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NEX-G AUTOMATION LLP

ETHERNET IP HOOTER

Network-Controlled Industrial Audible Alert Infrastructure

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Installation Configuration Operation Integration Maintenance

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1. Product Overview

The **Nex-G Ethernet IP Hooter** is an industrial network-controlled audible alert device designed for Industry 4.0 automation environments. Replacing legacy relay wiring with digital control, the device interfaces seamlessly with SCADA, PLC, HMI, and web applications via HTTP REST API and Modbus TCP protocols to deliver up to 110 dB of high-decibel acoustic notifications.

Core System Capabilities:

- Direct 10/100 Mbps Ethernet connection eliminating dedicated control relay wiring.
- Embedded Web UI for device setup, sound pattern selection, and IP network configuration.
- RESTful HTTP GET/POST API and Modbus TCP support for automated control scripts.
- IP65-rated rugged industrial enclosure operating reliably from −10°C to +60°C.
- Energy-efficient design drawing under 5W with optional Power over Ethernet (PoE).

2. Installation & Wiring Safety Guidelines

> **Electrical Safety Notice:** Ensure power is disconnected prior to wiring. Verify input voltage (12–24V DC or PoE) matches the specific hardware model rating before powering the unit.

- **Mounting:** Mount firmly on flat industrial surfaces or panels using the integrated IP65 mounting holes.
- **Network Connection:** Connect standard CAT5e/CAT6 Ethernet cable to the RJ45 port; ensure gland seals are tightened.
- **Power Supply:** Wire 12–24V DC to the terminal block or connect to a PoE IEEE 802.3af switch port.

3. Technical Specifications

Parameter	Specification Details	Notes
Network Interface	10/100 Mbps Ethernet (RJ45 Port)	Auto-MDIX standard network connection
Supported Protocols	HTTP REST API, TCP/IP, Modbus TCP	Industrial network communication suite
Control Interfaces	Embedded Web UI, HTTP GET/POST, PLC/SCADA	Browser and software-based alarm trigger
Acoustic Output	Up to 110 dB @ 1 Meter	High-output piezoelectric sounder
Sound Modes	Continuous, Intermittent, Custom Patterns	Configurable sound patterns via Web UI
Input Power	12–24V DC Input / Optional PoE (802.3af)	Flexible power configuration options
Power Consumption	< 5 Watts	Ultra-low power operation
Enclosure Rating	IP65 Rated (Dust & Water Jet Resistant)	Rugged ABS or Metal housing option
Dimensions & Weight	100 mm × 100 mm × 80 mm | ~450 g	Compact industrial wall/panel form factor
Operating Temperature	−10°C to +60°C	Industrial plant-floor temperature rating

4. System Network Architecture & Flow

Sequence from control system alert generation to plant-floor acoustic emission:

01. Control Source
PLC / SCADA / Web App detects an alarm condition.

02. Network Command
Sends HTTP request or Modbus register write over TCP/IP.

03. IP Hooter Ingest
Target IP hooter parses incoming payload instantly.

04. Audible Siren
110 dB sound output activates in specified zone.

5. Control Integration Protocols

Multiple software integration options support diverse plant automation architectures:

Protocol / Interface	Operational Function & Command Syntax
Web UI Interface	Access device IP via web browser (e.g., http://192.168.1.100) for manual control, IP setup, and testing.
HTTP REST API	Send HTTP GET/POST endpoints: `/api/alarm?state=on&pattern=1` to trigger immediate siren sequences.
Modbus TCP Protocol	Write discrete coil values or holding registers via standard Modbus TCP port 502 from PLCs.
Multi-Zone Grouping	Broadcast HTTP commands to predefined subnets to trigger multi-unit synchronized alarms.

6. Strategic Solution Advantages

Reduced Control Wiring
Eliminates copper relay wiring, routing all alarm triggers over existing plant LAN cables.

Centralized Oversight
Manage and monitor health status of all facility hooters from a single SCADA control desk.

Multi-Zone Scalability
Add new IP hooter units effortlessly without expanding central PLC I/O card capacity.

Industry 4.0 Ready
Native REST API enables direct triggering from MES, ERP, and cloud webhooks.

7. Frequently Asked Questions (FAQ)

- **Can the hooter be controlled from a PLC?** Yes, via Modbus TCP or HTTP requests generated by PLC Ethernet modules.
- **Does it require conventional relay wiring?** No, all alarm commands travel digitally over standard Ethernet.
- **Is Power over Ethernet (PoE) supported?** Yes, optional IEEE 802.3af PoE models run power and data over one cable.
- **What is the maximum acoustic output?** 110 dB measured at 1 meter distance.

8. Troubleshooting Guide

Symptom	Possible Cause	Recommended Action
Device unreachable via Web UI / Ping	IP subnet mismatch / DHCP unassigned	Check LINK LED on RJ45 port; use Nex-G IP Discovery tool or reset to default static IP 192.168.1.100.
HTTP command returns 401 Unauthorized	Missing or invalid API token/password	Include required HTTP authentication headers in API request string as configured in Web UI.
Sound output distorted or low volume	Voltage drop on 12V DC line	Verify power supply voltage at terminal block is within 12–24V DC under active load.
Modbus TCP write fails to trigger siren	Incorrect register address or unit ID	Verify register mapping (Coil 00001) and port 502 settings in PLC Modbus configuration.

9. Maintenance & Plant Care

- Inspect cable glands and RJ45 boot seals regularly to preserve IP65 moisture protection.
- Keep sounder acoustic grill clean and free from oil, dust, or paint overspray accumulation.
- Perform monthly network ping checks and test-siren triggers to verify standby operational readiness.
- Apply firmware updates via the Web UI maintenance page as released by Nex-G support.

10. Support and Service Contact

For technical assistance, Modbus register maps, REST API documentation, or deployment support, contact Nex-G Automation LLP:

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