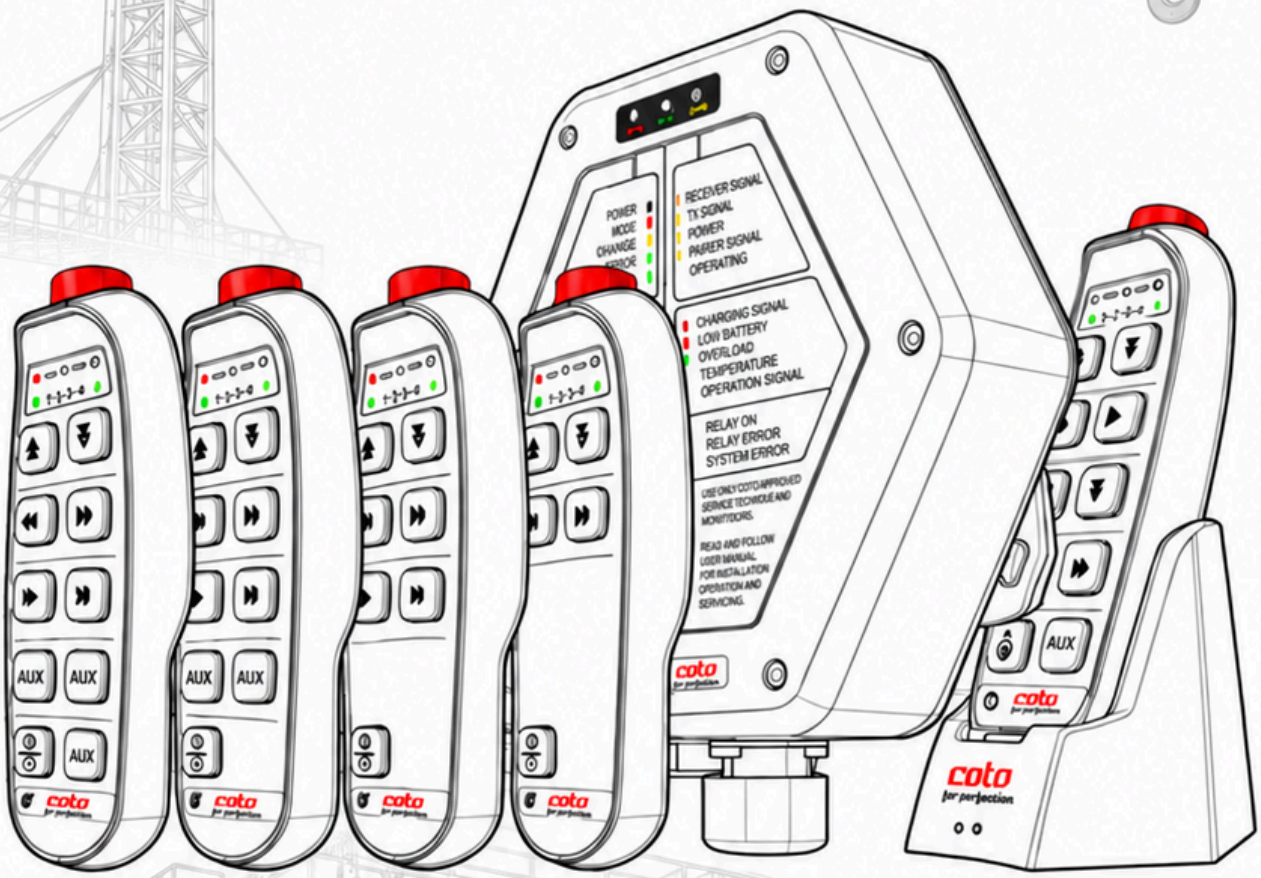
RADIO REMOTE CONTROL USER MANUAL



CRC SERIES | COTO-CRC-UM-EN | Rev. 02 | 09 October 2026

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Document: COTO-CRC-UM-EN | Revision 02 | 09 October 2026
Models: CRC-41/42, CRC-61/62, CRC-81/82 and CRC-101/102.
Settings applicability and the planned START-selection feature are stated in their respective sections.

Safety & Daily Inspection

Read before operation

Use the system only for its configured machine. Operators must be trained and authorized. Follow the machine manual and site lifting procedures. Identify the intended crane, bridge and hoist before issuing a movement command.

Keep the load and travel path in view. Keep people clear of suspended loads. Stop if the operating area cannot be observed adequately. Secure the transmitter against unintended button presses and unauthorized use.

Installation and maintenance

Electrical installation, receiver access and internal repairs must be performed by qualified personnel. Isolate and secure the machine supply before making or changing connections. Verify the receiver supply variant against its nameplate.

Do not operate a transmitter with a cracked housing, sticking button, damaged emergency stop, loose battery cover or battery leakage. Do not bypass safety functions or alter wiring to clear a fault.

Before each shift

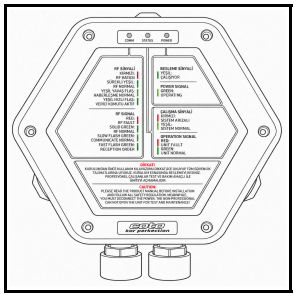
Check	Operator action
Housing and buttons	Inspect for damage; confirm that buttons return freely.
Battery and cover	Check battery condition and secure the battery cover.
Machine identity	Confirm the selected bridge and hoist, where selection is fitted.
Working area	Check visibility and keep the load path clear.
Functional test	Use the approved site procedure to test direction commands and emergency stop without a load where permitted.

If any check fails, stop use and report the fault. For settings, keep the emergency stop pressed and latched throughout menu entry and selection.

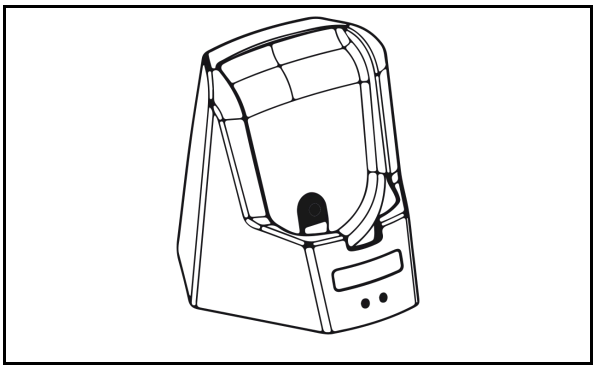
1 - Introduction

Radio remote control systems are designed for wireless control of machines, particularly cranes and lifting equipment. The system consists of a main control unit and a remote control unit. Depending on the application requirements, the remote control unit may have 4, 6, 8 or 10 single-stage or two-stage buttons. Communication between the remote control unit and the main unit is continuous and bidirectional (duplex).

