

Industrial Hoist Crane Wireless Remote Control System

Product Specification, Wiring Matrix & Installation Guide

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1. EXECUTIVE SUMMARY & OVERVIEW

The Nomi Industrial Hoist Crane Wireless Remote Control System, engineered by Henan Nomi Electronic Technology Co., Ltd., is an ultra-rugged, highly reliable radio control solution designed for overhead cranes, bridge cranes, monorail hoists, electric chain hoists, and gantry cranes.



Operating heavy lifting equipment via wired pendant switches exposes operators to crushing hazards, swinging loads, and limited operational angles. The Nomi industrial radio remote control allows crane operators to maneuver loads safely from optimal vantage points up to 100 meters away. Featuring dual-speed tactile pushbuttons, an instantaneous safety Emergency Stop, and heavy-duty IP65 enclosure protection, this system dramatically boosts workshop material handling efficiency while ensuring zero-compromise operational safety.

2. TECHNICAL SPECIFICATIONS

Technical Parameter	Specification & Engineering Value
Manufacturer & Brand	Henan Nomi Electronic Technology Co., Ltd. / Nomi
Target Machinery	Overhead Travelling Cranes, Electric Hoists, Gantry Cranes, Monorails
Pushbutton Configuration	6 / 8 / 10 / 12 Single-Speed or Dual-Speed Pushbuttons
Frequency Range	VHF: 310-331 MHz / UHF: 425-446 MHz (Customizable)
Control Distance	Up to 100 meters (328 feet) unobstructed line-of-sight
Transmitter Power Supply	2 x AA Alkaline Batteries (Up to 2 months daily use)
Receiver Power Supply	24V / 48V / 110V / 220V / 380V AC (Wide-Voltage Transformer)
Output Relay Capacity	5A / 250V AC (Dry Contact Outputs)
Enclosure Protection Rating	IP65 (Dust-Tight & Water-Resistant Glass-Fiber Nylon)
Operating Temperature	-35°C to +85°C (-31°F to +185°F)

3. KEY SYSTEM FEATURES & ADVANTAGES

Dual-Speed Ergonomic Pushbuttons: Heavy-duty silicone pushbuttons with two-stage mechanical tactile feedback. Light press triggers low speed (inching/positioning), while full press engages high-speed hoist or trolley movement.

Hamming Code & Security Key Switch: Employs over 4.3 billion unique security ID codes combined with advanced Hamming Code algorithms to completely eliminate signal cross-talk or unauthorized adjacent crane operation.

Industrial Shock Resistance: The transmitter casing is molded from 30 percent glass-fiber reinforced nylon resin, featuring an integrated rubber boot. It easily withstands accidental 2-meter drops onto concrete factory floors.

Safety Power Key & E-Stop Architecture: Equipped with a removable safety magnetic key switch to prevent unauthorized operation, alongside an EN ISO 13849-1 compliant mushroom-head Emergency Stop switch.

4. SYSTEM PACKAGE COMPONENTS

Item Number	Component Description	Quantity Included
1	Handheld Wireless Pushbutton Transmitter	1 Unit (or 2 for Dual Transmitter Setup)
2	IP65 Industrial Receiver with Pre-Wired Cable	1 Unit
3	High-Gain Rubber Antenna Assembly	1 Piece
4	Transmitter Protective Leather Sheath & Lanyard	1 Set
5	Mounting Hardware & Spare Fuse Kit	1 Set
6	Electrical Wiring Diagram & Operation Manual	1 Copy

5. SYSTEM WIRING ARCHITECTURE & PINOUT MATRIX

5.1 Receiver Wiring Harness Definition

Cable Wire Color	Signal Name	Connection Destination	Function & Action Logic
Red / Black	Main Power Input	AC 220V / 380V Power Line	Receiver System Power Supply
Orange	Main Contactor (K0)	Main Power Relay / E-Stop Circuit	Engages Crane Main Contactor
Pink	Common Line (COM)	Control Voltage Supply Line	Common Line for Relay Output
Yellow	UP Movement	Hoist Motor UP Contactor	Triggers Hoist Upward Lifting
Green	DOWN Movement	Hoist Motor DOWN Contactor	Triggers Hoist Downward Lowering
Blue	EAST Movement	Trolley Motor EAST Contactor	Triggers Trolley Left / East Travel
White	WEST Movement	Trolley Motor WEST Contactor	Triggers Trolley Right / West Travel
Gray	NORTH Movement	Bridge Motor NORTH Contactor	Triggers Crane Long Travel Forward
Brown	SOUTH Movement	Bridge Motor SOUTH Contactor	Triggers Crane Long Travel Reverse

5.2 Crane Motion Control Logic

Motion Function	Stage 1 Press (Low Speed)	Stage 2 Press (High Speed)
Hoist Lifting	Engages Slow Speed Lifting Relay	Engages Main High-Speed Lifting Relay

Motion Function	Stage 1 Press (Low Speed)	Stage 2 Press (High Speed)
Hoist Lowering	Engages Slow Speed Lowering Relay	Engages Main High-Speed Lowering Relay
Trolley & Bridge Travel	Engages Inching Motion Relay	Engages Full Acceleration Relay

6. STEP-BY-STEP INSTALLATION & SAFETY CHECK

Receiver Power & Antenna Installation: Disconnect the main power to the crane electrical box. Mount the receiver enclosure outside the metal junction box using rubber shock isolators. Ensure the antenna points vertically upwards away from metallic obstruction.

Wiring Harness Interfacing: Connect the main power supply cables to the transformer terminals inside the receiver. Wire the direction relays (UP, DOWN, EAST, WEST, NORTH, SOUTH) directly to the coil terminals of the crane magnetic contactors according to the pinout matrix above.

Power-On System Pairing: Insert 2 AA batteries into the transmitter. Turn the safety key clockwise and pull up the Emergency Stop button. The transmitter status LED should flash green, indicating successful RF pairing with the receiver.

Operational Safety Check: Press the Emergency Stop button on the transmitter while the hoist is moving; all crane contactors must immediately drop out within 20 milliseconds to guarantee emergency shutdown.

7. TROUBLESHOOTING & MAINTENANCE

Issue 1: Receiver LED is Off and System Does Not Respond

Cause and Solution: No power supply input or blown main fuse. Check input voltage on power wires and replace internal 0.5A control fuse if necessary.

Issue 2: Transmitter LED Flashes Red Rapidly

Cause and Solution: Low battery voltage or Emergency Stop engaged. Replace AA batteries immediately and ensure the mushroom E-Stop button is pulled up.

Routine Maintenance: Inspect pre-wired cable entry glands every 3 months to maintain IP65 waterproof sealing integrity. Wipe off industrial oil and grease from transmitter pushbuttons using a clean dry cloth.

8. COMPANY INFORMATION & TECHNICAL SUPPORT

Manufacturer: Henan Nomi Electronic Technology Co., Ltd.

Official Website: <https://www.spiremade.com>

Sales & Technical Email: sales@spiremade.com

Product Lineup: Overhead Crane Remotes, Electric Hoist Controllers, Hydraulic Wireless Remotes, Concrete Pump Truck Controls.