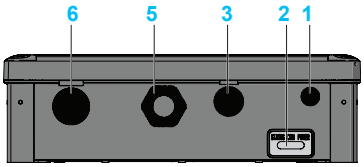
Rear view of remote device



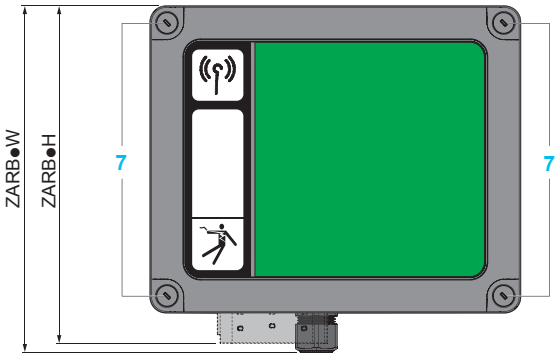
Bottom view of remote device handle



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 4th quarter 2014.

Presentation:
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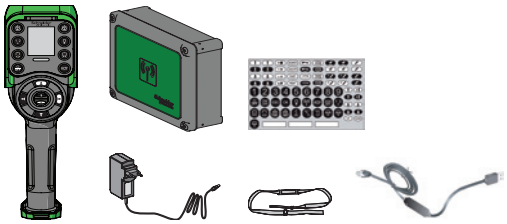
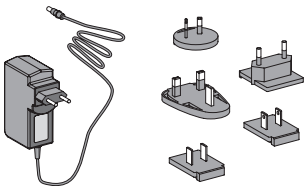
Operator control stations
Wireless remote control system Harmony® eXLhoist



XARSK8L12W

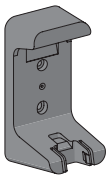
Kits

Description	Characteristics Components	Reference	Weight kg/*lb*
Starting kit comprising of Remote control system + accessories + USB/RJ45 cable + Configuration software	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.

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