1.1 Package Contents



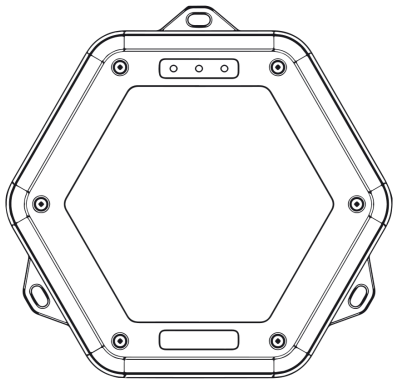


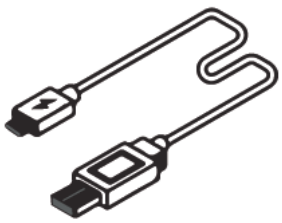


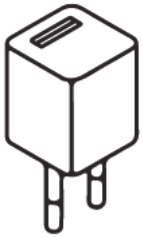
Remote control unit (Transmitter)
Main control panel (Receiver)
3 AA batteries
Wrist safety strap
3 vibration mounts
User manual

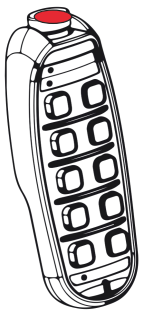
Optional Contents

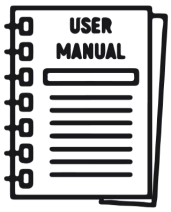
Charging station
3 AA rechargeable NiMH batteries
USB Type-C charging cable
Charging power supply

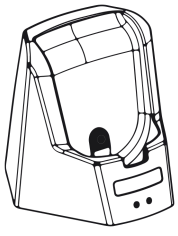








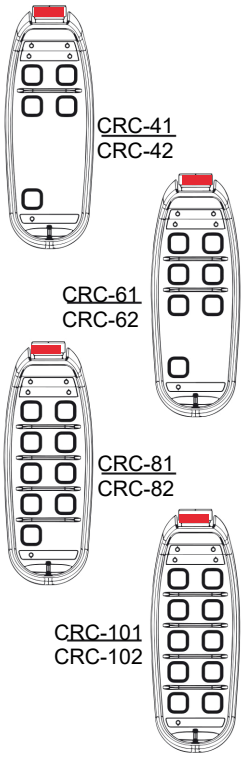


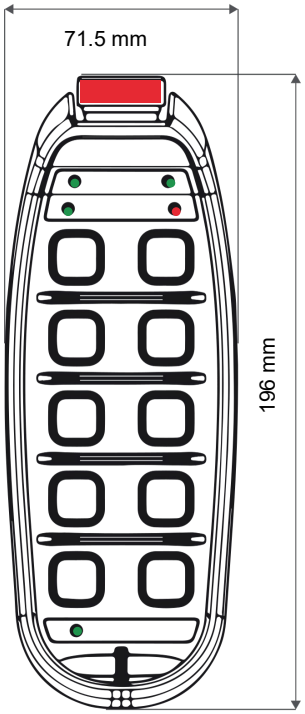


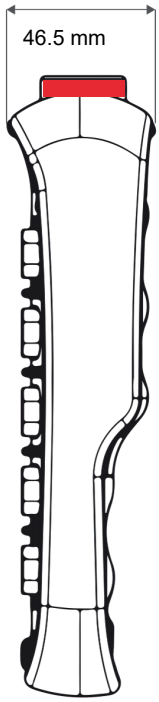
2 - Technical Specifications

2.1 Remote Control Unit

Button options	4, 6, 8 or 10
Button type	Single-stage or two-stage
Emergency stop button	1
Operating frequency	2.4 - 2.5 GHz
RF output power (max.)	100 mW (with internal antenna)
Receiver sensitivity	-140 dBm
Communication range	200/150/100/50 metres (adjustable)
LED indicators	5
Operating current	30-80 mA, depending on range setting
Operating time (3 AA batteries)	50-200 hours, depending on range setting
Operating voltage	4.5 V DC (3 AA alkaline batteries or optional NiMH rechargeable batteries)
Emergency stop safety performance	EN13849-1
Weight	380 grams

