



INDUSTRIAL CRANE RADIO CONTROLS

Radio Remote Control Range

Handheld wireless control for overhead & gantry cranes, electric hoists and light crane systems. H-Series transmitters and R-Series receivers — sealed to IP65, certified to CE & FCC,

and supplied for Australian industry.

CE · RED 2014/53/EU

FCC CERTIFIED

IP65 SEALED

E-STOP · EN 13849-1



WIRELESS CONTROL, ENGINEERED FOR INDUSTRY

Safer, sharper crane control

Sorian Cranes supplies the TYC H-Series radio remote control system for overhead and gantry cranes, electric hoists, jib and light crane systems. The handheld transmitter lets an operator drive the crane from the best vantage point on the floor —away from pinch points and suspended loads —while the receiver switches the motions on the machine. Every set is factory-paired, sealed to IP65 and certified to international standards.

**Range $\geq$ 150 m**

Reliable open-field control distance at 433–434 MHz, keeping operators clear of the load.

**Sealed to IP65**

Dust-tight, water-resistant transmitter and receiver built for workshops and yards.

**Safety e-stop**

Mushroom emergency stop compliant with EN 13849-1 brings the system to a safe state.

**Smart iKey pairing**

Plug-in iKey card factory-paired to the receiver, plus a hidden mechanical key.

**500+ hr runtime**

Over 500 hours continuous operation on 2×AA, with 30-minute auto power-off.

**–25 to +70 °C**

Rated for Australian extremes, from cold stores to hot fabrication bays.

**CE & FCC certified**

Notified-Body EU-Type examined to the Radio Equipment Directive 2014/53/EU.

**2M+ button life**

Double-speed self-reset buttons rated beyond two million operations.

TYPICAL APPLICATIONS

Overhead & gantry cranes · Electric chain & wire-rope hoists
Jib & workstation systems · Ground & truck-mounted pumps

H-SERIES HANDHELD TRANSMITTERS

One platform, four configurations

H-Series shares a single rugged PA6 + 30% glass-fibre housing, built-in antenna and smart key system across every model —so spares, training and feel stay consistent. Choose the button count to match the machine.



H22

4 BUTTONS

Two double-speed motions. Compact control for single-motion hoists and basic up/down plus travel.



H32

8 BUTTONS

Three double-speed motions —hoist, cross-travel and long-travel. The workhorse for single-girder EOT cranes.



H42

10 BUTTONS

Adds auxiliary functions for multi-speed or twin-hoist setups and ancillary outputs.



H52

12 BUTTONS

Full-function control with A/B selection for dual-hoist, tandem or complex configurations.

Matched R-Series receivers

R10

10 relays · pairs with H22 / H32

R15

15 relays · multi-function / mid-range

R20

20 relays · pairs with H52 / multi-motion

Custom & A-Series options. Button markings (arrows, text or symbols) can be customised, and the 3×AA A (A32 / A42) is available where additional functions are required. Talk to Sorian about the right configuration for your crane.

TECHNICAL DATA

Specifications

Transmitter —H-Series	
PARAMETER	SPECIFICATION
Models	H22 / H32 / H42 / H52
Operating elements	4 / 8 / 10 / 12 double-speed buttons
Frequency	433–434 MHz central band
Control distance	≥ 150 m, open field
Housing material	PA6 + 30% glass fibre
Protection rating	IP65
Dimensions	120 / 180 / 240 ×60 ×35 mm
Weight	120–360 g
Antenna	Built-in
Emergency stop	Mushroom, EN 13849-1
Smart key	TYC iKey, interchangeable
Power supply	H 2×AA · A 3×AA
Battery life	> 500 h continuous
Button life	≥ 2,000,000 operations
Auto power-off	30 minutes (standard)
Operating temp.	–25 °C to +70 °C
LED indication	Operation & battery

