

Dump Trailer Wireless Remote Control System Product Specification, Wiring Architecture & Integration Guide

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EXECUTIVE SUMMARY & OVERVIEW

The Nomi Dump Trailer Wireless Remote Control System (Engineered by Henan Nomi Electronic Technology Co., Ltd.) is an industrial-grade, heavy-duty wireless upgrade solution designed for 12V and 24V DC hydraulic power units commonly used on dump trailers, dump trucks, tilt trailers, and hydraulic winches.

Engineered to replace or work in parallel with traditional tethered wired pendants, this system allows operators to raise, lower, and tilt trailer beds from a safe distance of up to 100–150 feet (30–45 meters). By eliminating tangled control cords and improving line-of-sight visibility during dumping operations, the Nomi Wireless Remote System enhances workplace safety, operational efficiency, and equipment longevity.

TECHNICAL SPECIFICATIONS

Manufacturer & Brand: Henan Nomi Electronic Technology Co., Ltd. / Nomi

Target Application: 12V / 24V DC Hydraulic Power Units (Single & Double Acting)

Operating Voltage Range: 9V DC - 30V DC (Integrated Low-Voltage Protection)

Wireless Operating Range: Up to 150 ft (45 m) unobstructed line-of-sight

Radio Frequency: 433.92 MHz / 2.4 GHz (FHSS Anti-Interference)

Receiver IP Rating: IP67 (Solid Epoxy Encapsulated, Weatherproof & Dustproof)

Transmitter IP Rating: IP65 (Impact-Resistant ABS Casing with Rubberized Grip)

Operating Temperature: -30°C to +70°C (-22°F to +158°F)

Hydraulic Pump Compatibility: Compatible with KTI®, Monarch®, Bucher®, MTE®, and Parker®

Wiring Configuration: 3-Wire and 4-Wire Standard Control Circuits

KEY SYSTEM FEATURES & ADVANTAGES

Dual-Control Functionality (Pass-Through Architecture): Designed to connect directly to existing hydraulic pump solenoids while retaining the original corded pendant switch as a physical emergency backup.

Low-Voltage Protection System: Built-in Smart CPU automatically cuts off output switching if the trailer battery drops below 9V DC, preventing coil burnout and protecting battery health.

Encapsulated Weatherproof Receiver: The internal circuit board is completely potted in commercial-grade waterproof epoxy resin, resisting high-pressure washdowns, hydraulic oil splashes, road salt, and harsh outdoor environments.

Plug-and-Play Quick Harness: Pre-wired with heavy-duty color-coded wiring harnesses and optional Deutsch-style circular connectors for fast, non-destructive installation.

Safety Timeout & Auto Power-Off: The transmitter automatically powers down after 1 minute of inactivity to prevent accidental triggering during transport and prolong battery life.

SYSTEM PACKAGE COMPONENTS

Handheld Wireless Transmitter (Fob/Pendant): Features raised silicone rubber UP/DOWN buttons, visual LED status indicator, and safety slide switch.

IP67 Waterproof Receiver Unit: Heavy-duty enclosure with integrated mounting tabs and high-gain internal/external antenna lead.

Color-Coded Heavy-Duty Wiring Harness: Automotive-grade copper lead cables with pre-crimped terminal eyelets and inline fuse holder.

Universal Mounting Kit & Installation Manual: Includes 3M heavy-duty mounting tape and stainless-steel screws.

SYSTEM WIRING ARCHITECTURE & PINOUT SPECIFICATION

To ensure reliable electrical connection and avoid signal cross-talk, refer to the wiring definitions and control logic outlined below for 12V DC hydraulic power unit installation.

5.1 Wire Color Code & Pinout Definitions

Red Wire (Power Positive Input)

Signal Name: Power Positive (+V)

Connection Destination: 12V / 24V DC Battery Positive Terminal

Voltage & Current Rating: 9V-30V DC, 10A Inline Fuse Protected

Black Wire (Ground Reference)

Signal Name: Ground (-V)

Connection Destination: Battery Negative Terminal or Common Chassis Ground

Voltage & Current Rating: Common Ground Reference

Yellow / White Wire (Power UP Output)

Signal Name: Power UP Control Signal

Connection Destination: Hydraulic Pump Starter Solenoid Coil

Voltage & Current Rating: 12V DC Output Signal (Active High)

Blue / Green Wire (Power DOWN Output)

Signal Name: Power DOWN Control Signal

Connection Destination: Hydraulic Down Valve or Solenoid Coil

Voltage & Current Rating: 12V DC Output Signal (Active High)

Brown Wire (Optional Backup Signal)

Signal Name: Backup Pass-Through Port

Connection Destination: Original Wired Pendant Interface

Voltage & Current Rating: Auxiliary Control Signal

5.2 Hydraulic System Compatibility & Control Logic

Single-Acting Hydraulic Pump Systems:

Power UP Signal Action: Triggers the main starter relay to engage the pump motor (Raises Trailer Bed).

Power DOWN Signal Action: Opens the hydraulic release solenoid valve (Gravity Lowers Trailer Bed).

Double-Acting Hydraulic Pump Systems:

Power UP Signal Action: Simultaneously triggers the motor relay and Valve A (Hydraulically Raises Trailer Bed).

Power DOWN Signal Action: Simultaneously triggers the motor relay and Valve B (Hydraulically Lowers Trailer Bed).

[SAFETY WARNING] Before beginning installation, disconnect the trailer battery ground (-) cable to prevent accidental short circuits or unintended hydraulic pump activation.

Step-by-Step Installation Instructions:

Mounting the Receiver: Secure the Nomi receiver box inside the trailer's steel battery/pump box using the pre-drilled tabs or provided 3M adhesive pad. Ensure the antenna is routed clear of metal shielding for optimal signal reception.

Power Connections:

Connect the RED wire (Positive Input) to the 12V DC battery positive terminal via the included 10A inline fuse.

Connect the BLACK wire (Ground Input) to the battery negative terminal or common ground chassis point.

Control Signal Connections:

Connect the YELLOW / WHITE wire to the Power UP solenoid coil terminal on your hydraulic pump.

Connect the BLUE / GREEN wire to the Power DOWN solenoid coil terminal (for double-acting power units) or dump valve coil.

System Calibration & Testing:

Reconnect the trailer battery.

Turn on the transmitter safety switch. Press UP to verify hydraulic bed lifting. Press DOWN to verify bed lowering.

Verify that the original tethered remote controller still functions smoothly through the pass-through port.

MAINTENANCE & TROUBLESHOOTING GUIDE

Problem: No response when pressing transmitter buttons. Solution: Check if the receiver LED lights up. If off, verify the 12V battery voltage (must be >9V DC) and inspect the inline fuse. Replace transmitter batteries if the LED indicator is dim or unlit.

Problem: Intermittent signal or reduced operational range. Solution: Ensure the receiver antenna lead is extended outside metal pump enclosures and away from heavy electric motor power cables. Routine Maintenance: Inspect all wiring terminal connections every 3 months for corrosion or loose crimps. Clean receiver housing using a dry cloth.

COMPANY INFORMATION & TECHNICAL SUPPORT

For bulk OEM inquiries, custom wireless remote control configurations, or technical installation assistance, please contact our engineering support team:

Manufacturer: Henan Nomi Electronic Technology Co., Ltd. Official

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

Sales & Technical Email: sales@spiremade.com

Product Specialty: Industrial Radio Remote Controls, Hydraulic Wireless Systems, Concrete Pump Remotes, and Crane Control Systems.