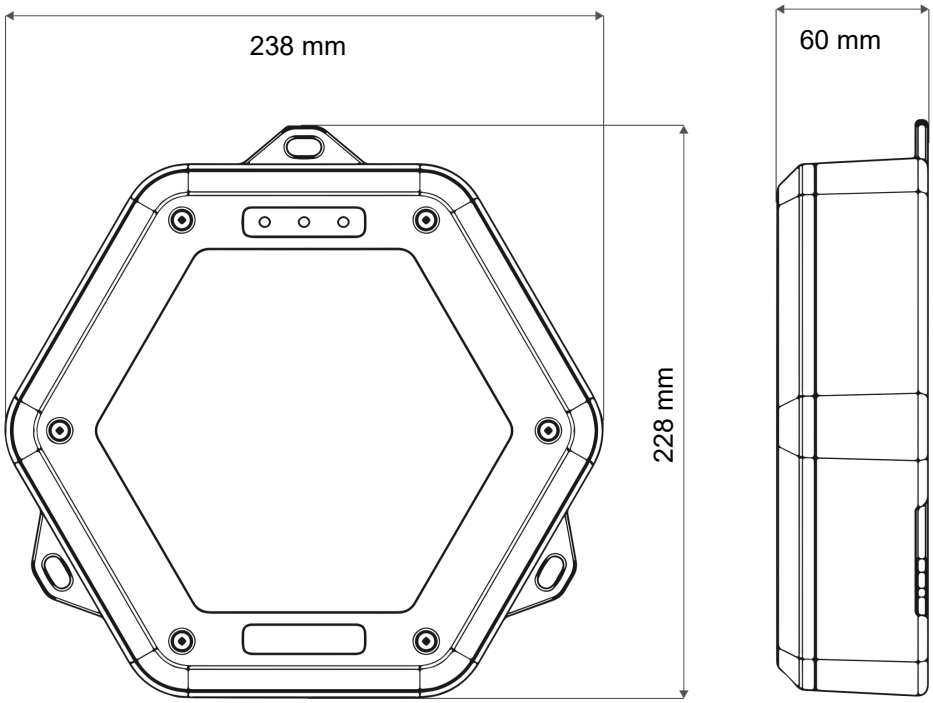






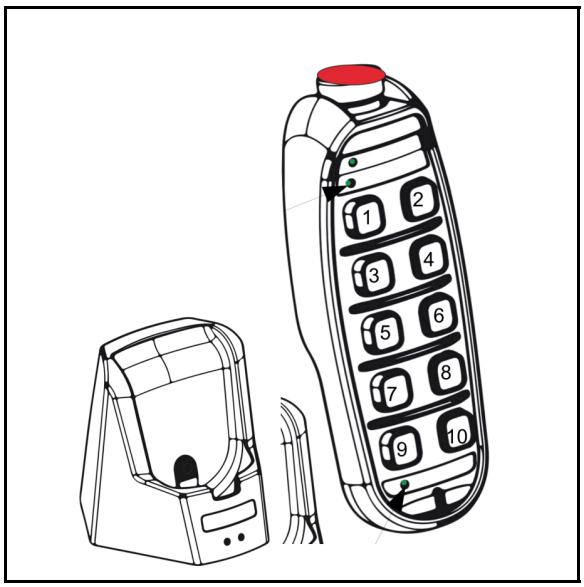
2.2 Control Panel

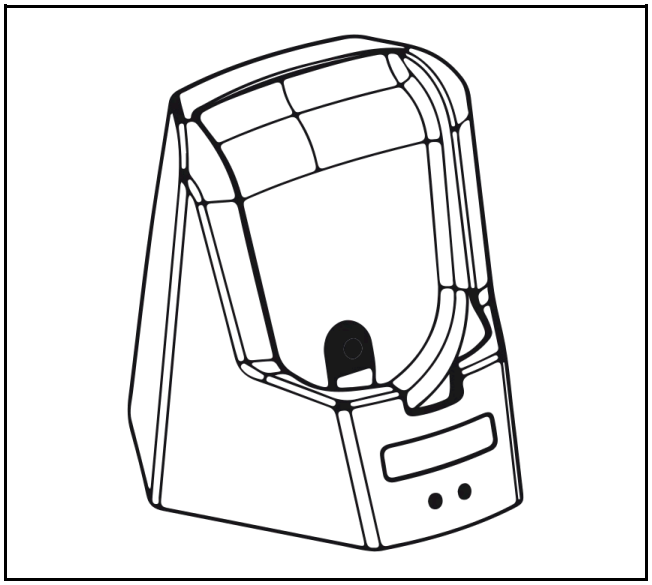
Relay options	8, 11, 14 or 18
Frequency management	GFSK, FHSS
Operating frequency	2.4 - 2.5 GHz
Communication	Continuous, bidirectional (full duplex)
Receiver sensitivity	-140 dBm
Antenna	Internal, 50 ohms
LED indicators	3
Operating voltage	48-550 V AC/DC, optional 12-48 V AC/DC
Protection rating	IP65
Housing material	ABS
Operating temperature range	-25°C...+75°C
Storage temperature range	-40°C...+125°C
Command response time	≤ 50 ms

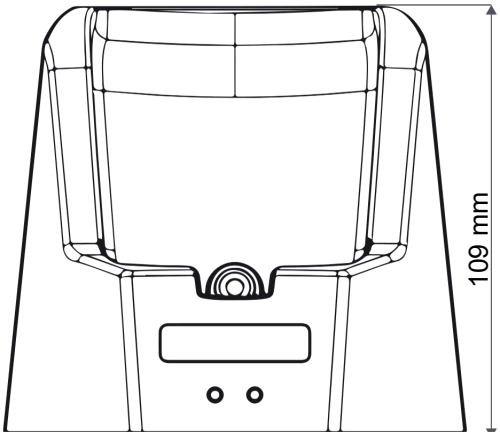


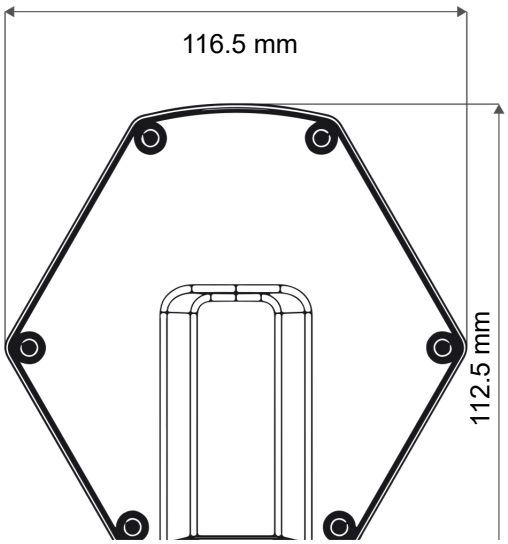
2.3 Charging Station

Charging voltage	5 V DC (3 AA NiMH batteries in series)
Charging current	2 A
LED indicators	2
Supply voltage	5 V DC (USB Type-C socket)







