

Auto Crane Electric Hoist with Wireless Remote Control System

Product Specification, Wiring Architecture & Installation Guide

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1. EXECUTIVE SUMMARY & OVERVIEW

The Nomi Auto Crane Electric Hoist with Wireless Remote Control System, engineered by Henan Nomi Electronic Technology Co., Ltd., is a compact, heavy-duty lifting and winching solution designed for service trucks, pickup trucks, utility auto cranes, and mobile service rigs.



Operating a truck-mounted auto crane or winch with a traditional tethered cord presents severe safety risks, including tangled cables around rotating winch drums, limited operator movement, and restricted field-of-view during heavy load placement. The Nomi integrated wireless remote control system allows operators to control boom elevation, cable rotation, and load hoisting from a safe distance of up to 100 meters. Built for 12V and 24V DC truck electrical architectures, this ruggedized system delivers high-torque lifting power, weather-sealed IP67 durability, and zero-latency wireless response for demanding outdoor service environments.

2. TECHNICAL SPECIFICATIONS

Technical Parameter	Specification & Engineering Value
Manufacturer & Brand	Henan Nomi Electronic Technology Co., Ltd. / Nomi
Target Machinery	Service Truck Cranes, Auto Cranes, Pickup Hoists, Utility Winches
System Input Voltage	12V DC / 24V DC Heavy-Duty Truck Electrical System
Wireless Frequency Range	433.92 MHz / 2.4 GHz (FHSS Signal Frequency Hopping)
Control Operating Distance	Up to 100 meters (328 feet) unobstructed line-of-sight
Relay Switching Capacity	10A / 30V DC Continuous Duty Relays
Transmitter Power Supply	2 x AAA Batteries (Integrated Low-Power Consumption Module)
Enclosure Protection Rating	Receiver IP67 Epoxy Sealed / Transmitter IP65 Weatherproof
Operating Temperature	-30°C to +75°C (-22°F to +167°F)
Overload & Voltage Safety	Integrated Low-Voltage Auto-Cutoff (Triggers Below 9.5V DC)

3. KEY SYSTEM FEATURES & ADVANTAGES

Dual Vehicle Voltage Compatibility

Engineered specifically for mobile truck installations, the receiver accepts a broad DC voltage range from 9V to 30V DC, ensuring reliable operation even during vehicle engine cranking or battery voltage dips.

Zero-Latency Wireless Response

Utilizes advanced micro-controller processing to achieve signal transmission latency below 15 milliseconds, providing instantaneous response for precision load inching and positioning.

IP67 Epoxy Encapsulated Receiver

The entire internal receiver circuit board is completely potted in high-grade waterproof epoxy resin, defending internal components against high-pressure washdowns, road salt corrosion, hydraulic fluid, and severe chassis vibration.

Fail-Safe Emergency Stop Architecture

Equipped with an oversized safety E-Stop switch on the transmitter. Activating the switch instantly disengages the main DC battery contactor, stopping all winch and crane motor movements in under 20 milliseconds.

4. SYSTEM PACKAGE COMPONENTS

Item Number	Component Description	Quantity Included
1	Ergonomic Handheld Wireless Transmitter Unit	1 Unit
2	Weatherproof IP67 Receiver Box with Harness Lead	1 Unit
3	Pre-Wired Heavy-Duty Cable Harness with Fuse Holder	1 Assembly
4	Stainless Steel Mounting Bracket & Screw Hardware	1 Set
5	Technical Schematic Diagram & Installation Manual	1 Copy

5. SYSTEM WIRING ARCHITECTURE & PINOUT MATRIX

5.1 Receiver Wiring Lead Assignments

Lead Cable Color	Signal Function	Target Connection Point	Operation Logic
Red	Main Power Positive Input	12V/24V DC Battery Positive Terminal	Powers Receiver (10A Fuse Protected)
Black	Main Power Ground Input	Vehicle Chassis Ground / Battery Negative	Ground Reference Connection
Yellow	Winch HOIST UP Output	Up Direction Relay / Motor Solenoid	Triggers Hoist Motor Upward Motion
Green	Winch HOIST DOWN Output	Down Direction Relay / Motor Solenoid	Triggers Hoist Motor Downward Motion
Blue	Boom SLEW LEFT Output	Left Rotation Solenoid / Motor Relay	Drives Auto Crane Boom Counter-Clockwise
White	Boom SLEW RIGHT Output	Right Rotation Solenoid / Motor Relay	Drives Auto Crane Boom Clockwise
Brown	Auxiliary Pass-Through	Original Wired Pendant Interface Port	Preserves Corded Backup Controller Use

5.2 Auto Crane Motor Relay Interface Logic

Pushbutton Action	Primary Relay Activation	Secondary Valve / Contactor Action
Press UP Button	Activates Cable Hoist UP Solenoid	Engages Main DC Motor Relay
Press DOWN Button	Activates Cable Hoist DOWN Solenoid	Engages Lowering Brake Release Relay

Pushbutton Action	Primary Relay Activation	Secondary Valve / Contactor Action
Press LEFT Button	Activates Boom Clockwise Rotation Relay	Drives Hydraulic Power Unit Motor
Press RIGHT Button	Activates Boom Counter-Clockwise Relay	Drives Hydraulic Power Unit Motor

6. STEP-BY-STEP INSTALLATION & COMMISSIONING

Step 1 Receiver Box Mounting

Disconnect the truck battery negative terminal. Mount the receiver unit inside the vehicle battery box or utility truck side compartment using the provided vibration-damping rubber mounts. Position the antenna away from heavy steel framing for maximum RF range.

Step 2 DC Power & Control Wiring

Connect the RED input wire directly to the 12V/24V DC battery positive terminal through the inline 10A fuse. Connect the BLACK input wire to the common chassis ground. Wire the YELLOW, GREEN, BLUE, and WHITE control output leads directly to the coil terminals of your winch directional solenoids or auto crane hydraulic valves according to the pinout matrix above.

Step 3 Radio Frequency Pairing

Reconnect the truck battery. Insert batteries into the handheld transmitter and turn on the side power switch. Press the receiver pairing button for 3 seconds until the status LED flashes green, confirming radio channel synchronization.

Step 4 Safety & Motion Test

Stand clear of the auto crane boom. Test UP, DOWN, LEFT, and RIGHT motions to verify correct motor direction. Press the transmitter Emergency Stop button during operation to confirm immediate power shutoff to all crane relays.

7. TROUBLESHOOTING & MAINTENANCE

Issue 1 Receiver LED Does Not Illuminate

Cause and Solution: No DC power input or blown inline fuse. Verify truck battery voltage is above 9.5V DC and inspect the 10A inline fuse on the RED wire.

Issue 2 Intermittent Signal or Reduced Operating Distance

Cause and Solution: Low transmitter battery or RF signal block. Replace transmitter batteries and re-route the receiver antenna away from dense metal enclosures or electric winch motor leads.

Routine Maintenance Schedule

Inspect all wiring terminal eyelets and crimp connections every 3 months for moisture corrosion. Clean dirt and grease off the handheld transmitter housing using a soft, 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: Auto Crane Controllers, Truck Winch Remotes, Overhead Crane Controllers, Electro-Hydraulic Proportional Wireless Systems.