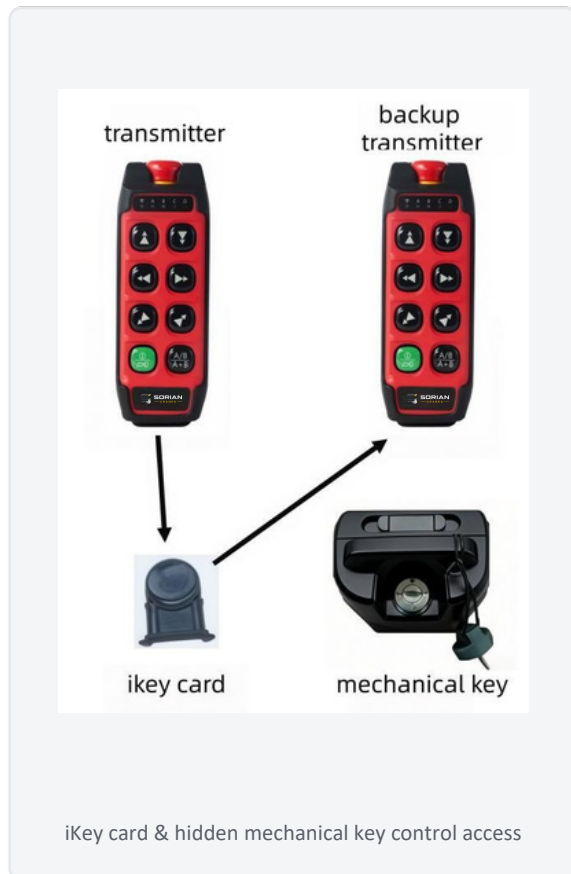
Receiver —R-Series	
PARAMETER	SPECIFICATION
Models	R10 / R15 / R20
Relay outputs	10 / 15 / 20 relays
Relay capacity	10 A / 250 VAC
Relay life	> 5,000,000 operations
Receiver power	9–36 VDC · 30–420 VAC
Frequency	433–434 MHz
Housing material	ABS
Protection rating	IP65
Dimensions	220 ×120 ×75 mm 1000
Weight	g
Antenna	External soft antenna
Output interface	Heavy-duty connector
Operating temp.	–25 °C to +70 °C
LED indication	Operation / RF signal



Complete system —transmitter, receiver, antenna & batteries

AUTHORISED, ONE-TO-ONE CONTROL

Smart iKey & safety system



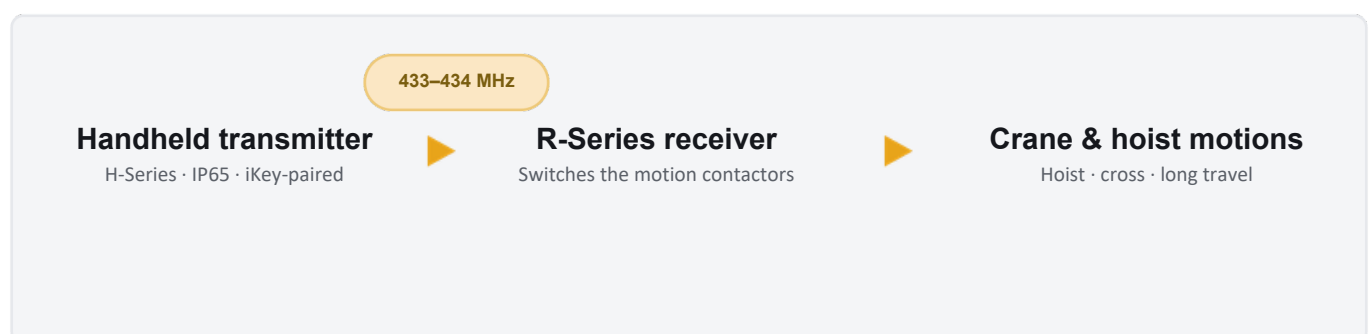
Each transmitter carries a plug-in smart iKey card, labelled at the factory with the same serial number as its receiver. The pair is matched one-to-one on frequency and address code, so a controller only ever drives its own machine. A second transmitter can be set up as a hot backup using a matching iKey, and a hidden mechanical key prevents unauthorised start-up.

Safety highlights

- ◆ **EN 13849-1 emergency stop** —press the mushroom head to bring the crane to an immediate safe state.
- ◆ **Factory-paired** —one transmitter to one receiver by serial number prevents cross-operation.
- ◆ **Protected access** —smartiKeyplusconcealed mechanical key restrict use to authorised operators.
- ◆ **Tamper-proof circuits** —emergency-stop and safety circuits must never be modified or bypassed.

Do not operate on a machine with two transmitters at once, use the system in explosive atmospheres, or run another unit on the same frequency within 300 m —all can cause interference or unsafe operation.

How it works



EVERYDAY OPERATION

Quick operating guide

Poweron

- 1 Release the emergency-stop button.
- 2 Insert the smart iKey and unlock the mechanical key (if fitted).
- 3 Press and hold the start button for 2 seconds.

Shut down

- ◆ Press the emergency stop and turn off the mechanical key, or
- ◆ Leave the unit to auto power-off (when enabled).

LED & status guide

- **Green flashing** Paired, powered and ready to operate.
- **Red flashing** Emergency stop engaged —rotate to release.
- **No indication** No power or flat battery —replace AA cells.
- **Green then steady red** Transmitter RF fault —service required.

Confirm connection

- ◆ The transmitter signal LED flashes green when paired and powered.
- ◆ Operating a button energises the matching relay on the receiver.