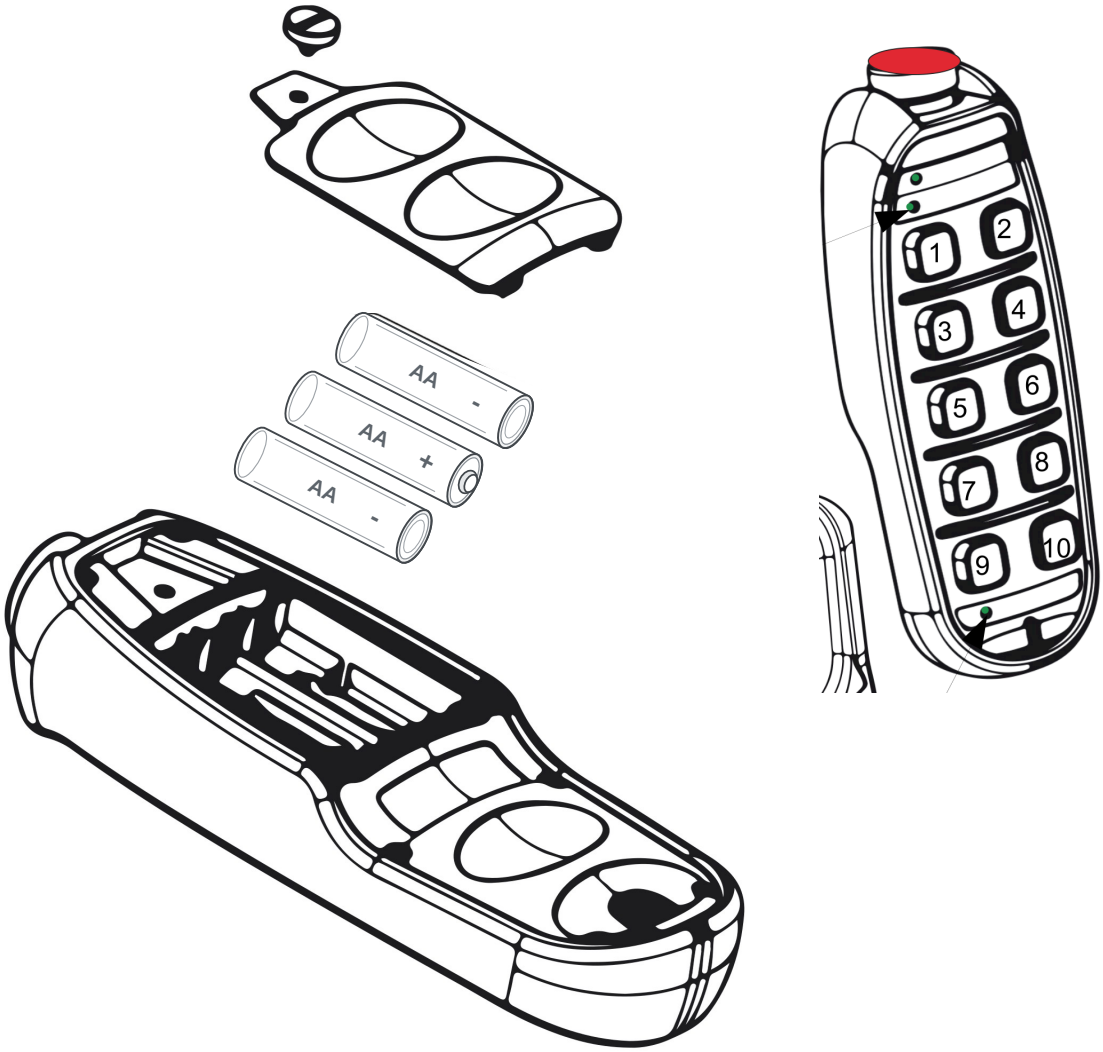


Optional NiMH batteries: 3 AA, 2700 mAh. Full charge: approximately 1 hour.
Charging LED: flashing green while charging; steady green when complete.

3 - Installation

3.1 Installing the Remote Control Unit (Transmitter)

Insert the batteries into the battery compartment, observing the correct polarity.



3 - Installation

3.2 Installing the Control Panel (Receiver)

Ensure the connections are correct, then power up the unit.

TERMINAL	RELAY	WIRE	FUNCTION
1	K4	16	BUZZER
2	K4	17	BUZZER
3	-	12	COM K/G
4	K5	7	BACKWARD
5	K7	8	FORWARD
6	K8	9	F/B 2nd SPEED
7	-	11	COM D/B
8	K10	4	RIGHT
9	K11	5	LEFT
10	K13	6	R/L 2nd SPEED
11	-	10	COM A/Y
12	K14	1	UP

TERMINAL	RELAY	WIRE	FUNCTION
13	K15	2	DOWN
14	K16	3	UP 2nd SPEED
15	K17	3	DOWN 2nd SPEED
16	K18	13	MAIN
17	K19	14	MAIN
18	-	-	NC
19	-	Y/G	N
20	-	15	L
21	-	18	COM A
22	K3	19	A+
23	K2	20	A-
24	K1	21	A 2nd SPEED
25	-	22	COM B
26	K6	23	B+
27	K9	24	B-
28	K12	25	B 2nd SPEED
29	-	-	+12 V (Optional)
30	-	-	-12 V (Optional)

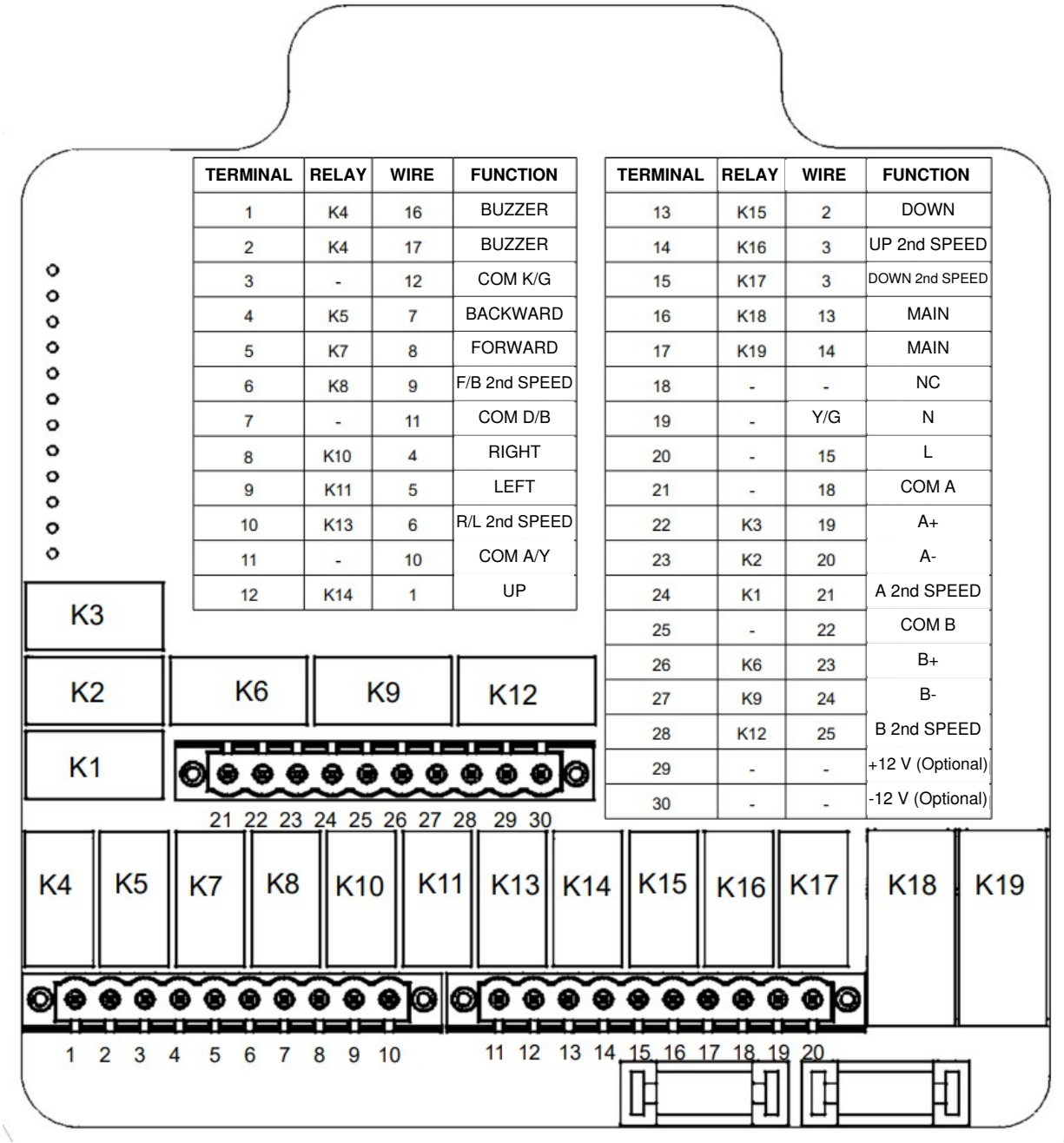
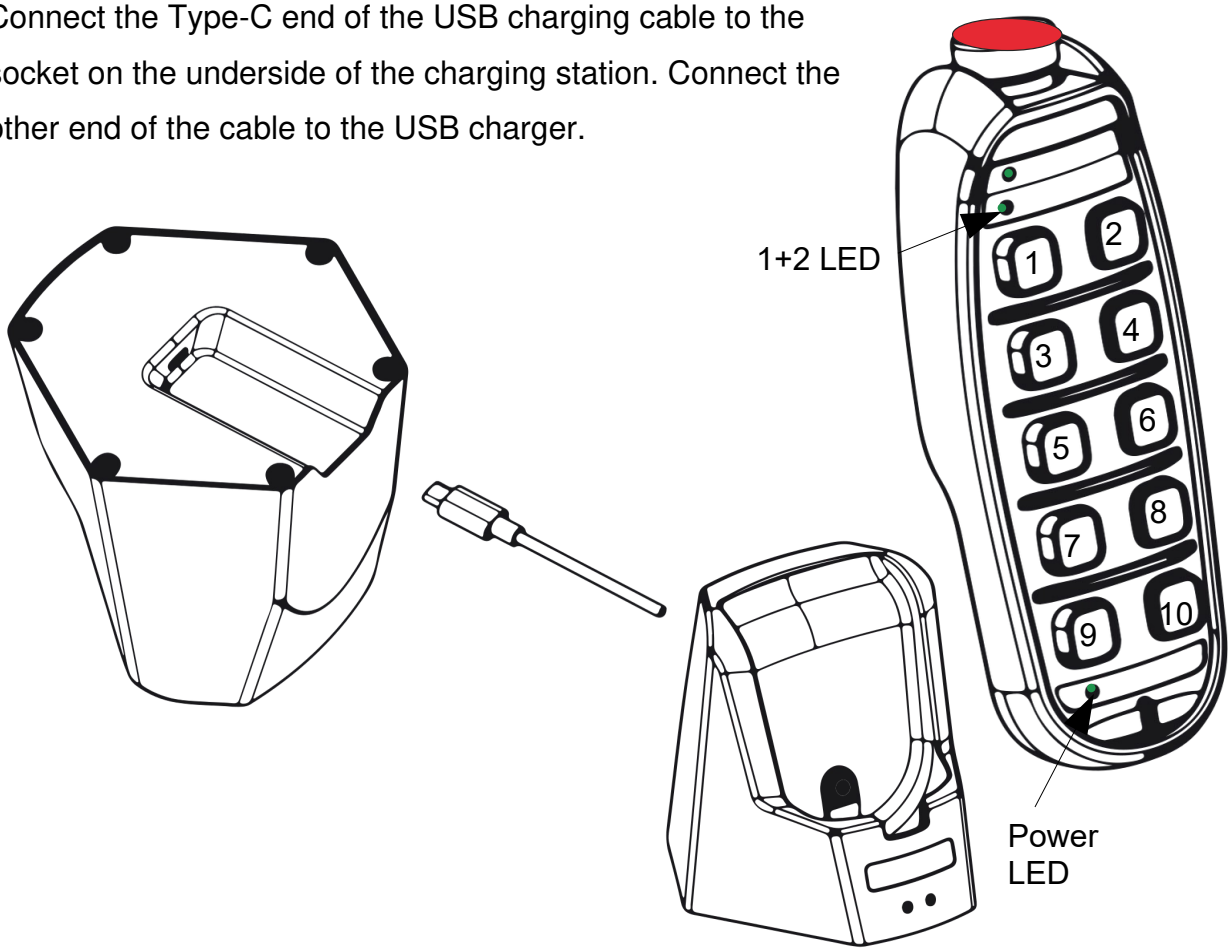


Figure 1 - Control panel connections

3 - Installation

3.3 Installing the Charging Station

Connect the Type-C end of the USB charging cable to the socket on the underside of the charging station. Connect the other end of the cable to the USB charger.



3.4 Pairing the Receiver and Transmitter

Follow these steps to pair the receiver and transmitter:

1. Press and hold buttons 1, 2, 4 and 9 (see the illustration above) for 5 seconds. An audible signal will sound.
2. Press and hold buttons 1, 3 and 9 until the "Power" LED lights up.
3. Press and hold the button inside the main unit (receiver) for 5 seconds. The "1+2" LED will go out. The main unit and remote control unit are now paired.

4 - Operating the Radio Remote Control System

4.1 Button and LED Functions

1. Emergency Stop Button	11. Bridge FORWARD Button
2. A + B LED	12. Bridge selector 1 / 2 / 1+2
3. COMMUNICATION LED	13. Hoist selector A / B / A+B
4. 1 + 2 LED	14. START / STOP Button
5. Button Operation LED	15. Auxiliary Button 3
6. Hoist UP Button	16. Power LED
7. Hoist DOWN Button	17. Safety Strap Attachment Point
8. Trolley LEFT Button	18. Battery Cover Screw
9. Trolley RIGHT Button	19. Battery Cover
10. Bridge BACKWARD Button	20. Magnetic Charging Socket (Optional)