Settings

Auto power-off timing and serial baud rate are set with the receiver DIP switches. A-Series units short-press then long-press to start; refer to the in-box drawings.

Auto power-off & baud rate —DIP settings

BUTTONS	AUTO POWER-OFF	BAUD 19200 / 9600
8 buttons	DIP4 → ON	DIP3 ON / OFF
10 buttons	DIP4 → ON	DIP3 ON / OFF
12 buttons	DIP2 + DIP4 → ON	DIP3 ON / OFF

Power off the unit before changing any DIP switch, then power on to apply.

Tip. Keep a spare set of genuine AA batteries on hand — the LED shows battery status, and fresh cells give 500+ hours of run time.

COMMISSIONING & UPKEEP

Installation & maintenance

Installation — keysteps

- 1 Inspect units & accessories; confirm transmitter, receiver and iKey serial numbers match.
- 2 Check the site supply voltage suits the receiver (housing marking / drawing).
- 3 Isolate all power before wiring —never work live.
- 4 Fit transmitter batteries the correct way round and reseal.
- 5 Mount the receiver on a stable bracket with clear signal coverage.
- 6 Fit and orient the external antenna, clear of obstructions.
- 7 Wire to the diagram, secure each terminal and insulate.
- 8 Power-on test: check LEDs, then operate each button.

Maintenance

- ◆ Wipe the housing with a soft damp cloth —never use solvents.
- ◆ Check the antenna; replace if bent or damaged.
- ◆ Function-test every 3–6 months —buttons, LEDs and e-stop.
- ◆ Replace worn buttons, relays or modules promptly.

High voltage. Disconnect the receiver supply before opening the housing. In any fault or emergency, press the transmitter emergency stop immediately.

In the box. Transmitter, receiver, smart iKey, mechanical key, antenna, batteries, wiring diagram, certificate of conformity.



Engineer-led specification



Configured for Australian sites



National supply, install & support

DIAGNOSTICS & STANDARDS

Troubleshooting & compliance

Common faults & corrective actions		
SYMPTOM	LIKELY CAUSE	ACTION
Transmitter shows no response	No power / low battery	Check battery level; replace AA cells
Red LED keeps flashing	Emergency stop not released	Rotate to release the emergency stop
Green LED flashing, receiver not responding	RF/power module fault or address mismatch	Verify Tx/Rx serial numbers match; replace module
Some buttons not working	Output wire loose, button or relay fault	Check receiver wiring; replace button or relay
Green then continuous red after start	Transmitter RF module fault	Replace the transmitter RF module
Crane trips after normal start-up	Nearby frequency interference	Replace the smart chip to change frequency

Certification & standards

The H-Series and R-Series are certified under the EU Radio Equipment Directive (RED) 2014/53/EU, with a Notified-Body EU-Type Examination Certificate issued by MiCOM Labs — certificate LC-A2767-EU (5 June 2023, Rev A) —and are FCC certified. Manufactured by TYC (Suzhou) Crane Co., Ltd. The full certificate is reproduced at the end of this document.

HARMONISED STANDARDS

Health & safety (Art 3.1a)

EN IEC 62368-1:2020+A11 · EN 62479:2010 · EN 50643:2017

EMC (Art 3.1b)

EN 301 489-1 V2.2.3 · EN 301 489-3 V2.3.2 · EN 55032:2015/A11 · EN 55035:2017/A11

Radio spectrum (Art 3.2)

EN 300 220-1 V3.1.1 · EN 300 220-2 V3.2.1

Functional safety

EN 13849-1 (emergency stop)

Models covered: H22, H31, H32, H41, H42, H51, H52, R10, R15, R20.

FOR AUSTRALIAN INDUSTRY

Australian compliance & supply

Sorian Cranes is an engineer-led supplier of overhead, gantry, jib and workstation crane systems, supplied and installed nationally and designed to applicable AS/ISO standards. We supply these radio controls configured and supported for Australian sites.

Australian compliance considerations. In Australia, short-range 433 MHz radio transmitters are regulated by the ACMA, and equipment placed on the market is required to carry the Regulatory Compliance Mark (RCM) under the applicable radiocommunications, EMC and electrical-safety arrangements. Crane radio-control systems also fall within the scope of the AS 1418 series —in particular AS1418.19 (remote and automatic crane operation) —with safe use and inspection under AS 2550. The units in this catalogue hold EU CE (RED 2014/53/EU) and FCC certification; Sorian Cranes can advise on RCM status and AS 1418 conformity for your specific application.

TALK TO AN ENGINEER

Get the right control for your crane.

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The Notified-Body EU-Type Examination Certificate is reproduced in full on the following slides.