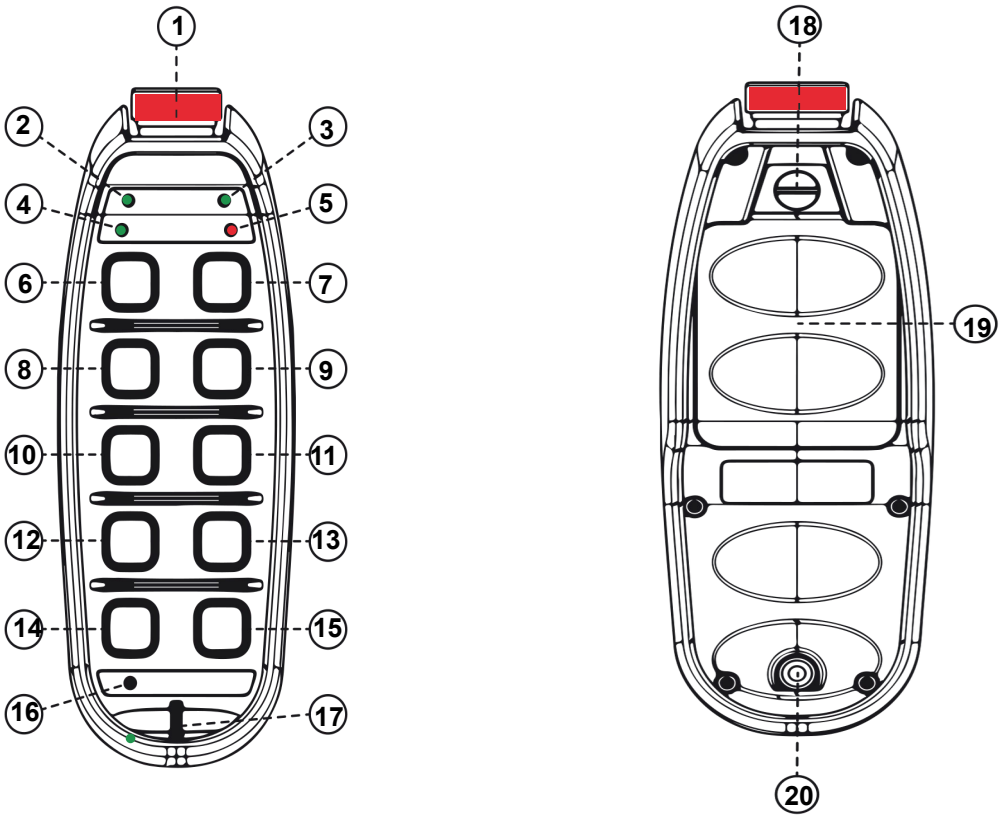


Figure 2 - Buttons and LED indicators

4.2 Operating the Receiver

After checking that the connections are correct, power up the unit.

4.3 Operating the Transmitter

- Release the emergency stop button if it is locked (pressed).

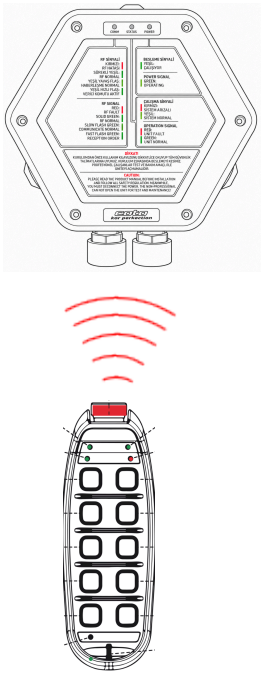
Press and hold START for 3 seconds (Single Start, default). A 1-second audible signal indicates start-up.

- When the COMMUNICATION LED on the unit starts flashing, communication between the receiver and transmitter has been established.

START-UP ORDER: power the receiver before starting the transmitter.
After any interruption of communication, use START again; the link returning alone does not restart operation.

5 - System Operating Modes

5.1 1 Receiver and 1 Transmitter

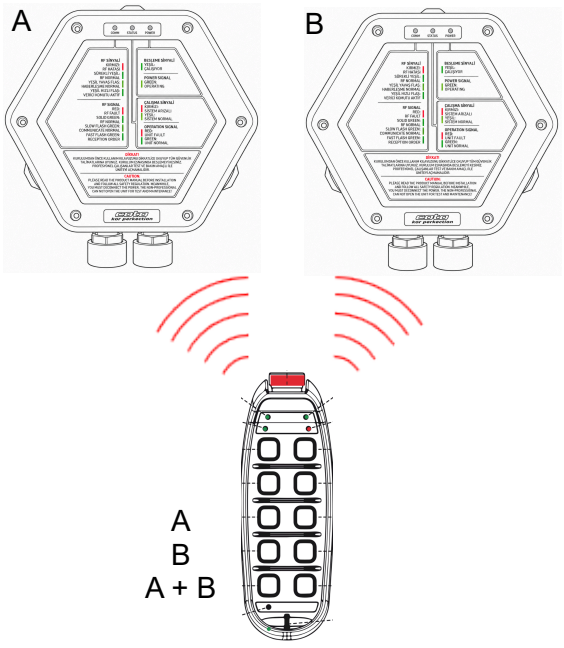


This is the most common standard configuration. One transmitter is paired with one receiver connected to the crane or machine to be remotely controlled.

If the automation systems for A and B share the same control panel, the A / B / A + B function (tandem operation) is available as an option.

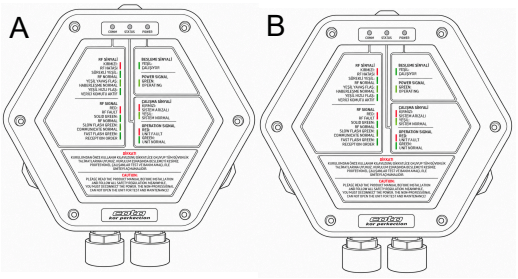
Other receivers and transmitters in the same area are not affected by the operation of this system.

5.2 2 Receivers and 1 Transmitter

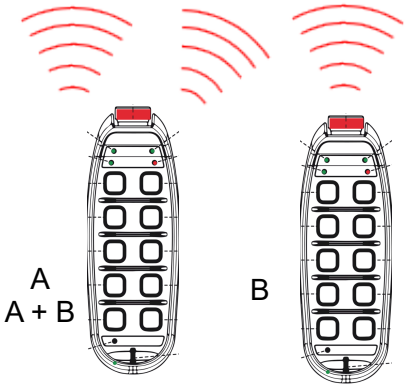


A single transmitter can control two configured receivers and their
connected machines. Select 1, 2 or 1+2 to address the required bridge(s).
Simultaneous commands are available for tandem applications. Follow the
machine-specific operating procedure for coordinated lifting.

5.3 Multiple Receivers and 1 Transmitter

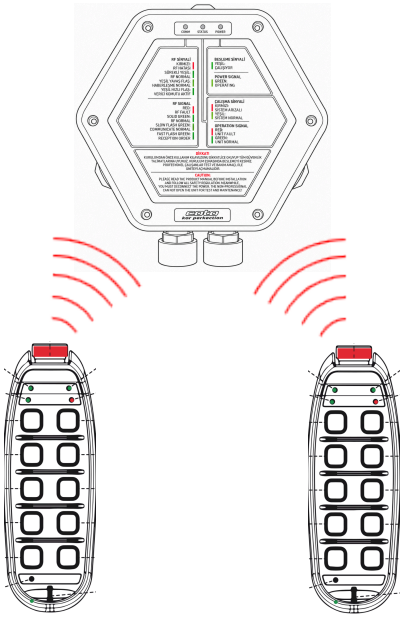


A single transmitter can also control more than two receivers. This enables multiple cranes to be controlled using a single remote control.



This configuration is also known as Master/Slave operation.

5.4 1 Receiver and Multiple Transmitters



When visibility is limited along the travel path, a single receiver can be controlled by multiple transmitters (multiple-operator use). Control can then be shared among several operators.

This mode is also known as "Take/Release" or "Pitch & Catch" operation.

6 - Maintenance & Troubleshooting

6.1 Cleaning Instructions

Clean the unit with a dry or slightly damp cloth. Do not use solvents or abrasive substances.

6.2 Battery Maintenance

- When replacing batteries, ensure that the polarity is correct.
- If using rechargeable batteries, replace them after 100 charging cycles.
- Never place the unit in the charging station with non-rechargeable batteries.

6.3 Problems and Solutions

The signals and symptoms described below can be used to diagnose problems that users can identify and resolve themselves:

On the Receiver Unit

COMM LED GREEN: Communication between receiver and transmitter is active.

COMM LED RED: Communication between receiver and transmitter has been lost.

The receiver stops the system when communication is lost. After the link is restored, the operator must use START again before operation resumes.

STATUS LED GREEN: Communication is active and the system processor is operating normally.

STATUS LED RED: Communication cannot be established and/or there is a problem with the system processor.

POWER LED GREEN + BLUE: The GREEN part indicates power to the system processor. The BLUE + GREEN part indicates power to the relays inside the unit. Both power supplies are protected by a fuse inside the unit.

On the Transmitter Unit

POWER LED GREEN + RED: The unit is powered up and operating normally.

POWER LED RED: If the LED lights RED when the START button is pressed, the emergency stop button is locked (pressed). If the emergency stop button is not locked, either the batteries are depleted and must be replaced, a button is being pressed, or the RF module is faulty.

COMM LED: Indicates that the receiver and transmitter are communicating correctly.

BUTTON OPERATION LED: This LED lights whenever a button is pressed and can be used to identify faulty buttons.

Start, Stop & Restart

Single Start - default



START

Release the emergency stop when the machine and working area are safe. Press and hold START for **3 seconds**. Confirm communication before operating a movement button.

Emergency stop

Press the red emergency stop button. The machine panel main contactor drops out, the machine stops, and all transmitter LEDs go out. Resolve the cause before releasing the emergency stop and restarting.

Restart after any communication interruption

Condition	Required action
Out of operating range	Return to an appropriate operating position and use START again.
Low battery / battery replacement	Replace the batteries as a complete approved set, then use START again.
Sleep mode	Use START again before resuming operation.
Other communication loss	Identify and resolve the cause, check the area, then use START again.

Restored communication does not automatically authorize movement. With Single Start, hold START for 3 seconds. A Double Start option uses **1 second press, release, then 3 seconds press and hold**; see the configuration note on page 22.

Single-stage and two-stage buttons

On a two-stage model, the first button stage commands low speed and the second commands high speed. Returning from the second stage to the first returns to low speed. Use the assigned direction and function labels for the installed machine.

Bridge & Hoist Selection

Selection buttons - when configured

On the model illustrated, the fourth-row left button selects the bridge(s); the fourth-row right button selects the hoist(s) or hooks. The START button is separate. Selection functions depend on the supplied configuration.



Selection	Function
1 / 2 / 1+2	Bridge 1, bridge 2, or both bridges.
A / B / A+B	Hoist A, hoist B, or both; alternatively main and auxiliary hooks.

RIGHT: A, B, A+B, then A

LEFT: 1, 2, 1+2

Selection indicators

Selected state	Relevant indicator
A or 1	Green
B or 2	Red
A+B or 1+2	Combination LED flashes.

Settings Menu - Entry

Emergency stop must be pressed and latched

Keep the red emergency stop pressed and latched during all settings. The LED beside the lower COTO label lights red in the menu. Hold every menu-entry combination for **5 seconds, until the buzzer sounds**.

1. Enter the main menu



Press **HOIST DOWN + TROLLEY LEFT + START** together for 5 seconds, until the buzzer sounds.

2. Open the required setting

Setting	Hold together for 5 seconds
Sleep timer	BRIDGE BACKWARD + HOIST UP + START
RF power	BRIDGE BACKWARD + HOIST DOWN + START
START method - planned option	BRIDGE BACKWARD + TROLLEY LEFT + START

3. Select, save and exit

In the selected submenu, hold the required two-button combination for **5 seconds, until the buzzer sounds**. The selection is saved, the lower red LED goes out, and the menu closes automatically. Enter the main menu again to change another setting.

CRC-41/42 (4 movement buttons + START): the main-menu entry uses fitted buttons. All illustrated two-button selection pairs also exist on this layout. However, the submenu-entry combinations shown above require a bridge button and must not be used on CRC-41/42. This revision does not prescribe an alternative submenu-entry sequence for those models.



Lower COTO LED: red in the menu; goes out after buzzer confirmation and saving. Red flashing during operation indicates low battery.

Sleep Timer Setting

Enter the sleep timer submenu

Press and latch the emergency stop. Enter the main menu using the combination on page 19. Then hold the following combination for **5 seconds until the buzzer sounds**.



BRIDGE BACKWARD HOIST UP START

BRIDGE BACKWARD + HOIST UP + START

Select the required period - default: 15 minutes



5 minutes: HOIST UP + HOIST DOWN



15 minutes (default): HOIST DOWN + TROLLEY RIGHT



30 minutes: TROLLEY LEFT + TROLLEY RIGHT



Unlimited: HOIST UP + TROLLEY LEFT

Hold the chosen pair for **5 seconds until the buzzer sounds**. The setting is saved and the lower red LED goes out; the menu closes automatically. Unlimited disables automatic sleep. Use START again after sleep before resuming operation.

RF Power Setting

Enter the RF power submenu

Press and latch the emergency stop. Enter the main menu using the combination on page 19. Then hold the following combination for **5 seconds until the buzzer sounds**.



BRIDGE BACKWARD + HOIST DOWN + START

Select the RF power stage - default: stage 2



Stage 1 - 25%: HOIST UP + HOIST DOWN



Stage 2 - 50% (default): HOIST DOWN + TROLLEY RIGHT



Stage 3 - 75%: TROLLEY LEFT + TROLLEY RIGHT



Stage 4 - 100%: HOIST UP + TROLLEY LEFT

Hold the chosen pair for **5 seconds until the buzzer sounds**. The selection is saved, the lower red LED goes out and the menu closes automatically. The manufacturer specifies **100 metres in open area at stage 2**. Radio conditions and obstacles affect usable range.

Single Start / Double Start

Operating methods

Method	START action
Single Start - default	Press and hold once for 3 seconds.
Double Start	Press for 1 second, release, then press and hold for 3 seconds.

Repeat the configured START action after any communication interruption, including an out-of-range event, depleted batteries or sleep. Before restarting, confirm that the area is safe and all movement buttons are released.

Planned menu selection - software implementation required

The following selection workflow was agreed for the next software implementation. It is not documented here as an already available menu function. Use the supported configuration of the supplied transmitter.



After main-menu entry, hold BRIDGE BACKWARD + TROLLEY LEFT + START for **5 seconds until the buzzer sounds**. Keep the emergency stop pressed and latched.

Proposed selection	Hold together for 5 seconds
Single Start - default	HOIST DOWN + TROLLEY LEFT
Double Start	HOIST UP + TROLLEY RIGHT

Proposed save behavior: buzzer confirmation, lower red LED goes out, selection saved and automatic menu exit. These steps become operator instructions once implemented in the supplied software.

Battery, LEDs & Troubleshooting

Battery and optional charging

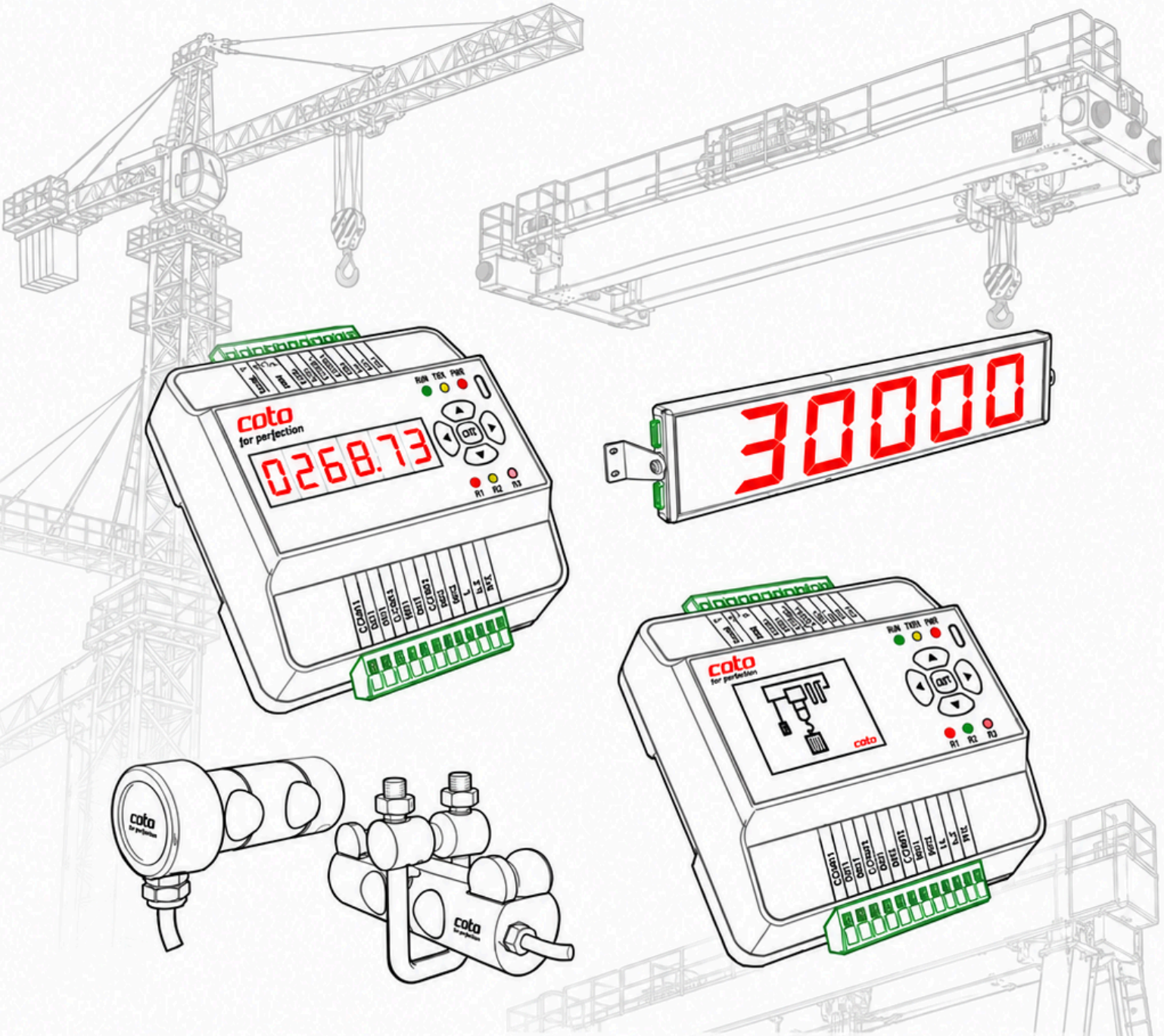
Use three AA batteries as a complete matched set. Observe polarity and secure the battery cover. Optional rechargeable batteries are **NiMH, 2700 mAh**; a full charge takes approximately **1 hour**. Never charge alkaline or other non-rechargeable cells.

Indicator	Meaning / action
Lower COTO LED flashes red	Low battery. Visual warning only; no audible battery warning. Replace the batteries, then use START.
Lower COTO LED is red in settings	Settings menu active with emergency stop pressed and latched.
Buzzer sounds; lower LED goes out	Setting saved and menu closed.
Charger LED flashes green	Charging in progress.
Charger LED is steady green	Charge complete.

Safe fault checks

Symptom	Operator action
Will not start	Check battery condition, released movement buttons and emergency stop position. Use the configured START method.
Communication lost	Stop, check receiver power and operating position, then use START after the cause is resolved.
Unexpected motion / sticking button	Use emergency stop and remove the equipment from service. Do not continue under load.
Persistent receiver fault / fuse issue	Refer to authorized service. Do not open an energized receiver or change fuse ratings.

For service, provide the transmitter and receiver model/serial numbers, LED states and fault circumstances. Contact your supplying dealer or COTO: **www.coto.com.tr**.



You can also choose our reliable load limiters, load cells and external display systems, which integrate seamlessly with our radio remote control systems.

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